

INSIDE THE REZ CROSS: AN ASSESSMENT OF HOSTING EVACUEES DURING A
WILDFIRE DISASTER IN BEARDY'S & OKEMASIS FIRST NATION

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By

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ABSTRACT

Wildfires in northern Saskatchewan cause evacuations of Indigenous communities every year in summer. The summer of 2015 brought with it one of the most destructive and widespread wildfire season in Saskatchewan history, provoking massive evacuations of northern communities to shelters in urban centres across the province. Alongside provincial and local governments and the Red Cross, First Nations also took the lead in organizing and establishing their own evacuation centres on their reserves. This research considers the case of Beardy's and Okemasis First Nation's emergency response (through "Rez Cross"), which adopted a culturally-based approach to hosting evacuees. To understand how planning for and responding to wildfire emergencies can be more inclusive of cultural values, I created and designed a comprehensive wildfire emergency management framework. This framework is based on a literature review and qualitative methodology consisting of document analysis and semi-structured interviews.

The literature review considers three key themes. First, the concept of effectiveness is used to understand critical elements in developing and evaluating an emergency plan. Second, a dual perspective considering both processes and outcomes is used to extract key meanings in planning and implementing emergency plans. Third, the role of culture in Disaster Risk Reduction (DRR) is considered, specifically, using evidence from Indigenous-led emergency responses to determine how culture is incorporated and what impact cultural responses have on evacuated communities.

Hand in hand with this literature review, I conducted document analysis and semi-structured interviews to gather insights from existing emergency guidelines and plans and from people involved with planning and implementing evacuations. I interviewed members of Beardy's and Okemasis First Nation (BOFN), federal government officials, Red Cross representatives, and leaders of evacuated communities. The findings revealed that, in its emergency planning, BOFN developed a holistic culturally-based strategy rooted in inner cultural symbols, traditions, principles, and ideas that define BOFN as a community.

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DEDICATION

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LIST OF ABBREVIATIONS

BOFN: Beardy's and Okemasis First Nation	12
DRR: Disaster Risk Reduction	13
EA: Environmental Assessment	25
EIA: Environmental Impact Assessment.....	22
EMO: Emergency Management Organization.....	49
FSIN: Federation of Sovereign Indigenous Nations.....	81
GIS: Geographical Information Systems	49
IA: Impact Assessment	23
IK: Indigenous Knowledge	34
INAC: Indigenous and Northern Affairs Canada	51
IR: Indian Reserve	16
JIBC: Justice Institute of British Columbia	49
NAD: Northern Administration District	15
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CHAPTER 1: INTRODUCTION

1.1 Statement of the problem

In Canada, approximately 8600 wildfires burn 2.5 million hectares each year (Natural Resources Canada, 2016 a), posing significant risk to communities and requiring management agencies, local and provincial governments, and other stakeholders to coordinate evacuation efforts. As the sites most impacted by fire hazards, boreal forests are problematic for two reasons: they are one of the world's largest bio-geoclimatic zones; and they are home to approximately 12% of Canada's population, including more than 600 First Nation reserves (Bogdanski, 2008; Boreal Songbird Initiative, 2018; Nature Conservancy Canada, 2017). On average, Saskatchewan experiences 435 fires per year with more than 572,500 hectares burnt (Government of Saskatchewan, 2017), making Indigenous communities at risk due to their proximity and capacity to prepare. As such, risk communication and resource and infrastructure sufficiency become critical to ensuring effective community-based responsiveness to fire hazards in northern areas of the province (INAC, 2017)

In 2015, Saskatchewan experienced one of the most significant fire seasons of the past 10 years, accounting for 45% of the total forest area burned in Canada that year. Fires reached 1,758,376 hectares (Natural Resources Canada, 2016 b) and affected the homes of more than 50 First Nation communities (Government of Saskatchewan, 2016). Northern communities were under extreme risk (See Figure 1). Fire provoked a massive exodus of more than 13,000 evacuees – the largest evacuation effort ever registered in the province's history (Canadian Red Cross, 2015). As a result, evacuation centres were set up in Saskatchewan's major cities: Regina, Saskatoon, Prince Albert, and North Battleford. Unofficial evacuation sites were also placed in Indigenous communities at Meadow Lake, Beardy's and Okemasis First Nation (BOFN), Ahtahkakoop Cree Nation, Willow Cree First Nation, James Smith Cree Nation, and the Muskeg Lake Cree Nation (Prince Albert Grand Council, 2015).

Beyond consideration of fire suppression and physical accommodation strategies, Indigenous-led emergency measures stood out in assisting and attracting First Nation evacuees. The setup of the "Rez Cross" evacuation centre by BOFN was a pioneer experiment for Indigenous-based wildfire mitigation initiatives in Saskatchewan, which soon influenced other communities to open their

own centres (e.g., Ahtahkakoop Cree Nation and Muskeg Lake Cree Nation). Despite being limited in capacity, “Rez Cross” became fully operational by providing not only physical assistance (e.g., food and clothing) but also cultural and emotional support (e.g., counselling). From a planning perspective, the centre secured donations, resources from local tribal councils, means of transportation, and volunteers, who actively engaged in the day-to-day agenda of providing emergency support.

The Rez Cross case also demonstrates the significance of Indigenous culture as a vehicle for disaster risk reduction (DRR). This process involves implementing both local strategies to induce change and decision-making processes to favour these strategies over others (Eriksen & Brown, 2011). This is particularly significant where colonial structures have heightened the vulnerability of Indigenous peoples and marginalized and constrained their capacity to plan for and respond to natural or human-induced disasters (Lambert et al. 2019 In Press). The interaction (between strategies and decision-making) entails considering communities’ context of vulnerability within which values and interests intertwine and bring local knowledge forward in the response (Eriksen et al., 2011).

In the face of constant fire hazards, it is critical to analyze how to reduce disaster risk through socio-cultural dimensions. From the perspective of the hosting community, I aimed to understand how cultural values can inform effective emergency responses that address the needs of northern Indigenous residents displaced by wildfires. I developed a set of evaluation criteria for effectiveness that placed emphasis on process and outcomes. These criteria were used to assess the coordination of evacuations; to review BOFN’s practices in planning, implementation, and follow-up; and to indicate how a cultural focus can be included into wildfire evacuation plans. This research considered ways to think about process and outcome criteria that reflect Indigenous cultural values and knowledge. In doing so, the thesis aimed to provide stepping stones to support effective Indigenous DRR to wildfire risks.

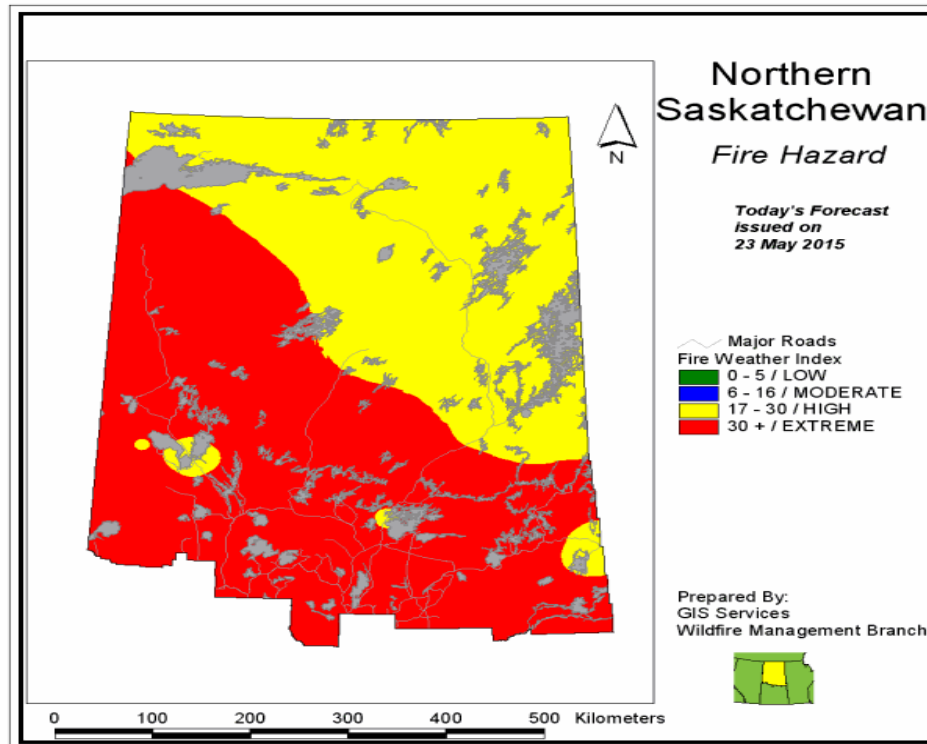


Figure 1. 1. Fire hazard risk in northern Saskatchewan as of May 23, 2015. GIS services Wildfire Management Branch. (CBC News, 2015)

1.2 Research question and objectives

This research explored the local capacity of an Indigenous community to effectively manage wildfire emergencies from a socio-cultural perspective. To this end, it sought to address the following question:

- How can planning for and responding to wildfire emergencies in Saskatchewan become more inclusive of Indigenous culture and values?

The objectives developed to understand the research question proposed culturally-based criteria that include Indigenous knowledge and values to assess the effectiveness of emergency plans.

Specifically, three objectives were addressed:

1. To develop a draft evaluation framework for emergency planning that includes Indigenous culture and values in evaluating the planning process and outcomes;
2. To use an iterative approach in applying the framework to evaluate how Indigenous culture and values have been introduced in provincial and selected local-level emergency plans, including the plan of BOFN; and

3. To make recommendations that identify ways for including Indigenous culture and values in wildfire and emergency response planning in Saskatchewan.

1.3 Geographical context

To understand the relationship between evacuation organizers and evacuees, this research considered two key geographical settings involved in the wildfires of 2015: BOFN, and the hosted reserves that comprise part of the Lac La Ronge Indian Band (See Figure 2).

The BOFN evacuation centre hosted Indigenous communities arriving from remote reserves in northern Saskatchewan. These hosted reserves are part of the Northern Administration District (NAD) and are regulated by the Northern Municipalities Act. Although comprising half of the province's land area, the NAD accounts for less than 4% of the overall population (Government of Saskatchewan, n.d.). In general, these reserves possess vast natural resources but are confronted with poor infrastructure and low incomes, as well as lower levels of literacy and education than the rest of the province. Boreal forest areas like these are also characterized by low population density, range of low- to high-value resource areas, vast areas, coupled with limited human and financial resources; long, often roadless, distances to be patrolled and accessed for fire control; numerous lakes and rivers in the east, fewer lakes and rivers and rugged terrain in the west; numerous human and natural ignition sources; and boreal forests with a tendency to experience stand-replacing crown fires. (Canadian Council of Forest Ministers, 2005, p. 3)

These considerations showcase the varying challenges these communities face when an emergency occurs. These challenges are seen in northern communities' limited capacity to organize themselves and mobilize human, financial, and non-financial resources to respond as a community. This situation makes these communities vulnerable, and, if the need to evacuate arises, dependant on external aid. Their vulnerability is heightened by their remote location and their lack of interconnectedness to major urban and First Nation hubs, impeding communications and accessibility to assistance from federal, provincial emergency management agencies, and other First Nation communities. Vulnerability has also emerged as a consequence of the historic legacy of colonialism, marginalization from mainstream society, and neo-colonial structures that

continue to restrict and constrain Indigenous- led responses to hazards (Lambert et al. 2019 In Press).

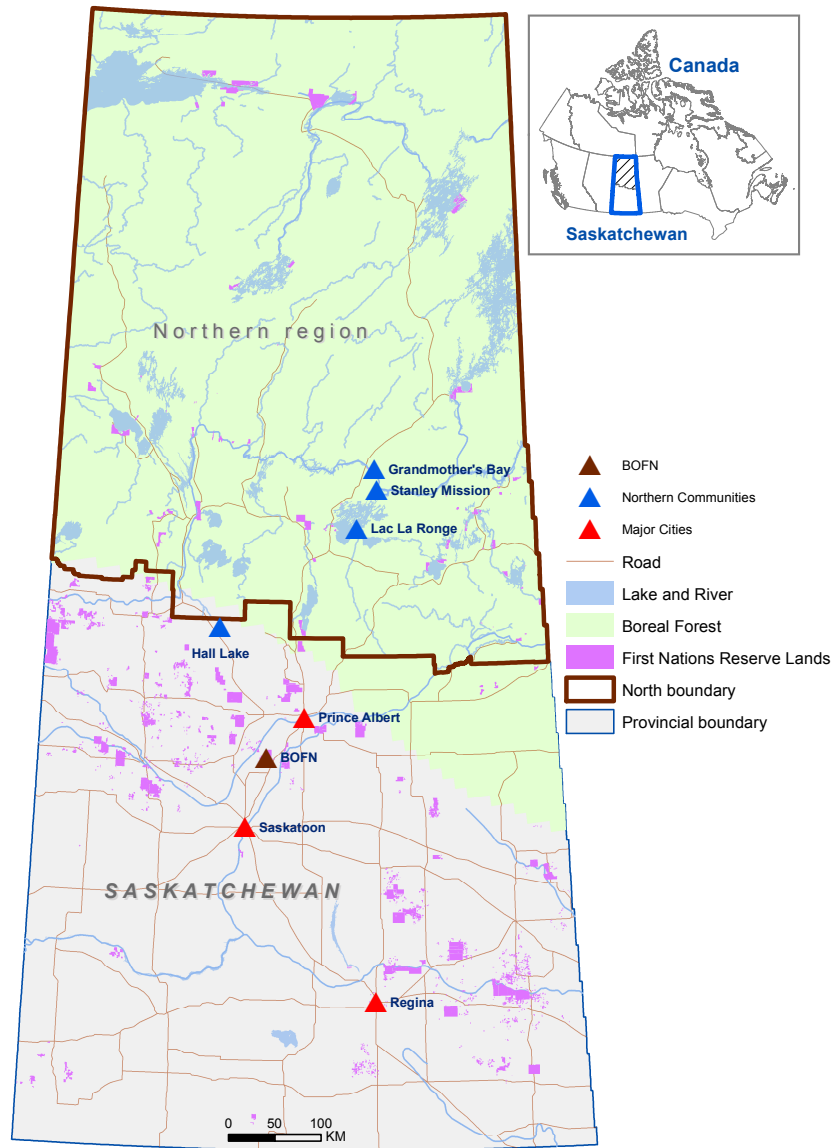


Figure 1. 2. Beardy's and Okemasis First Nation and Lac La Ronge Indian Band location.

1.3.1 Beardy's and Okemasis First Nation

BOFN is one of the original signatories of Treaty 6 and one of the largest First Nation communities in Saskatchewan. As per its overall land distribution, BOFN is part of the Saskatoon-Wanuskewin Federal Electoral District. The BOFN Indian Reserve (IR) Land includes five reserves that comprise 20,345 hectares (Hayward, 2013). These reserves are as follows:

Beardy's IR#97 and Okemasis IR#96 with 11,234 hectares; Beardy's IR#97 and Okemasis IR#96A with 4524 hectares; B with 1,369 hectares; C with 2,851 hectares; and the reserve lands of Willow Cree, adjacent to Duck Lake with 277 hectares (Hayward, 2013).

The BOFN population in 2013 was 3,194, of which 1,106 registered members lived on the reserve and 2,087 off-reserve (Statistics Canada, 2012). Prince Albert is 50 km to the north and Saskatoon 85 km to the south on Highway 11 (Hayward, 2013). The main urban infrastructure in BOFN includes the Band Office and Education Centre, the Willow Cree Education Complex, the Constable Robin Cameron Education Complex, the Willow Cree Health Station, the Fire Hall, and the Justice Building. There is also a cemetery and a prominent archaeological site marking a key battle in the North-West Resistance.

Like other Indigenous peoples across Canada, BOFN has been subject to a long history of colonization that has affected its capacity to plan for and respond to hazards on its own terms and has marred relations with other levels and agents of government. Tensions between BOFN and the federal government can be traced back to the late 19th Century when the Government of Canada and the Métis people asserted competing rights over land and resources. What became known as the North-West Resistance originated when Métis petitions for adequate political representation and formal title to lands were not considered by the federal government. In fact, the Métis had demanded that the North-West territories (Alberta and Saskatchewan)

become a province with a fully responsible government, that the Métis be granted full title to their lands, that these lands be surveyed to recognize the Métis' river lot land-holding system, and that Louis Riel's leadership be formally recognized, either through his appointment to the territorial council or to Canada's Senate. (Royal Canadian Geographical Society and the Canadian Geographic, 2018, para.3)

Despite the federal government's refusal, a temporary government was established in the region on March 18, 1885 under the Métis leadership of Pierre Parenteau, Philippe Garnot and Gabriel Dumont. Additionally, Louis Riel created a "people's council" called the "Exovedate" (Royal Canadian Geographical Society and the Canadian Geographic, 2018).

On the 26th of March 1885, the North West Mounted Police (NWMP) alongside a group of civilians began military action. Subsequent battles determined victory for the Government of Canada; the land rights of the Métis were never recognized, and Louis Riel was hung for treason. Because the events took place on the territory of (what is now) Beardy's and Okemasis First Nation, the Government of Canada also viewed these people as disloyal to the Crown. The federal government banned local forms of governance and several sanctions were imposed. Specifically, guns and ammunitions were confiscated, pass laws were imposed, and the "work for rations policy" was strictly enforced (Virtual Museum of Canada b, n.d.). New and on-going policies forced Indigenous communities to embrace and adopt non-Aboriginal practices. Specifically,

These policies included residential schools, a restrictive pass system to monitor movement on and off reserves, and measures to curb First Nations' languages and spiritual systems. These policies had already been planned, however, the 1885 Resistance and the limited amount of First Nations involvement in it provided the federal government with the rationale to fully and uncritically implement its assimilative policies. (Virtual Museum of Canada a, n.d., p.p.8-9)

At BOFN, following the death of Chief Beardy in 1989, the federal government did not permit the First Nation to have a chief again until 1936 (Specific Claims Tribunal Canada, 2015). The next chief was the first to be elected under the *Indian Act*, imposing the colonial band system of governance that remains today. In addition to the harms to Indigenous peoples across Canada, these specific events at Beardy's and Okemasis First Nation continue to shape relations between the First Nation and the federal government today.

1.3.1.1 Land resources and wildlife

BOFN reserves are situated in the Nisbet Plains area of the Boreal Transition Ecoregion, the Waldheim Plains, and the Aspen Parkland ecoregion. The southern part of the reserve is in the Aspen Parkland Ecoregion, which mainly consists of farmland. This area differs from the south-east landscape, which consists of lakes, ponds, and sloughs that serve as a waterfowl nesting and staging place during migration in spring and fall (Saskatchewan Conservation Data Centre, 2012). BOFN's traditional land uses revolve around existing wildlife. Thus, BOFN is home to buffalo, deer, moose, elk, antelope, duck, geese, eagles, and woodpeckers. Its waters extend in

Candle Lake are also home to unique aquatic fish species, such as white sucker, jackfish, whitefish, walleye, Lake Trout, and sturgeon. Additionally, the reserve is rich in fur bearers, such as rabbits, beavers, foxes, minks, muskrats, weasels, lynxes, gophers, skunks, coyotes, and otters. Other species include white-tailed deer, snowshoe hare, cottontail, Franklin's ground squirrel, sharp-tailed grouse, and black-billed magpie (Saskatchewan Conservation Data Centre, 2012).

BOFN lands contain diverse types of berries, which are an essential and traditional part of the Indigenous diet. These berries include chokeberries, Saskatoon berries, high bush cranberries, gooseberries, hazelnuts, and blueberries (Beardy's and Okemasis First Nation, 2013). Lands are also used for agricultural activities and grazing. Crops in the ecoregion are mostly spring wheat, cereals, oilseeds, and forages (Hayward, 2013). These characteristics help in understanding the environmental and locational potential BOFN held when setting up its shelter and providing for evacuees.

1.3.2 Lac La Ronge Indian Band

Lac La Ronge Indian Band is the largest First Nation community in the province, with an estimated population of 10,712 (Lac La Ronge Indian Band, 2015). This Indian Band comprises a total of 18 separate reserve lands and six reserve communities, such as Hall Lake, Grandmother's Bay, La Ronge, Little Red River, Stanley Mission, and Sucker River. Lac La Ronge is situated in north-central Saskatchewan. It comprises large extensions of mid-boreal upland ecoregions and the Churchill River, a landscape which "is gently undulating with vegetation dominated by black spruce and jack pine along with white spruce and peatlands." (SaskAdapt, n.d.). Numerous lakes are spread across the mid-boreal ecoregions such as Dore, Montreal, and La Plonge. Forest areas are home to the trembling aspen, jack pine, black spruce, white spruce, balsam poplar, and white birch. Wildlife stock includes such diverse species as white-tailed deer, mule deer, elk, moose, black bear, woodland caribou, bald eagles, lake trout, lake sturgeon, whitefish, pike, and walleye.

1.4 Significance of Beardy's and Okemasis First Nation

BOFN represents an illustrative case study for analyzing Indigenous-based evacuation schemes that reflect Indigenous values and needs. This case sheds light on the Indigenous capacity to prepare for and respond to fire hazards. For example, the capacity of BOFN to serve as a host

community for Indigenous evacuees is foreshadowed, in part, by its Traditional Land Use study (TLUS), which “documents specific traditional activities” and “records the areas in which those activities take place” (Beardy’s and Okemasis, 2013, p. 4). This study targets the community as an attractive and strategic location, connecting northern reserves and other major cities in the province. The Nation has observed that this documentation will help the leaders of BOFN to “make informed decisions.” (Beardy’s and Okemasis, 2013, p. 4) and may shed light on some of the cultural resources the community can bring to bear during a wildfire event. My own study of BOFN’s coordination process will offer key inputs to understand how communities can organize themselves, make use of local resources, and incorporate Indigenous values into their wildfire evacuation plans and reveal factors that can lead to the replication of the BOFN evacuation model in other reserves.

1.5 Relevance of the study

Although there is a proliferation of adaptation strategies by varying institutions such as provincial agencies, local governments, and non-governmental organizations (NGOs) (Agrawal et al., 2009), these strategies often fail to consider the relationship among cultural factors, the sustainability of ecosystems and communities, and local considerations and needs. As Baggethun (2013) argues,

Manifestations of global environmental change that governmental and international bodies identify as the priority for the design of coping and adaptation strategies (namely climate variability and long-term change) do not always match with what local communities identify as the most pressing issues. (p. 76)

In the Canadian context, adaptation strategies and plans have made limited use of local knowledge, reducing the ability of Indigenous peoples to respond to and prepare for emergencies. Thus, plans already in use need to be critically assessed to determine their effectiveness and impact on local communities. Moving beyond physical risk, my study of BOFN assessed an emergency response based on Indigenous culture and values. Analyzing the BOFN emergency plan revealed Indigenous perceptions of wildfire risk and BOFN’s preference for mitigation actions. As a result, recommendations emanating from this research may help guide wildfire mitigation programs and communication strategies with Indigenous communities.

