Wildfire Evacuation and Emergency Management in Remote First Nations: The Case of Sandy Lake First Nation, Northern Ontario

By

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ABSTRACT

Many decades of successful wildfire suppression in Ontario have resulted in very few losses of life or property. However, the evacuations that often accompany wildfire suppression have continued to disrupt many remote First Nations in the province. Sandy Lake First Nation in Northern Ontario was forced to evacuate due to a wildfire that came within nine kilometers of the community in 2011, threatening safety and substantially reducing air quality. Following a community declaration of emergency, residents were airlifted and scattered to 12 cities and towns in Ontario and Manitoba.

Using a qualitative community-based research approach, this study explored how residents of Sandy Lake First Nation were prepared for and affected by the 2011 evacuation. Social constructionism was employed as a guiding theoretical approach. A total of 56 interviews and two focus group discussions were completed with the evacuated band members, those who stayed behind, and people who had a management role during the evacuation. The latter group included the Chief and Council, frontline workers, and community evacuation liaisons. After describing and documenting the evacuation using eight temporal stages of the evacuation, this thesis provides an in-depth and nuanced exploration of the wide range of factors affecting the residents' evacuation experiences.

First, the thesis examines how issues related to preparedness and during-event communication influenced band members' experiences. These issues included a delay in obtaining site-specific and reliable information about the wildfires, a lack of clarity about the protocols to be followed in declaring a community state of emergency and perceived constraints in government wildfire management policy. The lack of overall community preparedness to respond to wildfire emergencies was found to be a main factor aggravating vulnerabilities to wildfire emergency.

Second, the thesis explores the impact that the government's evacuation operation had on Sandy Lake First Nation and how that affected the band members. This study has shown that scattering residents to more than 10 hosting communities throughout Ontario and Manitoba caused four major problems:

communication and information-sharing were more difficult, families were separated, community cohesion and support services were disrupted, and residents' sense of place attachment was impacted. These findings contribute to a robust understanding of the social and cultural factors influencing wildfire evacuation experiences of Indigenous people and how these influence the ability that First Nations community resident have to cope with or adapt to evacuation-related disruptions.

Third, this study examines individual characteristics of the evacuees (e.g., age, income, health conditions and vulnerabilities induced through cultural, and/or social barriers) and the services provided in the host communities that affect evacuees' experiences. This study found that elders' experiences were affected by the following factors: continuation of health service at the host community, dealing with health issues in the absence of family support, accommodation-related challenges and cultural factors related to language barriers and a lack of access to traditional food. The study also identified a combination of factors that negatively affected the experience of other evacuees. These included inadequate accommodations; financial problems; a lack of activities; racism; alcohol and substance abuse and inappropriate behavior; and concern over the condition of homes, property and pets. This study found factors that contributed to evacuees' positive experiences in host communities including material and emotional support from local residents, perceptions of the evacuation as a free vacation and an opportunity to socialize with fellow community members, and leadership from the Chief. The results of this thesis underscore the fundamental importance of building community capacity to deal with hazards and emergencies by taking into account the unique characteristics of Indigenous residents.

Preface

Contemporary environment and development issues, in particular the complex ways in which disasters impact and influence poverty and development, have always been areas of interest and inspiration for me. Growing up in Ethiopia, I became aware at an early age of the disastrous impacts of environmental extremes such as drought and flooding. I chose to focus my graduate studies on how disasters impact and influence poverty and development in large part because many of the adverse impacts of a disaster are rooted not in nature itself. Rather, they are the result of a lack of capacity to prepare for or mitigate disaster risk, and inability to respond to and recover from a disaster. When I was a freshman at Addis Ababa University in 2000, I remember a devastating forest fires occurred in southern and eastern parts of Ethiopia, destroying hundreds of hectares of highland natural forests. With limited local capacity, there was an urgent international call for help to suppress the fires. In addition, hundreds of Addis Ababa University students volunteered to help control the blaze. The same reason - the lack of local capacity and preparedness to hazards, along with many other reasons, can be attributed to drought hazards that affects millions in Ethiopia almost every other year.

I did my Bachelor degree in Geography and my Master's degree in Development Studies (specializing in Environment and Development) at Addis Ababa University. As part of my MA degree, I spent one year with forest-dwelling Indigenous communities in southwest Ethiopia studying forest-based livelihoods and resource management challenges. After completing my Masters, I spend the next five years teaching and engaging in research at two public universities: Jimma University (Sep. 2007 – Oct. 2008) and Adama University (Oct. 2008 – Sep. 2012), where I taught undergraduate courses mainly focusing on social science aspects of disaster risk and environmental management. While teaching, I engaged in community-based studies in remote rural communities, which further strengthened my research skills, experience and interest in the human dimensions of environmental hazards.

While searching for appropriate program in my field of study and research interest, I came across Dr. Tara McGee's project about the human dimension of environmental hazards. I was honored to join her research team under the First Nation Wildfire Evacuation Partnership Project in which she is a principal investigator. I was motivated to join the project and pursue my PhD for two reasons: the project falls well within my general research interest of disaster and emergency management, and it employed a community-based approach by collaborating with remote Indigenous communities, an area in which I had already acquired considerable experience. I believe that Indigenous people in both developed and developing regions share similar experiences. Although Ethiopia has never been colonized, many of our remote Indigenous communities share certain similar characteristics with Indigenous communities in Canada. For example, similar to the people of Sandy Lake First Nation, the Indigenous people I worked with, the *Kafa*, and *Manja* in southwest Ethiopia, live near forests and have unique cultures, traditions and worldviews. Interestingly, Indigenous people in both countries have an inbuilt social support system that can help make their communities resilient in the face of disaster and emergencies. As someone interested in social science disaster research, this is also a source of inspiration that kept me motivated and willing to spend four years doing community-based research in a remote Indigenous community in Canada.

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To almighty GOD: for manifold blessings and guidance up to now and in the future.

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Perhaps most substantially, I would like to express my heartfelt gratitude to the people of Sandy Lake First Nation. I owe a great debt to all those who agreed to be interviewed and spent time sharing their wildfire evacuation experiences with me. I would like to offer my sincere thanks to Chief Bart Meekis and former Chief Adam Fiddler for their interest and involvement in this research. I am particularly thankful to former Chief Adam Fiddler, Deputy Chief Robert Kakegamic, Councilors Fabian Crow and Joe Kakegamic, and Kenny Goodwin for their assistance and advice while I was in Sandy Lake. I also would like to thank Charles Anshinabie for working with me as a research assistant and Ida Anshinabie for assisting in translation. I am very grateful for their hospitality and generosity. Thank you for inviting me to your homes and sharing traditional meals and for the fishing trips with Charles on Sandy Lake. For more than research, these were invaluable experiences.

I am grateful to the First Nations Wildfire Evacuation Partnership, from which I obtained a scholarship to conduct the research. Financial contributions to carry out this research were gratefully received from the Social Sciences and Humanities Research Council, Partnership Development Grant program (Prof. Tara McGee, PI 2013-2017). Funding for the research was also partly provided by a University of Alberta Northern Research Award (UANRA) Grant, funded by the University of Alberta (2015-2016); and a University of Alberta Northern Research Award (UANRA) Grant, funded by the University of Alberta (2016-2017).

My thanks also go to colleagues and friends: Dr. Zelalem Amdie, Dr. Mesgana Seyoum, Dereje Tamiru, Dr. Wondim Mulatu, Tebekachew Betiru and Arshad Khan, for sharing ideas and having good times in Edmonton. My thanks also go to my best friends back home: Getaneh W/Medehin, Getachew Agwar, Dagim Yoseph (Magna), Dr. Eliase Abiyou, Fanuel Zegeye, Dr. Addisu Gezahegn, and Ermias Girma, for being my best friends through all these years. My heartfelt thanks are also due to my dearest friend Solomon Tadesse and his wife Helen in the United States, for their love and encouraging telephone calls. I also owe a big thanks to Debby Waldman for proofreading and editing the thesis.

Last but not least, I am deeply grateful and exceptionally indebted to my mother, Aletash Getahun, and my father Workeye Asfaw, who have been constant sources of love, concern, and strength all these years. It is the sacrifices they made that took me all the way to the end of this journey. My sincere thanks also go to my brothers Alelegn Workeye, Binyam Workeye, and Sofoniyas (Sofu) Workeye for their love, advice, and encouragement.

TABLE OF CONTENTS

ABSTRACT ii

TABLE OF CONTENTS vii

List of Tables xii

List of Figures xiii

List of Maps xiv

List of Acronyms and Abbreviations xv

CHAPTER ONE: INTRODUTION 1

1.1. Introduction 1

1.2. Research aim and objectives 5

1.2.1. Research Aim 5

1.2.2. Specific Objectives 5

1.3. The rationale for the study 5

1.4. Significance of the study 8

1.5. Organization of the thesis 10

CHAPTER TWO: REVIEW OF LITERATURE 12

2.1 Introduction 12

2.2. The social constructionist theory and the social constructionist approach to disaster 12

2.3. Vulnerability and Resilience to natural hazards: A social constructionist perspective 15

2.3.1. Social vulnerability and hazard experiences 15

2.3.2. Disaster resilience and hazard experiences 17

2.3.2.1 Social capital, resilience and hazard experience 20

2.3.2.2. Social support, social cohesion, and disaster experience 21

2.3.2.3. Place attachment and disaster experience 23

2.4. Evacuation preparedness 24

2.5. Evacuation response 26

2.6. Evacuation experiences and impacts: the social construction of evacuation 29

2.7. Indigenous peoples' evacuation experiences 31

2.8. The conceptual framework of the research 35

CHAPTER THREE: RESEARCH METHODOLOGY 39

3.1. Introduction 39

3.2 The Research approach 39

3.2.1 Community-based qualitative research 39

3.2.2 Case Study Design 42

3. 3 Field work 44

3.3.1 Community entry 44

3.3.2 Semi-structured interviews 46

3.3.3 Focus Group Discussion 53

3.3.4. Participant observation 56

3.3.5. Document Review 57

3.4. Data Analysis 59

3.5. Ethical Issues and Considerations 61

3.6. Reliability and Validity 63

3.7. Dissemination of Results 67

3.8. Chapter summary 67

CHAPTER FOUR: THE STUDY AREA, WILDFIRE HAZARDS AND EVACUATION PROTOCOL 69

4.1 Introduction 69

4.2. Remote northern First Nation communities: The Far North Ontario 69

4.3. Community setting: Sandy Lake First Nation 72

4.3.1. Location, Access, Population, History, Governance, and Community assets 72

4.3.2. Community strength and challenges: Members' perceptions 78

4.4. Wildfire hazards and evacuation in Ontario Far north and Sandy Lake First Nation 82

4.5. The 2011 Ontario wildfire Season 85

4.6. Wildfire Evacuation and Emergency Management protocols 87

4.6.1. Roles and responsibilities during First Nation emergency evacuations 89

4.6.2. Protocols involved during First Nations evacuation in Ontario 90

4.7. Chapter summery 93

CHAPTER FIVE: WILDFIRE EVACUATION EXPERIENCES OF SANDY LAKE FIRST NATION 97

5.1. Introduction 97

5.2. Before the evacuation 97

5.3. Getting Ready to Evacuate: Stage One and stage Two evacuees 100

5.3.1. Perceptions about the wildfire evacuation 102

5.3.2. Time to prepare for the evacuation 104

5.3.3. Organization of the evacuation 105

5.4. Leaving the community 108

5.5. Being outside the community when the evacuation took place 114

5.6. Staying in the host communities 116

5.7. Staying behind in Sandy Lake 119

5.8. Returning home 122

5.9. Lasting effects of the evacuation 125

5.10. Chapter summary 126

CHAPTER SIX: EVACUATION PREPARDNESS AND DURING EVENT COMMUNICATION 128

6.2. Communication during wildfire and evacuation decision 128

6.3. Lack of preparedness with regard to the protocols to be followed in declaring community emergency 131

6.4. Provincial wildfire management policy and the lack of community preparedness to an emergency 134

6.5. Absence of community evacuation plan at the community level 137

6.6. Chapter summary 143

CHAPTER SEVEN: EVACUATION RESPONSE AND CONSEQUENCES 145

7.1. Introduction 145

7.2 Hosting of evacuees in multiple locations and implications 145

7.2.1. Effects on communication and coordination and implications 147

7.2.2. Family separation and implications ... 151
7.2.2.1. Disruption of parental role ... 153
7.2.2.2. Distress and anxiety ... 155
7.2.3. Effects on community cohesion and social support ... 157
7.2.4. Disruption to place attachment and experiences with culture shock ... 163
7.3. Chapter summary ... 167
CHAPTER EIGHT: EVACUATION EXPERIENCES AT THE HOSTING COMMUNTIES ... 169
8.1. Introduction ... 169
8.2. Hosting communities, facilities and services: an overview ... 169
8.3. Stage One evacuees: experiences of elders, medically vulnerable individuals or those with special needs ... 172
8.3.1. Issues related to the continuation of health service at the hosting community ... 173
8.3.2. Dealing with health issues in the absence of family support ... 177
8.3.3. Accommodation related challenges for elder evacuees ... 179
8.3.4. Lack of access to traditional foods and language barrier ... 181
8.4. Stage Two evacuees: The perception of negative and positive experiences in the hosting communities ... 184
8.4.1. Perception of negative experiences at the host communities ... 184
8.4.1.1. Accommodation conditions ... 184
8.4.1.2. Financial constraints and evacuation experience ... 185
8.4.1.3. Lack of recreational activities ... 189
8.4.1.4. Relationships with the host community: problems with racism ... 191
8.4.1.5. Alcohol and substance abuse and inappropriate behavior ... 194
8.4.1.6. Concerns about the condition of homes, property and pets ... 196
8.4.2. Perception of positive experiences at the host communities ... 198
8.4.2.1 Reception and support for evacuees ... 199
8.4.2.2. Evacuation as a "free vacation" and an opportunity to socialize ... 201
8.4.2.3. Communication updates and the Chief's leadership ... 202
8.5. Chapter summary ... 206

CHAPTER NINE: CONCLUSION AND RECOMMENDATION 208
9.1 Conclusion 208
9.2. Contributions of the study 215
9.3. Recommendations 220
9.3.1. The community 220
9.3.2. The provincial and federal government 222
9.3.3. The hosting communities 224
9.4. Study Limitations 225
9.5. Suggested areas of further research 227

Reference 229

Appendices 253
Appendix 1: Forest fires, forested areas and evacuated communities 254
Appendix 2: Air travel time to Ontario far north communities 255
Appendix 3: Sandy Lake First Nation Geographical Areas 256
Appendix 4: Photos of Sandy Lake First Nations 257
Appendix 5: Phots of Sandy Lake community 258
Appendix 6: Ethics approval 262
Appendix 7: PhD research proposal presented to Chief and council 263
Appendix 8: Formal letter of community support 266
Appendix 9: Letter of Introduction and information sheet 267
Appendix 10: Information sheet & consent form for key informant interviews 268
Appendix 11: Community residents interview guide 269
Appendix 12: Key informant interview guide 272

List of Tables

Table 3. 1 Participant identified using a combination of purposive and snowball sampling 48
Table 3. 2 Demographics characteristics of the participants 68

Table 4. 1 Stages of evacuation procedure 91

Table 5. 1 Number of evacuees, types of accommodation and duration of stay 116

List of Figures

Figure 2. 1 The conceptual framework of the research 36

Figure 4. 1 Fire hall of the community 77
Figure 4. 2 Legal and institutional structure for emergency management in First Nations in the province of Ontario 94

Figure 5. 1 Forest Fire from Sandy Lake First Nation as full evacuation was ordered - July 19, 2011 101
Figure 5. 2 Residents of Sandy Lake First Nation being evacuated onboard a CC-130 Hercules aircraft - July 21, 2011. 109
Figure 5. 3 Evacuees waiting for transport at the Thunder Bay airport hangar, Ontario............ 112

List of Maps

Map 1. 1 Wildfire history near Sandy Lake First Nation 6

Map 4. 1 First Nations in Far North Ontario 70
Map 4. 2 Evacuated First Nations and host communities due to the 2011 northern Ontario wildfires 86

Map 5. 1 Sandy Lake First Nation and Host Communities for the 2011 Wildfire Evacuation .. 110

List of Acronyms and Abbreviations

AANDC	Aboriginal Affairs and Northern Development Canada
EOC	Emergency Operations Centre
EMO	Emergency Management Ontario
FERP	Federal Emergency Response Plan
INAC	Indigenous and Northern Affairs Canada
JEMSC	Joint Emergency Management Steering Committee
MCSCS	Ministry of Community Safety and Correctional Services
MNRF	Ministry of Natural Resources and Forestry
NAN	Nishnawbe-Aski Nation
OMNR	Ontario Ministry of Natural Resources
OMCSCS	Ontario Ministry of Community Safety and Correctional Services
PEOC	Provincial Emergency Operations Centre
PERP	Provincial Emergency Response Plan
PSC	Public Safety Canada

CHAPTER ONE: INTRODUTION

1.1. Introduction

Disasters have continued to interfere with human settlements, impacting the well-being and safety of persons and communities throughout the world (UNISDR, 2015). Rapid onset hazards (such as wildfires) and slow onset hazards (such as drought) are among the major disasters linked to climate extremes, which are causing ongoing unprecedented impacts on and disruptions in thousands of communities throughout the world (WMO, 2016).

Canada is a country with vast forest and grassland ecosystems[1] which are prone to wildfires. Pyne (2007a) explains that "Canada is a large and combustible swathe of fire planet earth. Historically, fires swept its prairies every two or three years; combusted its Cordilleran forests every five to fifty years; and devoured its boreal forest, in immense chunks, every 50-120 years [...]" (p, 960). According to the Canadian Forest Service (CFS) (2016), each year more than 8000 wildfires occur burning an average of over 2.1 million hectares. Most of these wildfires occur in the boreal forest region of the country (McGee, McFarlane and Tymstra, 2015; Beverly and Bothwell, 2011).

Many remote communities in northern Canada are vulnerable to natural hazards and the cumulative effects of emergencies due to a combination of exposure to hazards and limited preparation (Newton, 1995, Epp et al., 1998; Audit General of Canada, 2013). Approximately 80% of Indigenous[2] communities are located in or adjacent to forest ecosystems that burn frequently. As a result, almost every year, thousands of residents in different parts of Canada are evacuated as wildfires threaten nearby communities or because of concerns related to smoke. Approximately one-third of those evacuees are from Indigenous communities. A study by

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[1] According to Natural Resources Canada, the country possesses 10 percent of the world's forest and 30 percent of the world's boreal forest (Natural Resources Canada, 2012).

[2] Section 35 of the Constitution Act, 1982 recognizes three groups of Aboriginal people: Indians (First Nations), Métis and Inuit.

Beverly and Bothwell (2011) found that on average, there were 3590 wildfire evacuees every year between 1980 and 2007. The authors also found that of all the wildfire evacuation incidents during the study period (1980 – 2007), one-third involved First Nations and Métis communities.

The Far North of Ontario[3] is one of the regions in Canada that has experienced frequent natural hazards (mainly wildfires and flooding) that have disrupted thousands of First Nations residents over the past years (EMO, 2013; OMCSCS, 2008). This region, located in Canada's boreal forest, is home to more than 24,000 people living in 34 communities, 90 percent of which constitute First Nation peoples living on reserves (OMCSCS, 2015; MNRF, 2015). Many remote First Nations in the region are located adjacent to or scattered throughout the boreal forest and are frequently exposed to the risk of wildfires and smoke. The average number of wildfires in the province as a whole ranges from 800 to 3,000, though the number, size and intensity of forest fires occurring each year varies depending mainly on weather, vegetation, location and topographic conditions (OMCSCS, 2012). Wildfires are part of the natural ecosystem of these boreal forests and they are characterized by infrequent, large (> 200 ha), high intensity, crown fires (de Groot et al., 2013). Whenever wildfires encroach on human settlements in the area, they can cause significant property loss and damage, or generate smoke that can substantially reduce air quality (Johnston and Bowman, 2013). Smoke poses a health threat not only to immediate nearby communities but also, in some cases, to those living a considerable distance away (Johnston and Bowman, 2013).

Factors contributing to current and future high wildfire risk in Ontario and other parts of Canada include: (a) government wildfire suppression strategy[4] contributing to a high build-up of fuels (Donovan & Brown, 2007); (b) an increasingly warmer climate creating favorable conditions for fire (Brown, 2009; Flannigan, Stocks, Turetsky, & Wotton, 2009); and (c) the potential spread of the mountain pine beetle into Northwestern Ontario aggravating fuel

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[3] The Far North of Ontario, defined in the Far North Act, R.S.O. 2010, encompasses the region that extends from Northern Ontario from Manitoba in the west, to James Bay and Quebec in the east (see map on page) (MNRF, 2015). The region covers approximately 450,000 square kilometres which is roughly 42 percent of the province of Ontario (MNRF, 2015)

[4] Wildfire suppression is a primary fire management strategy in Canada that has been practiced for more than 100 years. The federal government is responsible for suppressing wildfires that affect Aboriginal communities (McGee, McFarlane and Tymstra, 2015).

(Colombo, 2008). Research has shown that the Far North will show the most dramatic changes in climate (MNRF, 2015) creating favorable conditions for fire weather severity and amount of area burned in the region (Brown, 2009). Recent climate predictions show that in Northern Ontario temperatures will warm by up to 10°C in winter and 6°C in summer and that the most severe impact will be felt in areas adjacent to Hudson Bay (Colombo, McKenney, Lawrence, and Gray, 2007).

In addition to a direct physical exposure to wildfire risk, a number of demographic and socio-economic factors are likely to compound the problem of wildfire hazards and emergencies in the region. Like most First Nation people living in reserves in Canada, First Nations in the Far North are experiencing a rapid population growth, which means an increase in the number of people exposed to wildfire risk and people requiring emergency response assistance (e.g. evacuation transportation and shelters). According to Statistics Canada, the number of people living on reserves between 2011 and 2017 will increase by 40 percent (Statistics Canada, 2005). In addition to the growing population, in the Far North the majority of residents on reserves are under the age of 19 (OMCSCS, 2015). Such a large young population on Northern Ontario reserves means that there are many children who, in cases of evacuations and stays in host communities, will require adult supervision and assistance (OMCSCS, 2015).

The majority of the First Nations in the Far North have poor social and health conditions that can add to the burden of existing exposure and disruptions caused by wildfire hazards. Studies have shown a high prevalence of chronic diseases in First Nations, including respiratory problems such as asthma (Gionet and Roshanafshar, 2013). During wildfires, smoke inhalation is a concern, as it makes breathing difficult especially for the elderly, pregnant women, infants and people with respiratory and cardiovascular conditions (Johnston and Bowman, 2013). The prevalence of other chronic diseases such as diabetes and cancer coupled with poor mental health and poverty (CIER, 2008; Gionet and Roshanafshar, 2013), also affect the number of people requiring special assistance and support during a mandatory evacuation. Colonialism is the root cause of the existing economic, social and cultural marginalization shared by Indigenous people in Canada (Alfred, 2009; Simpson, 2011; Coulthard, 2014; Truth and Reconciliation Commission of Canada, 2015).

Location and geographic characteristics lead to delays during emergencies such as wildfires: many First Nations in Far Northern Ontario are remote and fly-in, with only seasonal road access during the winter months (EMO 2013). During an emergency, residents in fly-in communities have to rely on the federal government using aircraft to evacuate them (Emergency Management Ontario, 2013). In addition, remoteness from regional centers may cause a delay during evacuations that rely on aircraft, since longer round trips have to be made to evacuate an entire community (OMCSCS, 2015).

During the 2011 wildfire season, thousands of residents were evacuated from 35 First Nations and Métis communities in Alberta, Saskatchewan and Northern Ontario. During that year, 1334 wildfires burnt 2.6 million hectares of forest across Canada (Natural Resources Canada, 2012). In northern Ontario, more than121 forest fires burned 500,000 hectares, five times the normal average (Ontario Ministry of Natural Resources, 2013). The wildfires recorded in the province during the fire season showed an exponential increase over the previous year's wildfires and the number of people displaced from their homes was one of the largest in Ontario's history (Talga, 2011).The wildfires caused the evacuation of 4,476 people from 11 northern Ontario Aboriginal communities including the full evacuation of Sandy Lake First Nation (The Canadian Interagency Forest Fire Centre, 2012). The mandatory evacuation of these communities was called due to a direct threat posed by the wildfires, smoke and power outages (Canadian Disaster Database, 2013). The evacuees were hosted throughout the province of Ontario, as far away as Ottawa, Kitchener and Arthur and in Manitoba.

1.2. Research aim and objectives

1.2.1. Research Aim

To investigate how residents of Sandy Lake First Nation were prepared for and affected by the 2011 wildfire evacuation.

1.2.2. Specific Objectives

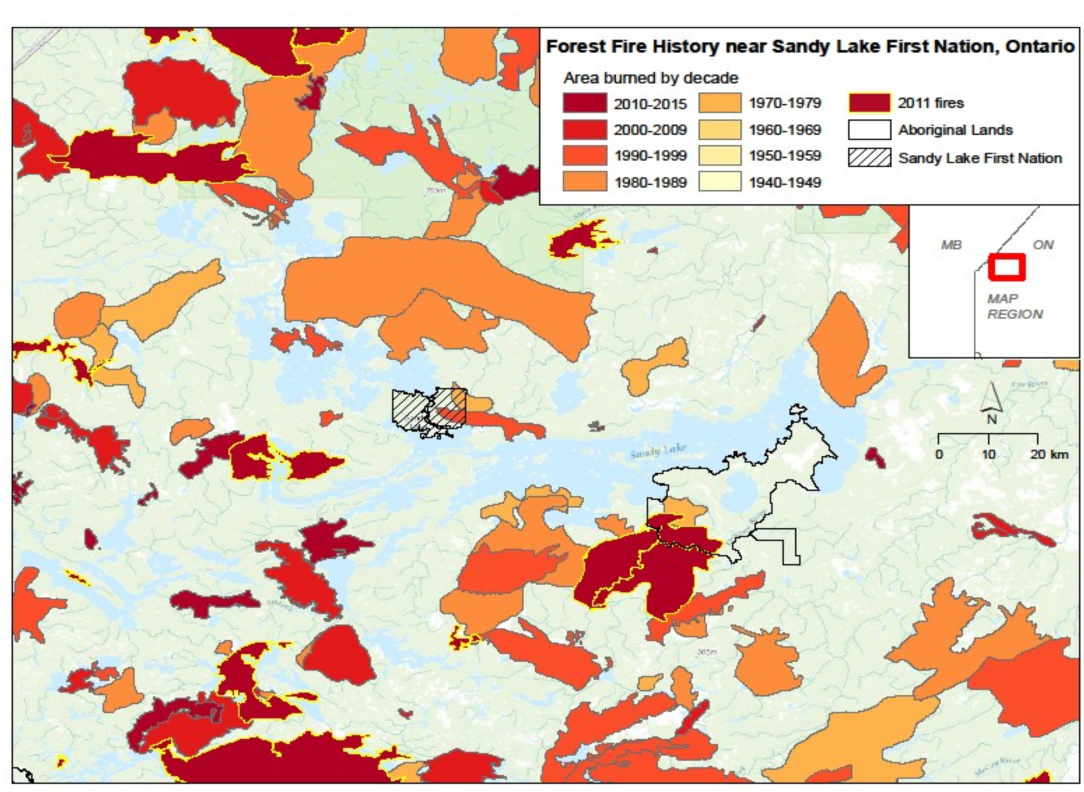
- Describe and document how Sandy Lake First Nation residents were affected by the wildfire evacuation in 2011.
- Examine how issues related to preparedness and during-event communication influenced evacuation experiences of band members.
- Explore the impact that the government's evacuation operation had on Sandy Lake First Nation community and how that affected the residents' overall evacuation experiences and impacts.
- Examine how individual characteristics (e.g., age, income, and health conditions) and the services provided affected band members' stays in the host communities.
- Propose ways to reduce the negative impacts of wildfire evacuation and suggest ways to improve future wildfire disaster preparedness and response in remote First Nations.

1.3. The rationale for the study

This study is needed for four reasons. First, as noted above, wildfires are common hazards in the boreal forests of northern Ontario often encroaching on nearby communities and threatening the safety and wellbeing of residents (Ontario Ministry of Natural Resources, 2004). In the

Hudson Bay Fire Management Zone[5] alone, which is home to more than 25 remote First Nations (including Sandy Lake), wildfires burn an average of 128,910 hectares, often directly threatening First Nations (MNR, 2004). In forests surrounding Sandy Lake First Nation, wildfires have been recorded since the 1940s (see map 1-1). Research has also shown that climate change will continue to create favorable conditions for wildfires in Northern Ontario (Brown, 2009; Gleeson, et al., 2011).

Map 1. 1 Wildfire history near Sandy Lake First Nation



Source: (Canadian Forest Service, 2017)

Second, although many decades of successful fire suppression have resulted in very few losses of life or property in Ontario, frequent evacuations have continued to disrupt many First

[5]Based on the Ontario Ministry of Natural Resource's six classification of Fire Management Zones, the Hudson Bay Zone includes the northern most areas of boreal forest in the west and the James Bay-Hudson Bay Lowlands in the east where more than 25 remote First Nation communities reside on the shores of large rivers and lakes (Ontario Ministry of Natural Resources, 2004). Sandy Lake First Nation is also located in this Zone.

Nations in the province (Ontario Ministry of Natural Resources, 2013). Beverly and Bothwell (2011) found that of the 547 wildfire-related evacuation incidents across Canada, almost 25 percent occurred in the province of Ontario, and most involved First Nations. Over the past decade, many remote First Nations in the Far North Ontario (e.g., Sandy Lake, Deer Lake, Keewaywin, Attawapiskat, and Fort Albany) have declared emergencies multiple times due to wildfires and smoke, often necessitating a partial or a full evacuation of community residents. Sandy Lake is one of the largest remote fly-in First Nations (in terms of population) in the region. Due to its location in forests prone to wildfires, the community has been frequently affected by wildfires and wildfire evacuations. During the past 15 years, there have been four wildfire-induced evacuations of the community – in 2002, 2006, 2011 and 2012. Only the 2011 wildfire evacuation necessitated a full evacuation; the other three were partial evacuations. A partial evacuation, also called Stage One evacuation, involves evacuating people with vulnerabilities such as health issues, disabilities, expectant mothers, elders, and families with very young children (EMO, 2012). During the full evacuation in 2011, Sandy Lake First Nation resisdents were sent to 12 munciaplities across Ontario and in Winnpeg, Manitoba.

Previous research related to Indigenous people and wildfires has primarily focused on how traditional burning practices and knowledge are incorporated into current land management strategies (Bird, Bird, & Parker, 2005; Gott, 2005; Whitehead, Bowman, Preece, Fraser, & Cooke, 2003), and how Indigenous cultural norms and values affect contemporary wildfire mitigation preferences (Carroll, Cohn, Paveglio, Drader, & Jakes, 2010; Collins, 2005; Spillman & Cottrell, 2004; (Christianson, McGee, & L'Hirondelle, 2012). However, there has been limited research on how Indigenous people prepare for, respond to and cope in the face of wildfires and the ensuing evacuations. The few studies that have examined the wildfire evacuation experiences of First Nations in other Canadian provinces such as Manitoba and Saskatchewan (see Epp et al. 1998; Scharbach and Waldram, 2013; Lawson and Waldram, 2015) show that wildfires and the ensuing evacuations can result in negative consequences including family separation (Waldram and Scharbach, 2013), disruption of daily routines and place attachments (Epp et al., 1998; Waldram and Scharbach, 2013; Newton, 1995), and distress and anxiety due to feelings of uncertainty and concern about the condition of homes, property and pets (Epp et al., 1998; Waldram and Scharbach, 2013).

Third, preparations for evacuation should occur before a hazard strikes (Kumagai et al. 2004; Buckle, 2012). Such preparations include forming a response team, preparing an evacuation plan, organizing evacuation transportation, identifying potential hosting communities, and addressing the needs of the more fragile evacuees (elders, children, the medically vulnerable) (Wenger, James, and Faupel, 1980; Quarantelli, 1985; Kumagai et al. 2004; Buckle, 2012; McCaffrey et al. 2012; Prasad, 2016). However, as stated earlier, very little is known about how First Nations prepare for hazard evacuations and how limited and ineffective preparedness measures affects evacuation experiences (Christenson, 2014). The Assembly of First Nations (AFN) National Chief and the Auditor General of Canada (2013) have expressed similar concerns about the limited capacity and preparedness of First Nations and their vulnerabilities to hazards and emergencies (Assembly of First Nations, 2011; Auditor General of Canada, 2013).

Last but not least, although many remote fly-in First Nations in Far North Ontario are vulnerable to frequent hazards and evacuations, no studies have examined wildfire and emergency evacuation experiences in this region. These First Nation communities provide an ideal and unique context for such studies in terms of remoteness and inaccessibility, and the provincial agencies involved in emergency management (Ontario Ministry of Natural Resource and Forestry, and Emergency Management Ontario).

1.4. Significance of the study

The study has the following theoretical and policy/practical relevance.

In terms of academic relevance, this thesis aims to contribute to knowledge in social science disaster research, particularly that focusing on Indigenous people and natural hazard experiences. This area has received limited attention in Canada (Christenson, 2015). The thesis employed a social constructionist approach to disaster. One of the underlying assumption of this approach lies on the importance of studying different claims made by social groups who experienced and were impacted by a disaster (Quarantelli, 1985; Tierney et al., 2001). This approach also recognizes that the consequences of a disaster are interwoven with ongoing social life, social

activities and processes (Hewitt, 1983). Accordingly, by exploring the subjective experiences of the affected First Nation residents, this study attempts to bring a much-needed social and cultural dimension influencing hazard evacuation experiences and impacts. In addition to social and cultural factors, the study sheds light on a wide range of factors that are attributed to individual characteristics, some of which are rooted in social vulnerabilities which affect the band members' hazard evacuation experiences. From a disaster preparedness and response perspective, the study examines how issues related to pre-event preparedness and during-event communication influenced wildfire evacuation experiences, an area that has received limited attention in Canada (Christenson, 2014). In doing so, the study makes a unique contribution to the body of knowledge by unveiling a deeper and more nuanced understanding of the wide range of factors affecting evacuation preparedness and response in First Nation residents.

The study also has important policy and practical relevance. A number of First Nation communities in Far North Ontario are increasingly being vulnerable to the disruptive impacts of natural disasters (mainly wildfires and flooding). One of the disruptive impacts is frequent evacuation in which thousands of First Nation residents are forced to be airlifted and evacuated to cities, some nearby and others quite distant. Wildfire suppression and mandatory evacuation have continued to be a major government wildfire risk management strategy on First Nation reserves in Far North Ontario as well as in other parts of Canada. Thus, a better understanding of wildfire evacuation and how residents are affected by evacuation offers contemporary evidence that is valuable not only from an academic perspective, but also for informing practices for all partners involved in emergency response including First Nation leadership and responding agencies (Emergency Management Ontario (EMO), Indigenous and Northern Affairs Canada (INAC), Ministry of Natural Resources and Forestry (MNRF), Public Safety officials and other supporting organizations such as the Canadian Red Cross (CRC) and hosting communities. Therefore, the research has substantive relevance that can be used to develop practical and policy recommendations for improving disaster preparedness and response in remote First Nation communities.

1.5. Organization of the thesis

This introductory chapter has provided a background to the research problem, offered the research context by reviewing the key social science wildfire and evacuation research, and outlined the justification, objectives and significance of the study. Chapter 2 provides a thorough review of the literature along with the conceptual and theoretical frameworks. It deals with the theoretical perspectives that informed the research as well as the empirical literature on the subject. The theoretical and conceptual framework of the thesis is presented at the end of Chapter 2. Chapter 3 provides the background to the study as well as a description of the 2011 Ontario wildfire season in the Far North of the province. It also describes the wildfire management, emergency response and evacuation policies in the region, as well as institutional arrangements and protocols. Chapter 4 describes the methodology of the study, including the community-based qualitative case study approach, data collection tools (individual interviews with evacuees, key informant interviews, focus group discussions, participatory observations and document review), and data analysis methods. The chapter then discusses the ethical issues and considerations, study limitations, dissemination of results, and validity of the research methods.

Chapter five presents the research findings. It documents key findings by describing the evacuation experiences of the residents, frontline workers, liaisons and community leaders at each stage of the evacuation process. Each stage is discussed, using an "event-based approach" (McCool et al., 2006, p. 438). Chapters 6, 7 and 8 provide interpretive insights into the findings by drawing on relevant theory and literature. Chapter 6 examines how issues related to preparedness and during-event communication influenced the band members' evacuation experiences. It specifically outlines various constraints encountered before and while organizing the evacuation, constraints that were largely attributed to limited preparedness at the community level. Chapter 7 explores the impact that the government's evacuation operation had on Sandy Lake First Nation community (e.g., in terms of the role of family, social support, social cohesion, and place attachment) and how that affected the residents' overall evacuation experiences and impacts. Chapter 8 examines the band members' experiences in the host communities. The focus here is to examine what individual characteristics (e.g., age, income and health conditions) of the band members and the services provided in the hosting communities, affected evacuation

experiences during their stay in the host communities. Chapter 9 presents the conclusion to and recommendations of the study. It also discusses major contributions of the study and points out future areas of research.

CHAPTER TWO: REVIEW OF LITERATURE

2.1 Introduction

This chapter reviews the theories and literature that informed this study. The review includes two major components. The first relates to the major theoretical stances informing the thesis. Under this, the social constructionism, social construction of disaster, social vulnerability, and resilience theories are discussed. The second component of the review discusses literature on hazard evacuation preparedness, response and evacuation experiences focusing on wildfire hazards. Here, the limited social science research completed in both non-Indigenous and Indigenous communities are discussed. By drawing insights from the theories and the literatures reviewed, the chapter ends by outlining the theoretical and conceptual framework of the thesis.

2.2. The social constructionist theory and the social constructionist approach to disaster

This thesis adopts a social constructionist approach to examine how residents of Sandy Lake First Nation were prepared for and affected by the 2011 wildfire evacuations. Like the post-colonial thoughts that challenge the universalizing categories derived from European experiences, social constructionist theory contests the epistemic idea of universal, meta-narrative and overriding reality and truth that shaped and dominated Eurocentric positivist worldview. Earlier ideals of social constructionism can be traced back to the writings of the three most prominent founders of modern social theory: Émile Durkheim, Max Weber, and Karl Marx (Weinberg, 2009). However, the most explicit statement on social constructionism was formulated by two American Sociologists Peter Berger and Thomas Luckmann in their classic text *The Social Construction of Reality* (1967) which contributed to the ‘the sociology of knowledge’. One of the central premises of the social constructionist theory is that "reality is subjective and multiple" (Luckmann, 1966, p. 49) and “human experience of the world is always mediated by the socially inherited meanings actors actively confer upon it”(Weinberg, 2009, p.

285). Thus, the distinguishing features of social constructionism as a social theory lies in its empirical investigations of what counts as genuine knowledge and why. For social constructionists, it is the social context of individuals and groups that shapes and constructs the reality that they know, rather than an independent material world (Gregory et al., 2011). Putting it differently, the conception and interpretation of reality and knowledge are relative to social settings or ideas can only be explained with reference to their social context (Blumer, 1969; Weinberg, 2009). This in fact, contradicts the epistemological assumption that seeks to establish procedures for validating ideas or the testing of hypothetical realism to arrive at a supposed reality (Weinberg, 2009). In contrast to critical realism, which employs a testing of hypothesis using scientific approaches and methods of falsification, social constructionism focuses on understanding subjective meaning and how people produce reality through the (re) production of cultural meaning, among other things (Birkmann, Setiadi & Fiedler, 2015).

Along with critical rationalism, social constructionism is one of the two epistemological schools that prevail in geographical research **(**Reuber and Pfaffenbach, 2005). Geographers following a critical rationalism approach aim to move towards a supposed reality through the testing of hypothesis using scientific approach and methods of falsification. This approach proliferated in geographical research exploring various topics since the so called ‘quantitative revolution’ in the 1960s (Barnes, 2004; Kwan & Schwanen, 2009). Likewise, investigation of subjective meaning as a legitimate social scientific inquiry has also caught the attention of social scientists in various disciplines including human geography. Social constructionism has a widespread influence on human geographers and perception researchers who draw insights from phenomenology and symbolic interactionism to examine such topics as construction of nature, race, gender and sexuality (Pratt, 2004; Brown, 2000). In social science disaster research in general and human geography in particular, social constructionism has been employed to examine human experiences to disaster in what come to be referred to as “the social constructionist approach to disaster” (Tierney et al., 2001, p. 16). This approach of studying disasters pays attention to the importance of social and cultural influences on individual’s and group’s perceptions, interpretations, decisions, actions, experiences and coping related to risk and disaster (Buckle, 2006; Krüger et al., 2015; McLaughlin & Dietz, 2008). Social science disaster researchers framing their analysis from social constructionist point of view (including human geography) give primary emphasis as to how disaster and its consequences are socially

defined (Tierney et al. 2001). This formulation is in sharp contrast with earlier classical approaches which tends to rely on objective assessment of the hazard (or the physical agent) and the impacts inflicted as a function of the disaster characteristics itself such as size, rate of on-set, magnitude, and intensity. In the classical approach, disasters are viewed as discreet, non-routine phenomenon disembodied from ongoing social life (Barton, 1969; Perry, 2007). Under this approach, it is believed that disaster events with similar characteristics (e.g. speed of onset) regardless whether they originate in natural environment or in technology will produce similar behavioral responses and emergency management challenges (Perry, 2007). In other words, hazards are assumed to be external to the social, economic and cultural conditions of people and can be better controlled through government intervention using effective technocratic means. This view was challenged by early geographers who took a position of a hazard-disaster perspective and viewed disaster as a product of the interface between a natural event system and human use system (e.g. Burton and Kates, 1964; Burton, Kates, and White, 1978). For example, in their influential work, Burton et al. (1993, p. 31) posited that human response to hazard could be explained by: 1) examining the way in which people recognize and describe a hazard, 2) consider how they might deal with it, and 3) choose among the actions that seem to them available.

Increasingly, the role of social, political and economic systems in creating a hazard space begun to take prominence among researchers who are interested in examining disaster impacts and how people experience, cope, adapt and recover from the impacts (Hewitt, 1980, 1983; Blaike et al.1994). Notably, for constructionists, disaster consequences were viewed as interwoven with ongoing social life (Hewitt, 1983) and they acknowledge the differences in the claims made by individuals and groups regarding the impacts and consequences of a disaster (Quarantelli, 1985). Social constructionist working under various disciplinary linages, including human geography, thus, underscored the importance of exploring the myriad of social, cultural, economic and political factors aggravating disaster consequences (Tierney et al. 2001; Perry, 2007, Tierney, 2014). This is based on the justification that the meanings that people draw from their hazard experiences and the claim they make to the impacts are subjective, multiple, and at times constructed through the (re) production of cultural system of meaning, among others. This is important for this research because First Nations have different cultural norms, world views

and historical experiences compared to other non-Indigenous Canadians which may influence how they prepare for, respond to, and affected by hazards.

2.3. Vulnerability and Resilience to natural hazards: A social constructionist perspective

2.3.1. Social vulnerability and hazard experiences

Within the hazard literature, vulnerability is conceptualized in various ways depending on the theoretical positions and research perspectives (Cutter, 1996; Cutter, Boruff & Shirley, 2003). Broadly speaking, vulnerability has been characterized both in terms biophysical characteristics and in terms of the social characteristics of individuals and groups. Biophysical vulnerability is affected by the geographic characteristics, including where a place is located and its proximity to hazard sources and events (Cutter, 1996; Cutter, Boruff & Shirley, 2003) along with the defining characteristics of the event including timing, duration, frequency and magnitude (Adger, 1996). The biophysical approach has remained a dominant approach in hazard studies particularly in the study of climate change (McLaughlin & Dietz, 2008). Such a narrow biophysical focus, however, could not offer a full explanation of the vulnerability construct as it neglects other social, economic and political factors and routine social processes that influence the vulnerability of individuals and social groups (Hewitt, 1995).

Social vulnerability is thus formulated as "a multidimensional concept that helps to identify those characteristics and experiences of communities (and individuals) that enable them to respond to and recover from environmental hazards" (Cutter, Boruff & Shirley, 2003, p. 257). In the social construction approach, vulnerability is explained in terms of the characteristics, processes and factors that aggravate the disastrous effects of a hazard. From a social perspective, one of the most widely used definitions of vulnerability is formulated by Blaike et al. (1994), who defined vulnerability as "the characteristics of a person or group in terms of their capacity to anticipate, cope with, resist, and recover from the impact of a natural hazard" (p, 29). Individual characteristics of people (such as age, race, economic status, health, and housing conditions) are

mostly used to describe social vulnerability (Cutter et al., 2003; Buckle; 2006). Other individual characteristics that increase vulnerabilities in the face of hazard disruptions include: people with limited resources to meet essential needs, people with disability and medical vulnerabilities, non-dominant language speakers who may have difficulty accessing information and services, Indigenous groups who may be socially marginalized and poor, socially isolated people who may lack support physically are more vulnerable during disasters (Buckle, 2006).

Such characteristics of individuals and groups could largely affect vulnerability and the level of impacts during disaster disruption. For example, researches completed in non-indigenous communities have found that low income residents find it difficult to adapt to the disruptive impacts of a disaster evacuation (Bolin, 1986; Elder et al., 2007; Legerski et al., 2012). Legerski et al. (2012), found that in addition to the disruption in daily life and social support networks, financial problems were a challenge for evacuees displaced as a result of Hurricane Katrina in USA. Similarly, individuals with special needs may find it more challenging during an evacuation (Fernandez, Byard, Lin, Benson, & Barbera, 2002; Lach et al., 2005; Ngo, 2001). According to Fernandez et al (2002), the elderly are challenged when forced to relocate due to limited mobility, diminished sensory awareness, chronic health conditions, a lack of social support due to disruption in social networks and economic limitations. On the other hand, elderly individuals who are able to get support from their family and networks face fewer challenges and may adapt well to the disruptive impacts of an evacuation (Uscher- Pines, 2009).

Indigenous communities in Canada have a number of pre-existing social vulnerabilities that could aggravate stressful experiences during a disaster evacuation. The vulnerabilities of many of the First Nation communities in Canada are largely related to historical and ongoing socioeconomic and political conditions which have increased their exposure to hazards and their susceptibility to suffer harm. For instance, poverty, unemployment and chronic social and health problems that besiege many Indigenous residents across Canada are attributed to the cumulative and ongoing effects of colonialism and settler-state dependency (Alfred, 2009; Simpson, 2011; Coulthard, 2014). As a result of historic dispossession and near total financial dependency on the state, many First Nations are unable to acquire the necessary resources, capacities, and infrastructure to adequately mitigate, respond to, and recover from hazard events which further aggravate vulnerabilities (CIER, 2008; Haalboom & Natcher, 2012). The use social

constructionism theory can help illuminate on the lived experiences of the affected First Nation residents and explore how vulnerability to disaster can be related to historical and ongoing socioeconomic and political conditions which have increased their exposure to hazards and their susceptibility to suffer harm.

2.3.2. Disaster resilience and hazard experiences

The concept of resilience is also part of the theoretical approach for this study. Similar to the concept of vulnerability, resilience has been defined and used in various ways across many disciplines. The term resilience finds its roots in the natural sciences. Holling (1973) was the first to use the term in his influential thesis about "ecological resilience" to describe a ‘‘measure of the persistence of systems and their ability to absorb change and disturbance and still maintain the same relationships between populations or state variables" (Holling, 1973, p.14). Ever since its introduction in the biophysical sciences, the term has been applied in a number of social science disciplines dealing with several research themes at various levels including psychology of personal development and mental health (focusing resilience at the individual) (e.g., Luthar, 2006), resilience in relation to resource-reliant communities (resilience at community level) (e.g., Kulig et al., 2005, 2009), political ecology and global environmental change research (focusing on larger societies) (e.g., Adger, 2000; Godschalk, 2003). These various strands of literature drawn from a range of social science discipline have contributed for the conceptual development of resilience as applied in the disaster literature (Berkes and Ross, 2013). For example, in the health and psychological literature, resilience is conceived as the ability of individuals to recover from adversity or ability to return to a state of equilibrium after experiencing trauma (Buikstra et al. 2010). In the hazards research, a similar definition of resilience (at individual level) is employed after being refined as the ability to survive and cope with a disaster with minimum impact and disruptions (Berke & Campanella, 2006). The concept takes shape and encompasses multiple interrelated dimensions when it is applied at community level and beyond, making it a more complex and dynamic concept to measure (Cutter et al., 2008; Tierney, 2014).

Broadly speaking, most definitions at community level and beyond tend to capitalize on capacities for successful adaptation in the face of disturbance, collective stressors and adversities

(Norris et al., 2008). Community resilience as it applied to disaster experience has been employed into two major research directions. The first deals with "community resilience as it prevents disaster-related health or mental health problems of community members" (Norris et al., 2008, p. 128). The second deals with "community resilience as describes effective organizational behavior and disaster management" (Norris et al., 2008, p. 128). Since the goal of disaster management is to ensure the safety and wellbeing of the public, both research directions are at times interrelated (Norris et al., 2008). This thesis draws from both strands of literature. Individual and community resilience are often related to each other (if not always) as both can reinforce one another to serve promote the strength of the community as well as for providing support for individuals within them. As will be discussed in the next section, this relationship is more evident in close-knit communities such as First Nations.

Another variation in the use of the term resilience relates to whether resilience is viewed as an *outcome* or a *process* (Norris et al., 2008; Cutter et al., 2008). If resilience is defined as "the ability to bounce back or cope with a hazard event", then it is considered as an *outcome* (Cutter et al., 2008, p. 600). Whereas, if resilience is more regarded as continuous learning and decision making process to improve the capacity to handle hazards, then the focus is on the *process* (Cutter et al., 2008). However, there is a general consensus among researchers to better conceptualize resilience as an ability or *process* than as an *outcome* (Pfefferbaum et al., 2005); and as *adaptability* than as *stability* (e.g. Paton, 2006). For example, resilience at community level could be seen as a continual process of social learning (such as pre-event preparedness improvements) once an event occurs by examining what went right and what went wrong in the previous response process and taking lessons for the for next hazard event (Cutter et al., 2008).

Taking this into account, my research adopts the definition by Paton (2006, p.8), who defines resilience as: "a measure of how people and societies adapt to a changed reality and capitalize on the new possibilities offered". According to Paton (2006), the concept of resilience, therefore, comprises of both preparedness actions taken before a hazard event (e.g. Wildfire); and the ability of individuals and groups to respond to and adapt to disturbances (e.g. during a wildfire evacuation). Resilience therefore encompasses both pre-event measures that could prevent or minimize damage and disruptions (preparedness) and post event strategies that help to better cope with and minimize disaster impacts (Tierney, 2014). Prior to a hazard, community

resilience can be enhanced through actions such as risk awareness, improvements in communication, the development and implementation of disaster plan (Cutter et al., 2008). When disaster strikes and disrupts normal social functioning, pre-existing resources (e.g. social capital among others) are crucial in enhancing community members' resilience (Tierney, 2014).

Along similar lines, researchers also distinguished between two qualities of a resilient community: Inherent and adaptive resilience (Tierney, 2014; Cutter et al., 2008). Inherent resilience relates to the characteristics of a community that functions well during non-crisis periods and that can potentially be activated in actual disaster situation to help the community better absorb the disruptions. For example, a community may possess resources (e.g. social networks and institutions) on which community members depend during normal times and during disasters. Norris et al (2008), for example, outlined a list of sets of resources that enhances community well-being during non-disaster times and in disasters, including economic development (e.g. income and socioeconomic status), information and communication (e.g. trusted sources of information and systems for providing needed information), community competence (e.g. the capacity for collective problem identification, decision making) and social capital (e.g. social support, sense of community, place attachment). However, some of these sets of resources are at times in short supply within vulnerable populations and this could thwart effective response when disaster strikes.

Adaptive resilience occurs when those characteristics described above are activated during actual disaster situation to permit social entities to better cope and response to loss and disruption (Tierney, 2014). It also include the various strategies that a community devices to minimize disruptions as a disaster unfolds. This makes adaptive resilience more flexible and emergent (Tierney, 2014). For example, when disaster strikes adaptive resilience constitutes the activation of prior plans (e.g. an evacuation plan) and the mobilization of people and resources on the go by making use of resources such as pre-existing social capital (e.g. social support, networks and institutions) (Tierney, 2014).

2.3.2.1 Social capital, resilience and hazard experience

Social capital is identified as one of the key sources of disaster resilience (Berkes and Ross, 2013; Norris et al., 2008; Tierney, 2014). Social capital is defined as "the ability of actors to secure benefits by virtue of membership in social networks or other social structures" (Portes, 1998, p. 6). It is one of the several sets of resources a community could possess that greatly affects the ability of individuals and groups to be resilient in the face of disruptions.

Social capital holds several components from which community members can draw strength within a collective process of facing challenges and developing resilience (Norris et al., 2008; Berkes and Ross, 2013). Components of social capital include the amount of social support members of a community expect and receive, social cohesion (extent of social network, ties and relationships within group), and residents' sense of community and place attachment (Barnshaw, Trainor, Brunsma, Overfelt, & Picou, 2007; Mathbor, 2007; Prior & Eriksen, 2013). Mathbor (2007) provides a more detailed list of attributes of social capital that are useful for creating bonding among community members including social cohesion, social support, solidarity, networking, leadership, two-way communication, interaction between and among members and greater collaboration. These elements of social capital can serve as a source of strength for community members during hazard and buffer its disruptive impacts (Kulig et al 2010; Buikstra et al. 2010). Tierney (2014) succinctly describes this nexus between social capital and resilience as:

> *[…] Just as these capitals [social capital including other forms of community capital] endow individuals, groups, and communities with the capacity to weather everyday stressors and achieve goals and objectives, they can also enhance resilience in the face of disasters. Conversely, deficits in social and other community capitals can reduce resilience in the face of environmental extremes. (p. 164)*

Studies have shown that communities with high social capital are better able to cope with distress resulting from a hazard event (Jakes and Langer, 2012; Krüger et al., 2015). For example, in a case study of a rural New Zealand community that experienced wildfire, Jakes and Langer (2012) found that established community networks and relationships helped residents better adapt to the impacts of the wildfires both during and after the 2003-04 Mount Somers fires

in Canterbury, New Zealand. The authors noted that previously well-established networks and relationships among Mount Somers residents were instrumental in fulfilling important tasks that helped better cope with the wildfires including mobilizing volunteers, helping residents threatened by the fire and assisting firefighters. Such networks and relationships were also instrumental for speeding up recovery by organizing community-based initiatives to provide assistance to affected community members (Jakes & Langer, 2012).

2.3.2.2. Social support, social cohesion, and disaster experience

Social support is defined as "the comfort, assistance, and information one receives through formal and informal contacts with individuals or groups" (Wallston, Alagna, DeVellis, & DeVellis, 1983, p. 369). Social support is one of the important protective factors during disaster (Berkes and Ross, 2013). The amount of social support (including material, information and emotional support) community members receive in times of need by way of being a member of a particular social group determines resilience conditions (Townshend et al., 2015). Conversely, individuals who may not be able to access these essential components of social capital may find it difficult to be resilient in the face of adversities.

Often individuals who are members of a cultural group characterized by strong social support networks tend to have a 'collectivistic value orientation' as opposed to 'individualistic cultural values' (Kaniasty & Norris, 2000). Differentiating collectivists and individualistic values system in a society, Kaniasty and Norris (2000), noted that while collectivistic ones are responsive to the needs of others and are willing to promote the wellbeing of the collective, those with individualistic values mainly promote their own interest and show less concern for the group in which they are a part. In the case of communities that are characterized by collective value and identity, as with many Indigenous groups, the resilience of the people during adversities rests on the durability of community members' kinship ties and social support (Barrios, 2014). In First Nations context, extended families, kinship and clan members form valuable social support system (Royal Commission on Aboriginal Peoples 1996a). Social support in First Nations could take various forms including material, economic, informational resources, assist with problem solving, and provide emotional and other forms of support in everyday life and in times of

special need (Kirmayer et al., 2009). Material support (e.g. sharing of traditional food), physical support and emotional support (e.g. sharing responsibility for raising and caring for children and helping elders and those who needed assistance) as well as informational support (e.g. sharing of stories and networking) form valuable social support (Kirmayer et al., 2009; Tousignant & Sioui, 2009). Such pre-existing social support systems are also serve valuable purposes during times of disruption. For example, social support is found to be a source of resiliency for community members during crisis such as illness and disaster disruptions (Kirmayer et al., 2009; Tousignant & Sioui, 2009).