This research also offered key evidence to fill a gap in the literature: studies of climate hazards have mostly analyzed disaster prevention, but few have focused on planned responsiveness once the climate event has happened. As Scharbach, and Waldram (2016) argue,

The physical removal of people from a threatened community represents just one risk episode in response to impending disaster. What happens to them while they are ensconced in evacuation shelters awaiting word of the safety of their homes and communities is another, less considered episode. (p. 62)

To address this knowledge gap identified by Scharbach, and Waldram, the current study considered all aspects of an emergency response plan, from the evacuation itself, to peoples' experiences while they are removed from their homes, to their return.

This chapter has described contextual conditions affecting the setup of the BOFN evacuation centre 'Rez Cross.' It has also discussed the increasing relevance of Indigenous-led initiatives in mitigating wildfire effects, revealing the need to include socio-cultural dimensions in evacuation plans and processes. The next chapter discusses the key literature on effectiveness, cultural influences in DRR, and Indigenous considerations to fire hazards as reference points in building a framework that analyzes the inclusion of Indigenous values and culture in BOFN's emergency response.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

To understand how planning for and responding to wildfires in Saskatchewan can become more inclusive of Indigenous knowledge and values, this research considered the case of the wildfires of 2015, when a First Nation community took the lead in setting up a shelter for evacuees on its territory. The BOFN 2015 experience demonstrated the need to understand the current state of emergency planning in Saskatchewan and the extent to which existing plans include Indigenous knowledge and values. To develop this understanding, a set of parameters was established, which is viewed across three themes presented in this literature review and in the study as a whole. The first theme – *effectiveness* – is used to examine how an emergency response can more successfully reflect Indigenous culture and values in its processes and outcomes. The second theme explores *culture* in DRR, specifically focusing on the dimensions of culture to be examined when assessing an emergency response. The third theme emphasizes *Indigenous considerations of fire hazards*, using key evidence from previous case studies to know how Indigenous communities have responded to fire hazards. In the discussion of these three themes, I explore key insights in the literature and identify research gaps. Finally, using a culturally-based approach, I describe how lessons learned in the literature can be used to analyze the role that the Rez Cross played in wildfire emergency management in 2015.

2.2 Effectiveness

The term effectiveness will be discussed in detail below. It can be loosely described as a means of measuring the success of a plan. Among fields using effectiveness, Environmental Impact Assessment (EIA) has been on the forefront of developing effectiveness policies as a tool to measure success. Likewise, environmental impact assessment “uses traditional knowledge and information about community values gathered by means of several tools, including processes of public consultation” (Canadian Environmental Assessment Agency, 2016). Because of its engagement with effectiveness, traditional knowledge, and community values – all elements central to the current research –environment impact assessment are emphasized in this literature review. In addition to literature from this field, the broader assessment literature is also discussed, particularly that which describes multiple context-specific approaches useful in understanding the

dynamics of cultural processes in program evaluation. The following two sections discuss efforts to assess effectiveness that are most relevant for this research.

2.2.1. Effectiveness in terms of processes

One conceptual definition of effectiveness was proposed by Sadler (1996), who referred to it as a measurement approach involving both procedural and functional criteria intended to examine whether certain goals are met. Sadler (1996) suggested that studies of effectiveness examine the following:

Processes, practice and performance at both macro (assessment systems) and micro (individual applications) levels, which draw on evolving frameworks, concepts and methods for their conduct. The subjectivity and relativity of such analyses are now emphasized; determinations of effectiveness are recognized as partial, circumstantial, open to argument and, in the case of outcomes, may not become apparent for some time, if at all. (as cited by Cashmore et al. 2012, p. 91)

Sadler defined effectiveness with the field of project management in mind, but his definition can be more broadly applied to other fields. The definition reveals that effectiveness involves examining the big picture by considering both macro (overall fulfillment of criteria) and micro components (individual perspectives and viewpoints of participants).

Another effectiveness study was conducted by Hanna & Noble (2015), who examined effectiveness to understand how impact assessment¹ (IA) processes affect environmental management and protection. To this end, they conducted a survey in which they asked an expert group in academia and the government sector what criteria should better audit and assess IA effectiveness in Canada. This consultation process comprised three analysis stages in which common themes were identified, refined and phrased in nine key terms. Out of these key terms, five themes were considered and adapted to better reflect the purpose of this research: *community confidence*, *integrative decision-making*, *comprehensiveness*, *accountability* and *participation*. In building their criteria, Hanna & Noble (2015) considered Sadler (1996)'s analysis of

¹ According to Hanna & Noble (2015), IA is defined as a mechanism that examines and proposes alternatives to mitigate the negative effects of proposed policies, plans and projects on the human and physical environment. (p.2)

effectiveness by stressing the role of decision making and fulfillment of managerial objectives. My research adapted their criteria to understand the different factors affecting the planning and design stages of BOFN's emergency response. The wording of the indicators was altered and adapted to better reflect the context of community-led emergency responses (See Table 1).

Table 2.1. Effectiveness in terms of processes

CRITERION	INDICATOR
<i>Community Confidence</i>	<p>A. The process is understood, and information about the process, procedures, and its authority is accessible and clear. (Hanna & Noble, 2015)</p> <p>B. The intent of the process is acknowledged and clearly stated. (Hanna & Noble, 2015)</p>
<i>Integrative decision making</i>	<p>A. The process demonstrably informs, and the results are integrated into other relevant planning processes. (Hanna & Noble, 2015)</p> <p>B. There is capacity to integrate the knowledge and results of other processes into the evacuation process without unduly influencing its outcomes. (Hanna & Noble, 2015)</p> <p>C. The process considers impacts beyond the immediate time scale of the policy, plan, or program. (Hanna & Noble, 2015)</p>
<i>Cultural Comprehensiveness</i>	<p>A. The context of vulnerability, different values, and interests, and integration of local knowledge are considered. (Eriksen et al., 2011)</p>
<i>Accountability</i>	<p>A. Roles and responsibilities in planning, review, and decision-making processes are clearly identified. (Hanna & Noble, 2015)</p> <p>B. Roles and responsibilities for implementation, follow-up, and reporting are clearly identified. (Hanna & Noble, 2015)</p>
<i>Participation</i>	<p>A. Participation opportunities are made well known and appropriate to the stage of the process and the social-cultural context. (Hanna & Noble, 2015)</p> <p>B. Sufficient resources and time are provided to support participation of local people. (Hanna & Noble, 2015)</p>

Note. Adapted from Hanna & Noble (2015), Eriksen et al. (2011)

This table considers planning elements proposed by Hanna & Noble (2015) that can be used to assess the varying stages in designing a plan from envisioning a purpose to developing the tools that ensure objectives are met. In this approach, consideration of culture is key to defining different elements such as the decision-making process, the assignment of roles, and participation

opportunities. One criterion contained in this table, *cultural comprehensiveness* is based on Eriksen's (2011) insights.

Eriksen et al. (2011) argued the need to “to acknowledge that different values and interests affect adaptation outcomes” (p. 12). They pointed out that adaptation responses often give rise to value conflicts through which one group's action can increase the vulnerability of other groups or impede the successful execution of a sustainable measure. This point is important for understanding how values are incorporated and how differences in values play a role in identifying possible gaps between what is culturally valid for the communities and what is deemed viable for the non-community actors. They also argued for a need to “integrate local knowledge into adaptation responses” (p. 13), reminding us that “different approaches to adaptation often reflect varying approaches to knowledge and understandings of the local context, resulting in different diagnoses of both problems and solutions” (p. 13). This consideration will be important when using this observation, one can investigate the rationale for anticipated outcomes of a community-led planning process. It will also help in analyzing the structure of guidelines for the implementation of plans and the influence of cultural values on mitigation measures. Having explained these principles, from Eriksen et al. (2011) I incorporated three elements as indicators in the *cultural comprehensiveness* and *use of resources strengthens Indigenous identity* criterion the need to look for examining local context, the values and interests of different actors, and the integration of local knowledge in the emergency response.

2.2.2. Effectiveness in terms of outcomes

In addition to assessing effectiveness as a process, researchers have also assessed effectiveness as an outcome. Effective outcomes have also been explored in the environmental assessment (EA) literature. Elling (2009) explains the relationship between the terms effectiveness and outcome:

Effectiveness in EA ... means setting the right targets and meeting them with the right means in the process of implementing a project or a plan with environmental caretaking. The connotation of the word effectiveness refers to the outcome of the effects to implement and to protect. (p. 125)

This definition considers effectiveness as an alignment between targets-procedures-actions and focuses on the result. The result then is the action of executing a plan. However, the impact of the result is not considered.

In defining effectiveness, other approaches have considered additional features. In the field of social impact assessment, authors like O'Faircheallaigh (2012) understand effectiveness both as the execution of mechanisms that secure positive effects and reduce negative outcomes and as the proper coordination and allocation of resources for monitoring and evaluation purposes.

Effectiveness has also been incorporated into the study of organizational structures. Sawhill & Williamson (2001) introduced three components to measure effectiveness in non-profit organizations (NPOs): impact (to examine whether a mission is achieved), capacity (reflected in goals and strategies), and activity (resources and the tasks conducted to meet the mission). In a similar vein, Tayşir & Taysir (2012) undertook comparative and multidimensional research to measure effectiveness in 69 leading Turkish NPOs. They identified three components: dimension, sub-dimensions, and indicators to measure each sub-dimension. These components were drawn from literature and were presented to members of Turkish NPOs to gather their input. These members were asked to determine what dimensions were the most important. In some cases, NPO members suggested new dimensions to be considered. As a result, Tayşir & Taysir (2012) created an integrated NPO effectiveness measurement model comprised of six themes: *board effectiveness, managerial effectiveness, resource effectiveness, financial effectiveness, environmental effectiveness, and program effectiveness*. Out of these themes, *program effectiveness* was considered, and *managerial effectiveness* was adapted to integrate a cultural perspective (See Table 2). Resource effectiveness and one of its indicators (indicator A) was also considered. This dimension's name was changed to *Use of resources strengthen Indigenous identity* and used as a criterion that integrates two additional indicators that reflected culture and values. Drawing insights from these sources, it appears that effectiveness is measured as the extent to which expected outcomes are in consonance with the goal-setting process and the mechanisms leading to the fulfillment of goals.

In studying effectiveness in the field of adaptation to climate change, Adger et al. (2005) argue that success cannot be simply understood as the action of fulfilling objectives because actors place different degrees of importance on each criterion for success. This unequal prioritization is based on the actor's values, worldviews, and their limits of responsibility (Haddad, 2005), as well as the changing nature of the actor's expectations and attitudes throughout time (Adger et al., 2005).

In large part because of varying ideas about success, Adger et al. (2005) warn about challenges in measuring effectiveness in adaptation. The first challenge refers to the continuing uncertainty surrounding an adaptation decision that has both clear and unclear circumstances. This uncertainty is nurtured by the second challenge: the effectiveness of an adaptation decision is determined by actions previously planned by external actors. The third challenge considers the link between a hazard and the future climate since reduction of hazard risks depends on these natural conditions. Thus, Adger et al. (2005) propose two effectiveness indicators: “*robustness to uncertainty* and *flexibility* or ability to change in response to altered circumstances” (p. 81). This consideration becomes crucial when analyzing effectiveness as an outcome as it would be indicative of the community to respond when facing unexpected situations. Lastly, Adger and colleagues indicate that while proving effective to one group, an adaptation measure can also diminish the ability of other segments to adapt. Based on these considerations, I incorporated an indicator under the first outcome criterion (*effectiveness drawn from material aspects of culture*) called *enhanced ability to adapt to changes*. I condensed and adapted key points from Tayşir & Taysir (2012), Eriksen et al. (2011), and Adger et al. (2005) into a four-criteria table for effectiveness as an outcome, as seen in Table 2.

Table 2.2. Effectiveness in terms of outcomes

CRITERION	INDICATORS
<i>Effectiveness drawn from material aspects of culture</i>	<p>A. Achieving goals drawn from material and/or lived experience of culture. (Tayşir & Taysir, 2012)</p> <p>B. Enhancing ability to adapt to changes (organizational flexibility). (Adger et al., 2005)</p>
<i>Use of resources strengthens Indigenous Identity</i>	<p>A. Resource sufficiency and distribution strengthen capacity and ensure cost-effectiveness. (Tayşir et al., 2012)</p> <p>B. Community cohesion, identity, and sense of place is promoted and achieved. (Adger et al., 2013)</p> <p>C. Context for vulnerability, different values, and interests, and integration of local knowledge. (Eriksen et al., 2012)</p>
<i>Program Effectiveness</i>	<p>A. Delivery of programs and projects is deemed successful by participants. (Adger et al., 2013; Tayşir & Taysir, 2012)</p> <p>B. Program satisfaction contributes to community cohesion. (Tayşir & Taysir, 2012)</p>
<i>Education</i>	<p>A. Training and education opportunities for community residents are enhanced. (Tayşir & Taysir, 2012)</p>

Note. Adapted from Taysir & Tayşir (2012), Eriksen et al. (2012), Adger et al. (2005), and Adger et al. (2013)

Table 2 focuses on effectiveness and as an outcome. The criteria and their indicators measure the role of cultural values and knowledge in strengthening the community response, heightening the cultural impact of the evacuees' adaptation process, and providing opportunities for improvement, for example, through education.

2.3 Cultural influences in disaster risk reduction

Over the last decade, researchers have begun to argue that cultural dimensions of adaptation should be considered in assessments of climate change (Adger et al., 2013; Heyd & Brooks, 2009). These cultural dimensions have been addressed in the literature in different ways. Authors like Kroeber and Kluckhohn (1952) have studied the concept of culture, defining it as

Patterns, explicit and implicit, of and for behavior acquired and transmitted by symbols, constituting the distinctive achievements of human groups, including their embodiment in artifacts; the essential core of culture consists of traditional (i.e. historically delivered and

selected) ideas and especially their attached values; culture systems may, on the one hand, be considered as products of action, on the other, as conditional elements of future action. (p. 181)

This definition considers culture through human action. Behavioral patterns are guided by ideas and culture systems represented in both material artifacts and interactions. Such interactions are rooted in past actions, maintained in the present, and adapted to future contexts. Thus, culture is evolving, dynamic, and ever changing. Kulatunga (2010) similarly considers culture as an integration of material and non-material dimensions. Within the non-material element, he considers symbols, language, values, and norms:

Symbols: symbols communicate abstract concepts with visible objects. Symbols provide shared meanings to a culture and can provide loyalty, animosity, love and hate. Language: language helps to express ideas and enables communication with others. Values: values are ideas of right and wrong, good or bad and desirable and undesirable. Values help us to evaluate people, objects and events. Norms: Norms have behavioural expectations that are established in the form of rules or standards of conduct (p. 306)

Kulatunga's (2010) ideas about cultural symbols concur with those of Odora's (2017). Both argue that culture not only refers to stories, beliefs, and symbols embedded within a society's identity but also dictates how individuals give meaning to their behaviours, discern their own realities, and take a determined course of action. Thus, culture shapes the context in which community adaptation happens and constitutes a key driver of risk identification, risk assessment, decision-making processes, and implementation of plans (Kulatunga, 2010). In a community's response to natural hazards, culture also influences the engagement of communities, stakeholders, government, and industry, since each actor possesses different information, takes different risks, and has different interests, all of which result in contrasting types of adaptation response (Downing et al., 1997). When it comes to evacuation planning, the focus should be on the socio-cultural elements of the community. As Scharbach and Waldram (2016) contend, "Evacuation planning not only anticipates risk as an emergent phenomenon, but, in the case of cultural minorities, seeks to ensure socially and culturally safe experiences that do not challenge or undermine the existing sociocultural fabric of the community" (p. 60). Despite this acknowledgement, to date, adaptation responses have favored physically and economically quantifiable factors related to climate change impacts, leaving aside cultural dimensions of

adaptation (Gill & Malamud, 2017). The study of environmental disasters has also largely remained within the scope of physical scientists, especially with regards to DRR (Hoffman, 1999; Wisner et al., 2004).

A significant gap in understanding the role of culture in emergency management concerns if and how interventions reduce risk. Essentially, claims have been made about the lack of coherence among risks and the effect of interventions on bundles of risk. In other words, not enough attention has been paid to how risks are interrelated and how interventions take these risk factors into account. For example, the impact of interventions on elderly, frail, Indigenous, and poor people who live in an area at risk for fire is likely different from the impact of these same interventions on younger, non-Indigenous, able-bodied, and wealthier people who live in a non-threatened part of the community. Part of this disconnection has been caused by superficial assumptions about culture. As Hewitt (2008) commented,

There is a tendency to assume that any given culture is traditional or modern. In fact, few of even the smallest communities have remained unaffected or unchanged by recent, even global, history; few do not differentiate the roles and treatment of their members by age, gender, etc. It is a mistake to assume that everyone in a given culture has identical concerns, knowledge, or capacities. It is important to ask not only ‘Who are ‘we?’ but ‘To whom are we talking?’ (p. 11)

In other words, not everyone from the same culture is the same, and not everyone is exposed to the same level of risk. However, emergency interventions tend to treat everyone in the community the same. This consideration is crucial when understanding the role of culture in emergency planning.

Underestimating the significance of culture can affect a community’s ability to cope with the impact of disasters, which, in turn, creates new risks (Nunn et al., 2007; Oliver-Smith & Hoffman, 1999). Weesjes (2016) affirms that when interventions ignore local culture, expertise, and capacity, communities can be severely traumatized by the effects of the hazard. Quarantelli (1988) argues that implementing a uniform model derived from governmental authorities can be problematic as local emergency management groups are as varying and different as the targeted communities. Browne (2015) goes further, contending that external interventions often leave

communities with no sense that their own realities were considered or that they participated in the emergency. Thus, existing emergency plans tend to treat everyone from a community in the same way and ignore the local culture, knowledge, and expertise. These problems clearly need to be addressed.

To begin to address these challenges, the literature has gradually shifted from focusing on DRR from an outsider to an insider perspective (Chambers, 1994; Shaw et al., 2009). The Sendai Framework issued by the Third United Nations Conference on DRR on March 18, 2015 provides a reference point at the international level that calls on nation states to involve local governments and key stakeholders in the coordination of DRR strategies and implementation of collective responses. In this regard, the United Nations Office for Disaster Risk Reduction (2015, p. 10) states:

There has to be a broader and a more people-centred preventive approach to disaster risk. Disaster risk reduction practices need to be multi-hazard and multisectoral, inclusive and accessible in order to be efficient and effective. While recognizing their leading, regulatory and coordination role, Governments should engage with relevant stakeholders, including women, children and youth, persons with disabilities, poor people, migrants, Indigenous peoples, volunteers, the community of practitioners and older persons in the design and implementation of policies, plans and standards.

The above statement is a reminder that Canada as signatory, and especially provincial governments, as the most immediate actors in the field, are to lead DRR responses in a manner that ensures the full integration of different groups of stakeholders in all dimensions of planning, response and recovery. The Sendai Framework provides four priorities for action: understanding disaster risk, strengthening disaster risk governance, investing in DRR for resilience, and enhancing disaster preparedness for effective response and to “build back better” in recovery, rehabilitation and reconstruction.

The first priority considers the need to incorporate a wide array of aspects surrounding the disaster context so that DRR planning can be more effectively conducted: capacity, vulnerability, exposure to risks, hazard characteristics and the overall environment. I considered this dimension

when selecting the effectiveness criteria. Once this priority is applied, the framework suggests a second priority: that the coordination of DRR strategies shall encompass concrete roadmaps across multiple sectors, foster the participation of all crucial stakeholders, and support the creation of institutional agreements. This is to be ensured via public and private investment in resilience capacity (third priority), and the incorporation of disaster reduction (fourth priority) as part of an emergency response by promoting the empowerment of affected stakeholders (United Nations, 2015).

Consistent with this multi-sectoral perspective, other authors have emphasized on the role of engaging local communities in the DRR process. As Davis (2008) argues, there is a “need for community-level risk assessment to include local personnel responding to local problems, since they are the only persons to know about the complexity and subtlety of local micro level risks and capacities” (p. 11). In a similar vein, authors like McNeil and Chapman (2005) point out that external parties should collaborate and partner with communities through interactive research strategies, such as interviews, surveys, workshops, or focus groups with the aim of empowering communities. However, challenges remain as to how to find a proper methodology that includes culture more meaningfully in DRR strategies (Mercer et al., 2012). Mercer et al. (2012) attempted to understand how culture can be included in DRR approaches through four main questions:

- (a) How relevant is ‘culture’ to DRR?
- (b) How can we engage with different cultures?
- (c) How can local knowledge be accessed and utilized?
- (d) How can local and scientific knowledge be integrated for the benefit of DRR? (p. 74)

Though multiple case studies on communities that were resilient when confronting disasters, Mercer et al. (2012) used these questions as filters by which to reveal the effects of cultural traits in shaping mitigation responses. The authors examined behavioral practices that can either undermine or strengthen a community’s ability to cope with a disaster. In this process, they also considered the role of multiple interests in shaping the interaction between internal and external actors. The first three questions are most relevant for my own research. Key dimensions of culture considered relevant for the current research were selected from the original compilation of results by Mercer et al. (2012), as shown in Table 3.

Table 2.3. Culture and disaster risk reduction: Key challenges and lessons learned

	CHALLENGES	LESSONS LEARNED
<i>Engaging with Cultures</i>	<ul style="list-style-type: none"> ▪ No “disaster culture” existing in some communities (including immigrants and tourists) 	<ul style="list-style-type: none"> ▪ Need to study interplay of culture and prevalent changes to <ul style="list-style-type: none"> • understand types of resistance • better allocate research resources to risk reduction strategies. • inform awareness programs
<i>Accessing local or ‘Inside’ Knowledge</i>	<ul style="list-style-type: none"> ▪ Divides between internal and external stakeholders. 	<ul style="list-style-type: none"> ▪ Develop methodologies that bridge gaps in perceptions of internal and external stakeholders.
	<ul style="list-style-type: none"> ▪ Divides between community subgroups 	<ul style="list-style-type: none"> ▪ Involve multiple community subgroups
	<ul style="list-style-type: none"> ▪ Some DRR strategies may be contextually specific and not transferable or no longer useful 	<ul style="list-style-type: none"> ▪ Cultural knowledge has saved lives and should be listened to

Note. Adapted from Mercer et al. 2012, p. 88

As seen in this table, a culturally-based DRR response should consider cultural engagement and access of local knowledge as key drivers for external interventions. According to Mercer et al (2012), interaction between stakeholders, the increasing role of local knowledge, and the absence/presence of a culture of preparedness can determine the positive or negative impact that culture can have over a community’s capacity to cope with the hazard and collaborate with outside intervenors. These three elements will be taken into consideration when analyzing the capacity of BOFN to ensure evacuees were provided with an environment that reflected their socio-cultural needs.

2.4 Indigenous considerations of fire hazards

This section of the literature review discusses Indigenous-led responses to fire hazards. By exploring cases of adaptation by Indigenous peoples of Canada, I considered lessons learned from others’ experiences and identified principles to inform my analytical framework. These insights were key when forming and applying culturally-based criteria to the effectiveness of

Indigenous emergency responses. The study of wildfire mitigation programs from a community-based perspective offers some evidence for the influence of local culture in shaping Indigenous responses to fire hazards. Christianson et al. (2014) studied the Peavine Métis settlement case in the boreal forest of northwestern Alberta. The authors focused on the role of cultural values considered by the local forestry coordinator that helped in the design and implementation of Peavine FireSmart. The following elements were considered important lessons in the implementation of this FireSmart program: respect for Elders, communal decision-making, collective action for problem-solving, participation in subsistence activities, and trust among settlement members. Christianson et al. (2014) found that cultural values were critical in understanding why participants distrusted “outsiders” and preferred locally-led programs. The authors pointed out, as well, that trust in “fellow settlement members and distrust of outsiders” actually “increased support for the locally developed mitigation program” (p. 942). They offered this explanation for the placement of trust: “Participants tended to trust residents in their community, because they shared similar norms and values” (p. 942). This research shows that understanding the role of cultural values in adaptation plans is critical because these values dictate the extent to which trust can be built.

Other researchers concur that adaptation to hazards must be culturally and socially sensitive. Lambert (2014) and Lauer (2012) argue that Indigenous Knowledge (IK) and cultural practices both facilitate social resilience and reduce the impact of environment-related disasters. Scharbach and Waldram (2016) reached similar conclusions in analyzing the emergency evacuation of the Hatchet Lake Denesuline First Nation in northern Saskatchewan in 2011 and its failure to be resilient. According to the authors, the major problems encountered by Hatchet Lake were the lack of a community-targeted plan, the uncoordinated implementation of a standard protocol to determine who was “at risk,” and, more importantly, the absence of IK in the evacuation. Scharbach and Waldram (2016) wrote about what went wrong:

There is no evidence that IK was invoked by evacuation organizers, although several residents did suggest that they felt the evacuation was an overreaction, an assessment based on their knowledge of the forest and fire and past experiences [...] social and cultural patterns were actually disrupted rather than tapped, during the evacuation. (p. 63)

Hence, as this case demonstrates, failure to incorporate cultural patterns into evacuation plans can lead to societal and cultural challenges that may affect the equilibrium of the physical, emotional, mental, and spiritual dimensions of Indigenous communities.

According to Scharbach and Waldram (2016), there were two main reasons for the failures in the Hatchet Lake plan: first, community health officials leading the evacuation process classified evacuees “at risk” solely for health considerations,² and, second, the officials evacuated individuals without considering the importance of keeping family groups together. Immediate consequences were seen in reports of family members being placed at different centres without communication among them, little access to food, no place to sleep, discrimination because of their Aboriginal status, and communication issues. As Scharbach and Waldram (2016, p. 65) wrote, “From their perspective, the host communities failed to consider that the evacuees were culturally distinct, largely unfamiliar with their surroundings, and many did not speak English fluently.” This finding suggests a need to understand how host communities might be more effective in providing for evacuated Indigenous peoples.

Another aspect of community-led emergency preparedness is resilience. Kulig et al. (2011) documented and offered lessons about the relationship among community resilience, disaster preparation, and mitigation by considering the wildfires that occurred in 1996-2006 in two rural communities: Barriere (British Columbia) and La Ronge (Saskatchewan). One of the biggest messages, as noted by the authors, is that resilience should be embedded in a shared notion of community cohesion, collaborative working interactions, strong leadership, decision-making, and cultural values:

A sense of belonging and community pride need to exist. Other features identified as important were having gathering places for the community and a diverse economy.

Finally, participants felt that as a collective, the community needed to demonstrate that it has the ability to change. For some resiliency had a spiritual aspect and was completely dependent upon individual attitudes rather than material items. (p. 26)

² Scharbach and Waldram (2016) did not consider the social and cultural risks, the focus of my research.

This quotation demonstrates that resilience relies largely on the spiritual and socio-cultural principles of collective behavior. However, partly because resiliency goes hand in hand with the material and logistical capabilities of a community to respond and handle the changing physical effects of a hazard, other elements, such as communal values are relevant to understanding this concept as they become the drivers for interaction.

The lessons from past wildfires demonstrate the need to explore adaptation through a socio-cultural lens. This lens considers behavioral patterns and attitudes that determine the extent to which a community unites and stays resilient. For this research, it was crucial to examine how Indigenous cultures and values build trust and promote community cohesion. As a reference point to analyze findings and identify the way forward for the BOFN community in preparing for and responding to wildfires, I used Kulig et al.'s (2011) recommendations for decision makers (See Table 4). These components (disaster preparedness, during the disaster, after the disaster, and fostering community resiliency) were adapted for the context of community responses to fire hazards. These insights helped to strengthen the effectiveness criteria and were integrated into the framework to better inform emergency preparedness.

Table 2.4. Recommendations for decision makers before, during, and after actions to mitigate disasters

	DISASTER PREPAREDNESS	DURING THE DISASTER	AFTER THE DISASTER	FOSTERING COMMUNITY RESILIENCY
A C T I O N S	<ol style="list-style-type: none"> 1. Provide public education and disaster awareness for the community. 2. Provide memoranda of understanding with relevant agencies. 3. Update community disaster plan. 	<ol style="list-style-type: none"> 1. Develop communication strategies so that evacuees are updated. 2. Effectively coordinate multiple agencies. 3. Produce and disseminate safety and surveillance procedures. 	<ol style="list-style-type: none"> 1. Provide temporary programs for school-aged population. 2. Provide counseling and assistance to all members in understanding and dealing with community. 	<ol style="list-style-type: none"> 1. Offer opportunities for residents to gather and reflect on the disaster experience. 2. Organize celebrations to provide avenues for social support while also creating a sense of belonging and community. 3. Provide support for local leaders and develop mechanisms to train next generation of leaders.

Note. Data summarized from Kulig et al., 2011, p. 30.

Others have taken a similar approach to that of Kulig and her colleagues. Eriksen and Prior (2011) studied community cohesion and collective problem-solving as means to ensure wildfire preparedness, reduce vulnerability, and strengthen resilience. The authors’ starting point was to recognize that varying interpretations of risk lead to varying modes of action and that this interpretation is influenced by experiences, cultural beliefs, personal feelings and values, and societal dynamics (Eiser et al., 2012). Eriksen and Prior (2011) observe that in this collective environment, community cohesion can serve as self-organization and knowledge-sharing platforms within which norms are established, information is easily disseminated among members, and skills are transferred to create the culture of preparedness. According to the authors, this situation ultimately raises awareness and impacts values and attitudes about risk mitigation so that preparedness for wildfires becomes an implicit rule. In this passage, Eriksen and Prior (2011) point out why social cohesion, while difficult to achieve, is so important in wildfire preparation:

Social cohesion increases peoples’ propensity to undertake protective actions in the context of wildfire in two ways: (1) it gives people the support and resources necessary to confront wildfire risk; and (2) it increases the salience of wildfire threat. Finding ways to

shift the community (and individual) salience of an issue by focussing attention on the way people interact with others from their communities (whether place- or interest-based) may be an effective way to influence individual decision-making [and promote collective initiatives]. (p. 1583)

From this perspective, social cohesion is considered a core value determining the overall adjustment process for evacuees. The ability of a community to cohere will influence its capability to cope with unexpected threats and challenges through all phases of an emergency response.

2.5 Proposed framework for understanding the inclusion of culture in Indigenous-led emergency responses

In this study, I built an assessment framework to help me understand how the BOFN emergency response drew on Indigenous cultural values. This framework assumes that effectiveness can be examined through the lens of cultural engagement. The framework (See Figure 3) focuses on effectiveness in terms of process (the targets and means to achieve them) and outcomes (the extent to which results agree with the objectives). To further this examination, a set of criteria was developed for both process and outcomes to demonstrate the planning and implementation features of disaster management. In creating these criteria, I also considered elements of culture such as norms, knowledge, values and beliefs

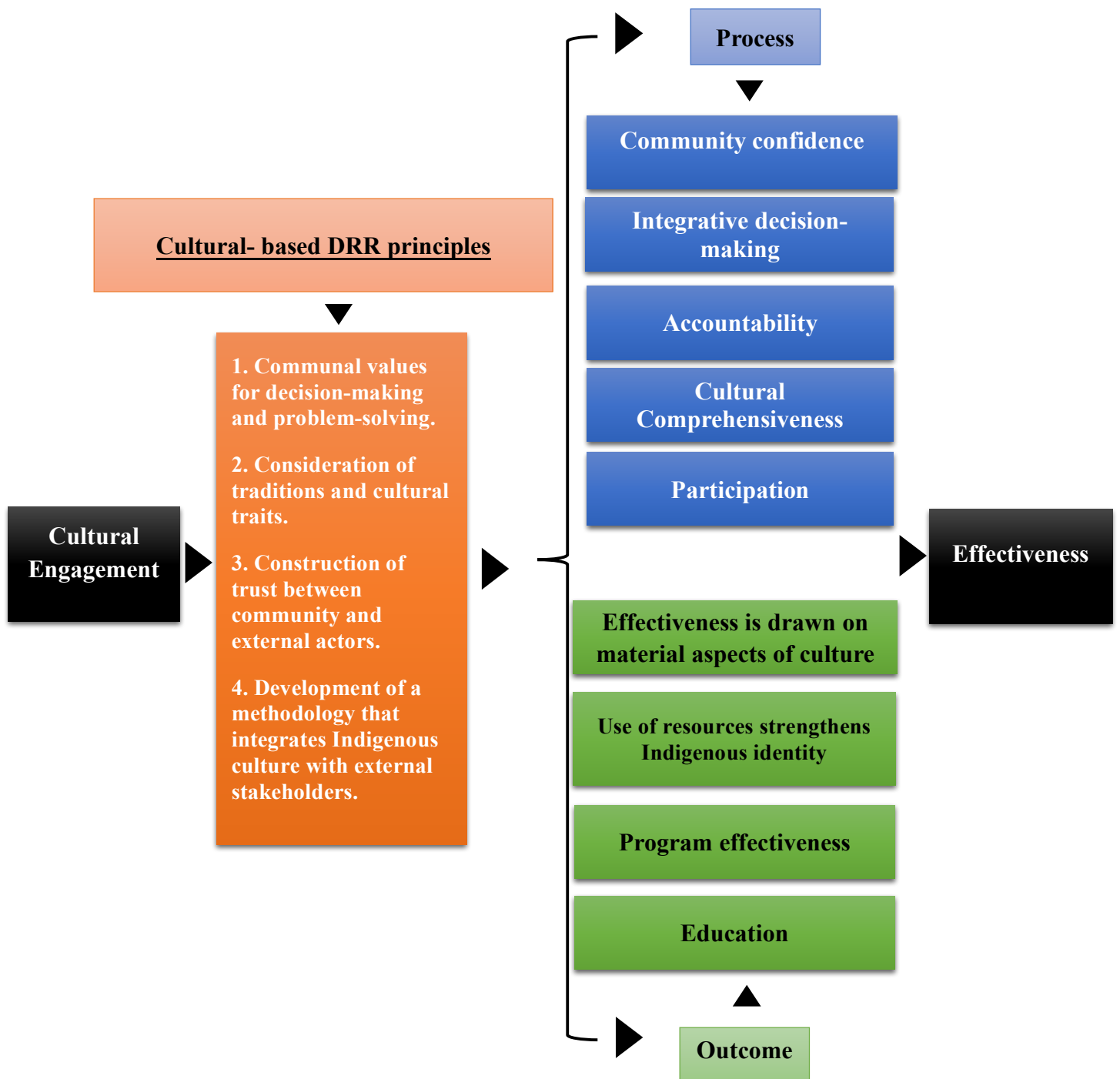


Figure 2. 1. Framework for understanding effectiveness in hosting Indigenous communities

As Figure 3 demonstrates, integrating culture into an emergency framework requires two key considerations: a focus on culturally based-activities and traditions that reflect the community's traits, and the application of communal values in the overall planning and decision-making process. Although rarely studied in the literature, cultural engagement needs to be solidified to build and strengthen trust between external actors and the host community. Once trust is built, a methodology respectful of the socio-cultural context should be implemented to facilitate the integration, to help both parties (host community and external actors) better coordinate their emergency plans, and to assertively guide the community during the evacuation process. In the current study, the above framework served as an initial tool to assess the extent to which Indigenous culture and values were incorporated in the BOFN wildfire emergency response.

2.6 Summary of the chapter

This chapter has unveiled key themes that guided the creation of a framework for analyzing the inclusion of Indigenous culture and values in Indigenous-led emergency responses. I initially considered the varying conceptual approaches to effectiveness in terms of processes and outcomes. Since I found nothing in the literature about Indigenous people hosting a shelter for other Indigenous evacuees, I considered diverse effectiveness approaches from other fields and adapted criteria from the literature to provide a reference point for examining how socio-cultural factors can shape the different stages of the emergency response. Specifically, effectiveness was understood as a dual concept comprising a process and an outcome-based approach.

Effectiveness as a process focuses on the establishment of guiding objectives to achieve intended results. Effectiveness as an outcome is viewed as the alignment between objectives, means, and outcomes, focusing on how outcomes respond to the goals and means. In addition to the effectiveness perspective, I explored academic insights on the relevance of culture in DRR. This chapter identified main challenges in considering aspects of culture in a disaster response.

Through a set of reflexive questions, it demonstrated that considerations of culture should encompass not only worldviews, beliefs, and values but also the interactions between the community and external actors. The chapter also considered the responses of Indigenous communities to emergencies in Canada, determining that a culturally-sensitive approach was key to attracting Indigenous evacuees and supporting them during an evacuation event.

CHAPTER 3: METHODOLOGY

3.1 Introduction

This chapter examines the methodology for this study by explaining the research traditions and the qualitative methods that were used: interviews and document analysis. A subsequent section considers the fieldwork process, provides demographic information about the participants, and gives an overview of documents analyzed. A final section documents the process for gathering and classifying the responses into the effectiveness indicators contained in the framework. This final section provides the groundwork for revealing the findings in Chapter 4.

3.2 Research tradition

The research tradition used as the foundation for this case study research is constructivism. This study did not intend to establish generalizations to build an emergency management model. On the contrary, it sought to unveil the priorities of a community by considering its cultural background and experiences. Thus, examining adaptation became a matter of identifying multiple truths. These truths allowed for the construction of knowledge through interaction among individuals that reinforced their interests, constructed identity codes and subjective meanings, and elaborated unique forms of interpretation. As Creswell (2014) points out, “The researcher’s intent is to make sense of (interpret) the meanings others have about the world” (p. 8). As noted, this research is relativist-oriented because the researcher took an active role in capturing the varying interpretations from participants that influenced the analysis.

To understand the way I interpret and make meaning of my surrounding context, I will need to refer to my background. As an international student with a Bachelor’s degree in International Relations, I have developed cultural sensitivity in understanding the increasing role that community-led initiatives play in securing sustainability and environmental protection. My background has also allowed me to have a holistic perspective of the varying dimensions affecting such initiatives. These dimensions include the role of culture, societal relations and transboundary dimensions among state and non-state actors.

Based on this need to unveil the multiple truths, I conducted exploratory research through several visits to BOFN. These visits allowed me to acquire a better understanding of the socio-cultural

dynamics of the community. Thus, I went to Treaty Days, one-on-one meetings with BOFN band officers and community members, Elders' meetings that were organized by the BOFN health department, a garden initiative organized by the School, Emergency Management meetings, and the Emergency Management Forum for First Nations in Saskatchewan. The insights provided by many of the conversations that I had with the community helped me to better interact with them, share thoughts about culture, and learn from their experience with wildfires. However, I am aware that while some information was shared with me and some other information might not have been shared or may have been misinterpreted.

Any study, but particularly in research in which the researcher plays an active role, that attempts to analyze Indigenous approaches should be sensitive to a set of social factors: Indigenous peoples' interconnectedness with their worldviews; knowledge and realities that determine their existence and survival; their intimate respect for their Indigenous social mores as processes influencing their lives; learning and identity; and the significance of the historic, social, and political context shaping their experiences, positions, and futures (Steinhauer, 2002). This sensitivity is critical in Indigenous research approaches offering a process "that takes place within cultural and sub-cultural settings that provide a strong framework for meaning-making." (Arksey and Knight, 1999, p. 3). These social factors are crucial when interviewing Indigenous communities since they determine their adaptation strategy and modes of relating with evacuees. Thus, cultural aspects of adaptation according to BOFN can be tied to their context, sense of identity, worldviews and values. These aspects of culture have yet to be fully considered by western researchers.

The significance of Indigenous culturally-based research has been increasingly underestimated by western scientists. In fact, many western-trained scientists have simply called for Indigenous accommodation in their frameworks. In other words, they treat scientific truth "as given" and limit Indigenous participation as a form of adjustment to western management and knowledge structures and bureaucracies (Gilchrist, Mallory and Merkel, 2005). Many existing studies have failed in translating Indigenous knowledge into western quantifiable mechanisms and have made knowledge creation dependent on power relations (Briggs, 2005). My main task as a researcher was to determine how BOFN included Indigenous knowledge and values in their adaptation plan

by acknowledging that there is much that I do not and cannot know. Alkin (2013) expressed the importance of this acknowledgement:

Constructivist evaluators assume that they do not know everything that they do not know. Consequently, it is appropriate to 'leave space' in the design for a highly exploratory stage [...] to discover the full range of constructions around a program. (p. 224)

Based on this constructivist paradigm, this research will, as mentioned, involve the design of a case study to describe a real-world intervention process and examine its rationale (the how question) and outcomes.

Case studies are ideal for evaluations that attempt to explain linkages in real-world interventions and to describe initiatives and contexts that are too complex to be conducted in surveys or experiments. As Schramm (1971) argues, case studies can “illuminate a decision or a set of decisions: why they were taken, how they were implemented and with what results.” (p. 6). Likewise, case studies are relevant because they seek to explore a set of contemporary events in which the boundaries among context and phenomenon are blurred. (Yin, 2014). As Yin (2014) explains, speaking directly to the researcher, “You would want to do a case study research because you want to understand a real-world case and assume that such an understanding is likely to involve important contextual conditions pertinent to your case” (p. 16). In dealing with these contextual issues, a case study generates a range of variables that can be used in an iterative process involving multiple sources and evidence.

Another distinction to be made is what type of case study to conduct. This research embraces the single case study because it promises to reveal something not previously studied by social scientists. As Yin (2014) points out, a revelatory case study is one in which a researcher is able “to observe and analyze a phenomenon previously inaccessible to social science inquiry.” Yin further argues that “such conditions justify the use of a single-case study on the grounds of its revelatory nature” (p. 52). My case aligns with such considerations because little research has assessed how Indigenous communities prepare and provide appropriate adaptation responses towards fire hazards, mainly due to the difficulty of contacting their leaders and accessing their documents.

Once a case study approach has been selected, it is critical to specify the unit of analysis to determine whether the case is holistic or embedded in nature. In this research, the unit of analysis is BOFN, and the research design focuses on understanding the big picture. This statement is consistent with McNeill's (1985) assertion in which a case study inherently treats the institution, group, or individual as a unit on its own.

3.3 Qualitative methods: Interviews and document analysis

This research used interviews (See Appendices A, B, C, D) and document analysis as qualitative methods. Such qualitative methods form the foundation of an iterative set of processes that encourages insight. Srivastava and Hopwood (2009) writes of the importance of iteration, not simply as a “repetitive mechanical task” but “as a deeply reflexive process” that inspires deep perceptions and develops meaning. Srivastava describes “reflexive iteration” as a process of discovery in which the data is revisited and connected with “emerging insights, progressively leading to refined focus and understandings. (p. 77). I selected qualitative methods that lend themselves to this iterative approach; thus, my interpretation of the data would be revised as new questions arose and complex connections emerged.

I used these methods to complement the data with new perspectives that are not normally contained in emergency preparedness documents and guidelines and build a more culturally-based understanding of the Rez Cross experience in hosting evacuees. To achieve this understanding, I implemented a research technique known as *between-method* in which the same phenomenon is analyzed through different perspectives, and the virtues of one method offset the limitations of the other (Arksey & Knight, 1999). An additional reason for using this type of triangulation was to “corroborate findings across data sets and thus reduce the impact of potential biases that can exist in a single study” (Bowen, 2009, p. 28). These methods allowed me to distill key content (in this case from existing emergency provincial and local plans via document analysis) in an interpretative manner, to corroborate and validate data (from the framework and emergency plans via interviews), and to obtain knowledge (via interviews) not found in written sources.

Another advantage of my research methods – document analysis and interviews – is that they are often mutually reinforcing. As mentioned by Goldstein and Reiboldt (2004), the latter serves to

offset the limitations of the former regarding insufficient detail, low retrievability, and biased selectivity. This mutual reinforcement can be seen in the authors' systematic study of service within families living in poor communities in Long Beach (California) by applying both document analysis and interviews. They found that the two methods were complementary because the document analysis provided a source of information for new interview questions, while the interviews themselves helped the participants concentrate on "observation activities" (Goldstein & Reiboldt, 2004, p. 246).

These above-mentioned attributes of document analysis and interviews are clearly seen in their respective definitions. Bowen (2009) provided this conventional definition of document analysis: "a systematic procedure for reviewing or evaluating documents—both printed and electronic (computer-based and Internet-transmitted) material (p. 27). Bowen elaborated by stating, "Like other analytical methods in qualitative research, document analysis requires that data be examined and interpreted to elicit meaning, gain understanding, and develop empirical knowledge" (p. 27). Bring this insight into my research, I noted that when it came to emergency preparedness, document analysis helped in understanding the generalities of the planning and engagement process made operational by local, provincial, and federal authorities. As Stake (1995) and Yin (1994) maintain, document analysis is deemed an appropriate method to generate a comprehensive description of phenomena, an organization, an event or a program.

As for interviews, there are varying interpretations worth considering in determining the type to be applied and purpose to be pursued in the research. The key reason for interviewing participants is that they can provide data that are only available through qualitative means and that cannot be measured, surveyed, or counted. Alkin (2013) points out the importance of asking people what they think:

The social constructions - the sense making mechanisms humans use to order their existence - can only be collected via observational, documentary, and interviewing tools. We will not know in any accurate, rigorous, or reasonably thorough sense what people think or how they make sense of programs, personnel, or activities until we ask them to tell us about their thinking and meaning-inputting processes. (p. 224)

Thus, interviews seemed to be the best method for understanding how BOFN members, evacuees of the 2015 wildfires, and other emergency planners viewed the community's emergency response. Essentially, interviews were a key tool for exploring underlying meaning that individuals make of their own realities. In this way, interviews advance our knowledge of a subject as they expand on, confirm, or test what is written in documents.

Interviews have been conceptualized in multiple ways. Patton (1990, p. 278) defines interviews as mechanisms to dig into the person's mind and find the hidden perspective that we cannot easily see. Arksey and Knight (1999) offer a more explicit definition in which interviews are conceived as a tool for exploring interrelationships of situations in which interviewees exhibit implicit understandings, feelings, and perceptions (p. 32). Brenner et al. (1985, p.3) go further in scope by understanding interviews as a process involving both the interviewer and the interviewee in interpreting and examining the meaning of questions and answers. Brinkmann (2013, p.12) complements this definition by stressing the role of the interviewer as a *traveler* involved in the co-construction of the content. Based on these definitions, I view interviews not only as an essential source of information in which individual experiences are collected to enrich interpretation and construct new meanings but also as a mechanism whereby the interviewer is immersed in the interviewees' worldviews to understand their expectations, accomplishments, experiences, and challenges.