Sociological and anthropological researchers examining the link between social support, health and wellbeing in First Nations have also shown that health and wellbeing of Indigenous residents is rooted on social processes and connections between individuals, families, and communities. Social support, particularly emotional support, is found to play an important role in promoting health among indigenous men and women (see for example Iwasaki et al. 2005). Such social supports are also found to play a crucial role to buffer the disruptive impacts of a wildfire disaster (Lawson and Waldram, 2015).

Social cohesion, a related concept, is also another element of social capital that has an important role during disaster. Social cohesion relates to the nature and extent of social networks, ties and relationships within group ((Levy, Itzhaky, Zanbar, & Schwartz, 2012). A community characterized by high social cohesion enjoys higher level of social support during disaster such as through higher level of volunteering; people foster a sense of community, collectiveness and belonging (Levy, Itzhaky, Zanbar, & Schwartz, 2012). For example, in their study of four Canadian rural communities that experienced disasters and evacuation, Townshend, Awosoga, Kulig, and Fan (2015) found significant positive association between social cohesion and resilience. The authors noted that residents that have important attributes of social cohesion such as kinship and friendship networks were better able to cope with the impacts of flood and wildfire disaster. This study will examine how social support and social cohesion influenced the evacuation experiences of Sandy Lake First Nation.

2.3.2.3. Place attachment and disaster experience

Place attachment is also another component of social capital that has important implications in shaping disaster experience. Place attachment is a concept that addresses people's emotional relationships to places and has remained a subject of study for many decades mainly in geography and psychology (Manzo, 2003). According to Hidalgo and Hernandez (2001, p. 274), place attachment involves an "interplay of affect and emotions, knowledge and beliefs, and behaviors and actions in reference to a place". In more simple terms, place attachment relates to the bonding of people to places (Altman & Low, 1992). Although earlier studies of place attachment examined the concept mainly in relation to residential places and rootedness in a neighborhood based on length of residency (Taylor, 1996), recent studies have extended the concept to include the experiences of nature and wilderness (Manzo, 2003). One noticeable trend in this regard is the connection between Indigenous groups' experience of health and wellbeing in relation to their traditional land. In this regard, studies have found place attachment to be an integral component of Aboriginal wellbeing (Lutschini, 2005; Richmond, Ross, & Egeland, 2007). When forced to be displaced from their traditional land due to several reasons, Indigenous peoples find it difficult to adapt as a strong bond to their land continues to be felt (Vickery et al., 2004).

When people with a strong sense of place attachment experience disaster, it is believed to affect their resilience both positively and negatively. On the positive side, people with a higher place attachment can decide to stay behind during wildfires and protect their property instead of being evacuated. For example, during the 2009 Victorian (Australia) wildfires, place attachment was found to be an important factors for people to stay behind and protect their property compared to those who were evacuated (McLennan, Elliott, Omodei, Whittaker, 2013). Thus, place attachment became a source of resilience by minimizing the potential disruptions that could likely be created by evacuation. The feeling of place attachment can also be a source of capacity for people to revitalize their community in post-hazard recovery process (Chamlee-Wright & Storr, 2009). To the negative side, research in the general hazard literature has found that while feelings of loss, disorientation, and disruption are common among disaster evacuees, stronger attachments to place can make such disruptions more devastating (Norris et al., 2008;

Chamlee- wright & Storr, 2009). Thus, in this case, place attachment could inhibit rather than facilitate resilience during hazard disruptions such as evacuation (Norris et al., 2008). This study will examine how place attachment affected the First Nation residents when they are forced to evacuate from their community and traditional land in which they are deep rooted.

2.4. Evacuation preparedness

Preparedness in general includes "actions undertaken before disaster impact that enable social units to respond actively when disaster does strike" (Tierney et al., 2001, p.5). While it is widely recognized that disasters are part of daily life emanating largely from social process and activities that create vulnerability, the risk generated by a disaster could be greatly minimized by organized preparedness activities (Lindell et al., 2001; Tierney, 2014; Wisner et al., 2004). Evacuation preparedness is one of the activities undertaken within the general actions of emergency preparedness.

Preparedness for wildfire evacuation can take place at various levels including at household, community, local and other scales. Household preparedness for a wildfire evacuation includes risk awareness, knowing potential self-protection actions, and having a family emergency kit outlining a list of necessary items and acquiring them beforehand. Such items include, among other, essential medication, important documents (such as ID, health insurance card and birth certificates and other valuables) money and sufficient clothing. Frequently checking the contents of this emergency kit before the fire season is also part of evacuation preparedness at household level. In some areas such as in California, wildfire authorities recommend individuals and households to complete a pre-evacuation preparation checklist when a wildfire evacuation is anticipated. Such checklists include the identification of essential valuables and document (identification card, insurance, and child and family health needs), prescribed medicines, change of clothing and first aid kit among others (CAL FIRE, 2016). Public Safety Canada also encourages individuals and families to prepare essential items (grab-and-go emergency kit) packed and ready so that they became self-sufficient for at least 72 hours (Public Safety Canada, 2016). In addition to physical preparedness, psychological researchers have also noted the importance of mental preparedness before mandatory evacuation as part of the preparedness

activities to help reduce stress, fear and anxiety in both parents and children (Miller et al., 2012; Eriksen and Prior, 2013). According to Eriksen and Prior (2013) mental preparedness compliments physical preparation and enable wildfire affected residents to actively cope with the threat and consequences of wildfire including evacuation.

At community (e.g. band) level, evacuation preparedness encompasses activities including assessing the various vulnerabilities of community members, developing a disaster plan, forming an emergency response team, providing training and education for both responders and community residents, and making sure that the necessary resources (equipment, facilities) are put in place (Tierney et al. 2001). An evacuation plan for wildfires typically determines what needs to be done at each stage of the evacuation (decision to evacuate, warning communication, withdrawal, shelter and return) once the decision for evacuation has been made (Emergency Management Australia, 2005). More specifically, an evacuation plan at community level needs to assess the various evacuation needs of the at-risk population based on various vulnerabilities (Prasad, 2016). Actions completed in this regard could include organizing and storing important documents, i.e. medical records and prescriptions of medically vulnerable individuals for ease of access and transport and ensuring continuity of care at the host community (Broz et al., 2009). In First Nations context, the lack of emergency plan has been found to affect vulnerability conditions of community members. For example, a report on emergency management in First Nations indicates that they lack the necessary preparedness for emergency (Office of the Auditor General of Canada, 2013). The report asserted that some First Nations lack or use low quality plans for managing emergency which in turn affects their resilience (Office of the Auditor General of Canada, 2013). Preparedness, vulnerability and resilience are strongly linked concepts in that preparedness minimizes the consequences of a hazard (reduce vulnerability) and increases the ability of people to better cope and recover (increase resilience) from the disruptive impacts of the hazard (Paton et al., 2008; Whittaker et al., 2012; Prior & Eriksen, 2013).

Evacuation preparedness at community level could be influenced by a number of factors including lack of capacity in terms of acquiring the necessary resources including financial support, availability of personnel with emergency skill and training, facilities and infrastructure. For example, within the context of First Nations in Canada, Christianson (2015) noted that First

Nation residents receive very little assistance from the government during and after wildfires compared to other non-Indigenous communities in Canada.

Evacuation preparedness by government (local, provincial, national) is also crucial where government support plays a role in evacuation of local communities such as in the case of First Nations in Canada. This also includes municipalities and local governments who give support for hosting evacuated communities. Oftentimes, government agencies are blamed for excessively focusing on reactive approach in responding for crisis to a much more neglect of local preparedness activities, which is crucial for building community capacity (Quarantelli, 1990). This issue has been also underscored by a recent government report in Canada which criticized emergency management in First Nation communities as mostly relied on reactive approach (focusing on response and recovery) to a neglect of promoting community preparedness initiatives (Office of the Auditor General of Canada, 2013). In Indigenous communities' context, researchers have also noted that evacuation support by government often lacks the necessary preparedness to address the needs of the evacuated resident due to insensitivity to local culture and values and failure to make use of local knowledge and networks (Veland et al 2010; Ellemor, 2005; Eisenman, 2007). This study will examine how issues related to preparedness (at community level and beyond) influenced evacuation experiences of Sandy Lake First Nation band members.

2.5. Evacuation response

Disaster response, in general, refers to "actions taken a short period prior to, during, and after disaster impact to reduce casualties, damage, and disruption and to respond to the immediate needs of disaster victims" (Tierney et al., 2001, p.5). Evacuation is one the actions falling under the response phase of the four disaster management cycle: mitigation, preparedness, response and recovery. An evacuation is defined as the process of removing people occupying a particular location due to a present or imminent situation that can possibly threaten the safety, health and welfare of people (Beverly and Bothwell, 2011; OMSCS, 2013).

Wildfire management agencies and emergency response organizations in North America rely on evacuation of residents in the face of impending wildfire risk based on the assumption that evacuation is the safest choice when wildfire approaches a community and threatens human safety (Pyne, 2001). In Canada, it is a major strategy of protecting public safety in areas where residents are threatened by intense and fast-spreading forest fires (Beverly & Bothwell, 2011) and it has remained the only risk management option supported by the government in the event of wildfires (Cote & McGee, 2014).

Depending on the nature of the hazard, an immediate evacuation could be called. In this case residents may have limited time to prepare themselves and their family (J. Sorensen & Vogt, 2006). An evacuation could also be well pre-warned, allowing residents adequate time to prepare (J. Sorensen & Vogt, 2006). In some cases, wildfires may require an immediate evacuation leaving residents insufficient time to prepare. Depending on the type and magnitude of the environmental hazard triggering the evacuation, people may be evacuated to nearby or distant evacuation centers either for a short period of time (few days) until it is safe to return or people may remain evacuated for several weeks.

Operation of a mass evacuation proceeds through sequence of stages starting from decision to evacuate, warning communication, withdrawal, shelter and return (Emergency Management Australia, 2005). Each stage of the evacuation requires a well thought out preparedness plan prior to the occurrence of an event. For example, with regard evacuation decision, uncertainty regarding authority, roles and responsibilities (e.g. ambiguities as to who is responsible to declare emergency) can delay evacuation (Wenger, James, and Faupel, 1980; Drabek, 2012).

Exchange of information and communication is an integral component of an evacuation operation that occurs along all the stages the evacuation. Effective information sharing and communication thus play a pivotal role for the success of evacuation operation and hazard evacuation experiences of the evacuees. However, due to the inherent complexity of a fire event, effective risk communication between fire management agencies and the general public is, at times, challenging (McCool, Burchfield, Williams, & Carroll, 2006; Taylor, Gillette, Hodgson, & Downing, 2005). This is because information needs of wildfire-affected residents change at each temporal stage of the evacuation processes.

At the early stages of wildfire incident (or before evacuation), residents require specific information on the location of the fire, information on placement of evacuation order and procedures, transportation and escape route, conditions of service at the evacuation center (Cohn et al., 2006; Taylor et al., 2005). For example, in their case studies of communications during the 2003 small Bridge Fire in southern California and the Old and Grand Prix Fires, Taylor et al. (2005) found that residents sought more specific and tangible information such as precise location and severity, size, and direction of spread of the fire. The authors further observed that in Old Fire and Grand Prix, the fires covered much larger area and consequently coordinated and effective communication was even much more challenging. Plus, people were receiving conflicting information from multiple sources and fire management agencies found it difficult to control the quality of information being disseminated. Local residents were in need of place-specific information that would have helped them to decide on evacuation rather than much generalized information about the fires. Taylor et al. (2005), recommend that in order for wildfire-affected residents to take timely and appropriate action, communication during wildfires need to be accurate, consistent and up-to-date. Similarly, in their study of intended evacuation behavior due to wildfire risks in the East Mountain area outside Albuquerque, New Mexico (USA), Mozumder et al. (2008), stressed the importance near-continuous and specific information about the fire and the risk involved.

Once evacuated, information needs of residents take a new form. People become very keen and concerned about their homes and property (Carroll, Higgins, Cohn, & Burchfield, 2006). It is also found that perception of misleading or inaccurate information about the fire risk during the course of the evacuation, uncertainties and concern about the condition of homes and property and lack of control of ongoing events can create distress and anxiety among evacuees (Cohn et al., 2006; McCool, et al., 2006; McCaffrey et al., 2014). This study builds on existing research by examining how the sharing of information and communication (responding agencies, community leaders and evacuated residents) could influence evacuation experiences in the context of a remote Indigenous community of Sandy Lake First Nation.

2.6. Evacuation experiences and impacts: the social construction of evacuation

As a mandatory movement of residents and business threatened by the actual hazard, evacuation can result in a far reaching social, psychological, health and economic impacts (DeSalvo et al., 2007; Kent et al., 2003; J. H. Sorensen & Sorensen, 2007; Buckle, 2012). In terms of its psychological and emotional impacts, one of the consequences of evacuation is its disruptive impacts on individuals, families, and the community at large. The negative psychological and emotional impacts include the feeling of uncertainty it imposes on residents after being forced to leave one's home and remain at evacuation centers for undetermined amounts of time (Carroll et al. 2006; Cohn et al. 2006; Buckle, 2012). Leaving one's home and property and moving into the 'unknown' with uncertainties, the lack of information and the perception of misleading information can add up on the distress, disruption and tension (Taylor et al., 2005; Cohn et al., 2006; Buckle, 2012). Family separation (Epp et al., 1998; Haney et al., 2007) disruption of daily routines (Cohn et al., 2006), disruption of place attachment (Scharbach, 2014), and negative interaction with the host community (Epp et al., 1998) were also found to be stress-inducing factors associated with evacuation.

Family separation during evacuation, in particular, was found to affect the mental and emotional wellbeing of evacuees (Haney, Elliott, & Fusell, 2007; Scharbach and Waldram, 2013). For instance, Haney, Elliott, & Fusell (2007, pp. 90), in their study of the impacts of Hurricane Katrina, explain how "the evacuation of storm victims scattered many of New Orleans' poorest residents to distant cities without consideration for where they might have a support network of family or friends who could assist in their return". They also indicated that family separation can itself become an important determinant of post-disaster stress. In the context of First Nations, Scharbach (2014) documented Hatchet Lake Denesuline First Nation members' evacuation experiences and found several cases of family separation. She found that family separation and the disruption of parental role induced distress for many of the evacuees.

Concern about the condition of homes, property and pets can also create enormous distress and anxiety among evacuees. Based on a study of wildfire evacuation incidence in response to three fires in the United States, Cohn et al. (2006) indicated that the worst part of the evacuation process is the uncertainty surrounding the condition of their homes and some evacuees even

wished they had stayed and protected their homes and property from the fire. A similar concern over homes, property and pets was expressed by participants of the 2011 wildfire evacuees of Hatchet Lake Denesuline First Nation (Scharbach, 2014). In another case study completed by Graham (2003) on the impacts of 2002 Hayman Fire (Colorado), the author discussed about the hardships felt by residents as a result of evacuation, including the loss of income and mental anguish. Some participants in the study also expressed their opinion that because of these negative experiences they would be reluctant to evacuate if they found themselves in another fire event (Graham, 2003).

Blaming behavior is common among disaster evacuees and unmatched expectations can often be viewed and considered as affecting wellbeing. Daniel et al. (2007) noted that emotional processes related to blame and attribution behavior often prevail during and shortly after wildfire ignitions and people's reactions and comments regarding the event are then formed in a more highly charged emotional state. Affected residents often direct some blame at the land management agencies leading the wildfire suppression efforts (Cohen et al., 2008) and emergency management agencies handling evacuation (Scharbach, 2014). With regard to the later, Scharbach (2014) documented the case of Hatchet Lake Denesuline First Nation community members' evacuation experience in which participants directed blame on the ways in which the evacuation was handled by the provincial emergency organization. The researcher noted that the organization and implementation of the evacuation processes failed to meet the expectations of the evacuating residents because it failed to consider local and regional norms of social life of the Dene nation (Scharbach, 2014). Such blaming behavior and mismatches in expectations on the appropriate response actions could erode residents' trust towards wildfire emergency management officials (McCaffrey & Kumagai, 2007).

Some evacuees can also face health and safety-related challenges. As discussed in Section 2.4.1., vulnerable individuals such as those with special needs (e.g., elders, children and medically vulnerable individuals) find it more challenging during evacuation (Fernandez, Byard, Lin, Benson, & Barbera, 2002; Lach et al., 2005; Ngo, 2001). Elderly could find it difficult when forced to relocate due to pre-existing vulnerabilities related to health related burden (e.g. limited mobility, diminished sensory awareness, and chronic health conditions) (Fernandez et al; 2002). The lack of adequate supplies of food, water and medicine and the continuation of medical

services at the hosting centers could aggravate health problem for these evacuees (Buckle, 2012). Thus, hosting community capacity and prior preparedness to meet the needs and expectations of evacuees can also influence evacuees' experiences. A related challenge that can likely affect evacuation experiences is cultural differences (language, food preferences, attitude and beliefs) between evacuees and service providers at the hosting communities (Legerski et al., 2012).

On the positive side, as the primary objective of a hazard evacuation is public safety, a well-planned and coordinated evacuation can save life and adverse health consequences. Moreover, disaster exposure and evacuation may also help initiate and facilitate community collaboration and working together, increased sense of community. For example, in their case study of the Hayman Fire, Woodland Park, Colorado, Kent et al. (2003) found that evacuation process created opportunities for people to get to know each other and work together facilitating greater collaboration among people and increasing sense of community.

2.7. Indigenous peoples' evacuation experiences

Limited hazard research shows that disaster evacuation can be very difficult for poor, minority and Indigenous people (Elder et al., 2007; Lawson & Waldram, 2015). One of the overriding themes in the general hazard literature regarding Indigenous people and natural hazard experience is that local networks, institutions and relationship with government appear to influence how Indigenous people experience and cope with a hazard disruptions (Gaillard 2006, 2007; Becker et al 2008; Veland et al 2010). For example, researchers have examined hazard experiences of indigenous people induced through tsunamis (Becker et al 2008), volcanic eruptions (Gaillard 2006, 2007), and typhoons (Gaillard 2007; Veland et al 2010) and cyclones (Cottrell 2006).

Some of these studies have noted how hazards and evacuation could disrupt local networks and relationships which are important elements of coping and resilience during adversities among indigenous people. The studies further indicated that the disruptive impacts of hazard evacuation on indigenous communities could be minimized through the use of local networks and institutions. For instance, a qualitative study by Veland et al. (2010) sought to examine the

role of local institutions (such as local networks and connections) in emergency evacuation of the remote Indigenous community of Warruwi, Northern Territory Australia, from Cyclone Monica. The authors demonstrated how established indigenous institutions, "culturally embedded in indigenous ways of understanding and responding" such as using local networks and connections (e.g. making use of respected community representatives) can contribute to effective emergency responses. Likewise, Ellemor (2005) in her study of emergency management in remote indigenous communities in Australia, noted how emergency management intervention by government could at times be ineffective due to failure to take into account local knowledge (e.g. on cultural protocols) and local resources (e.g. the use of key community representatives as indigenous liaison officers with an understanding of and a relationship with local indigenous communities).

Research evidence from First Nations living in other provinces of Canada such as Manitoba and Saskatoon (Epp et al., 1998; Waldram and Scharbach, 2013) suggest that evacuation can have negative consequences for individuals, the families and the community at large. Some of these include the problem of family separation and the resulting psychological distress and anxiety (Waldram and Scharbach, 2013), feeling of uncertainty and concern about the condition of homes, property and pets (Epp et al., 1998; Waldram and Scharbach, 2013), and disruption of daily routines, place attachments, and community relationships (Epp et al., 1998; Waldram and Scharbach, 2013; Newton, 1995).

The study by Scharbach and Waldram (2013) employed qualitative method using narrative approach to examine the 2011 wildfire evacuation experience of Hatchet Lake Denesuline First Nation (Saskatchewan). The authors identified a number of factors negatively affecting evacuees' wellbeing including: inadequate food and water during the early stages of the evacuation, uncertainties and chaos during the organization of the evacuation, family separation and the disruption of parental role, and negative implications on community roles and social support (Scharbach and Waldram, 2013).

Epp et al. (1998), studied wildfire and flood hazard experience of three First Nations: Pukatawagan, Roseau River and Sioux Valley First Nations in Manitoba. The researchers identified common issues that participants perceived challenged emergency response and evacuation experiences including the lack of emergency plan which created confusion and

uncertainties, separation from family, kin and community members aggravates strenuous situations, some evacuees experienced unfair treatment in the host municipalities, and communication problems between agencies local authorities and community members (Epp et al., 1998). Further, the authors outlined the positive outcomes of the evacuation experience including better understanding of the risk and increased preparedness among residents due to frequent experience of emergencies and affected residents showed strong resilience and community cohesion which was an indication of the potential for further prevention and mitigation works (Epp et al., 1998).

This thesis aims to contribute to knowledge about hazard evacuation experiences of Indigenous people by using a social constructionist perspective to examine how residents of Sandy Lake First Nation were prepared for and affected by a community-wide wildfire evacuation. The study attempts to bring new factors and interpretive insights into the hazard evacuation experience of First Nations. One of the gaps to be filled by this study is how community preparedness affects evacuees' evacuation experiences, a topic that has not been studied to date. Further, the study builds on existing research by providing a deeper and nuanced understanding of the social and individual factors affecting evacuation experiences. Previous studies have pointed out the role of local networks and institutions in facilitating the evacuation of Indigenous people in Australia during natural hazards (Ellemor, 2005; Veland et al 2010). In the Canadian First Nations context, extended families, kinship and clan members form a valuable social support system in everyday life and in times of special need (Royal Commission on Aboriginal Peoples 1996a; Kirmayer et al., 2009). However, it is not clear how this social support contributes in buffering the disruptive impacts of a hazard evacuation. Previous research by Scharbach (2014) examined how wildfire evacuation cause disruptions in wellbeing among First Nation residents such as through the disruption of family roles caused as a result of family separation during the evacuation. However, very little is known how social support in general (including support from family, extended family and other fellow community members) and the lack of thereof could affect the evacuation experience of First Nations either positively and negatively. Thus, this study will examine some of the important social and cultural factors including social support, social cohesion and place attachment affecting the resilience of First Nations to the disruptive impacts of a hazard evacuation.

Individual characteristics of evacuees; for example, age (Fernandez et al., 2002), income condition (Bolin, 1986), and special needs of individuals related to language and cultural barriers (Legerski et al., 2012) could pose additional challenges for evacuees while staying at the evacuation centers. However, despite a number of individual and social vulnerabilities characterizing First Nation residents that could aggravate stressful experiences during a disaster evacuation (such as age, income and health conditions, and those vulnerabilities induced through physical, cultural and/or social barriers), it is not yet clear how these vulnerabilities affect them during a hazard evacuation. Adding to this, the research also brings insights as to how the services provided at the hosting communities along with the needs and expectations of individual evacuees affected evacuation experiences of band members during their stay in the host communities. A study completed in USA with non-Indigenous communities has pointed out the challenges often encountered by hazard evacuees as a result of cultural differences (language, food preferences, attitude and beliefs) between evacuees and service providers at the hosting communities (Legerski et al., 2012). However, very little is known how the services provided for First Nation evacuees at the hosting communities could affect evacuation experiences. This study contributes to existing literature by examining how the services provided at the hosting communities along with the evacuees' needs and expectations affect evacuation experiences.

2.8. The conceptual framework of the research

This thesis aims to contribute to knowledge in Indigenous people and natural hazard experiences (focusing on evacuation) by using social constructionist approach to examine how residents of Sandy Lake First Nation were prepared for and affected by a mandatory wildfire evacuation. The social constructivist paradigm is employed in social problems literature, wherein subjective human experience is explored to study social problems, have contributed to the understanding of human disaster experience in what come to be known as the social constructionist approach to disaster (Tierney et al., 2001). Hence, in studying disaster consequences and impacts, social constructionist rather rely on exploring the subjective experiences of people (Tierney et al. 2001) and places primary emphasis on exploring the social and cultural influences on individual's and group's disaster experiences and impacts (Quarantelli, 1985; Buckle, 2006; Krüger et al., 2015; Tierney, 2014).

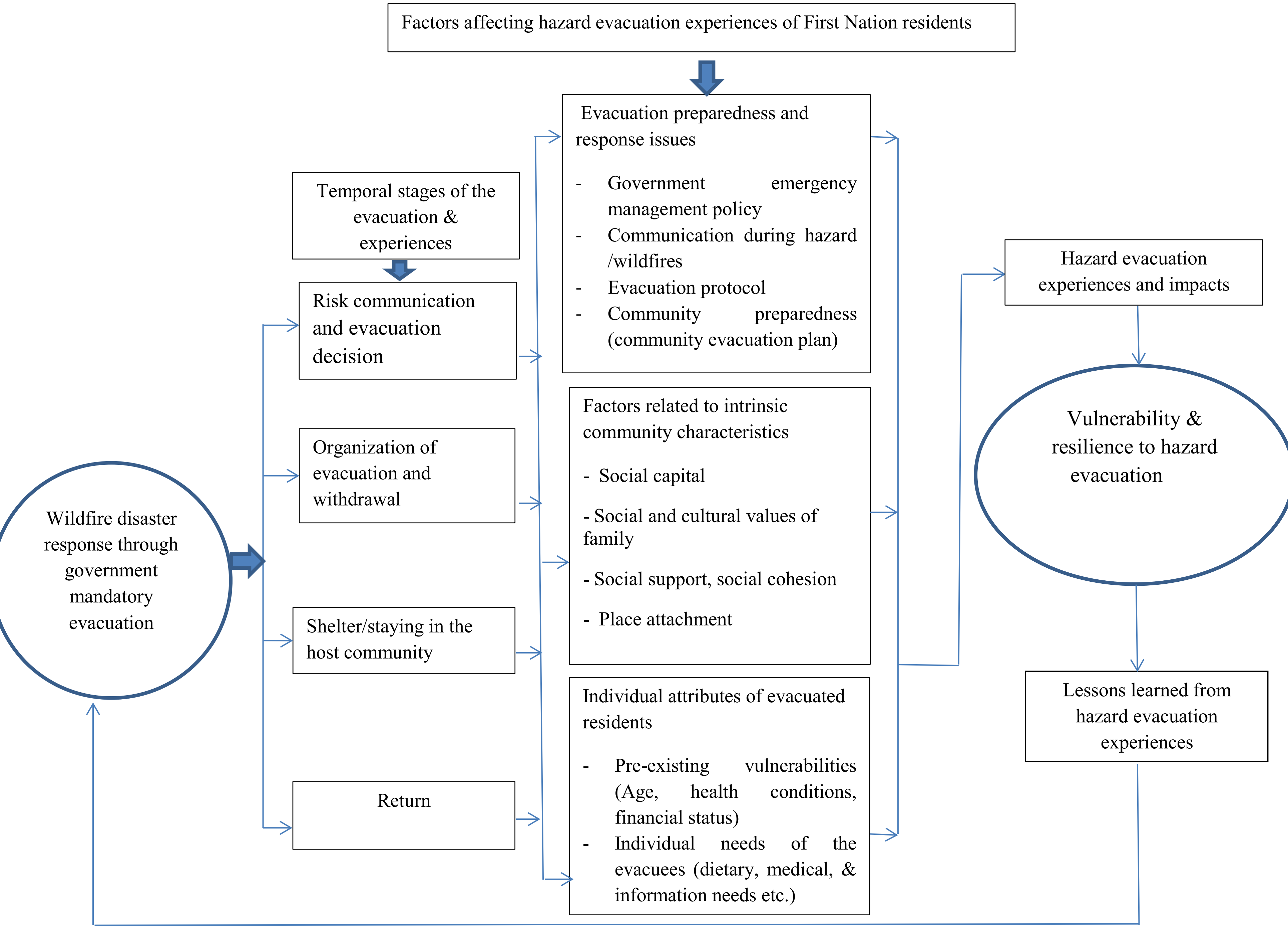


Figure 2. 1 The conceptual framework of the research

Figure 2.1 outlines the conceptual framework of this research. The conceptual framework serves as "the scaffolding of the study" by providing a conceptual link between the research problem and the literature reviewed including theory, and the methodology selected (Bloomberg & Volpe, 2012, p. 86). The major categories outlined in the conceptual framework also serve as a "repository for reporting the findings and guiding data analysis and interpretation" (Bloomberg & Volpe, 2012, p. 86). Because of the interdisciplinary nature of the research, the conceptual framework illustrated above is drawn from various sources of literature dealing with human hazard experiences and impacts. Thus, in line with the social constructionist approach, the main purpose of the framework is to illustrate schematically the various factors that are likely to affect Indigenous people's hazard evacuation experiences and impacts.

As shown in Figure 2.1, wildfire disaster response through mandatory evacuation by government follows a certain stages and at each temporal stage residents' experiences could be affected by a number of factors. As shown at the heart of the framework, people disaster evacuation experience and impacts could be influenced by a combination of factors that relates broadly to three major areas including broader hazard policy and event preparedness and response issues, community (social) characteristics and individual attributes, which overall determine the vulnerability and resilience of people to the disruptive impacts of a hazard evacuation. First, as shown at the middle top of the diagram, factors related to evacuation preparedness and during event communication affecting evacuation experiences include government emergency management policy and protocols (Quarantelli, 1985, 1990; Drabek, 2012), information and communication during the wildfire and evacuation decision (Cohn et al., 2006; Taylor et al., 2005). Individual and community preparedness such as the availability of an evacuation plan at community level is crucial to effectively organize evacuation and minimize chaos and confusion (Wenger, James, and Faupel, 1980; Tierney et al., 2001; Bonde, 2011).

Second, at the heart of the diagram are factors related to the intrinsic characteristics of the evacuating community that are likely to influence evacuation experiences. Intrinsic characteristics of the evacuating community as it relates to social factors including family roles, social support/social cohesion and place attachment could influence evacuation experience and coping, either positively or negatively. In indigenous community context, for example, researches have shown the important cultural values of family role, social support, and place

attachment in shaping disaster evacuation experiences (Epp et al., 1998; Haney et al., 2007; Scharbach, 2014). In First Nations, individuals who have family and social support during times of disaster are likely to better cope and become resilient to the disruptions caused by the hazard evacuation.

Third, as shown at the middle bottom of the diagram, people's disaster evacuation experiences could also be influenced by individual characteristics of the evacuees and the services provided in the host communities with respect to the individual needs of the evacuees. Social vulnerability factors which could be manifested through individual characteristics that could likely affect evacuation experiences include special need individuals (e.g., elders, children and medically vulnerable individuals) (Fernandez, Byard, Lin, Benson, & Barbera, 2002; Lach et al., 2005; Ngo, 2001), lower income status evacuees (Elder et al., 2007; McGee and Christenson, 2016). For example, those evacuees who are unable to compensate for the damage caused (e.g. on food) upon returning their home (McGee and Christenson, 2016). The delivery of services and amenities with respect to the needs and expectation of the evacuated population could also affect disaster evacuation experiences and impacts (Quarantelli, 1985; Buckle, 2006; Sphere project, 2011).

In summary, some or all of these factors could impinge on the evacuation experiences of disaster victims and their vulnerability and resilience to the disruptive impacts of the hazard and the evacuation. Lessons and experiences drawn from evacuation experiences, as depicted by the bottom reverse arrow, can also improve future emergency management which will ultimately reduce vulnerability conditions and enhance resilience in the face of future wildfire evacuation.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1. Introduction

This chapter provides detailed information on the research methodology. It first outlines the research approach and the data collection techniques employed for the study. It particularly discusses the research processes with the community and the data collection techniques employed. This is followed by discussion about the data analysis and the ethical issues that are pertinent to this research. Finally, steps taken in order to ensure reliability and validity for the study, study limitations and ways of dissemination of the study results are discussed.

3.2 The Research approach

3.2.1 Community-based qualitative research

This study employed a community-based qualitative case study approach to explore how residents of Sandy Lake First Nation were prepared for and affected by the 2011 wildfire evacuation. The conduct of research under the colonial context largely followed research approaches that favor objective claims on knowledge and truth that has universalizing tendencies (Go, 2015). Under this western philosophy and epistemology, knowledge about indigenous communities has been classified, misrepresented and misappropriated in a way to serve the interest of colonizers (Smith, 1999; Kovach, 2010). Consequently, this has not only inhibited the production of alternative forms of knowledge but also served as an instrumental for oppression and subordination (Young, 2003; Go, 2015). Due to this colonialism's legacy of unequal power relations between researchers and the researched, several Indigenous and non-Indigenous researchers have called for methodologies that redress this power imbalance and a need to make research processes more collaborative, culturally sensitive, and emancipatory (Cochran et al., 2008; Howitt & Stevens, 2010; Castellano, 2014). As a way of addressing this colonial legacy, many researchers of the post-modern era aim to explore local knowledge and concerns by empowering Indigenous residents in the research process.

Embedded in community-based research is the notion that community participation assists and informs all aspects of the research process including the design, execution and communication of results (Castellano, 2014). Genuine involvement and empowerment of the research participants at all stages of the research process is therefore considered to be essential for minimizing the power imbalance between the researcher and the community involved (Castleden, 2012, p. 201). In doing so, it offers venue for learning local fundamental values that are rooted in Indigenous traditional construction of reality (sometimes called a worldview) and challenge the assumptions of research rooted in western scientific worldview (Castleden, 2012). Such a platform provides an opportunity from which otherwise silenced Indigenous people are empowered in the research process and air their voices about their experiences, such as through the use of their verbatim quotations. This is important to not only excavate their knowledge, perspectives, and understanding but also ensure alternative representation and thereby contribute to the self-determination and empowerment of First Nations (Howitt et al., 2012; Castellano, 2014). The process and results can also help strengthen local capacity and enable to translate research results into locally relevant policy and/or action (Cochran et al., 2008; Castellano, 2014).

Qualitative research methodology is found to be particularly suited for this research. Qualitative research involves an "interpretive, naturalistic approach" that seeks to make sense of, or interpret phenomena in their natural settings or in terms of the meanings people bring to them using a series of representations, including field notes, interviews, conversations, photographs, recordings, and memos (Denzin & Lincoln, 1994, p. 37). Creswell (2012) also notes that qualitative research is an appropriate methodological stance for eliciting individual and group experience to a certain phenomenon (such as hazard experiences) and the meaning they ascribe to their experience. There are four main reasons for choosing qualitative research methods for this study.

First, qualitative research is a preferred methodology involving Indigenous communities as its primary intent is 'giving voice' to the research participants (Tri-Council Policy Statement, 2014). As discussed above, this approach primarily contests the universalizing and *objective* claims on knowledge and truth molded based on Anglo-European knowledge and worldview. The

epistemological assumption of this view of *objectivism (*as opposed to *constructionism)* is that '… things exist as meaningful entities independently of [human] consciousness and experience" (Crotty 1998, 5). This view of positivism, which is based on the idea of universal objective truth, has in fact remained a dominant epistemology in the natural sciences and in some of the social sciences, particularly those favoring quantitative research methodology. On the other hand, rejecting the notion of objective truth, qualitative research takes a *constructionist* stance, which asserts that all meaning is constructed or produced by social actors. As Bloomberg and Volpe (2012, p.30) noted "qualitative research is pragmatic, interpretive, and grounded in people's lived experience". Its basic assumption is that knowledge at both individual and community level is socially constructed (Denzin and Nincoln, 2000). As stated above, this epistemological stance challenges past research undertakings of the colonial context where by "indigenous voices have been overwhelmingly silenced" and research only served as an instrument for imposing Euro-American knowledge, power and truth (Smith, 1999, p.16). Therefore, instead of using research as an *objective* way of representing Indigenous people to the white world (which was the intent of research in the colonial context), the qualitative approach acknowledges the knowledge possessed by Indigenous people and recognize it as a valid interpretation of reality in its own right (Smith, 1999).

Second, qualitative research methodology is appropriate for gaining insights on how and why individuals and cultural groups interpret and ascribe meaning to social or human problems, to their actions, and to other aspects of the world (including other people) in which they are exposed to (Maxwell, 2013). Thus, qualitative research allows the researcher to explore how people structure and give meaning to their experiences and share their understanding and perceptions (Berg, Lune, H., & Lune, H., 2004). This research does not start with hypotheses about the wildfire evacuation experiences of Indigenous people; rather it seeks to explore the evacuees' own reflections of their experience. In other words, understanding local people's knowledge and concerns on wildfire hazards and examining their hazard evacuation experiences require and an in-depth understanding of the experiences and interpretations of the peoples themselves.

Third, the conduct of a qualitative approach also enabled me to spend time in the research community to understand local context (e.g. physical settings, people's daily life and

relationships) and learn how these local characteristics could affect exposure to a hazard and the ways in which people respond to a hazard such as through organizing an evacuation. Such flexibility in terms of time also enabled me to build relationships with community members and provided sufficient time to learn local views and concerns and receive feedback from the research participants, community elders and band officials throughout the research process. This eventually contributed to the quality of the research output.

Fourth, in terms of qualitative data analysis, the naturalistic nature of qualitative inquiry allows the researchers to discuss in detail the various lived experiences and social processes and better understand how local residents engage into creating and maintaining their social realities (Denzin and Nincoln, 2000; Berg, Lune, H., & Lune, H., 2004). For example, during the Sandy Lake evacuation, each band member may have different and unique experiences depending on the individual's characteristics and pre-existing vulnerability factors such as age, income and health conditions; and those vulnerabilities induced through physical, cultural and/or social barriers. Such complex factors and diversities in experiences and opinion are most appropriately captured through qualitative analysis and interpretations (Longhurst, 2009).

3.2.2 Case Study Design

This research used a case study design. Yin (1984:23) defines the case study design as: "an empirical inquiry that investigates a contemporary phenomenon within its real life context; when the boundaries between the context and the phenomenon are not clearly evident; and in which multiple sources of evidence are used".

A case study approach is particularly suited when the purpose is to explore "how" or "why" questions, when there is little or no control over events, and when conducting empirical inquiry on "a contemporary phenomenon within its real life context" (Yin, 1984, p. 23). With regard to the "how" questions, some of the specific objectives that this research sets to address include: examine "how" issues related to preparedness and during-event communication influenced evacuation experiences of band members, and explore "how" the nature of the evacuation

operation by the government interacted with the characteristics of the Sandy Lake First Nation and influenced the residents' experiences and impacts.

According to Yin (1984) case studies can be classified into three different type namely descriptive, explanatory, and exploratory. Descriptive case studies are undertaken when the purpose is to describe an intervention or phenomenon and the real-life context in which it occurred (Yin, 2003). Explanatory case studies on the other hand, are conducted to explain complex real world problems characterized by cause and effect relationship. For example, to study and explain the link between program implementation with program effects (Yin, 2003). The third type is exploratory case study. It is a type of case study often used to "explore those situations in which the intervention being evaluated has no clear, single set of outcomes" (Yin. 2013, p. 56). Exploratory case study approach is commonly employed to study new areas or issues that have not been sufficiently studied and it is suited to address "how" and "why" questions. Looking at this classification of case studies, this particular study is an exploratory case study which, as explained above, aims to address ''how'' and "why" questions and attempts to examine the diverse evacuation experiences of First Nation residents. In addition, there is limited research conducted on wildfire evacuation experiences of First Nations and hence making this case study exploratory.

Second, a case study approach is more appropriate when the researcher has "clearly identifiable cases with boundaries" (Creswell, 2012, p. 100), and when contextual conditions are relevant to the phenomenon being investigated (Yin, 2013; Stake, 2008). Accordingly, Sandy Lake First Nation can be identified as an independent case having its own particular socio-economic, cultural, administrative and geographic characteristics that puts the community (the case) in context. In this case, it is impossible to detach residents' wildfire hazard evacuation experience out of the context within which it occurred. In addition, the case can also involve an event (Creswell, 2012). In the case of this research the event being the 2011 wildfire evacuation of Sandy Lake. The wildfire evacuation as an event has a specific starting and ending point which can be considered as "identifiable case with boundaries" and warranties an in-depth understanding (Creswell, 2012, p. 100).

Third, the case study approach also provided room for the use of multiple data sources (Berg, 2001). As noted by Berg (2001, p. 225) case study is "not actually a data-gathering technique,

but a methodological approach that incorporates a number of data gathering techniques." This study used resident interviews, focus group discussions, key informant interviews, direct observation and document (policy) review. Each data source contributes to a thorough understanding of the case by providing a "rich and thick description" of the phenomenon, which is one of the defining characteristics of a case study (Creswell, 2012, p. 57).

One of the drawbacks of relying in a single case study (as opposed to multiple cases) is that results from a case may not be generalizable to other cases or to a larger population since the context of each case may vary (Creswell, 2012). However, the result of a qualitative case study may still be transferable to other cases with similar contexts (Baxter and Eyles, 1997) or can be generalizable to theoretical propositions, if not to a larger population (Yin, 2003). Case study serves both purposes in this study. First, the results from this study were not only limited to understanding of a single case *per se* (i.e. how residents of Sandy Lake Frist Nation are prepared for and affected by wildfire hazard evacuation) but also provided broader practical and policy recommendations for handling wildfire evacuations in other remote fly-in communities. Second, the findings from the study can further advance knowledge and theory on hazard evacuation experience by pointing out the various factors affecting hazard evacuation experience of First Nation, an area that has received little attention by scholars.

3. 3 Field work

3.3.1 Community entry

The research engagement with Sandy Lake First Nation was first initiated in September 2012 when the band leadership expressed interest to participate in the First Nations Wildfire Evacuation Partnership. This partnership involves eight First Nations communities in Ontario, Alberta and Saskatchewan; researchers from the University of Alberta and agencies responsible in providing assistance during wildfires and wildfire evacuations in the three provinces. The primarily objective of the partnership is to examine how Indigenous residents and communities have been affected by wildfire evacuations and identify ways to reduce negative impacts of wildfire evacuations on Indigenous peoples.

Late in 2012, a phone discussion was held between Dr. Tara McGee, Dr. Amy Christianson (academic researchers leading the partnership) and officials of Sandy Lake First Nation about the proposed project. The First Nation representatives expressed interest to participate in the research. In September 2012, my supervisor Dr. Tara McGee visited Sandy Lake and further discussed the proposed research and Sandy Lake First Nation's interest in being involved. This facilitated my entry into the field.

In July 2014, I made my first visit to Sandy Lake. The purpose of this initial visit was to learn about the 2011 wildfire evacuation by meeting key community leaders, health workers, and others who had a management role during the evacuation. A meeting was held with Chief and councilors to explain the purpose of the planned research, the proposed research design, data collection procedures, and the desire to incorporate community input and feedback into the research design. The Chief was asked to establish a community research advisory committee and three individuals were assigned to provide guidance throughout the research. Two potential research assistants were also recommended. During this initial scoping visit, I also conducted interviews with six key contacts who were involved in carrying out the evacuation. This included members of the community leadership, people who stayed behind to provide support, health workers, and people who were assigned as community liaison officers at the host communities. Accordingly, insight and knowledge was gained on the wildfire risk in the area, wildfire emergency preparedness, handling of the evacuation and problems encountered in the process. The knowledge gained during this visit helped to further shape my proposal such as fine tuning the objectives, research design, data collection methods, and questions that should be included in the interview guide.

The main data collection stage commenced during my second visit of six weeks from July 14 to August 21, 2015. At the start of this period of fieldwork, I presented a formal letter and a refined proposal to the Chief and Councilors describing the First Nations Wildfire Evacuation Partnership and my proposed PhD research (Appendix-7). The community officials expressed their continued interest in the research project and I received a formal written consent to continue engagement in the research (Appendix-8). With the recommendation of the community research advisory committee members, I recruited a research assistant who is knowledgeable about the community and speaks and understands Oji-Cree, the Indigenous language spoken in the

community. My original plan was to recruit two research assistants but I was only able to recruit one who was available to assist me. Before the start of the semi-structured interviews with community residents, I sought advice from the community research advisory committee on the interview guide by discussing each question in the interview guide and incorporated their feedback. The community advisory committee also recommended potential interview participants. I also gave training and pilot tested the interview guide with my research assistant.

3.3.2 Semi-structured interviews

Interviews were conducted with band members during the fieldwork in the summers of 2014 and 2015. Qualitative interviewing involves conversations with the research participants (Kvale 1996), with a primary intent of deriving interpretations by making sense of the meaning of respondents' experiences (Warren, 200). Unlike standardized survey interviewing, which are completed through the lens of *positivism*, qualitative interviewing takes up *constructionist* approach to generate meaning and interpretation (not facts or laws) from the participant's view point (Warren, 200). Semi-structured interview were completed with participants with a primary goal of gaining insights on the wildfire evacuation experiences of Sandy Lake First Nation and the factors affecting evacuation experiences and impacts. A semi- structured interview style was found to be useful to explore the diverse views and experiences of the interview participants without limiting answers to a certain predetermined response categories, as it is the case in standardized questionnaire format and/or structured interview. This approach enabled flexibility in ordering and wording of questions or raise issues for discussion impromptu and the use of probes during the actual interview (Kirby et al., 2006). The use of probes (i.e. asking follow-up questions when the response was not clear or needed explanation) enabled me to obtain more information. The probing techniques also enabled to capture a broader range of views on the wildfire and the evacuation and the ways in which people view and interpret their experiences. A semi- structured interview is also suited to explore a particular phenomenon whose meaning and interpretations could vary between individuals and settings (Maxwell, 2013). Seidman (2006, p. 11) similarly noted that a semi- structured interview can be the best means of inquiry if the goal of a research is to examine what it is like to be for people to be in certain condition/state, what their experience is, and what meaning they make out of that experiences – often referred to us "subjective meaning". This is especially important for this study as semi- structured interviews

allow participants to use their own words to describe their understanding, meaning and experiences about the wildfire and the evacuation thereby facilitating an in-depth understanding.

The interviews can be broken down into two groups. Forty interviews were completed with residents who were evacuated to different host communities (35 participants) and people who stayed behind during the evacuation (5 participants). An additional sixteen key informants were interviewed, including the current and former chief, councilors, health workers, frontline workers who had a role during organizing the evacuation and people assigned as community evacuation liaisons for evacuees in the hosting communities. Table 3-2 shows some background characteristics of the interview participants. The key informant interviews, some of it was completed during my initial visit to Sandy Lake, helped to gain a better understanding about emergency preparedness at community level, handling of the 2011 wildfire evacuation and problems encountered in the process. The knowledge gained during this interview also helped to shape the interview guide for the subsequent interviews completed with residents. The interview guide for the key informants can be found in Appendix-10. During my second visit, I completed a total of forty interviews with community residents. The interview participants can be broadly categorized into residents who were evacuated to different host communities and people who stayed behind. The interview guide can be found in Appendix-9.

Sampling techniques

Deciding what type of sampling techniques to use and determining the number of participants is another important task in qualitative research. In the social sciences, sampling is broadly classified as probability and non-probability. Probability sampling is often used to test hypotheses and make generalization to the larger population and hence “every element in the study population is chosen at random and has a known probability of selection” (Ritchie and Lewis, 2003, p. 78). Whereas, sampling in qualitative research is principled on in-depth understanding of a phenomenon as opposed to making generalization. As a result, qualitative researchers rely on non-probability sampling. The emphasis in this type of sampling lies on in-depth understanding of the concepts or ideas rather than on the number of interview participants (Guest et al., 2005). Purposive sampling, snowball sampling and convenience sampling are

commonly used non-probability sampling techniques in qualitative research (Marshal, 1996). This study employed a combination of these sampling techniques to identify interview participants. Table 3-1 shows how participants were recruited using a combination of purposive, snowball and convenience sampling.

Table 3. 1 Participant identified using a combination of purposive and snowball sampling

Interviewed residents	Recommended by the community research advisory committee and the research assistant *(snow ball sampling)*	Recommended by interviewed participants *(snow ball sampling)*	Identified from the list of 2011 evacuated members of the community *(Purposive sampling)*	People randomly met by the researcher *(Convenience sampling)*	Total
Evacuated residents	11	13	7	4	35
Residents who stayed behind	2	3	-	-	5
Total	13	16	7	4	40

Purposive sampling involves a deliberate choice of an interview participant who is believed to possess information on what needs to be known by virtue of knowledge or experience (Bernard 2002). According to Ritchie and Lewis (2003), potential participants are identified based their specific feature or characteristics that enable the researchers a detailed exploration and understanding of the topic (or problem) under investigation. Under purposive sampling, participants are selected on the basis of their potential to contribute for better understanding of the topic or the subject being investigated. In light if this, purposive sampling has two major advantages. First, it ensures a broadest range of possible individual and issues relevant to the subject matter are included and second, it entertains diversities, within each of the key criteria employed, so that a wide range of experiences and impacts are examined (Ritchie and Lewis (2003, p. 80).

Accordingly, purposive sampling was found to be appropriate for this study. The overall aim of the purposive sampling was to capture the broadest range of possible individual and community experiences of the wildfire and the evacuation process by directly contacting different individuals. The selection criteria included people who were evacuated to different hosting communities, those band members who stayed behind and people who had a management role during the evacuation (people who stayed behind to assist, health workers, and community evacuation liaisons). The community advisory committee and the research assistant helped to identify potential interview participants based on these criteria. I then contacted the potential interview participants either by phone or in person by going to their homes or work places. In addition, a document containing the list of evacuees from the community nursing station also helped to identify some potential participants based on where they were evacuated. This list also helped to identify community evacuation liaisons for the key informant interviews. Once identified, I then contacted the community members either by phone or in person by going to their home or workplace.

Snowball sampling was also equally instrumental in facilitating the selection of the interview participants. Snowball sampling is a form of qualitative sampling in which each interview participants are encouraged to recommend other people they know who fit the selection criteria (Ritchie and Lewis, 2003). Accordingly, potential participants were contacted through third party or intermediary. In this case, each interviewee was asked to recommend other community members they know with varied evacuation experience and then I contacted potential participants or the potential participants would contact me directly. The use of snowball sampling through intermediary was particularly useful to identify potential research participants with different wildfire experiences such as family separation during the evacuation. In a small close-knit Indigenous community such as Sandy Lake First Nation one can make use of local community networks more conveniently to recruit appropriate interview participants (Veland, Howitt & Dominey-Howes, 2010). In some cases recruitment also took place when I was in the band office, community nursing station, at the local store or other community locations which takes a form of convenience sampling.

With regard to the decision made on the number of interviewees included in the research, Kvale (2007, p. 65) advises interviewing as many people as necessary if the intention is to

describe and explore in detail the attitudes and experience of a group towards a certain phenomenon (in this case the wildfire evacuation). Accordingly, recruitment of additional participants for interview continued until a point of saturation (Kvale, 2007) when further interviews resulted in repetition of what has already been told by previous respondents or no additional interview is yielding new information.

The interviews were completed in a variety of settings selected by participants including their home, work place, the band office, community nursing station, and open spaces near Sandy Lake northern store. Before each interview, participants were given an information sheet and asked to sign a consent form (Appendix -10). All interviews were recorded with a digital recorder after consent was requested for audio recording the interview.

I would also encourage respondents to raise any concern they might have with regard to information sharing and confidentiality. This helped build confidence and trust for the interview participants. Sharing my own background and life experiences was another factor that helped me to quickly build rapport and trust of my research participants (Jacob & Furgerson, 2012). All the interview participants in this study had the capacity to give free and informed consent. In the consent form, the option to withdraw or modify their participation in the research was explained. The stated time frame for withdrawal was until the time when formal data analysis started. No participant requested to withdraw from the study.

An interview guide was used to structure the topics and questions covered during the interview. Although topics and questions included in the interview guide are identified in advance, there was a great deal of flexibility during the actual interview such as wording of questions as well as ordering (Seidman, 2006; Kvale, 2006). In some cases new questions were also asked as a further probe when new relevant issues emerged during the interview sessions. In order to make sure that questions in the interview guide made sense and were understandable, I pilot tested the interview guide by first interviewing my research assistant. I also gave the guide to my community advisory committee for their comments. Feedback from my research assistant and committee helped me adjust some of the questions by soliciting important insider information (Jacob & Furgerson, 2012).

The interview guide had three major components. The first part includes background questions about the interview participants and the community in general. Respondents were asked about family status, length of residence, role in the community, and life in the community. This is followed by questions about past and present wildfire risk and preparedness. The second part of the interview guide consists of questions related to the respondent's experiences about the 2011 wildfire risk and emergency evacuation experiences systematically arranged along a time gradient (i.e. before, during and after the evacuation). The aim here is to help respondents "reconstruct their experiences and explore the meaning" they give to the wildfire evacuation experiences (Seidman, 2006, p. 92). More specifically, questions in this section were arranged along narrowly defined timelines asking about the evacuation processes and experiences such as: immediately before the evacuation, hearing about the evacuation, the evacuation process, leaving the community or staying behind (if the respondent stayed behind), staying in the host community, returning home, and thinking back on the evacuation experiences. Participants were also encouraged to relate their experiences in the context of their own situation, their family and the community at large. This way of eliciting details help identity the more underlying factors affecting their experiences (Seidman, 2006). In this section, participants were also asked questions related to pre-event wildfire and evacuation preparedness. Most of these questions were informed by the existing literature and theory on the subject, discussion with my supervisor and input from my community advisory committee. The final part of the interview guide asks for participants' suggestions for improving a future wildfire evacuation and emergency management.

The questions in both the semi-structured interview guide and the key informant guide were designed to be general enough (or broad and exploratory nature) often starting with phrases like "tell me about" which helped to avoid complicated questions and allowed the interviewee interpret the questions in various ways. This also encouraged participants to describe their own ideas and experiences and taking caution not to impose my own views on the experience of the interview participants (Seidman, 2006). Such style of interview questions also enabled new ideas, impressions, and concepts to emerge (Jacob & Furgerson, 2012). The techniques of probes and prompts not only helped to stay on truck but also allowed for unexpected data to emerge during the interview session (Jacob & Furgerson, 2012). Important new issues that emerged were also incorporated and further explored. Probing also helped in the reconstruction of the interview

participant's evacuation experience, as some participants needed prompting to encourage them to provide more detailed answers (Seidman, 2006). Probing technique also helped to uncover underlying factors that affected residents' wildfire evacuation experiences as well as the factors affecting wildfire evacuation preparedness. The interviews lasted between fifteen minutes to one hour and twenty minutes, with average interview length being 47 minutes.

One of the challenges that may be encountered during an interview is the power imbalance between the participant and the interviewer (Seidman, 2006). For example, a situation may prevail where the research participants view the researcher as an outsider and more powerful based on certain socially determined criteria such as class and education. This is even more pronounced in a cross-cultural research involving Indigenous communities where a non-Indigenous researcher could be viewed as an outsider (Smith, 1999; Howitt & Stevens, 2010). This insider-outsider dichotomy may influence the direction of the interview as people sanction their true feelings, opinions and experience. While interacting with participants during the interview sessions, I constantly took note of my role as an outsider by being purposefully reflexive and honestly observing my own actions, biases, assumptions and past experiences that may possibly affect the research (Howitt & Stevens, 2010). Sharing my own relevant life story as an African and my research experiences with Indigenous communities in rural Ethiopia (mentioned at the preface) helped to quickly build rapport and minimize the power imbalance during the interview sessions. After each interview sessions and every night, I also kept reflective field notes and detailed journal which also served as an important input the data analysis process. I also sought regular advice from my supervisor sharing with her my interview experiences every day through email. In addition, my early engagement with the community, which was established two years prior to the actual data collection period, and my extended stay (six weeks) in the community during the main data collection period, helped me to gain acceptance and trust from the participants thereby facilitating communication and ease of access. By regularly seeking advice from my community research advisory committee, I also made sure that research process and outcomes reflect sensitivity to local culture and knowledge (Smith, 2012; Castleden, Morgan and Lamb, 2012) which may include among others respect for Aboriginal worldview, cultural protocols and values (Smith, 1999).

At times, individual interviews were influenced by the demographic characteristics of participants. Overall, individual interviews with younger members of the community tended to be shorter. This may be because young people were more nervous or intimidated with speaking with an adult they don't know (Peek and Fothergill, 2009). One way of addressing this power imbalance is to interview younger participants in a group in order for them to feel at ease in sharing their views (Peek and Fothergill, 2009). One of the focus group (described below) was completed with a group of youth.

3.3.3 Focus Group Discussion

Focus group discussion was also used in this study. A focus group is a carefully planned group discussion, organized to explore a specific topic with the aim of obtaining a wide range of experiences, opinions attitudes and ideas (Krueger, 1988; Kleiber, 2004). In a focus group the researcher plays the role of a moderator and relies on group interaction and discussion rather than merely the researcher asking questions and participants supplying responses. Such group interactions help initiate conversion and give an opportunity for group members to react to each other's opinions and ideas. Therefore, focus groups not only provides an opportunity to gain insights into "spectrum of views" regarding a certain issue, but also enable the researcher to observe the nature of group dynamics and interaction on that issue (Conradson, 2005, p. 129). In social science disaster research, focus groups have been also widely used to explore people's hazard perception and experiences (see for example: Christenson, 2011; Legerski et al., 2012). In the context of community-based research, focus groups are also implemented to create a venue for local communities to be agents of change by sharing their stories and suggest strategies for solving common problem (Kieffer et al., 2005).

In order to obtain diverse perspectives, two focus groups were conducted with different groups, the first with councilors and elders and the second with youths. Both focus groups were conducted during my second visit to the community in summer 2015. Apart from exploring evacuation experiences, the purpose of the focus group with the councilors and elders was to further explore issues related to community hazard preparedness and response including

evacuation preparedness, evacuation plan, and evacuation response and associated challenges entailed during organizing the evacuation.

The selection of individuals for the focus group with councilors and elders was done purposively on the basis of their role during the evacuation and their interest to reflect on the hazard evacuation experiences and community emergency preparedness issues. Recruitment of the focus group participants was done mainly through the members of the community advisory committee (two of whom were councilors). The focus group with the councilors and elders included eight participants, of whom five were councilors and the other three were elders who were also a member of the elders' council group. Three of the participants were previously interviewed individually as key informants. Members of the community advisory committee helped arrange the time and location that suited the participants best since most of council members were busy with administrative tasks. This focus group was held at the band office meeting room because that is the room where most councilors usually meet. It was also more convenient and accessible for all the participants and no one is allowed to enter the room without permission. The discussion with this group lasted one hour.

Recruiting youth participants for a focus group was initially challenging as some of the youths whom I met first declined to participate. Arranging a time and place that suited all of the recruited youth participants was also an issue as there was limited meeting places for the youths. Eventually, this was made possible through the support of a youth who participated in an individual interview. He arranged for me to meet with a group of four youths and two more friends of the group later agreed to join as we were about to start the discussion, making a total of six participants. Peek and Fothergill (2009, p. 36) refer to this kind of recruitment as 'spontaneous recruitment', which is likely to occur at places where friends and colleagues usually meet. The youth focus group was held in a room where youths usually meet. The focus group with the youth included 6 members, aged 18 to 21 years and lasted for 45 minutes. Two of the participants of the youth group were female and four were male.

A discussion guide was used (Appendex-11) to facilitate the focus group discussions. I facilitated the discussion by raising general open-ended questions and then narrowing discussion to more specific questions as the discussion progressed. Topics covered in the focus group

discussion with the councilors and elders included wildfire risk and evacuation preparedness issues, handling of the 2011 wildfire evacuation and challenges encountered, perceived factors influencing community preparedness and respond to wildfire hazards. The focus group discussion with the youths largely focused on topics related to their evacuation experiences.

My role in both focus groups was a moderator facilitating the flow of information, making sure topics were covered and each participant had an opportunity to share their views. However some participants appeared to dominate the discussion on certain issues. Conradson (2005) advises that it is important to note the implications for group dynamics and the nature of the conversation when conducting discussion with a group in which participants know each other. All participants in both focus groups knew each other due to the small and close-knit nature of the community. One important aspect to take note of is the power dynamics embedded within the group in which some participants might dominate the discussion or others may feel uncomfortable to share their views or could be selective in what they share because they know others in the group (Conradson, 2005; Peek and Fothergill, 2009). For example, in the focus group with elders and councilors, the deputy chief and elder councilors tended to dominate the conversation. This is probably due to First Nation people's strong value of respect for elders and community leaders. This was taken as an opportunity to observe group dynamics and interactional process that otherwise would not have been visible in individual interviews.

The youth focus group discussion was mainly used to elicit both positive and negative evacuation experiences from the perspectives of the youths. In this regard, the focus group allowed interaction as the young participants helped each other to recall the evacuation. This is one of the advantages of conducting focus groups since group interaction can help stimulate new ideas (Kirby et al. 2006). Similar to the other focus group, the youth focus group discussion was often dominated by a few participants. I found some of the youth participants soft spoken and some even quieter despite my efforts to encourage them to speak up. I used prompting technique to facilitate balanced group interaction and to encourage quieter youth participants to speak up. On the other hand, I also sensed certain level of support and friendliness to each other which contributed positively to encourage participants to share their experiences. The fact that they shared more or less similar evacuation experiences also facilitated the discussion.

A digital audio recorder was used so that it was possible to capture every piece of information for later transcription. Prior to each focus group, participants were given information and a consent form outlining the objective of the study, purpose of the discussion, roles and responsibilities as well as confidentiality of the information shared. At the beginning of each interview, I also asked participants to keep information shared during the focus group confidential. However, it is impossible to ensure confidentiality of information sharing in a focus group as this may not be respected by all other participants (Kirby et al., 2006).

3.3.4. Participant observation

Participant observation is another data collection method that was used to collect primary data for this research. It is a method that involves direct observation of participants, physical settings, activities and interactions (Creswell, 2012). Through participant observation, the researcher can further gain insights of the research community context and local life that is not otherwise apparent using other data collection instruments (e.g. individual and group interviews) (Dewalt et al., 1998). Furthermore, participant observation can also serve as analytical tool by adding insights to the data sets while doing interpretations and analysis (Dewalt et al., 1998).

Over my three visits to Sandy Lake in July-August 2014, July-August 2015 and October 2016, I had the opportunity to undertake participant observation to get a sense of what is like to live in a remote fly-in First Nation (e.g. physical setting and societal interactions) and the everyday problems and challenges they face in relation to remoteness and isolation. For example, I was able to observe physical infrastructure (e.g. road, airport, fire hall and other community facilities). These helped me to verify what was said by participant (including the community officials) regarding the problems and challenges faced in emergency preparedness in terms of these community infrastructure. In addition, I was able to observe the strong social support that existed in the community that participants expressed; for example, I was able to take part and verify by participating in social gatherings (e.g. memorial feasts, attending community events such diabetes awareness day). These are important social gatherings where I was able to witness

social support and community bonding. These venues also provided me with the opportunity to observe how elders are respected and play a crucial role in the social life of the First Nation.

My everyday interaction and informal conversations with individual band members in the community, at the Northern store and while working at my temporarily assigned sitting spot at the band office also provided a venue for informal conversations which at times provided valuable information (Jorgensen, 1989). Relevant observations and information obtained from informal conversations were written at the end of each day as field notes/diaries. I found taking notes at the end of each day very useful as taking notes while doing observation could disrupt the observation process (Walsh, 2009). Thus, field notes/diaries served as an important tool to document the observations made during the day. The data generated from direct observation techniques also helped me validate and triangulate the information obtained from resident interviews, key informant interviews and focus group discussions regarding community interaction, relationships, social support and community infrastructure.

3.3.5. Document Review

Document review was also used as a complementary method for this study. Documents reviewed included published and unpublished sources that contributed to the rich and thick description of this qualitative case study. These included: Video updates by the band leadership who stayed behind during the evacuation, online newspapers reporting the fire and the evacuations that took place across northern Ontario including Sandy Lake First Nation, as well as government agencies (e.g. MNRF, EMO, Canadian, Canadian Interagency Forest Fire Centre) reporting of the fire and the evacuation; and relevant policy documents and guidelines which include provincial and federal government emergency management policy, guidelines and protocols.

Video updates on the wildfire and the evacuation recorded by Sandy Lake First Nation leadership, including people who stayed behind in Sandy Lake during the evacuation, and uploaded on the community website (including You Tube) was an important source of data as they were recorded as the evacuation unfolded. More specifically, the video records were found

to be useful to understand the process of the evacuation, the challenges encountered, what was communicated to the evacuated residents and how it was communicated. The videos were useful to support the evidence generated from other primary data sources such as the interviews and focus groups. For example, the fact that the evacuation scattered the band members to multiple locations was a concern shared by many of the interview participants affecting evacuation experiences of the residents. The video updates released by the community leadership during the time also reflected a similar concern. Other documents which were equally important and employed in the research include newspapers and online news letters published during the time describing the wildfires and the evacuation. These sources were found to be valuable as they were written as the event occurred. In support of this method, Bowen (2009) posited that that document sources can provide valuable data and insights on the context within which research participants operate as well as help triangulate and corroborate data obtained from others primary sources.

Further, several documents from government agencies (local, provincial and federal) that relate to hazard preparedness and response were important part of the document review. Some of the federal and provincial government documents that were included in the review include: Aboriginal Affairs and Northern Development Canada National Emergency Management Plan (AANDC, 2011), Emergency Management Framework for Canada (Public Safety Canada, 2011), Ontario Mass Evacuation Plan: Far North, and Emergency Management Ontario Service Level Evacuation Standards (Emergency Management Ontario, undated). Themes explored in the document review included national and provincial government natural hazard preparedness and response policy and protocols in remote First Nations communities, specifically related to wildfire evacuation. The document review from these sources served two purposes. First, the review gives a background and context about the policy regimes, actors and institutions involved in wildfires and emergency evacuation. Second, it also supplements the interview data, and supports the analysis where there is a need to corroborate the interview data with what it is stated in documents. For example, provincial government evacuation protocols with regard to required service standards that must be meet by potential hosting communities and the actual experience of individual evacuees. Thus, by examining what is stated in such government emergency response documents vis-à-vis what is actually experienced by participants, the document review also helped to discern any contradictions between policy and practice. In this regard, Yin (2003)

noted that document review can be a valuable research method for researchers using qualitative case studies as it contributes for a rich description of the phenomenon or event under investigation.

3.4. Data Analysis

The process of qualitative data analysis involves classifying information into categories (codes), constructing coding matrices (hierarchies) for arranging codes and display relationships, and drawing interpretations and conclusions (Yin, 1994). Coding of the transcribed interview data was the first step in the analysis process. Coding in qualitative research involves a systematic process of attaching one or more keywords to a text segment, such as transcribed interview, in order to permit later identification of a statement (Kvale, 2007). Gibbs (2007) also notes that coding involves indexing or making categories of the transcribed interview so that the meaning of long interview statements are reduced into categories based on themes. Once the transcribed interview data are rearranged into categories, it becomes easier to facilitate comparison between themes in the same category. Therefore, in qualitative data analysis coding and categorization are often used interchangeably (Kvale, 2007).

After the interviews and focus group tapes were transcribed by a professional transcriber, the data was coded and analyzed using a mix of descriptive and analytical schemes (Gibbs, 2007). Descriptive coding involves making categories by directly using the terms or words used by the participants (Gibbs, 2007). Since it makes use of the words of the respondents directly, this type of coding facilitates the identification most recurring themes across the in the interview data. For example, the terms “scattered”, “displaced” and “families separated” are the most frequently raised words by the interview participants in relation to the impacts of the evacuation. Therefore, such words were directly adopted and used as descriptive codes.

In addition to using descriptive coding, I also used analytical level coding (Gibbs, 2007). According to Gibbs (2007) these analytical categories the codes represent may come from the research literature or theory, previous studies, topics in the interview schedule, the researcher’s own understanding or hunches about the data (Gibbs, 2007). Categorizing analysis involves

organizing the data into broader themes based on prior knowledge about the topic (Maxwell, 2013). Here, the purpose is to identify categories in which the meaning of long interview statements is reduced to a few simple categories (Kvale, 2007). In this regard, the categories or topics in my interview schedule were used to organize the interview data. For example, the interview schedule regarding the wildfire evacuation experiences is organized along sequences of event following the evacuation stages (e.g. before evacuation, evacuation decision, organizing the evacuation, leaving the community, staying behind in Sandy Lake, staying in the host community and returning back). Each of these temporal stages of the evacuation served as categories to create broader themes (e.g. before the evacuation, organization of the evacuation and so on) around which the interview data is organized. These themes were also used to describe the residents' evacuation experiences. The identification of categories using the stages of the evacuation was found to be important and meaningful because the primary aim of the research is studying the factors affecting evacuation experiences along each stage of the evacuation. Other than the topics used in the interview guide, codes were drawn from the general hazard research and theory (Gibbs, 2007). For example, social cohesion, social support, and place attachment are more theoretical level coding used in the analysis. These theoretical level coding was particularly instrumental in facilitating the interpretative insights in the analysis chapters (chapter 6, 7&8).

A coding framework and/or hierarchies were constructed to identify patterns and relationships. Nvivo 10 was used to identify patterns and relations (also called hierarchies in Nvivo) between and among codes. Preparation of the coding framework involves a process of combining codes describing the same phenomenon, ideas, explanation or activity. Usually, hierarchies are constructed by making the most general items at the top and the more specific lower down (Gibbs, 2007). As pointed out by Gibbs (2007), constructing hierarchies out of codes could offer a number of advantages: a) large numbers of data could be reduced by sorting them out into similar categories so that patterns and relationship became easily discernable; b) by combining similar codes into one, the process helps to avoid duplications. c) It enables a better understanding of the research participants' view point by enabling the researcher to ask analytical questions; therefore, it is analysis in itself. Likewise, the process of arranging codes in hierarchies enabled me to further explore the relationship between and among codes and gain further insights in analyzing and interpreting the data generated from each source. For example,

examining how residents' positive and negative experiences are influenced by such attributes as availability of family and social support, age of the respondent, economic status, services and amenities provided in the hosting communities. The process of sorting out the coded data from the interviews, focus group discussions and documents into themes and hierarchies also helped me not only decipher emerging patterns and concepts but also enabled data validation throughout the data analysis process (Baxter and Eyles, 1997).

3.5. Ethical Issues and Considerations

The plan for this study was reviewed for its adherence to ethical guidelines by the Research Ethics Board (REB-1) at the University of Alberta (see Appendix-6). The research followed the ethical guidelines outlined in the Tri-Council Policy Statement document (Tri-Council Policy Statement, 2014). Specifically, it followed the ethical guidelines outline under Chapter-9 "Research involving the First Nations, Inuit and Metis People of Canada" (Tri-Council Policy Statement document, 2014, p. 109). The ethical guidelines in the Tri-Council Policy Statement (2014) are based on three core principles including *respect for persons* (securing respondents' free, informed and ongoing consent), *concern for welfare* (concern for participants and the community to which participants belong), and *justice* (keeping power balance between the researcher and the participants). Chapter 9 of the Tri-Council Policy Statement illustrates the implementations of these three core principles within the context of Indigenous people of Canada.

There are various ethical considerations pertinent to this research that specifically takes into account the legacy of unethical research on indigenous communities (Smith, 1999; Castleden, Morgan and Lamb, 2012; Patterson et al., 2006; Castellano, 2014). As outlined in section 3.1.3, dialogue with the First Nation leaders about the research was initiated well in advance of the recruitment of the study participants. Prior to the start of this research project, research benefits, procedures and protocols were discussed with the Chief and few other band councilors.

As described in section 3.3.1. communication with the community started late in 2012 with a phone call discussion between Dr. Tara McGee (my supervisor), Dr. Amy Christenson and community officials about the research, planned research procedures and how the research benefits the community; and a research agreement was developed. Following this discussion, an oral consent was obtained to commence the research project. In July 2014, I made my first visit to the community to meet with Chief and Council members and discussed the proposed research project. Accordingly, important input was obtained that further helped to shape the study objectives and data collection protocols and procedures. This helped further build rapport and gain trust from community officials. I also conducted interviews with key community officials and other individuals who had a role during the 2011 wildfire evacuation. Upon my return, I further developed my PhD proposal based on the feedback obtained. During my second visit in July 2015, I submitted the proposal describing the PhD project (Appendix-7). The proposal outlined the purpose of the research, mutual responsibilities in the conduct of the research, expected community involvement in the research, intended community research benefits, plans during and after data collection and disseminations of results. I also further discussed the proposal with Chief and Council members and received a formal written consent outlining involvement and support for the research project (Appendix-8).

With regard to the nature and extent of community engagement, efforts were made to involve band members and the band administration in all the stages of the research process. The band administration (Chief and councilors) granted me consent to proceed and seek advice whenever I needed. Three individuals were recommended and assigned by the Chief and councilors to provide guidance throughout the research. Their roles included providing guidance on recruitment of research participants, appropriate ways of data collection, and providing comment on the research findings. The community research advisory committee recommended a research assistant who is knowledgeable about the community and the local language to assist me in data collection. Upon recruitment, I also gave training to the research assistant about his role in the research and adhering to ethical principles such as privacy and confidentiality of the research participants.

Prior to the recruitment of interview participants, I sought advice from my community advisory committee on the interview guide, recruitment of interview participants, and conduct of the interviews. Throughout the period of data collection, I remained committed to learning and respecting community values and cultures (Smith, 1999), such as respecting elders and listening to what they say without interruption, respecting local knowledge, and maintaining a good relationship with interview participants. As community *outsider*, I also sought advice on ethical considerations and community protocols from the research advisory committee, two of whom are elders. This helped me to easily get along and gain trust and cooperation throughout the research process.

As outlined in section 3.3.2 &3.3.3, prior to the start of interviews and focus groups, each participant was given an information sheet and signed a consent form. The information sheet outlines the objectives of the study, describes the research team, the use of data, and roles and responsibilities of the research participants (Ritchie and Lewis, 2003). Participants were also informed that their participation was voluntary and their identity including names and personal details would be confidential. Consent was requested for audio recording the interviews. At the beginning of the focus groups, confidentiality was also raised and participants were asked to keep information confidential. The consent form indicated that the interview participants were free to withdraw from the study after they had participated in the interview, and their interview data will be removed up until the time when data analysis commences. The consent also stated that information and/or short quotes from the interview and focus group can be used in the thesis but no information on the identity of the participants would be released unless the participant give permission to use his/her name.

3.6. Reliability and Validity

According to Baxter and Eyles (1997) four criteria can be used for establishing rigor in qualitative research. First, *Credibility*, has the researcher accurately represented what the participants think, feel and do? (Bloomberg and Volpe, 2012). Credibility is related to the connection between the actual experiences of the study participants and the interpretation derived (Baxter and Eyles, 997). In this case, I needed to ensure that the data and interpretation derived

from the data represents what is actually observed or gathered from the study participants (Maxwell, 2013). *Transferability* is the degree to which the findings are applicable to other contexts. *Dependability* relates to the consistencies of interpretations and reliability of the research findings especially if the research were to be replicated with the same (or similar) context (Lincoln and Guba, 1985). *Confirmability* relates to how the researcher's position and interests influence the research and interpretation (Lincoln and Guba, 1985). In order to address these four criteria and establish rigor, I used the following recommended strategies: purposive sampling, prolonged engagement with the study participants, triangulation, and peer debriefing.

Purposive Sampling is the most widely used sampling strategy in qualitative research as it is appropriate for targeting individuals or groups having a certain experience relevant to the research problem thereby helping to enhance credibility (Baxter and Eyles, 1997). This study used a purposive sampling method. It involved Sandy Lake First Nation residents who had experience during the 2011 wildfire evacuations and people who had a management role during the wildfire evacuation. First, I interviewed people who had a management role during the wildfire evacuations as key informants. During the next phase of the interviews, I used a combination of purposive, snowball and convenience sampling techniques to identify and incorporate potential interview participants with a wide range of evacuation experiences. Purposive sampling was employed to identify interview participants based on predetermined criteria such as the places where evacuees were sent to, demographic and health conditions during the evacuation (such as: parents with small children, elders, teen ages, and people with health issues). Participants were also selected based on the recommendation of the interviewed residents and my community advisory committee. The use of purposive sampling, therefore, enabled me to capture a broad range of possible individual and community experiences of the wildfires and the evacuation process.

Prolonged engagement: My early engagement with the community (over a year and a half) well before the recruitment of the study participants and my more than 6 week stay in the community during the data collection period helped me to build rapport with community members and community officials and an opportunity to learn about local culture. In particular, learning and respecting important aspects of the local culture and values contributed to

enhancing the quality of data during interview and focus groups. Some of these include respecting elders and allowing as much time as they needed to express their views without interruption, respecting local knowledge, learning words and key phrases in the local language, maintaining a good relationship with interview participants, participating in community gathering events and sharing my relevant background experiences all contributed to the quality of the data generated through interview and focus group.

Triangulation: Triangulation is one of the most important validity-testing strategies in qualitative research. It involves the use of a diverse range of techniques to corroborate the interpretations and findings generated from the data and thereby establishing rigor (Baxter and Eyles, 1997; Denzin and Lincoln, 2000; Maxwell, 2013). Baxter and Eyles (1997) illustrated three types of triangulation that help to enhance credibility: source triangulation, method triangulation, and investigator triangulation. The first two were relevant for my research. *Source triangulation* involves the use of multiple quotations collected from diverse range of individuals and groups to corroborate a certain construct. During data analysis, I used quotations from several different respondents to confirm and establish rigor to interpretations made on similar constructs. The second is *method triangulation*. It involves the use of multiple methods to support the same interpretations. I used resident interviews, key informant interviews, focus groups and document analysis to triangulate evidence. The uses of these multiple methods allow me an in-depth understanding of the research problem (Creswell, 2012; Denzin and Nincoln, 2000). For example, it is expected that experiences and perspectives on wildfire hazards and evacuation experiences vary among individuals and groups. Such varying experiences and perspectives could best be captured through the use of multiple data collection methods such as: individual in-depth interview, key informant interview and focus group discussion. Data generated from each method could be used in combination to achieve the most rigor, depth and trustworthiness to the inquiry by sorting out categories and themes that cut across all of the data sources (Creswell, 2012; Denzin and Nincoln, 2000).

Peer-debriefing: This technique involves the sharing of data and interpretation with colleagues to check for any inconsistencies in coding of transcripts and interpretation of findings (Baxter and Eyles, 1997). In order to apply this technique for validity check, I shared three of my transcribed interview transcripts with my colleague, who is also a PhD student doing qualitative

research, for coding. Then comparisons among the coded transcripts were made to check for any inconsistencies or variability among the codes so that considerations were made regarding alternative ways of looking at the data. In addition, I also discussed my interpretations and results with other investigators. As discussed in section 3.1.3, three other researchers including my supervisor are investigating the same phenomenon in other First Nations in Ontario, Alberta and Saskatchewan. This provided me with the opportunity to discuss my results and interpretations throughout my research. I also regularly met and discussed my research with my supervisor and supervisory committee members.

Finally, during data collection, data analysis and interpretation, I also subjected myself to reflexivity taking note of my positionality in relation to the research participants while at the field as well as during the write up of the research (Gray, 2008). This was very important as my biases, motivations, interest and perspectives could affect *objectivity* of the data interpretations and finding (Baxter and Eyles, 1997). As a community *outsider* and as a qualitative researcher looking for subjective meanings and experiences, it was particularly important to pay attention to this process of reflexivity so that I could be as objective as possible by noting my own biases. According to Kirby et al. (2006, p. 39), "reflexivity, or engaging in a reflexive process, involves openly and honestly recognizing one's location and experiences and deeply considering the implications of one's power". One way of negotiating with the issue of power is through personal accounting by constantly being aware of my positions and interests and how these influence the research process. While at the field (see section 3.3.2.), I continually monitored my biases and subjectivity by taking several steps including recording reflective field notes and being alert to my own position and interests and reflecting how this affects the data quality, constantly seeking advice from my supervisor and my community advisory committee. Such practices continued throughout the research process including during data analysis as it constituted one form of representation.

3.7. Dissemination of Results

After completing my fieldwork and my initial data analysis, I went back to Sandy Lake in October 2016 to communicate research results to the community. I prepared an evacuation booklet of 25 pages describing the wildfire experiences of the study participants using simple language and direct quotes of the participants, supported by several photos of the evacuation. The booklet also presented recommendations for improving future wildfire evacuation. I distributed more than 50 copies of the booklet to band members and band officials. Some of the booklets were given to the band council executive secretary so that people could easily get a copy when they come to the band office. I also gave copies to participants and discussed findings with them. The rest of the booklets were distributed during a presentation session I organized with the help of my community advisory committee and my research assistant. The presentation was made to community officials including the deputy Chief, band councilors and other elders who are members of the community elder council. It was held at the band office conference room. After the presentation, a discussion was held and I received more feedback about improving future evacuations that I incorporated into my thesis. The findings were also disseminated to emergency management and wildfire practitioners through the First Nation Wildfire Evacuation Partnership website. Finally, the results of the research will also be disseminated through publications and academic conferences.

3.8. Chapter summary

This chapter presents a detailed discussion of the research methodology for this PhD research. It outlines the rationale behind choosing a community-based qualitative case study approach. The data collection techniques are described in detail including the resident interviews, key informant interviews, focus groups, participant observation and document review. The justification for choosing each data collection technique and the implementation of these techniques are discussed. Data analysis and the various ethical issues and considerations that are pertinent to the research context are also explained. At the end the chapter, steps taken in order to ensure reliability and validity, the study limitations, and ways of dissemination of the study results are presented.

Table 3. 2 Demographics characteristics of the participants

	Number of participants	
	Interview	Focus group
Age		
18-29	9	6
30-39	11	
40-49	10	
50-59	12	3
60-69	8	4
70-79	4	1
80-89	2	
Total	56	14
Sex		
Male	34	12
Female	22	2
Family size		
0	5	8
1-3	7	
4-6	18	2
>6	26	4
Born in Sandy Lake		
Yes	42	11
No	14	3
Band membership		
Yes	55	14
No	1	
Duration of stay in Sandy Lake		
<5 years	1	
5 – 10 years	2	
10-20 years	18	3
>20 years	35	11
Employment status		
Permanently employed	18	8
Seasonally employed	11	6
Unemployed	27	2
2011 wildfire evacuation experiences		
Evacuated	26	12
Stayed behind	10	2
Outside of the community during the evacuation	2	
Total	56	14

CHAPTER FOUR: THE STUDY AREA, WILDFIRE HAZARDS AND EVACUATION PROTOCOL

4.1 Introduction

This chapter presents description of the study location and the study community context, and provides a background regarding wildfire risk, wildfire management and emergency management policies and protocols in Far North Ontario. It offers a detailed description of the study area including socio-economic and demographic background as well as community strengths and challenges as perceived by the interview participants. This is followed by a discussion of wildfire hazards and evacuations in Ontario's Far North and Sandy Lake First Nation in particular. Relevant wildfire evacuation and emergency management policies, the agencies involved and the protocols followed are presented towards the end of the chapter. The data used to write this chapter is drawn from a combination of primary (interviews) and secondary (document) sources.

4.2. Remote northern First Nation communities: The Far North Ontario

The Far North of Ontario, defined in the Far North Act, R.S.O. 2010, encompasses the region that extends from Northern Ontario from Manitoba in the west, to James Bay and Quebec in the east (see map 4-1) (MNRF, 2015). The region covers approximately 450,000 square kilometers which is roughly 42 percent of the province of Ontario (MNRF, 2015). The region is home for more than 24,000 people living in 34 communities, including 31 First Nations (including Sandy Lake First Nation) which make up 90 per cent of the region's population (CSCS, 2015; MNRF, 2015). Population size in each community varies from approximately 3000 people to less than 100 people (MNRF, 2015). Most of the communities are fly-in communities with only winter road access (CSCS, 2015). Moosonee and Pickle Lake are two municipalities in Far north, while there are also unorganized territories, fly-in lodges and camps, and mining operations in the region

(CSCS, 2015; MNRF, 2015). First Nations in the far north have a predominately young age population, largely under the age of nineteen (CSCS, 2015). Statistics Canada reported that in 2011, 48% of the Aboriginal population in Ontario was under the age of 25, compared with 29.4 % of the non-Aboriginal population (Statistics Canada, 2011). Higher percentage of young age population means that there is higher population growth and the number of people requiring emergency assistance such as during evacuation (OMCSCS, 2015).

Map 4. 1 First Nations in Far North Ontario

In Far North of Ontario, generations of First Nations have lived on the land which makes it a landscape rich in Indigenous culture and ways of life (Rogers and Smith, 1994). Ojibway, Cree and Oji-Cree constitute the dominant traditional languages spoken in the region (MNRF, 2015). The land and the resources embedded in the land provide the foundation for culture and way of life for thousands of First Nation people residing in region. In a study of Far north communities,

Newton (1995a, p. 12) noted that “People and environment are inseparable in the North, they are one. The land is named after the people and the people have often taken their names from the land and the products of the land”. This is to say that the land and water resources are not only the sources of livelihood but also they are an immense value of cultural importance that has been traditionally passed through many generations. In fact, this can be witnessed from the deep embedded meaning people give to the land in the history, legends, stories and place names as well as from local knowledge (Rogers and Smith, 1994). Both as way of life and support for livelihood, natural resource activities such as hunting, fishing and trapping have continued, forming an integral part of people’s culture. Indigenous knowledge possessed by elders and harvesters about the land, species and species habitat provides an important observational record of changes that have occurred across the landscape over generations (Gadgil, Berkes, Folke - Ambio, 1993). The far north harbors the third largest wetland ecosystem in the world and one of the largest intact forest ecosystems in Canada (MNRF, 2015). Northern boreal forests cover large areas of the Far North with dominant tree species, including black spruce (*Picea mariana*), white spruce (*Picea glauca*), jack pine (*Pinus banksiana*), aspen (*Populus tremuloides*), tamarack (*Larix laricina*) and white birch (*Betula papyrifera*) (MNRF, 2015). With vast northern forests characterized by crown fire ecosystems, wildfires are common natural occurrences in Far North supporting important ecological processes and functions. At the same time, wildfires in the region are designated as one of the major natural hazards that can potentially trigger mass evacuation in Far North (OMCSCS, 2008). Prediction indicated that the region will show the most dramatic changes in climate and this will continue to create favorable conditions for forest fires in the region (Brown, 2009). Increasing warmer and shorter winters will also likely to disrupt winter travel on ice roads (MNRF, 2015).

Communities in Far North have poorer infrastructural service compared to those found in other parts of the province (Newton, 1995a). The majority of the communities are isolated fly-in with no road access except for the winter months. The vast forested area of the Far North is interspersed with numerous lakes, rivers and wetlands making transportation difficult during the summer months without motorboats. Many of these communities are located a significant distance away from the nearest regional centers where services may be available (e.g. Thunder Bay and Timmins) (MNRF, 2015; OMCSCS, 2015). The limited availability of a road transport network has tremendously affected not only the socio-economic development of the region but

also exposed communities to risk since the lack of accesses to road transport could result in the delay of critical supplies that are required during emergency including outside support for evacuation (OMCSCS, 2015).

In terms of political administration, the First Nations in the region (Sandy Lake and 48 other First Nations) are represented by the Nishnawbe-Aski Nation. Nishnawbe-Aski Nation is a political territorial organization representing the needs and aspirations of its First Nation members in Ontario (http://www.nan.on.ca/article/about-us-3.asp). Major areas of activities and objectives of the organization include: advocacy on the improvement of the quality of life of the people in areas such as education, lands and resources, health, governance, and justice; and developing strong partnerships with other organizations (http://www.nan.on.ca/article/about-us-3.asp).

4.3. Community setting: Sandy Lake First Nation

4.3.1. Location, Access, Population, History, Governance, and Community assets

Sandy Lake First Nation is among the 31 First Nations located in the region designated as the far north Ontario. It a remote fly-in Ojibway–Cree First Nation located in the boreal forested area of northwestern Ontario along the Severn River. The community is located 450 km northeast of Winnipeg, Manitoba and 600 km northwest of Thunder Bay, Ontario (See map 4.2). Sandy Lake First Nation was settled under Treaty 5. It is designated as Indian Reserve #88 and Band membership Registry #211 and occupies 17 square miles of Federal Reserve land (http://sandylake.firstnation.ca/profile). The community is divided into five geographic areas namely River, Centre, Airport, Big Rock, Old Sawmill, Ghost Point, and R.C. (see Annex-3). Sandy Lake is only accessible by plane except for the winter months which allow the community access to ice road transportation for a period of roughly six weeks, depending on the weather. The ice road links the community to Red Lake, the closest town, approximately 300 kilometers to the south.

Due to the high cost of air transportation, the community waits until winter for essential materials and equipment to be brought via the ice road. Air transport costs from CAD$ 400 to CAD 800 for a one-way trip by scheduled aircraft to the nearest towns of Red Lake (Ont.) and Sioux Lookout (Ont.), or the larger proximate cities of Thunder Bay (Ont.) and Winnipeg (Man.). Wasaya Airways and Perimeter Airlines provide passenger and freight services to the community throughout the year. Sandy Lake also connects to Keewaywin First Nation by boat (approximately 45 minutes boat ride) during the season of open water, approximately between April and November.

In terms of population size, Sandy Lake is one of the largest First Nations in Far North Ontario. As of May 2015, the registered population of Sandy Lake is estimated to be 3007 with 2564 people living on reserve, and the other 440 people live off the reserve (AANDC, 2015). Similar to most First Nation communities in far north Ontario, Sandy Lake First Nation is a predominately young age population (largely under the age of 20). In 2011, median age of Sandy Lake population living on reserve was reported to be 20.5 with 55% of the population being less than 25 years of age (Statistics Canada, 2011). The population showed 51.9% increase from 1845 residents in 2006 to 2800 residents in 2011 (INAC, 2016). The growth rate of the population is in sharp contrast with the provincial growth rate which showed only a 5.2% increase for the same period (INAC, 2016).

Oji-Cree and English are the major language spoken in Sandy Lake. According to Young (1988), the languages of the Oji-Cree, Ojibwa, and the Cree in north western Ontario belongs to the Algonkian family of Amerindian languages. Although there are differences in dialects, the First Nations in northern Ontario in general belong to the Northern Ojibwa branch and refer to themselves as *Nishnawbe* which means “the People” (Young 1988). Oji-Cree (sometimes called Severn Ojibway) is spoken by other nearby communities who share many family ties with Sandy Lake First Nation including Deer Lake, Keewaywin, Koocheching, North Spirit, and Island Lake (http://www.sandylake.firstnation.ca/?q=language).

In 1910, Sandy Lake First Nation signed an adhesion to Treaty number 5. *Neh gaaw saga'gan*, which means Sandy Lake according to the local language, was considered "as inaccessible as the north pole" up until 1987 (Fiddler & Stevens, 1985). The area was isolated

from the main trade routes with the closest Hudson Bay posts being located at Island Lake to the east (approx.130 km.) and at Big Trout Lake to the west (approx. 227 km.). The Little Sucker and Crane clans used the vast expanses of the lakes and forests of the region for their livelihood which was characterized by semi-nomadic life of hunting and gathering (Fiddler & Stevens, 1985). In late 1880s, Jack Fiddler, or 'South Wind' was the chief of the Little Suckers. In 1926, the Sucker clan moved and established settlement at the forested and arable land of Big Sandy Lake under the leadership of *Ogemakan* (chief) Robert Fiddler, son and predecessor of Jack Fiddler. In 1932, Sandy Lake Reserve was established under Treaty No. 5. In 1985 they officially changed their name to the Sandy Lake Band which up until then Sandy Lake Reserve was identified as members of the Deer Lake Band (The Sandy Lake Cree, undated).

Traditionally, Sandy Lake people used a clan system or *"dodem"* (based on the Cree translation) which are represented by animals to which families associate themselves. Accordingly, the five major clans and their respective surnames in Sandy Lake are the Suckers (Fiddler, Goodman, Harper), the Pelicans (Meekis), the Cranes (Kakegamic, Kakepetum), the Caribou (Linklater, Rae), and the Sturgeon (Mamakeesic) (personal communication). Based on the local customs, when a child is born he/she inherits the father's clan symbol. Although there are distinctions based on clan system, the community members refer themselves as brothers and sisters. For example, "If a member of the Sucker clan meets another member of the same clan, even for the first time, they greet each other as brothers and sisters" (The Sandy Lake Cree, undated, p. 7).

Since the 1950s, there has been a gradual shift in the socio-economic fabric of the community. The 1950s witnessed a gradual shift from the traditional hunting lifestyle to increasing reliance on government subsidies, service-based employment and store-bought foods (Saksvig, 2002). Similar to other northern communities, foods like fruit, vegetables, and milk must be transported long distances and sold through the Northern store.

Although the commercial importance of fishing has declined and nearly abandoned, fishing, hunting, and trapping are still major traditional practices of the community members. Traditional family trap lines are utilized in all seasons and moose, rabbit, beaver, and duck are common hunts throughout the year. Fish like walleye, sturgeon, whitefish, goldeye, and jack fish are

common diets (Sandy Lake First Nation, 2010). Therefore, fishing, hunting, trapping and seasonally available wild plants (mainly berries) remain the major sources of food supplementing the limitedly available, lower quality and costly store bought food[6] (Saksvig, 2002). Some of the traditional foods that are considered delicate and most favorite include: moose nose, beaver tail, bannock made with fish eggs, rabbit soup (with rabbit lungs added after preparation), rabbit brain and fish heads (http://www.sandylake.firstnation.ca/?q=traditions-and-culture).

In the past few decades, the community has witnessed a rapid cultural and lifestyle change. The introduction of modern technologies into the community such as vehicles, which was introduced to the community in 1975 and television which followed shortly after, have also contributed to the sedentary lifestyle (Saksvig, 2002). The shift in lifestyle was also induced by the need to get access to modern education, health care and government child benefits (Saksvig, 2002). Introduced in the 1970s, the community radio station (named James Fiddler memorial station) serves a variety of purposes for the community residents including communication of important events and updates, raising awareness about certain issue (e.g. health information), and recreational purposes. With a recent introduction of high-speed cable internet and mobile data service, there is also an increasing use of social networking media like Facebook and MyKnet.org.

Like most other First Nations, the community is governed by an elected Chief and Councilors formed under the authority of the federal Indian Act. The band is administered by Chief, Deputy Chief and eight (8) Councilors; Chief and Council serve a two-year term. Sandy Lake is also affiliated with the Nishnawbe-Aski Nation, a provincial territorial organization which also represents a total of 49 First Nations in northern Ontario (http://www.nan.on.ca/). The Chief and Council are elected to serve the needs of the community members and are responsible for passing decisions and resolutions that matters the community. The Chief and Council provide community leadership and oversee administration finances, programs, services and community initiatives. In any emergency or disaster occurring within the boundary of the community (e.g. wildfires), the Chief is responsible authority for declaring a community state of emergency and

[6] Generally, prices of food and grocery are two to three times more than urban prices. This is because of the cost of transportation to ship materials. For example: loaf of bread is $3.99; 2 Litre carton of 2% milk costs $8.99; a banana bunch costs $7.99/kg and mac apples are 8.50/kg.

coordinate the crisis. The Elders' Council, which constitutes five (5) elders elected every two years during General Band Elections, also participates in council meetings and is considered as the pillars of the community as they provide guidance and direction to Chief and Council based on the community's traditions and customs. The community has also a Youth Council which is made up of five (5) youth representing the five geographical areas of the community. Supported by the Chief and council and other community programs, the Youth Council coordinates events and activities for the youth and other band members (http://www.sandylake.firstnation.ca/).

Similar to other First Nations in Canada, Sandy Lake First Nation depends on the federal government to pay for major infrastructures such as schools, roads, water and sewer services, fire truck, water treatment plant. Housing and community facilities in Sandy Lake are generally scattered with several clusters situated in the five geographic areas of the community most of which are developed along the south banks of the Severn River and on the north shores of Sandy Lake (Appendix-3). The community consists of approximately 700 houses. Most of the housing units are controlled and administrated by the band office through the Housing Authority, which oversees the administration and management of housing projects in the community. Given the growing population size of the reserve, there is a very high housing demand. In 2015, there were 176 people in the waiting list; however, only 5 houses were constructed and allotted during the same period (personal communication). A considerable number of existing housing units also require major repairs. Again in 2015, the band received 144 requests from band members demanding housing renovation (personal communication). Meeting the demands for housing and other social programs in the community depends on funds available from the federal and the provincial governments.

Major facilities in the community include two schools, nursing station, the Northern store and the community airport. The schools provide education through K-4 to grade 6 and grade 7- 10; however, students have to go out of the community to Sioux Lookout and Thunder Bay to attend the rest of high school. The nursing station operates emergency and clinic service and is staffed with nine full-time nurses and three out of town family physicians who visit Sandy Lake monthly. With limited capacity of landing only smaller aircrafts, the community airport provides service on a daily basis. The community is also serviced by a float plane base located in Sandy Lake. Almost all community residents have accesses to tap water and electricity. Internally, the

community is presently served by an estimated 20 kilometers of dirt road and the winter road which links the community to Red Lake.

In terms of an emergency such as a house fire and wildfires that are likely to occur within the reserve, the community has no permanent firefighting crew due to shortage of budget allocated for this task; rather, the current fire department of the community is run by volunteers. According to community officials, there is also scarcity in firefighting equipment and facilities compared to the demands of the reserve. The community is served by a fire truck, which most of the time is out of service due to shortage of spare parts. The fire hall is very old, its roof leaks and requires major repairs (see figure 4.1).

Figure 4. 1 Fire hall of the community

Source: (Photo taken by the researcher, 2015)

Unemployment is one of the major social problems in the community. Although there are no exact figures available, community officials estimate an approximat 80% unemployment rate (personal communication). Most permanent jobs are in band office administration, nursing station, schools, and other organizations and services operating in the community including

Tikinagan Child and Family Services[7] and Sandy Lake Community Development Services Inc.[8] (personal communication). For some community members, seasonal jobs provide opportunities for employment. One of the interview participants described the problem of unemployment as:

> *"There's a huge problem of unemployment because there are almost no income generating opportunities in the community…Most of the employment comes from the First Nations' programs and also from the schools and also very limited from the Sandy Lake Development Services Corporation because the funding comes from the First Nation for them to maintain roads in the community for instance and the housing program to build certain amount of houses in the community on an annual basis so those are seasonal jobs. So I think there's about 80% unemployment rate at any given time in Sandy Lake, people want to work and jobs are only few" (participant 039).*

A related concern mentioned by focus group and interview participants, is the lack of firefighting jobs for community members who are trained for fighting wildfires by MNRF. Interview participants noted that even though a number of community members receive firefighting training hoping to get employed whenever there are wildfires in their region, they are rarely employed. Rather, fire fighters from other parts of the province, from other parts of Canada and in some cases internationally are brought in to fight wildfires.

4.3.2. Community strength and challenges: Members' perceptions

Like all First Nations in Canada, Sandy Lake has both strengths and challenges. The overwhelming majority of the interview participants are long-time residents with the majority born and raised in Sandy Lake. Like most fly-in northern Indigenous communities, participants mentioned the strong cultural and familial links as one of strength of the community, which promotes cooperation amongst the community members. Dominated by five main clans (listed above), the settlement pattern reflects the family grouping with extended families living close to each other forming a neighborhood. Through intermarriage amongst the clans, almost every family in the community is related, which creates a strong bond amongst community members.

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[7] It is a customary child care protective services agency and provides family support and counselling, youth residential center care, permanent care, and community services. It employs about 20 staff.

[8] It manages the community's economic development operation including water and sewerage, community infrastructure and winter road construction and maintenance. It employs about 22 staff.

The majority of the participants indicated that they knew most members of the community and support each other in times of need. One of the participants said "It's a very close community, everybody knows one another […] as a family or a community we always look after one another" (participant 001). According to some of the participants, the community members' dependence on each other for various supports, both in times of crisis and non-crisis times, is one of the strengths of the community.

According to focus group and interview participants, it is the tradition and way of community members to share and show thanks and respect to the Creator and to each other. There are several manifestations of social support in the community including preparing and sharing meals for one another, social gatherings to celebrate traditional ceremonies, taking responsibility for caring and raising children in an extended family system, and funeral customs and activities that involve honoring the deceased. Some of the traditional ceremonies practiced include: *Wabinowin, Weekwindowin, Ogeemehzowin, Baby's feast, Memorial feasts, Odoodemow mukshaywin*. These are traditional practices that have been passed through generations that promote social support and community bonding at different occasions such as change of seasons, births and memorials (http://www.sandylake.firstnation.ca/?q=traditions-and-culture). Community feasts are common practices that facilitate social life and are practiced to celebrate different significant occasions including seasons, memorials, births, holidays, first hunts, or to celebrate each other. Feasts are usually announced over the community radio and everyone is welcome to attend. There are usually several "settings" at a feast and the first setting opens by an elder's prayer, including words of thanks to the Creator and prayers for the future. One of the participants described this feature of the community as their cultural identity:

> "*I guess basically it is our culture and identity being in a remote First Nation community and help each other. We have our family and friends near and all these available to us when we need them so yeah I think that's the main thing for all of us who live in the remote First Nation community. We're a really close community" (participant 022).*

Another participant also stressed that despite high cost of living the community members support and help each other in many respects:

> *"There are a lot of pros and cons to it but the main problem is high cost of living because we do live in a fly-in community and it is a struggle but we do get by and we help each other and that's what's really good about us being united as a community. We help each other*

and the one thing we always say is it takes a community to raise our children and we always help each other and raising our children and our kids and so whenever a family is in need, there's always people there to help you no matter what the situation is" (participant 033)

Participants also noted their strong connection to the land which provides them a sense of wellbeing, spiritual connection and a peaceful place to live in as another benefits of living in the community. One of the participants explained the freedom of living in the community and the unrestricted access to the resources of the land as one of the benefits of living in the community:

"*It's a very close community, everybody knows one another, our community is like a free area to do whatever we want with our land, free fishing, free hunting, with our trap lines, instead of being in the cities where everything is permitted with license. Our land is our land, we can do anything we want, like how much fish we want" (participant 001).*

Interview participants also share many concerns. High levels of unemployment, health problems including alcohol and substance abuse, high cost of living, remoteness and low level of infrastructural development were among the concerns shared. According to the participants, high levels of unemployment particularly amongst the youth are contributing factors to other social problems such as alcohol, drug and substance abuse: As one of the participants explained:

"Of course there are a lot of problems in the community where people that want to work or people in the community in general just don't have anything to do and they resort to other activities when they're bored. And of course that's where the alcohol and drug abuse, negative activity happens because they have nothing else to do, nothing to look forward to. But yeah that's basically that whole negative side of it" (participant 039).

Poor health conditions (e.g. diabetes and asthma) are an additional concern mentioned by interview participants, which also reflects a national concern in the Aboriginal context. Previous health research completed in Sandy Lake First Nation found that there is high rate of morbidity related to chronic diseases such as obesity and type 2 diabetes (Hanley et al., 2002; Kakekagumick, 2013).With 26% diabetes prevalence rate (one of the highest in Canada and the world) diabetes is an epidemic that has caused a heavy health toll for the community in the last 35-40 years (http://www.sandylake.firstnation.ca/?q=traditions-and-culture). Rapid cultural change, life style, higher prices of food, and low quality food intake are the commonly cited causes for the rise of diabetes and other chronic diseases in the community (Saksvig, 2002; Kakekagumick, 2013). Alcohol, drug use and substance abuse, particularly among the youth, are also concerns for many of the remote First Nations including Sandy Lake (Ministry of Health

and Long-Term Care, 2010; Cirone & Krishnamurthy, 2015). The problem of asthma is also one of the growing health problems stated by the interview participants which aggravate sensitivity to smoke conditions during wildfires.

Remoteness and inaccessibility of the community is another concern raised by the interview participants which affects the cost of living, induced isolation and can potentially challenge emergency evacuation. Like most fly-in northern Aboriginal communities, the community is surrounded by forests, lakes and river which make it physically susceptible to floods and forest fires. The fact that the community is remote, inaccessible by road and very far from the nearest urban centers, make them more vulnerable to emergency due to their reliance on outside evacuation transportation. The limited options for self-evacuation during emergency and reliance on government support for mass evacuation transportation was also mentioned as a concern. One of the participants said:

> *"When they have the wildfire in California or BC, when families leaves their home, generally, they stay as a family go somewhere, they can get in a vehicles drive and stay as a family. They can get on the highway and get out of town, here you can't. Whereas us here people have no choice because they are getting on a plane they don't control the mode of transportation and they get on whatever plane they are told to get on" (Participant 020).*

A similar concern was raised by another participant regarding the remoteness and isolation of the community and the limited option available for emergency evacuation:

> *"It's like you're put in a room and you close the door and you take the door away, you don't have a place to escape. The only way you escape is if you crawl over the wall, which is the plane. That's being isolated. That's isolation for me. That's the best I can describe it" (participant 044).*

The provincial emergency evacuation for Far North also states that during emergency situations such as wildfire evacuation, the remoteness of the First Nations located in Far North (including Sandy Lake) can slow down mass evacuation operations using air transport due to longer trips aircrafts have to make to transport evacuees to a hosting community before returning back to the home community to assist more evacuees (OMCSCS, 2015).

The growing population size of the reserve and the limited capacity of the community airport to land certain airplanes, in case of emergency evacuations was also another concern raised by

participants. The population of Sandy Lake is growing rapidly, increasing by 51.9% from 1845 residents in 2006 to 2877 residents in 2011 (INAC, 2016). The predominately young age population (with 55% of the population less than 25 years age) is an indication of the expanding size of the reserve which may likely challenge airlifting of the whole community members for safety in case of emergency (e.g. wildfires), which are likely to happen in the future. One of the participants expressed this concern as:

> *"Yeah it's always a concern when a community of this big, over 3,000 people and if there ever was a wildfire even close by and how, if it's a real emergency, what do we do. Is a plane still gonna land, I knew some planes have these equipment they can still land in the smoke, these military planes and yeah. There's always a concern with our airport capability to land certain planes" (participant 042).*

4.4. Wildfire hazards and evacuation in Ontario Far north and Sandy Lake First Nation

Wildfires are among the most frequent natural hazards in northern Ontario that have continued to have an impact on people and their environment (OMNR, 2004). The average number of wildfires a year in Ontario ranges from 800 to 3,000 (OMCSCS, 2012). The number, size and intensity of forest fires occurring each year varies depending mainly on weather, vegetation, location and topographic conditions (CSCS, 2015). In Hudson Bay Fire Management Zone alone[9] where Sandy Lake FN is located, forest fire burns on average 128,910 hectares each year leaving much risk to thousands of First Nations communities living in the region (OMNR, 2004). Even if forest fires are part of the natural cycle, wildfires can result in significant loss and damage if they encroach upon the community. As noted previously, smoke may not only threaten health conditions by seriously affecting air quality but also has a potential to slow down evacuation process by hindering air transportation (CSCS, 2012). Among the factors contributing to current and future high wildfire risk in Ontario include fire suppression strategy contributing

[9] Based on common management objectives, land use, fire load, and forest ecology, the province of Ontario is divided into six Fire Management Zones. These are: Southern Ontario Zone, Parks Zone, Great Lakes/St. Lawrence Zone, Boreal Zone, Northern Boreal Zone and Hudson Bay Zone. Much of the regions of the far north Ontario in general and Sandy Lake First Nations in particular fall within the Hudson Bay Fire Management Zone (Forest Fire Management Strategy for Ontario, 2004)

to the buildup of fuels (Donovan & Brown, 2007); increasingly warming climate in the province creating favourable conditions for fire (Brown, 2009; Flannigan, Stocks, Turetsky, & Wotton, 2009), and the potential spread of mountain pine beetle into north-western Ontario aggravating the fuel built-up problem (Colombo, 2008). A recent study by MNRF (2015, p. 7) described the Far North region as a region that will experience " the most dramatic changes in climate". Colombo, McKenney, Lawrence, and Gray (2007) indicated that in northern Ontario, temperatures will warm by up to 10°C in winter and 6°C in summer, with greatest warming adjacent to Hudson Bay.

Besides, according to the 2012 Ontario Hazard Identification and Risk Assessment document (CSCS, 2012), wildfires are identified as one of the major natural hazards with a potential to trigger a mass evacuation in the Far North. For example, it is reported that forest fires and floods alone account for approximately 94% of all evacuations of greater than 100 people in the Far North (EMO, 2013) mostly involving First Nations. Similarly, a recent study by Beverly and Bothwell (2011) showed that out of 547 wildfire-related evacuation events in Canada between 1980 and 2007, almost one-quarter (25%) occurred in the province of Ontario involving many First Nations communities. Over the past decade, many remote First Nations communities in far north (e.g., Sandy Lake, Deer Lake, Keewaywin, Attawapiskat, Fort Albany, Kashechewan, and Mishkeegogamang First Nation among others) have declared emergencies requiring either partial or full evacuation of community residents (PSC, 2012). With increasing frequencies and intensities of wildfires, evacuating people from this remote part of Ontario to outside municipalities will likely to continue as a major strategy to remove people out of harm's way.

Surrounded by a fire prone boreal forest ecosystem, wildfires are common occurrences in Sandy Lake. Wildfires have been recorded by the province of Ontario in the forests near and surrounding Sandy Lake since the 1940s (see map below). During the focus group discussion with Elders, participants recalled that there had been several instances in the past when wildfire came close to the community threatening life and property. Although there have not been any damage to lives and property, smoke inhalation have always been an issue especially for people with asthma, elders and young children as it settles into the community.

The increasing number of people who are vulnerable to smoke due to mainly a rise in asthma problem is a concern for residents and community leaders. As described by one of the community officials:

> *"More recently Asthma has become an increasing problem. The smoke affects more people. The Asthma rate was not as high as 25-30 years ago. Even now when the fire is still further away, the wind is coming this way, the smoke affects the community. People get really sick because of the smoke. So it is becoming a bigger concern. There has been fires in the past, traditionally, in the past people traditionally way in the past people just move, everybody get on the boat and move. But now we have a settlement you can't just up and move everything so it is becoming more of an issue. There have been minor evacuation in the past, but in 2011 was the first time it was a full evacuation" (Participant 020).*

Over the past fifteen years, there have been four wildfire induced evacuations in Sandy Lake. In 2002, wildfires covering more than 6000 hectares burned forests surrounding Sandy Lake and approximately 400 band members mostly constituting stage-one evacuees were evacuated to Geraldton due to smoke (Geraldton evacuation reception center, undated). During the same period, a total of 2500 people were evacuated from other nearby communities including Keewaywin and Deer Lake First Nation (Canadian Disaster Database, 2013). In 2006, a partial evacuation of close to 500 Sandy Lake band members had to be made due to smoke coming from wildfires that covered more than 10, 000 hectares of forest in northern Ontario (MNR, 2006). Other communities that declared state of emergency included Deer Lake, Keewaywin, Gull Bay and North Spirit Lake First Nations. More than 1000 evacuees from these communities (including Sandy Lake) were hosted in Geraldton (MNR, 2006). The 2011 wildfires were one of the largest wildfire years in Ontario's history in terms of area coverage and number of people affected. The wildfires induced the evacuation of 4,476 people from 11 northern communities including a full evacuation of Sandy Lake First Nation (see details below) (CIFFC, 2012). In 2012, there was also another wildfire in northern Ontario which necessitated a partial evacuation of 637 residents of Sandy Lake band members and evacuees were hosted in Thunder Bay and Fort Frances. Evacuees stayed in the host communities for about two weeks (Canadian Disaster Database, 2013).