This research used semi-structured interviews. This type of interview provides a fluid and flexible structure in which the interviewer's task is to ensure context is appropriately brought into the discussion to facilitate the generation of situational knowledge, which is constantly coproduced and reconstructed during the interview (Mason, 2002). Hitchcock and Hughes (1989) capture the essence of a semi-structured interview, suggesting that it

allows depth to be achieved by providing the opportunity on the part of the interviewer to probe and expand the interviewee's responses. ... Some kind of balance between the interviewer and the interviewee can develop which can provide room for negotiation, discussion, and expansion of the interviewee's responses. (p. 83)

In other words, information gathering is controlled by the researcher, but there is leeway to discuss new issues as they emerge. This type of interview is suitable for Indigenous communities

as it provides some flexibility for detailed story-telling and experience sharing. I chose semi-structured interviews because I wanted the participants to have the freedom to share the details of their experiences. Before starting the fieldwork process, I envisioned an approach consisting of a sequential iterative set of steps wherein findings were revised and complemented to build a solid framework to capture information missed in the previous stages. The approach worked more or less as I had predicted, acting as a reinforcing structure that used the qualitative methods to polish data and results in a culturally-based framework for Indigenous emergency management (See Figure 4).

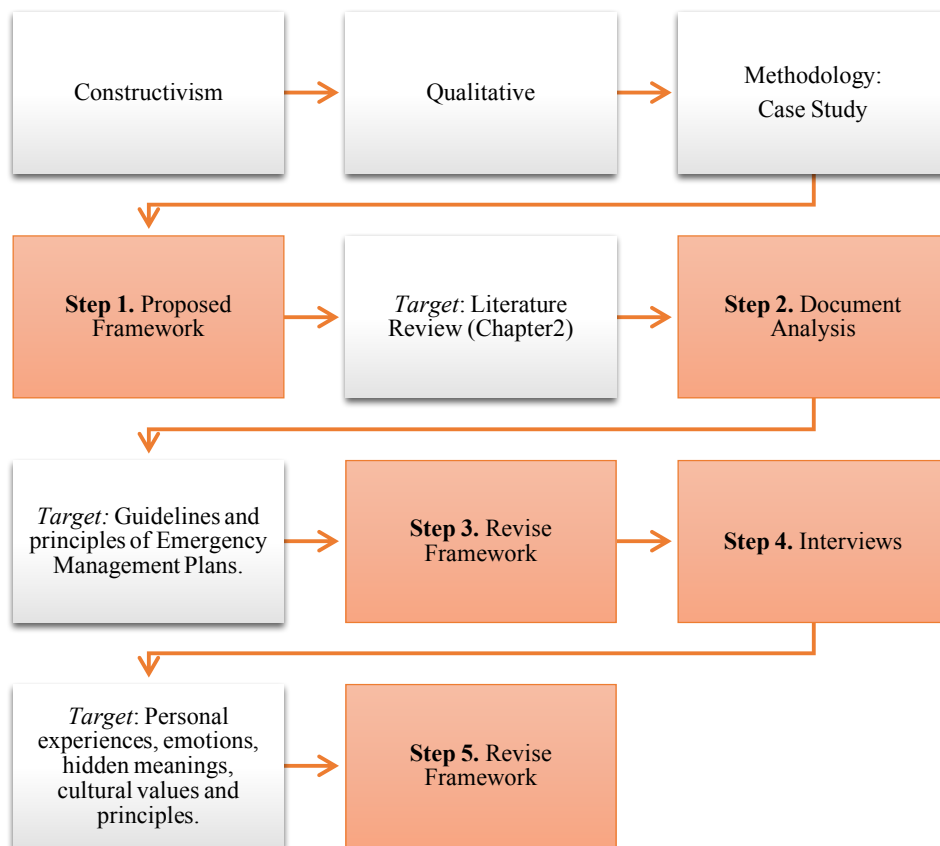


Figure 3. 1. Research approach and methods.

3.4 Overview of documents

This section provides an overview of the documents that were collected and considered for this research. In total, six documents were analyzed. Besides being suggested by BOFN members through different meetings, these documents were selected because they reflect how emergency plans can be conceived from different sectors: provincial or federal government, non-governmental organizations, and community which aid in understanding how priorities change

from actor to actor. The first document was the *BOFN Emergency Plan*, which contains organizational guidelines on how to develop an emergency plan, as well as a four-step process to ensure public safety, community resiliency, and the reduction of physical risks: mitigation, preparedness, response, and recovery. This document contains a directory, an inventory of items needed, a format section on how to declare a local emergency, and an informative section on emergency operations centres. This document became relevant as it was the first point of reference to understand how BOFN initially planned to respond to an emergency.

The second document was called *Your Emergency Preparedness Guide*, which was created by Red Cross, the Canadian Association of Fire Chiefs, St. John ambulance and the Salvation Army for Public Safety Canada. This document is an informative piece that encourages the development of a preparedness culture during the first 72 hours of an emergency. It revolves around knowing the risks, making a plan, getting an emergency kit, preparing emergency kit basic items, and knowing all the emergency-related agencies Canada-wide. Since it is not addressed to First Nations, specifically, there are no references to Indigenous and cultural aspects of preparedness.

A third document considered was the *Emergency Preparedness Guide for Muskego Cree Families James Bay First Nation Communities* created by Red Cross. Based on the structure provided by the template “Your Emergency Preparedness Guide 72 hours,” the emergency guide for Muskego Cree Families James Bay First Nation Communities incorporates the same procedural aspects (know the risks, make a plan, and get your kits) and is provided directly to First Nation Communities. Although the Muskego Cree version does not focus on cultural adjustment at evacuation centres, it includes all the risks that communities are most prone to face such as flooding, fires, power outages, etc. Additionally, this version is targeted to First Nation communities in situations where they are urged to leave their homes.

Two government documents were examined: *Nine steps for Emergency Plan Development* from the Saskatchewan government and *Emergency Plan Development Guide for First Nations in Saskatchewan* from the Federal government. The Saskatchewan document raises awareness in communities of the need to develop plans through a set of operational steps. This document

envisions the steps a particular community would undertake before finalizing its own plan. The first step is to Authorize Plan Development and Establish their Emergency Management Organization (EMO). The second is to appoint an Emergency Coordinator and an Emergency Management Organization Committee. The following steps involve developing a Management and Control Structure, identifying hazards and analyzing risks, compiling a list of resources and preparing a Resource Directory, communicating and informing others about the situation, and organizing and publishing a draft plan. The Federal government's plan provides a rationale for why communities ought to prepare a plan. Similar to the provincial document, it offers a comprehensive outline of the structure and EMO steps that strengthen the planning process. Additionally, it provides guidelines on the hazard and risk identification process and on internal communication, with consideration of the communities needs social and cultural needs.

A sixth document considered was the *Aboriginal Disaster Resilience Planning Guide Overview and Institutions* provided by the Justice Institute of British Columbia (JIBC). Essentially, it aims to build community resiliency by providing structured guidelines on planning through four steps: getting started, assessing resilience, building a resilience plan, and implementing the plan. This document also contains reflective questions on how resiliency is attained and maintained, which can help communities debrief when they implement their plan.

3.5 Data gathering process

The data gathering process occurred in two phases. The first phase involved meeting with community members and attending conferences on emergency management. During the first eight months of the research my main purpose was to become familiar with BOFN members and to request a copy of their emergency evacuation plan. During this phase, I met with the then GIS (Geographical Information Systems) specialist at BOFN, who also served as a representative of the community at the School of Environment and Sustainability of the University of Saskatchewan. These meetings helped me to understand the geographical and socio-cultural context and the nature of the research and to form a general understanding of how BOFN works as a community. In the first months, I also conducted several visits to the community and attended conferences on Emergency Management, and Prince Albert Model Forest (PAMF) meetings. I connected with BOFN and gathered knowledge about evacuation plans from different

levels of government. Research on the internet also helped me obtain key documents. I also obtained key information on Indigenous worldviews and values based on discussions at academic events at the university. Thus, my primary sources of data at this stage included written documents collected at public events, at other gatherings, and through research, as well as ideas and information gleaned from listening to others.

The second phase was to identify potential interviewees and to arrange and conduct 25 semi-structured interviews. I selected some interviewees after meeting them at conferences (e.g., Federal representatives at the 2016 Emergency Management Forum in Saskatoon), some after my community visits (e.g., BOFN officers), and others by using the snowball sampling method (e.g., individuals involved in Rez Cross, and evacuees). The snowball technique introduced me to new interviewees through contacts made with the first group of interviewees (See Table 5). In this process, I selected respondents based on the relevance of their job position with the case of study.

For the purposes of this research and based on the nature of social interactions arising from wildfires, four types of participants were included (See Table 5). The first type came from (BOFN), the community that sponsored the evacuation centre for evacuees set up by people displaced by the 2015 wildfires. The second type of participant came from the Red Cross, the first responder when an emergency is declared in Saskatchewan. The third type considered was the Government of Canada, the institution that supports the province when resources are too scarce to meet the needs of the communities affected. The last type was people from evacuated communities who went to the Rez Cross shelter. Although representatives from the Government of Saskatchewan were initially identified as potential interviewees, I was not able arrange a meeting with them. Therefore, a limitation of this study is that a perspective from the provincial government was not captured.

Twenty-four semi-structured interviews were conducted between September 20, 2016, and May 23, 2017: thirteen with BOFN members who collaborated in the Rez Cross evacuation centre; two with Red Cross volunteer emergency coordinators (The Red Cross is a non-profit organisation based on volunteers, and administrative officers are limited); two with Indigenous

and Northern Affairs Canada (INAC)³ members; and eight with evacuated leaders from Hall Lake, Lac La Ronge, Prince Albert, and Grandmother's Bay during the 2015 wildfires. Once arrangements were made, I conducted some interviews in person and some by telephone. I spent a week in northern communities in Saskatchewan to collect responses from leaders of the evacuees. As communication via telephone was not possible in these areas, I visited some individuals in their homes in La Ronge, Little Red River, Hall Lake, and Grandmother's Bay.

Before the interview began, participants were asked to fill an informed consent form (See Appendix F) that described the purpose of the research and explained the procedure to be followed in the interview. The format of the interview consisted of two main sections. The first comprised a set of demographic questions and the second emergency response-related questions adapted to each group of participants. All questions sought to understand the planning and coordination processes of the evacuation, impressions of the outcomes, and reflections on challenges to be overcome. For Indigenous evacuees, questions were mostly related to their experience at the shelter. These interviews allowed me to reveal the specifics of the coordination process. In other words, they led me to understand the following: how individuals united as a community; how they assigned roles to accommodate the arena as a shelter; who oversaw what; who participated; how a day-to-day routine was established once evacuees arrived; and what they considered the strengths and weaknesses of the evacuation plan. My objective in these interviews was to learn about the interviewees' experiences and understand the extent to which Rez Cross aligned to their cultural values, expectations, and needs. These interviews also allowed me to understand how the process and outcome criteria were met.

3.5.1 Overview of participants

Interviews were conducted with key participants in wildfires emergency management and adaptation response. In terms of BOFN, 76.9% of the interviewees were women and 23.1% were men. Except for one participant who was 21 years old, the age for the remaining female group

³ INAC was dissolved and led to the creation of two separate agencies: The Crown – Indigenous Relations and Northern Affairs Canada, and Indigenous Services Canada. However, I will refer to these organizations as INAC as this was the name of the government agency in 2015 when the wildfires were experienced.

ranged between 30-65 years. Some worked at the band office and some in education or health care; others were volunteers during evacuations; still others were elders and unemployed individuals. As for the male population, except for one participant who claimed to be between 25 and 34 years old, the age for the remaining group ranged between 35-64 years. The job positions of these participants were related to education or the band office. Participants from INAC were included because of the organization's role in assisting provinces and conducting emergency-related forums for First Nation communities in Saskatchewan. These forums are run by the Prince Albert Grand Council (PAGC) in association with the Federal government through INAC, which informs and oversees the current stage of the tools used to address climate hazards. I was able to interview two participants from INAC. I also conducted two interviews with Red Cross employees in managerial positions in the Saskatchewan branch. Finally, the evacuees' group comprised members from the northern communities and from various backgrounds who were involved in the evacuation process (See Table 5).

Table 3. 1. Snapshot of Interviewees

SNAPSHOT OF INTERVIEWEES					
Organization	Number of Interviews	Roles	Referral From		
			PAMF	Emergency Management Forum for First Nations	Snow Ball Technique
<i>Beardy's & Okemasis First Nation</i>	13	Members of the Emergency Management team at BOFN	X		
		Volunteers at "Rez Cross"			X
<i>Red Cross</i>	2	Associate, Disaster Management at Canadian Red Cross		X	
		Provincial Lead for Disaster Management at Canadian Red Cross		X	
<i>Federal Government</i>	2	Director of Emergency Management at Indigenous Affairs		X	
		Regional Emergency Coordinator Funding Services and Programs for Saskatchewan		X	
<i>Evacuated Leaders</i>	8	Commissioner of Emergency and Protective Services at Prince Albert Grand Council	X		
		Band Office Members, Hall Lake			X
		Band Office Members, Grand Mothers Bay			X
		Emergency Response Coordinator, Lac La Ronge			X
		Executive Director, Lac La Ronge			X

3.6 Data analysis

When analyzing documents, I used the effectiveness criteria to guide my examination process of the documents content and the indicators as main themes to assess each section of the documents and determine whether the criteria were met or partially met. I conducted both deductive and inductive analysis through Nvivo. The analysis of some interview findings was deductive as culturally-based questions were asked directly; inductive analysis was used when considering other aspects of the effectiveness criteria that were not so evident at a first glance of the interviewee's responses.

I conducted content screening and analysis to fully describe and explain the rationale of each document in a word document. With this technique, researchers do not use fixed pre-existing categories; instead, categories for analysis emerge from the available information. As Hsieh and Shannon (2005) point out, "The advantage of the conventional approach to content analysis is gaining direct information from study participants without imposing preconceived categories or theoretical perspectives" (p. 1280). Conventional content analysis involves careful data reading to build codes based on key thoughts, followed by a note-taking step according to the researcher's analysis of first impressions. As I used this technique, new codes emerged. These codes were grouped into new categories and sub-categories and were linked as I made connections between ideas.

As I was revising the proposed framework, I transitioned from conventional content analysis to a more structured method. After interviews were audiotaped and transcribed, I used the NVivo program, which allowed me to classify the data using the categories contained in the framework as indicators. Using this process, I created crosswalks (See Appendix G) that aligned the interview questions with each criterion, so I could better connect each response. It was sometimes the case that one response connected to multiple indicators. Thus, I was able both to organize the responses and to create new linkages, codes, and categories, all of which informed the cultural aspect of Indigenous emergency management.

3.7 Summary of the chapter

This chapter explained the rationale for conducting a case study anchored in the constructivist perspective, and for selecting document analysis and semi-structured interviews as qualitative methods. It also explained the fieldwork process for data collection and provided a general overview of interviewees. The next chapter presents the data resulting from using these tools. It seeks to explore the responses and establish its relation to each element of the framework.

CHAPTER 4: EVALUATING EMERGENCY PLANNING AS EXPRESSED IN PLANNING DOCUMENTS

4.1 Introduction

This chapter contains an analysis of selected documents detailing emergency plans. The purpose of this analysis was to understand how various actor groups – governmental, non-profit, and Indigenous – address emergencies in their plans. I considered how these documents conceive emergencies, what they emphasize, for whom they are written, what steps are expected to be taken (and by whom) should an emergency occur, and how these guidelines relate to Indigenous communities. It should be noted that these documents were part of the information about emergency preparedness available to communities in 2015.

My rationale for selecting the documents was based on interactions with the BOFN community and conversations with INAC officials, BOFN members, Red Cross representatives, and individuals at the Emergency Management for First Nation Communities Forum. I chose the documents that were referred to most often in my conversations. The following documents were analyzed:

1. The Emergency Management Plan – Beardy’s and Okemasis First Nation (BOFN-2015)
2. Nine Steps for Emergency Plan Development – Government of Saskatchewan (GSP-2015)
3. Emergency Plan Development Guide for First Nations in Saskatchewan (INAC-2015)
4. Your Emergency Preparedness Guide – Red Cross, Canadian Association of Fire Chiefs, St. John ambulance and the Salvation Army for Public Safety Canada (PSC-2012)
5. Emergency Preparedness Guide for Muskego Cree Families James Bay First Nation Communities (RC-2015) – Red Cross
6. Aboriginal Disaster Resilience Planning Guide – Justice Institute of British Columbia (JIBC-2015)

As mentioned in the methods section, the six documents were written by different organizations and for different audiences. For the purpose of the analysis I grouped the documents into three categories. The first consists of documents written for local leadership: *BOFN’s Emergency Plan*, *Nine Steps for Emergency Plan Development*, and *Emergency Plan Development Guide for First*

Nations in Saskatchewan. All three provide procedures on how to plan an emergency from a managerial standpoint. The second grouping consists of guides written for the general public: *Your Emergency Preparedness Guide* and *The Emergency Preparedness Guide for Muskego Cree Families James Bay First Nation Communities Your Emergency Preparedness Guide*. Both guides were written for individuals and families likely to face emergencies rather than for local management. The third grouping consists of documents written for the community, in other words, for everyone likely to be touched by an emergency: individuals, families, and leaders. Only one document falls into this category: *The Aboriginal Disaster Resilience Planning Guide*.

Each of these documents was measured against the process criteria outlined in Chapter 2. Plans do not describe how processes unfolded, but they can reveal how processes are explained. Table 6 contains a summary of these findings. The table illustrates which indicators were fully, partially, or not met. Since the purpose of the documents is to inform only the planning and implementation stages of an emergency, effectiveness criteria from an outcome perspective were not considered.

Table 4. 1. Snapshot of findings from the document analysis - Effectiveness in terms of processes-

CRITERION	INDICATORS	BOFN (2015)	PSC (2012)	RC (2015)	GS (2015)	INAC (2015)	JIBC (2015)
Community Confidence	A. The process is understood, and information about the process, procedures, and its authority is accessible and clear.	A. Yes	A. Yes	A. Yes	A. Yes	A. Yes	A. Yes
	B. The intent of the process is acknowledged and clearly stated.	B. Yes	B. Yes	B. Yes	B. Yes	B. Yes	B. Yes

<i>Integrative Decision- Making</i>	A. The process demonstrably informs, and the results are integrated into other relevant planning processes.	A. No	A. No	A. No	A. No	A. No	A. No
	B. There is capacity to integrate the knowledge and results of other processes into the evacuation process without unduly influencing its outcomes.	B. Yes	B. No	B. No	B. Yes	B. Yes	B. Yes
	C. The process considers impacts beyond the immediate time scale of the policy, plan, or program.	C. No	C. No	C. No	C. No	C. No	C. Yes
<i>Cultural Comprehensiveness</i>	A. Consideration of context for vulnerability, different values, and interests, and integration of local knowledge.	A. Partially Yes	A. Partially Yes	A. Partially Yes	A. Partially Yes	A. Partially Yes	A. Yes
<i>Accountability</i>	A. Roles and responsibilities in planning, review, and decision-making processes are clearly identified.	A. Yes	A. Yes	A. Yes	A. Yes	A. Yes	A. Yes
	B. Roles and responsibilities for implementation, follow-up, and reporting are clearly identified.	B. Partially Yes	B. Partially Yes	B. Partially Yes	B. Yes	B. Yes	B. Yes

Participation	A. Participation opportunities are made well known and appropriate to the stage of the process and the social-cultural context.	A. Yes	A. Partially Yes	A. Partially Yes	A. Yes	A. Yes	A. Yes
	B. Sufficient resources and time are provided to support participation of local people.	B. Partially Yes	B. Yes	B. Yes	B. Partially Yes	B. Partially Yes	B. Yes

The sections that follow explain these results. Each section is devoted to one criterion and its indicators and explains the degree to which the documents comply with the indicators.

4.2 Community confidence

To determine if the six documents meet the community confidence criteria, I considered their purpose and structure. The first indicator for community confidence measures the extent to which the document presents clear and accessible information on the emergency planning and implementation process and provides information on who has the authority for managing and coordinating these processes. The second indicator measures the extent to which the document acknowledges its intent or purpose.

4.2.1 Indicator #1: The process is understood, and the information about the process, proceedings, and their authority is accessible and clear.

All the documents written for leadership meet this indicator. BOFN’s plan clearly outlined the process for declaring an emergency, actors involved, and the different agencies that are to interact in the emergency response. *BOFN’s Emergency Plan*, *The Emergency Plan Development Guide for First Nations in Saskatchewan* and *The Emergency Plan Development Guide for First Nations in Saskatchewan* lay out for local leadership the process involved in creating and implementing an emergency plan: assigning roles, planning logistics, coordinating communication, and managing resources. The three documents also meet this indicator by stating who has the authority for establishing emergency planning processes. The documents reveal the

plan's EMO through a hierarchical model, consisting of an executive component, an Emergency Controls Team and/or an EMO, and an Emergency Site Team.

Your Emergency Preparedness Guide and *The Emergency Preparedness Guide for Muskego Cree Families James Bay First Nation Communities* also meet the first indicator for community confidence by presenting logistical steps to guide families and individuals in planning for and responding to an emergency. The steps are the same in both: know the risks, make a plan, and obtain an emergency kit. Both guides also comply with the first indicator for community confidence because they indicate who has the authority for the planning process.

Aboriginal Disaster Resilience Planning Guide meets this indicator in a slightly different way. The document clearly lays out the process and information about the process, but it does not present a hierarchical model with a preset determination for authority like the three documents written for leadership. Rather than establishing that the leadership in an emergency will be the mayor, chief and council, it leaves it up to the community to establish its leadership team. Its approach to planning revolves around establishing resilience through culture.

4.2.2 Indicator #2: The intent of the process is acknowledged and clearly stated.

The documents written for leadership meet this indicator in various ways. BOFN's plan clarifies the intent of the planning documents by focusing on the physical and planning aspects of emergency planning. It assumes as key objectives the reduction of the physical threat (lives and resources) and the coordination of aid (supporting resilience). *Nine Steps for Emergency Plan Development* and *The Emergency Plan Development Guide for First Nations in Saskatchewan* express a similar intent: to provide the managerial, procedural, and legal umbrella for Indigenous communities to design, enhance, and adapt their emergency plans. Thus, the intent of the three plans is to provide the authority for and management of an emergency plan at the community level.

The two guides for the general public essentially share the same purpose, which is revealed in their objectives. The former document's objective is clearly stated as follows: "to create your own emergency plan" and "to use the checklists to build a 72-hour emergency kit." (Public

Safety Canada et al., 2012, p. 3). Likewise, the James Bay document's objective is to encourage Indigenous communities to prepare for an emergency by following three steps (know the risks, make a plan, and get your kits).

The intent of the *Aboriginal Disaster Resilience Planning Guide* is clearly stated. Different from the other documents, this guide explains how a community can become resilient by using Indigenous culture to define and shape all aspects of adaptation. Indigenous resilience is used to measure the capacity of communities to coordinate preparedness, planning, implementation, and follow-up. The guide equips communities with the tools to identify their capabilities and to implement resilience mechanisms in their context.

4.3 Integrative decision-making

This criterion contains three indicators of the interaction among varying planning processes. The first describes the extent to which the planning process is integrated into other planning processes. The second describes the extent to which the planning process is nurtured by the knowledge and results of other processes. The last indicator indicates the extent to which the document considers the capacity of the planning process to include a vision of the long-term impact of the disaster and the evacuation.

4.3.1 Indicator #1: The process demonstrably informs, and the results are integrated into other relevant planning processes.

No evidence in any of the documents was found of the first indicator being applied. Although the documents are informative, there is no indication of how the process, results, and expected outcomes are to be applied to other emergency, or more general, planning processes.

4.3.2 Indicator #2: There is capacity to integrate the knowledge and results of other processes into the evacuation process without unduly influencing its outcomes.

The three plans written for leadership meet this indicator by integrating other sources of knowledge into plan development. BOFN's plan met this criterion by introducing knowledge on emergency management in the outline of the plan. Specifically, their planning processes are guided by the creation of an EMO committee consisting of an Emergency Coordinator and a

working group with members from different fields who provide different types of knowledge. Various individuals and groups contribute, including the administration, police, fire department, regional health authority, public works, schools, business groups, and volunteers. Although these three documents make it clear that the knowledge of many inform the planning process, the plans also adhere to a hierarchical process of authority, making it unlikely that “outside” influences could unduly influence the outcomes of the evacuation process.

Neither one of the guides for the general public refers to other sources of knowledge. The guides consider only logistical information to help individuals evacuate.

The Aboriginal Disaster Resilience Planning Guide meets the second indicator as it provides an integrative process for disaster planning by incorporating cultural and social knowledge along with knowledge of resilience, hazards, and risks. These types of knowledge have a critical but not undue impact on the outcomes of the evacuation.

4.3.3 Indicator #3: The process considers impacts beyond the immediate time scale of the policy, plan, or program.

BOFN’s plan did not meet this criterion as it did not elaborate on the need to consider the effects in the long-run. Of the six documents, only *The Aboriginal Disaster Resilience Planning Guide* meets this indicator. It does so by including a goal-setting aspect in the creation of a resilience plan. The document encourages the community to establish a long-term perspective, considering the community’s values and culture (JIBC, 2015). The emphasis is on the fluid nature of the plan, which is updated as new information comes to light. After the plan is completed, the document suggests that the community reflect on how the plan can be strengthened: “[By] committing to ongoing planning and implementation, [the] community will experience a growing awareness of its resilience and be better prepared for disaster.” (JIBC, 2015, p.6) Thus, this document envisions the plan as an evolving document constantly informed by new information.

4.4 Cultural comprehensiveness

Cultural comprehensiveness considers the varying aspects of the planning process from the context of vulnerability to the integration of different values, interests, and local knowledge.

4.4.1 Indicator #1: Consideration of the context for vulnerability, different values, and interests, and integration of local knowledge.

BOFN's draft plan did not meet this criterion as there were no considerations of the risk context or culture and values of stakeholders. Only the *Aboriginal Disaster Resilience Planning Guide* fully complies with this indicator for comprehensiveness. The other documents partially meet this indicator by considering the context for vulnerability but fail to entirely meet it as they do not integrate local values and knowledge. The context for vulnerability is considered in the three documents written for leadership in the step *Identify and Analyze*, which recommends conducting a hazard analysis and risk assessment by identifying threats and rating the probability of their occurrence. The two guides written for the public recognize vulnerability by emphasizing the importance of knowing the risks and information on the impact of past disasters. The *Aboriginal Disaster Resilience Planning Guide* contains more information than the other guides on the context for vulnerability. It includes tools for managing hazards and also suggests that a community develop a risk profile. For example, it suggests that community members look at maps to determine if their home is vulnerable to flooding and suggests that residents adapt the map to their own situation by adding relevant information (JIBC, 2015).

Only *The Aboriginal Disaster Resilience Planning Guide* provides room for communities to insert their values, interests, and local knowledge into their emergency plans. This document suggests that the emergency plan include all aspects of the well-being of a community, such as employment, economic development, governance, and skills and knowledge (JIBC, 2015). This tool allows for the community to be aware of internal resources and better equipped for an emergency.

4.5 Accountability

This criterion revolves around the assignment of roles and responsibilities in the planning, implementation, and follow-up stages of the emergency management process.

4.5.1 Indicator #1: Roles and responsibilities in planning, review, and decision-making processes are clearly identified

All plans meet this criterion. The BOFN plan, *Nine Steps for Emergency Plan Development*, and *the Emergency Plan Development Guide for First Nations in Saskatchewan* comply with this indicator by providing information on roles, responsibilities, and task delegation under the step *Delegate*, which describes the delegation of responsibilities in the planning and implementation stages. As discussed, the hierarchy of authority is clearly presented in these documents. Neither document written for the public assigns responsibilities to certain groups. They focus on individual planning and responses to an emergency, not on community-level coordination and management. The *Aboriginal Disaster Resilience Planning Guide* does assign roles and responsibilities. It recommends the setting up of a community planning team with a key leader (champion) that advises the team. Usually, this role would be performed by an Elder or someone with significant respect from the community.

4.5.2 Indicator #2: Roles and responsibilities for implementation, follow-up, and reporting are clearly identified

One-half of the documents partially meet this indicator. Those written for leadership (the BOFN, provincial, and federal guides) meet it for planning and implementation by clearly laying out roles. For example, they outline that the leader of the implementation plan is to be the mayor/council/elected official/chief and that the public works manager is to lead the management of equipment and resources. By defining management roles, these documents meet this indicator. However, although the emergency coordinator oversees debriefings at the follow-up stage, these documents fall short of meeting this indicator in the follow-up category. For this reason, they only partially comply with the second indicator for accountability.

In the two guides written for the public, planning and implementation go hand in hand: knowing the risks, making a plan, and preparing an emergency kit. As mentioned, neither of these documents outlines the role and responsibilities of those leading an emergency response. Nor is follow-up accountability described. Thus, they partially meet this indicator for accountability.

The Aboriginal Disaster Resilience Planning Guide fully complies with this indicator since it considers implementation and follow-up. The guide recommends that implementation be based on goals and strategies, indicate the members to be involved, and set out a timeline. The initial planning team delegates to another group the monitoring of the implementation, engaging with community members, and reviewing the content of the plan as it is implemented. The plan calls for ongoing evaluation and follow-up in the form of a progress report, which evaluates “activities, time frames, budget, and the impact of [the] resilience strategies, who was affected, who “dropped out” of the process (JIBC, 205, p. 5). The report should record accomplishments and success stories, recognize groups and individuals, and note challenges. In this way, according to this planning guide, ongoing follow-up is key in assessing community resilience.

4.6 Participation

This criterion is measured by two indicators: the first measures the extent to which participation opportunities are accessible and suited for the socio-cultural context; the second measures the allocation of time and resources to promote participation and determines if they are sufficient.

4.6.1 Indicator #1: Participation opportunities are made well-known and appropriate to the stage of the process and the social-cultural context.

Although they target different dimensions of an emergency response, with some providing a managerial, some an individual, and some a community perspective, most documents at least partially comply with this indicator. Clearly, participation opportunities are less likely to occur in plans that target individual responses.

The plans written for leadership meet this indicator in Step Two - *Appoint an Emergency Coordinator and an Emergency Management Organization EMO committee*. With this step, these plans comply with the indicator for participation by stating that community members should be able to participate on committees and that participation should be appropriate for the socio-cultural context. In this regard, BOFN’s plan met this criterion as it calls for involvement through the Emergency Coordinator role and the EMO committee.

The two guides written for the public partially meet this indicator for participation. Since the documents assume that individuals will take responsibility for their own emergency planning, the documents do not include ideas for group participation and community planning. Group organization and participation are not the intentions of these guides, but the instructions they contain are accessible to all segments of society and are appropriate for any context. In this regard, then, they do partially meet this indicator.

The first step of *The Aboriginal Resilience Planning Guide – Getting Started* – meets the indicator for participation since it secures community buy-in and ensures that residents are informed through varying means, such as social media, posters, and announcements. The plan also suggests that stakeholders should be consulted, including members of the fire department, long-term residents, community safety personnel, policy makers, community leaders, and Elders. These consultations nurture decision-making and participation because they inform community members of the needs and resources available.

4.6.2: Indicator #2: Sufficient resources and time are provided to support participation of local people

The documents written for leadership outline the resources and time that community managers will need in emergency planning. Although resources are sufficient, inadequate considerations are given to linking these resources with the local people. Thus, these leadership-oriented documents only partially comply with this indicator. BOFN's plan partially met this criterion for it only provides the inventory of available tools and resources without explaining how they are to be implemented or how local people are to manage these resources.

Since the documents written for the public speak to individuals in communities, resources and time depend on the capacity of individuals to plan for emergencies and evacuate at their own pace. The documents estimate what resources and how much time individuals need in preparing for an emergency and evacuating. In this way, these documents meet the indicator for allocating enough resources and time to support participation.

The *Aboriginal Disaster Resilience Planning Guide* fully complies with this indicator. Each step of the resiliency plan described in the guide is supported with additional resources that recommend how to engage with local people. These resources help the community set up the planning team, define community borders, conduct community mapping, conduct hazard risk analysis, gather information, create the resiliency plan, and monitor progress. One of these resources is *The Skills and Knowledge Inventory*, which gathers information on traditional knowledge, skills, and abilities. This document considers aspects of community engagement not included in the other documents and provides tools to enhance the planning, implementation, and follow up stages. Skills, knowledge, and other tools brought by local people are key as they dictate the community's ability to maximize resources based on existing needs.

4.7 Summary of the chapter

The three plans written for leadership meet the indicators for community confidence by providing community leaders with a clear process and authority for managing emergencies and by explaining the intent of the document. They partially meet some indicators for integrative decision making, comprehensiveness, and accountability but fall short because plans are not integrated into other documents and fail to adequately do the following: consider long-term planning, integrate local values and knowledge, link resources with local people, and identify roles and responsibilities for follow-up and reporting. The documents written for the public comply with indicators for community confidence by providing individuals with clear steps to follow and with information on the intent of the document but fall short in fully meeting the indicators in the areas of integrative-decision making, comprehensiveness, and accountability.

A different approach was taken by the *Aboriginal Disaster Resilience Planning Guide*. This document stands apart from the government-based and logistical aspects of disaster resilience to consider the inner socio-cultural dimensions of the planning process at a community level. The manual guides communities on how to incorporate their capacity for resilience into the drafting of a resilience plan by incorporating local knowledge, skills, and the non-quantifiable resources that define their strengths. Based on its focus, I found this document to be mostly compliant with the criteria for effectiveness as a process.

This chapter identified the relationship between key messages in selected documents and indicators of “effectiveness as a process”. This analysis helps to address the second objective of the thesis in which an iterative approach is adopted to understand the incorporation of values and local knowledge in selected emergency plans and guidelines. In the next chapter, I will continue with this iterative approach by drawing on results from interviews to better understand how participants in emergency management interpreted cultural inclusion in their emergency response.

CHAPTER 5: UNDERSTANDING EMERGENCY MANAGEMENT FROM THE EXPERIENCE OF HOSTS AND EVACUEES

5.1 Introduction

This chapter contains two main sections. The first part examines responses from the semi-structured interviews I conducted with BOFN community members, federal government representatives, Canadian Red Cross representatives, and leaders of the evacuees. The second part develops an explanation for understanding elements that I found to be common among all responses. I grouped such responses into key themes which provided further explanation on the role of culture. Therefore, these key themes are presented as *ideas and values guiding the planning process* in the last section of the chapter. The third section will provide a comparative snapshot illustrating common and different elements between Rez Cross and Red Cross.

Overall, I conducted 24 interviews distributed as follows:

- **BOFN:** Thirteen interviews were conducted with BOFN community members from various occupational backgrounds (See Figure 5).

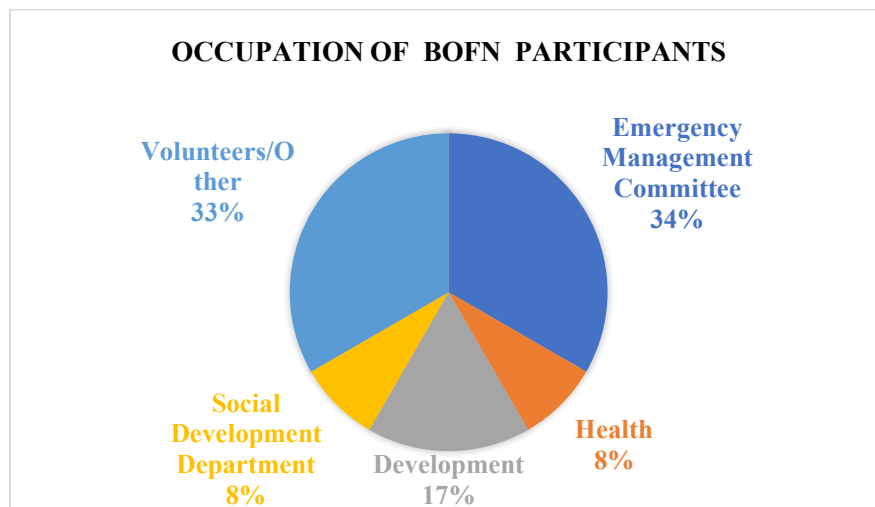


Figure 5. 1. Occupation of Beardy's and Okemasis First Nation participants.

- **Federal Government Representatives:** Two interviews were conducted with officers of Indigenous and Northern Affairs Canada (INAC).

- **Canadian Red Cross:** Two interviews were conducted in Saskatoon with Canadian Red Cross representatives with managerial positions. One of these interviewees leads the disaster

management approach for Saskatchewan and Manitoba (interviewee 14), and the other coordinates evacuation activities and ensures physical adaptation by affected communities (interviewee 15).

- Leaders and members of evacuated communities: Seven interviews were conducted with different individuals evacuated from northern communities in Saskatchewan.

I compiled the key findings from the interviews using both effectiveness perspectives (process and outcomes) in the following table. The table 7 indicates whether the criterion was fully met, partially met, not met, or not applicable. This snapshot of responses is explained later in the chapter.

Table 5. 1. Snapshot of findings from interview analysis - Effectiveness in terms of processes-

CRITERION	INDICATORS	BOFN	FED. GOV	RED CROSS	LEADERS OF EVACUEES
<i>Community Confidence</i>	A. The process is understood, and information about the process, procedures and its authority is accessible and clear.	A. Yes	A. Partially Yes	A. Yes	A. N/A
	B. The intent of the process is acknowledged and clearly stated.	B. Yes	B. Partially Yes	B. Yes	B. N/A

<i>Integrative Decision- Making</i>	A. The process demonstrably informs, and the results are integrated into other relevant planning processes.	A. No	A. No	A. No	A. N/A
	B. There is capacity to integrate the knowledge and results of other processes into the evacuation process without unduly influencing its outcomes.	B. No	B. No	B. No	B. N/A
	C. The process considers impacts beyond the immediate time scale of the policy, plan, or program.	C. No	C. No	C. No	C. N/A
<i>Community Comprehensiveness</i>	A. Consideration of context for vulnerability, different values, and interests, and integration of local knowledge.	A. Yes	A. No	A. No	A. N/A
<i>Accountability</i>	A. Roles and responsibilities in planning, review, and decision-making processes are clearly identified.	A. Yes	A. No	A. Partially Yes	A. N/A
	B. Roles and responsibilities for implementation, follow-up, and reporting are clearly identified.	B. Yes- for implemen tation No – for follow up	B. No	B. Partially Yes	B. N/A

Participation	A. Participation opportunities are made well known and appropriate to the stage of the process and the social-cultural context.	A. Yes	A. No	A. Yes	A. N/A
	B. Sufficient resources and time are provided to support participation of local people.	B. Yes	B. No	B. Partially Yes	B. N/A

As seen in this table, some criteria were more applicable to some groups than others. None of the criteria applied to the leaders of the evacuees because they had no role in planning for an emergency. For this reason, I marked some items as *not applicable* (NA).

The same approach for compiling findings is shown in the effectiveness as an outcome perspective in Table 8 below. Only two criteria applied to the Indigenous evacuees. Because their answers related to how they perceived their experience at BOFN as guests, Indigenous evacuees met only two criteria (*use of resources strengthens Indigenous identity and program effectiveness*). They were not involved with the remaining criteria, which consider aspects of emergency planning. Comparison of results between documents and interviews is provided in Chapter 6.

Table 5. 2. Snapshot of findings from interview analysis -Effectiveness in terms of Outcomes-

CRITERION	INDICATORS	BOFN	FED. GOV	RED CROSS	EVACUEES' LEADERS
<i>Outcomes Evaluation</i>					
<i>Effectiveness drawn on Material aspects of culture</i>	A. Achieving goals drawn from material and/or lived experience of culture.	A. Yes	A. No	A. No	A. N/A
	B. Enhancing ability to adapt to changes (organizational flexibility).	B. Yes	B. No	B. No	B. N/A
<i>Use of resources strengthens Indigenous Identity</i>	A. Resource sufficiency and distribution strengthen capacity and ensure cost-effectiveness.	A. Yes	A. No	A. No	A. Yes
	B. Community cohesion, identity, and sense of place is promoted and achieved.	B. Yes	B. No	B. No	B. Yes
	C. Context for vulnerability, different values, and interests, integration of local knowledge, and potential feedback are considered.	C. Yes	C. No	C. No	C. Yes
<i>Program Effectiveness</i>	A. Delivery of programs and projects is deemed successful by participants.	A. Yes	A. No	A. Partially Yes	A. Yes

	B. Program satisfaction contributes to community cohesion.	B. Yes	B. No	B. No	B. Yes
Education	A. Training and education opportunities for community residents are enhanced.	A. No	A. No	A. No	A. N/A

The following sections build on the tables, containing details about the effectiveness criteria and each actor’s level of compliance with each one. To support the findings, quotations from semi-structured interviews are provided.

5.2 Effectiveness in terms of processes

5.2.1 Community confidence

One of the first criteria to be analyzed was *Community confidence*. The unit of analysis in this section considers both the practices as intended and adaptations that took place at BOFN and were not mentioned in the BOFN planning document. Since the BOFN plan was found to be at a draft stage, experiences of interviewees will be the reference point and will help to expand and elaborate more on their emergency response. Essentially, this criterion evaluates the clarity of the intent, procedures, processes, and authority when initiating an emergency response. Most interviewees indicated that their emergency responses are based on the communication and engagement of individuals. The BOFN emergency response process included a set of steps involving the following: Emergency Management Committee setup, council approval, “Operation Pitch In” (calls for donations through a media campaign), sorting of equipment, assigning team leads, inspection by the PAGC, and the opening of Rez Cross.

Communication was found to play a key role in community confidence because it determined how information about proceedings was disseminated and made clear and accessible. Arguably, communication was the most significant element shaping BOFN’s ability to coordinate the organization of people during the 2015 event. The interviewees noted that, since most targeted communities had no access to cellphone services, immediate actions through social networks (mostly Facebook) were the major ways of communicating and spreading the word, both within

the community and externally (this situation was an adaptation of the community during the emergency event). One of the interviewees (I1) noted the importance of Facebook:

Facebook was probably one of the biggest communication platforms that we had. People responded in person by coming together at the community arena...And there had been a lot of social media responses in the form of ascertaining funds and sharing funds and gathering supplies.

Initially, the community had not envisioned needing operational goals since the plan was still being developed when the emergency occurred, but as this interviewee made clear, social media helped to both give voice to the emergency and coordinate the aid. In this way, then, Facebook worked as an operational tool for determining who needed what and for obtaining resources (I4).

In addition to communications and operations aided by Facebook, the community's initiative to respond helped to spread the word, thus reaffirming their accessibility to proceedings and intent. BOFN members were motivated to assist both others from BOFN and those evacuated from threatened areas to a facility in Prince Albert running out of capacity. One of the interviewees elaborated:

This is what we wanted to do, it just became, the fires just became so extreme and so many of them that we just felt we needed to do something as a community, so we didn't have any prior plan of that happening...when you plan your emergency plan, usually it's just for the community. But being that we were so close to what was happening, we just knew we needed to step up and help. (I4)

The interviewees expanded on what they meant by a desire to help others. In other words, the intent of the process, according to participants, generally revolve around these objectives: to help evacuees feel less lonely, to ensure supplies for evacuees, to provide mental health support, to unite families, and to take care of the evacuees in a culturally appropriate environment.

Key to community confidence is clarifying the intent of the emergency plan. INAC's intent, as articulated in its plan, was to operate as an umbrella in emergencies, under which provincial governments and First Nations operate when they have exceeded their capacity to cope. Thus, the role of INAC was limited to aiding, guiding (through emergency guidelines), and supporting First Nations, at their request, as these communities advanced emergency planning (I17). INAC at

least partially fulfilled the community confidence criterion because it outlined the procedures for assisting communities by providing two types of aid: financial and operational. Financial aid is granted once the community lacks sufficient funds to respond to an emergency. To receive this aid, the community must follow a process to ensure the funding is fair. This notion of fairness is determined by INAC. Operational aid is provided when a First Nation community requires logistical support (e.g., planes, boats, etc.) to take evacuees out of the danger zone. Thus, in 2015, the Federal government coordinated and provided logistical aid through troops from the armed forces' Department of National Defence to handle the fires and help evacuate people (I16).

Unlike INAC, The Canadian Red Cross does not develop emergency plans for First Nations. Instead of focusing on plan development, it concentrates on advising those vulnerable to any kind of emergency about the best course of action. The intent of the process and the procedures (*Community Confidence* criterion) are laid out in general terms, so that this criterion is met in every scenario. The Red Cross aspires to have its process used as a model for communities, allowing them to adjust the process to their own context. Throughout the interviews, interviewees stated that the Canadian Red Cross is a service provider whose duties are determined by contracts with the Government of Saskatchewan to respond to communities' needs. Thus, the organization acts when requested and not on a voluntary basis, as articulated in the following interview with a Red Cross employee:

Our emergency plan is related to the work that we do in this country. Our area of expertise is in the area of providing emergency social services with the Province of Saskatchewan. We have an agreement with the provincial government to provide emergency social services for all communities in Saskatchewan when we are activated on behalf of the government. (I14)

Based on this rationale for action, Red Cross planning processes involve brainstorming strategies to secure the physical adaptation of communities and to provide basic survival services based on the conditions of the contract they have signed. In the short term, the organization's objective is to be properly equipped with resources and tools and to have the capacity to better assist communities in six key areas of emergency social services: food, clothing, shelter, family reunification, registration, information, and recreation.

5.2.2 Integrative decision-making

The second criterion refers to *Integrative decision-making*. As defined by Hanna & Noble (2015) this criterion considers the extent to which the emergency plan is shaped by other sources of knowledge, the extent to which the plan leads to new projects or emergency related plans, and the plan's long-term impact. The interviews with BOFN members suggested that the BOFN plan does not meet the criterion for integrative decision-making. One respondent mentioned the role of the H1N1 pandemic flu as an eye-opening event for creating the emergency plan: "Although it may have not developed as fast as we wanted it in the past, [...] the pandemic flu emergency we had and the H1N1[...] basically from that plan, the emergency response plan started to develop." (I1). In other words, from a planning perspective, the plan emerged from an internal event, and no external influences impacted the creation of the evacuation centre, which was a spontaneous process emerging through community engagement, communication, and the screening of internal resources and capabilities. It should be noted the BOFN plan provided a starting point and the basis on which to envision the implementation of Rez Cross. Meetings between the Emergency Management Committee, volunteers, and emergency managers revolved around the following:

What type of effort this was going to look like? What are we capable of? What resources do we have? What are we essentially willing to do? And we came up with that we would establish an evacuation centre, we would establish a full-fledged evacuation centre...