4.5. The 2011 Ontario wildfire Season

On July 6, 2011, a series of forest fires sparked by a lightning storm across the vast regions of the boreal forest of northern Ontario. Fire activity initially started within the northern parts of Red Lake, Sioux Lookout and Nipigon districts as a result of continuous hot, dry, windy conditions that increased the spread potential (CIFFC, 2012; PSC, 2011b). The prevailing dry, warm weather and lightning aggravated the fires further giving way to extreme fire behaviour and subsequent growth of several fires which increased firefighting difficulties. In two weeks' time, more than 121 forest fires burned 500,000 hectares, quickly spreading across northern Ontario. The fast spreading wildfires, recorded to be five times the normal average, and smoke coming from the wildfires prompted the evacuation of 4,476 people from 11 northern communities over to weeks' time (between July 20 and August 9) (CIFFC, 2012). About two thousand firefighters were dispatched on the ground and in the air to suppress the fires, including 500 firefighters from Alberta, Saskatchewan, Quebec, the Yukon and British Columbia (Mills, 2011). The Toronto Star quoted the province's chief firefighter at the Ministry of Natural Resources describing the wildfire disaster as "the smoke is so thick that in spots it can be seen from the Manitoba border across to Quebec" (Talaga, 2011). According to experts, the fires season is recorded as the most intense in a decade's time and showed an exponential increase over the previous year's (2010) wildfires, which burned 14,239 hectares (Mills, 2011). Nishnawbe-Aski Nation Grand Chief Stan Beardy (as quoted in Toronto Star newspaper) said that in the 20 years he has been chief, he has never seen anything as bad as these forest fires (Talga, 2011). He expressed his concern as: "I've been getting calls since Tuesday [July 19, 2011] from my people in 19 communities saying they can't see across the road, that the smoke is so thick that they can't breathe" (Talga, 2011).

Eventually, several northern First Nations, including Sandy Lake, called for a mandatory evacuation due to the direct threat posed by the fires but also due to the combined impacts of smoke and power outages (Canadian Disaster Database, 2013). There are no recorded deaths or houses burnt as a result of the wildfires. However, more than 86 hydro poles and over 13 km of

hydro lines were damaged by the wildfires causing power outages across the northern region (Canadian Disaster Database, 2013). Other evacuated First Nation communities include Cat Lake First Nation, Keewaywin First Nation First Nation, Koocheching First Nation, Deer Lake First Nation, Mishkeegogamang First Nation, North Spirit Lake First Nation, Kingfisher Lake First Nation, Eabametoong (Fort Hope) First Nation, Kasabonika Lake First Nation, and Couchiching First nation (see map below) (Canadian Disaster Database, 2013). The evacuees were hosted in municipalities as far south as Ottawa, Kitchener and Arthur and hosted in hotels, schools and recreation centers.

Map 4. 2 Evacuated First Nations and host communities due to the 2011 northern Ontario wildfires

Source: (Ontario Ministry of Natural Resources, 2011)

4.6. Wildfire Evacuation and Emergency Management protocols

In Canada in general and in the province of Ontario in particular, evacuation of people remains a major strategy of protecting public safety when communities are threatened by a hazard such as a fast spreading wildfires. Evacuation operations in remote First Nations communities are often mandatory with a primary intent of removing people from harm's way. This is largely based on the assumption that evacuation is the safest choice in any circumstance when a wildfire threatens. Similar to the national emergency management framework for Canada (Public Safety Canada, 2011), the province's emergency management principle prescribes that the implementation of emergency management programs, including emergency response, begins at the community level (EMO, 2010, 2012). This is based on the assumption that all emergencies are essentially local in nature and the local community are considered to be primary responders (EMO, 2010, 2012). In order to realize this, local governments (First Nation reserves in this research context) are supposed to garner resources from responsible agencies at provincial and federal level.

Based on the Indian Act, as set out under section 91 of the Constitution Acts of 1867, the federal government has legislative authorities over "Indians and lands reserved for the Indians" (Aboriginal Affairs and Northern Development & Minister of Public Works and Government Services Canada, 2011). Under this complex legal and political jurisdictions under which First Nations are governed, Indigenous and Northern Affairs Canada (INAC)[10] is a key federal agency and custodian of the constitutionally enshrined relationship between Canada and First Nations peoples. The Emergencies Act of 1985 and the Emergency Preparedness Act of 1988 are two major federal government emergency polices that form the basis for the federal role in emergency management in Canada (Caro & Angelis, 2001; Henstra, 2003). Pursuant to the Emergency Management Act, each federal minister, including INAC, is responsible for developing emergency management plans in relation to risks in their areas of accountability (PSC, 2011a). The 2007 Emergency Management Act is the most recent act that reinforced

[10] Formerly known as Aboriginal Affairs and Northern Development Canada (AANDC).

federal minsters' emergency management responsibilities. The policies provide legislative framework for emergency planning and preparedness in Canada by defining emergency responsibilities of federal departments and agencies and on the need for a close collaboration with provincial and territorial counterparts. Accordingly, INAC is the main federal department responsible for identifying and managing risk occurring within First Nations' jurisdictional boundaries.

When it comes to handling emergencies in remote First Nations Ontario, INAC has signed an agreement with the province of Ontario known as "First Nations Emergency Assistance Agreement", to provide emergency preparedness and response assistance to First Nations communities in the province (OCSCS, 2008). Under this agreement, Emergency Management Ontario (EMO), which is under the Ontario Ministry of Community Safety and Correctional Services (OMCSCS), is given the authority to implement emergency management program including preparation of emergency plans, training programs and exercise in emergency; and public education on risk and preparedness in the province (EMO, 2010). In practice, however, a number of federal and provincial agencies (discussed below) work with the affected First Nation in managing the emergency with often overlapping roles and responsibilities. As stated in the emergency management policy of the province:

> *"[...] the reduction of risks to public safety in the Ontario context depends on the participation of many partners fulfilling specific emergency management responsibilities. Emergency management is organized through a loosely linked, vertical structure of individuals and organizations with emergency management roles and responsibilities"(EMO, 2010, p. 12).*

And yet, in another protocol agreement signed between the Nishnawbe-Aski Nation (NAN), Indian and Northern Affairs Canada (INAC) and the Government of Ontario, NAN is given the responsibility for emergency preparedness, planning and evacuation (OCSCS, 2008). It has been noted that such unclear often overlapping rolls and responsibilities among varies entities could cause potential confusions during emergency. This is also a concern shared by the recent (2013) government report regarding emergency management on-reserve population (Office of the Audit General of Canada, 2013).

4.6.1. Roles and responsibilities during First Nation emergency evacuations

Among several governmental and non-governmental parties ideally involved in emergency management in First Nations include federal government agencies (including INAC, HC, PSC), provincial government agencies (including EMO/ OMCSCS, OMNRF, and other supporting ministries), and non-governmental organizations (including CRC, SA and others). In case of wildfires, the major government departments involved during evacuation include Ministry of Natural Resources and Forestry (MNRF), Indigenous and Northern Affairs Canada (INAC), Emergency Management Ontario (EMO) (see figure 4-1 below for schematic presentation). Roles and responsibilities of each are discussed below.

The Ministry of Natural Resources and Forestry (MNRF) is responsible for planning and leading wildfire suppression activities. Critical factors analyzed and considered include anticipated fire behavior, fire suppression capability, access to escape routes, and characteristics of the population or community (Beverly & Bothwell, 2011). Indigenous and Northern Affairs Canada (INAC) is also responsible for providing advice, funding, meeting the needs of evacuated residents by covering expenses and assist the recovery process (AANDC, 2011b). INAC has also developed a National Emergency Management Plan (NEMP) which outlines the roles and responsibilities of the Department and its partners in emergency management in First Nations communities across Canada. In line with the Federal Emergency Response Plan (FERP), the NEMP is intended to "harmonize INAC's policies, plans and procedures with those of provinces, territories and other federal departments to contribute to a coordinated Government of Canada response to emergencies impacting First Nations communities" (AANDC, 2011a). By working in collaboration with the respective provinces, the ministry works to ensure that First Nations receive comparable emergency assistance services similar to other non-Indigenous residents in the province (AANDC, 2011b).

Established under the Ontario Ministry of Community Safety and Correctional Services (OMCSCS), EMO is responsible for promoting, developing, and maintaining emergency management programs throughout the province (EMO, 2012). With regard to First Nations, as

part of the 1992 Service agreement made between AANDC and the Province of Ontario, EMO deliver emergency response services including providing liaison and advice, arranging, coordinating or directing personnel, services, equipment, and materials (AANDC, 2011b). In addition to the provincial emergency response plan (PERP)[11], EMO has put in place a mass evacuation plan for Far North communities known as Ontario Mass Evacuation Plan (OMEP), which is a supporting plan to PERP. OMEP outlines the critical factors that needs to be considered during evacuation operation in Far North including determining the level of risk, evacuation protocols to be followed, hosting communities, support needed from government and non-governmental organizations etc. (OMCSCS, 2015). As stated in the Ontario Mass Evacuation Plan for far north, the plan is not meant to replace community level emergency plans as each First Nation community is also responsible for developing its own emergency response plans. Rather, "the plan is meant to be used to respond to a request for a partial or complete evacuation from one or more communities to one or more host communities" (OMCSCS, 2015, no page).

4.6.2. Protocols involved during First Nations evacuation in Ontario

According to the province of Ontario emergency response protocol (EMO, 2012), when an emergency such wildfires occur within a First Nation, it is the responsibility of the Chief of the First Nation to make a declaration of emergency and to notify the Provincial Emergency Operations Centre (PEOC)[12] verbally by calling the EMO Duty Officer.

The decision for evacuation, whether for a partial or for a full evacuation, is made in consultation among the Chief, Indigenous and Northern Affairs Canada (INAC), Ministry of Natural Resources and Forestry (MNRF), and Emergency Management Ontario (EMO). In case of wildfires, MNRF advises the chief about the need for evacuation by assessing the nature of the threat; potential impact(s), urgency (how soon evacuation is required); and scale (number of people potentially requiring evacuation) (OMCSCS, 2015). Although MNRF provides advice

[11] The PERP sets out the basic mechanisms, organizational structures, responsibilities, and procedures to guide Ministers and their staff when involved in a coordinated provincial response to emergencies in Ontario (OCSCS, 2008).

[12] Supported by various provincial ministries, the PEOC coordinates Ontario Government's response to major emergencies by providing a single point of contact for provincial assistance in times of crisis (OMCSCS, 2015).

about the fire and risks involved in consultation with the community nurses, the ultimate decision for evacuation is left to the Chief (OMCSCS, 2015).

When they make a decision to evacuate, the Chief has to declare an emergency and forward a copy of the emergency declaration to AANDC (OMCSCS, 2015). In this regard, the amount, timing and precision of risk information and obtaining a clear guide on how to pass the declaration of the state of emergency is crucial for a timely and effected emergency response. With regard to evacuation operation, EMO is responsible for coordinating the evacuation while MNRF supports EMO by providing and arranging aircraft services by considering the size of the community and the amount of time it take to get people out (OMCSCS, 2015).

An evacuation is normally conducted in a phased sequence of stages in which the population is divided into three categories according to priority. The following table describes the three stages of evacuation procedure as outlined by EMO (2012):

Table 4. 1 Stages of evacuation procedure

Category	Description
Medical evacuation	Constitutes individuals receiving homecare or residing in a health care facility. Individuals in this category are evacuated through the existing health procedures used in the community and not by EMO and MNRF.
Stage One evacuation	These are persons with vulnerabilities including people with health issues, persons with disabilities, expectant mothers, elders, and families with very young children. Persons with vulnerabilities must be accompanied by caregivers (EMO, 2012, p. 11)
Stage Two evacuation	These evacuees comprise of all other residents of the community. The evacuation of Stage 1 and Stage 2 evacuees is coordinated and conducted by EMO and MNRF (EMO, 2012).

Source: (EMO, 2012)

Supporting organizations, such as the Canadian Red Cross, the private sector and NGOs are also involved during in in supporting (EMO, 2010). With regard to the services that should be provided in the host community, service level evacuation standards are set up by the Joint Emergency Management Steering Committee (JEMSC) which constitutes relevant agencies such as EMO, AANDC and MNRF (EMO, 2012). The JEMSC service level evacuation document outlines, the type and levels of services required in meeting the needs of First Nations evacuees and procedures for recovery of eligible costs spend in the process (EMO, 2012). According to Service Level Evacuation Standards document of the EMO (2012), in the event of evacuation, EMO deploys field staff to the affected communities to assist with the organization of the evacuation as well as to the hosting communities to support evacuated residents. INAC's staffs are deployed to hosting communities to provide approvals for purchases and to act as liaisons in dealing with any issues that come up during an evacuation (OMCSCS, 2015).

The affected community is also responsible for assigning community liaisons for each hosting communities where evacuees are sent to. Community liaisons are to be assigned by the Chief whose role is to provide support to the evacuated residents and representing their needs by working with the Host Community and other agencies as required (EMO, 2012). Upon notification by Emergency Management Ontario (EMO) and the Chief and Council of the potential return of evacuees to the First Nation, community liaisons also support in the preparation of the flight manifest and determining the order of the return of evacuees (EMO, 2012). Based on the Service Level Evacuation Standards document of EMO (2012, p. 32), host communities are expected to "provide the full range of emergency social services to evacuees they receive". This includes emergency shelter, clothing and food; victim registration and inquiry services; personal services and other social services such as translation, recreational activities, and local transportation (EMO, 2012).

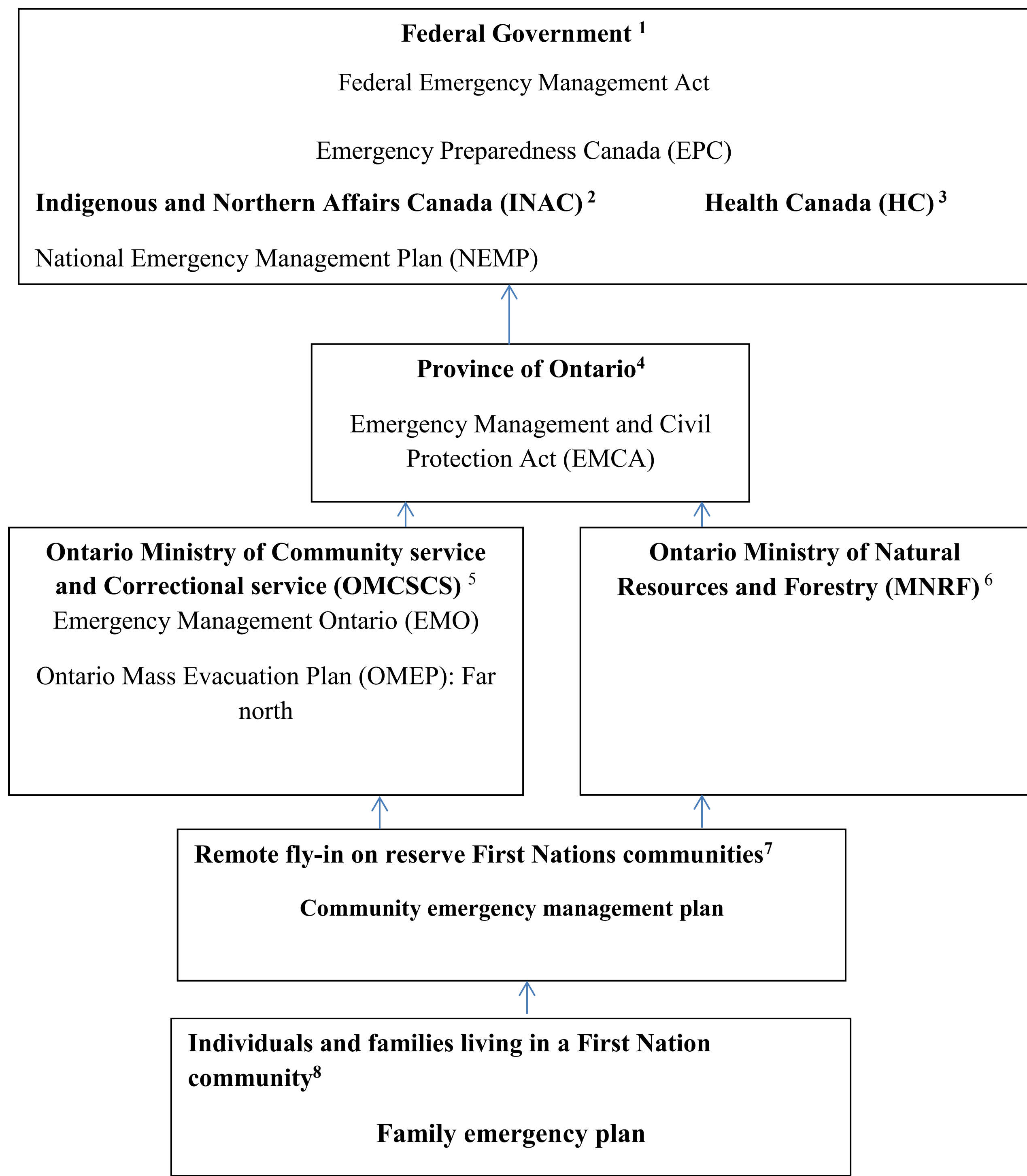
4.7. Chapter summery

Over the past few decades, although Sandy Lake has been witnessing a rapid change in culture and lifestyle through increasing exposure to non-Indigenous way of life; however, the community still maintains some of its culture and traditions. Sandy Lake First Nation is one of the remote fly-in First Nations located in North West Ontario in a region designated as the Far North. The community has one of the largest population size (current on-reserve people approximately 2564) compared to the surrounding First Nations in the region. Communal way of life of band members provided an opportunity for social support in both times of crisis and non-crisis times. On the other hand, similar to other First Nations in the region, there are several challenges the community members currently grappling with including high levels of unemployment, health problems including alcohol and substance abuse, high cost of living, remoteness and low level of infrastructural development, among others.

Surrounded by the boreal forest, numerous communities in the Far North including, Sandy Lake First Nation, are affected by wildfires. There have been four wildfire evacuations in the community over the past fifteen years. In the 2011 wildfires, 4,476 people were forced to evacuate from 11 northern communities including Sandy Lake declaring a full evacuation.

During emergency evacuation, a number of federal government agencies (including INDC, HC, and PSC), provincial government agencies (including EMO/ OMCSCS, OMNRF, and other supporting ministries) and non-governmental organizations (including CRC, SA and others) are involved in supporting the evacuation either directly or indirectly. Evacuation operation usually proceeds based on priorities by dividing the population into medical, stage-one and stage-two evacuees. In order to ensure the well-being of evacuees in the hot communities, the provincial government has also established Service Level Evacuation Standards that needs to be followed by all parties involved in emergency management. The next chapter presents the description of the emergency evacuation experiences of Sandy Lake First Nations during the 2011 wildfires.

Figure 4. 2 Legal and institutional structure for emergency management in First Nations in the province of Ontario



Note:

1. Under the *Emergency Management Act* of 1988 & 2007, Emergency Preparedness Canada (EPC) is responsible to coordinate and facilitate emergency preparedness activities within and between federal departments and agencies and between federal and provincial governments. Under the Emergency Management Act of 2007, each minister is required to identify the risks that are within or related to his or her area of responsibility (DoJ, 2007).

2. Indigenous and Northern Affairs Canada (INAC) formerly known as Aboriginal Affairs and Northern Development (AANDC) is responsible for supporting emergency management for First Nation communities living on-reserve (AANDC, 2011b). The ministry has also developed a National Emergency Management Plan (NEMP) which outlines the roles and responsibilities of the Department and its partners in emergency management in First Nations communities across Canada.

3. Health Canada is involved in case of medical evacuees who include those individuals receiving home care or residing in a health care facility and who meet the requirements of the *Ambulance Act* are evacuated by ORNGE or emergency medical service (EMS). Hence, this procedure is conducted not by EMO and MNRF but through existing health procedures used in the community (EMO, 2012).

4. The province of Ontario *Emergency Management and Civil Protection Act (EMCA)* requires municipalities and local governments (including First Nations) to develop and implement an emergency management program which consists of developing emergency plan; training programs and exercise in emergency response and recovery activities; and public education on risk and preparedness for emergencies (EMCA, 1990).

5. Established under the Ontario Ministry of Community Safety and Correctional Services (OMCSCS), EMO is responsible for promoting, developing, and maintaining emergency management programs throughout the province (EMO, 2012). With regard to First nations, EMO deliver emergency response services including providing liaison and advice, arranging, co-ordinating or directing personnel, services, equipment, and materials (AANDC, 2011b). Ontario Mass Evacuation (OMEP) for Far North is a provincial evacuation plan to manage multiple evacuation that potential occur to small northern isolated First Nations communities.

6. Apart from responsibility of monitoring and managing wildfires threatening first nation reserves, MNRF advises the chief of the First Nation about the fires and the risk involved in consultation with the community nurses, whereas the ultimate decision for evacuation is left for the Chief (OMCSCS, 2015). Upon decision for evacuation, MNRF supports EMO by providing and arranging aircraft services by considering the size of the community to be evacuated and the amount of time that would take to get people out (OMCSCS, 2015).
7. According to the emergency management doctrine of the province of Ontario, the implementation of emergency management programs begins at the community level, in this case First Nations (EMO, 2012). These include among others preparation of emergency plan; training programs and exercise in emergency response and recovery activities; and public education on risk and preparedness for

emergencies (EMCA, 1990). AANDC is given a federal responsibility to assist First Nations in developing, testing and updating of emergency management plans (AANDC, 2011b).

8. Like any other Canadian, individuals and families living in a First Nation community should know about potential hazards that could threaten their health and safety and should be ready to manage and respond accordingly. These reinforces the provincial emergency management doctrine that all emergencies are essentially local in nature and the local community are considered to be primary responders (EMO, 2010, 2012).

CHAPTER FIVE: WILDFIRE EVACUATION EXPERIENCES OF SANDY LAKE FIRST NATION

5.1. Introduction

This chapter describes the 2011 wildfire emergency evacuation experiences of Sandy Lake First Nation residents using the data generated through primary sources (semi-structured interviews, key informant interviews and focus group discussions). The discussion uses an "event-based approach" (McCool et al., 2006, p. 438), a useful way of constructing and systematizing discussions about people's disaster experiences following a temporal event (McCool et al., 2006; Cohn et al., 2006; Drabek, 2012). For instance, in a wildfire evacuation study conducted in non-indigenous communities, Cohn et al. (2006) used five temporal periods of the evacuation to organize their findings: anticipation, evacuation warning, displacement, notification of condition of home, and return and recovery.

In this study, I have used eight temporal periods to organize the findings: before the evacuation, getting ready to evacuate, leaving Sandy Lake; being outside the community when the evacuation took place, staying in host communities, staying behind in Sandy Lake, returning home, and lasting effects. At each stage of the evacuation, emphasis was made to include a broad range of research participants' experience by way of directly presenting quotations or by "letting the participants speak for themselves" (Bloomberg & Volpe, 2012, p. 155). This chapter sets the stage for subsequent chapters (chapter 6, 7 &8) which examine the factors that affected evacuation experiences and impacts.

5.2. Before the evacuation

Early in July 2011, the wildfire burning forests near Sandy Lake First Nation was not considered a threat by the interview participants. Many of the participants interviewed said that they had noticed fire and smoke around the community about two weeks before the evacuation

order. Wildfires were advancing on the west side of the community towards the winter road, in what is locally known as the Sand Pit area. This is the most forested area surrounding the community. By the north and east sides, the community is bordered by the Severn River which many of the interview participants see as a natural defense against wildfires that could come from the north and east. As is the case with most of the Far North First Nations situated in the boreal forests, wildfires are common phenomenon in forests surrounding Sandy Lake.

As discussed in Chapter 4, there have been four wildfire-related emergency evacuations in Sandy Lake over the past 15 years. The majority of the interview participants perceive wildfires as a major risk to the community. As noted by one of the participants:

> *"There has always been a risk of fire in the community. There is a lot of fuel in the area and it is very common. There were times in the past when a forest fire comes very close. In 2011 the fire came closer in the north-western side" (Participant 020).*

Many of the participants were concerned about the fire risk because of their community's remote location, in the boreal forest. Like any other First Nation, Sandy Lake relies on provincial government assistance for putting out wildfires and emergency management including evacuation. Many of the participants had also heard the news about other nearby First Nations declaring emergencies and being evacuated, which raised their concerns about the wildfire situation relative to their community. On July 16, nearby Deer Lake, Keewaywin and Eabametoog First Nations had completed a partial evacuation (Talaga, 2011). As smoke settled in the Sandy Lake community, participants recalled, they were more concerned about smoke inhalation for those with health problems including asthma, which is a growing concern in the community. One of the participants explained:

> *"When we had that evacuation some years ago we had to be flown out because of health wise; people have asthma or they can't stand the smell of the smoke […] there's a lot of people that have asthma, the young people, even kids that have asthma and the elderly. So those are the ones that are taken out first (participant 037).*

On July 17, the wildfires grew larger and smoke began drifting into the community. The wildfires crossed the 16-km zone and advanced towards the community. A local representative of the Ontario Ministry of Natural Resources and Forestry (MNRF) was updating the situation to the agency and to the Chief and Council members. According to MNRF firefighting decision-making

policy (MNR, 2004), a wildfire is left to burn in the open until it crosses a 16-km buffer zone surrounding a community. A fire occurring within this boundary is considered to be a threat and requires an appropriate response as it potentially causes damage and disruptions. Some participants were critical of this wildfire management strategy as it may not always be effective in guaranteeing the safety of community members. During the 2011 Sandy Lake wildfires, once the fires crossed the 16-km radius and were aggravated by the prevailing hot, dry and windy conditions, a declaration of a state of emergency was inevitable.

Also on July 17, the Chief was in constant contact with MNRF, Emergency Management Ontario (EMO) and Aboriginal Affairs and Northern Development Canada (AANDC). Many communities in the north were alerted by the rapidly growing wildfires in the region, and some had already declared an emergency. Community officials felt that representatives from agencies including MNRF, EMO, and AANDC were overwhelmed with conference calls updating First Nation Chiefs about the wildfire situations and the need for evacuations. At first, this made it challenging for the Chief of Sandy Lake to obtain up-to-date and site-specific information about the wildfires in relation to his own community.

Community leaders also said it was difficult to obtain clear guidance on how to declare a community state of emergency as specified by the provincial protocol. The person in Sandy Lake in charge of monitoring the wildfires and advising the chief was from British Columbia, and participants felt that he had limited knowledge about the province's First Nations' evacuation protocols, which created some miscommunication and confusion about how to decide when to declare a state of emergency and pass the evacuation decision to EMO. As the Chief explained:

> *"How do you make that decision to evacuate? I didn't know who makes the official call. Is it MNR, Ministry of Natural Resources, the ones that are fighting the fires? Is it the Chief and Council, who makes that call? […] I didn't know the steps. I didn't know what the steps were" (The Chief).*

The fact that the wildfires were approaching by the side of the airport added to the concerns of the residents and band leadership, because a timely decision had to be made to initiate and organize the evacuation.

5.3. Getting Ready to Evacuate: Stage One and stage Two evacuees

Based on the province's evacuation protocol (see details in Chapter 4), Stage One evacuees include medical evacuees (individuals receiving home care or residing in a health care facility), and persons with vulnerabilities (including persons with disabilities, elders, children, pregnant women, and persons with medical conditions). As noted by the Chief and in the focus group discussion with councilors and elders, a decision was made for a Stage One evacuation and two days later a full evacuation was called. According to these participants, a full evacuation (both Stage One and Stage Two) could have been called instead initially; however, a Stage One evacuation was called. The participants attributed this decision to the lack of knowledge and uncertainty about the risk involved (from the side of the agency monitoring the fires) and to optimistic attitudes that the fire might not necessitate a full evacuation.

Two days after the Stage One evacuation (July 19, 2011), the increasing proximity of the forest fire (named Red Lake #58), as close as nine kilometers to the community and covering 4400 hectares, posed a serious threat precipitating a full evacuation. The full evacuation was called due to heavy smoke, and concerns that the fires were approaching the community airport. As stated by one of the frontline workers:

> *"First we did a partial stage one. I think it was five planes that went. The elders, people with chronic condition, kids with high risk, prenatals, children under one. And then the fire kept getting closer so we had team meetings. We updated each other. Eventually the fire was nine kms away and it was heading towards the airport. The fire was nine kms west of the airport. That was very close. At that time they decided for a full evacuation. Because if the wind came there, it would just come towards the airport, and you cannot get people out of, we would all be smoked in. You see, you have got to think about those things. If there is no airport, there is no way you can get people out" (participant 013).*

According to key informants, with the hot, dry weather and high winds of up to 60 km/hr., there was a real concern the fire would reach the community. Two of the frontline workers conveyed this view:

> *"One of the scarier nights was when we had an electrical storm and the winds hit about 60 kilometers. We were halfway done the evacuation when that happened that night and then the winds just started pushing the fires towards Sandy" (participant 052).*

"To tell you the truth it was really bad one night. It was in the evening […] all of a sudden some sort of a storm blew in, a wind storm. It wasn't really a rain storm. Clouds were passing by but the wind was so bad that it blew the fire towards us really fast. And we were at the beach, live embers were falling everywhere right in front of us, and the trees bent down half ways 'cause of the wind, the waves were like four, five feet high. And we were sittin' there, me and my son and I said, this is bad, right in front of us, just live embers falling like rain, and we couldn't see 10 feet 'cause that's how thick the smoke was" (participant 015).

Figure 5. 1 Forest Fire from Sandy Lake First Nation as full evacuation was ordered - July 19, 2011

Source: http://media.knet.ca/node/11373

The majority of the interview participants (70%) received information about the evacuation directly through the community radio when the announcement was made by the chief. The rest of the interview participants heard about the evacuation through word-of-mouth from family members, other community members, and social media (e.g., Facebook) and from the local police, the Nishnawbe Aski Police Services (NAPS).

5.3.1. Perceptions about the wildfire evacuation

Most of the interview participants felt that that the evacuation was necessary due to concerns related to smoke inhalation, particularly for people with asthma. An elderly participant recalled, "I was concerned because of medical issues […] I was concerned about my granddaughters; two of them had asthma, along with my wife" (participant 002). A father of three was also worried about his family: "At that time […] my son had respiratory problems growing up. So when they declared evacuations my wife and my son were the first one on the list to be evacuated and I was supposed to stay behind" (Participant 027). One participant said he did not take the evacuation call seriously because he did not have family members who were sensitive to smoke:

> *I was at work at the Northern, yeah, it was in the afternoon, and they were telling me that people were getting evacuated, the kids and the elderly. And so that's what was happening, so I didn't think anything of it because I knew my kids didn't have any lung problems, but they were quite young. And then I got a call from my girlfriend and she's telling me OK, we're getting sent out, and I'm like OK. And she said I want you to come with us. And I thought to myself, I was like I have no reason to go, I didn't take it serious" (Participant 036).*

Some of the interview participants reported that although they were anticipating a partial evacuation order, the announcement for a community wide evacuation came as a surprise and there was different reaction for the call as one of the participants put it:

> *"I don't think anybody was really prepared with the evacuation when the chief went on the air and said we're going to evacuate the community, the whole community. We're not leaving anybody behind, and some people were happy, some people weren't happy; some people even were talking about going to their camps to get away from all this, what's going on. They wanted to kind of run away, see like at that time run away from the authority just to get away" (participant 040).*

Some people resisted the evacuation order for fear of theft. As explained by the chief:

> *"Now once a decision for a full evacuation was made there were people that said no they did not want to go but we said "no you have to go" […] because the other feeling people had was, "I don't want to leave my house if there are other people still in the community" for fear of some people breaking in" (The chief).*

A few of the interview participants stated they wanted to stay because they believed that young adults should have stayed behind to fight the wildfires instead of being evacuated. They felt that they bore some responsibility to protect the community from wildfires:

> *"We thought we were going to be fighting fires, helping out at the frontline or whatever cause that's what we were normally taught to do I guess you could say. Like it's our instinct to stay behind and help, because you're a guy, so that's what we thought" (participant 025).*

Still few others did not want to leave, either because they were nervous about being evacuated or afraid of flying.

> *"Some community members wanted to stay behind because there are a lot of people in the community where they don't like to fly on the plane. So, that was one of the reason, I mean they were scared I know some people were scared and some of them haven't been on a plane so they were quite nervous at that time" (participant 040).*

Six of the 40 interview participants said they considered going to cabins that their families owned, up north, rather than being evacuated. When asked how he felt when he was told to evacuate, a young interview participant explained his father's and his own intention to go north to the family's cabin up near the Manitoba border instead of being evacuated to the cities in the south:

> *"I didn't like it [being evacuated]. I know my father didn't sound happy about evacuating but him, as our dad, he had to do his thing in order for us to get out, too, at the same time. But me and my father, we wanted to go to our camp up north so we could stay away from the fire. We have our family trap line up north; it's just a boat ride, probably about two and half hours ride from here. It's near to the Manitoba line border. We would have been safe there, but they wanted everybody out. My mother said you guys all go, she's the voice of the family and we must obey" (participant 001).*

In contrast, four out of the 40 interview participants said that they were excited about being evacuated because they saw the evacuation as an opportunity for a free vacation; because of the high cost of transportation some community residents rarely left the community. According to a youth participant, this was particularly the case for younger residents such as herself:

> *"I was kind of happy because it was a free vacation. I barely leave the community and there was a reason why we should leave because of the evacuation. Then I thought it was like a free trip. For a lot of people, especially those that cannot get out with the high cost of air travel; they have a chance to get out of the community, especially the younger ones. But*

60-year-old people, they don't want to leave; they want to stay here, but they have to go cause of their conditions. That's also a difficult thing" (participant 025).

5.3.2. Time to prepare for the evacuation

A majority of the participants recalled that they had to leave with less than an hour notice; seven of the 40 reported they had two to three hours, while a few (5 of 40) had to leave immediately. The latter was especially the case for interview participants who left as part of the Stage One evacuation. As one elderly interview participant said:

"I was at the store and they came and they said to me 'go home, we're taking you out right away. The plane is leaving in about an hour […] I barely had time to pack. By the time I got home, I was still packing when that van driver was there picking us up saying come on, the plane's coming in" (Participant 002).

A mother with six children who left as part of the Stage One evacuation also recalled having very little time to prepare:

"Me and my husband, and kids, we left, it was all last minute too 'cause we were just at home, sleeping. And then all of a sudden, about 10 o'clock in the morning they were announcing on the radio that they needed people evacuated because it was like raining ashes at that point already" (Participant 016).

Because they had to leave so quickly, some people in the Stage One evacuation, including the elderly and those with chronic health issues, did not take essentials including medication, puffers, money, and identification cards, among other items. An elderly interview participant said:

"Everybody was told to pack at 7 o'clock. We were at the airport by 8 o'clock. By 10:30, we were on the first plane and before 12 o'clock we were in Sioux Lookout […]. Some evacuees at Stage One didn't even take their puffer or they were out because we were just puffing all the time. Then some of them, they didn't take their insulin because the night before, we didn't have enough time to go pick up the insulin, so whatever we had, we just packed up and then went" (participant 029).

Some of the interview participants who were evacuated at Stage Two did not anticipated a community-wide evacuation and remained unprepared until they were told to leave. Two of the interview participants recalled:

"We didn't know. I had to run home and pack my bags, and I didn't even bring my phone charger and stuff like that. It was just like that. The last plane is going now; you're going; kind of thing. So that's how I ended up going" (Participant 028).

"Well at first we weren't sure if we were going to be the ones who evacuated because all they said was for the priority, which are the babies and the chronically ill, that was they said. As for the rest of us we didn't think we were going to go, you know be evacuated. So we weren't prepared at all" (participant 034).

Even after the announcement was made for a Stage Two evacuation, some of the participants remained optimistic and waited until the last flights to leave, hoping that the wildfires would eventually subside and the community-wide evacuation might be called off. As two of the participants explained:

"Well I knew the smoke was getting thicker and I was at home and we heard that the chief was going to make an announcement. But we didn't know what kind of announcement. We just thought it was going to be like "close your windows at all times. Stay indoors" or "there's going to be a curfew" or something so that time we were caught completely off guard when they said there's going to be a community-wide evacuation. We didn't call right away. The reason why we didn't call right away was because we kept hoping for the best, that they might lift the evacuation, at least the complete evacuation" (participant 040).

"We didn't sign up right away, even though they told us, "OK you got to sign up for the evacuation 'cause everybody's going to be evacuated." We didn't sign up, me and my husband, or even my kids, the ones that didn't have no babies. We wanted to stay. We didn't think it was that close, at least we didn't think so, I didn't think so. Anyways that evening, we didn't get evacuated until the 21st flight" (participant 038).

5.3.3. Organization of the evacuation

The provincial emergency protocol for First Nations states that during emergencies it is the responsibility of the evacuating community to arrange necessary conditions for the evacuation (OMEP, 2013). These mainly include ensuring that medical records for Stage One evacuees are

arranged, preparing flight manifests[13], assigning community evacuation liaisons, and assigning people to maintain community services and infrastructure[14] (EMO, 2012).

The Sandy Lake First Nation did not have an up-to-date evacuation plan during the 2011 wildfire, which complicated the task of identifying people on the priority list (Stage One) as well as evacuating the community of more than 2700 people. Residents were informed of the Stage One evacuation through the community radio station, and were provided with a phone number to call the Band office and register themselves and their family members. As the wildfires approached the community and smoke conditions worsened, necessitating a full evacuation, all residents were told to go directly to the airport to complete the registration processes and wait for their flights. In order to carry out the community-wide evacuation, the Chief set up a team of 20 people, including workers at the community nursing station and personnel in charge of operating key community services (e.g., health care, administration support staff , NAPS, Canadian Rangers, truck drivers and voluntary fire fighters) and infrastructure such as (e.g., hydro, water treatment plant, and airport). Initially, the Band office was used as a communication center to coordinate the evacuation and then a temporary station was set up at the local airport to facilitate the registration process for the community-wide evacuation.

In the absence of a community evacuation plan, band members who had to leave at Stage One were selected by the Chief, who was assisted by the community nurses. One of the frontline workers explained:

> *"Well first of all there was the health authority and the health director that prioritize the people who were being evacuated. And community residents to be evacuated were brought here to the terminal, and they were processed here by how many planes they were allowed. I think each Hercules was allowed close to 90 people. We had a desk set up here [at the community airport terminal] and we were collecting names, and whose name was on that*

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[13] According to the Service Level Evacuation Standards document of the EMO (2012), a flight manifest ideally includes information on family groups to help keep families together. It will list children and their parents separately, and will identify what must be done for special needs populations.

[14] Assigning people to stay behind to maintain essential services and infrastructure was crucial for sustaining and restarting services (e.g., health care) and infrastructure (e.g., hydro, water treatment plant, and airport) once the evacuees returned (EMO, 2012).

list for first Hercules and we processed them here, 90 people. And as you can see by the flag pole [inside the compounds of the community airport office] we put another barrier there and the people were told to wait for the Hercules there. And while we had, and we were processing another plane, and the people with Hercules we told them to wait here. Right around here was the other barrier here […] we had 90 people here, and 90 people over there, and we had to line them up one by one onto the plane" (participant 027).

Because there was not an updated community evacuation plan, spontaneous decisions needed to be made along the way. As the chief explained:

> *"There was no set guideline at that time, and we weren't following a book [i.e. an evacuation plan] saying "Here's what you do in this case." Basically we just took charge right from the beginning, and it was common sense, things that we did, no brainer things that tells here's a step, here's what we need to do next"(Participant 020).*

Likewise, a frontline worker said, "It [organizing the evacuation] was a lot harder because you didn't know exactly how you were going to move more than 2700 people in three days" (participant 052). One of the residents evacuated at Stage Two also recalled the confusion:

> *"I don't think anyone was prepared for that fire to happen like that. I know it was chaos, they were just grabbing people off the roads here saying "Well you got to go on this plane, you're on this plane". You know it wasn't set up properly. But then again you know, nobody was prepared for it. I don't think even the people that were handling the family situation wasn't prepared for it too" (participant 31).*

The absence of an up-to-date evacuation plan induced a number of challenges that negatively affected the experiences of the evacuated band members during subsequent periods of the evacuation (see Chapter 6). Most of the essential workers (such as nurses, social workers and care givers) were the last to be evacuated. Reflecting back on their experiences, one of the key informants said that sending these essential workers as evacuees in one plane was not the right thing to do. Rather, he suggested, it would have been possible and more appropriate to assign essential workers, especially the nurses, to each plane. He said, "They [nurses] went on the last plane […] they should have been distributed among the planes to look after the evacuees, especially the nurses; they should have been assigned, especially to look after the elders" (participant 013). A participant in the focus group with elders and councillors also underscored the need for keeping these essential community support personnel (nurses, social workers, etc.) with the community's evacuees. The group of 20 people set up by the Chief labored to complete

the entire community evacuation. As noted by the Chief, in the absence of community emergency plan, organizing the evacuation put a heavy strain on frontline workers and community leaders:

> *"I had to really focus on what my duties and responsibilities were here and I was getting little to no sleep at times. Sometimes I was getting like three hours sleep a night where we were prepping plane schedules and medication lists and we were getting all these things that people needed that were a priority and we were at the nursing station, our health centre, whatever you would call it and we were there a lotta the nights preparing these and then when I wasn't there during the nights, I was at the airport making sure that all these people were boarding and checking off the lists that these people were on board and a lotta times it was really crazy because sometimes there would be three, four planes landing at the same time and it was really hard" (The Chief).*

Within three days' time, from July 17- 20, Sandy Lake First Nation was fully evacuated except for about 20 people, including the Chief who stayed behind to maintain essential services, provide updates on the fires, and assist MNRF personnel who were deployed in the community. When asked why he decided to stay behind, the Chief cited his traditional responsibility as a Chief to protect the community. He said that he also wanted to encourage and motivate people who were assigned to look after essential services.

5.4. Leaving the community

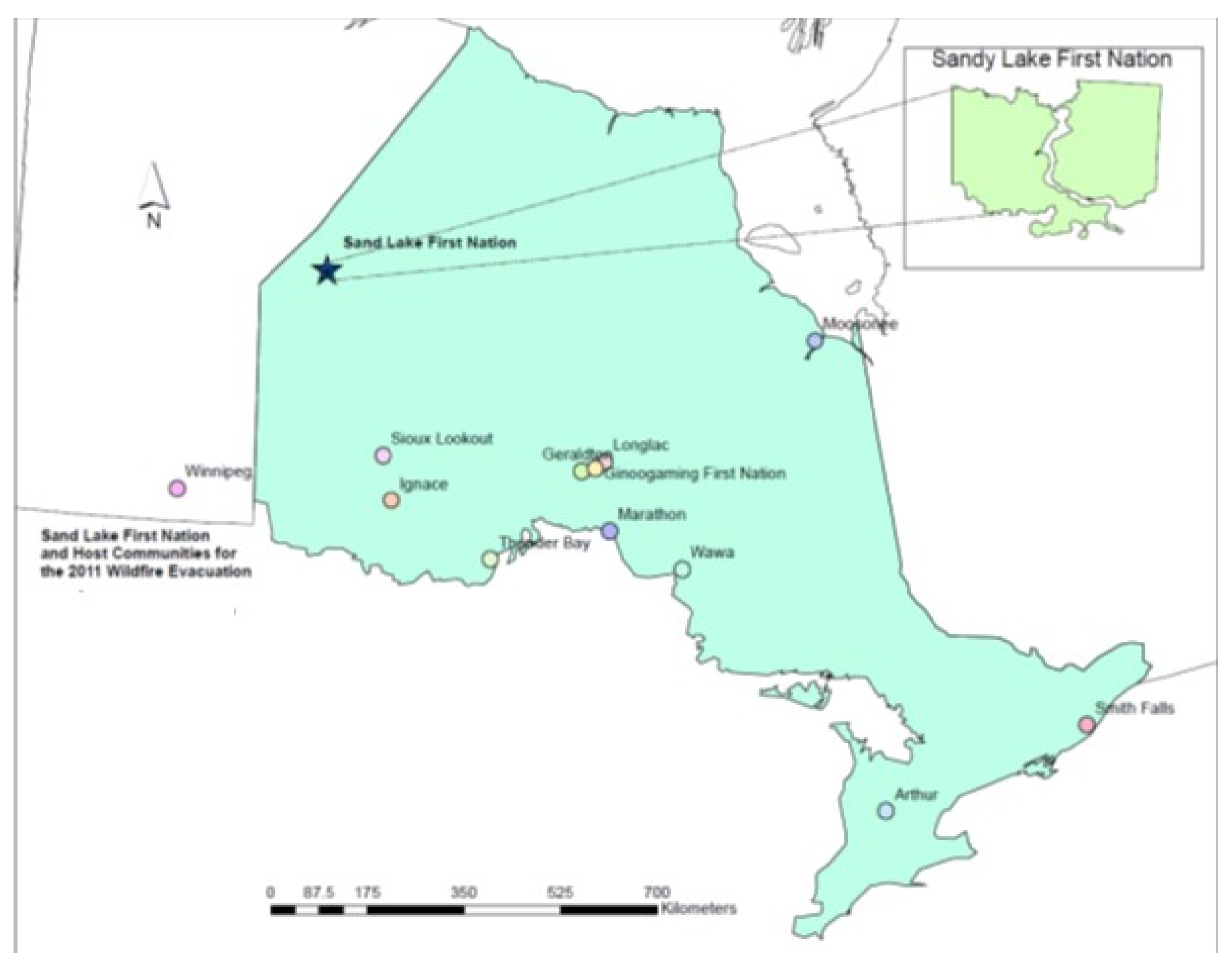
The majority of community members were evacuated by the Canadian Forces CC-130 Hercules aircraft. Some residents flew out in chartered planes using local airlines Wasaya and Perimeter Airways. MNRF assisted in arranging for planes and it took about 21 Hercules flights to evacuate the whole community, excluding residents who evacuated using chartered planes. Community members who were already out of the community on business, medical, or personal reasons were told to go to the nearest evacuation center. Frontline workers, along with some community members working as Canadian Rangers assisted in loading planes.

Figure 5. 2 Residents of Sandy Lake First Nation being evacuated onboard a CC-130 Hercules aircraft - July 21, 2011

Source: (http://www.ctvnews.ca/ont-sending-mobile-medical-unit-to-help-fire-evacuees-1.673527)

EMO coordinated the evacuation process in collaboration with other provincial and federal agencies including MNRF, INAC and the 12 host cities, towns, and a First Nation that were to host the evacuees. Cities, towns and First Nations in Ontario that hosted Sandy Lake evacuees included Thunder Bay, Sioux Lookout, Geraldton (Municipality of Greenstone), Arthur, Moosonee, Ignace, Wawa, Long Lac, Ginoogaming First Nation, Smith Falls, and Marathon (from which evacuees were later relocated to Thunder Bay). Some evacuees were also sent to Winnipeg, Manitoba. The map below shows the evacuation locations and number of evacuees in each location.

Map 5. 1 Sandy Lake First Nation and Host Communities for the 2011 Wildfire Evacuation



Stage One evacuees were sent to Sioux Lookout and Thunder Bay, where they were hosted in hotel rooms. Stage Two evacuees were first flown to the city of Thunder Bay where they stayed at a transportation hub for 10-12 hours on average before they were transported to other hosting cities and municipalities. Upon their arrival in Thunder Bay, evacuees were registered by Canadian Red Cross (CRC) in order to facilitate the tracing of separated families (see Section 7.2.2). The local Emergency Operations Control Group coordinating team included the City of Thunder Bay, Fire & Rescue, police, District of Thunder Bay Social Services Administration Board, Thunder Bay District Health Unit, and Superior North EMS, all of whom were also on standby to deal with evacuee requirements as they emerged.

According to an article in the Globe and Mail, Thunder Bay was overwhelmed by the large number of evacuees (including those from other First Nations). The Mayor of the City of Thunder Bay requested that the provincial government "declare a state of emergency to help co-ordinate the evacuations and move people to other parts of Ontario," cautioning that the city would not have the capacity and resources to accommodate the influx of forest fire evacuees from the north (Morrow and Elash, 2011). In another article posted in the Net News Ledger.com (NNL) headline news on July 19, the mayor of Thunder Bay was quoted as saying that the influx of evacuees into the city was beyond capacity, and he urged other municipalities to open up and host evacuees:

> *"This is an extremely challenging and unprecedented circumstance in Thunder Bay's history as a reception center for forest fire events […] We are also calling on the Province and other municipalities in Ontario to open up their communities to accept evacuees in light of this urgent need where people's lives and health are threatened" (Murray, NNL Headline News, July 19, 2011).*

However, as quoted in the Toronto Star, the Ontario premier stated that "there is no need to call a provincial state of emergency," suggesting that efforts were being made to keep the situation under control (Talaga, 2011). Eventually, several municipalities across the province were involved in hosting evacuees.

Participants involved in the Stage Two evacuation described their experience while staying at the transportation hub in Thunder Bay and being sent to several hosting communities throughout Ontario. Wondering where their final destination would be, some of the evacuees waited at the airport hangar at Thunder Bay for more than 12 hours until potential hosting communities were identified. One interview participant explained: "We stayed there [airport hangar] for many hours. We had to stay there until they decided OK where we are gonna send them?" (Participant 16). When asked how long he stayed at the airport hunger, another interview participant said, "All day; it was in the evening around 9 o'clock, it was already getting dark by the time we were on the bus. We were not told while you were staying there, we were not given information where we were going, or how long will we stay there" (participant 019). Another participant recalled people getting impatient while they were at the airport hangar. Waiting was particularly challenging for kids:

> *"Like in Thunder Bay when they shipped us, we were all in the hangar; we were all closed off […]. Everybody was getting impatient. They wanted to go and relax somewhere,*

everybody's just laying around the hangar, and kids are getting all impatient. Most of the kids got left behind [separated from their parents], and I could honestly say next time if it happens, the kids are supposed to be more with their parents" (participant 011).

One interview participant, whose wife and two of his kids earlier sent to Sioux Lookout, recalled that he and his other two children had to line up and wait for the buses. He only found out they were heading to the city of Marathon after he got onto the bus:

"First of all I got shipped to Thunder Bay, I guess that's where everybody got sent to, and from there everybody got dispensed out to various locations. And I didn't know where I was going. Nobody mentioned this is where you're going, this is the places everybody's going to go. It's more like you're sitting there [at the airport hub] and all of a sudden '"line up" We were told to line up and I didn't know and they didn't say where we were going […] I think when we were in the buses we were told where we were heading off to [to the city of Marathon]I knew my wife was already in Sioux Lookout and she didn't know where I was going, and finally I told her that this is where I am after when I got situated, the next day" (participant 016).

Figure 5. 3 Evacuees waiting for transport at the Thunder Bay airport hangar, Ontario

Source: (http://www.ctvnews.ca/ont-probes-report-families-split-up-in-fire-evacuation-1.674355)

At the Thunder Bay airport hangar, Sandy Lake First Nation Stage Two evacuees were put on buses or planes and transported to Wawa (484 kms or five-hour drive), Moosonee (seven- hour flight), Ignace (246 kms or three-hour drive), and Marathon (306 kms three-and half-hour drive). Other members of the community were flown directly to Geraldton, Smith Falls, Arthur, and Winnipeg (Manitoba). Some Sandy Lake evacuees who were flown to Geraldton were put on

buses and transported to Long Lac (30-minute drive), and Ginoogoming First Nation reserve (40-minute drive) (see Map 4-3).

Once they arrived in the host communities, most of the participants said that they were unable to learn the whereabouts of their family members, in some cases for days. This created a lot of stress and anxiety. Most of the participants expressed their discontent about the lack of information regarding their family members' whereabouts. For example, a father of four children who was evacuated to Arthur recalled losing communication with his family for about four days:

> *"My wife and my four kids ended up in Moosonee, Ontario and I ended up in Arthur, Ontario, way down there, and I didn't talk to them for maybe four days until we finally managed to talk through the phone. We talked for a long time. I felt like I was lost without them, you know what I mean? And my wife was upset at me 'cause I should have went with her to keep the kids and stuff like that. But there were many people that were like that too" (participant 022).*

The frontline workers and participants in the elder and councilor focus group explained that even community leaders and frontline workers were not provided with information regarding where evacuees were staying, which made it challenging to provide updates to anxious community members. This issue was also raised by the Chief in his video update on July 21st:

> *"People were calling. They want to know where their relatives are. They want to know where their husbands are, where their children are, where their parents are. At this point, we do not have all that information. It is a big burden for families especially being out there in unknown situations. We know that families need to be together so, there will be a process put in place. We are not coordinating that [...] We do not have all the information yet but we will do what we can to give you a little bit of updates" (Sandy Lake Chief video update #1 https://www.youtube.com/watch?v=SYSs1xX8XfA)*

A couple of days later, the Chief advised evacuated residents to contact the CRC. He provided them with a toll-free number, to get information about their family members' whereabouts and encouraged residents to stay patient and help each other wherever they ended up:

> *"I also want to let everybody know that Red Cross does have a toll-free number. If you have a family member and you still do not know where they are, you can call this number [phone number shown on the video] so, if you have any family members you are still trying to get hold of, and you do not know where they are, you can call that number. I want to remind all of you I know it is stressful, I know it is difficult, you are away home. Some of you still don't know where your family members are, but I want to encourage you to do your best and please be patient." (Video update #2* https://www.youtube.com/watch?v=-_sOLmVhvE0*).*

Although the CRC had set up a central registry to help residents of evacuated communities locate family members, some of the participants said that a few residents still had a hard time connecting with their family members, which created stress and anxiety (see Chapter 7).

5.5. Being outside the community when the evacuation took place

Four of the participants reported that they found themselves stuck outside of the community when the evacuation took place. Two were off the reserve for medical appointments in Winnipeg and Sioux Lookout. The other two were visiting relatives and working off the reserve. One of the participants was in Deer Lake First Nation (a nearby community) and he was aware of the wildfires which were also affecting Deer Lake First Nation residents. Three of these participants were informed about the evacuation when family or other community members told them.

The four participants who were outside of the community when the evacuation took place recalled being concerned about their family members. One of the participants who left Sandy Lake a few days before the evacuation recalled being extremely concerned about her children since they had lung problems:

> *"I was 'med-evacuated' out 'cause my daughter had pneumonia. They told me I couldn't go back home 'cause everybody was getting evacuated out. So once they told us we couldn't go home, we had to go straight to the Sunset Inn [a hotel in Sioux Lookout where Stage One evacuees were hosted]. I was concerned about my kids 'cause they had lung problems. And they were the first priority [to get evacuated]. Even my mom would have to be sent right away 'cause she has puffers too" (Participant 048).*

Another of these four participants recalled having a hard time because his mother died while being hosted with Stage One evacuees in Sioux Lookout. He regretted not being with his mother to help her:

> *"My mother died and I couldn't do nothing, I couldn't go help, I couldn't, I just had to wait until everything's done. I was in Deer Lake when they got evacuated to Sioux Lookout. She fell down at the Sunset Inn in Sioux Lookout, and she was walking in the hallway, she never regained again. And it was really hard that time for me, 'cause I needed somebody with me. All I see here was firefighters and my cousin. And when I go home I'm alone, and I couldn't go anywhere. I couldn't call anybody. Everybody was busy that was here. Nobody has time*

to go sit with you, or say I'm sorry. They didn't do nothing. Nothing happened" (Participant 021).

Another participant recalled being concerned about her husband and children because she did not know where they ended up being evacuated to until she managed to contact them using a 1-800 number provided by the CRC. Meanwhile, those who were outside the community during the evacuation were told by the Chief to go to a nearby hosting community where other community members were hosted. One of the participants who were in Edmonton when the evacuation took place recalled contacting the Chief and being told to stay in hotel in Winnipeg together with other fellow community members who had gotten evacuated in Winnipeg. The participant said:

> *"I heard that people were getting evacuated from here at that time when I was in Edmonton. I was out for a spiritual gathering over there and they told me that everybody was getting evacuated out but I just stayed over there for a while and then came back to Winnipeg. I usually stop in Winnipeg when I come back home. And then I called the Chief and he told me, "you can stay in Winnipeg and we'll tell the people that there's some people that are stuck in Winnipeg and we'll put you guys in a hotel" That's what he said. There were some people that were in Winnipeg for medical appointments. So that made more people maybe about 20, 25, something like that. So they put us in the hotel. That's over a week anyway for sure that we stayed over there until we were able to come home" (participant 043).*

For two of these four participants, the fact that the evacuation was called when they were outside of the community made their extended stay away even more challenging. As described by the same participant, "It is frustrating when you have to stay away from home. We were just out for about a week and then we had to stay another, over another week after that. We didn't know what was happening here […]" (participant 043).

5.6. Staying in the host communities

Accommodations and services provided for the evacuees varied across locations. Depending on where they were sent, evacuees were hosted in a variety of accommodation including hotel rooms, arenas, school rooms, gymnasium, recreational centers, and community halls. Table 4-1 shows the number of Sandy Lake First Nation wildfire evacuees in each hosting community, their type of accommodation, and duration of the stay.