(I12)

As can be seen, the questions arising from the planning process were based on how the community was going to respond based on its own capabilities and not on how other sources of knowledge could be used to strengthen the process. Thus, it can be said that the integrative decision-making criterion was not met. This conclusion is supported by interviewees who emphasized that there were no external interventions (therefore, no outside planning processes or bodies of knowledge affecting the plan), and that, furthermore, the process did not consider any long-term effects and was not integrated into other planning processes.

The INAC and Red Cross interviewees did not refer to the influence of external insights and knowledge on their planning processes, the influence of their emergency plan on other planning processes, and the long-term effects of their planning process. The fact that this criterion is not

met by any document or interviews suggests that the plan only focused results and did not lead to creating other or proposing other plans or projects in a more integrative fashion.

5.2.3 Cultural comprehensiveness

The *comprehensiveness* criterion explores the degree to which the planning process considers the context for vulnerability, different values and interests, and local knowledge as described by Eriksen et al. (2011). By meeting the immediate physical, cultural, and emotional needs of evacuees, the BOFN shelter provided a homelike treatment that built a sense of trust in BOFN. During the implementation stage, the Rez Cross shelter provided a 24-hour operation; people from northern communities arrived at different times of the night. In addition, BOFN opened its doors to 180 non-First Nation individuals (CBC News, 2015) who needed assistance. In fact, evacuees were treated and called *guests*:

They were our guests, they were our guests in our community. And like yourself, when you have a guest come into your home, you treat them as best as you can. And that was the whole idea of it, to make them feel welcome, make them feel safe. (I4)

As part of this welcoming approach, BOFN made resources available to its guests and did not impose restrictions on the amount of supplies used.

According to interviewees, BOFN's approach was in sharp contrast with other evacuation centres, which did not allow evacuees to bring their belongings or limited daily consumption of supplies. This quotation provides an example:

The cultural component of what we did here was so different from the evacuation centers. You know, people weren't allowed to...bring in stuff, [...] there was just too many rules, I think, and it was hard. They were stressed out. Even for babies, I believe, they were given only so many diapers a day, and you know, I for myself as a grandma, and my youngest grandchild living at home with me, she goes through more than six diapers a day. And they were given one bottle. [...] If they need more diapers, you know, it was just that family, I think I'm going to say that. That's what made us different is we were... more family oriented. (I4)

This and other quotations from the interviews indicate that BOFN members took pride in offering a family-type, culture-based welcome to their visitors that differed from what they considered to be the institutional approach of other evacuation plans, such as those by INAC.

Despite BOFN members' views of INAC plans, INAC, in fact, is gradually incorporating a cultural perspective into its emergency plans. According to I16, within INAC, there is a growing awareness that emergency management should include not only mitigation, preparedness, response, and recovery but also psychosocial resiliency. Asserting that not all First Nations are equally equipped to address emergencies, interviewee 16 relied on a study that used well-being indexes to affirm that communities that evacuate have difficulties recovering. As a result, this interviewee suggested that exploring the cultural dimensions of responding to emergencies has become a priority for INAC:

We know that there's a cultural component to First Nations communities that we have to respect. The fact that, this makes sense, that if we have people that speak Cree or Dene, there should be translators at the evacuation centers, that we have to take into account different foods, different types of nutritional requirements, or just the different ways of communicating. This is important, not to treat everyone the same (I16)

In recognizing the significance of culture, interviewee 16 indicated that there have been conversations between communities (e.g., in Ontario) and the Federal Government about community-led initiatives for hosting evacuees. In these conversations, evacuees have acknowledged that First Nations can host other First Nations in an emergency, if the hosting community possesses the capacity to host extra people and is not affected itself by the disaster:

Communities that are prepared in that practice have better outcomes when it comes to facing real emergencies, and that they can respond better, and the important thing is that they can bounce back better during recovery after the response. (I16)

The above comments suggest that INAC is now ready and willing to consider culture in evacuation plans involving unaffected First Nation communities in helping affected communities in an emergency.

Red Cross interviewees also commented on the need to consider cultural dimensions in emergency management. Despite not embracing specific Indigenous culture(s), knowledge(s), and values in its emergency plans, the Red Cross is committed to connecting with communities and to learning how to better provide adaptation services appropriate to the local context. For instance, interviewee 15 pointed out that the Red Cross strives to involve communities in

registrations for translation purposes; and Red Cross employees take evacuees with them to cultural events if they are held in the city (I15). Additionally, interviewee 14 acknowledged the need to consider cultural support as part of the emergency response in terms of communication, language, and food. These comments reveal a growing degree of support for considering socio-cultural issues in the planning process:

Some of our major lessons learned over the past few years in response is [*sic*] engagement of local community members and individuals [...] We always engage the community to have local community leadership before providing those emergency social services, to be able to have conversations about appropriate food, to have conversations around what specific needs the community needs and especially also looking at community engagement around translation and communicating information back to community members. (I14)

As seen in this statement, the Red Cross has both opened the door for local communities to discuss emergency management and attempted, through different mechanisms, to engage them in the evacuation process.

5.2.4 Accountability

The *accountability* criterion considers the extent to which roles and responsibilities are identified during planning, implementation, and follow-up steps. The BOFN response was not guided by a protocol. In general, BOFN members helped in any way they could. BOFN members' determination to host guests was based on the immediate use of joint capabilities and social bonding principles. In the planning stage, the small committees took the lead in providing instructions. They organized the agenda and itinerary and created a roadmap. They knew who to contact from the beginning, and, from there, they extended the call for volunteers.

As for implementation, roles were performed accordingly mostly by band staff, social services, the lands department, health staff, and Elders (for emotional and psychological support). It was clear what roles needed to be performed. Council oversaw communication functions with government officials. Cooks worked at a separate facility so that they could work without interference. Roles for volunteers included communication, delivery services, and gathering of donations. Band officers' cellphone numbers and the radio station number were made available to

inform incoming evacuees about needed information. Once the call was made, security oversaw setting up spots, adapting air mattresses, and cleaning them. In addition, the health station participated by coordinating schedules for the registration table. Nurses, dentists, and a mental health therapist were there to assist evacuees.

Debriefing is an important part of accountability as it provides with opportunities to reflect on the experience and learn about achievements and suggest improvements for future emergency responses. With regards to the follow-up steps, debriefing was not conducted on an official basis. According to one participant (I4), BOFN did not do a debriefing after the emergency with the band officers. However, this participant mentioned that one of the counselors updated Council, Federation of Sovereign Indigenous Nations (FSIN), and PAGC about what went well and what needed to improve. The health station did a debriefing as a casual sit-down with younger groups and reported to a group of three band officers. However, they did not report to any authority. It was mainly an internal group conversation for staff wellness purposes. These debriefing spaces gave some BOFN members an opportunity to self-reflect in order to examine achievements, learn from mistakes, and consider future improvements. However, not all BOFN volunteers had the opportunity to gather, debrief, and report to Council. From this perspective, it can be said that BOFN did not meet the debriefing indicator for accountability in the follow-up phase.

As for the Red Cross, some references to accountability were found. With regards to roles and responsibilities, shelter management procedures during the time of the wildfires placed Red Cross officials in charge of personal services, recreation, and agency meetings. Other organizations such as the Salvation Army provided clothing, while the University of Saskatchewan and Prairieland Parks provided food, which was delivered through vouchers. Nonetheless, resource sufficiency was one of the main challenges as the number of evacuees increased. According to interviewee 15, personnel would work six days in a row before having a day off. However, as they began to run out of human capacity, the Red Cross brought in people from out of the province for support – partners such as the American Red Cross and corporate sponsors. Thus, accountability, understood as the assignment of roles, involved collective collaboration from different agencies and even external Red Cross staff.

Although most procedures and policies are essentially internal, the Red Cross has remained open to gathering input and learning from its experiences in partnering with communities. In fact, there is an internal debriefing process that requires the Red Cross to be accountable to communities:

Every time we participate in a response we go through a process of a debrief and a review of how we work. So we always take a look at where are the gaps, what did we do, what did we not do, how can we do it better, and what can we do to improve it. (I14)

When asked about debriefing, interviewees agreed that a major conclusion of the debriefs was to set up more communication channels to inform people and to promote more community engagement. During the fires, some communities were not advised about where to go, so residents decided to evacuate on their own to bigger cities. Once they arrived, they contacted the Red Cross to ask for assistance. However, the organization was not in a position to help all the evacuees as it was already stretched beyond its capacity. Interviewee 14 reflected on the lessons learned:

We learned that we need to look at working more closely with Indigenous communities on readiness and being able to provide them with information beforehand and having those conversations about what do communities want from us and what do they need from us in order to be able to support communities when they evacuate. (I14)

As seen, the debriefing procedure reinforces the accountability aspect of effectiveness since it allows Red Cross members to reflect on their experiences based on their assigned roles and responsibilities. In this way, accountability is ensured throughout the evacuation process from the planning to the implementation and follow-up stages.

5.2.5 Participation

The *participation* criterion measures the extent to which individuals from varying socio-cultural backgrounds are involved in emergency planning and response processes. All BOFN interviewees confirmed that participation opportunities were appropriate to the socio-cultural context. The participation approach involved close collaboration with Indigenous organizations such as FSIN and other First Nation communities; the Regional Health Authority, which helped to distribute food; private businesses; government institutions; and non-governmental organizations like the Red Cross. Inside the BOFN community, participation involved equitable collaboration between men and women. Although there was no distinction of roles among

groups, respondents indicated that certain tasks were undertaken every day by men, women, and youth. Thus, women helped with cooking, cleaning, and childcare, while men unloaded trucks with supplies, and cleaned and bagged garbage. Youth volunteered in logistics, as well, by categorizing toiletries and organizing clothes for different age groups. They also assisted with supervising children and taking them to different entertainment activities (e.g., swimming and soccer), and worked as security by sitting outside the building and keeping track of the people coming in and out for 24 hours. At night, a crew stayed at the arena to make sure bathrooms were clean and donation items were organized. It should be added that the healing lodge employees also volunteered, with guards undertaking janitorial work and security. Evacuees took a participatory role in logistics, which, at the same time, reinforced a sense of place. One interviewee from BOFN observed the following:

...instead of having them sitting and waiting [out] the fires day after day, we started including them in the work process, like what needed to be done in the centre. They were sorting clothes, they were cleaning bathrooms, they were taking garbage outside, they were cooking meals, they were a big help when they were asked. (I6)

Even though roles were not assigned, men, women, children, and evacuees all participated in the activities that were appropriate to the socio-cultural context.

Another aspect of this criterion evaluates the extent to which resources are sufficient to support *participation* and to which participation in evacuation activities impacts the quality of the plan.

The community used three key tools to coordinate the hosting process in the shelter:

communication, financial resources, and donations. Essentially, it was through communication that BOFN could gather the other two resources. As one participant stated, “There was really no shortage to anything, so it was [...] communication-wise that was our best resource that we had was being able, using that to get what we needed” (I4). In addition, BOFN did not obtain government financial assistance. They only received donations of items and some monetary resources from the pockets of individuals. One participant elaborated:

We didn’t get anything from anybody. And that’s the one thing that we’re proud of. We did it as a community and just through straight donation. Food donation, toiletry, you know. Like I said, we had groups that would phone, or they’d send somebody here to

come and see, you know, what do you need? [...] But financially, we didn't have to come and ask our Chief [and] Council for money, for anything. (I4)

This self-sufficiency was also seen in the number of donations received. Volunteers played a key role in asking companies for supplies, and local farmers also participated by providing their produce. This collaboration allowed BOFN to be financially and logistically self-sustaining during the wildfires up to the point that they had to give away some supplies. One interviewee spoke of the over-abundance of supplies:

We had to stop collecting donations because we were getting overwhelmed with many donations [...] There was the food that we just had to keep getting donated. All local businesses, \$1,000 from Country Choice Meats for meat, our local grocery store opened a \$500 account for things we need, people giving us donations-cards to the local grocery store to use, get supplies that we needed, fresh produce, milk... (I6)

For BOFN, self-sufficiency began with effective communication, enabling the band to gather needed financial resources and donations, resulting in a plethora of supplies.

As for the Red Cross, interviewees affirmed that *participation* is not only tied to the signatories of the contract (Red Cross and the Government of Saskatchewan). There are also links to INAC and to the Prince Albert Grand Council, both of which provided leadership. Volunteers are also key players. Open opportunities exist for them to be trained and acquire emergency management skills that correspond with the varying roles identified in the plan. Thus, the Red Cross's approach to emergencies is to meet the *participation* criterion of effectiveness by devoting resources and time for volunteers to build experience and improve the quality of the plan itself. One interviewee stressed the importance of training and experience in this process:

They all do the same training and the training is consistent across Canada. There's a training path for each new disaster management volunteer that comes in[;]once they get experience in the shelter, then we would say okay, that person would be really good for personal services, or registration [...] they get some experience, and we identify those people who would be good supervisors. (I15)

As seen, then, interviewees identified *participation* opportunities as part of the Red Cross's emergency management approach. These opportunities are made accessible to volunteers throughout the country, with the aim of expanding the Red Cross's scope of action at any

location and with any kind of emergency. Therefore, it can be said that the Red Cross meets this criterion.

5.3 Effectiveness in terms of outcomes

5.3.1 Effectiveness is drawn on material aspects of culture

The second part of this chapter analyzes the interview responses through the lens of effectiveness in terms of outcomes. The first criterion measures whether and how during the 2015 evacuations, effectiveness drew on material and lived aspects of culture and how the community adapted to changes. Several respondents mentioned that BOFN's drive to collaborate was based on the premise of "how we would want to be treated," given the cultural shock and trauma evacuated communities had experienced. (I9) In fact, some respondents affirmed that the root of their social bonding was so strongly embedded in the manner they were raised that for outsiders to better understand, they would have to live in their community:

It's a lived value [...] You have to live in a First Nations community to understand the value of "I'm just going to go because there's a need, or because there's a desire" [...] If you're First Nations person particularly in Beardy's and Okemasis, you just know that you have to help in some way, shape or form. You just know that you have to be there for people. There's a sense of community in a First Nations community that you don't find in many other places. (I13)

This principle constituted a lived aspect of culture that formed the basis of social cohesion. As mentioned, this value reaffirms that individual BOFN members' intrinsic sense of community determines collective behavior in unforeseen circumstances such as natural hazards. As the cornerstone for uniting people, as well as for reinforcing the value of BOFN's traditions and cultural foundations, Elders play the most significant role:

We had [...] our Elders. [...] the way our life is here in the community we include our elders in our culture and no matter what. [...] If anybody needed to smudge they'd just sit there or if they needed somebody to talk to the Elders were the ones that would be there for them and give them guidance. [...] it eases the heartache that you're feeling. So with our culture and our Elders and our teachings it all came together to make it such a comfortable, safe environment for them to come to [...] If it wasn't for that I don't think a lot of them would have stayed because they felt at home here. (I8)

As this example shows, Elders, as symbols of guidance and wisdom provided the leadership, social means, and support to make evacuees feel at home.

In providing the evacuees with a culturally compatible environment, the community also adapted to changes ‘on the go.’ Responses revealed that BOFN made fishing available to evacuees (although it is not their main activity), modified dietary plans, and offered different kinds of wild meat according to evacuee needs. BOFN also allowed evacuees to conduct activities they would normally participate in on their reserves, such as building tents, using poles and tarps that the community made available, and preparing food with their own techniques. One example was stressed by interviewee 9: “We had one gentleman who made a smokehouse and he was able to have that set up outside the arena and he smoked some meat [...] they wouldn’t have been able to do that at another emergency shelter.” This example demonstrates that BOFN’s inclusive approach strengthened cultural bonds with the evacuees and that sensitivity to cultural traditions was key to building trust among evacuees and reaffirming their identity.

5.3.2 Use of resources strengthens Indigenous identity

The second criterion of the “effectiveness as an outcome” perspective measures the extent to which the *use of resources strengthens Indigenous identity*. The study examined whether resource sufficiency and distribution strengthened capacity and ensured cost effectiveness. When implementing the plan, two major resources were noted by participants: human and physical resources. As for human resources, there were two kinds: managerial and the community. One interviewee emphasized the importance of human and community resources:

I think the most important resource that we had was human resource. And we got that human resource straight from Chief-in-Council level, the approvals. So we had governmental resources in the form of administrative staff...and then of course all the departments that contributed [...] Another kind of resource, of course was the community resources. The community members themselves (I1).

Counting on people was a major indicator that capacity was built and strengthened at BOFN, considering they volunteered to provide food, donations, counselling, medical, and entertainment services. Another indicator was the abundance of resources:

It was just unreal how help came in from everywhere [...] And we actually had to put on social media that we couldn't take anymore and anything that people were offering, we were sending them to other areas [...] to be of assistance. (I4)

Sufficiency of resources was thus ensured, and unneeded supplies were passed on to other locations in need of assistance:

Key to strengthening Indigenous identity through resources was a sense of place and community cohesion. BOFN promoted a sense of place by hosting evacuees in the community arena and banning members from disturbing the area. The evacuees were secure day and night in that only the organizers were allowed to enter the arena. BOFN's idea was to adapt the arena to be as close as possible to the evacuees' own homes and to be a secure place where they could stay without being interrupted. Community cohesion strengthened identity in many ways. The participants emphasized the role of evening entertainment programs with traditional music, Pow Wow dancers, and gospel spiritual singers. BOFN participated by playing instruments and organizing and hosting square dances. One participant talked about a local talent show in the community:

We brought them from the arena to the rec centre because we had this talent show we had planned for them to interact with the community members and everybody just go and enjoy some music [...] What a great turnout. It was amazing. (I8)

Additionally, recreational activities were provided to children such as 'Local Sports Day,' involving thoroughbred racing and chuck wagons, swimming pool activities, puppet shows, mini pow-wows, the basketball court, the playground, and free visits to the museum. These events were largely organized by volunteers. In fact, BOFN children gave up their spots in summer swimming programs and passed them on to child evacuees.

As mentioned earlier, what made Rez Cross different from other evacuation centres was the freedom evacuees were given to apply their own cultural traditions. They could go fishing and dry meat on their own, and they even taught BOFN community members how to dry meat. An example is found in this interview extract:

...And yet they were teaching us how to dry meat. So we go to a teaching on how to dry meat from them too [...] they were teaching us things and we taught them other things. And then we had, one night we had a performance for them with powwow dancing [...]

And some of the evacuees had never seen that and they were amazed with what they saw.

(I7)

According to members of evacuated communities, culture was also reflected in BOFN's social values. There was a sense of trust embedded not only in the "community-to-community" approach but also in the openness, welcome, and sense of caring that BOFN organizers expressed to the evacuees. These behaviours fostered the sense of place and community cohesion that made the evacuees feel as if they belonged to the community. When highlighting these facts, interviewees compared the Rez Cross and non-Indigenous evacuation centers. Interviewee 22 made this comparison:

Some places you'd walk into, you've got to register [...] you're given a number. Nobody even smiles at you. [...] And now they want all your information and they give you a colour to wear, a bracelet. But in Beardy's, all you do, they welcome us and they were happy to see us. They didn't make us feel out of place. And all we did was give them our name and they wrote them down and that's it. [...] We were like a part of them.

As well as the warm welcome, the daily schedule also strengthened a sense of place among evacuees. They expressed pleasure about not having a meal schedule imposed on them and not having limitations on supplies. Evacuees relocated to other centres before coming to the Rez Cross affirmed they would miss a meal if they had not lined up according to orders. At the Rez Cross, they felt treated like a person, not a number. These considerations provide grounds to understand how cultural dimensions of the hosting process reinforced and promoted Indigenous identity. Based on testimonies of BOFN organizers and evacuees, it can be seen how this aspect stood out when compared to other approaches as shown in Table 8.

5.3.3 Program effectiveness

The next criterion is *program effectiveness*, considered here by documenting the impact of the hosting process on participants and BOFN community members. This criterion evaluates the perception of success of the program delivery and determines whether this perception contributes to strengthening community cohesion. Community cohesion is examined at the post-hosting stage. Despite limited capabilities and an incomplete draft plan, the evacuation program was deemed successful by all BOFN interviewees. This assessment was based on how they believed

that the BOFN integrated cultural values, local knowledge, and traditions into their actions.

Evacuees were pleased to stay in an environment they found culturally welcoming:

They were very happy with just taking a cup of tea and sitting in amongst themselves and walking. So, a lot of our activities...we found that they appreciated it, but they were very happy just to sit by themselves and just visit amongst each other. (I4)

The program was also deemed successful by Indigenous evacuees who were interviewed because organizers tried to reunite families separated during the evacuation and cared about their needs while learning from one another. One evacuated interviewee stated, they were effective because

it's a fact that they searched for other members of our community to keep the families together. They asked us how—what kind of foods we like, and they sent out some hunters...we shared our knowledge with them, and they shared their with [us] (I22)

Program effectiveness was also expressed from the perspective of BOFN organizers. As noted below, evacuation operation was also considered a success because it demonstrated that a First Nation community could take the lead and unite people:

We were successful in, A, number one, most importantly, ensuring that our people, our guests in our community were taken care of. Absolutely, we were successful in that.

Number two, we were successful in demonstrating that this can be done—so to other First Nations right across the province and even across Canada - that our approach and our method to executing this type of initiative or this type of effort is successful. (I13)

The “team spirit” provided a holistic approach that positively impacted all demographic groups, even those suffering from the trauma of separation and isolation. Interviewee 3 spoke of the spirit of giving:

...the people that were helping out, like the organization, the group itself, the organizers, the people that volunteered to assist, they were doing it to help people with an open heart, open arms. They weren't doing it 'cause it was a job to do'...other people that were working there almost like every day for hours and hours, they weren't getting paid for what they were doing. They weren't part of any organization that receives funding to do what they do. (I3)

Program satisfaction led to community cohesion since all programming was voluntary, promoting an open attitude, dispelling any expectations for compensation, and putting aside any desire for recognition.

In consonance with the BOFN perception, guests were also grateful and satisfied because they played an active role in the process. In other words, they volunteered alongside BOFN.

Interviewee 4 highlighted this interaction:

They were so grateful for the way we were handling it, they wanted to help [...] And it was different, [...] because our guests were also sitting with us and sorting through stuff, and folding, like I said, folding clothes. Helping in food preparation. They even cooked a traditional meal. They had smoked meat and dried meat. They fried deer, I believe, and moose and they prepared a meal one time themselves, too. (I4)

These kinds of activities allowed the evacuees to build strong relationships with the community, and both evacuees and community members learned from each other's traditions.

Because of these efforts, new and trusting friendships were created and gratitude was expressed in various ways by the evacuees. Some evacuees expressed feeling emotionally touched and attaching so much to Red Cross that they had difficulty returning home. Other evacuees maintained communication through social media (I6). From within, volunteers were honoured for their assistance in hosting evacuees:

Everybody got a letter from the Chief of Council, a thank you letter. And an eagle feather. A lot of the volunteers, the key volunteers, you know, that were right to the end, were given an eagle feather. And it's a very big honour to receive that and to be recognised in front of your people for that. (I4)

When asked about their perception of effectiveness, Red Cross respondents generally believed that planning in the 2015 wildfires was effective. According to interviewee 15, success can be seen in changes adopted. The Red Cross streamlines disaster management into two groups (personal disaster assistance and the emergency response team working in the shelter), making the process more specialized and facilitating the allocation of volunteers when needed. For example, a significant group of experienced volunteers and staff travelled to Saskatoon to assist in the evacuation process in the wildfires of 2015, an action which represented integrative decision making. This component was seen in the Red Cross's capacity to integrate other participants with expertise.