Table 5. 1 Number of evacuees, types of accommodation and duration of stay

No.	Hosting Communities	Sandy Lake First Nations Wildfire evacuees hosted *	Evacuees hosted based on priority	Type of accommodations	Duration of stay in the host community (days)
1	Sioux Lookout	440	Stage one	Hotel rooms	18-20
2	Thunder Bay	550	Stage one	Hotels rooms	18-20
3	Wawa	150	Stage two	Gymnasium	10-12
4	Ignace	180	"	Hotel rooms	15-17
5	Geraldton	278	"	Arena	15-17
6	Longlac	286	"	School gymnasium	15-17
7	Ginoogaming First Nation	130	"	School	15-17
8	Arthur	204	"	Community hall	10-12
9	Moosonee	121	"	Army Barak	15-17
10	Marathon	196	"	School, gymnasium	15-17
11	Smith Falls	60		School, gymnasium	15-17
12	Winnipeg	115	"	Hotels rooms	15-17

**Numbers are compiled based on documents obtained from the community nursing station and information obtained from the interview participants.*

Participants noted that some of the host communities were unprepared to accommodate a large number of evacuees and/or at least did not have the necessary resources in place to meet immediate needs, in particular those of medically vulnerable evacuees such as elders. While

some of the municipalities (e.g., Geraldton, Thunder Bay) had prior experience hosting evacuees, others (e.g. Arthur, Marathon) were had been identified at short notice by agencies under pressure. How evacuees' experiences were affected by services and amenities in the host communities is examined in Chapter 8.

Within the host communities, evacuees stayed in designated accommodations, except for two who stayed with relatives. In order to better coordinate services, make it easier to track down evacuees, and seek reimbursement for expenses, evacuees were required to register when they arrived at the hosting communities.

Sandy Lake band members who were assigned to work with evacuees as liaisons in each host community had to face a substantial burden due to the pressure to serve a large number of evacuees. The task of registering and settling evacuees was quite a demanding responsibility. One of the liaisons assigned to work in Thunder Bay with Stage Ones evacuees recalled:

> *"We stayed at the Victoria Inn in Thunder Bay and I think we covered three floors almost, and that was a lot. Well, it was all Stage One evacuees - prenatals and teenagers, and some were expecting, and they had little babies too, and elderly we had to keep. It was really busy. There was other people too that helped to take care of the elderly with their medication, their needs, so there's different sections in how we work. But with me and my co-worker, we had to keep everything written down on paper, who's with who and where that person is, what bed number. It was very hard" (participant 005).*

Upon their arrival in the host community, hotel room arrangements were made for Stage One evacuees. However, in some cases, evacuees were assigned to a hotel room with other evacuees they don't know which created a lot of inconvenience and stress. A liaison assigned to Sioux Lookout explained:

> *"I was told to go with the elderly and the chronic sick people to Sioux Lookout and so when we arrived in Sioux Lookout it was very chaotic. For example when everybody was checked in to the hotels, I started finding out, I didn't know who made the room accommodations, who put that together but there was so many of us that I didn't catch a lot of things right away and we had this elderly man and this elderly woman put together and they're not married; they were put together by accident in the same room and I had to get another room because that person who made the accommodations or tried to make where everybody's room is going to be, didn't know the people. So that was one incident I found very funny" (participant 06).*

In some cases hotel rooms were overcrowded with up to seven people, which created a lot of inconvenience for the evacuees. An elderly participant evacuated to Sioux Lookout claimed that there were five people in the hotel room where she was staying and she was unable to get rest:

> *"We were crowded too much. Like in that one room there was my sister and my brother-in-law and then another one of my sister's granddaughters was there and also myself. That's five in two beds that were double beds. And if you needed to get some rest you couldn't. Too crowded" (participant 007).*

Some of the participants who stayed in a hotel in Thunder Bay noted that evacuees with wheelchairs had to face challenges due to mobility issues and the absence of accompanying family members. Most of the participants who stayed in an arena were dissatisfied with the cots, which they said were uncomfortable; and with the noise and the lack of privacy. However, not everyone was unhappy with their accommodations. A participant evacuated to Ignace shared her positive experience of staying in a hotel: "It was good. They treated us good at the hotel. They allowed us, like me and my husband got one room together, and each family got a room each […] I would say we were lucky" (participant 38).

Trying to accommodate the needs of Stage One evacuees, most of whom were medically vulnerable elders, was challenging for already overstretched community evacuation liaisons. For example, in Sioux Lookout only one liaison was assigned to approximately 450 evacuees. On top of this, as noted earlier, some elders, even those who needed special help, were left without an escort (see Chapter 8).

Meals were provided for all evacuees in the places where they were staying. In Thunder Bay and Sioux Lookout evacuees ate together in the hotel restaurant. The same arrangement was made for other evacuees staying in an arena, schools and community centers. In Wawa, Ignace and Marathon, evacuees received coupons that they could use for breakfast, lunch and dinner in selected restaurants in town. Some of the participants expressed their satisfaction with the meal services provided in the host communities. Others, particularly elders, said that they missed the traditional foods that they would normally eat, including bannock and moose meat.

One-third of the respondents reported that they received material donations from the host community including clothes, shoes, diapers, formula, and personal hygiene items. Due to limited

time to prepare to evacuate, many people did not take enough clothing; some even had to leave without any extra clothes. In Arthur, Ignace, Thunder Bay and Sioux Lookout, local people donated clothing and shoes for the evacuees. A community evacuation worker explained:

> *We asked them to be processed through the local second hand store there, because they just didn't want people dumping stuff, their garbage. So everything was processed through a second hand store. And they were saying if you needed clothes we were able to go down there and pick what we needed" (participant 027).*

In Ignace, AANDC staff coordinated donations. The CRC provided essential supplies such as baby formula, diapers, milk and strollers.

5.7. Staying behind in Sandy Lake

Approximately 21 band members stayed behind to maintain essential services and assist the firefighters deployed to the community. While the majority had been asked by the Chief to stay behind to look after essential community infrastructure, two were community members who refused to evacuate and were later assigned roles by the Chief. Among the band members who stayed behind were the Chief and essential workers including one councilor, two band office workers, one hydro plant worker, two water treatment plant workers, four workers from the Sandy Lake nursing station, two community members working as Canadian rangers, two community members working at the Nishnawbe-Aski Police Services, one Sandy Lake Northern Store employee, two community members serving as MNR cooks, one community MNR representative and two other community members.

As noted by the Chief, having people stay behind was crucial for sustaining essential community services and infrastructure (such as water treatment plant, power plant, sewer system, airport facility) and restarting them when the evacuees returned:

> *"We needed to keep the power plant going. We needed to keep the water treatment plant going. We could shut everything down and just leave it, but if we did that to come back and restart things would be a real problem. So in the back of my mind I started to sort of compile a list of individuals [to stay behind and assist].Because like I said if we would shut everything down it would be so difficult, 'cause I knew everybody's gotta come back at some point, somebody's gotta keep the community going in the meantime. So I could've left other*

people to do that, but for me, that was a personal decision. I didn't feel it was right to leave it to somebody else. If I'm gonna ask somebody to stay, like my Band councilor that I told to stay, it wouldn't be right for me to tell him, "Ok, I'm leaving but you're staying." So that was my decision. But it worked out" (the Chief).

According to the five interviewed participants who stayed behind, all of these community members worked long hours and contributed their time and energy to ensure an effective community disaster response. During the first few days of the evacuation, some of the band members helped the firefighters to set up a sprinkler system to protect houses in the event that fire moved closer. More than 100 Ontario MNRF firefighting crews and firefighters from British Columbia, New Brunswick, Saskatchewan and Manitoba were deployed to protect the community. Firefighters fought the fire approaching from nine km away from Sandy Lake's power generation station. One of the participants who stayed behind described how he was concerned about the wildfires threatening the community and how he assisted in monitoring the situation along with other fellow community members:

It was really bad one night. It was in the evening. Live embers were falling everywhere right in front of us, and the trees bent down half ways 'cause of the wind. The waves were like four, five feet high. We could not see 10 feet 'cause that's how thick the smoke was. So I was more concerned about my house at that time because I wanted to protect my house. And it lasted for about 20 minutes and then the wind changed again […] that was one of the scariest sights that you will ever see. It's like if you stood out there your hair might catch on fire […] and I was worried that might blow up some of the fuel tanks or it might start a fire right in the community but it didn't. After it settled down we looked around just in case there was any spot. But ashes were everywhere, on top of vehicles parked at the airport, so we checked on those too, to make sure that nothing was burning (participant 015).

Canadian Rangers were also called to assist in setting up sprinkler systems. One of the participants explained:

"There was one night when ashes were falling down and there was still sparks on them, that's why they had to put the sprinklers on top of the houses, all over the place. They put lines all over the community, every road, to spray the side of the road, stuff like that, keep it wet. Every five feet there was a sprinkler. It was all over the community everywhere (participant 047).

The band members who stayed behind took turns driving around and patrolling the community (monitoring break-ins and looking after pets) and assisted the chief in providing

updates to evacuees. Participants who stayed behind claimed that some evacuated residents were concerned about house break-ins and they had to do regular patrolling around the community:

> *"There were a few people that are always left behind. There was some concern that some of those people would go and break in. So, that's why we did circle checks in our community and just drove around, like before I go to bed I usually go drive around, make sure that everything's OK. And when we got up in the mornings we just did the same thing, then mid-day or the afternoon we'd go feed the pets" (Participant 015).*

A frontline worker who stayed behind said that evacuees were calling him and other people who stayed behind and asking, "How's my house?" "Can you go check on my dog?" "Can you go check on my bird, or turtle, or all their pets?" There' were only a few of us here, there was an outcry that the dogs are just running around, and they had no food" (participant 015). A couple of days after the evacuation, MNR transported donated pet food into the community. Some of the people who stayed behind helped to feed dogs and other pets:

> *"We gathered the dog foods daily and fed the random dogs around the community, made sure all the dogs ate. We had to break into a couple of houses because they had their birds or turtles in there. Even a psycho cat, they told us not to go in, just open the door, throw food in, close that window fast, so that's what we did" (participant 015).*

At the request of some evacuated residents, another participant recalled, those who remained in the community had to break into a couple of houses to check if stoves were turned off and to let locked pets out:

> *"People that were evacuated kept calling us, go check my house, I don't know if I turned my oven off, or something. We had to break a few doors down because of the animals that were left in the house, to let the animals out. But we told them, don't worry we'll fix your door while you're out. Nobody's gonna break in; there's only few of us here (participant 055).*

Residents who stayed behind also provided updates to the evacuated residents. As noted earlier, in order to reach out to community residents scattered in 12 locations across Ontario and Manitoba, the Chief regularly uploaded a video onto the community website, YouTube and Facebook providing updates regarding the wildfire situation, conditions of homes and property and the safety of pets. Regular updates were also provided to help family members separated

because of the evacuation. Participants who stayed behind talked about the efforts that the Chief made to address residents' concerns and maintain community safety. One participant specifically noted how the people who stayed behind made effort to protect the community while at the same time making sure that each individual's safety was maintained:

> *"We all worked together. We are a close-knit community but that time, just a few of us here, it was closer. We had to look after each other, make sure that nobody goes missing or if somebody has a problem at home, like a health issue arises and they can't get to them, or if they don't show up then we'd go look for them. We made sure that everybody was taken care of" (Participant 015).*

The safety of individuals who stayed behind to protect the community was a concern because there were no medical personnel left in Sandy Lake; the doctor and nurse had been evacuated. This caused problems for people who needed medical help. One participant explained:

> *"There was no medical person left here. It is a full evacuation all the nurses left. So among the people who stayed behind, someone with diabetes had got a sore infected foot and we had a guy with an infected finger […]. We went to check with the MNR. They had a first aid [kit] but they couldn't do the stitches of because it was infected so we called the nearest community, Deer Lake, and [had a] water plane fly them over there. Deer Lake had one nurse left to help so he got assistance in there" (participant 013).*

All of the participants who remained in the community stressed the need for medical personnel to assist the MNR firefighters and the people who stay behind:

> *So next time, if there is a full evacuation, MNR should also place a medical personnel here because they had firefighters here too. What if a firefighter comes with a breathing issue? There has to be at least one medical person, when there is a full evacuation. All the nurses were scared and they wanted to get out. You can see the fire at night. I guess Health Canada can't force them to stay but they need to send some medical person within the MNR, EMO to be here, in case it is needed" (participant 013).*

5.8. Returning home

The decision to start the return process for Stage Two evacuees was made on July 29, 2011 after a discussion between Sandy Lake Chief and Council, EMO and MNRF. However, the Stage

One evacuees, including elders, children under the age of one and prenatal, and those with medical conditions, were told to stay in the host community for an additional week as smoke from surrounding fires still posed a risk. Evacuated residents were informed about the decision by the Chief through the regular video updates.

Community members identified as providing essential services were the first to return. The majority of these individuals were evacuated last and hosted in Arthur, Ontario. According to the Chief, this group was required to return to the community first so as to ensure that all essential services were available and fully operational. The travel arrangements for repatriating the evacuated residents were made by MNR and EMO and communicated to the Chief. Then the Chief informed the evacuated residents about the details of the return schedule through video updates. The Chief made a request to the provincial and federal governments to use the Canadian military Hercules planes for the repatriation so that estimated time to return residents would be reduced and normalcy would be restored as soon as possible. However, the Chief was told that the Hercules would not be used for the repatriation as these planes were available only for emergencies. Because the community had to rely on smaller commercial airplanes, the repatriation took eight days.

When I asked participants how they felt at being told it was safe to return to the community, the majority said they had been excited and relieved:

> "*We were so happy. When we were on the flight home from Sioux Lookout, all my group that was on that flight from Sioux Lookout, we all got on that one flight, and everybody was so happy they were just putting their arms up when we were getting ready to land, when they got a sign of the reserve in sight from the plane, everybody was just happy, just yelling, the kids yelling, the young people too, and yeah, putting their hands up in the air, and they were so happy to be coming home and landing. We were so happy" (participant 38).*

Another participant commented:

> *"To me it was a celebration for people returning safely. It's not about an individual person that helped. It was the many people that went out. To me they were my heroes especially those elders that could barely move. They were displaced" (participant 022).*

As they arrived at the community airport, evacuated residents were welcomed home by the chief and other community residents. Volunteers were stationed at the airport to register all

returning evacuees. At the community airport, a big "welcome home" sign was posted; everybody could see it when they got back to Sandy Lake. Two buses were assigned at the airport to pick up residents who needed rides home. Other community residents also gave rides to people who did not have vehicles. As many of the participants described, the returning home was cause for celebration:

> *"When we got home after that it was plane after plane, and we were driving everybody home, and it was just exciting. And you can just see the excitement on the people's faces, and the children were so excited to be home. They were just hugging us. It's almost like a child who's never seen a lollipop, that type of look. And it was just truly amazing to see those children just come to you and give you a big hug, getting off that plane" (participant 022).*

A community evacuation liaison recalled how she felt emotional at people thanking her:

> *"When we came back it was crazy just 'cause everybody's waiting for us at the airport, and welcoming back, and it was so touching. I started crying. I'm a wimp, but I started crying just 'cause everybody's like thank you, you did a good job, and you looked after us. It was a lot of handshakes, a lot of thank yous and that's all you need" (participant 003).*

To a community evacuation liaison who had worked in Sioux Lookout, the feeling of returning home was mixed, as one of the elders passed away during the evacuation after falling in the hotel in Sioux Lookout. She said:

> *"Everybody went to go see the elders when they were coming in; everybody was happy to see them all. But at the same time, bringing home an elder that passed on in Sioux Lookout was very affective too […] I felt really bad because I didn't bring them all home. I knew she was one that I didn't bring home […] She was sick before, she left on our plane. That's why she left with us because she was already not well. But she was mobile, she had a walker and a cane, but she just had periodic seizures. But it was her hip that threw her off, and she got sick more. And then it just took her life. But that's what I mean, I cannot really say how I was so happy to come home, I wasn't like that" (participant 006).*

Upon their return, residents were advised by the Chief, through the community radio, to throw out food in their refrigerators and freezers. A big community feast was also held at the Traditional Site as a welcoming ceremony for community members. The feast was also meant to feed some evacuated residents who were not able to afford groceries when they returned home. One participant who returned on the first flight recalled bringing moose meat to the community potluck.

"When we got back, the community felt so deserted, dead. You know it was quiet. It was really quiet. That's why we went in the bush, 'cause it was nothing in Sandy. All of the stores were closed; everything was closed, so we just took off in the bush. We wanted to go get a moose, two of them actually. It was a good feeling bringing that moose meat in. The Chief was so happy. We gave it all to the community. That was so awesome" (participant 026).

At the ceremony, the Chief also presented a plaque to the people who stayed behind to protect the community. One of the frontline workers who had stayed behind recalled:

"It was a big potluck, and we had it at the Traditional Site, this where we celebrate Treaty Days and hold our music festival. And it was a big community get-together, and it was just a special time just to give thanks to God for keeping our community safe, answering our prayers, everybody made it back. And it was a big time to say thank you and glad to be back, so we had a nice ceremony. I was also presented with a gift, and that was nice too, just people saying thank you. And we said thank you to, I don't know if it was at that time but we got some plaques, we gave everybody a little plaque, the people that stayed behind. 'Cause to me those were my soldiers, the ones that stayed in the community. We gave everybody a plaque" (the Chief).

A couple of days after the community was fully repatriated, the Chief and the council members on behalf of the Sandy Lake band members released a video with a thank-you message to all the host communities—Sioux Lookout, Ignace, Thunder Bay, Geraldton, Longlac, Ginoogaming First Nation, Marathon, Wawa, Moosonee, Arthur, Ontario, and Winnipeg (https://www.youtube.com/watch?v=f0ZT-Dam5Xg).

5.9. Lasting effects of the evacuation

During the interviews, it was clear that the evacuation had lasting effects on everyone involved and the community as a whole. A few of the participants were still dealing with the impacts. Several participants, mainly elders and children, had lingering bad memories of being separated from their families and of needing family support. Some participants also reported that they are concerned about being evacuated whenever they see smoke around the community. One community evacuation liaison said that whenever she sees smoke, she makes sure that she is mentally prepared to fulfil her role as a liaison:

"With this evacuation I'm sure it's in the back of everybody's head, they haven't forgotten, it's just right there. Everybody has their own experiences, how they felt, and I'm sure it's still with them. 'It's been how many years?' and I feel like I'm just going through it again just talking about it. My friend [who was working with her during the evacuation] and we always say to each other whenever we see smoke 'are you ready?' 'Do you think you're ready to do it again?' And I am always like 'be prepared' […]" (participant 003).

The evacuation also seems to have left an impact on the participants' intended future evacuation decisions and helping behavior. One-quarter of the participants who were evacuated stated that if another wildfire occurs, they would prefer to stay behind rather than be evacuated. One of these opinions was best described by one the participants:

"I think there is a feeling that "never again". People do not want to go ever again. It is not because they are treated badly out there, it is just because that is an awful thing to go through. I think people would be more reluctant next time. It was chaos; families were really struggling because families were torn apart. Daily life was turned upside down. But the important thing is people were safe. But people do not want to go through the evacuation again" (participant 042).

Although the evacuation was perceived as one of the toughest experiences to go through, several participants were also optimistic about future evacuations. One participant noted that even though he would not like to be evacuated again, he is hopeful that the community and the leadership would handle similar incidents more effectively based on the experiences: "I don't wish to be evacuated, but I have full confidence in the community, the leadership, and if we have to do it all over again, then it'll be more organized than before. But I don't wish that we should get evacuated" (participant 040).

5.10. Chapter summary

The purpose of this chapter was to describe the 2011 wildfire emergency evacuation experiences of Sandy Lake First Nation using data generated through primary sources including semi-structured interviews, key informant interviews and focus group discussions. The discussion about the evacuation experiences are organized following eight temporal periods of the evacuation: before the evacuation, getting ready to evacuate, leaving Sandy Lake, being

outside the community when evacuation took place, staying in host communities, staying behind in Sandy Lake, returning home, and lasting effects. Using each temporal stage of the evacuation, the chapter portrayed a wide range of subject experiences of evacuated band members, those who stayed behind, and people who had a management role during the evacuation, including Chief and council, frontline workers, and community evacuation liaisons. By drawing theoretical and empirical evidence, the subsequent chapters (6, 7&8) provide interpretive insights into these findings and provide a deeper and nuanced understanding of the wide range of factors (individual, social, cultural and institutional) affecting the emergency evacuation experiences of Sandy Lake First Nation residents.

CHAPTER SIX: EVACUATION PREPARDNESS AND DURING EVENT COMMUNICATION

This chapter presents an examination of how issues related to pre-event preparedness and during event communication influenced the wildfire evacuation experiences and impacts of Sandy Lake First Nation.

Evacuation preparedness is undertaken at multiple levels (individual, household, community and beyond) and can minimize the disruptive impacts of a disaster evacuation and enhance resilience (Tierney et al., 2001; Drabek, 2012). At the community level, evacuation preparedness includes assessing the vulnerability of individual community members (Cutter et al., 2008), developing disaster plans (Tierney et al. 2001), and clarifying roles and responsibilities for effectively responding to the crisis (Wenger, James, and Faupel, 1980; Drabek, 2012). Such pre-event preparations help enhance social resilience in the face of disaster (Cutter et al., 2008; Tierney, 2014). Once a hazard event occurs, the response phase commences. During the response phase, the process of evacuation normally proceeds through a sequence of stages beginning with the decision to evacuate and continuing to warning communication, withdrawal, shelter and return (Quarantelli, 1990). Effective risk communication between emergency management agencies and the public can facilitate timely and appropriate actions and minimize potential disruptions (McCool, Burchfield, Williams, & Carroll, 2006; Taylor, Gillette, Hodgson, & Downing, 2005).

6.2. Communication during wildfire and evacuation decision

Risk communication during disaster specifically related to communication before, during, or after a hazard event has been a major area of disaster research (Mileti and Sorensen, 1990; H. Sorensen and V. Sorensen, 2007; Glik, 2007). Risk communication is broadly conceived as “an iterative exchange of information among individuals, groups, and institutions related to the assessment, characterization, and management of risk” (McComas, 2007, p. 76). It is now well acknowledged that communication during crisis must be timely, accurate, direct, and relevant

(Sorenson and Sorenson, 2007; Mileti and Sorensen, 1990; Lundgren, 1994). With regard to wildfires, research showed that effective communication during wildfires can facilitate a timely and organized evacuation process (Cohn, Carroll, & Kumagai, 2006; Taylor, Gillette, Hodgson, & Downing, 2005). When a wildfire poses a potential threat to a community, residents require near continuous and precise information about the location, direction of the spread of the fire, and the possible protections required (including evacuation) (Cohn et al., 2006; Taylor et al., 2005).

During interviews, community leaders noted that it was difficult to obtain timely and specific information about the wildfire risk to the community. As noted by one of the community leaders, the fact that many First Nations leaders were involved in a teleconference made it challenging to obtain clear, timely and site-specific information.

> *"[….] but the problem was, there were so many fires in so many communities. For example, it started with a daily conference call with all the parties (EMO, MNR, possible host communities for the evacuations, other Ontario government and Federal government agencies, AANDC. When we started [the teleconference] Sandy Lake and may be one or two other First Nations, but we got to the point where there were so many First Nations in the daily call and it became so long, people were asking questions about their specifics. We [the community leadership] didn't have time to listen to and spending hours for this conference call, we had work to be done regarding our situations so it became an overwhelming conference call […] I am exaggerating, but there were probably hundreds of people on the call, and everybody wanted to say their thing" (Participant 020).*

Such a perceived lack of timely and precise information was compounded by the fact that there were a number of nearby communities affected by not only the fires but also the combined impacts of power outages and smoke (PSC, 2011). Given the large number of isolated fly-in First Nations communities affected by numerous wildfires at the time of Sandy Lake's evacuation, obtaining timely and site specific information concerning the fire risk posed to the community was a challenge. In such situations where large areas of human settlement are threatened by fast spreading wildfires, coupled with the inherent complexity of a fire event, effective risk communication between fire management agencies and the affected communities can be challenging (McCool, Burchfield, Williams, & Carroll, 2006; Taylor et al., 2005). As noted by the Sandy Lake First Nations leadership, this perceived lack of clear, timely and site-specific information on the wildfire and the level of threat relative to the community delayed decision-

making and subsequently affected the organization of the evacuation. Such gaps in the amount of time needed to process information, assess risk, and prepare for evacuation can be taken as a 'situational constraints' affecting effective emergency response during wildfires (Cohn and Carroll, 2004). The lack of timely and site-specific information about the wildfire risk can also affect the decision of whether or not the community should evacuate. A community official reflected this view when he said:

> *I know it would be a bit of a challenge to keep the conference calls brief to the point and focus on the community. It's good to know what is happing generally […] but at one point I did not bother getting involved in the [conference call]… because I did not have time to listen to be listening to all little things. So keep it brief but stay focused say for one call for Sandy Lake with the concerned parties. But I realize that EMO and MNR then they would have to be on 10 different calls all day with other communities. So it is a challenge, but for the community perspective, we need to focus on what is happening so that we make a decision" (Participant 022).*

The community leadership and focus group participants (elders and band councilors) were of the opinion that the call for Stage-Two evacuation has been delayed and instead a community-wide evacuation (including both stage and stage two) could have been declared at the outset. The participants attribute the reason due to possible lack of knowledge and uncertainty from the side of the agency monitoring the fires about the path and behavior of the wildfires and potential impacts to the community residents. Supporting this finding, a research completed in First Nations context has also highlighted the importance of prompt and complete information during emergency situation. Epp, Haque, and Peers (1998), in their study of emergency preparedness in the Roseau River Anishinabe First Nation, noted the lack of prompt and complete information from the side of emergency management agencies, resulting in difficulties in flood related decision making and delayed community declaration of emergency. The provincial mass evacuation plan for Far North communities also stressed the need for up-to-date information (also called situational awareness) during wildfires, which enables community officials, incident management team, and all partners, to take informed, effective and consistent actions in a timely manner (OMCSCS, 2013). Specific information on the location and timing of the event by determining the level of risk and expected level of impact facing a community enables community officials to decide on the appropriate protective action decision (including decisions

for a partial or full evacuation). This will also give residents sufficient time to prepare for evacuation (Drabek, 1994; Perry, Lindell, & Greene, 1981), and help reduce uncertainties, which are often the worst part of a wildfire evacuation experience (Cohn and Carroll, 2004).

6.3. Lack of preparedness with regard to the protocols to be followed in declaring community emergency

Uncertainty regarding authority, roles and responsibilities in evacuation decision such as who is responsible to declare emergency is another factor that can potentially affect evacuation experiences (Quarantelli, 1985; Wenger, James, and Faupel, 1980; Drabek, 2012). This problem often encounters during disaster due to poor preparedness among responding parties (Drabek, 2012).

The lack of information, which is also a reflection of poor preparedness, regarding procedures to be followed in declaring community emergency appeared to influence the evacuation experiences of Sandy Lake First Nation. As noted by community leaders, the lack of knowledge from the side of the community leadership with regard to the protocols that needs to be followed in declaring an emergency created a challenge in the initial stages of communication between community leaders and provincial emergency officials.

According to community leadership, the firefighters deployed in the community during the time were from British Columbia. Community leaders said this posed a problem because the firefighters were not familiar with provincial protocols and procedures for First Nations during an emergency and therefore could not provide guidance in that respect to the Band Chief. This in turn caused confusion. Even though community leaders were aware that it is the Chief's responsibility to declare a community emergency, the exact procedures to be followed in case of an emergency were unclear. As a community official explained:

> *"There was some confusion because at that time there were wildfires everywhere and everybody was busy. There were fire crews from British Colombia here and my understanding was that there is a different protocol, a different process in BC and because of the person that was in charge of the crews that was here was under a different system there was some miscommunication and confusion, but what we were waiting for was a*

strong recommendation and we would make the decision and I am not sure what [...]" (participant 020).

As discussed in Chapter Three, the implementation of evacuation operations in First Nations communities in Ontario is a multi-jurisdictional activity requiring extensive coordination amongst numerous government departments (CSCS, 2015). In the case of wildfire hazards, the Ministry of Natural Resources and Forestry (MNRF) is responsible for planning and leading wildfire suppression activities. Emergency Management Ontario (EMO) is responsible for coordinating the evacuation while MNRF supports EMO by providing and arranging aircraft services by considering such factors as the size of the community and how long it will take to get people out (OMCSCS, 2015). According to the province of Ontario's emergency response protocol, "when an emergency occurs or may be imminent within a First Nation, it is the responsibility of the Chief of the First Nation to make a declaration of emergency and to notify the Provincial Emergency Operations Centre (PEOC) verbally by calling the EMO Duty Officer" (EMO, 2012, p. 3). In the case of wildfires, the Ontario Ministry of Natural Resources and Forestry (MNRF) advises the chief about the need for evacuation by assessing the nature of the threat, the potential impact (s), urgency (how soon evacuation is required), and scale (number of people potentially requiring evacuation) (OMCSCS, 2015). After deciding on evacuation, the Chief has to declare an emergency and forward a copy of the emergency declaration to Indigenous and Northern Affairs Canada (INAC) (OMEP, 2013).

This study's finding regarding the lack of clarity on the protocols to be followed during an emergency was also supported by an earlier study completed by Epp et al. (1998). In their study of emergency preparedness and evacuation in three First Nations (Pukatawagan, Roseau River and Sioux Valley First Nations) in Manitoba, these researchers noted that "although community members and community leaders were aware that outside agencies were involved with the emergency effort, community leaders were unclear as to which agency had which role" (p. 12).

Reflecting back on the experiences with regard to the flow of information in making informed decision between the agency in charge of managing the wildfires and community leaders, community officials spoke about the importance of clear communication and guidance outlining roles and responsibilities and how a decision is made for evacuation:

"I think communication needs to be clear. For us we want to be sure who makes that decision. I did not fully understand at the beginning; if I was told at the beginning it would have been good if somebody would have told me, you are the chief, here is the process, what would happen is we [MNRF] made the recommendation and you [the Chief] make the final decision. I wish somebody had told me that but that did not happen. It was implied. In the end I found out, but I wish I had been told right from the beginning right up the front. I wish somebody had said the first thing is you have to declare a state of emergency and then we start working with you, and then we would advise you and then you make the final decision. If somebody had taken 20 seconds to tell me that, it would have saved me a big headache. But nobody had told me that so clear communication up front is very important. It is a good process but it needs to be communicated" (the Chief).

Further, in situations in which multiple communities are affected by wildfires and decisions are pending about how the responsible agency should handle the emergency, community officials emphasized the importance of prioritizing who gets what information and the need for timely, accurate and site-specific information relevant to the community at risk. According to the Chief of Sandy Lake First Nation, with regard to the protocols that need to be followed in declaring an emergency, the process they had gone through had been a learning experience for the community and for the upcoming chief. The Chief was able to share his experience with the elected Chief the following year so that there was no confusion on how to declare community emergency. This was in fact evident during the wildfires the following year, 2012, which necessitated a partial evacuation of Sandy Lake band members who were designated as stage-one evacuees. This evidence further support the fact that prior experience with hazard exposure (combined with other factors such as social capital and community capacity) can lead to awareness and social learning that leads to better preparedness (Berkes & Ross, 2013; Tierney, 2014). Hazard researchers stress that one of the defining characteristics of a resilient community is a continual process of social learning in which the affected community undertakes examination of what went right and what went wrong before, during and after an event and uses that information as a lesson to effectively respond to the next hazard that may likely occur in the future (Cutter et al., 2008). Pre-event preparedness improvements activities that enhance community resilience include, among others, clearly defined roles and responsibilities, improved communication, and a regularly updated disaster plan (Cutter et al., 2008).

6.4. Provincial wildfire management policy and the lack of community preparedness to an emergency

A related theme affecting community emergency response relates to the lack of community preparedness and their reliance on government support for fire suppression and evacuation operations. Like any other First Nations in Canada, Sandy Lake First Nation, relies on support from the federal government through INAC, a key federal agency and custodian of the constitutionally enshrined relationship between Canada and First Nations peoples. INAC ensures social and economic progress comparable to that in non-Indigenous communities in Canada. With regard to hazard emergencies it is stated that INAC works to ensure that "First Nation communities have access to comparable emergency assistance services available to other residents in their respective province" (AANDC, 2011b). As it does with other First Nations, in Sandy Lake INAC supports the financing of community development infrastructure such as that for housing, school, and health. When it comes to wildfires, however, there is no budget allocated for suppressing wildfires (such as for purchase of equipment, training of emergency responders and salary for firefighters) occurring within the reserve. Instead, the community relies on the provincial government support for fire suppression through MNRF. One of the participants expressed this concern when he said:

> *"We don't have local crews. If those resources outside the community [MNRF] are not able to respond in a timely manner then there should be some capacity within to respond to situations. For example a fire you know it's so much easier to deal with a fire while it's small rather than when it's big and that goes with everything. Whenever there's a problem you deal with it while it's small before it becomes big, right? It's so much easier to deal with" (Participant 033).*

Similarly, another participant relates his concern with the community's remoteness and the lack of local preparedness to respond to wildfire emergencies. He said:

> *"Remoteness affect us 'cause I think the closest base [MNRF firefighting station] we have is in Red Lake [a town approximately 300 kms south]. They [MNRF] fly in from over there. But time is always an issue, how fast can they get here? Especially if it comes too close or if it hasn't been monitored or say something just sparked recently and it's too close to the community, and it's windy and it goes pretty fast. Time's an issue. So I think it would be nice, we have a big community, and I don't know if we can set up a station here, or MNRF or something else to leave something here" (Participant 044).*

The lack of preparedness at the community level and reliance on government support can be attributed to the government emergency management policy and the limited priority given for building local capacity. In Canada, as in the United States and Australia, emergency management has been influenced by a top-down hierarchical or "command and control" approach (Ellemor, 2005; Henstra, 2003). This approach largely focuses on reactive response to a hazard management and on providing support as the event occurs, such as through government evacuation and relief assistance (Ellemor, 2005). Less attention is paid to community involvement in this emergency management process (Ellemor, 2005). Consequently, it is argued that such an approach is often insensitive to the cultural contexts of indigenous communities (Ellemor, 2005). Over the past 15 years, there has been a shift from a reactive to a more proactive and comprehensive approach including supporting local initiatives in building capacities on mitigation, preparedness and response planning activities (Cutter, Mitchell, & Scott, 2000; Henstra, 2003). However, when it comes to emergency management in First Nations, the event-centred approach appears to continue to dominate the current government emergency management practices and as a result, building community capacity is neglected. This concern has also been raised by both First Nation leadership and a recent government report. For example, emphasizing the lack of capacity that First Nations experience in handling hazard emergencies and the various vulnerabilities faced during hazard disruptions such as wildfires, the former National Chief to the Assembly of First Nations stated:

> *"Too many of our people are already vulnerable and when disasters or emergencies strike, we are hit hardest. The reality is that First Nations citizens and communities are affected by these emergency events to a greater extent because of remoteness, lack of critical security infrastructure, resources, and capacity. We need action on a number of fronts, including efforts by all governments to work with First Nations on effective coordination and delivery of emergency services in the short and long term. I am calling for immediate action by the federal government" (Assembly of First Nations, p.1).*

The report by the Auditor General of Canada also confirmed that government emergency response in remote First Nations in Canada is focused mostly on responding to and recovering from hazards. As a result, the promotion of community preparedness is neglected (Auditor General of Canada, 2013). In regards to wildfire hazards, wildfire suppression and mandatory

evacuation have continued to be a major government wildfire risk management strategy on First Nations reserves in Far Northern Ontario as well as in other parts of Canada (Beverly & Bothwell, 2011). Local-level wildfire management strategies that focus on a community-based approach, such as the Fire Smart program[15], have been initiated in some communities in Canada in recent years. However, most First Nations lack the resources and capacity to implement such community-based programs as the success of these programs depends on the availability of external support and internal community capacity (Bonde, 2011). Some First Nations in British Colombia have implemented a Community Wildfire Protection Plan (CWPP) program with support from the First Nations' Emergency Services Society (http://fness.bc.ca/forest-fuel-management/). Under this program, First Nations receive the necessary assistance to assess the risk of wildfires and propose mitigation activities to improve community safety http://fness.bc.ca/forest-fuel-management/).

Availability of resources (both financial and human) is an obstacle for building local capacity in hazard preparedness in First Nations, including Sandy Lake. As noted by the research participants, Sandy Lake has no budget allocated for organizing disaster preparedness and response activities, including budget for training personnel (fire fighters), purchase of equipment (such as fire truck) and building and maintaining a fire hall. According to some of the participants, coupled with the remoteness and inaccessibility of the reserve, limited local capacity has made them vulnerable to hazards and emergencies. Researchers and First Nations community leaders corroborate this observation: they have noted that First Nations residents receive very little assistance from the government during and after wildfires compared to other non-Aboriginal communities in Canada (Christianson, 2015). The lack of local preparedness could inhibit the development of a hazard-resilient community (Tierney, 2014). Therefore, if the focus is to build a hazard-resilient community that can better adapt to the disruption caused by a hazard, the focus needs to be on building local capacity. Build a hazard-resilient community will mean undertaking hazard preparedness activities that take into account local community context

[15] FireSmart is wildfire management program introduced and implemented in some parts of Canada with a primary aim of reducing the risk of wildfires and promote commuty safety. Provincial governments in Alberta, Brtish Clombia and Ontario support communities to implelmt FireSmart Initiative Program. FireSmart Initiative Program provides practical tools and information for residents to gude them reduce the therat of wildfire risk from homes and communties (Partners in Protection, 2003; British Columbia Ministry of Forests, 2003; Skrajny, 2016).

and provide practical support (such as financial support, training and equipment) that goes beyond formal legislative and policy agendas and ensure community involvement in emergency management. The emphasis on building local capacity and an active involvement of the community residents counteracts the predominant top-down, event-based, command-and-control approach that currently dominates emergency management in Indigenous communities (Ellemor, 2005).

6.5. Absence of community evacuation plan at the community level

The availability of up-to-date community evacuation plans constitute one of the many disaster preparedness activities that can be completed to enable communities to respond actively when disaster strikes (Tierney et al., 2001). In essence, the development and implementation of disaster plans, of which evacuation planning is a part, constitute one of the many activities completed to enhance social resilience (Cutter et al., 2008). Evacuation plans are prepared primarily to ensure the safety of populations. Developing these plans is usually a complex undertaking demanding careful planning (Wenger, James, and Faupel, 1980). For example, a community evacuation plan should normally identify the list of medically vulnerable individuals that have to be given priority along with the respective special needs required (e.g. wheelchair support, care givers/escort). For ease of access and transport, important documents need to be organized and stored, including medical records for vulnerable individuals (Broz et al., 2009).

As noted in the background chapter, Ontario's emergency management policy prescribes that the implementation of emergency management programs (including preparation of evacuation plan) begins at local level (EMO, 2010, 2012). This policy principle rest on the assumption that all emergencies are essentially local in nature (EMO, 2010, 2012). Accordingly, local governments (including First Nations) are supposed to receive support from responsible agencies (at the provincial and federal level) to develop and maintain emergency management plans. In the context of First Nations, INAC is responsible to assists First Nations to develop, test and update emergency management plans (AANDC, 2011b). EMO delivers emergency response services including providing advice, and arranging, coordinating or directing personnel, services, equipment, and materials (AANDC, 2011b). Although the federal (through INAC) and the

provincial government (through EMO) are in charge of providing support such as training local personnel and assist the community in developing evacuation plan, Sandy Lake First Nation received very little of this sort of assistance since there are no budget allocated from the federal government to the band administration.

It was noted that during the 2011 wildfires, Sandy Lake did not have a community evacuation plan which posed a challenge to guide and coordinate the entire evacuation of more than 2700 people. As noted in Section 5.3.3, the chief and council set up a team to organize and manage the evacuation process. However, many of the participants who had a management role during the evacuation indicated that the lack of an evacuation plan contributed to the challenges and problems encountered in the courses of the evacuation. The absence of a community evacuation plan while organizing the evacuation and the urgency of the situation meant that the team set up by the Chief had to make decisions along the way to lead and coordinate the evacuation within a limited time window. As noted by one of the frontline workers:

> *The full evacuation was a big headache, a big mess. I had to go out to the airport and grab some people out there on their way to someplace, so the families could stay together. Sometimes that doesn't work […] you just had to make decisions as you went along, like what's best at that time" (participant 011).*

Consequently, the lack of a community evacuation plan and pre-event preparedness has, in fact, resulted in a number of adverse consequences discussed below.

First, it resulted in the evacuation of some medically vulnerable/chronically ill members of the community without being accompanied by a care giver and/or a family member. This contravened the procedures to be followed in an evacuation as set out by the Joint Emergency Management Steering Committee (JEMSC) Service Level Evacuation Standards document (EMO, 2012) which says that vulnerable members of the community (including persons with disabilities, elders, children, pregnant women, and persons with medical conditions) are required to evacuate with a caretaker. However, some of the elder participants were evacuated without being accompanied by escorts which negatively affected their experiences during their stay in the host communities (see Chapter 8).

In addition, although the need for an accompanying care giver (such as for elders) during evacuation is recognized by the JEMSC document, the protocol does not allow elders to be sent with a grandchild or grandchildren whom they take care of unless the elder is a legal guardian. This caused a problem since many elders in the community are responsible for taking care of their grandchildren even though they are not legally designated as guardians. As noted by one of the frontline workers:

> *"Escorts are needed for all mothers with newborns, with kids, and elderly. They need escorts to look after them. And that's what they [the agency handling the evacuation] didn't understand; some grandparents look after grandchildren but they need an escort. So they have to take that grandchild plus their escorts. They are not on that protocol; they are not allowed to take their grandchildren unless they are a legal guardian. This created a problem because we have to follow the guideline. They need to improve that." (participant 013).*

Another participant pointed out that "The biggest thing is a lot of these elder people have a couple of kids that they raised. They don't want to leave them behind, and so this takes some added stress on the people" (participant 012). As with many other First Nations (Royal Commission on Aboriginal Peoples 1996a), in Sandy Lake extended family support systems are common and it is likely for an elder to have a dependent grandchild. As a result, oftentimes elders find it challenging during evacuation as the protocols followed by the government often force them to separate from their grandchildren denying them the emotional and physical support they could have received from their children during the evacuation periods (see chapter 7). Such problems likely arise due to lack of participation and empowerment of local community residents in government evacuation planning.

Second, it is clear that the lack of an evacuation plan has also contributed to the problem of family being separated during the evacuation. The majority of the participants (32 of 40) had experienced family separation problems during the evacuation. According to the participants in the councilor and elders focus group, there were two main reasons for family separation problems: first, the lack of considerations for family unity while designating evacuees as stage-one and stage-two, which was attributed to the lack of an up-to-date wildfire evacuation plan; and second, families became separated in the midst of the evacuation after being forced to scatter to different places and most community members did not know where their family members ended up being evacuated (see details in the next chapter). As noted in the provincial evacuation

plan, while organizing an evacuation, flight manifests should be prepared in such a way that it includes information on family groups (to keep families together). The manifests should also record children and their parents separately (OMEP, 2013). However, such a procedure was not followed due to lack of knowledge and limited preparedness in the community; the highest priority was to complete the evacuation of the entire community as quickly as possible.

Third, a community evacuation plan needs to identify persons with vulnerabilities (such as persons with medical needs assessment) and that list needs to be regularly updated and communicated to the band members so that residents are prepared before the hazard event occurs (OCSCS, 2013; EMO, 2012). The provincial emergency response plan for the far north also states that the evacuating community is responsible for preparing itself for evacuation (OCSCS, 2013). However, due to the lack of an updated evacuation plan, such mechanisms were not put in place in Sandy Lake which aggravated an already difficult situation that the elders and medically vulnerable residents faced during their stay in the host communities (see Chapter 8). In addition, the flight manifest prepared during the evacuation did not have information about the special requirements of persons with vulnerabilities. This created additional challenges not only for the evacuees who required healthcare assistance upon their arrival in the host communities but also for community evacuation liaisons and health workers in charge of taking care of the evacuees. In relation to this, the JEMSC Service Level Evacuation Standards document (EMO, 2012) states:

> *"Ideally, manifests will […] identify the need for special assistance (e.g. wheelchair) or the presence of food allergies or other medical issues. This helps the transportation hubs and host communities to plan for the arrival of evacuees. Receiving the information in advance can help ensure that any needed services are delivered quickly" (EMO, 2012:7).*

According to community evacuation liaisons, several of the elderly participants who required continued healthcare attention had a difficult time in the host communities because their special needs which normally were stated in their medical files were not sufficiently communicated to the host communities. For instance, a participant who was working as a community evacuation liaison in Sioux Lookout noted that she had to communicate with people in Sandy Lake to ask them to fax medical files to the host community for evacuees requiring medical attention (see Chapter 8).

Fourth, community evacuation liaisons and band councilors could not be assigned in all the hosting communities where the evacuees were sent. This was mainly because a list of people who could serve as liaisons in the event of an evacuation was not created prior to the emergency, another failure to develop a community evacuation plan. In addition, there were not enough band councilors available to be assigned to each flight out of Sandy Lake or to serve the number of evacuees in the various hosting communities.

Community evacuation liaisons, as outlined in the JEMS Service Level Evacuation Standards document (EMO, 2012), need to be identified and appointed by the First Nation leadership prior to an evacuation. Their role is to "help ensure the well-being of evacuees by providing support to their community and by representing their needs in meetings with the host community and other agencies as required" (EMO, 2012: 9). They also help to prepare the flight manifest and determine the order in which the evacuees will return. Ideally, as recommended by the JEMS Service Level Evacuation Standards document, one paid evacuation liaison may be appointed for every 100 evacuees within a Host Community. However, not all evacuees in host communities had community evacuation liaisons or band councilors to support and represent their needs. In addition, in some hosting communities (such as Sioux Lookout) there were an insufficient number of community liaisons for the number of evacuees. This caused overburden with duties and at times an inability to properly meet the evacuees' needs. For example, in Sioux Lookout, only one community evacuation liaison was assigned for more than 450 Stage-One evacuees hosted in a hotel.

According to the community leadership and councilors and the participants in the elders focus group, the problem with not having enough community liaisons was a result of the lack of pre-event preparedness by the community and the provincial emergency management agency. At the community level, a well prepared evacuation plan could have identified and updated a list of people who would have been involved in managing the evacuation as well as individuals who could have worked as liaisons in the host communities. What is more, the fact that residents were scattered (by EMO) in too many places made it too difficult to assign community liaisons. The community leadership was unable to assign a liaison and councilor for each flight because there were far more hosting communities than there were band councilors to accompany evacuees. In some cases a group of evacuees assigned to a liaison had to split up when they arrived at the

airport hangar in Thunder Bay, leaving one group without a liaison. As explained by one of the community leaders:

> *"The problem was sometimes it would be a Hercules [airplane] and a large group would go to Thunder Bay, and then they would split them once they got to Thunder Bay, and then one group would have the liaison. Then the other group [was] without a liaison. So that created problems" (participant 020).*

To make matters worse, essential community workers such as nurses and social workers were sent as evacuees in one group instead of being assigned to help evacuating residents, particularly those requiring special assistance. Stressing the need for health workers or professionals to accompany vulnerable members of the community, the JEMS Service Level Evacuation Standards document notes that:

> *"The first flight(s) of evacuees will likely contain the most vulnerable people. It is helpful if a health representative (e.g., a member of the community health team) is on these flights to work with the host community to help evacuees to access health services while absent from their community" (EMO, 2012:7).*

Epp et al (1998), in their study of the Sioux Valley First Nation flood evacuation, documented the merit of having an emergency plan for remote communities and the need to identify individuals in the plan who are supposed to work as community liaisons. Those individuals must be made aware of their roles and willing to assume those roles as defined in the emergency plan. Such practices can ease problems that arise during emergency evacuations with regard to identifying and assigning appropriate community evacuation liaisons who provide support and represent the evacuees' needs in the host community. Similarly, Ellemor (2005), in her study of emergency management in Indigenous communities in Australia, also stressed the need to identify and delegate Indigenous liaison officers who understand the needs of the members of the affected community during an emergency.

Many of the interview participants expressed their optimism that should a wildfire happen in the future, Sandy Lake appears to be much more prepared due to the experiences from the 2011 wildfires evacuation and an increased awareness of what to do during an evacuation to minimize the adverse effects. For example, it was noted that during the partial evacuation the following year, 2012, an emergency plan was formulated and many of the challenges faced during the 2011

full evacuation were minimized. Among the changes made was the development of an updated evacuation plan that identified the list of vulnerable band members to be evacuated at stage-one. As mentioned earlier in section 6.3, previous hazard experiences can be used as an opportunity for social learning to improve hazard preparedness activities that eventually enable community resilience in the face of future disruptions (Norris et al., 2008; Cutter et al., 2008). Yet, the mere existence of an emergency plan can signal a community's proactive commitment to safety, but should not be equated with disaster preparedness or readiness (Epp et al., 1998; Bonde, 2011). Having an emergency evacuation plan is one of several disaster planning steps a community needs to undertake for emergency preparedness (Quarantelli, 1985). The true test of a plan rests with its implementation during an emergency (Quarantelli, 1985). In other words, the development of an emergency evacuation plan is not a one-time duty; rather it is a continuous process. It requires periodic reviews, testing and proper training of personnel who will serve as frontline workers and/or community liaisons (Epp et al., 1998). Evacuation plans need to incorporate the views and concerns of local community members (Eisenman, 2007). One way of ensuring this is to make sure that disaster plans account for the specific obstacles encountered when vulnerable groups are evacuated (Eisenman, 2007). Given the distinctive value system, culture, economy and community infrastructure that characterize First Nations, evacuation plan should be tailored to accommodate unique local contexts so that residents and their communities become resilient in the face of the disruptive impacts of wildfires and evacuation (Epp et al., 1998).

6.6. Chapter summary

This chapter examined how issues related to pre-event preparedness and during event communication influenced evacuation experiences of Sandy Lake First Nation. In particular, the chapter analyzed the various issues and challenges encountered immediately before the evacuation is organized and during the event itself. Most of the issues and challenges were attributed to the lack of community preparedness and other related challenges encountered while implementing the evacuation. It has been noted that a combination of these factors have influenced residents' subsequent evacuation experiences.

Before the evacuation decision, community officials noted that there had been a delay in obtaining site-specific and reliable information about the wildfires and the level of threat relative to the community, due partly to the large numbers of wildfire-affected communities involved in a teleconference which stretched the responding agencies to respond to each communities' needs. The delay appeared to have affected the amount of time needed to effectively organize the evacuation. Community officials also noted that there was confusion and a lack of clarity about the protocols to be followed in declaring a community state of emergency. The provincial wildfire management policy was also perceived to be a constraint in making a timely emergency response decision. More importantly, the lack of overall community preparedness to respond to wildfires emergencies was found to be the underlying factor aggravating vulnerabilities and inhabiting community resilience. The lack of local capacity to extinguish wildfires on the reserve, remoteness, the reliance on government support for evacuation and limited options for evacuation transportation, were among the concerns that participants raised they felt inhibited community resilience during the 2011 wildfire evacuation. While organizing the evacuation, the lack of pre-event preparedness, specifically the absence of a community evacuation plan, presented many challenges which negatively affected the band members' subsequent evacuation experiences.

The impact of the evacuation was felt more strongly when the entire community was forced to displace to multiple locations (a total of 12 hosting communities) some of which were considerably far from the home community. The next chapter explores how this characteristic of the evacuation (the way in which the evacuation was operated by the government), coupled with the intrinsic characteristic of the community, influenced subsequent evacuation experiences and impacts.

CHAPTER SEVEN: EVACUATION RESPONSE AND CONSEQUENCES

7.1. Introduction

This chapter focuses on the third objective of the research: explore the impact that the government's evacuation operation had on Sandy Lake First Nation community (e.g., in terms of the role of family, social support, social cohesion, and place attachment) and how that affected the residents' overall evacuation experiences and impacts. Existing research has shown that there are certain factors that allow individuals and communities to deal with adversity and promote resilience in the face of stress and disruptions. Some of these include: sufficient information and communication (Pfefferbaum et al., 2005; Ganor and Ben-Lavy, 2003), social support, social cohesion (Levy, Itzhaky, Zanbar, & Schwartz, 2012), place attachment, and sense of community (Kaniasty & Norris, 2000). As will be examined in this chapter, these factors determine the source of a community's resilience to a hazard disruption.

7.2 Hosting of evacuees in multiple locations and implications

One of the dominant themes that came out of the interview data was that the evacuation displaced and scattered the community with little or no consideration for family unity as well as community cohesion. This view was best expressed by one of the community leaders who said:

> *"One of the key things was that our people were scattered, they were displaced. It started with phase one evacuation babies would go out and the mothers, and in the next phase of the evacuation, the father would go out with the older kids and I had one family where the mother was in Winnipeg and the father was in Moosonee, near Quebec, and one of their kid was in Ignace. They did not know where each other were. The mom did not know where her husband was, and the mom did not know where her son was and the father did not know where his son was, so it created a lot of panic and fear. People were concerned about their families so families were split and that is something we said we can never do that again" (Participant 020)*

Similarly, a frontline worker explained:

"In the full evacuation, the whole community, everybody was scattered all over Ontario. Even down to Arthur and Toronto. And the families were split, a mother and the kids would leave first, and they end up somewhere, Marathon, Ignace, all over. And the last people to leave were the husbands and the boyfriends. Then they had nobody there. So the mothers with three or four kids, they're the ones trying to look after those kids, 'cause the family's separated, the father's being sent somewhere" (participant 012).

As noted in Chapter 5, residents were sent to 12 hosting communities throughout Ontario and Winnipeg, Manitoba. The entire community could not be hosted together in close proximity to Sandy Lake, and the initial host communities for Stage-One evacuees (Sioux Lookout and Thunder Bay) were unable to accommodate all of the community members. In interviews with the community officials and a focus group (councilors and elders) described the ineffectiveness of the agencies (EMO, MNRF, and INAC) for handling the evacuation. These interview participants were most critical about how the agency failed to maintain family functionality and community cohesion, which in turn resulted in several other negative consequences discussed in this chapter.

As noted by the community leadership, when residents leave the community, the agencies did not provide information regarding the hosting communities and whereabouts of their family members. The emergency evacuation operation at Stage-Two of the evacuation largely focused on evacuating community members to safety. Evacuees at this stage were first flown to the transportation hub in Thunder Bay and distributed to different locations. There was no information provided for the community leadership about the possible destinations for the evacuating community members. This made it difficult for the community leaders to provide information to anxious residents. Based on the address made by the Chief in his video updates to the evacuating community members immediately after the full evacuation, the chief said:

"We do not know where everybody is at this point because of the way the evacuation worked. The first phase was the sick people and people with health problems as well as children under the age of one. So [the] first phase went out. By the time the full evacuation was ordered other people went out, so we know that there are families where the wife is in one location and the husband is somewhere else. The wife might be with the baby and the rest of the kids in other location" (Sandy Lake Chief video update #2 https://www.youtube.com/watch?v=SYSs1xX8XfA*)*

In fact, as it turns out, much of the disruptive impacts of the evacuation were reportedly more felt when the community residents were forced to scatter to 12 hosting communities throughout

the province of Ontario and Winnipeg, Manitoba. Thus, as was learned from the experiences of the participants, it was this characteristic of the evacuation by the government, coupled with the intrinsic characteristic of the community (as it relates to Indigenous cultural values of family role, social support, social cohesion, and place attachment), that resulted in several challenges and negative consequences which are discussed below.

7.2.1. Effects on communication and coordination and implications

The majority of participants evacuated at Stage-Two indicated that they were not provided with information when they boarded the military plane and left the community. As noted in Chapter 5, many of the community members who were evacuated at this stage were first transported to an airport hangar in Thunder Bay and dispensed to various towns and cities, some nearby and some considerable distance away. Some participants expressed frustration and anger at the lack of information about the places where they were being sent. One interview participant stated:

> *"When people were put on the plane, they didn't know where they were going. For you, if you want to go somewhere, and you're going on the plane, you know where you're going, right? You know your destination. But these people, they were just put on the plane without knowing where they were going" (participant 044).*

Another participant described:

> *"I got on the plane and had no idea where I was going. All I know is going to Thunder Bay and we stayed there for a couple hours, there was a bus waiting. They were going to transfer us to, they told us Wawa, Ontario. So there were about 30 of us that got on that bus and I was the councilors on that bus, and none of my family were in that bus because they were still in Sandy Lake. When I came out from the […] I called home and my wife and all my family were still in Sandy, and shortly after there was another plane that went back and flew more people to Thunder Bay" (participant 037).*

Some interview participants reported that they stayed for long hours at the airport hangar until potential hosting communities were identified. As they arrived at their respective hosting communities, some participants tried to call the Canadian Red Cross hot line number to try to locate their family members; however, most of the participants said that they did not know who

or where to call. Some hosting communities such as Thunder Bay provided cellphones for community liaisons so that evacuees could call their loved ones. Not all evacuees had cellphones and some places where evacuees were sent did not have cell phone coverage. Some participants tried to communicate with band members who stayed behind at Sandy Lake for information; however, community leaders and frontline works in Sandy Lake were not in a position to address the information needs of anxious evacuated residents as they were not provided with the information by EMO as residents left the community. In regards to this, one of the frontline workers who stayed in Sandy Lake during the evacuation explained:

> *"I think one of the things that really bugged me was each plane that left; nobody knew where they were going. I think that was one of our main challenges we had because every plane that we were sending out with parents, the mothers and their babies and some children, not every mother could take all their children with them, so they were split up. So the father would say "ok where my wife going?" and we had no idea. We had no clue where they were going, so we couldn't tell them so that's where we had quite a bit of challenge" (participant 022).*

Most of the participants spoke unfavorably regarding the lack of information from community leaders and frontline workers. One younger participant who was evacuated to Thunder Bay recalled having trouble finding people who were in charge to help him learn his family's whereabouts: "I lost communication with my parents. My brothers and I didn't know what to do. I kept asking who was in charge, and the people are like 'we don't know who's in charge' I kept asking. Everybody was calling, trying to find out who was where" (participant 036). Interview participants noted that the uncertainties surrounding the evacuation operation by the government and the lack of information over family members was the worst experience many evacuees faced. One of the participants noted:

> *"A lot of times people would get on the plane here and would not know where their final destination would be. And that's not a good feeling […]. It was an awful experience, not only not knowing, but being split up [from family members]. That part wasn't a pleasant experience" (participant 001).*

Community evacuation liaisons, First Nations leadership at various levels including the community chief and Nishnawbe Aski Nation (NAN) deputy grand chief, aired their concern over the lack of information regarding family whereabouts and the psychological and emotional

burdens evacuees were facing. Similar studies support this evidence confirming that the lack of up-to-date information for wildfire evacuees can aggravate stress and chaos (Epp et al., 1998; Scharbach and Waldram, 2013). In contrast, prompt and reliable information for individuals and families in such times of crisis is essential to ease emotional and psychological distress and contribute to individual and community resilience during a hazard disruption (Pfefferbaum et al., 2005; Ganor and Ben-Lavy, 2003).

Despite the role that information plays in community resilience during crisis situations, such as wildfire evacuation (see section 2.4.2), organized effort to provide up-to-date and reliable information for evacuated residents was hampered for a number of reasons. First, given the responsibility of EMO to identify appropriate hosting communities and inform the community leadership before community members leave the community (OMCSCS, 2013), the problem that occurred as a result of being scattered across several places can well be attributed to poor provincial emergency planning. During interview with community leadership it was learned that band officials had not been working together with EMO to identifying potential hosting communities.

Second, as further implied in the provincial emergency response plan, in an event when multiple communities are threatened and the list of potential host communities is insufficient for the size of the pending evacuation, EMO works with the evacuating First Nation to identify a host community or communities (OMCSCS, 2013). However, during the 2011 Sandy Lake evacuation, a further complicating factor was the unprecedented situation of the wildfires across northern Ontario which necessitated large-scale emergencies and the need to evacuate thousands of people from several communities within a limited time period (Talaga, 2011; Mills, 2011). This might have overwhelmed the parties involved in the operation and management of the evacuation making it difficult to provide up-to-date information for the evacuated residents and the community leadership. Given that the operation of wildfire evacuation in First Nations involves the coordination of numerous agencies including federal government partners (e.g. INAC, Health Canada, Public Safety Canada), provincial government partners (e.g. EMO, MNRF, and other supporting ministries), and non-governmental organizations (e.g. the Canadian Red Cross, Salivation Army), this could create a potential challenge for coordination

and information sharing among agencies and for providing the required support for evacuees hosted in multiple places. Setting a mechanism for sharing information among agencies and addressing the information needs of fire displaced community residents could minimize disruptions (Cohn and Carroll, 2004; McCool et al., 2006; Taylor et al., 2007; Kulig et al., 2008). For example, in his study of the impacts of wildland fire on communities, focusing on the social consequences of the decisions involved at various stages of a wildfire event (before, during, and after), McCool et al (2006), noted how processes of communication between agencies and communities determine the "nature, intensity, and breadth of consequences at the community level" (p, 448). The authors underscored the importance of effective communication among fire affected communities, agency staff, and relevant interest groups during wildfires so that concerns of the affected residents are addressed.

Third, during the operation of the evacuation by EMO, assigned band councilors who were supposed to have served as liaisons for evacuees when they left the community were unable to do so since the evacuees they were assigned had to split up further as they arrived at the transportation hub in Thunder Bay, from which they were dispatched to different hosting municipalities. Band councilors usually take the role of community liaisons during evacuation. They are trusted and are capable of taking over this role of facilitating information to meet the needs of evacuees by working with their own evacuated community members, band leadership, host community, government agencies' staffs deployed in the host community and other supporting organizations such as the Red Cross. Thus, it is conceivable that assigned band councilors and community liaisons, prior to leaving Sandy Lake, could have assisted evacuees by providing information, advice and assistance. Similarly, in a recent study with Whitefish Lake First Nation in Alberta, researchers stressed the vital role of assigning at least one band councilor in each hosting community to provide information and reassurance for evacuated community members (McGee and Christianson, 2016).

Notwithstanding the problem, Sandy Lake community leadership made efforts to meet the information needs of the evacuated community members. For example, the regular video updates by the chief, which were uploaded on the community website and shared using social media (principally Facebook). A couple of days after the evacuation, Facebook was identified by some evacuated residents as the most important communication tool for not only connecting

separated family members but also for posting other important updates from the chief and other residents. Four of the five youth focus group members stated that they used Facebook to communicate with their family members and friends. A closed Facebook group, "Sandy Lake First Nations evac info," which had been created by a few youth members from the community was particularly important for not only connecting separated families but also for sharing video updates provided by the chief about the status of the wildfires and the community. A participant in the youth focus group specifically recalled how he assisted separated family members hosted in Long Lac by posting information on the Facebook group page. Many participants said that had it not been for the commitment of the Chief in providing video updates and the support of evacuated members of the community who shared information, their experience would have been much worse.

7.2.2. Family separation and implications

Family separation was one of the major problems encountered during the Sandy Lake evacuation. As explained in Chapter 5, the majority of the participants experienced family separation. Apart from the procedures followed while organizing the evacuation before leaving the community, families became separated in the midst of the evacuation after being forced to scatter to different places. The fact that community residents were dispersed to multiple distant locations not only increased the chance of family separation by hindering communication but also complicated the task of reuniting already separated families.

As noted in Section 7.2.1, the majority of the participants who were evacuated during Stage-Two were not sure where they were being evacuated to, forcing them to lose communication with family members. Most of these evacuees thought that they would be joining their family members who had been evacuated earlier to Sioux Lookout and Thunder Bay during the Stage-One of the evacuation. However, they were temporarily stationed at the airport hangar in Thunder Bay and were eventually transported to different cities and municipalities. Some participants explained that their expectations were not met as they were forced to be displaced to various locations without family and community support the effect of which resulted in a number of negative experiences. One of the research participants said that she hoped she would

be supporting her pregnant sister who was evacuated earlier to Thunder Bay. However, after arriving at Thunder Bay she was transported to Wawa by bus (a six hours' drive from Thunder Bay). As the participant explained:

> *"Once we got to Thunder Bay we thought we were just going to be there, because my sister was staying with us [in Sandy Lake] and she was pregnant and she was one of the first groups [who left to Thunder Bay]. She was in Thunder Bay, so I thought 'oh at least I'll be with my sister' and I didn't know where she was while we were there for like an hour or two before we jumped on the bus going to Wawa. And I couldn't find her 'cause I wanted to try to take her with us, have her stay with us because she was by herself on her first pregnancy, and she was in her early 20s that time. But I couldn't find her. We were at the terminal, where the planes are [airport hub at Thunder Bay] I couldn't let her know that we were leaving that building [airport hub], I couldn't leave without telling her. And there was even people staying in the [airport hub], where the planes are. I don't know, maybe because there was no room, 'because I remember they were saying' you're lucky you guys aren't staying here' [at the airport hub]" (participant 016).*

Another participant who was evacuated to Wawa explained how his family ended up being evacuated to four different places.

> *"I was heading to Wawa by bus [from the Thunder Bay airport hangar] and I had no idea where my wife is, my kids. I find out after a while, calling around, find my son; he's in Arthur, that's in Toronto area. And another son, I found him in a coast area, near Moosonee, and my other son went to Long Lac. And my wife, she was in Marathon, Ontario, that's a two and half hour drive from where I was, and my daughter was in Geraldton" (participant 037).*

The family separation problem during the evacuation had a number of implications. As the central institution in Indigenous societies, family (encompassing extended networks of parents, grandparents and clan members), provides a framework for mutual aid and social support (Royal Commission on Aboriginal Peoples 1996a). It represents the basic structural and functional unity in which community life depends (Robb et al., 2005). The family in Indigenous society plays a vital role in a community as the "nurturer of the young and protector of the old, guardian of the culture and safety net for the vulnerable" (Royal Commission on Aboriginal Peoples 1996a). In both disaster and non-disaster times, well-established extended families and guardian relationships provide support and care for children, elders and the chronically ill. According to the participants, the separation and fragmentation of families resulted in a number of negative consequences including disruption of parental roles, aggravated vulnerabilities of

those who needed special assistance (including children and elders), and distress and anxiety for everyone concerned.

7.2.2.1. Disruption of parental role

Most of the participants explained that the widespread family separation problem that occurred during the evacuation disrupted parental roles. This is not surprising given the majority of the participants who have gone through the experience. Many of the participants reported that they were separated from one or more of their children. In some cases a single family was scattered to four different hosting communities. Several of the interview participants witnessed small children being separated from their parents and left without the attendance of their immediate or extended family members. In some evacuation centers, such as in Marathon, children were left unattended because they were separated from their parents, causing significant stress and anxiety for the children and the parents. In some cases, community members took turns taking care of these children. One of the interview participants shared his negative experience of observing small children being separated. Some of the children were put in an arena without immediate family support:

> *"One thing I didn't like about that is there were some kids that had their parents in different places. They were separated and we were trying' to look after them as well. We didn't know where to put them; we just got somebody who was a distant relative [of the children] and he took care of them. All the kids got separated though along the way […] but we just got delayed messages about their parents' whereabouts. It took some days to figure out where their parents were at" (participant 016).*

As noted in the report of the Royal Commission on Aboriginal Peoples 1996a:

> *"Children hold a special place in Aboriginal cultures. According to tradition, they are gifts from the spirit world and have to be treated very gently lest they become disillusioned with this world and return to a more congenial place. They must be protected from harm because there are spirits that would wish to entice them back to that other realm […] Failure to care for these gifts bestowed on the family, and to protect children from the betrayal of others, is perhaps the greatest shame that can befall an Aboriginal family [...]"* (p, 21).

This study further reaffirmed the notion of the importance of family in Aboriginal communities; many of the participants expressed guilt about their inability to care for their children and fulfil their parental responsibilities during the crisis because separation had been forced upon them. One of the participants explained:

> *"For me not to be there for my children during a crisis time like this, that happened to all the dads in Sandy Lake, is taking that power of not trying to be there, that is what the evacuation did for the dads here in Sandy. They took that sense of 'I need to look after my family' but I couldn't because I'm hundreds and thousand miles away. I can't be there and it's very hard. 'What's my family doing over there?' I'm in Arthur. My children were in Sioux Lookout. 'What are my children doing?', 'how's my wife doing?' 'Is she getting tired?', 'Is my babies getting sick?' 'How tired is she gonna be when babies are sick?' 'Are they gonna be OK?' You know there are lotta things that go through our minds when we're separated from our family. There's a lotta things as a parent to think about their safety and their wellbeing but again, as being dad to leave the reserve, they took that away from us" (participant 041).*

Interview participants further noted that without family support and protection, separated children could find themselves in new and difficult situations making them more vulnerable. While staying at the airport hangar in Thunder Bay, one of the participants recalled: "We all took turns, everybody in that area took turns and you know we had to make sure they [children] got whatever they needed. If they need juice or things, everybody kind [of] took care of each other" (participant 019).

It was apparent that the disruption of the parental role by the family separation problem aggravated the vulnerability of children who needed the support of immediate family members. A similar problem was also observed by other researchers who conducted evacuation research with First Nations in Manitoba and Saskatchewan (Scharbach and Waldram, 2013; Epp et al., 1998; Pearce, Murphy, Chretien, 2017). Scharbach and Waldram (2013), in their study of the 2011 wildfire evacuation of the Hatchet Lake Denesuline First Nation (Saskatchewan), discussed how wildfire evacuees' wellbeing was affected due to the disruption of family roles. Mothers, fathers, adult children, and guardians described the various ways through which "these roles were disrupted during the fire and evacuation, and the distress elicited by these disruptions" (p. 56). The authors concluded that these adverse impacts were linked to the discrepancy between the circumstances

experienced during the fire and expectations of residents' in fulfilling socially and culturally prescribed family roles.

7.2.2.2. Distress and anxiety

Some of the interview participants said that family separation and the lack of family support were the most stressful part of the evacuation. During the first few days of the evacuation, it was not only family separation, but also not knowing about the whereabouts of family members that were the most stressful experience. This was best explained by the following two quotes. One is from an elderly woman who was evacuated to Sioux Lookout during the Stage One of the evacuation and one is from evacuation liaison who was in charge of taking care of those groups of evacuees (mostly elders):

> *"I was so worried about my family; there was a time you don't know for days what's going on. There was no information, or how to find out, or where to call for your family. There was no way. And I don't think I heard from my family. Once they left this community I didn't hear from them for maybe three, four days until I knew where they were. So that was worrisome" (Participant 010).*

> *"I don't think we knew for several days where our family members were. We were not informed. so the elders started getting sick. They were getting sick. Some were getting heart tremor feelings. Some were having breathing problems. Some were getting seizures" (Participant 006).*

Clearly, the separation of family members came to be a key source of distress and anxiety especially for parents who were separated from their children. This was best explained by the views of the following participants: The first, a male participant who was separated from his wife and his four children, and the second, a female participant who was separated from her 14 year-old son:

> *[…] I also had that sense of feeling what are my children doing out there now and I haven't seen 'em during the time of crisis so that was a very lonely, very stressful feeling of thinking what is my family doing because I'm not with them right, and to go sleep thinkin' of 'em, of what your babies are doing, it's very hard to sleep. That was very stressful" (participant 041).*

> *"My child at the time was 14 and he got sent to a different place and at the time I didn't know where he was being sent to. I had to send him with my brothers and my sisters because I was in the front lines helping, working, because I'm in the health field. So I had to stay behind and I was one of the last on the last plane to leave, so it was hard on me not*

knowing where he was going and if I was going to be reunited with him and all these thoughts ran through my head, but the only main concern to me was that my son was safe. But I think it ran through everybody's head that you know everybody's families was all separated. That was really stressful" (participant 022).

Given the role of family or kinship ties in maintaining individual and family well-being (Epp et al., 1998; Lawson & Waldram, 2015; Pearce, Murphy, Chretien, 2017), the distress and anxiety as a result of the family separation were to be expected. The study participants also indicated that family ties provide a valuable support (both tangible and emotional) for community members both during normal times and in times of crisis or adversity. For example, the following view of a participant highlights the important role of extended family in the community and the distress created by the fragmentation of families as a result of the evacuation:

"A lot of times there wasn't communication between the families or they were worried. That was a major concern for the local people 'cause they are very close, they are very family orientated, so they wanna know where all their family members were" (participant 017).

In view of all that has been mentioned by the interview participants who experienced family separation problems, it appears that the problems of family separation engendered psychological and emotional stress undermining the capacity (resilience) of individuals and families to effectively deal with the disruptions. Even though evacuation is an inherently stressful experience, the separation of family members can aggravate the problem. Family separation is one of the negative consequences of a disaster evacuation and it impacts evacuees in many ways (Epp et al., 1998; Haney, Elliott, & Fussell, 2007; Scharbach, 2013; Lawson & Waldram, 2015; Pearce, Murphy, Chretien, 2017). Researchers have also confirmed that family separation during evacuation can cause distress and anxiety (Haney et al., 2007; Lawson & Waldram, 2015; Pearce, Murphy, Chretien, 2017) and loss of family and community support (Legerski, Vernberg, & Noland, 2012; Pearce, Murphy, Chretien, 2017). In some cases it can result in post-event trauma and depression (Epp et al., 1998; Pearce, Murphy, Chretien, 2017). Earlier research completed with First Nations also confirmed this evidence. For example, Lawson and Waldram (2015) reported that the separation and fragmentation of families during a wildfire evacuation of the Hatchet Lake Denesuline First Nation (Manitoba) increased stress and fear among children and their parents or guardians.

Participants who were able to stay with family members had a less stressful experience during their stay in host communities. As one elder said, "I had a good time there because my children were with me, they were in the same hotel, and I was able to see my grandchildren and not to have worries" (participant 010). Another participant said, "We were happy that we were together. Cause we heard about all the people that were complaining that they were separated […] because my family was me, I never been homesick and I did not worry about them" (participant 024). Similar to the findings of Lawson and Waldram (2015), the evidence presented in this section suggest that family unit and functionality during times of disruptions, such as wildfires evacuation, play a key role in reducing distress and potential trauma among First Nation residents.

7.2.3. Effects on community cohesion and social support

It was further found that hosting Sandy Lake band members into several multiple locations compromised community social support and social cohesion which have important significance for disaster-displaced communities (Barnshaw et al., 2007; Bolin, 1986; Garrison, 1985; Haney et al., 2007; Norris et al., 2002). In the context of Indigenous communities, research has shown that stronger social cohesion and social support, can facilitate people's ability to cope with, or adapt to a disruption caused by a hazard evacuation, thereby increasing resilience (Ellemor, 2005; Gaillard, 2007; Gaillard, 2006; Veland et al., 2010; Lawson & Waldram, 2015).

Social cohesion and social support are important components of social capital that are crucial for First Nations during times of adversity (Mignone, 2003b; Pearce, Murphy, Chretien, 2017). This is also true for the Sandy Lake First Nation. As described in Chapter Four, the Sandy Lake First Nation is a close-knit community with five main clans dominating the reserve with strong kinship and family ties. According to participants, through intermarriage amongst the clans, almost every family in the community is related. The patterns of extended family ties within the community reflect a strong social support system in the community. The cultural value of reliance on kinship and non-kinship social networks has been found to be quite valuable for band members. Band members participate in many social activities both in times of crisis and non-

crisis. Reliance on band members (including family members and friends) for assistance during crisis times is considered to be an important coping strategy. Participants also described how the community members help each other during non-crisis times, which they think is one of the most important characteristics of the community. As described in Chapter 4, there are several manifestations of social support in the community including preparing and sharing meals with one another, traditional social gatherings to celebrate traditional ceremonies, and taking responsibility for caring and raising children and funeral customs and activities that involve honoring the deceased. For example, during times of death, community members participate in funeral customs and activities that involve honoring the deceased and supporting the family. The support offered to the affected family ranges from emotional (providing comfort by visiting the family) to tangible (digging the grave and fundraising). Furthermore, during a funeral, offices including the band office and the northern stores are closed so that band members can attend the funeral. It has also been observed that band members get together to participate in a number of spiritual ceremonies and community events including memorial feasts, prayer, music festivals, and treaty day.

Participants are engaged in a number of fundraising initiatives for supporting community members with chronic health problems, and people with alcohol and prescribed drug abuse. Most of the participants described the community as supportive and compassionate. As one of the participants stated, “We still have that characteristic where everybody took care of each other. There were people that needed help and their neighbors and their fellow community members pitched in and helped each other” (participant 019). This aspect of social support is a point of pride for most of the participants as described in the following two quotes:

> *“Everybody’s willing to help out, I think you already know in your eyes Sandy Lake helps each other big time; they would help other communities and stuff like that too. Sandy Lake’s always stepped up to anything, I’m glad to be from Sandy Lake” (participant 026).*

> *“I guess basically it is our culture and identity being in a remote First Nation community and we have our family and friends near and all these available to us when we need them so yeah I think that’s the main thing for all of us who live in the remote First Nation community. We’re a really close community” (participant 022).*

Most of the participants also noted that as with other remote Indigenous communities, it is a cultural norm and an important characteristic of the community to provide assistance to fellow

community members during a time of crisis. According to the participants, these attributes of social support and cohesion were greatly compromised by the ways in which the evacuation was implemented by the government. Sending evacuees to multiple locations disrupted the community's social support and cohesion by disrupting kinship and other networks upon which community members rely during normal times as well as in times of crisis. For example, one of the primary concerns participants raised about of being scattered across the province of Ontario and in Winnipeg was that the disruption of the community's social support as the various roles played by individuals within the community were affected. This was explained by one of the participants who said that the evacuation and procedures followed in the evacuation broke-up the whole notion of "communityness".

> *"The evacuation breaks up families, it breaks up that 'communityness', how you feel home. It breaks that up and you're being sent to a strange land, even though it's not strange and we're regarded as visitors, and that's difficult because if there's family issues and children issues, and elder issues, women issues, guy issues […] And if you're up there the host community has to address those issues, and that's not the way we would do it here" (participant 45).*

It was found that for many of the community members (especially children and elders), the support they received from their own fellow community members provide critical psychological and emotional support during times of crisis such as evacuation. One of the participants emphasized this point when he said:

> *"Our family and friends are near and all these are available to us when we need them so yeah I think that's the main thing for all of us who live in a remote First Nations community. We're a really close community. We help each other and that's what's really good about us being united as a community in a time of crisis. We help each other and the one thing we always say is it takes a community to raise our children and we always help each other and raising our children and our kids and so whenever a family is in need, there's always people there to help you no matter what the situation is" (participant 022).*

Hence, as a close-knit Indigenous community characterized by extended family system, the displacement of the community into multiple locations has greatly compromised the social support that community members would otherwise had received by virtue of being together.

The social support system was also affected when essential community support personnel such as nurses and social workers were sent to one place instead of being assigned as liaisons to

evacuees hosted in multiple locations. A case in point is the lack of community nurses to support the chronic and elderly evacuees because almost all of the community nurses and health workers left as evacuees and were hosted together in a different location (in Arthur in southern Ontario). According to the band officials and focus group members (elders and councilors), this mechanism has negatively affected community social support, in particular, the health care needed by elders and medically vulnerable individuals. One of the community leaders described how the roles of various individuals in the community have been disrupted, impacting the functioning of the community's overall social support system:

> *"The one problem that came about is everybody left: when everybody was evacuated everybody left and scattered. If you were a police officer, if you were a nurse, if you were a social worker, a Tikinagan[16] worker, if you were a recreation director, when you went out everybody just assumed that they were evacuee and that's it. Whereas what should have happened was you go out there as who you are and do what you do out there and that maintains the community. So, everybody was kind of displaced. That's why it's more important to have everybody in one location so that the nurses are nurses, the recreation workers are recreation workers, Tikinagan is a Tikinagan worker [...] instead of just going over there and expecting whoever's in that town to take care of you, let's take care of ourselves as a community, go from here and go there. But it didn't quite work out like that partly because we were scattered all over the place" (participant 020).*

Thus, in addition to kin-based and non-kin based social support, the disruption of roles of various community members put a considerable burden on many of the evacuated communities which further undermined their resilience during the evacuation (Lawson and Waldram, 2015). Similar to the findings of this research, previous studies conducted in First Nations communities have pointed out how the disruption caused by a wildfire evacuation "disrupted community members' abilities to carry out socially and culturally prescribed roles" such as ensuring the well-being of children and seniors (Scharbach and Waldram p, 53). More specifically, similar research completed by Lawson and Waldram (2015) examined the importance of social support in enhancing community resilience and coping during evacuation. The authors, in their study of

[16] Tikinagan is a community-based child and family service with a primary objective of mentoring young parents, support families and protect children. It consists of a team of community members working as residential care workers, child care workers, family service workers, community-based prevention workers, intake workers, and administrative staff https://www.tikinagan.org/about/about-us

the 2011 wildfire which resulted in an entire community evacuation of the Hatchet Lake Densuline First Nations (Saskatchewan), examined how social networks and social support, which are fundamental to building the Dene community resilience during adversity, were disrupted as a result of the wildfire evacuation and in turn how this diminished the community's coping mechanisms.

On the other hand, it was further noted that participants who were able to receive various social supports from their fellow community members during Sandy Lake evacuation were better able to cope with the disruptive impacts of the evacuation. Some participants reported that they had received various supports from networks of relatives and friends that helped them better cope. They received emotional support, information support and tangible support (e.g. physical assistance and financial assistance). Emotional support for band members was the most prevalent and valuable support that participating evacuees mentioned receiving. A community evacuation liaison described how the elders helped each other to ease the emotional stress and anxiety of family separation and the boredom of being away from home and being confined in a hotel room for more than three weeks:

> *"At the hotel what we did, is when I knew there was an elder that wasn't feeling happy I'd take him to this room and I would tell that elder 'this one is feeling like this, can you help me?' and I'd take them over there. Or if they had Bingo sessions if anybody wanted to go, whether they're in their wheelchairs or not, we make sure they go and attend the Bingo. If they wanted to attend the singing service we make sure that they go" (participant 006).*

Some elders volunteered by cooking traditional food and feeding the rest of the elders. For instance, in order to alleviate the challenges facing some chronic patients and elder evacuees, some community members extended their support to assist in many day-to-day activities including cooking traditional food, doing laundry and helping with showers, assisting evacuees with mobility issues, helping elders to adhere to prescribed medicine, organizing activities for entertainment and so on. One of the participants reported how he volunteered and helped the elders and medically vulnerable evacuees that were sheltered in a hotel in Sioux Lookout:

> *"The other challenge was doing laundry. The elderly didn't have anybody to go do laundry for them. We had tickets to do laundry. That's another thing, once a day; I did laundry because there were so many washers. I had everybody's bag, so I just do one washer and then all the elderly that were there, I went to do laundry. There were three of us. We made*

it into a team. There was a driver and there was me and there's another person helping me. Then we just did all the laundry and then we folded them, put them back in the bags and then we gave it to them" (participant 024).

Fellow community members also helped by cooking traditional food donated by nearby First Nations and other Sandy Lake band members who lived in town. The community evacuation liaison in Sioux Lookout recalled how the elderly evacuees in her group coordinated and assisted in cooking traditional food and feeing the elders:

"The elderly ladies went and cooked the way they cook to feed the other elders. That's how we coordinated, because there was still some that were able to get around and do things and so those are the ones who helped as cooks [...] there were also peoples that were assigned to go feed the elders into their rooms, but the family member who took that elder was responsible so he had to feed the elder. So everybody helped each other, everybody knew their roles after a while, what needs to be done. But if something was not done then I made sure it's done. I assign someone" (participant 06).

Similarly, an elderly woman participant who had a daughter living in Sioux Lookout recalled how she and her daughter assisted in preparing traditional food for the elderly evacuees which was something she enjoyed helping the elders of her community:

"I was able to stay with my children. 'Cause I have two daughters living out there. Like they asked me what I wanted and I had asked for flour and other stuff so I could bring bannock, to the hotel where the others were staying. There were quite a few elders there and that way I was able to help a little bit because they don't just eat the bread. They have to have their bannock, and my daughter tried to help me as much as could. I did that. I had sent them moose meat and fish before that, so they told me why don't you cook it for the elders and I cooked moose meat, moose meat soup [...] I cooked it the way the people here would eat them, I helped them and that's the kind of food that the elders will miss especially when they're out there. They don't care for, you know, the White man's food so I had sent them quite a bit. The elders really appreciated the food that I gave them 'cause they were saying that they were just starving, like they didn't like the food out there. So that's what I did in Sioux Lookout. I enjoyed helping those people [...] that's how I got to help. I was enjoying it, getting to see the elders eat (participant 07).

Information support from members of the community was equally important. A case in point is the use of social media, principally Facebook, to communicate important updates including the whereabouts of separated family members. As discussed in Section 7.2.1, band members also helped each other by sharing information with fellow community members who did not have access to cell phones and the internet.

Some participants also reported that they were providing financial assistance by purchasing essentials for other band members. The elderly participants appreciated the support they received from their fellow community members which most of them believe helped to reduce the emotional as well as the physical burden they faced due to the lack of family support during their stay in host communities. Overall, consistent with the findings of Lawson and Waldram (2015) and Pearce, Murphy, Chretien (2017), this research demonstrated the importance of community support (both kin-based and non kin-based) during the evacuation of First Nation communities and how community support enhances resilience to the disruptive impacts of an evacuation. Overall, a combination of fellow community members' assistance and social support and respect for elders helped to protect the vulnerable members of the community who needed special assistance. This in fact demonstrated the role of social support (as one component of social capital) in buffering disaster-related stress (Tierney, 2014). Throughout the periods of the evacuation, the chief's leadership and the efforts of the community residents who stayed behind to protect the community were mentioned as important determinants of coping and sources of community strength (resilience).

7.2.4. Disruption to place attachment and experiences with culture shock

Strong sense of place attachment was also found to be another factor that influenced some of the participants' evacuation experiences. Social science disaster researchers have established an important connection between natural disasters and people's place attachments (Chamlee-wright & Storr, 2009; Gaillard, 2006; Tierney, 2014). According to Hidalgo and Hernandez (2001, p. 274), place attachment involves an "interplay of affect and emotions, knowledge and beliefs, and behaviors and actions in reference to a place". Social psychological researchers have noted the importance of sense of place in providing "feelings of security, belonging and stability"(Hay, 1998, p. 25). Individual differences in sense of place influence how people are affected by natural hazard disruptions such as during evacuation (Wilson et al., 2012). While a strong senses of place play a significant role in providing a feeling of stability (Brown and Perkins, 1992), people who have a strong attachment to a place can find it more devastating during times of disruptions (e.g., a hazard evacuation) (Brown and Perkins, 1992).

Indigenous communities tend to have a strong connection to land, place, community, and kinship (Gaillard, 2006; Newton, 1995a; Wilson et al., 2012). These connections are integral to the experience of wellbeing (Kirmayer et al., 2003; Reading & Wien, 2009). Few researches completed in First Nations communities have found place attachment as one of the many factors influencing hazard evacuation experiences negatively (Epp et al., 1998; Scharbach and Waldram, 2014). Disruption of place attachment, as result of evacuation, can cause distress and anxiety and thus a decline in wellbeing (Scharbach and Waldram, 2014).

Participants in this study demonstrated a strong sense of place attachment and socio-cultural connections. As noted in Chapter 4, the majority of the participants were long-time residents who had spent much of their lives Sandy Lake. Some participants noted that there were community members who had never been outside of the community. Youth participants explained that although many young people leave the reserve to attend high school in Sioux Lookout and Thunder Bay, the majority return to the community. Of the 40 interview participants, only two reported that they were from another community and moved to Sandy Lake for marriage and due to family ties. Participants explained that their strong ties to Sandy Lake and their connections to place and community are deeply rooted in the understanding of the self as embedded within the community. One of the participants noted that even if he had spent a few years living off-reserve, he returned due to his attachment to the place and socio-cultural connections:

> *"For me, Sandy Lake is home, and it's just like your kingdom, and it's the safest place in the world for me to live in. You know it's the safest place; this is where people want to be. I lived outside the community before but there's always that calling of home where I'm back here and this is where I want to live the rest of my days, and this is where I would want my children to be and my grandchildren. The culture is still there and the language is still there, and the way that the community is within, there's a disaster, it has a way of getting together and goin' through many difficult times" (participant 045).*

Participants described their connection to the land and their community in various ways using words and phrases including "community-ness" "home", "safe place", "peaceful place", "culture and identity". Another elder participant described her connection to the land and the community as 'peaceful' and a place that fulfills her needs for a social life:

"I love it up here. To me it's peaceful, I work lots, the people are really nice, they're very considerate, they're very kind. Like everywhere, you get a few bad seeds, but here I don't meet those people. And I have a group of ladies that come twice a week to my house and we play bingo, so I have a social life. So it's nice up here" (participant 017).

Another participant shared the same view explaining that even band members living off-reserve have started returning to the community to settle permanently for reasons related to attachment to place and other socio-cultural advantages (e.g. a social support system).

"First of all, Sandy Lake First Nation is a nice community and friendly too, all the nice people to talk to. And Sandy Lake is a big community, population 3,000, could be more. There's some that are out in the city and they're startin' to come back into the reserve, and I think we were meant to be in the reserve, how we live, and it's kind of different for us to live there, it's very different there than here in the far north. I think that our community is very close-knit. I think it's a good community to live in and everybody's kind" (participant 037).

During the 2011 wildfire evacuation, it appeared that participants' experiences were also affected by temporal disruptions in place attachment. The fact that some of the evacuated residents had never been out of the community contributed to a feeling of loss and disruption. For some of the participants, especially elders, their presence in the land and the surrounding environment offers a sense of wellbeing and being healthy. An elder participant who had never been evacuated before related his wellness to his presence to the land and the surrounding environment.

"I've never been evacuated before. I've never gone out with a large buncha people. I spent most of my time in the bush. I get more harmony over there than at the nursing station or in the hospital. I feel secure talkin' to the spirit and I can talk to the wind, the sea, the birds. Makes me more healthy or more no worry. This is one of the things that our grandfathers taught us "(participant 002).

Likewise, some of the elder participants highlighted their cultural and spiritual connections to the land. The displacement created by the evacuation, thus, disrupted that spiritual connection to the land and affected their wellbeing. This finding substantiates the notion that the wellbeing of Indigenous people is deeply imbedded in their attachment to the land and involves spiritual, cultural, physical and emotional bonds (Deloria, 2003; Richmond et al., 2005; Townsend, Phillips, & Aldous, 2009).

In addition to disruption of place attachment, some participants relate their experiences to culture shock upon being displaced and forced to adapt to a new environment. A community official expressed this view when he said, "There were a lot of people that had never been out, that have been here all their lives, it was a culture shock, and they really struggled" (participant 42). A frontline worker similarly commented, "A lot of the people that were shipped out have never been out of Sandy. So you know it's a culture shock" (participant 17). Another participant was even more explicit in describing the challenges related to the loss of place attachment and adapting to the new city environment as a stressful inducing factor:

> *"Another big challenge is culture. Many of the people here, not everybody leaves the reserve so again there's the difference in culture living on reserve versus living off the reserve especially the young children in which they're having to learn how to adapt with the White society and their laws, you know their laws versus our laws. So yes we do have to think the difference and culture is one. Leaving the reserve and learning how to adapt in the western concept, I guess that's one of the biggest barriers […] we're talking outside right now, you notice how calm it is, how free it is, right? And you can hear the trees, right? You take that away from us and put us in motel rooms. You put us where we cannot walk around, right? And to learn how to adapt and change our lifestyles all of a sudden is very hard. That's another barrier again" (participant 041).*

A community evacuation liaison described how the elders she was in charge of taking care of found it difficult to sleep in a hotel room in Sioux Lookout because of the difficulty of adjusting to the city environment including the light and the sounds of traffic.

> *"Well they [the elders] found one thing, that it's just not home. Traffic is 24 hours a day, they didn't like that, they can hear that. Here it's quiet, really quiet. Street lights are on all night, hotel lights outside are on all night. Some of them had to double layer their curtains so that it's dark. The one thing they found lesser is less mosquitoes; there wasn't so many mosquitoes as we have 'em down here. But there is a difference from out there to here" (participant 006).*

Such a connection to land and the challenges of adapting to a new environment were also an issue for children and teenagers who had never been outside of the community. This was highlighted by the comments of two of the community evacuation liaison in charge of taking care of stage one evacuees including children and elders in Thunder Bay:

> *"Most people within the community, they hardly ever have a chance to go out to town. They live here 365 days a year, without even going out. Most kids that I know, they don't know*

life beyond this community, they don't know there's a town out there, there's a city out there, they don't know that" (participant 044).

"The elderly and the kids, they missed home. It was a lot of mixed emotions and when our people were just hanging out in the hotel lobby, asking us 'OK, what's going on?' and 'when are we going home?' you know, well, the first couple days it was exciting. It was exciting to be out there, but as the days went by, it was 'do you know when we're going home?' loneliness started coming. The kids were getting cranky, the babies, and you know living in a hotel room isn't home for the little babies, the prenatals, the elderly, that's not home for them. So it was not a good experience" (participant 005).

Consistent with the findings of this research, previous research completed in First Nations has shown that when residents are displaced, they continue to feel a strong bond to their land and their community (Newton, 1995b; Scharbach and Waldram, 2014). Emphasizing the disruptive impacts of evacuation on place attachment and daily routines, a recent qualitative study by Scharbach and Waldram (2014) completed in Wollaston Lake - Hatchet Lake First Nation (Saskatchewan), highlighted residents' important connection to the land and how this was disrupted by the wildfire evacuation. The researchers described how the wildfires disrupted some residents' relationship to the land surrounding their community, which in turn affected their sense of wellbeing. In a different study conducted in the same community, Lawson and Waldram (2015) examined how the community's experience of trauma as a result of the disruption caused by the wildfire evacuation negatively influenced "ecocentric and sociocentric identity" (p, 35). In addition, the distress experienced among evacuees (mostly the youth) was related to unfamiliarity with the "city culture and society external to Wollaston [the home community]" (p, 31). Earlier research by Epp et al. (1998) about the 1995 flood evacuation experience of the Sioux Valley First Nation (Manitoba) also examined cultural disruption and success in adjusting to new settings as one of the challenges evacuees faced during their stay in the city of Brandon, Manitoba.

7.3. Chapter summary

This chapter explored the impact that the government's evacuation operation had on Sandy Lake First Nation community (e.g., in terms of the role of family, social support, social cohesion, and place attachment) and how that affected the residents' overall evacuation experiences and

impacts. The implications of the evacuation examined here are induced as a result of a combined effect of the evacuation characteristics (operation) and intrinsic characteristics of the community as it relates to Indigenous cultural values of family role, social support, social cohesion, and place attachment. The results show that scattering residents to more than 10 hosting communities throughout Ontario and in Winnipeg caused four major problems: communication and information-sharing were more difficult, families were separated, community cohesion and support services were disrupted, and residents' sense of place attachment was impacted.

CHAPTER EIGHT: EVACUATION EXPERIENCES AT THE HOSTING COMMUNTIES

8.1. Introduction

This chapter explores the evacuation experiences that band members had while staying in the hosting communities. The evacuation experience examined here is in light of the individual characteristics of the evacuated band members, with in their social context, and the services provided in the hosting communities. Pre-emergency individual characteristics of the evacuees, such as age, income and health conditions and those vulnerabilities induced through physical, cultural and/or social barriers, came into play and affected evacuation experiences while staying in the host communities.

8.2. Hosting communities, facilities and services: an overview

The availability of services and facilities in the hosting communities was one of the factors that influenced the interview participants' evacuation experiences. Community officials and evacuation liaisons expressed their views that while some of the host communities had organized facilities, others were ad hoc places promptly assigned by the responding agencies (EMO, MNRF, AANDC coordinated by the PEOC) due to the pressure to accommodate the large number of evacuees from other First Nations communities. As noted in Chapter 7, due to the urgency of evacuating thousands of remote First Nation residents in response to the largest wildfires to hit the province in decades (Talaga, 2011; Mills, 2011), Sandy Lake community residents ended up being air-lifted and evacuated to multiple locations, some of which had little or no preparation and no prior experience hosting evacuees. According to a community official:

> *"Some of those sites were just ad hoc sites. For example Geraldton has a system in place. They have been doing it for years as a host community [...] people in Marathon experienced racisms, they were unwelcomed. Later they were relocated to Thunder Bay, Marathon was not normally a host community" (participant 020).*

Some hosting communities were overwhelmed by sheer number of evacuees. Not only were the communities not expecting that many people, there were simply too many for the communities to accommodate. For example, the town of Wawa ended up accommodating approximately 150 evacuees (including 50 children under the age of 12), which was higher than the number for which the town had originally planned. As the mayor explained:

> *"About a year ago we decided that we would take evacuees from northern communities, it was initially intended for the spring floods in the north. However, this is not usually the time of the year where we can accommodate a lot of people because the motels are full. We did say we can take 110, we were told 120 and at 4 o'clock this morning, we received 145 people. So, we were not quite prepared for that many but we have managed […] When they got here, unfortunately, there were this 20 that had to sleep on the floor in our community center" (the mayor of Wawa as quoted in OntarioNewsNorth.com, 20th July, 2011* http://www.karinahunter.com/2011/07/sandy-lake-evacuees-well-received-in-wawa/*).*

For Arthur (Wellington County) in Ontario, this was the first time that the county had hosted a large number of evacuees and it had little time to prepare to address the needs and expectations of First Nation people displaced from the far north in the province. After receiving a request from EMO on July 19, the mayor of Willington North announced that his community would host evacuees. On July 20, the Township of Willington North declared an emergency and on July 21 approximately 204 Sandy Lake evacuees begun to arrive. They were accommodated at the Arthur Community Center. Noting the unprecedented situation for the host community of Arthur, the Communication Manager for the County of Wellington described the situation in a local newspaper as:

> *"This was the first operation of its kind for both of the township and the county. Nobody really knew what to expect. Would our guests speak English? Would we be receiving babies, small children, the elderly? Were pets coming? Would our guests have dietary issues? Do we need added security? Does everyone know what their role is?" (Communication Manager for the County of Willington quoted in Municipal World, 2012).*

In light of these views, it appeared that the hosting capacity of the municipalities was compromised by a number of factors. The first is limited experience of hosting evacuees. Although some municipalities (Geraldton and Thunder Bay) that had hosted First Nations evacuees in the past had existing protocols to organize personnel and resources in a timely

manner, others had neither prior experience nor preparedness (e.g. Arthur). A second problem was that the availability of resources and facilities for hosting evacuees could vary depending on the time of the year (e.g., availability of hotels and motel rooms was an issue in Wawa). Third, the amount of time a municipality was given to prepare after agreeing to host evacuees was often insufficient; for example, municipalities including Arthur were given a one-day warning that the might need to host evacuees. According to the Service Level Evacuation Standards document of the EMO (2012), the EMO is responsible for identifying potential hosting communities, and an agreement to host evacuees must be reached prior to an emergency. Also, the process should, in principle, involve all parties including home and hosting communities (EMO, 2012). Potential hosting municipalities must have a plan in place that identifies the necessary facilities and resources for receiving evacuees (OMCSCS, 2015).

Given the complexities involved in hosting a large number of evacuees from the north, this could compromise the amount and quality of services expected to be delivered, especially, when a perceived short-term evacuation transforms into one that is long-term (Obonsawin, 2009). Disaster researchers have noted that among other factors, evacuation planning needs to take into the account availability, duration, type, and location of host community facilities and ensure that those are aligned with the demands of the population to be evacuated (Quarantelli, 1985; Appleseed, 2006).

A variety of accommodation facilities were used to host evacuees including hotel rooms, arenas, school rooms, gymnasiums, recreational centers, and community halls. As mentioned in Chapter 5, most (95%) of the participants stayed in the designated accommodations provided by the hosting communities. Only two of the participants stayed with family members and friends in the hosting community.

Apart from the services and facilities available in the hosting communities, evacuees' experiences were affected by individual circumstances, needs, and expectations. The discussion that follows is organized around the main themes that were identified in interviews with participants evacuated at Stage One and Stage Two. As it turned out, participants' perceptions of their stays and experiences in the host communities were influenced by two primary major factors: 1) pre-existing vulnerabilities of the evacuees by age, income and health conditions; and

those vulnerabilities induced through physical, cultural and/or social barriers; 2) The services provided, including shelter, food, recreational activities, and health and medical facilities, which varied depending on the location of the hosting communities and the needs and expectations of the evacuees. In the following section, these factors are discussed first in the context of Stage One evacuees (mostly elders and medically vulnerable evacuees).

8.3. Stage-one evacuees: experiences of elders, medically vulnerable individuals or those with special needs

During displacement, certain individuals or groups may be more vulnerable or put at risk due to individual physical attributes (e.g. age, disability) and cultural and/or social barriers (Fernandez, Byard, Lin, Benson, & Barbera, 2002; Lach et al., 2005; Ngo, 2001). According to the JEMS Service Level Evacuation Standards document for First Nations in Ontario (EMO, 2012), elders are regarded as medically vulnerable individuals and should be evacuated during Stage One (others in Stage One should include persons with disabilities, children, pregnant women, and persons with medical conditions). This is based on the knowledge that elders are vulnerable during a disaster and may require special assistance. Disaster studies from sociology, psychology, and medicine also confirm that for reasons related to physical, psychological, social and economic vulnerabilities, elders often experience unique challenges during disasters (Fernandez, Byard, Lin, Benson, & Barbera, 2002; Lach et al., 2005; Ngo, 2001). Pre-existing conditions that are present before the disaster event, such as frailty, aging and poor health conditions, could aggravate elders' vulnerabilities (Ngo, 2012). Discussing the vulnerability of older adults to the effects of disaster Fernandez et al. (2002, p. 67) posited:

> *[It is] their impaired physical mobility, diminished sensory awareness, chronic health conditions, and social and economic limitations that prevent adequate preparation for disasters, and hinder their adaptability during disasters. Frail elderly, those with serious physical, cognitive, economic, and psycho-social problems, are at especially high risk.*

Vulnerabilities may also emerge for the first time among an otherwise healthy elderly population during or after a disaster when the basic needs of the affected elders are not properly met (Ngo, 2012). The needs of elder evacuees vary depending on the pre-existing level of

vulnerabilities. According to the Ontario Mass Evacuation Plan for the Far North, based on the information typically provided in the flight manifest,[17] hosting communities are required to plan ahead to accommodate the needs of medically vulnerable individuals or those with special needs including elders (OMCSCS, 2015). Factors that need to be considered in the planning include the number of people requiring special needs and the type of special care required, and services including health care, public health or any (OMCSCS, 2015).

As described in Chapter Four, the majority of the evacuees in Stage One were sent to Sioux Lookout (450 evacuees) and Thunder Bay (650 evacuees), where they were accommodated in hotels. During the interviews, participants said there were some issues that emerged regarding the provision of service for evacuees designated as stage one, particularly, elders, medically vulnerable individuals and those with special needs. Some of the challenges faced by the elder evacuees are grouped into four themes: issues related to the continuation of health services at the hosting community, dealing with health issues in the absence of family support, accommodation related problems and a lack of access to traditional foods and language barriers. Each of these themes is discussed below.

8.3.1. Issues related to the continuation of health service at the hosting community

Some of the elder participants and frontline works expressed their view that there was not much preparation in terms of addressing the health needs of the elder evacuees. According to some of the elder participants and a community evacuation liaison, the lack of homecare staffs to assist with medically vulnerable elders was an issue. A case in point is the experience of elder evacuees in Sioux Lookout. According to a community evacuation liaison, when the evacuees arrived in Sioux Lookout, there was not enough homecare staff to assist with the medically vulnerable evacuees most of whom were elders. The community evacuation liaison described how she struggled to assist these evacuees until homecare staff workers were sent down from Thunder Bay:

[17] Flight manifests need to include information such as the need for any special assistance (e.g., a wheelchair), persons with food allergies or other medical issues and so on (OMCSCS, 2015) .

"I was running into problems because I did not have any of our homecare staff come on this flight with us and so I did call Sioux Lookout the homecare office there and they couldn't assist me because a lot of the Elders are sort of bedridden and mobility is very limited to them and I'm only one person and so I had to make another call and I called Thunder Bay and Thunder Bay responded fairly fast. We got some workers down by that evening; I needed help with hygiene care of these elders and the chronically ill and so I really appreciated them coming down from Thunder Bay to give us a hand on our elders"(participant 006).

Based on the provincial emergency response protocol, hosting communities in collaboration with local health partners (e.g. public health units, hospitals and other health care organizations) need to ensure that the evacuees' health needs are met (EMO, 2012); however, the lack of homecare staff, compounded by the absence of accompanying escorts and the insufficient assignment of community evacuation liaisons made it challenging to meet the needs of this group of evacuees. In Sioux Lookout, there was only one community evacuation liaison assigned to take care of approximately 450 Stage-One evacuees, which was far below the recommended number[18]. As discussed in Chapter Six, the problem was attributed in part to the lack of a community evacuation plan. Among other problems, this led to the insufficient assignment of evacuation liaisons and to some medically vulnerable members of the community being evacuated without an accompanying caregiver and/or family member.

Another challenge to obtaining prompt medical services at the hosting community was the lack of information for medically vulnerable evacuees who needed ongoing care: many left Sandy Lake without their medical records and prescription medications. Community evacuation liaisons had to communicate with the nursing station in Sandy Lake to obtain patient records because the patients themselves were often not able to provide that information. A community evacuation liaison explains:

"A lot of the time, they do not know or it's hard to describe what their past history is and they may not know what their medicines are. If you ask them what pills they are taking they identify it with color only. If they go out and see a medical professional, they wouldn't know what unless they take the photo copy with them" (participant 028).

Similarly, another community evacuation liaison explains:

[18] Ideally, as recommended by the JEMS Service Level Evacuation Standards document, one paid evacuation liaison may be appointed for every 100 evacuees within a Host Community.

“[..] We have to coordinate patient charts to go with the clients, like their prescriptions, their charts [medical histories], it has to be flown out with them. So that’s where the nurses have to work hard during an evacuation, making sure that they get the meds that the patients need and their charts go along with them, so that wherever they are they can access medical services but people were faxing during that time, the medical files. Well, you’re gonna miss things, especially when they have so many people” (participant 006).

Another problem was that due to the short notice that preceded Stage One of the evacuation, many of the evacuees in this group forgot to take essentials such as medicines and prescriptions, inducing further challenge for continuation of health services:

“The problem was the medicine that was supposed to come here, wasn’t there [at the evacuation center] when we went but it was lucky that that’s where it came from, Sioux Lookout, so we didn’t have no problem. We just had to find out who didn’t have the medicine when we landed there because they needed it fast” (participant 029).

Participants who could not present their prescriptions in other hosting communities faced similar challenges, as described by an elder community counselor evacuated to Thunder Bay, who said that people who ran out of pills had to get prescriptions called in from Sandy Lake or Sioux Lookout:

“That proved to be difficult ’cause they won’t just give you medication, you go to pharmacy, even if you have an empty bottle with a prescription or a label on the bottle, they won’t give it to you. Because they think that the patient is taking too many pills, so they can’t take that chance, they have to get a prescription from either Sioux Lookout or from here [Sandy Lake First Nation]” (participant 012).

Not all of the hosting communities had the same level of medical services and facilities, which was a problem for some of the elders who were sent to communities that were not equipped to handle their health conditions. This was a problem for some of the elders evacuated at Stage Two of the evacuation to other hosting communities (other than Sioux Lookout and Thunder Bay). For example, an elder sent to the town of Wawa mentioned this as one problem when he said: “In Wawa where I was sent, medical facilities are not great, and it is a bit far from the nearest town where I could get that assistance” (participant 042). As can be learned from the experiences of the elderly and medically vulnerable evacuees, the issues that arose with regard to the continuation of health services at the hosting centers posed additional challenges

secondary to the highly disruptive impacts of the evacuation discussed in sections 7.2.3 and 7.2.4.

Previous researchers have also identified displacement-related challenges commonly faced by elder evacuees that are secondary to the direct impacts of the disaster itself. Among these include provision of services at the hosting community, including continuation of medical care (Fernandez et al., 2002; Legerski et al., 2012). For example, in a focus group study with disaster relief and evacuee service providers in the Kansas City after Hurricane Katrina, Legerski et al. (2012) found that the continuation of chronic disease care was one of the challenges encountered by displaced adults and those evacuees who did not bring medication with them. Similarly, Fernandez et al. (2002) observed that frail, elderly people that were evacuated in advance of hurricanes in US faced difficulties as they were dropped off at shelters and nursing homes without care instructions or medical records.

According to Ngo (2001), during a disaster the vulnerabilities of the elderly often emerge in two ways: (1) disaster events magnify pre-existing individual and social characteristics and differences; and (2) disaster events accelerate existing risk factors in the population. In the former case, limited mobility and physical strength can make the elderly more vulnerable and the disruptive impacts of a disaster (e.g., evacuation) may magnify pre-existing vulnerability conditions (Ngo, 2001). For example, in the case of the Sandy Lake First Nation evacuation, while leaving the community, the evacuation protocol failed to take into account the need for a family member to accompany elders with limited mobility. This has aggravated the vulnerabilities of some of the elders. An elder woman, 75, reportedly died while staying in a hotel in Sioux Lookout; she had fallen, which aggravated her already fragile health. According to some of the participants, this could have been caused due to the lack of accompanying family or escort. Besides, as discussed in Chapter 7, separating families meant that family roles, including the role of elders raising children, were disrupted. This caused anxiety, worry and stress in the elders, which in turn affected their wellbeing. An elderly participant described the experience: “The first couple of days [of staying in the host community] were really very challenging for the elders. Like even their sleeping habits, they were just off” (participant, 006).

During an emergency response involving an evacuation, disaster experts and practitioners emphasize the need for understanding local context and how certain individuals are impacted

uniquely due to their pre-existing vulnerabilities (e.g., age, disabilities, and people with limited coping capacity) (Buckle, 2006; Sphere project, 2011). During an evacuation, this requires an assessment of unique vulnerabilities of different individuals based on age, disability, social or economic status, and the relationships between the displaced populations and host communities, so that appropriate support is provided that promotes people's coping and resilience (Sphere project, 2011).

8.3.2. Dealing with health issues in the absence of family support

The importance of extended family care for frail elderly is crucial in First Nations (Iwasaki et al., 2005; Richmond et al., 2005; Pearce, Murphy, Chretien, 2017). Elders in First Nations have a particularly strong expectation for family support when their health declines (Richmond et al., 2005). Family and social support are seen as a form of healing providing comfort and an overall sense of order while reducing emotional stress (Richmond et al., 2005; Pearce, Murphy, Chretien, 2017). According to the participants, due to the lack of care givers and accompanying family members, some elders had a difficult time in the hotels where they were accommodated. As one elder who stayed in a hotel in Thunder Bay noted, some medically vulnerable elders had to face challenges due to mobility issue as there were no a family member and/or escorts accompanying them:

> *"I have seen lots of elders there. Some of them didn't have helpers. They would have only one, and some of them would need two if they're in a wheelchair. I have seen other people helping them instead of their own family because they only have one helper. They would be going to eat and stuff and they would have to be moved with a wheelchair and they would need more than one sometimes. So that's what I saw, myself, I was okay, I was able to help myself, I had my granddaughter with me so I was okay" (participant 42).*

Although the lack of family support posed challenges to the elders during their stay in the hosting communities, the support received from fellow community members was found to be very useful. Several of the elder evacuees depended on fellow evacuated community members for help in many day-to-day activities including cooking traditional food, doing laundry,

showering, and organizing activities for entertainment. Some of the voluntary supports extended by band members were crucial for elders to deal with health-related challenges. For instance, one of the participants reported that she helped the elder and medically vulnerable evacuees in hotel in Sioux Lookout with hygiene care, meal preparation and adhering to their prescription medication regime:

> *"I had a handicapped room, I let the other people come in and use my washroom or even to have a shower. We had the chair, the bath chair and then we had the bars by the bathtub, so I just asked them, do you wanna come and have a shower? I can help you because I volunteer all over 'cause I give my son a shower all the time. Either they would say oh, you can just wash my hair or something but I told them you have to take a shower, it's OK, I do showers all the time for the elderly or the handicapped. So most of them were OK with me because they know, even here, I just go volunteer and see if I can help them with anything or else I just go take something for them to eat [...]I wanna make sure everybody got fed, they have their meds, that's what I was doing. Then my son had the list and he always say, 'did you go check on her? Did you go give her fruit to eat or did you go get the water for her?' 'cause they can't go in and out because they can't even get up themselves. Those older people, the elderly, they were upstairs. They were a couple but they didn't have a person to go pick up their fruit if they were diabetic and not all of them had a fridge in their room for the insulin, so we had to store the insulin somewhere, like a first aid fridge. So we volunteered to help" (participant 029).*

Such health-related supports provided by fellow community members were crucial in helping to reduce the burdens faced by the elderly evacuees who had no immediate family support during their stay in the host communities. Other than health-related support, Section 7.2.3 also outlined other forms of social support provided by band members including emotional (providing comfort), informational (e.g., sharing information about family whereabouts) and tangible support (e.g. cooking traditional food) that helped evacuees (mostly elders) better cope with the disruptive impacts during their stay at the evacuation centers. For example, emotional support from fellow community members as well as receiving information about family whereabouts helped ease stress and anxiety. Disaster researchers studying non-Indigenous communities observed an increasing tendency for elders to suffer more during disaster evacuations due to isolation and the lack of social support (Fernandez et al., 2002; Ngo, 2001). However, this research found social support to be crucial for elders, which acted as a buffer for coping with the disruptive impact of the evacuation and subsequent challenges that arose at evacuation centers.