Although emergency responses are undertaken annually, interviewee 14 suggested that planning is still anchored in processes that applied ten years ago. This limitation affected the capacity of the response in 2015 due to the magnitude of the fires:

It's the biggest response that Saskatchewan has had in years. So, I'm not sure that most folks were ready for the size of the event. So, did we plan for over, you know, 10,000 people being evacuated from the North? No, we did not. Did we plan for having to use all of the locations that we had to use? No, we did not. Again, what we planned for is what we look [*sic*] at [our] traditional history. (I14)

On a different note, the perception of success by members of evacuated communities was marked by their cultural experience. The cultural component featured highly in the evacuees' reports of positive experiences at BOFN. In fact, all the evacuees who were interviewed reported having adapted successfully at "Rez Cross," so much so that, as mentioned above, some evacuees did not want to return home. Others were so grateful that they bought a plaque for their hosts as a token of appreciation (I24). Beyond being satisfied with regular services, such as physical accommodation, participants suggested that staying in a culturally-appropriate environment eased the psychological trauma of not being at home and worrying about their relatives at other evacuation centres. Evacuees who were interviewed were especially glad that there was great consideration of the Elders' needs. In spite of their positive reaction, they remained shocked with the evacuation process since they were forced to leave their homes and were not used to the environment and food when they stayed at another shelter in the city. They had to cope with the anger, loneliness, and separation from their community. Culture thus played a crucial role in helping them to adapt to their circumstances. According to an evacuated interviewee, one strategy was ensuring that food and language were familiar to evacuees:

The big difference is the cultural. It's the food that was provided to them as well as the language. Some of these people did not speak or spoke very little English. And Beardy's was more of a supportive, understanding, caring facility [...] in the future if they were ever evacuated that they would much rather go to an evacuation centre that was like Beardy's where they understood the cultural because they got- they're from the same cultural background so they're able to [...] understand their needs, their mental and social – emotional needs were better looked at Beardy's. (I19)

In reflecting on the impact of BOFN's hosting approach, members of evacuated communities agreed that all host organizations should know about the culture of Indigenous peoples and understand what values and traditions are important to them:

If you want to work with native people come and know them first. Come and see where they come from. Come and learn what kind of traditions we have, what our culture, our traditions, and that way you'll understand who we are. Not only native people, but in all aspects. People sit in office and they just look at the map and say okay, that's Saskatchewan. [...] That's all they see. They don't know the people. They don't know what we have here. (I21)

The interviewees previously in city shelters maintained that lack of knowledge about Indigenous people affected them. They recounted how food (e.g., pizza) was offered to Elders who had never tried it and that evacuees were taken to entertainment activities not in accordance with their traditions. They recalled that they encountered difficulties in adapting and would have preferred to be asked about their needs when the hosting plan was provided. Interviewee 21 provided an example regarding sweats for female Elders:

They took them out [...] But our Elders never did that. It's not part of our tradition to go on sweats, sweetgrass and that kind of stuff. It was banned. They used to do it back in the old days but only men were allowed to go into the sweat lodge [...] The only people that went to a sweat lodge were people that were elders and leaders. Like their chief. [...] my mom told me [...] –not going to a sweat lodge because it's not for women.

This statement demonstrates the significance of understanding how cultural differences can determine an evacuee's degree of adjustment in an evacuation centre. Ignoring these cultural differences affects the mental stability of evacuees and adds another burden to their process of recovery. With these findings in mind, it is seen how program effectiveness was positively perceived by BOFN organizers and evacuees as vehicle for ensuring community cohesion. Table 8 summarizes the implementation of this criterion.

5.3.4 Education

The last criterion of this section discusses the extent to which *education and training* opportunities are enhanced and promoted within the community to improve the community's ability to respond for an emergency. This was found to be one of the main challenges of Rez

Cross since few individuals reported being trained. Essentially, there was an initial group of two people who took emergency response training to develop new plans. Other band members, a representative from the school, and a representative from the gas station also attended one of these training sessions. However, some interviewees indicated that BOFN is beginning to have conversations to generate awareness and to improve understanding of emergency responses (especially how other departments can be enrolled, e.g., land management). Also, some interviewees suggested that training is expected to be conducted once the emergency plan is close to being finalised:

We're planning to do an actual emergency scenario. Like, once we get the emergency plan, not finalised, but to a stage where we want to invite the provincial emergency management [...] Just sending out information packages to our band membership. We've posted some stuff on Facebook about what to do in event of severe weather and how to be prepared for like a winter storm, too. (I4)

To date, however, this criterion has yet to be fully realized. Other ideas for engaging the community involve the launching of educational booklets for students in schools. The objective is for the students to have information on emergency evacuation plans at home.

With regards to the Red Cross, the education criterion was met throughout the preparedness stage. In fact, before 2015, there were communities and organizations involved in Red Cross training, such as Meadow Lake, Prince Albert Grand Council, and La Ronge. Interviewee 14 discussed this training:

What we've been working with [these] communities [...] is to do emergency preparedness and to do training for volunteers. So we've had a number of successful training partnerships. I believe - I think it was 2013, the community of Cumberland House was evacuated due to flooding. We did some training around emergency social services with those communities. We've done training throughout the north. (I14)

The education criterion was found to be a key feature to the Red Cross's approach to emergency management. Organizations that meet this criterion demonstrate both that they can improve their preparedness and serve as models for other communities building capacity to prepare for a wildfire emergency.

In addition, when reflecting on the experience of Indigenous-led evacuation strategies and on the Rez Cross case, interviewees claimed to have learned that communities want more ownership and opportunities to provide support to other communities. With these considerations in mind, interviewee 14 maintained that the Red Cross was committed to working on building capacity:

We've been working really hard to work with First Nations communities to build capacity in terms of partnering with them around training, looking at opportunities on how communities might be able to support each other and having conversations with communities about what kind of service they want to provide. (I14)

These comments indicate that the Red Cross is starting the conversation on how Indigenous communities can be empowered to better respond as a community to fire hazards.

INAC's perspective on training opportunities was also raised by interviewees. In general, interviewees noted that INAC provides opportunities for capacity building through training activities with communities who request it. The training sessions help communities navigate the emergency guide and identify the tools they have at hand to develop their emergency plans.

INAC provides a briefing to communities who request one. Interviewee 17 highlighted that La Ronge conducted follow-up meetings with INAC after the 2015 fires.

In reflecting about future opportunities, members of evacuated communities touched on challenges they experienced. They reflected on the need to be better integrated in the logistics process. Specifically, they called for training opportunities that allow them to develop a culture of preparedness and build capacity based on their context and culture. One interviewee noted the following:

It's all meant to make the First Nation community more self-sufficient so they can do these jobs on their own: emergency, social services. We don't need other agencies coming in to register our people. We're capable of registering them. We just need to train them how to do it, where to set the tables up, to put wristbands on people and how to take names down. They can do all that. They need training. (I18)

In addition to calling for more training opportunities, some respondents highlighted the need to empower Indigenous peoples to take care of themselves. As they tried to adapt to change and avoid psycho-cultural shock caused by family break-ups, the respondents would have liked to be asked where they would like to stay and with whom. They also would have preferred not being

told what to do. Evacuees also reflected on their experiences at the other evacuation centers and felt that they had been rejected or treated passively as children:

One of the main things is don't treat us like children. We're not children. We're fully capable of looking after ourselves, whether we're in our community or out of our community. We just have to be given the chance of being shown where the kitchen is or where is the food. We'll do the cooking; we'll do everything for ourselves. If we can't do something, we'll let you know. So don't assume there's nothing they can do. (I18)

In fact, the evacuee interviewees wished that all evacuation centres had been more like BOFN. During their stay at BOFN, they felt safe, welcomed, and comfortable as they were treated as guests by fellow Indigenous people. They indicated that they trusted their BOFN hosts because they were from a similar cultural background and so could better internalize their sufferings, needs, and concerns.

Overall, the evacuees expressed much gratitude to BOFN for having taken care of them in all the dimensions of adaptation: physical, emotional, social, and cultural. In reflecting on their experiences at other evacuation centers, the interviewees called for a more holistic approach that considers their context for vulnerability, knowledge, and values. They highly recommended BOFN in case there is a future emergency but also reflected on their need to be considered as part of the evacuation process and the importance of having an active role in assisting their people. As noted throughout the section, education expressed as opportunities for training was a missing aspect (See Table 8).

5.4 Ideas and values guiding the planning process

This section explores values and ideas expressed by interviewees that informed the design and implementation of Rez Cross. This research found a set of themes that constitute a behavioral approach to culture. All of the responses referred to this element in different ways but they were key to informing the main cultural values – based attributes of Rez Cross. Thus, I grouped these elements into main categories. These categories were both the shared values and ideas that defined BOFN as a community and the determinant factors used to plan the evacuation centre. Essentially, Rez Cross was founded on these values and ideas: *caring and compassion*, *“home away home,”* *gender equality*, *champions*, and *a sense of cohesion and interconnectedness*. Of

these five values and ideas, only sense of cohesion has emerged so far in academic literature as critical.

Caring and compassion. Central to BOFN's identity, this value reflects the community's instinct to support one another no matter the circumstances or the person. The difficulties of others are internalized and are a priority for the community. Thus, all individual efforts are concentrated to solve the immediate needs of those who call for assistance. This desire for unconditional collaboration is based on the principle of "treating others as one would like to be treated," and, as noted by Interviewee 8, it aims to offer the physical and non-physical means to overcome such challenges:

It's what we do as our people. [...] we were brought up to be is helping one another and it doesn't matter who you are. [...] when it's your own people that are suffering and hurting because of unforeseen circumstances [...] Like I've gone through many, many things in life in this community and I wouldn't ask to be from anywhere else because we're just those kind of people that are giving and we welcome people, it doesn't matter who it is.

It's just the way we were brought up, the way our community all works together.

This principle shows an explicit behavioral pattern that is present within the community. The members of BOFN identified help as an intrinsic value and tool to demonstrate caring and compassion for other members and non-members of the community. When an emergency happens either inside or outside the community, it is expected that the community will help others – as a community reaction rather than as an organizational duty.

Home away home. The principle of "*home away home*" was behind BOFN's desire to provide a place just for the evacuees, so that they could feel private, comfortable, and welcomed. In this place, the conditions were likely similar to the sites where the evacuees came from. This value starts from the assumption that the BOFN community is not a standardized centre, but, rather, a big family where guests can literally feel they are at home. In this way, BOFN's mode of relating to people was flexible and adaptable to their needs. BOFN would accommodate people, allowing them to undertake the daily activities they would normally do. This principle not only provided physical comfort but also eased the guests' experience in a friendly and welcoming environment. This philosophy is highlighted in the following paragraph:

It was, “Let’s talk what works best, draw from your experience, and does that work? Yes/no.” Lots of discussion, and settle on an appropriate way forward and get it done, go do it.[...] We drew upon that energy and enthusiasm and passion and willingness to do good and let people do good. We didn’t put restrictions on people doing good, and that’s why I think we were successful. We didn’t turn away people. We didn’t tell people, “No, you have to shut off your lights at 11 o’clock,” or “No, you have to go to bed; you have a curfew” (I13)

This “home away from home” at BOFN was the community arena, deemed as the official home during the evacuation and off-limits to the entire community. This principle recognizes the need to protect the integrity of the evacuees by providing a place where they do not have to interact with curious outsiders.

Gender equality. This principle constituted an important part of BOFN’s behavior. In essence, this dimension shows there are no distinctions between men and women when it comes to performing any role within the community. Although men and women executed different tasks during the operation of Rez Cross, they shared responsibility and did not judge others by their gender by, for example, determining who should clean, cook, sort provisions, and provide external security. As part of the flexible environment, the community did not impose any restrictions on men or women. On the contrary, both genders were seen as valuable and complementary parts of the process. As noted by I3, “There was actually [...] a lot of shared responsibility. I didn’t see anything geared more specifically to men or women. Everybody just participated and did what they could.” This aspect of the process was critical since it revealed the social basis on which the community’s values are founded. Equality among men and women could explain the sense of unity within the community, as well as BOFN’s ability to integrate easily within and outside the community under different circumstances.

Champions. Having *champions* was a key feature of the BOFN community, reflecting the importance of innate leadership, initiative, and the ability to coordinate people and resources when there is a pressing situation or a project to implement. The role of champion is not imposed on any individual; it is born out of a person’s will. I1 explains this notion as follows:

When you're trying to do a project, it's really basically the champions in the community that are going to initiate this. So it's the fundamental will [...] of an individual person to act as a champion to get this done. They believe that it has to be done. Somebody has to take it. [...] So it goes back to the fundamental philosophy of who we are as an individual community to be communal or family. So somebody in the family has to take that responsibility and that's where the champions arise.

One of the selected documents, the *Aboriginal Disaster Resilience Planning Guide* addresses the role of champions as members of the community planning team:

Ideally, there will be a "champion" for the planning process. This may be the mayor or council member, or a well-respected community leader or Elder. This person's role is to support and advise the planning team and gain community member's trust and willingness to participate. (JIBC, 2005, p. 17)

I found that in the Rez Cross setup, women were the champions. They were active leaders in the Emergency Management Committee and helped the BOFN response strategy move forward from Council to its actual implementation. During the emergency operation, they coordinated donations and ensured the provision of physical items, food, and accommodation, as well as assisting with other needs of the evacuees.

Community cohesion. BOFN demonstrated a strong sense of *cohesion*. This value involves fostering a sense of belonging by uniting individual efforts towards a common purpose. Rather than remaining as mere recipients of supplies, evacuees participated in the day-to-day activities at the shelter. This collaboration among volunteers not only reinforced the organizers' own cultural attachment to BOFN but also built new relationships between evacuees and BOFN organizers. Trusting relationships were strengthened and tokens of gratitude were given by evacuees to BOFN organizers, and from BOFN's Council to organizers. One example of community cohesion is seen below:

The thank yous, the – developing friendships, developing relationships, developing trust, people trusted us, that meant a lot. The comfort that they felt, the thank yous, like I – you know, that tells me that we did something great, when people thanked us and couldn't thank us enough [...] because they felt like they were treated like they belonged, they belonged to our community, they belonged to us and we took care of them. (I6)

Hand in hand with this value, my interviewees described a sense of interconnectedness between First Nations regardless of community. One interviewee indicated that any Indigenous person can travel to any Indigenous reserve in United States and Canada and will be respectfully treated as a visitor. (I1) In the BOFN context, individuals opened their homes to evacuees who did not want to stay at the arena. In doing so, they demonstrated what they meant by interconnectedness.

This section has sought to identify main findings from semi-structured interviews. Interviewees explained how actions at BOFN aligned with the effectiveness criteria. This analysis revealed what aspects were considered and missed by each actor group. In general, I found two types of shelters served as a reference for comparing the inclusion of culture: Rez Cross and Red Cross. The next section will deepen this comparison and will identify commonalities and differences relating to hosting evacuees.

5.5 Comparative analysis between Red Cross and Rez Cross

This research confirmed academic literature that argues that culture influences a community's capacity to cope with the effects of natural hazards. Besides comprising values, norms, and symbols, culture also informs choices based on available resources, dictates collective action, and involves selecting the mechanisms for surviving and becoming resilient (Perez & Cahn, 2000).

This study's literature review focused on the ability of communities to use their resources to respond to the effects of natural hazards. The findings demonstrate how a host community can use culture to lessen the impact of a hazard. The Rez Cross case reveals the importance of culture in emergency planning: culture, for BOFN, was the driving force behind every aspect of the shelter's logistics and planning. To discuss the role of culture in emergency planning, this chapter drew on the experiences of participants from the Red Cross and Rez Cross since other interviewees' responses focused on the overall perceptions of guiding the preparation of an emergency response (e.g., INAC), and their own experience as evacuees (e.g., leaders of evacuees). A closer examination of the responses of participants from the Red Cross and Rez Cross reveals that each organization approached culture and values differently, as shown in Table 9. The following table contains information retrieved from the Red Cross' website, and key responses from the BOFN members. As part of my analysis process I grouped common and

different aspects under key words: *basic needs, food, personal services, cultural teachings and traditions, and sense of identity and belonging*. Essentially, these key words intend to reflect on how both of these actors (Red Cross and Rez Cross) address the physical and non-physical components (culture) of an emergency response.

Table 5. 3. Comparison of approaches of Red Cross and Rez Cross

ASPECT	RED CROSS	REZ CROSS
<i>Basic Needs</i>	<p>Emergency Lodging: After a disaster or emergency, safe, temporary lodging is provided to persons who cannot return home and cannot find alternate accommodations. (Red Cross, 1999-2016)</p> <p>Emergency Clothing: We provide evacuees access to basic clothing through various means which may include purchasing, providing vouchers or referral to other agencies. (Red Cross, 1999-2016)</p> <p>Medical Attention: Personal services offers first aid, temporary care for unattended children and dependent elderly, provides or arranges for provision of material assistance (Red Cross, 1999-2016).</p>	<p>Home for guests: BOFN’s arena served as home for evacuees from the northern communities. The arena was equipped with non-restricted basic needs items. Security was provided to avoid external intrusion. BOFN also allowed evacuees to build and stay in tents if requested.</p> <p>Donations: BOFN organizers received donations from volunteers, organizations and other First Nations communities. Clothing was part of the supplies donated to evacuees.</p> <p>Medical Attention: Nurses and health technicians from the health station volunteered to provide medical attention. Dental services were also provided.</p>
<i>Food</i>	<p>Emergency Food: Food is provided to evacuees, emergency workers and disaster volunteers through various means which may include vouchers, meals at a shelter, or referral to another agency. (Red Cross, 1999-2016)</p>	<p>Traditional Food: Wild meat was made accessible to evacuees as requested by evacuees. Evacuees were given the freedom to cook their food using their culinary techniques. A smokehouse was built to facilitate the cooking.</p>

Reception and Information: The purpose of the reception and information services is to greet evacuees, provide information regarding services provided within the centre and provide access control to the facility. (Red Cross, 1999-2016)

Registration: Registration was made as way to track the number of people BOFN organizers were hosting, but also as a manner to welcome evacuees, call them guests, and make them feel part of the community.

Personal Services

Family Reunification: The chaos and confusion that accompany emergencies and natural disasters can separate families when they need each other most. Red Cross helps people re-establish contact with immediate family members after separation due to natural disasters and other humanitarian crises. (Red Cross, 1999-2016)

Family reunification: BOFN organizers provided pick-up services to bring separated family members back to Rez Cross. BOFN organizers provided evacuees all the necessary means in terms of communications (phone services) and media (internet) to respond to their desire to reunite with their families. Likewise, the community offered a welcoming, culturally friendly environment that released the trauma caused by evacuation. Elders' guidance: Elders provided mentorship to evacuees suffering the stress of separation. As fluent speakers of Cree, elders helped as translators to listen to the needs and concerns of evacuees, which then would be communicated to the mental health department. (e.g. suicide prevention)

Cultural Teachings and Traditions

Storytelling: BOFN elders interacted with evacuees Elders, BOFN children, youth and organizers and shared their teachings through story-telling. Cultural symbols: Smudging, pow-wow activities, local talent shows, and singing activities were promoted by BOFN organizers. Oral tradition: Through oral tradition, BOFN and evacuees integrated and connected. Elders provided with spiritual teachings about life by narrating about their experiences in the past.

<i>Sense of Identity and Belonging</i>	Emotional assistance: Offers emotional support to people with needs created or aggravated by a disaster. (Red Cross, 1999-2016)	Identity: Rez Cross organizers promoted sense of place and belonging, and reinforced in evacuees their inner sense of themselves, contributing to positive self-esteem and self-image.
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5.5.1 Basic needs

When I investigated each dimension of the evacuation process, many differences emerged in the intent behind the actions of the two organizations. These differences can be seen in the category of basic needs. When it came lodging, the Red Cross focused on providing temporary accommodations and the Rez Cross on providing home-based conditions, which would allow evacuees to feel at home. For the Rez Cross, protecting the evacuees from external intrusion and permitting them to setup tents reinforced a sense of place. The differences between the two organizations’ intent can also be seen in the provision of clothing. For the Red Cross, clothing involved an assigned task: the logistical collaboration of key partners, units, and agencies. For the Rez Cross, the collection of donations arose from an inner sense of community ingrained in BOFN’s cultural values. This approach to collections demonstrated that the community is “one family” and that collecting donations comes from the community’s desire to help rather than the need to complete an assigned task.

Despite these differences, there were some similarities in providing for basic needs. For example, the Red Cross and Rez Cross were similar in their approach both to health care and the intent behind it. Both organizations sought to deliver medical attention and care to the most vulnerable members of the evacuated communities.

5.5.2 Food

The sub-theme of food involves the provision of, or the means to secure, all kinds of produce, meat, and plants. Food provision varied significantly between Red Cross and Rez Cross. The focus at the Red Cross was on the logistical task of ensuring all evacuees had access to meals. At Rez Cross, BOFN members not only mobilized efforts to ensure food used traditional ingredients

but also allowed evacuees to prepare their own food. As noted in Chapter 1, the environment itself, as well as the sustenance it provided, were key in BOFN's efforts to give the evacuees familiar food.

The provision of non-traditional food in Red Cross shelters led to physical discomfort, especially for vulnerable demographic groups (e.g., Elders and pregnant women), who were already suffering from the stress of evacuation. Interviewee 12 from BOFN described this discomfort:

Elders don't like hotdogs and macaroni. [...] They don't like eating that. [...] They like eating neck bones and potatoes. [...] So, going to a place [...] where you're given a meal voucher and you can go and eat at a restaurant. Well, yes, that's nice. But after a certain point, I mean you've probably been on the road, you know, for a few days at a time, and after eating at a restaurant so many times for a week, for example, even three days, the first thing you go, "I want a home-cooked meal" [...] That's what we were able to provide. And when we talked about culturally-appropriate meals, we have somebody bringing moose and deer meat.

At the Rez Cross, the cultural dimension of food was found to be vital in helping evacuees cope with their situation, perhaps because food is one of the first and often most immediate challenges confronting evacuees entering a shelter. BOFN organizers used an Indigenous-based approach based on their notion of evacuees' needs. They brought the evacuees wild meat, facilitated the construction of a smokehouse, allowed them to cook their food with their methods, created opportunities to interact with young evacuees to teach them hunting, and made sage available. Thus, reflecting on the experience of BOFN, interviewees demonstrated that traditional food played a determining role in laying the first step for adaptation.

BOFN members provided logistical and cultural support to enable their guests to preserve their own traditions throughout their stay. One remarkable example was narrated by one interviewee who highlighted the efforts of providers to meet the dietary needs of an incoming family:

So a clear example was a family coming in late 3 o'clock in the morning or something. And we provided food, vegetable, fruit and they wouldn't eat it because they weren't used to that type of food. So they asked the children, "Well, what do you want to eat? And they

said, “Rabbit brain” [...] So it opened our eyes that we got to adjust the diet that we were delivering. So we had to encourage local hunters to go out and gather local wild meats, deer, whatever they could get, duck. (I1)

This example demonstrates the importance of food in meeting evacuees’ needs. It also demonstrates that, although BOFN did not expect this emergency, the community was able to adapt and provide the resources, so the evacuees’ experience was culturally appropriate to their context. BOFN’s sense of community played a key role.