8.3.3. Accommodation related challenges for elder evacuees

With regards to accommodations, overcrowded hotel rooms were another concern shared by some of the elder participants. This negatively affected their experiences. In some cases hotel rooms meant for two persons had five to seven people instead. A 76-year-old participant evacuated to Sioux Lookout said that there were five people in the hotel room where she was staying and she was unable to rest:

> *"We were crowded too much, like in that one room there was my sister and my brother-in-law and then another one of my sister's granddaughters was there and also myself. That's five in two beds that were double beds. And if you needed to get some rest you couldn't. Too crowded" (participant 007).*

A similar experience was shared by another elder participant, 82, who was evacuated to Thunder Bay:

> *"We were really overcrowded in my room, very overcrowded. I wish I could take this [pointing to her four-poster-bed] and sleep outside so that I can breathe quality air, you can't breathe, it's stuffiness and it was just overcrowded. There were a lot of them overcrowded in each room, there was some that had eight in a room, some had six and it was overcrowded. And it was really hard to breathe. Well you know if that were ever to happen again, I'm gonna make sure I take my tents this time" (participant 007).*

There were also cases where evacuees were assigned to a hotel room with other evacuees they did not know which created a lot of inconvenience and stress. A community evacuation liaison, who was assigned to work in Sioux Lookout, described her experience related to this:

> *"I was told to go with the elderly and the chronically sick people to Sioux Lookout and so when we arrived in Sioux Lookout it was very chaotic. For example when everybody was checked in to the hotels, I started finding out, I didn't know who made the room accommodations, who put that together but there was so many of us that I didn't catch a lot of things right away and we had this elderly man and this elderly woman put together and they're not married, they were put together by accident in the same room and I had to get another room because that person who made the accommodations or tried to make where everybody's room is going to be, didn't know the people […]" (participant 06).*

One participant reported that she requested a hotel room with a bigger bathroom since she had to use a wheelchair. Medically vulnerable elders hosted in an arena in Marathon had issues with noise, uncomfortable cots, and a lack of privacy. One of the elder participants who were evacuated to Marathon said that his back pain made it difficult to sleep on a cot inside the arena: "I couldn't sleep on it, and I even pinched my back as well [...] there were some other [evacuees] that I knew had bad backs. They were bunched together inside the arena" (Participant 19). The lack of quality accommodation for some of medically vulnerable elders compounded by the lack of caregivers posed unique challenge. The issue of privacy was another negative experience mentioned by participants who were hosted in an arena. Some participants noted that, as a cultural norm, elders in First Nations need privacy. One participant described her elderly parents' negative experiences this way:

> *"My parents were staying in an arena in Geraldton. They did not like it because there is no privacy. Our elders like privacy. They should have partitioned for the elders. They had even class rooms. They should have put the elders there" (participant 13).*

The provincial emergency plan for the Far North states that hosting communities are required to arrange accommodations in accordance with the needs and requirements of the evacuees by considering such factors as the number of evacuees including age composition, number requiring special care and the nature of the care and access to other health services (OMCSCS, 2013). However, the accommodation related challenges (e.g. overcrowded hotel rooms) faced by elder evacuees showed that such considerations were not put in place, which created additional stress. As noted in Section 8.3.1, elder evacuees are among the most vulnerable to the physical impacts of a disaster (Fernandez, Byard, Lin, Benson, & Barbera, 2002; Lach et al., 2005; Ngo, 2001). The inability to address their emotional and physical needs (e.g., with accommodations that are appropriate for their health conditions) can be detrimental (Pearce, Murphy, Chretien, 2017) and aggravate pre-existing vulnerabilities (Ngo, 2001). This again reinforces the need to assess the evacuees' physical needs based on vulnerabilities and to address those needs accordingly at evacuation centers to ensure safety.

8.3.4. Lack of access to traditional foods and language barrier

Cultural differences had an impact on the evacuees' ability to adapt to the disruption caused by having to move to host communities. The biggest problems were language barriers and the lack of access to traditional foods. A community evacuation liaison in charge of assisting Stage-One evacuees described how dietary issues aggravated health problems faced by many of the elders upon their arrival in host communities:

> *"The first day we arrived there I remember the elders and the chronically ill were given a meal and the meal was lasagna or spaghetti and by the evening some of them were developing a diarrhea, severe diarrhea because it's not the way they normally eat" (Participant 006).*

An elder interview participant who was sick during the evacuation said: "You're sick and you don't have the food there because you can't go pick it up and people don't know that's the kind of help you need" (participant 42). Another participant recalled how his elderly mother struggled with food that she would not normally eat: "My mom was over 80-years-old and she was one of the evacuees, and she was evacuated to Sioux Lookout. In about three days she was already hungry even though that there was food there. She was hungry for traditional food, you know what I mean?" (Participant 045).

In Sioux Lookout, local First Nations residents donated traditional food, which many of the evacuees appreciated. However, participants said that even the way the donated traditional food was cooked was often not appreciated, because the hosting communities had to follow the Canadian Food Guide, which is not consistent with the evacuees' cooking habits.

> *"CHR's [Community Health Representative] came down and I worked along with the Meno Ya Win Hospital [a hospital in Sioux Lookout] they helped a lot in trying to have the traditional foods cooked, but the Canadian Food Guideline is where they had to follow and our native people are not into that, especially the elders. What they wanna eat is what they wanna eat and a lot of bannock was made because they don't really eat bread. They like bannock: bannock in the morning, bannock at lunch, bannock supper time you know snack for bannock. There was a lot of bannock made and so it was a lot of work and we were there*

the longest. We were the first to leave. We were the last to come home and that was a challenge. It was over finally. I think we were almost gone for four weeks" (participant 006).

Some of the evacuated elders also assisted in cooking traditional food. As discussed in Section 7.2.3, cooking traditional food was one of the areas in which band members supported each other, which shows the strong social support system in the community. A community evacuation liaison recalled how these elders coordinated and assisted in cooking and feeding the group: "The elderly ladies went and cooked the way they cook to feed the other elders. That's how we coordinated, because there was still some that were able to get around and do things and so those are the ones who helped as cooks" (participant 06). Some Sandy Lake band members who were living in Thunder Bay invited elders to serve them with traditional foods. A participant recalled the support elders got from other Sandy Lake Band member living in Thunder Bay:

"We had some elders that would go out to somebody's place who was a Sandy Lake member that lives out in Thunder Bay. They would go over and go make bannock, and make big pots of soup. They missed our macaroni soups, our flour soups […] That is how our people helped" (participant 05).

The language barrier was another cultural factor that negatively affected the evacuees' experiences. Most of the elders speak Oji-Cree were unable to communicate in English. The language barrier was especially problematic in regards to health care services for the elders. Two of the participants shared their experiences in this regard:

"The other thing also is our elders don't speak English. And we're not there all the time to assist them, so that also created a little bit of a problem. If somebody needs to go to the nursing station or the hospital emergency they need a translator. So the translation part is actually up to us to do that. Some escorts can translate for their mother or grandma. They can do that. Some don't" (participant 012).

"The worst part is for the elders, eh, because a lot of them stay at home. They get nurses, doctors come to the house, and now they're moved out and they're not secure with anything, they can't speak the language. So that's what was really concerning to the people, and they wanted to get home and they didn't know when they were coming home" (participant 027)

Community evacuation liaisons and other band members volunteered to assist with translations. In Sioux Lookout where most of the elders were hosted, the community evacuation

liaison had to work as a translator for the elders. She explained how language became a barrier for the elder evacuees and how she assisted as a translator:

> *"There was a language barrier a lot of times, like other people wanna come over from Sioux Lookout. They'd come and help, and they're trying to talk to them, and they don't understand each other. I was just flying all over, just running from here, to here, to here, I was all over [translating]. There was a lot of miscommunication. Sometimes you get a situation where they don't agree. So they took me with them so I can translate for them" (participant 005).*

The problems that the evacuees faced related to diet and language was due to differences in the culture between the Indigenous people in the north and communities in the south that are dominated by non-Indigenous Canadians. These cultural differences were manifested during the evacuation negatively influencing evacuation experiences of most of the elder evacuees. Participants in the elder and councilor focus group noted that hosting communities should be able to understand such barriers that are created as a result of cultural differences. They also noted the need for training and better preparedness for community nurses as well as nurses at the hosting community, so that both groups are equipped to address the needs of medically vulnerable evacuees during emergency evacuation. In addition, the participants underscored the importance of sending community nurses with medically vulnerable elder evacuees to translate and to ensure that cultural sensitivity is taken into consideration when meeting their needs.

In line with the findings of this research, pervious research with disaster evacuees has found that a lack of cultural competence (e.g., language) as one of the barriers for efficiently deliver services to evacuees (Legerski et al., 2012; Pearce, Murphy, Chretien, 2017). For example, in their qualitative study of the experiences and challenges faced by service providers working with Hurricane Katrina evacuees in Kansas City, Legerski et al. (2012) found that the hosting community's lack of preparedness and training in cultural competence (e.g., cultural beliefs and practices of evacuees) was an impediment to meeting the evacuees' needs. The authors recommend training in cultural competence (such as familiarity with respect to beliefs and practices) in order to better address evacuees' needs.

8.4. Stage-Two evacuees: The perception of negative and positive experiences in the hosting communities

This study revealed a number of factors affecting Stage-Two evacuees' experiences during their stay in host communities. The factors examined here are again largely tied to the evacuated band members' individual circumstances, with in their social context, and the services provided (both material and emotional support) in the hosting communities. While most of the participants expressed their satisfaction with the services, they also identified a combination of factors influencing their experience both positively and negatively during their stay in the host communities. The major themes identified as having a negative impact include accommodation conditions, financial problems, lack of activities for evacuees, relationships with the host community, alcohol and inappropriate behavior, and concern about the condition of homes, properties and pets. Each of these themes is discussed below.

8.4.1. Perception of negative experiences at the host communities

8.4.1.1. Accommodation conditions

In most of the hosting communities, band members stayed in an arena or in a hotel. While most of the participants evacuated at Stage Two and hosted in a hotel had no issues regarding their accommodations, participants in arenas and gymnasiums reported negative experiences including a lack of sleeping cots, unsanitary conditions, uncomfortable cots, lack of privacy, and noise. One of the participants accommodated in the arena in Marathon shared his experience of observing evacuees, including unaccompanied children sleeping on the floor in unsanitary conditions:

> *"But we could honestly say we didn't have all the beddings and things like that because they didn't have any bedding. Most of them slept on the floor when I see them. And this one group where they were placed, it was infested with caterpillars everywhere. They were crawling inside. No toilets were working, and that's where those kids were put at, the ones that I'm*

telling you their parents are away somewhere else. But that's where they were put at, and that's where they stayed" (participant 019).

As discussed in Section 8.3, it appears that issues raised by participants regarding the quality and delivery of accommodation services could have to do with the very limited amount of time that some of the hosting communities had to accommodate large numbers of evacuees. Previous researchers have noted the importance of developing a hosting plan for large numbers of hazard-displaced evacuees to address needs based on individual demands (Epp et al., 1998; Appleseed, 2006). For example, Epp et al. (1998), in their study of emergency preparedness among First Nations in Manitoba, discussed how often times muncipalities are ill-prepared to meet the needs and requirements of First Nations evacuees and lack the capacity to implement "best practices"' to accomodate them. Similarly, in a study completed with officials and residents from five cities that hosted thousands of Hurricane Katrina evacuees in the US, Appleseed (2006) investigated the various challenges faced by the evacuees as the host communities overwhelmed by large influx of evacuees and hosting communities ill-prepared to deal with their needs.

8.4.1.2. Financial constraints and evacuation experience

A few existing studies indicated that evacuations can be very difficult for vulnerable populations such as the poor, minorities, and Indigenous people with limited financial resources to cope with the disruptive impacts of a disaster (Elder et al., 2007; Gaillard, 2006). Disaster researchers have found that pre-existing factors of poverty and unemployment may affect evacuees' post-hazard adjustments (Elder et al., 2007; Legerski et al., 2012). Besides, due to limited preparedness for or short notice of an evacuation, people may not take sufficient money, clothing or other essentials to sustain them throughout the displacement period. This creates difficulties for evacuees which are secondary to the disruptive impacts of the hazard itself (Elder et al., 2007). Such impacts are felt more profoundly when residents have to be evacuated for days and sometimes for weeks before it is safe to return to their homes.

Like most First Nations residents on reserve, most of the community residents in Sandy Lake rely on welfare or social income assistance from the government.[19] According to a community official, there is a high rate of unemployment (estimated 80%) in the community which contributes to low incomes and financial problems. Some of the participants reported that they faced financial problems during their stay in the host communities. They either forgot or did not bring sufficient money and clothing when they evacuated, as they were unprepared to be away for weeks. Some people could not afford to buy essentials for their children since they did not receive their welfare pay cheques before they left. Once they left the community, welfare payments could not be sent as residents were scattered in different places. After leaving, many community members called the Chief to ask about welfare payments, family allowances and old-age pension checks. Many were concerned about family allowance and old age pension checks because the Sandy Lake Northern Store, in which the post office is located, was closed due to the evacuation. The Chief advised residents that plans were underway to make sure that everybody would receive their social assistance where they were hosted and the Band was working with Canada Post to find a way to get those checks to the evacuees *(Sandy Lake Chief video update #2*https://www.youtube.com/watch?v=FwBkJ8prtMM*).* However, some of the participants reported that they did not receive their welfare until they returned to Sandy Lake. A participant who was evacuated to Ignace explained:

> *" Well, there was a lot of people that were on welfare, and people were asking please, you know people need money, is there any way that we can get our welfare checks, and they kept asking about it and they were calling the finance ladies here and the Chief and Council, but nothing got done. We had to all wait till we got back to Sandy" (participant 040).*

A participant who was among the frontline workers who stayed behind in Sandy Lake during the evacuation recalled having difficulty sending money to his family since the Sandy Lake Northern Store was closed due to the evacuation, and that is where the money transaction service was provided:

[19] "In 2012-2013, 33.6 percent of on-reserve First Nations peoples received social income assistance compared to just over 5 percent of the Canadian population. In some Aboriginal communities, social income assistance rates are higher than 80 percent" http://www.thecanadianencyclopedia.ca/en/

"I couldn't send money out from here to my wife in Winnipeg, my other kids and my little babies were in Sioux Lookout 'cause the Northern manager couldn't do anything. That was the only place we can go if we try to send money" (participant 21).

The lack of income made it challenging for evacuees to buy essentials such as diapers, clothes and shoes, and to pay for recreational activities for children. Even though most essential goods (diapers, baby formula, and hygiene supplies) were provided by the Canadian Red Cross (CRC), in most hosting communities, evacuees reported that the CRC support was insufficient and they had to buy essentials including diapers and clothing. An elder participant hosted in Marathon said that he had trouble buying supplies for his grandchildren:

"It was kinda hectic. You're doing everything out there and just like every child, what he needs every day, I didn't have it. Pampers, milk, just what kids need. I didn't have the necessary things to get those things. Even when I requested, it took a while to get them […] I mean I can't say I didn't get it, but I didn't get it when I needed it" (participant 019).

Another participant noted, "I know that some families can't afford baby Pampers or any personal hygiene stuff" (Participant 41). Another participant pointed out that the children didn't always like the food that was prepared for them, but their parents could not do anything about it: "There were a lot of families that cannot afford …what they need for the kids …There were a lot of kids out there that won't eat what the adults would eat, too […]" (Participant 031). A similar concern was shared by a community evacuation liaison working in Thunder Bay. She noted:

"They said they had food, but they didn't have any spending money because a lot of them don't have money. So it was really hard, you go put 'em in a city where they can go and see everything and they don't have the money to do it" (participant 05).

Unlike the evacuation protocols followed in Alberta (McGee and Christianson 2015), in Ontario First Nations residents are not provided with money during evacuations. Instead, essential services (accommodation and food) are provided by the hosting communities and costs incurred by the hosting community are reimbursed by the federal government through Indigenous and Northern Affairs Canada (EMO, 2012). Based on the 2012 JEMS Service Level Evacuation Standard document for the province, hosting communities are required to provide meals for evacuees based on a certain daily meal rate (breakfast rate of $8.75, lunch rate of $11.25, and dinner of rate $20.00) and costs exceeding the rates need to be approved by AANDC

(EMO, 2012). Evacuees may also receive donations from other non-governmental organization (such as the CRC) and the residents of the hosting community; however, it is the evacuees' responsibility to ensure that they bring adequate clothing (EMO, 2012). Due to limited notification time before the evacuation, many people did not bring sufficient clothing for a long time away from home, nor did they have the financial capacity to buy clothing and shoes. A participant reported that she spent her own money to help community members:

> *A lot of kids didn't even have shoes because some of them just left with what they had on […] I rented a vehicle while I was out in Arthur. So I went and made a couple of trips to Walmart, and I went and bought some stuff for people with my own money because it's so heartbreaking to see families and children and babies without just the basic necessities (participant 022).*

Another participant evacuated to Long Lac with her four children stated that she did not have the money to spend on what her children wanted:

> *"We would walk to town and my kids wanted stuff, and I didn't have the money to buy what they wanted. At least we had a roof over our heads and we were with other people from back home, so they [my children] were not so lonely at all. That is what was good about it" (participant 018).*

A similar concern regarding financial problems faced by evacuees while staying in shelters was raised by researchers studying with First Nations residents in Saskatchewan. Scharbach and Waldram (2013) studied the evacuation experiences of Hatchet Lake Denesuline First Nation and noted that evacuees, particularly mothers relying on social assistance or welfare, were vulnerable during evacuation due to their limited financial circumstances.

Upon their return to Sandy Lake, some participants experienced financial problems because they had had to use all their welfare money while away and had nothing left. After the community had been fully repatriated, a cookout feast was prepared to celebrate the safe return and to assist those who had run out of money. According to one of the participants:

> *"They sent our money [welfare payment] and we spent it out there and when we came back we didn't have any money to buy food. Then we had to wait for the next welfare day and that's why they were having cookouts for the people who didn't have food" (participant 09).*

Research completed in a non-Indigenous context has also confirmed the disproportionate negative experience faced by low income residents during disaster evacuations (Bolin, 1986; Elder et al., 2007; Legerski et al., 2012). For instance, Legerski et al. (2012), in their qualitative study of the experiences and challenges facing service providers in Kansas City after Hurricane Katrina noted that in addition to disruptions in daily life and social support networks caused by the evacuation, financial problems amplified the impact of the trauma felt by the hurricane. Similarly, in an earlier research completed with the 1986 California flood evacuees Bolin (1986), found that psychological distress tended to be higher among evacuees with poor economic status and limited social networks. The author noted that evacuation had caused poor residents to be removed from their social support system, which put considerable strain on their stay in shelters, whereas, those with higher incomes had the material and social supports, and psychological resources to better cope with the many stresses associated with the flood and evacuation. Likewise, some of the Sandy Lake evacuees who faced financial problems had been able to draw support from their social networks that enabled them to better cope.

8.4.1.3. Lack of recreational activities

One-quarter of the interview participants said that there were limited activities available to community members in the evacuation center. In some communities evacuees received free access to public recreational facilities. They also received movie tickets. However, a few of the participants said that they had difficulty finding affordable recreation activities, particularly for their children. The provincial emergency response plan for Ontario dictates that the hosting community is responsible for providing recreation and entertainment areas/activities for evacuees (EMO, 2013). Keeping their children busy at the evacuation centers was an issue for some of the participants. One of the participants who was evacuated to Thunder Bay emphasized the lack of activities for children during their stay in a hotel:

> *"With me, I don't mind it, but it's just the kids that I always wonder about, how they should be spending their time when we do get evacuated out there. I think my thing is just the kids, if we ever do get sent out, there should be more things for kids to be occupied with" (participant 012).*

Another participant talked about the outdoor lifestyle that many children are used to and the challenges of keeping them in a hotel room or arena for weeks with no activities:

> *"I feel for the moms that have three or more children that they need to look after while they're out there and taking them to a motel, putting them in a small room for a week or two. Where are the children now? Do you see them in their house? No, not here, they're outside. They're outside playing at 9 o'clock. They're outside playing at 10 o'clock at night. That's another barrier, the kids, they're used to being outdoors. They're used to being with nature. You take 'em downtown and put 'em in a room, no activity, they can't go outside" (participant 041).*

Apart from the lack of reactional activities organized and provided by some of the hosting communities, the affordability of such services was an issue due to the low economic status of many of the parents. One of the participants accommodated in a hotel in Thunder Bay underscored the financial constraints many parents faced when it came to entertaining their children while staying in the host community:

> *"Even the last time there wasn't a lot of parents that couldn't provide a lot of things for their kids, what other kids got. If you stand there and actually look at the people that are walking around inside the lobbies, you know, it is very frustrating when you're out there with nothing. Some kids want to go to this place, but they can't because their parents can't afford to go there" (Participant 31).*

A similar problem was faced by adult evacuees with regard to the lack of activities at the evacuation centers. One of the participants evacuated to Thunder Bay expressed dissatisfaction because she felt that the hosting city should have provided reactional activities.

> *"Like all my sisters and my brother-in-law we love to play bingo, but we didn't even get to go. I mean what can we do for entertainment except stay in the hotel and watch TV but you can't just watch TV all the time. I don't think I ever saw a movie that time. So there was really nothing except to go to the store. I don't think we ever really went anywhere except close by because of, like why they couldn't arrange those [recreational activities], Mount McKay and Chippewa Park they have those. I think they still have those, right? We would have a better time if we were able to see more of the city, at least somewhere else anyway (participant 007).*

The lack of activities for displaced individuals can compound the already stressful experience of a disaster and emergencies (Pearce, Murphy, Chretien, 2017). For some of the participants, coupled with the disruption caused by the evacuation, the lack of activities at the evacuation centers caused boredom and stress, as explained by one of the evacuee:

> *"Boredom. When you're there you're expected to be there. But there's no plans, that's all you do is you go to sleep, get up in the morning, breakfast, and you sit there, and you stay there. And then at 11:30, 12 o'clock, lunch. So you go down and eat. After you eat, you sit there, and you stay there. Either in the hall, whatever hall that they have where you can just lounge around, or in your hotel room. That's it. No planned activities, you can't go anywhere […] that is one of the aspects that's lacking when you're an evacuee. You're not supposed to go anywhere, you're not supposed to do anything […] Boredom is the one big thing that'll push you down, so my suggestion is get some activities for the people" (participant 32).*

In order to deal the problem, in some hosting communities, evacuees themselves helped organize activities such as cultural programs, bingo sessions for elders and activities for children. Such activities at the evacuation centers provided participants with an opportunity to help each other and engage in helping fellow community members to relieve stress and boredom. In Section 7.2.3, it was noted that emotional support for band members was one of the most prevalent and valuable social supports that participating evacuees mentioned receiving. This finding confirms the few other studies completed with First Nations (McGee and Christenson, 2015; Scharbach and Waldram, 2013; Pearce, Murphy, Chretien, 2017). These studies showed the stress, anxiety and boredom that evacuees often experience while staying at the evacuation centers. Organized activities for evacuees, including emotional support from elders and other traditional healers, can reduce trauma and positively contribute to emotional wellness (Pearce, Murphy, Chretien, 2017).

8.4.1.4. Relationships with the host community: problems with racism

While the majority of the participants expressed their satisfaction regarding the interactions they had with the host community where they stayed, some participants expressed their dissatisfaction due to racism which was most pronounced for evacuees hosted in Marathon.

Participants witnessed a direct physical threat from residents in Marathon which eventually led community officials to relocate evacuees to Thunder Bay and Sioux Lookout. One of the younger interview participants evacuated to Marathon said:

> *"We got relocated to Sioux Lookout [from Marathon] and that was when I was really happy. The reason why we relocated from Marathon was just that we were getting so much hectic threats from the community of Marathon. It wasn't a very comfortable place to actually be there 'cause everybody felt like everybody had to watch one another, nobody has to walk around alone or something, we had to be in a group in order for us to go somewhere" (participant 001).*

Another young female participant recalled being scared of the threat she received from some teenagers in Marathon:

> *There was a big fight too. My brothers were there, I forget what it was to do with though. Then they would be hanging around at the arena outside, telling them like they're gonna shoot us and stuff […]Marathon people were accusing us […] They were just teenagers though, those boys, then those white guys. I was there too, they wanted to fight them. That was kind of scary, just trying to watch over my brothers, that's all. From Marathon we caught a bus all the way to Pelican Falls, that's just outside of Sioux Lookout. That's where I was graduated [high school] so I didn't mind being there again. It brought back old memories" (participant 09).*

The racism problem was not isolated to Marathon. A participant who was hosted in Sioux Lookout reported an incident at a grocery store next to the arena which made her feel uncomfortable:

> *"We were able to go over and buy a lot of the fruits and stuff that we wanted to eat. And some other stores that was kinda like when they watch you so closely, they're just following you behind. I didn't like that I couldn't even really shop because of the way they were watching you, like they expect you to walk out with a lot of stuff and not pay for it. We weren't comfortable shopping. That's just a negative side that I really felt. So there was really nothing except to go to the store but you had to watch, you know not to break anything and 'cause there's always somebody behind you. You weren't trusted. So that was the one thing I didn't like" (participant 07).*

Being a target of racism at some of the hosting communities was a negative experience for some participants and it led to emotional and psychological distress, a compounding factor for the trauma and stress of the emergency. This negative experience of racism was not only limited to the evacuees who actually experienced it but it also affected the victims' family members in

communities where these incidents did not occur. An elder participant recalled being concerned about his family hosted in the town of Marathon after he learned that band members were experiencing racism and threats:

> *"When we started hearing things about what was going on at Marathon there about the racism, there were different stories coming out of there, and I was thinking about the people that were there and just hoping that they wouldn't get hurt in any way. Physically anyway, but they were emotionally getting hurt by the way some people were acting over there, the residents. My oldest daughter was there with other family members. That was where they were mostly hearing about the racism. But the thing was it was pretty hard to just sit there and listen to all that, what was happening to them and hoping that they would at least not get hurt, just to pray for them" ((participant 23).*

During focus groups with the councilors and elders it was indicated that community leaders reportedly made efforts to alleviate the racism problem by communicating with the town's officials, EMO and AANDC. One of the focus group participants explained:

> "*There was a racist taunt and people never want to go there [Marathon] again. The kids were getting picked on if they go to town to shop, when they go to restaurant they were getting picked on. There were some names calling [...]. If they go to town they were getting picked on. So that is one place they never want to go. We went after EMO and the chief made a complaint and they all pulled out of Marathon and moved to Thunder Bay [and Pelican Falls or Sioux Lookout]" (Focus group participant).*

The problem of racism that some Sandy Lake First Nation evacuees experienced is shared by other Indigenous people in Canada. The problem is part of the reflection of the long colonial history between Indigenous people and the white Canadian society which perpetuated institutionalized and systemic racism (Backhouse, 1999; Leyland et al. 2016). Similar to my findings in Sandy Lake, in a research that looked at the evacuation experience of the members of the Hatchet Lake Denesuline First Nation (Saskatchewan), Scharbach and Waldram (2013) found that evacuated band members experienced poor treatment from hotel workers in Prince Albert and Saskatoon, which the research participants attributed to race-motivated discrimination. In research about 1995 Sioux Valley First Nation flood evacuees in Manitoba, Epp et al. (1998) observed a similar problem. According to the authors, such perceived "unfair" treatment aggravated the evacuees' trauma and stress.

8.4.1.5. Alcohol and substance abuse and inappropriate behavior

A few of the participants reported inappropriate behavior induced mainly due to alcohol and substance abuse by few of the evacuated band members. Some participants expressed their opinion that these are part of pre-existing social vulnerabilities in the community and in other reserves in the region (Ministry of Health and Long-Term Care, 2010; Cirone & Krishnamurthy, 2015). According to one of the community officials, a high rate of unemployment and low income contribute to other Sandy Lake social problems, including alcohol and substance abuse.

Such pre-existing social vulnerabilities such as alcohol and substance abuse problems were manifested at the evacuation centers, resulting in some inappropriate behavior. According to one of the participants: "There were people addicted when they left the community and they got sent to these places where they would get into these [alcohol and drug abuse] things. My common-law was an addict for prescription drugs and we had a hard time" (participant 040). A community evacuation liaison noted the problem of drug and substance abuse among evacuees in the hotel where they were staying in Thunder Bay: "Some people were even doing needles and pills and all of that, and the hotel would find like needles under the sink and weird stuff. There were a lot of people that did that during that time […]" (participant 003). One of the interview participants talked about her own addiction problem during the evacuation as a negative experience: "Well, I had a hard time in Thunder Bay 'cause there was a lot of drinking going on. Everybody was on drugs and pills, even me. But now I'm off, like I'm in the Suboxone treatment program[20]" (participant 045). As with other communities across Ontario, a number of isolated First Nations are experiencing high rates of alcohol and prescription drug abuse and it is recognized by health authorities in Ontario as potential problem during evacuation of First Nations during emergencies, such as a forest fire or flood (Ministry of Health and Long-Term Care, 2010). Like most other First Nations in the region, Sandy Lake First Nation is a dry reserve: alcohol is strictly regulated. According to the interview participants, some community members view evacuation as freedom from living on a dry reserve and an opportunity to access alcohol. Some members of the hosting communities also took advantage of the situation to sell

[20] A Community-based Suboxone programs are widely implemented in Northern Ontario including Sandy Lake First Nation to provide support for individuals struggling with issues related to opiate abuse. The program includes four phases: preparation, induction, maintenance and discontinuation (Ministry of Health and Long-Term Care, 2010).

drugs to evacuees. One of the councilors in charge of the group in Thunder Bay said that when the evacuees arrive:

> *"[...] the drug dealers also show up. I don't know any drug dealers, but they come and try to do their stuff. That's one of the big issues we had. We don't want our young parents to get hooked on that, but what can you do? Try to keep a close eye on them (participant 012).*

A community evacuation liaison who was working in Long Lac shared a similar experience:

> *"We had to search people with the liquor; they tried to make a booze run or something, so we'd dump it out. And meanwhile the securities that live in that reserve in Long Lac, I guess the ones that were working in the school, some of them were drug dealing, so I wasn't aware, and we didn't know till the last day that there was a couple of people there selling weed and stuff. We were trying to take care of everyone that was brought in. We would confiscate the backpacks or whatever bags they had and we'd search them, and sure enough we'd find some liquor or some coolers and beer, and we'd go dump it out behind the school gym" (participant 18).*

As noted by many of the participants, one of the negative experiences of staying at the evacuation centers was misbehavior due to alcohol and substance abuse problems by few of the evacuated band members. Monitoring and managing the individuals who resorted to such activities was a challenge for already overstretched community liaisons. Some participants also reported trouble staying asleep at the evacuation centers due to noise coming from evacuees who were drinking. One of the participants accommodated in arena in Geraldton said: "It got to a point where they [the evacuees] were saying that this is getting crazy, some people can't sleep because there were other people that are intoxicated. They were all in a gym and you cannot sleep with [a] hundred people there" (Participant 015). According to a community evacuation liaison working in Thunder Bay, in order to monitor the evacuees who were misbehaving due to alcohol and drugs, police had to be called and security stationed in the lobby of the hotel where the evacuees were staying:

> *The first few days of it was okay and then when a week came around, that's when the drinking started. That's when the drugs started, the prescriptions came more into the hotel and we had to try to control that with the Thunder Bay Police, too, and we had to get security out in the lobby. We did our best to try and keep that away, but we couldn't do much you know, 'cause alcohol is allowed over there right, and this is [Sandy Lake] a dry reserve, so it was kinda hard, but you know, despite this all, I'm grateful today that we didn't lose anybody the whole two weeks we were away" (participant 05).*

As can be learned from the participants' stories, even if the alcohol and substance abuse problems are mostly related to pre-existing social vulnerabilities, such problems can become more pronounced during evacuation to large cities if evacuees use the opportunity to access these substances. Given the high prevalence of this social problem in communities in Northern Ontario, government disaster response plans including evacuation should specifically address these vulnerabilities. As suggested by the participants, one way of dealing with such problems is to evacuate some residents (particularly the youth) to nearby communities, and make sure that hosting arrangements take into account vulnerabilities including alcohol and drug addictions. Those arrangements can include continuing to offer community-based care services at the hosting community (such as Suboxone programs) to provide support for evacuees struggling with issues related to opiate abuse. Recent wildfire evacuation research that focused on the Hatchet Lake Denesuline First Nation also noted alcohol abuse by young evacuees as one of the factors negatively affecting evacuation experiences (Scharbach and Waldram, 2013).

8.4.1.6. Concerns about the condition of homes, property and pets

Researchers have found that concerns about the condition of homes, property and pets are common among wildfire evacuees and can cause significant stress (Cohn et al. 2006; McGee et al. 2009; McCool et al. 2006). Some of the participants reported that they were concerned about the safety of their homes, property (such as vehicles, boats and cabins) and pets when they left Sandy Lake and during their stay in host communities. In addition to this, those band members who were evacuated at Stage One were worried due to the lack of information about family whereabouts when the full evacuation was called (see Chapter 7).

As discussed in Section 7.2.1, once the community residents were evacuated, they were unable to get accurate and up-to-date information because they were too scattered and some did not have a councilor or an assigned liaison who could provide information. Another reason for the lack of information was that the responding agencies and hosting communities did not put into place the mechanisms to address the evacuees' information needs upon arrival at the hosting centers. Information presented through the media (such as CBC News and other local news channels) was not helpful as the media generally focused on the fire coverage in northern

Ontario, the number of affected communities, and firefighting progress and not on specific information tailored to each community. It was the latter that evacuees wanted and needed in order to learn the status of home, property and pets. One of the participants who stayed behind during the evacuation said that "people were concerned about their homes because if there are people running around the community, they were worried about breaking in and security issues" (Participant 047). Evacuated residents were also worried about the risk that the wildfires posed to their property, and concerned that they would be unable to recover from potential damage. A participant stated:

> *"I was worried about my house, my belongings, my trapper's cabin, my boat, my motor, my car. If it burned I don't have the money to build it up again. There's about 3,000 of us. Where are they gonna put us? That's my first concern. I think the whole community thought that way" (Participant 002).*

Participants also expressed their concern about the safety of the pets that they had left behind, some locked inside houses and some outside. Two of the participants, one who stayed behind and the other evacuated, explained:

> *"They were asking us how's my house? Can you go check on my dog? Can you go check on my bird, or turtle, or all their pets. There's only a few of us here. There was an outcry that the dogs are just running around, they had no food" (Participant 015).*

> *"We had to leave our pets behinds. We were worried about them. My mom had a dog and we had a dog and so, I didn't know Mom had locked her dog up in the porch. I didn't know that. The bigger dog, the husky, what I heard is the big dog busted a window, and the little dog was able to get out" (participant 006).*

A few days after the entire community evacuation, realizing how concerned the residents were about their pets, MNR brought pet food. Frontline workers who stayed behind also assisted in feeding pets. One of the frontline workers recalled:

> *There was nobody around to take of the dogs. There was a lotta concern that people thought that we wouldn't look after the dogs or the animals […] MNR flew in some six plane loads of dog food, cat food from Red Lake […] We even shot this video [to show for community members]. You have probably already seen it" (participant 033).*

In order to reach out to the widely scattered band members with up-to-date information, the Chief, along with the people who stayed behind, came up with the idea of posting updates on the

community website, which was eventually shared by other social media including Facebook and YouTube (see Section 8.4.2.3). Among the updates provided were videos showing pets being fed by band members who had stayed behind, and aerial views of the community recorded from a helicopter. Participants noted that the video updates helped ease the concerns of residents regarding the safety of their homes, property and pets.

This finding resonates with previous research about wildfire evacuees that showed that an absence of and/or inadequate information about the condition of homes, property and pets can cause distress and anxiety among evacuees (Cohn et al., 2006; McCool et al., 2006; McGee, McFarlane, & Varghese, 2009). In the First Nations context, Scharbach (2014) also found that some evacuees from the Hatchet Lake Denesuline First Nation were concerned about burglary "because a few of the residents that had remained in town during the evacuation had reputations for burglaries." In a non-Indigenous context, a study completed by McGee et al. (2009), which looked at fire affected residents one year after the 2003 Lost Creek and McLure wildfires in Western Canada, showed that evacuated residents and those who stayed in their homes during the wildfires experienced a high level of concern both pre- and post-fire. Similarly, based on a study of wildfire evacuation incidence in response to three fires—the Hayman Fire, 2002 Rodeo-Chediski Fire (Arizona), and 2000 Cave Gulch/Bucksnort Fires (Montana), Cohn et al. (2006) indicated that the worst part of the evacuation process for residents is the uncertainty surrounding the condition of their homes, i.e., not knowing if their house had burned.

8.4.2. Perception of positive experiences at the host communities

Some evacuees had positive experiences during their time in the host communities. These experiences are grouped into three themes: reception and support for evacuees, perception of the evacuation as a 'free vacation' and an opportunity to socialize with other fellow community members, and communication updates and leadership provided by the Chief. Each of these themes is discussed below.

8.4.2.1 Reception and support for evacuees

Apart from the support they received from family and fellow community members, participants described the support they obtained from the host community which they believed contributed positively to their stay in the host community. Participants described the various supports they received (including material donations and emotional support) from members of the hosting communities, government officials and other non-governmental support agencies (e.g., the Canadian Red Cross) as a contributing factor for their positive experience.

In terms of material support, participants reported that they received material donations from the host communities including clothes, shoes, diapers, formula, and personal hygiene items. In Thunder Bay, evacuees were provided with a photo ID card showing their evacuee status so that they could receive discounts and deals on items including clothing and shoes at selected locations. A community evacuation liaison said, “We had a little card, like our pictures are on there, like if we went to a bargain shop or somewhere we’d just show them the card” (Participant 002). As noted before, other hosting communities including Ignace, Arthur, Wawa, and Sioux Lookout donated items including clothes and shoes. In Ignace, the AANDC liaison coordinated the donations from the residents: “[An] AANDC worker helped that clothing depot be set up for us. We were allowed to take what we needed. If we found anything that fit us, or shoes or whatever” (participant 027). Similarly, in Sioux Lookout residents donated various essentials for the evacuees. One of the participants said, “a lot of people could only take a small bag [when they left Sandy Lake], the people in these communities were nice enough to send donations and the community members [would] go look and see what fit them or their children, so that was nice” (Participant 035). The CRC provided essential supplies such as diapers and baby formula. One participant evacuated in Thunder Bay said she is grateful for the supplies she received for her baby including pampers formula, and a stroller.

Participants described the emotional support and the positive interactions they had with officials and members of the hosting communities. In some hosting communities (e.g., Thunder Bay) evacuees were visited by the Premier, mayor and Nishnawbe Aski Nation officials. Emphasizing their positive experience, some participants described their interaction and the support received from the residents of the hosting communities using terms such as “caring”,

“friendly”, “supportive”, “kind”, “babied”, “pampered”. An evacuee who went to Arthur recalled that:

> *“We were taken care of. They [the town of Arthur] took care of us really good. The whole town chipped in I guess you can say. We stayed there almost 10 days. But we were pampered, babied, and it was a vacation. Even though we slept on a cot, they took care of us really good. We had activities, we had baseball, and we just did whatever. The mayor was always there every morning making sure everything was taken care of” (participant 026).*

A participant evacuated to Wawa said he appreciated the friendship as well as the material and emotional support that town residents offered.

> *“I think our experience was pretty good, and I always say that we were lucky that they gave us that kind of service. First day when we got there we had fresh barbecued hamburgers, fries and stuff like that. The community was very nice to us. There was no prejudice around. Say we go to the local bar ’cause that was a restaurant too, and then people would just come in and shake our hands, I hope your home is okay. I hope your community’s okay when you get back. So we got a lot of handshakes from the community when we went over there. There would be people dropping by to drop off fruits and vegetables, just to welcome us into the community. We didn’t really have any problems. All-in-all everything turned out for us, for my family anyways” (participant 040).*

Evacuees hosted in the Ginoogaming First Nation had the opportunity to enjoy various activities including barbeque, bingo sessions and a visit to cultural ceremonial sites for events such as a *pow-wow,* which is part of native people’s cultural ceremony involving feasting, singing, and dancing. One of the participants expressed her satisfaction with the activities provided during her stay in the Ginoogaming First Nation:

> *“The people were really nice over there. They even had a barbeque for us, too. They showed us where they have their pow-wow in their community. They put three nights of Bingo on for us. They asked us if we ever have rummage sales here and we said yeah, they took us there. They had drivers to take us into town to go visit the other people from the community ’cause there was other ones [evacuees] over there inside the town [in nearby Long Lac]. They tried to make us as comfortable as they could” (participant 034).*

In sum, for some of the participants, the material and emotional support provided by the local residents, government officials and CRC contributed to a positive stay in the host communities. As discussed in Section 2.4.2.2, social supports (including material, information and emotional

support) extended to affected individuals and communities are important protective factors during a disaster (Berkes and Ross, 2013) and are important determinants of resilience (Townshend et al., 2015). Apart from the social supports from the evacuees' own families, kinship and clan members, the material and emotional support provided by the hosting communities was instrumental in helping the evacuees deal with the challenges associated with their displacement.

8.4.2.2. Evacuation as a "free vacation" and an opportunity to socialize

A few of the participants, all of whom were between the age of 18 and 25, described their stay in the hosting communities as a "free vacation" and a positive experience, which included an opportunity to socialize with fellow community members. However, they did acknowledge that they missed home.

As noted by the youth participants, due to high cost of transportation and limited incomes, most community residents, particularly the youth, cannot afford to go out of the community, which is why they could envision the evacuation as a free vacation. For example, it costs from CAD$ 480 to CAD$ 670 for a one-way trip by scheduled aircraft to the nearest town, Sioux Lookout (Ont.), or the larger cities of Thunder Bay (Ont.) and Winnipeg (Man.). As one youth explained, I barely leave the community because it's expensive and there was a reason why we should leave because of the evacuation. Then I thought it was like a free trip" (Participant 09). Another youth participant said: "it was good to get outta town here, and be out there somewhere that I [had] never been. That was a pretty good experience for me to be [on] that trip anyway. Didn't know where they were taking us, but I felt good being out there for a while and just seeing how it looked out there" (Participant 023). Another youth focus group participant said it was nice that his family was evacuated together:

> *"It was a good stay. They hooked us up in a hotel. It was pretty fun. It was like a vacation. It was okay, just 'cause we had our family together. It probably woulda sucked if we were separated. It was kinda like a vacation too, 'cause they put us in a hotel, they had our meals ready there. And my other family was in the same hotel; we weren't alone" (youth focus group participant).*

Two of the youth participants viewed their stay in the host community as an opportunity to interact and socialize with fellow community members that they would not normally talk to. One youth participant who stayed in a gymnasium in Longlac stated: "I got to talk to other community members that I don't usually talk to, that was a good experience" (participant 049). This finding has an important implication in terms of providing opportunities for youth members of the community to engage with other community members. This helps further strengthen existing social bonds in the community. As noted in Section 7.2.1, participants cited how community members helped each other to share information updates while staying in the evacuation centers, which created opportunities for some people to get to know each other and work together. Such positive experience corroborated previous evacuation research by Kent et al. (2003) completed with residents affected by the 2002 Hayman wildfires (Colorado). In their case study, the researchers noted that the shared experience of the evacuation process created opportunities for people to get to know one another, increasing the sense of community.

8.4.2.3. Communication updates and the Chief's leadership

While concern over the condition of homes, property and pets was a factor causing stress for some of the participants, participants also spoke positively about the efforts made by the Chief and people who stayed behind in providing information and updates. As discussed in Section 7.2.1, once the community residents had been evacuated, they were unable to receive up-to-date information because they were scattered in multiple locations. It was difficult to assign councilors in all of the locations. Another barrier to getting out information was the absence of any mechanism to addresses the Sandy Lake residents' need for information upon their arrival at evacuation centers. Once the band members had settled at the hosting communities, the Chief and people who had stayed behind in Sandy Lake made efforts to provide updates. The Chief provided progress reports in both English and Oji-Cree. He also regularly uploaded videos on the community website, YouTube and Facebook. Information updates addressed various topics including the wildfire situation, conditions of homes and property and the safety of pets. Evacuated band members were also informed about a toll-free hotline set up by the CRC so that

separated families could locate each other. The Chief made several public statements that were video-recorded and uploaded throughout the evacuation.

Among the updates that the Chief provided were aerial views of the wildfires from a helicopter ride that he took. The aerial view also showed sprinkler systems set up on some of the houses, fire hoses on roads inside the community, and dogs being fed by community members who had stayed behind. The chief's public statements that were video recorded provided information about separated families, addressed issues and concerns faced by evacuees in host communities, and publicized return travel arrangements and payroll and social assistance payment arrangements for the returnees. About one-third of the interview participants said that receiving updates from the Chief was a positive experience. In the words of two of the participants:

> *"The chief would talk to his people just to give them updates where things are at. He would talk in our language. He says I'm not talking to the public out there. I'm talking to my elders and he would talk in our language. That was really a great thing to do. It was very informative for the elders about what was going on within the community" (participant 036).*

> *"It was a feeling of relief. And it was so good to know that our community was still here, because day by day we were always getting updates from our chief over the internet. And we'd always check, and that was something we always would hover around whoever brought a laptop or something, we'd all look at it. And he did it in our language, and he did it in English for the elders to understand, too. And I was really proud of him for doing what he did, and staying back. And there were some that stayed back even though the conditions it was in. And he proved to us when he did that, that our community was safe" (participant 022).*

Another participant recalled how she felt good watching the video updates showing pets being fed by community members who stayed behind: "We saw the video on Facebook. People who stayed behind recorded a video of them [pets] and that they were in the yard and they look good. It made us feel good; at least they were ok" (participant 06).

In some hosting communities, a TV screen was set up for evacuees at the evacuation centers to watch the video updates. Other evacuees relied on their own phones or computers or those of family members or friends. Community members also helped each other by sharing information

with fellow community members who did not have cellphone or computers and therefore no access to the internet. Although many evacuated band members relied on the video updates, social media, principally Facebook, was also instrumental for sharing information. Four of the five youth focus group members stated that they used Facebook to communicate with their family and friends. As noted in Section 7.2.1, a few members of the community created a closed Facebook group, "Sandy Lake First Nations evac info," which was particularly important for not only providing a way for separated families to communicate but also as a medium for sharing the Chief's video updates. A youth focus group participant noted how community members helped each other to share updates on Facebook: "We were getting [the Chief's] updates by YouTube and everybody communicated by Facebook. Everybody was one big community helping each other find one another and [asking] 'How's everything doing? How is it over there?'" (Youth focus group participant).

Studies focusing on communication during crisis have noted that during and after a crisis event social media can be used build disaster-resilient communities (Dufty, 2012; Molyneaux et.al. 2014). Considering the growing use of social media in remote fly-in communities, including Sandy Lake First Nations,[21] the use of such tools during an emergency evacuation can also fill information gaps for evacuated residents, since evacuation can create serious communication problems as it tends to disrupt informal information networks (Taylor et al., 2005). Once settled at the hosting communities, social networking media can also play a crucial role for sharing information from community leadership to band members hosted at multiple evacuation centers. However, caution should be taken to avoid potential issues of trust and misinformation that could arise in using the more open social media (Dufty, 2012).

Last but not least, a few of the participants said that the Chief's leadership was an important factor in helping them to cope with the stress of the evacuation. In particular, these participants mentioned the effort that the Chief made to provide timely and reliable information in both English and Oji-Cree, addressing all the band members in a language they understand. Participants also noted the Chief's comforting words and advice that residents should stick

[21] Recently, many of the remote First Nations reserves in northern Ontario, including Sandy Lake, have been given access to broadband networks by the tribal council Keewaytinook Okimakanak Kuhkenah Network (KO-KNET). The services provided by KO-KNET include internet connectivity, email, videoconferencing, and many other broadband-enabled services (Bell, Budka, & Fiser, 2007).

together and help each other, which helped them cope with the emotional distress. Two of the participants said that they felt relieved listening to the Chief's video updates:

> *"The Chief utilized You Tube and everybody just logged on and clicked on his speeches and saw what's happening. And he always did an update at least twice a day on what's happening and it felt good to see his face when we were in Arthur. We had a big gym and then there was cots lined up. It was huge, there were 200 of us I think, a little over 200, and everybody had their laptops on and their devices and everybody was just listening to Adam. It was nice. It felt good to hear his voice" (participant 026).*

> *"It was a feeling of relief. And it was so good to know that our community was still here. Because day by day we were always getting updates from our chief over the internet. And we'd always check, and that was something we always would hover around whoever brought a laptop or something, we'd all look at it. And he did it in English; he did it in our language for the elders to understand too. And I was really proud of him for doing what he did, and staying back" (participant 022).*

Crisis communication research has underscored the role of trust in officials or managers as an important determining factor on how affected individuals view and respond to messages about risks (Kasperson & Stallen, 2012; Renn & Levine, 1991). These researchers have posited that the effectiveness of information delivered during a crisis is largely determined by contents and sources of the message. In First Nation context, research has emphasized the importance of local leadership during an emergency (McGee and Christianson, 2015). For example, McGee and Christianson (2015), in their study of the 2011 Whitefish Lake First Nation evacuation in Alberta, noted how evacuated residents relied on the Chief and Council for information about how and where to evacuate, the status of the fire, how long the evacuation would last, and when to return the community. Although most participants appreciated the Chief's leadership and fellow community members' help in communicating important information while staying in the host communities, they also expressed concern about similar incidents that could likely occur in the future, if appropriate mechanisms were not put in place for communicating during emergency evacuation.

8.5. Chapter summary

This chapter explored evacuation experiences of band members in host communities. The primary focus was to explore which of the band members' individual attributes and which services provided in the hosting communities affected the band members' experiences in those communities. The evacuees' pre-existing individual characteristics (such as age, income and health conditions; and those vulnerabilities induced through physical, cultural and/or social barriers) were found to affect evacuation experiences. The services provided in the host communities and examined here encompassed all material and emotional supports, including interactions with the members of the hosting communities. These services also influenced band members' evacuation experiences either positively or negatively.

The Stage-One evacuees were negatively affected due to factors related to pre-existing vulnerabilities including age and health conditions and individual needs and expectations. Most of the elder evacuees and medically vulnerable individuals faced a number of challenges in these areas. Some of these challenges included issues related to continuing health services in the hosting community, dealing with health issues in the absence of family support, accommodation-related problems and cultural factors related to language barriers and a lack of access to traditional food.

The study also identified a combination of factors that had a positive or negative influence on Stage-Two evacuees. These included, among others, accommodation conditions; financial problems; lack of activities for evacuees; negative relationships with the host community due to racism, alcohol, substance abuse and inappropriate behavior; and concerns about the condition of homes, property and pets in Sandy Lake. Some of these factors (e.g., financial problem and alcohol and substance abuse) are partly rooted in band members' pre-existing social vulnerabilities. For example, although most of the interview participants reported that they received support from fellow band members, hosting communities and governmental and non-governmental organizations (such as the CRC), some faced financial problems, inducing stress secondary to the disruptive impacts of the disaster itself. The other factors identified were related to the services provided (e.g., accommodation- and recreational-related problems) and

negative interactions with the members of the hosting communities manifested through the problem of racism.

On the other hand, not all evacuee experiences turned out to be negative. Participants noted other factors that contributed to positive experiences during their stay in host communities. These included material and emotional support provided by members of the hosting communities, perceptions of the evacuation as a “free vacation,” including the opportunity to socialize with and help other community members, and the Chief’s leadership in supporting evacuees by providing information and emotional support.

CHAPTER NINE: CONCLUSION AND RECOMMENDATION

9.1 Conclusion

This thesis explored how residents of Sandy Lake First Nation were prepared for and affected by the 2011 wildfire evacuation. Specifically, the research: 1) documented how Sandy Lake First Nation residents were affected by the evacuation (Chapter 5); (2) examined how issues related to pre-event preparedness and during-event communication influenced the evacuation experiences of band members (Chapter 6); (3) explored the impact that the government's evacuation operation had on Sandy Lake First Nation community (e.g., in terms of the role of family, social support, social cohesion, and place attachment) and how that affected the residents' overall evacuation experiences and impacts (chapter 7); (4) examined what individual attributes of band members within their social context and the services provided in the hosting communities, affected the residents' evacuation experiences during their stay in the host communities (Chapter 8).

The thesis was guided by a theoretical and conceptual framework drawn from the social constructionist approach to examine how residents of Sandy Lake First Nation were prepared for and affected by the 2011 community-wide wildfire evacuation. The social constructionist approach to disaster offered the perspective to examine diverse views of the affected community members based on the assumption that views and claims regarding hazard experiences and impacts vary depending on the diverse meaning people give to their experiences (Tierney, Lindell, & Perry, 2001; Tienery, 2014; Birkmann, Setiadi & Fiedler, 2015). The focus here is to understand the subjective meaning of people's experiences and how their experiences are shaped by individual, social, cultural and institutional contexts (Birkmann, Setiadi & Fiedler, 2015).

Chapter 5 presented key findings of the study using eight temporal periods of the evacuation. The subsequent chapters (6, 7 and 8) analyzed the findings by drawing on relevant theories and literature. A starting point to examine the wide range of factors affecting the 2011 wildfire evacuation experiences of Sandy Lake First Nation residents was to examine the issues and

challenges related to pre-event preparedness and during-event communication response and how they influenced the band members’ experiences (Chapter 6). The findings showed that various challenges were encountered before and during the evacuation that subsequently impacted the residents’ evacuation experiences. The factors identified here are largely attributed to emergency preparedness and response policies, protocols and procedures that are pertinent to Sandy Lake and other First Nations in the province of Ontario. Findings showed that immediately before the evacuation: the perceived lack of clear, timely and site-specific information about how the wildfires related to the community and the lack of a clear guide on how to pass the community declaration of emergency created confusion and delay. Research has shown that a lack of clear communication and the clarity about roles and responsibilities in government emergency response protocols can delay decision-making and negatively affect the implementation of an effective emergency response (Epp et al., 1998; Drabek, 2012).

The lack of preparedness at the community level to respond to wildfires and emergencies is another factor aggravating vulnerability and inhibiting community resilience. As with most First Nations (Auditor General of Canada, 2013), the Sandy Lake First Nation lacks the necessary resources and capacity to organize disaster preparedness and response activities. For example, when it comes to responding to a wildfire emergency, the federal and the provincial government do not allocate any money to the community to train and provide a salary for personnel to devote their time to prepare a community evacuation plan and coordinate an emergency response. This contributes to the community's lack of preparedness in the face of a wildlife emergency. It appears that the government emergency management policy still largely relies on reactive top-down approach, such as providing support when the event occurs, through fire suppression, evacuation and relief assistance. This excessive reliance on government support and the commensurate lack of community capacity to respond to wildfires has contributed vulnerability of Sandy Lake First Nation and inhibited the development of hazard resiliency at the community level as resilience encompasses both pre-event preparedness measures that could prevent or minimize damage and disruptions and post event strategies that help to better cope with and minimize disaster impacts (Buckle 2006; Gaillard, 2007; Tierney, 2014). Evidence has shown that before a disaster strikes, resilience at the community level can be enhanced through actions such as risk awareness, improvements in communication, and the development and implementation of a disaster plan (Cutter et al., 2008; Paton et al., 2008 Tierney, 2014).

Further revealing the lack of community preparedness is the absence of a community evacuation plan, which resulted in adverse consequences that made an already disruptive situation worse. These included evacuating medically vulnerable/chronically ill community members without an accompanying caregiver and/or a family member, separating families, failing to compile necessary information (e.g., medical records) about evacuees with medical vulnerabilities, and failing to assign community evacuation liaisons and band councilors in all the hosting communities where the evacuees were sent. Studies focusing on Indigenous people have showed that many of the disruptive impacts of hazard emergencies in Indigenous communities could be minimized by having a written community evacuation plan (Epp et al., 1998; Pearce, Murphy, Chretien, 2017). Such a plan would outline, steps to be taken during emergencies, a clear chain of command, a priority list of evacuees, and roles and responsibilities for emergency personnel (including evacuation liaisons) (Pearce, Murphy, Chretien, 2017). An evacuation plan needs to be developed in collaboration with the provincial government to make sure that it is consistent with provincial emergency response plans. Involving residents in developing the community evacuation plan help to ensure that the plan is tailored to the community's cultural and local context. Researchers have found several resilience-promoting factors in Indigenous communities, some of which include collaboration with government, empowerment, and incorporating local knowledge into disaster policies and practices (Eisenman, 2007; Veland et al. 2010; Kenney et al. 2015). Emphasizing on local capacity building and ensuring an active involvement of community residents can counteract the predominantly top-down or command-and-control approach that typically dominates government emergency management in Indigenous communities (Ellemor, 2005).

The disruptive impacts of the Sandy Lake First Nation evacuation were further felt when the community members were scattered to multiple locations (a total of 12 hosting communities) throughout Ontario and into Manitoba. Discussed in Chapter 7, this finding revealed that while the emergency response by the government primarily focused on evacuating community members to safety, the way in which the evacuation was implemented failed to consider important characteristics of the community which are critical for coping with the disruptive impacts that are secondary to the hazard itself. Perhaps most critically, hosting evacuees in multiple locations, combined with the intrinsic characteristic of the community, resulted in adverse consequences for evacuated band members. Among these were that communication and information-sharing

were more difficult, families were separated, community cohesion and support services were disrupted, and residents' sense of place attachment was impacted.

The majority of the participants said that when they were being flown to safety, that they were provided with no information about their destination or the whereabouts of their family members. Instead they were scattered to 12 hosting municipalities throughout Ontario and into Manitoba. Uncertainty surrounding the evacuation operation and the lack of information about family members resulted in tremendous stress and anxiety. Given the role that information plays in community resilience during crisis situations such as wildfire evacuation (Pfefferbaum et al., 2005; Ganor and Ben-Lavy, 2003), it can be concluded that the lack of an organized effort to provide up-to-date and reliable information as residents left the community aggravated stress and undermined resilience.

Families were separated in the midst of the evacuation. Family plays an important social and cultural role in Indigenous communities, and this fragmentation of family members resulted in a number of negative consequences including the disruption of the parental role, aggravated vulnerabilities of those who needed special assistance (including children and elders), and psychological and emotional stress. Hosting band members in multiple locations not only split up family members but disrupted social support (kinship and non-kinship). One of the primary conclusions that can be drawn from these findings is that family and social support play a crucial role for First Nation residents during a wildfire evacuation. The social support from fellow community members contributes positively to residents having a smoother and less traumatic experience, and helps enhance resiliency. Other research conducted in a non-aboriginal context has confirmed that individuals who have family and social support during times of disaster are likely to be resilient in the face of disruptive impacts of a disaster, including evacuation (Chamlee- wright & Storr, 2009).

The displacement caused by an evacuation disrupts place attachment. For some of the study participants, this disruption caused distress and anxiety. For some band members it caused culture shock, as they were forced to adapt to a new environment, which in many ways was different from their home community. This is consistent with findings that the wellbeing of Indigenous people is deeply imbedded in their attachment to the land, which involves spiritual,

cultural, physical and emotional bonds (Deloria, 2003; Richmond et al., 2005; Townsend, Phillips, & Aldous, 2009).

Chapter 8 further explored the various evacuation experiences that individual band members had in the hosting communities. The focus of this chapter was to explore how individual attributes of band members within their social context and the services provided in the hosting communities, affected their experiences during their stay in the host communities. The evacuees' individual characteristics (such as demographic, economic and health conditions) and the services provided in the hosting communities can affect evacuation experiences and impacts (Fernandez, Byard, Lin, Benson, & Barbera, 2002; Lach et al., 2005; Ngo, 2001; Legerski et al., 2012). The evacuees' individual characteristics, some of which were rooted in social vulnerabilities (such as income and health conditions; and those vulnerabilities induced through physical, cultural and/or social barriers) and the services provided in the host communities affecting their experiences in the host communities. This was examined first in the context of Stage One evacuees and Stage Two evacuees.

The study found that some of the band members evacuated during Stage One (mostly elders and medically vulnerable individuals) faced challenges during their stay in the host communities. These challenges included the continuation of health services, dealing with health issues in the absence of family support, accommodation problems, language barriers, and lack of access to traditional foods.

One unique challenge to the continuation of health service was the absence of homecare staff to assist elder evacuees who needed of medical assistance. Another problem had to do with medical records and information about medical needs' assessments; either no health information had been complied to accompany persons with vulnerabilities, or the information that had been compiled was limited. This problem was compounded by the absence of accompanying escorts for most of the elder evacuees, and the insufficient assignment of community evacuation liaisons who were supposed to assist in meeting their needs. Such health-related challenges, caused by a failure to take into account these evacuees' needs both in the evacuation protocols and in the hosting communities, aggravated the vulnerabilities of an already vulnerable population. Ngo (2001), argues that elders are often vulnerable to disaster because disaster events exacerbate

existing risk factors that the elderly may have such as mobility constraints and poor health conditions.

The experiences of the elder and medically vulnerable evacuees were further compromised by the delivery of services (e.g., accommodation) and cultural differences (need for traditional food and language barriers.) in the hosting communities. Major accommodation concerns included overcrowded in hotel rooms and privacy, whereas the problems related to food and language were mainly concerned with cultural barriers between the sending and receiving communities. Most elder evacuees were used to eating traditional food, and in some cases dietary changes aggravated health problems. The language barrier was found to be another impediment for the elder evacuees, as most of them speak Oji-crew and was unable to communicate in English. This challenge was more pronounced in the provision of health care services. Pearce, Murphy, Chretien (2017) found similar culturally related challenges (e.g., diet and language barrier) as negatively affecting Indigenous people during a wildfire evacuation. This presupposes the need for a proper understanding of the evacuating community context and how a particular crisis impacts evacuees in different ways. For example, evacuees may be affected due to their pre-existing social vulnerabilities (e.g., mobility constraints and poor health conditions) and cultural barriers (language, food sensitivity) (Buckle, 2006; Legerski et al., 2012).

Despite the challenges faced by the elder and medically vulnerable evacuees, strong recognition and respect for elders and the social support they received from fellow community members (including emotional, information and tangible support such as cooking traditional food, making laundry were found to be crucial for dealing with the challenges encountered during their stay in the host communities. This finding is contrary to those found by Fernandez et al. (2002) and Ngo (2001) in non-Indignoues contetxt who observed that elders suffer more during a disaster evacuation due to isolation and a lack of social support. The findings from this study indicate how social support in First Nations plays a valuable role during times of crisis by helping to minimize the deleterious effects of displacement.

The findings also revealed a number of other factors affecting the Stage Two evacuees' experiences in the host communities. Again, the factors examined here are in light of the individual characteristics of the evacuees (some of which are rooted in pre-existing social

vulnerabilities) and the services provided (both material and emotional support) at the hosting communities. The study identified a combination of factors that negatively influenced their experiences. These included the condition of their accommodations, financial problems, lack of recreational activities, racism, alcohol and inappropriate behavior, and concern about the condition of their homes, property and pets in Sandy Lake.

Some of the challenges faced in this regard such as financial constraints, racism, alcohol and substance abuse, are largely attributed to the on-going social vulnerabilities in Sandy Lake and other First Nations in Canada. For example, financial constraints or inability to afford essential items by some evacuees during their stay in the host communities is largely attributed to poor economic conditions in the community. Given that most of the community members are predominately unemployed, have low incomes and rely on government welfare, displacement can cause enormous challenges. With regard to relationships with members of the hosting communities, one factor that influenced the evacuees' negative experiences was problem of racism, which was felt more strongly by evacuees in the town of Marathon, ON. The racism problem that some of the participants experienced during their interactions with members of the hosting communities aggravated the trauma and stress that the evacuees were already feeling. Alcohol and substance abuse problems among some band members were compounded by the relative ease of access to these items while evacuated to large towns and cities. Previous research in non-Indigenous communities found that individual socio-economic and health conditions such as financial status (Bolin, 1986; Elder et al., 2007), health condtions (Legerski et al., 2012) and perceived racism and inequities (Elder et al., 2007) pose additional stress for evacuees during displacement secondary to the impacts of the hazard itself. These and other individual characteristics have been also used to describe social vulnerability in the face of a hazard disruption (Cutter et al., 2003; Buckle; 2006).

The study also identified the lack of recreational activities, particularly for children and youth, as a negative experience that caused stress, anxiety and boredom. Another experience that caused the evacuees to feel distressed and anxious was concern over the condition of their homes, property and pets back in Sandy Lake. Although such concerns are common among wildfire evacuees (Cohn et al. 2006; McGee et al. 2009; McCool et al. 2006), the absence of efficient communication exacerbated the stress of the widely scattered evacuated residents.

On the other hand, evacuees' experiences in the hosting communities were also influenced positively by a number of factors. Many of the participants said that the material and emotional support provided by members of the hosting communities contributed to their positive experience. Participants also mentioned the friendly relationships that they had with members and officials of the hosting communities, the visits that officials made to the evacuation centers and the donations provided from the members of the hosting communities and CRC. Most youth interview participants said that they perceived the evacuation as a "free vacation" and a positive experience, including the opportunity to help and socialize with other community members. The shared experience of the evacuation created opportunities for these evacuees to get to know one another, help those who needed assistance and promote a sense of community. Kent et al. (2003), documented how shared experiences during a wildfire evacuation could create opportunities for people to get to know one another, increasing the sense of community.

The majority of the participants also cited the information video updates provided by the chief and the chief leadership as a major positive experience during their stay in the host communities. Social media, principally Facebook, was also instrumental for sharing important information (particularly among the youth) as quickly and as widely as possible for evacuees scattered in many places. This reaffirms previous research that identified the importance of having local leadership in First Nations provide reliable information as well as reassurance during emergency evacuation (McGee and Christianson, 2015).

9.2. Contributions of the study

Drawing on empirical evidence from the Sandy Lake First Nation in Far North Ontario, this thesis has explored how residents of that remote fly-in Indigenous community were prepared for and affected by a government-run wildfire evacuation. This project focused on Indigenous people and wildfire experiences, an area that has received very limited attention in Canada (Newton, 1995; Christenson, 2014). Employing a social constructionist approach to disaster experience, the thesis provided an in-depth and nuanced exploration of the wide range of factors affecting the Indigenous people evacuated from Sandy Lake First Nation because of a 2011 wildfire. Accordingly, the study unpacked various individual, social and institutional factors

relating to emergency preparedness and response. By so doing, the thesis has contributed to the body of knowledge in social science disaster research (including human geography) in general, and the growing and interdisciplinary field of disaster and emergency management in particular, in four different ways.

The first contribution of this thesis is to examine how issues related to pre-event preparedness and during-event communication influenced the wildfire evacuation experiences of and impacts on the First Nation residents, of which there are few examples in the academic literature (Epp et al., 1998; Bonde, 2011; Christenson, 2014). This study is the first to examine how overall disaster preparedness in a remote fly-in First Nation could affect residents' evacuation experiences. A delay in obtaining site-specific and reliable information about the wildfires, a lack of clarity about the protocols to be followed in declaring a community state of emergency and perceived constraints in government wildfire management policy affected residents' experiences. More importantly, the lack of overall community preparedness to respond to wildfire emergencies (e.g. lack of an evacuation plan), remoteness, limited options for evacuation transportation, and reliance on government support were found to aggravate vulnerabilities wildfire hazards (Chapter 6). Previous researchers have discussed the lack of community evacuation plan in First Nations, which is one aspect of preparedness, as a factor inducing challenges for residents during evacuation (Epp et al., 1998; Waldram and Scharbach, 2013; McGee and Christianson 2015). Other research completed in non-Indigenous communities have found that the lack of accurate, consistent and up-to-date information about wildfire risk from fire management agencies can affect residents' evacuation decision (Cohn et al., 2006; Taylor et al., 2005; Mozumder et al. 2008). Likewise, the lack of uncertainties regarding authority, roles and responsibilities in declaring emergency can delay evacuation decision (Wenger, James, and Faupel, 1980; Drabek, 2012). These factors have also found to affect the 2011 wildfire evacuation experiences of Sandy Lake First Nation.

Second, the results of this research demonstrated how evacuation operation by the provincial government in Indigenous communities can result in negative consequences. Scharbach (2014) examined how wildfire evacuation disrupts wellbeing among First Nation residents (e.g., by disrupting family roles as result of families being separated). Researches completed in Australia have pointed out the role of local networks and institutions in facilitating the evacuation of

Indigenous people during natural hazards (Ellemor, 2005; Veland et al 2010). Studies in both Indigenous and non-Indigenous communities have confirmed that people's resilience during adversities (such as illness) rests on the durability of community members' kinship ties and social support (Kirmayer et al., 2009; Barrios, 2014). Another study completed in non-Indigenous rural communities in Canada has found a significant positive association between social cohesion and resilience during disaster (Townshend, Awosoga, Kulig, and Fan, 2015). However, very little is known about how social support in general (including support from family, extended family and other fellow community members) and the lack thereof could negatively or positively affect the wildfire evacuation experiences of First Nations residents. This study with Sandy Lake First Nation has shown that scattering residents to more than 10 hosting communities throughout Ontario and into Manitoba caused four major problems: communication and information-sharing were more difficult, families were separated, community cohesion and support services were disrupted, and residents' sense of place attachment was impacted. Thus, this study has made a contribution to a robust understanding of the social and cultural factors influencing wildfire evacuation experiences of Indigenous people and how these in turn influence residents' ability to cope with or adapt to the disruptions caused by an evacuation. More specifically, the resilience of the band members was threatened when family and social support, social cohesion and attachment to place are compromised (Chapter 7).

The third contribution is the finding that pre-emergency individual characteristics of evacuees (e.g., age, income, health conditions and those vulnerabilities induced through cultural, and/or social barriers) affect people's evacuation experiences while in host communities. Those experiences can also be affected by the services that the hosting community provides (both material and emotional support) in meeting the needs and expectations of individual evacuees. More specifically and more importantly, the wildfire hazard experiences of First Nation elders and the unique challenges they face during evacuation have not been sufficiently investigated. Researches in non-Indigenous communities have examined the various challenges elders face during disaster evacuation due to pre-existing conditions that are present before the disaster event, such as frailty, aging and poor health conditions (Fernandez, Byard, Lin, Benson, & Barbera, 2002; Lach et al., 2005; Ngo, 2001). This research with Sandy Lake residents have found that the elder evacuees' (Stage-One) experiences were affected by the following factors: continuation of health service at the host community, dealing with health issues in the absence of

family support, accommodation-related challenges and cultural factors related to language barriers and a lack of access to traditional food (Chapter 8). Research in non-Indigenous communities in the United States by Fernandez et al. (2002) and (Ngo, 2001) showed an increasing tendency for elders to suffer more during disaster evacuation due to isolation and the lack of social support. In contrast to what these researchers found, the result of this study indicates that strong recognition and respect for elders in First Nations and the social support they received from fellow community members (including emotional and tangible support such as cooking traditional food, making laundry and so on) were found to be crucial for smoother, less traumatic experience.

The study also identified a combination of factors that negatively affected the experience of Stage Two evacuees. These included inadequate accommodations, financial problems, a lack of activities, racism, alcohol and substance abuse and inappropriate behavior, and concern over the condition of homes, property and pets (Chapter 8). Some of these factors (e.g., financial constraints and racism) are rooted in the social vulnerabilities that characterize most Indigenous communities across Canada. The rest of the factors identified are related to service delivery at the host communities. Research found that individual socio-economic and health conditions such as financial status (Bolin, 1986; Elder et al., 2007), health condtions (Legerski et al., 2012) and perceived racism and inequities (Elder et al., 2007) pose additional stress for evacuees during displacement. This study provides additional insight to the hazard displacement evacuation experiences of First Nation residents both in the context of these individual characteristics and the services provided in the host communities such inadequate accommodation facilities and the lack of recreational activities for evacuees particularly children.

The study has also found certain factors that contributed to evacuees' positive experience during their stay in the host communities. Positive hazard evacuation experiences of people have rarely been investigated by previous researches. One research by Kent et al. (2003) have noted how the 2002 Hayman wildfire evacuation (Colorado) created opportunities for people to get to know each other and work together facilitating greater collaboration among people and increasing sense of community. Similarly, the 2011 Sandy Lake evacuation was also perceived by some evacuees as an opportunity to socialize with other community members, which positively promoted sense of community. In addition, this study has found other factors that

contributed to evacuees' positive experience during their stay in the host communities, including material and emotional support from members of the hosting communities, perceptions of the evacuation as a free vacation, and leadership from the Chief. These positive factors have not been identified by any other researchers.

The results of this study also have practical and policy implications. Displacement and evacuations disproportionately affect Indigenous communities across Canada. Despite a number of First Nations being vulnerable to frequent hazards and emergencies, this is the first study of wildfire experiences of First Nation residents living in underdeveloped Far North Ontario. Taking into account the region's unique context in terms of remoteness and inaccessibility, and the provincial agencies involved in emergency management (MNRF, EMO), the next section provides important recommendations that will help improve future emergency management. The recommendations from this study can also be applied to other remote fly-in Indigenous communities in Canada. Some of the recommendations are also relevant for First Nation reserves with road accesses.

9.3. Recommendations

Based on the findings from this study, practical and policy recommendations are forwarded to help improve future emergency preparedness and response in the study community as well as in other First Nations with a similar context. The recommendations are clustered with respect to the major parties involved during evacuation (the affected community, provincial and federal government and hosting communities).

9.3.1. The community

The primary focus at the community level should be on building community capacity to hazards and emergencies with the active participation of the residents and by continuously improving performance based on previous emergency experiences. This process of building local resilience to hazards is crucial to ensuring that residents are ready to respond to hazard and emergencies, including evacuation, before a disaster strikes. The focus should be on pre-event preparedness at the community level, through effective emergency planning. This includes preparing a community wildfire evacuation plan that should be updated every year and communicated to the residents well before the start of the wildfire season. Having a community evacuation plan in place primarily ensures that the affected community plays a lead role during the evacuation process while working with provincial and federal government agencies and non-governmental organizations (NGOs) such as the Canadian Red Cross. The community evacuation plan needs to be tailored to the community's local context. One way of doing this is by incorporating local views and concerns (e.g., seeking advice from elders and community leaders) so as to avoid obstacles typically encountered during evacuations. For example, families need to be kept together, including elders who are responsible for taking care of grandchildren. Evacuation plans should identify a priority list of evacuees prior to every wildfire season. The list of essential items needed for vulnerable community members (e.g., elders and medically vulnerable evacuees) should also be identified. These items include medical records, medication prescription, provincial health insurance plan cards, and other health-related items needed to

ensure health care (e.g., eyeglasses, puffers, mobility devices). Evacuation plans also need to address other pre-existing vulnerabilities. For example, plans should identify residents who need physical and psychological health care. This helps ensure that residents can access appropriate health care services in a host community. Periodic reviews and testing and proper training of personnel are essential to ensure that evacuation plans are updated.

Providing disaster and emergency preparedness training and skills is also part of the process of developing local capacity for hazard preparedness. The evacuation plan should clearly state the steps that should be taken during an emergency, such as declaring a state of emergency. An emergency response team that includes a potential list of liaisons and frontline workers needs to be identified prior to an emergency. This list needs to be updated regularly. Residents assigned to these tasks should be made aware of their roles and responsibilities during emergencies and should be given regular training in emergency drill exercises in collaboration with front-line agencies (EMO, INAC). This type of training not only empowers local residents in emergency management but also helps build institutional capacity within First Nations.

A residents' education program should also be part of the preparedness process. Such a program is useful to enhance local hazard resilience. Residents should be given education and training in emergency preparedness including the list of items required during an emergency and emergency drill exercises. The Chief and councilors, together with the established community emergency response teams, should work to ensure that people are better prepared for potential evacuations. Residents need to be aware of and encouraged to prepare a grab-and-go bag or a list of essential items, including an identification card, health insurance card, medical prescriptions, medications, eyeglasses and medical equipment/devices. Having such a list will help ensure that residents do not forget anything important.

Community leadership should collaborate with provincial and federal agencies and non-governmental agencies (NGOs such as the CRC) to obtain the necessary resources required to respond to an emergency. For example, MNRF can support the training of volunteer firefighters while INAC can provide funds required to purchase fire truck and equipment and to construct a fire hall. The Chief and council should also work with responsible government agencies (EMO, MNRF, and INAC) to identify a list of potential hosting communities prior to a hazard. This will help determine which municipalities are most appropriate in terms of addressing the evacuating

community's needs. The list of hosting communities should be kept updated and included with the evacuation plans.

The importance of extended families caring for elders must be taken into consideration. Isolating elders from their family and social support network can be detrimental. Elders and medically vulnerable groups should be allowed to evacuate with caregivers and with the dependent children and grandchildren they support. These measures will help ensure that medially frail elder evacuees receive specific assistance for their physical health and emotional wellbeing during the course of the evacuation. It is important to assign the community's nurses and social workers to assist elders and medically vulnerable evacuees. These measures will help in culturally relevant ways to facilitate the continuity of care for elders and medically vulnerable evacuees at evacuation centers.

Given that the Chief and Council are the most trusted authorities that band members rely on for communicating during an evacuation, it is important to assign at least one councilor in each hosting community so that up-to-date and reliable messages are delivered to evacuated band members. Based on the lessons learned and the experiences drawn from the 2011 emergency evacuation, community leadership need to continuously adjust and improve emergency preparedness and response to help better manage future wildfire evacuations.

9.3.2. The provincial and federal government

Responsible provincial (MNRF, EMO) and federal government agencies (INAC) should work in close partnership with the affected community (in this case Sandy Lake First Nation) by shifting away from event-based response to addressing broader issues of local disaster and risk management, for example through promoting local disaster preparedness. Enhancing local emergency management capacity, such as through partnership and skill development, is fundamental to achieve more disaster-resilient Indigenous communities. These provincial and federal departments should provide a sufficient amount of resources and personnel to support disaster preparedness at the community level. In particular, support (financial and training) should be given to improve local disaster preparedness. This support should be used to develop a

community evacuation plan, train local personnel, (e.g., emergency responders, firefighters, and bus drivers) and physical infrastructure (fire truck, fire hall, and other equipment). Portion of the fund should be used to hire permanent staff responsible for updating the evacuation plan and making sure that these staff members receive the required training.

When wildfires threaten multiple communities in the far north such as in 2011, federal and provincial agencies need to devise a mechanism to provide site-specific information to community leadership tailored to each community context (e.g., information about the status of the wildfire and the risk posed to each community, and advice about potential evacuations). These would help facilitate the process and effectively organize the evacuation by minimizing the adverse effects that could result. The experience gained in the process also helps build community capacity to handle emergency rather than solely relying on external government assistance.

Due to the impacts of family separation, efforts should be made to host family members together. Efforts should also be made to host band members closer to their communities such as nearby municipalities. This is important for maintaining family functionality, community cohesion and reducing the possibility of culture shock. By using fewer host communities (say two or three) with greater capacities for accommodation, it is also possible to keep larger number of evacuees together. This can potentially minimize family separation and the weakening of community cohesion and social support systems.

Agencies involved in emergency response (MNRF, EMO, and INAC) should address information needs of evacuated residents in a timely and sensitive manner, in collaboration with band councilors assigned to each hosting community. Furthermore, because many evacuated Sandy Lake band members relied on the video updates provided by the Chief for their information updates, it is important to set up mechanisms at the evacuation centers for sharing video updates for evacuees that do not have cellphone or internet accesses or do not use social media. For example, evacuation centers need to have important logistics (such as telephone services and television connected to WiFi) to communicate important updates from people who stayed behind so that information is disseminated more broadly and quickly. In addition, at the evacuation centers, information centers (with bulletin boards) need to be set up to provide communication updates for evacuees requiring information such as about family whereabouts.

Financial support should be provided to evacuees. This enables them to buy essentials such as clothing and to meet other demands for their children (entertainment and sports activities) during their stay in the host communities. In addition, it also enables evacuees to buy groceries once they return home.

Provincial emergency response plans for First Nations need to be updated regularly based on previous experiences in order to deliver emergency support in culturally appropriate ways and to ensure the safety of Indigenous residents. All parties involved in emergency response (the affected community, government and non-governmental agencies, hosting communities) need to adhere to standards set out in provincial and local emergency response plans.

9.3.3. The hosting communities

Hosting communities should develop an appropriate plan for hosting First Nations evacuees. The plan should take into account the unique socio-cultural context of the residents, most of whom are often evacuated from far north Ontario, including the Sandy Lake First Nation. Preparation of a hosting plan will help hosting communities to have sufficient time to plan for the evacuees' arrival. Before agreeing to become a host, a community needs to assess its capacity to address the needs of First Nations evacuees. These needs include accommodations, health care services, recreational facilities for all age groups, and access to traditional food and translators. In addition, service providers at the hosting communities need to have the necessary training and preparation to provide services in a culturally sensitive ways. Providing cultural sensitivity (awareness) training about the history of First Nations and culture can help facilitate effective service delivery and ensure a less traumatic experience for those displaced by a disaster

Hosting communities should plan ahead to address the special needs of medically frail elders. This group of evacuees needs special assistance due to pre-existing vulnerabilities. Appropriate support should be given to ensure their physical and emotional well-being throughout their stay in host communities. Elders' unique needs may include physical support due to limited mobility,

language translation, and the need for traditional foods. Family and social support is crucial for elders and this will help improve their physical and emotional well-being.

Organizing activities tailored to the needs of individual evacuees (e.g., children, youth, and elders) is also important. Along with healthcare and counseling services, hosting communities need to establish recreation and entertainment areas/activities for evacuees. This is particularly important for children as they may suffer due to boredom, anxiety and depression while having to stay in a hotel room for days without opportunities to engage in activities. Providing evacuees with opportunities to engage in different recreational and cultural activities can reduce the impacts of trauma. In addition, hosting arrangements need to accommodate evacuees who require special treatment including addictions to alcohol and substance abuse. These accommodations can include arranging to continue community-based care services at the hosting communities (such as community-based Suboxone programs).

To address the information needs of evacuated residents, proper communication channels need to be in place at the evacuation centers (e.g., free telephone and internet services for evacuees) as some evacuees may not have cell phones or internet to communicate with other family members and receive updates. Hosting communities should work in collaboration with band councilors and First Nation liaisons to address the evacuees' needs.

9.4. Study Limitations

As is the case with all research, this study has certain limitations. As far as methodological preference is concerned, this research focused on a single case study. The sample size was a single First Nation community reflecting only a small percentage of the hazard evacuation experiences of Indigenous people in Canada. The study examined the experiences of Sandy Lake First Nations during a specific wildfire evacuation incident in 2011. The reliance on a single case (as opposed to multiple cases) may impede the generalizability of the findings as the findings may not be generalizable to other cases or to a larger population because the contexts of each case may vary (Creswell, 2012). However, the findings can be transferable to other cases with similar contexts (Baxter and Eyles, 1997) and to theoretical propositions (Yin, 2003). The study

can also contribute to broader practical and policy recommendations for handling wildfire evacuations in other remote fly-in communities.

The study focused on the perspective of the evacuees, community leaders, elders, and community liaisons. It did not incorporate the perspectives of the other parties involved in First Nations emergency management, including government agencies (EMO, MNRF and INAC), hosting communities and support organizations such as the CRC. Incorporating the perspectives of service providers and identifying the barriers and challenges they face in meeting the needs of First Nation evacuees is essential not only from an academic point of view but also to improve future emergency management and devise strategies to improve service delivery (Legerski et al., 2012; Pearce, Murphy, Chretien, 2017). It is my hope that future qualitative exploratory case studies will incorporate the perspectives of the other parties involved, and identify both the barriers they encountered when providing services and their perceptions of the needs of hazard-displaced Indigenous people.

A final limitation of this study is that, in terms of the interview data used, retrospective reports (e.g., reporting based on the memory of the participants' evacuation experience) can be prone to recall bias and distortions which may affect the reliability and validity of the findings (Stone and Shiffman, 2002). That could certainly be the case with this study, as the participants were interviewed in the summer of 2014 and 2015, more than three years after the Sandy Lake wildfire evacuation. Some of the participants' memories of the evacuation and their experiences could fade, and this may cause recall bias and distortion. Efforts were made to off-set these problems by structuring the interviews using time gradients to help the study participants recall their hazard evacuation experiences. For example, during the interview, I asked the residents to recall their experiences from before, during, and after the evacuation rather asking general questions that could lead them to mix up the chronology of their experiences. More specifically, I included time-specific questions in the interview guide. For example, "what did you feel when you first hear about the evacuation?" Such questions help distinguish the band members' initial experiences from those that came after.

9.5. Suggested areas of further research

There are some suggested areas of further research related to this dissertation. One potential area is the long-term effects of hazard evacuation and emergencies on the mental health and psychological wellbeing of Indigenous children and adults with pre-existing mental health problems. There is evidence that evacuation and long-term displacement have negative consequences on mental health and psychological wellbeing by increasing depression, anxiety, and post-traumatic stress disorder (Pearce, Murphy, Chretien, 2017; Munro et al., 2017). These problems are more pronounced in children (Peek, 2008) and individuals with pre-existing mental health problems (Tally et al., 2013). Similar research in the context of First Nations would be useful to examine the long-term mental health impacts of displacement on different demographic age groups (e.g., children) and evacuees with pre-existing health vulnerabilities (e.g., mental health problem). It is likely a study of this type could be highly beneficial in communities where the negative impacts of a hazard displacement are highly felt due to widespread family separation, such as in the case of the Sandy Lake First Nation, and other First Nations experiencing frequent hazard displacement.

Evacuation will likely continue to be a primary hazard risk-management strategy in Canada. This makes it important to explore the challenges associated with service delivery to hazard-displaced First Nation evacuees from the perspective of hosting communities, government officials involved in such evacuations (EMO, MNRF, INAC), and other supporting agencies (the CRC). Specific research questions about hosting and service delivery for hazard-displaced Indigenous people can include: Are hosting communities adequately prepared to address the needs of hazard-displaced Indigenous people? Do service providers (e.g., health care and social workers) at the hosting communities have adequate competence and cultural sensitivity to serve the needs of hazard-displaced Indigenous people (e.g., can they address the needs of elders in emergencies, do they know Indigenous languages, have they had cultural sensitivity training, and can they address varying levels of physical health needs)? How do officials of the hosting communities address the challenges that arise at the evacuation centers when hosting hazard displaced Indigenous people? Understanding the perspectives and capacities of the hosting communities can help address host community preparedness for First Nation evacuees by

exploring to what extent current initiatives at host communities consider distinct needs of First Nation evacuees. Such studies will further help develop resource guides outlining recommendations that will improve service delivery and relationships for hazard displaced evacuees (Andrulis, Siddiqui, & Gantner, 2007; Legerski et al., 2012; Pearce, Murphy, Chretien, 2017). For example, recommendations from such studies will help further improve service level evacuation standards set out by the government of Ontario to support First Nations during a hazard evacuation.

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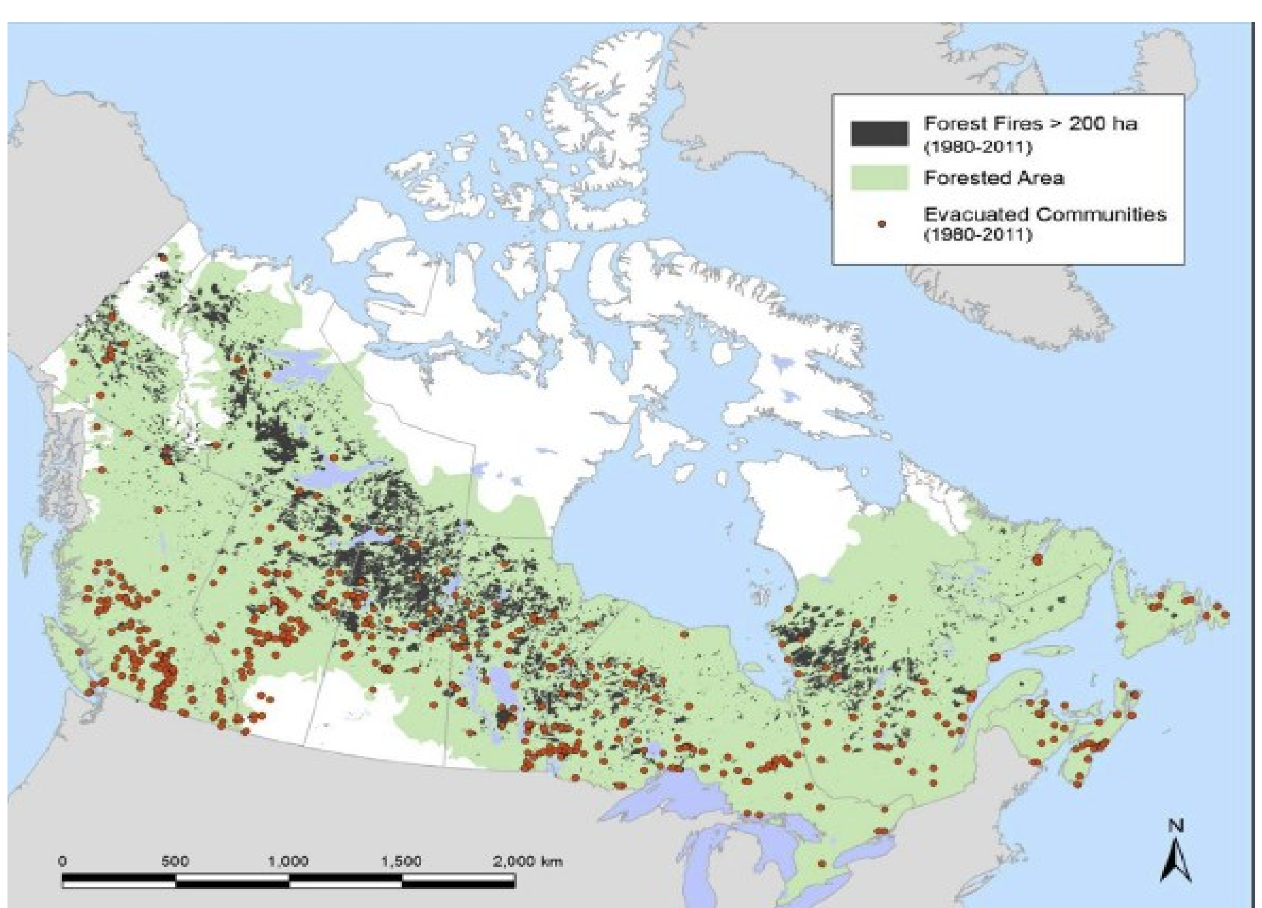
Appendices

Appendix 1: Forest fires, forested areas and evacuated communities

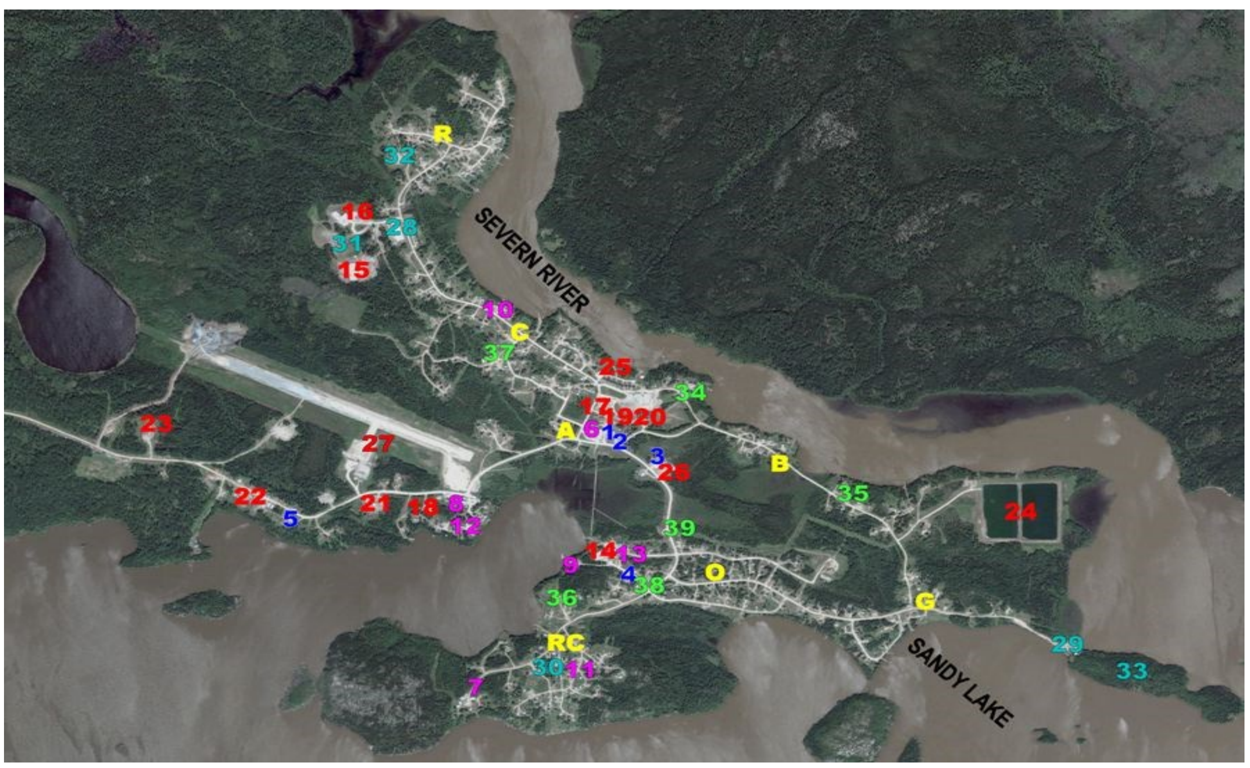


Source: McGee, T.K., McFarlane, B.L. and Tymstra, C. (2015). Wildfire: A Canadian Perspective. In Wildfire Hazards, Risks, and Disasters, Paton (ed.), Elsevier p. 51

Appendix 2: Air travel time to Ontario far north communities

Source: OCSCS (2013). Ontario Mass Evacuation Plan Part 1: Far North

Appendix 3: Sandy Lake First Nation Geographical Areas



Geographic areas R= River C= Center A= Airport B= Big Rock O= Old Sawmill G= Ghostpoint RC= RC

	Offices					29	Treaty Grounds
1	Robert Fiddler Administrative Building (Band Office)	11	Dan Dan's	20	Nishnawbe-Aski Police Station	30	RC Baseball Field
2	Sandy Lake Board of Education	12	Adowgamik	21	Heavy Equipment Yard	31	Soccer Field
3	Sandy Lake Community Development Services Inc.	13	Sandy Lake Motel	22	Warehouse	32	Golf Course
4	Sandy Lake Health Authority		***Services***	23	Diesel Generation Power Station	33	Centennial Commemoration Site
5	Tikinagan Child & Family Services	14	Nursing Station)	24	Lagoon		**Churches**
	Businesses	15	Thomas Fiddler Memorial Elementary School	25	Water Treatment Plant	34	Adam Fiddler United Church
6	Northern Store/Post Office	16	Thomas Fiddler Memorial High School	26	Sandy Lake Fire Hall	35	Pentacostal Church
7	Northern Store/Post Office	17	Gabbius Goodman Adult Learning Centre	27	Airport	36	RC Church
8	Airport Gas Station	18	Washtenigun Christian School		***Recreation***	37	Full Gospel Church
9	Sandy Seaplane	19	Radio Station	28	Arena	38	Mennonite Church
						39	Revival Centre

Source: http://www.sandylake.firstnation.ca/?q=profile. Accessed 04.04.2017

Appendix 4: Photos of Sandy Lake First Nations

Partial aerial view of Sandy Lake First Nation. http://www.simonteakettle.com/sandylake.htm. Accessed on August 6, 2016.

Appendix 5: Phots of Sandy Lake community

(Note: All photos taken by the author between 2014 and 2016)

Robert Fiddler Administrative Building (Band Office)

Gravel road to the Band office and the Northern Store

The community fire hall

Mixed wood boreal forest in Sandy Lake

A fire break near the community airport

A home in Sandy Lake with a tepee tent in the backyard

Sandy Lake

Float planes on Sandy Lake

Appendix 6: Ethics approval

Notification of Approval (Renewal)

Date:	May 8, 2015
Amendment ID:	Pro00039398_REN2
Principal Investigator:	Tara McGee
Study ID:	Pro00039398
Study Title:	Aboriginal Wildfire Evacuation Partnership Wildfire evacuation experiences of residents in an Aboriginal community in Alberta
Supervisor:	
Sponsor/Funding Agency:	Alberta Centre for Child, Family and Community Research — 7581 SSHRC - Social Sciences and Humanities Research Council — SSHRC

RSO-Managed Funding:

Project ID	Project Title	Speed Code	Other Information
RES0017365	Aboriginal Wildfire Evacuation Partnership		
RES0016243	Wildfire evacuation experiences of residents in an Aboriginal community in Alberta		

Approved Consent Form:

Approval Date	Approved Document
3/14/2014	youths consent form
3/14/2014	Youths informed consent & information form
5/23/2013	Informed Consent & Information Form
5/23/2013	Consent form

Approval Expiry Date: Friday, May 20, 2016

Thank you for submitting this renewal application. Your application has been reviewed and approved.

This re-approval is valid for one year. If your study continues past the expiration date as noted above, you will be required to complete another renewal request. Beginning at 30 days prior to the expiration date, you will receive notices that the study is about to expire. If you do not renew on or before the renewal expiry date, you will have to re-submit an ethics application.

Sincerely,

William Dunn, PhD
Chair, Research Ethics Board 1

Note: This correspondence includes an electronic signature (validation and approval via an online system).

Appendix 7: PhD research proposal presented to Chief and council

First Nations Wildfire Evacuation Partnership and the PhD project

Henok W. Asfaw, PhD student, Human Geography Program, University of Alberta

Research aim and objective

Aim: To learn how First Nations residents and communities are affected by wildfire evacuations, and to identify ways to reduce the negative impacts of wildfire evacuations on First Nations.

Objectives

- Documents how Sandy Lake First Nation residents were affected by the evacuation
- Examine how issues related to pre-event preparedness influence evacuation experiences
- Identify characteristics of the wildfire evacuation that influenced how residents were positively and negatively affected by the evacuation
- To examine what attributes of individual and Indigenous social context affected evacuation experiences of band members during their stay in the host communities.
- Propose ways to reduce the negative impacts of wildfire evacuation on Aboriginal people and suggests way to improve future wildfire disaster preparedness and response in remote Aboriginal communities.

Research Partnership: This research is part of the First Nations Wildfire Evacuation Partnership, which brings together researchers, First Nations communities and agencies involved in wildfire evacuations. Information about the partnership is communicated by:

- Partnership meeting via teleconference 4 times per year
- Partnership website http://www.eas.ualberta.ca/awe/
  This website includes information about partnership members and research updates.

First Nations communities involved in the partnership: Dene Tha First Nation (Alberta), Driftpile First Nation (Alberta), Whitefish Lake First Nation (Atikameg 459) (Alberta), Mishkeegogamang First Nation (Ontario), Sandy Lake First Nation (Ontario), Deer Lake First Nation (Ontario), Onion Lake First Nation (Saskatchewan), and Lac La Ronge Indian Band (Saskatchewan).

Agencies involved in the partnership: Health Canada, Assembly of First Nations, Aboriginal Affairs and Northern Development Canada, Alberta Emergency Management Agency, Ontario Ministry of Natural Resources, Ontario Office of the Fire Marshal and Emergency Management,

Saskatchewan Ministry of Environment, Saskatchewan Ministry of Government Relations, Saskatchewan Ministry of Social Services, Saskatchewan Ministry of Health, First Nations Emergency Services.

Community involvement:
I would like to request a community advisory committee to:

- Help to identify interview participants (if needed)
- Guidance regarding interview questions and process.
- Guidance regarding data interpretations.
- Review summery of findings and advise about community presentation.
- Provide additional advice during data collection and analysis if required

Community research assistants:
I would like to hire one or two community research assistants to assist with this research for five weeks (20 hrs/week) @ $ 20/hours.

- Paid employment to recruit participants, assist during meeting with residents, translation if needed, and assist with interpretation of information, member checking and analysis.

Intended community benefits:

- Information about local residents' experiences during the wildfire evacuation and factors that influenced their experiences, which may help community with future evacuations.
- Information about evacuations in other First Nations communities.
- Agencies will learn about how First Nations residents and communities are affected by wildfire evacuations, which might in turn assist communities.
- Links with agency staff involved in wildfire evacuation via partnership meetings.
- Training and payment of community research assistants to assist with data collection.

Plans after data collection

- Return interview transcripts to interview participants for them to review and keep
- Data interpretation with the help of the community RAs and community advisory committee.
- Present findings to community before the research are disseminated elsewhere.

Data storage

- Interviews will be audio recorded with permission and transcribed.
- A copy of transcript will be returned to each interview participant if requested.

- The interview transcripts will be kept by interviewer until the end of the three year project, and will be kept by Dr. Tara McGee for 20 years.
- Transcript will be stored on a password protected computer and in a locked filing cabinet in Dr. Tara McGee's office at the University of Alberta.

Financial contribution to the community

- **Research funding will cover:**
  - Payment for researcher's accommodation within the community where available. Training and pay for one or two community research assistants per community. $ 20/hours for 20 hrs/week for 5 weeks of work
  - $ 1000 gift to each community to thank participants for their involvement in the research (guidance from chief and council, community advisory committee about how this could be spent).
  - $ 500 honorarium split between community advisory members for their assistance throughout the research process.
  - $ 250 to have an Elder open and close the community meeting where results will be disseminated.

Appendix 8: Formal letter of community support

July 15, 2015

To Whom It May Concern:

Sandy Lake First Nation is pleased to be a community partner on the "First Nations Wildfire Evacuation Partnership" led by Dr. Tara McGee of the University of Alberta. Our Community of Sandy Lake was fully evacuated during the summer of 2011 wildfires and there was also a partial evacuation the following years (summer 2012). This being said we are happy to support this research proposal, which looks to improve the future evacuations of First Nations communities due to wildfires.

- Chief and Council participating in an initial meeting with the graduate student (Henok Asfaw) to discuss the research to ensure that it meets our community's needs.
- The Council will recommend community members to form a research advisory committee.
- The community advisory committee will assist in selecting a community research assistant and
- The community advisory committee will provide advice to the researcher during the data collection process.
- The community research assistant completing training and assisting the graduate student to conduct interview with local residents and interpret the results of interviews.

Our community's in kind contribution to this research will be the time that we spend participating in this research.

We have numerous expectations of this partnership. One is that the research will allow us to develop a better understanding of how our residents were affected by the evacuation in the summer 2011 and 2012. Another is the information gained from this research will enable us to work with agencies to improve future evacuation of our community. A third, but in no means final, expectations of this research is that the future evacuation of other First Nations communities be improved, with lessons learned from ourselves and other community partners.

Chief and Council, Sandy Lake First Nation

Chief Bart Meekis

Deputy Chief Robert Kakegamic

Appendix 9: Letter of Introduction and information sheet

Researcher: Henok Asfaw, PhD Candidate, University of Alberta,

Background & purpose:
I am in Sandy Lake to learn about residents' experiences during the wildfire in 2011 and 2012, as part of a study about how First Nations residents are prepared for and affected by recent wildfire evacuations. You are being asked to participate in this study because you have been evacuated/stayed behind during the 2011 wildfires.

Study procedures:
I would like to meet with you to learn about your perspective on how the evacuation affected you, your family and the community at large. I think our meeting will take about 1 hour. I would like to audio record the conversation, with your permission.

Benefits and risks:
I am not sure if you will benefit from being in this study. The information that you and others provide will help to understand how this community was affected by the wildfire evacuation and can be used by the community to help them plan for a future wildfires. During the meeting, you might feel stress if you are talking about the wildfire evacuation.

Voluntary participation:
Your participation in this study is voluntary. Even if you agree to be in the study, you can change your mind. If you decide that you no longer want to participate, your information can be removed up until August 30, 2015.

Confidentiality:
I will be presenting results of this study at a community event and at a meeting with Chief and Council. Government agencies who were involved during the evacuation will receive a written summary of findings. Results from this study will also be presented in journal articles, conference presentations. You will not be personally identified in any of these, unless you tell me that you would like to be identified. I will keep all information obtained during the meeting confidential. The recorded and typed copy of the meeting will be stored in a secure location and only I will have access to this data. If you would like to receive a copy of the research findings, please let me know.

Further information:
If you have any further questions about this study, please contact me by Phone (587) 930-2045 or Email: henok@ualberta.ca. Our website will also be updated on a regular basis: http://www.eas.ualberta.ca/swe/

Appendix 10: Information sheet & consent form for key informant interviews

Consent Form - interview participants

Please check the circle beside each statement if you agree with it, and sign your consent at the bottom.

- I am aware that the researcher will ask about my community and my wildfire evacuation experiences.
- The interviewer has answered my questions about this study.
- It has been explained to me that my participation is voluntary.
- I am free to withdraw from this study until August 30, 2015.
- I am under no obligation to answer any questions that I do not feel comfortable with.
- I may refuse to disclose any information that I do not want to.
- I am aware that the conversation will be tape recorded.
- I understand that information gathered during our conversation will be kept confidential
- I understand that the research team may use information and/or short quotes from this interview, but that no information on my identity will be released unless I give permission to use my name.

Name of participant:
Signature of participant:
Date:

Name of researcher:
Signature of researcher:
Date:

Appendix 11: Community residents interview guide

Background information

- How long have you lived in Deer Lake/Sandy Lake?
- Do you have family members here?
- What is your role/involvement in the community? (i.e. family caregiver, community responsibilities, elder, employment, firefighting experience)
- Can you tell me your general thoughts about the community? Tell me about favourite things about living in the community; Knowledge of neighbours and others in the community, dependence on the community, are there any problems in the community?

Wildfire risk and perceptions

- How much of a wildfire risk is there in this area? How do you think wildfires affect Sandy Lake First Nations? (positive/negative)

Evacuation process

- I am interested in learning about your experiences during the 2011 wildfire evacuation 4 years ago. Did you evacuate?
- Did your family evacuate?
- Was that the first time that you had been evacuated?
- Where were you when you were told to evacuate?
- Who told you about the evacuation? (How was the warning communicated?)
- How did you feel about when you were told you had to leave?
- Were you responsible for helping family members of friends to evacuate?
- When you were told to evacuate, what did you do? How much time did you have to prepare? Was this enough time?
- How did you leave the community? And what was that like, the getting ready to go part of it, do you remember that? What was that like?
- Did anyone assist you during the evacuation (to take you to the registration centres, and to the airport)
- Did you have to leave any pets behind?

Leaving the community

- When did you leave?
- Did everyone want to leave?
- Where did you go? (Where were you evacuated to?)
- Who did you go with? Was your family able to stay together during the evacuation? How did this affect your experiences during the evacuation?
- Did you have time to take important belongings? So what did you end up taking with you? (Clothing, pictures, any valuables?)

If stayed behind

- [if wanted to stay behind] What were the things that you were thinking about that made you want to stay behind? What motivated you to stay behind?
- What did you do while stayed in the community? What was it like to stay behind?
- How did you communicate with people outside? What sort of things did you communicated?
- Will you stay behind if faced with similar situations in the future?

Staying in the host community

- Where did you stay when you were there? How long were you there? Did you have to change your accommodation during the evacuation? What did you do while you were there?
- What other assistance was provided to you in ___________? (official, unofficial, any financial assistance, and any assistance from the members of the host community)
- What other service did you get there?(for example, information, translation services, recreation, and local transportation)
- What positive experiences did you (and your family) have in ______________?
- What negative experiences (if any) did you (and your family) have in ____________?
- How did being in this host community affect you and your family? Could you tell me a bit more about being there? (Do you remember how you felt about it?)
- Were you given community updates while you were in the host community?
- How did you receive communication about the status of the fire? was the information useful?

Returning home

- When did you (and your family) return home? And when you were told that you were allowed to come back, how was that? How did you feel?

- How did you get back to Sandy Lake?
- What did you do when you returned home? What did you feel like when you got home.
- What experience did you and your family have when you returned home?
- Was any assistance provided to you and your family after you returned home?

Thinking back on the experience:

- What sort of things can you identify that significantly assisted you with your evacuation? (Family and community level) Is there anything that made your experience difficult?

Preparedness and mitigation

- Do you feel prepared should you have to evacuate again? Why?
- Have you or your family done anything to prepare if there is another evacuation in the future? (Was it before or after the evacuation?)
- What sort of things do you think your community is lacking if there is an evacuation in the future? Or things that would help positively?

Impacts of the wildfires and the evacuation

- Have you experienced any lasting effect as a result of the fire and the evacuation?
- How do you feel the evacuation affected the community in general?
- My last question, do you have any suggestions for how future wildfire evacuations of your community or other First Nations communities might be improved?

Suggestions:

- Is there anyone else you can recommend that I speak to in regards to your community's wildfire evacuation? Specifically, someone who may have had a different experience from your own?
- Would you like a copy of the results once the study is completed?

Appendix 12: Key informant interview guide

Questions/topics

Role during the evacuation:

- What is your role in Sandy Lake?
- Can you tell me your general thoughts about the community?
- How much of a wildfire risk is there in this area? How do you think wildfires affect Sandy Lake First Nations? (positive/negative)

The 2011 wildfire evacuation

- What was your role during the evacuation in summer 2011?
- Could you describe the evacuation process (before the evacuation, during and after the evacuation, based on your own experience)?
- Were you involved in communicating with residents about the emergency situation?
- Were there people who refused to evacuate? How this affected the evacuation process?
- How did you carried out the evacuation process?
- What made it easy/difficult for you and your family members to leave?
- Did you leave the community? If so, where did you go? What did you do while you were away from the community?
- What helped residents during the evacuation? What made it difficult for residents? What problems residents encounter during their stay in the host communities?
- What information did you communicate during the evacuation? (was it helpful?)
- What were your experiences during the evacuation? What helped you in your role? What challenges came up?

Community impacts of the evacuation: Thinking back on the experience

- How was the community as a whole affected by the wildfire evacuation? Have there been any lasting effects, either positive or negative?
- Were there any specific procedures that helped or hindered the evacuation process?

- What support and assistance (information, support, financial & other resources) was provided to the community during and after the evacuation?
- What kinds of resources or internal capacity can you identify that would have allowed you to better manage the evacuation? (skills, resources, knowledge, what are the challenges in obtaining those.

Preparedness and response

- Do you think the community is prepared for wildfire emergency? (why? why not?)
- Do the existing resources allow the community to respond to wildfire emergency?
- What is the response capability of the reserve to deal with local disasters?
  (i.e., in terms of wildfire emergency management plan, personnel for crisis management, resources such as fire hall, fire trucks, ready to use equipment, designated emergency management funding, designated emergency management office, and coordinator)
- How remoteness and isolation from services due to location affects community wildfire response? how the community isolation impact ability to prepare to wildfires?
- Does your community have an emergency management plan in the past? How was this developed? Does the community have the resources (Financial, physical and human capacity) to develop the emergency plans required by the province of Ontario?
- Are there any things that have been done or that are planned to help the community be more prepared if an evacuation is required in the future?

Suggestions:

Do you have any suggestions for how future wildfire evacuations of your community or other First Nations communities might be improved? Would you like a copy of the results once the study is completed?