5.5.3 Personal services

In both evacuation centres, tracking and family reunification were critical in connecting separated family members. Differences were seen in the way the two organizations dealt with both processes. While both organizations kept and tracked information on each evacuee, the Red Cross issued tracking numbers to each evacuee, whereas the Rez Cross did not assign identification numbers. Evacuees were called guests as a reflection of the interconnectedness between the evacuees and BOFN members.

BOFN responded to unforeseen social situations that affected the mental health of evacuees. This aspect of the emergency response included family reunification through pick-up services and other social services. Other, even more serious, situations arose. BOFN responded immediately to a potential suicide threat:

...to be honest, [...] we even prevented – may have been successful in preventing a suicide [...] There was one kid who came in, was just very withdrawn. And we recognized it immediately, we recognized what was going on. We spoke with him and to health staff and said, “I think we need some work here.” And we found alternative methods to reach out to this individual, and finally this person came and opened up and [...] found a rhythm in our community. And it’s those type of things where you put young people in this kind of stressful situation when they’re already dealing with other issues at home (I13)

In addition to family reunification, *Elders* were a crucial symbol of the evacuation process at the Rez Cross. Because they carry with them the ancestral knowledge passed from generations and the experiences that have shaped their lives, Elders played an influential role in counselling and

mentorship. BOFN organizers treated visiting Elders with respect and consideration, which built trust among all evacuees. The Elders from BOFN were fully fluent in Cree so they served as bridges to communicate with evacuees who had difficulties expressing their ideas in English. They were supportive in understanding trauma suffered by evacuees separated from their families and helped by providing spiritual guidance. Interviewee 12 provided an example:

We had an Elder come in. It was an old lady who came, and she was from Black Lake. [...] And she didn't speak English. She spoke Cree. And some of our volunteers spoke Cree, so they could relate to her, they could understand how she was feeling. [...] She could talk about her fears, she could talk about her anxiety, she could talk about how this whole situation made her feel so uncomfortable. [...] So two or three Elders came by once in a while, a couple of evenings, and sang with them and shared stories and talked, asked her how she was doing. And we would debrief with the Elders after and say, "What does she need?" "What can we do better?"

As this example shows, the Elders from BOFN and the evacuated Elders shared a language and were therefore able to share stories and experiences. In this way, The BOFN Elders comforted the visiting Elders and provided them with a safe space.

The visiting Elders from northern communities also contributed to the BOFN community. They brought their *appreciation for the environment* to BOFN. During nature walks with the BOFN children, the visiting Elders encouraged them to take care of their land (I7). Some Elders and other evacuees explored the territory and did *off-the land activities* as they might have done at home, allowing BOFN members to learn about their own land:

They taught us here how it should be [...] like live off the land, feed yourself, take care of yourself [...] Eventually they slowly started doing that ...like to plan their meat [...] and then all of a sudden people would come with berries and we're like "Where did you get the berries from?" We didn't even know there were berries around here, but these people went out and found them. They just walked. (I12)

Identifying the geographical setting at which hosting evacuation occurs is crucial since it help hosting communities to better plan with existing resources. As suggested by one interviewee, BOFN organizers were able to learn about fruits and plants they were not aware they had. It is in this situation that it becomes key to unveil the geographic attributes of the land as they were

depicted in Chapter 1 to understand how inner resources come into play for ensuring provision of items to evacuees.

As seen in this section, the community facilitated intercultural understanding among BOFN Elders and Elders from northern communities, as well as with other BOFN members. In fact, the Elders played a critical role, in part, because they were the most fluent in the Cree language but also because they could provide mentorship by passing on their knowledge and life teachings. In this way, the Elders were at the core of the adaptation process for evacuees and made language vital in connecting and transmitting culture.

5.5.4 Cultural teachings and traditions

At the Red Cross, as in most traditional shelters, little consideration was given to the cultural traditions of the evacuees. BOFN's consideration of culture made it different from other evacuation centres. As shown in the table above, BOFN's approach to culture was holistic, involving every part of the emergency response and integrating both material and non-material components. Material components involved traditional food and cultural symbols. Non-material components involved the spiritual guidance of Elders, the oral tradition, and storytelling. This dual cultural perspective was strongly linked to the satisfaction the evacuees expressed with the BOFN experience and to the reasons why they preferred Red Cross to other evacuation centres. One BOFN participant put it this way:

So with our culture and our Elders and our teachings it all came together to make it such a comfortable, safe environment for them to come to...If it wasn't for that I don't think a lot of them would have stayed because they felt at home here. They didn't feel like they did in the city...It was a whole different life in the city compared to what it was here. And you could see it when we brought them from the city to our centre here they felt at ease...they looked more at peace being here where everything was familiar to them. (18, p. 6)

Interviews also revealed several material manifestations of culture involving evacuees and BOFN organizers that celebrated their sense of community. Examples included pow-wows, gospel performances, smudging, and a local sports day. Additional cultural components involved all material provisions important in continuing traditions. In other words, this dimension includes

symbolic objects (e.g., eagle feathers, tents) that allowed evacuees to retain their customs while strengthening their sense of place, belonging, and identity. Interviewee 4 reflected on the significance of being given an eagle feather:

An eagle is very sacred to the native people. You know, an eagle, [...] we always talk about different spirits of, bear spirit, an eagle spirit, you know, a buffalo spirit. And to me, an eagle is very, very powerful. You know, I always find in my life as an adult, when I see an eagle, it always means good things are going to happen. [...] I'm going through some personal issues [...] I've been doing a lot of praying and for me it was just a sign saying we hear your prayers and I'm coming here to come and check up on you. And also bringing good luck [...] So to be given an eagle feather was very, very humbling.

This cultural component reflects the importance of *meaning making from signs of sacred animals*. As seen, the interviewee revealed feeling overwhelmed after seeing and following an eagle. To the respondent, this was a sign that prayers were heard. (I4) In addition to this concept, there was found to be a *spiritual connection with animals*. The same interviewee also reported debriefing with horses as a way of reflecting on personal experiences.

Another finding included the use of local knowledge in hunting activities. Evacuees at the Rez Cross were taken out to hunt, dry, and process their own wild meat (duck, deer, rabbits, etc.), indicating the role of Traditional Knowledge and the consideration of evacuees' values and interests. A typical day in the arena would include the celebration of cultural traditions. These activities were undertaken to ensure BOFN volunteers were meeting the physical, emotional, mental, and spiritual needs of their guests:

A full day included, in the morning, we would turn on the lights at about 8:30 /9:00 we would turn on the lights for breakfast but the day usually started out with a smudge and a prayer for those-the people that wanted to come and smudge and pray, they always had access to that, to smudge [...] We started thinking [...] well we need to make sure we're meeting their physical needs, their emotional needs, their mental needs and their spiritual needs [...] all parts of the medicine wheel. (I6)

Within this category, I also found that the environment itself provided common ground for evacuees to feel they were living their culture. Interviewees from evacuated communities

maintained that culture was defined in terms of their relationship with the environment. In addition to access to their own food, language, and Elders, it was also important for evacuees to be in a place where they could carry on with their regular activities as if they were living on their reserve and to breathe the calmness of nature away from the stress of the cities. These factors corresponded with the notion of safety, as stated by interviewee 21:

Culture is like home. And even your surroundings. If you see a tree and it's a wide open area and there's a bit of water you feel like home. But you'll see a tree, buildings everywhere and pavement does it feel like home? No. You feel like an alien, like closed in, boxed in, don't know what to do, can't think straight, you know disorienting. But when you see openness, you see water and you see trees you feel free, refreshed, welcome, and you know, safe.

In addition to these cultural traits, this research found *the oral tradition* to be critical in promoting integration among Indigenous evacuees and organizers. The significance of this tradition was reflected in its ability to reinforce a sense of identity and help evacuees assimilate their situation. Through storytelling, Elders became the channels for transmitting and teaching customs, beliefs, cultural values, and ways of life. These encounters facilitated interaction and integration among diverse demographic groups: between BOFN and evacuee Elders, and between evacuee Elders and BOFN youth (through nature walks). Interviewee 8 made this point about stories:

Storytelling where Elders come in and tell stories way back when like the way life was when we were young and they'd share with the people as to the way life is now and how it changed. It's really, really interesting. A lot of things that I didn't know before that. To actually sit with the kids or even the adults sat in and listen it was amazing. (I8)

This point about stories reflects what culture entails: the environment, the people, and symbols that defined the evacuee's identity. As shown in this section, physical provisions were key to making evacuees feel welcomed. This welcome was the starting point for Indigenous communities to achieve a sense of place and cohesion.

This chapter identified key findings from semi-structured interviews. In general, it was found that BOFN stood out by providing cultural resources that allowed evacuees cope with the evacuation

process. These cultural resources were reflected in material and non-material aspects that secured physical, spiritual and mental stability. In this process, Elders, ceremonies, traditions and other cultural traits provided common ground between evacuees and BOFN organizers to better interact and exchange knowledge. As a result, it led to overall public satisfaction on both sides. When comparing the effectiveness criteria, it was found that Red Cross excelled in the logistical aspect of the hosting process. However, BOFN offered a more holistic experience by combining effectiveness in the planning and implementation component while ensuring a culturally-friendly environment. The next chapter will discuss key points from the literature and will compare it with research findings.

CHAPTER 6: DISCUSSION

6.1 Introduction

In this chapter, I discuss my findings in the context of the literature. As such, I examine the extent to which the literature supports or does not support the findings with regards to effectiveness as a process and as an outcome, as well as the role of culture in DRR. In addition, I provide a comparative analysis of Red Cross and Red Cross commonalities and differences in terms of their logistics and culture. Additionally, I provide a reflection on the role of documents in enhancing the understanding of emergency responses to wildfires and will identify similarities and differences with interviews.

6.2 Effectiveness in terms of processes

Since effectiveness as a concept for examining Indigenous responses to fire hazards has not been extensively addressed in emergency management, this study drew on contributions from other fields. Document review and interview responses revealed that effectiveness as a process is understood as the alignment of objectives and the means of achieving them through procedures, practices, and performances based on evolving frameworks and perspectives. Researchers have pointed out that effectiveness is a dynamic concept shaped by context (Sadler, 1996; Cashmore et al., 2012). In the current study, the context comprised culture, the type of hazard, the location, and the social conditions of evacuees. Although interviewees were mindful of the context for the emergency, the organizations themselves had different ideas about how this context would contribute to the meaning of effectiveness.

Government emergency plans (Federal and Provincial) and Red Cross guidelines based their understanding of effectiveness on the execution of logistical and technical procedures to fulfill proposed objectives. The governmental objectives were at a macro-level. All the planning and implementation phases revolved around equipping local leadership with the physical and managerial direction for reacting and responding to an emergency during a hazard. The Red Cross's objective was to ensure the safety of individual evacuees during the emergency. When describing the evacuation centre setup, a Red Cross employee stated that objectives stayed within

the boundaries of agreements signed with the provincial government, wherein operational aspects were emphasized:

The objectives are for us to be able to have the resources, tools, capacity, to be able to deliver on the services that we signed an agreement on. So around that emergency plan in particular for emergency planning it is about readiness and our capacity to be ready to provide assistance when requested. (I14)

Since its guidelines were uniformly created to be used for any kind of emergency, the Red Cross does not consider local context-specific culture, including food, health, traditions, and social well-being. In other shelters in the cities, this lack of cultural inclusion has impacted evacuees' overall experience. For example, one interviewee explained:

They get to the centre, they're told where to go, where to lie down, here's where you sleep, here's where you can go and eat. Sometimes the damage just from that type of treatment of people is worse than the actual threat of fire to them. You know, the damage to the cultural sensitivities and to the psychocultural impact on them, you know, having family units split apart. (I18)

This interviewee was not the only person to express that the impersonal nature of this kind of evacuation centre can harm vulnerable people.

In contrast to the standard evacuation centre, BOFN sought to create an experience that would give evacuees a home away from home in which Indigenous traditions and values would be encouraged and celebrated. In emphasizing the provision of a cultural experience to the evacuees, this view of effectiveness surpassed the mere alignment of objectives and procedures.

However, the literature on effectiveness limits the concept to the standard view: one of achieving a fixed goal through certain steps, without considering the conditions required to reach a desired outcome. Essentially, the literature provides little guidance about how emergency planning and response processes intersect with cultural norms within communities. Filling this gap with research on the cultural and social needs of communities may help avoid undesired effects during an emergency.

To start with, a more robust definition of effectiveness is needed, one that includes the role of capacity-building, social cohesion, and community values in meeting outcomes. Although Adger

et al. (2005) consider flexibility in responding to undesired circumstances as a criterion for effectiveness in the adaptation literature, flexibility is absent in the literature on Indigenous-led emergency responses. Another condition for measuring effectiveness in the general emergency response literature is resilience (Kulig et al., 2011), which includes indicators such as belonging and community. Flexibility and resilience were both key to understanding BOFN's approach to evacuation. The sense of belonging and community was ingrained in the hosting process, reflecting the strategies pursued and indicating how BOFN's community values shaped their emergency response.

In our First Nations people's case, they're used to looking after themselves in many, many, many ways so just assume they need to be picked up daintily and carried over and thrown on a shelf...The only difference is when they're away from home, want to stay with friends and family. They're with friends, they're with family, they're not on a cot amongst a room full of other people on a cot. (I18)

This statement reveals BOFN social approach. Beyond defining a First Nation person, the interviewee shows that cultural worldviews and systems of cultural behavior are key to informing adaptation measures. This perspective is consistent with Adger et al.'s (2005) understanding of success in adaptation, in which criteria for success are determined by attitudes, values, and culture. BOFN's key to success was their cultural sensitivity, which allowed them to respond both to the evacuees' changing needs and to unforeseen challenges. This insight is shared by Hewitt (2008), who argues that because not every community possesses the same knowledge, concerns, and capacities, external interventions need to be carefully planned. Therefore, emergency planners need to learn about the cultural background of the evacuees, at least enough to indicate what logistical, social, and cultural responses to consider.

6.3 Effectiveness in terms of outcomes

This research also explored the concept of effectiveness from an outcome perspective. An outcome perspective considers the alignment between the goals and the results in achieving such goals, including the selection of appropriate means to meet desired outcomes. In other words, effectiveness considers how planning is connected to implementation. This idea of outcome effectiveness is generally focused on the process of planning and implementation at the Rez Cross. However, besides outcomes associated with planning and implementation, the BOFN

community applied a cultural approach in coordinating the hosting process. This approach not only achieved expected results in terms of easing the challenges of evacuating, but also impacted the BOFN as a community, and established a relationship between evacuees and organizers. Complementary to this perspective, outcomes were reflected in the capability to generate satisfaction and diminish challenges. As suggested by O’Faircheallaigh (2012), the intent of effectiveness is to increase positive effects (high levels of satisfaction among evacuees in this case) and to reduce negative consequences (less stress and desperation because of being away home and separated from families in this case).

Sawhill and Williamson (2001) propose three components of outcome effectiveness – impact, capacity, and activity – all of which were present in the Rez Cross approach. In Chapter 5, in the community confidence criterion I listed a set of Rez Cross objectives that were identified by BOFN members. These objectives were all met as confirmed through testimonies both of evacuees and BOFN organizers. These objectives were to ease evacuees’ feelings of loneliness, to ensure supplies for evacuees, to provide mental health support, to unite families, and to take care of evacuees in a culturally appropriate environment. Thus, the process had impact because it met these goals. Capacity was reflected in the multiple cultural strategies BOFN used to respect, celebrate, and embrace a sense of community between organizers and evacuees. These strategies involved open communication with local members, gender equality, and callouts for volunteers and donations. Sawhill and Williamson’s (2001) third component, activity, was reflected in the ceremonies, shows, and other gatherings that BOFN organized to achieve its goals. It should be noted that these three components are reference points to better understand how findings connect with the literature review.

This perspective of effectiveness as an outcome can be reflected on how community cohesion was built. In the case of BOFN, community cohesion was strongly associated with a sense of interconnectedness. This sense of interconnectedness, alongside community cohesion, is supported in the literature by Christianson et al.’s (2014) insights on lessons learned from Indigenous-led emergency responses. In fact, most of their findings can be applied to the BOFN experience. Christianson and her colleagues observed that culture impinges upon preferences for mitigation strategies in three ways. First, cultural norms and values are included in the program

but not by external actors or “outsiders.” At the Rez Cross, these norms and values were reflected in the role of Elders as the main counsellors for evacuees, and in the cultural, recreational, and social activities that reinforced the spirit of integration among Indigenous communities. Second, Christianson et al. (2014) observe that “the local culture promote[s] communal decision making and collective action for problem solving, which increase[s] support for settlement-led mitigation activities” (Christianson, 2014, p. 942). This observation connects with the BOFN’s approach to providing basic items and different activities for evacuees. A main feature of Rez Cross was its horizontal structure in program coordination. Evacuees and BOFN organizers were equally integrated into the execution of daily tasks, resulting in high levels of satisfaction and perceived success. This outcome aligned with Christianson et al.’s (2014) third observation: trust in locally-developed programs and distrust in external interventions explain why Indigenous communities support Indigenous-led mitigation programs. Evacuees recalled identifying with the BOFN community because they shared a culture and understood how retaining one’s culture can ease the burden of evacuation.

6.4 The role of culture in disaster risk reduction

Essential to the Rez Cross approach is the idea of culture as a key predictor of successful adaptation and community resilience. A plan’s definition of culture should not come from outside the community; on the contrary, the definition should come from the community itself. For this to happen, the organizers must do sufficient research to understand what culture means for the particular community. As Kulatunga (2010) argues, this research involves going beyond superficial ideas of culture:

Understanding culture by only studying the surface level manifestation can therefore be not successful as people may claim one but the actual underlying belief can be different. Proper engagement with culture is therefore, a vital part if we are to utilise culture towards effective DRR activities and vice-versa. (p. 13)

The experience of evacuees in city shelters show that the organizers had not understood the culture of the communities affected by the disaster.

As noted in Chapter 2, I addressed three of Mercer et al.’s (2012) questions to help enhance the understanding of culture’s role in DRR:

- (a) How relevant is ‘culture’ to DRR?
- (b) How can we engage with different cultures?
- (c) How can local knowledge be accessed and utilized (p. 74)?

The first question considers the relevance of culture in understanding response to disasters: Mercer et al. (2012) argue that understanding how cultural norms and practices affect response is key to providing effective communication and issuing warning responses before a disaster to enhance preparedness and to aid in community recovery. At the Rez Cross, clearly a sense of a sense of community served as a mechanism to communicate information about preparing for an emergency through social networks and social media. BOFN interviewees indicated that their community-based participatory approach was culturally-informed:

We knew there was a definite appetite and desire in the community to help and we formulated a strategy on how to proceed. We didn’t want to just open up an evacuation centre, have nothing to do with it...So we launched a social media campaign, a communications strategy...within an hour, people were already saying “What can we do? How we can do? What do you need essentially and how can I help?” They wanted details, so we released more information...by Sunday, we had opened up the arena to “Operation Pitch In.” It was now a donation centre, so we were receiving items seriously and literally by truck-full. (I3, pp. 4-5)

In other words, communal values, such as a sense of community, informed both the community’s approach to DRR and its collective behavior. This observation suggests that a culturally-informed disaster strategies should embrace awareness strategies, use communication tools, and apply a preventive approach. These elements are thus integral in emergency planning and response, and communal values are crucial to creating, developing and strengthening a culturally-appropriate response to disaster.

Mercer et al.’s (2012) second question – how can we engage with different cultures? – seeks to understand how cultural engagement can be achieved to ensure effective DRR. As Mercer et al. argue, culture can play a part either in increasing or decreasing the vulnerability of communities: to communicate information and equip communities with resources and skills to build resilience, outsiders creating emergency plans must develop both cultural knowledge and cultural tact. Mercer et al. continue:

The focus should be more towards empowering communities, rather than simply communicating information to them. Such an approach is essential to understanding and engaging with an often deeply rooted and embedded culture with the potential to have both positive (positive culture) and negative (negative culture) impacts upon risk reduction through increased vulnerability. (Mercer et al, 2012, p.79)

Mercer et al. maintain that the only way to empower communities is to become immersed in that community's culture. This immersion process should be culturally sensitive, so information is assertively passed on to local communities and evacuation orders consider that communities do not often easily adopt emergency strategies from external actors. As the authors (2012) claim, "Local people are failing to evacuate on government orders and are instead relying on their traditional warning signs that are not always appropriate" (p. 80). The authors discuss cases where local people chose to stay and live with a hazard to avoid the trauma of past evacuation experiences. I observed in the interviews that some BOFN evacuees' fear of evacuation was provoked by traumatic experiences. My observations confirm Christianson et al.'s (2012) insights that outsiders are generally not trusted because they lack knowledge of a community's culture and needs. In the current research, some community members, especially Elders, apparently ignored evacuation orders.

They're so used to being in their homes, they don't want to leave it... that one old lady just didn't want to leave. She didn't end up leaving the last time we asked them to leave...And there was actually two or three that stayed behind. They were forced out of their homes...They were just going to stay there and burn if they had to... They just stayed home. (I24)

As this quotation reveals, a community's vulnerability increases if people refuse to evacuate. The reasons for staying put appear to be cultural attachment, distrust of external authorities, and fear of reliving a traumatic experience. Two recommendations might address this problem. First, external emergency planners could initiate an immersion process with communities to learn about their culture and empower them to adopt emergency responses measures. Second, external planners could collaborate with local communities, so DRR strategies reflect the socio-cultural context of communities. Both recommendations may raise levels of trust between communities and outsiders.

The last question considered by Mercer et al. (2012) – how can local knowledge be accessed and utilized? – addresses the need to incorporate local knowledge into DRR strategies. As Mercer et al. (2012) claim, answering this question is essential in reducing vulnerability, analyzing capacity, and enhancing the design of emergency plans. The authors consider case studies in which external interventions used a research-based strategy. Through interviews, the authors learned how external planners gathered qualitative information about a community on the following two topics: the impact of culture in DRR (indicators included the number and significance of ceremonies or traditional warning responses), and the vulnerability of the community (through the use of tools such as the Social Vulnerability Index). Mercer et al. found that culture rendered some communities more vulnerable than others. They mapped their findings, creating vulnerability maps which I found problematic as it reinforces the isolation of communities. Instead, I suggest this approach should be paired with resilience maps that would highlight the cultural attributes necessary to enable communities to better respond to a hazard.

6.5 Significance of documents

Throughout this research, documents have provided the starting point on which to examine the big picture of emergency planning in Saskatchewan by considering governmental and non-governmental actors' plans and guidelines. Initially, documents allowed me to identify how emergency planning was understood, what actors intervene, what audience the plan targets to, what the priorities are, and what tools are used to accomplish such goals. As I was digging into interviews, I was able to use documents as a reference for identifying organizational, logistical and more managerial components that were not further explained in the interviews.

The rationale for firstly screening documents to analyse the situation of the wildfires in 2015 was that the documents were the primary source of information. The document analysis allowed me to understand the context within which the wildfires in 2015 took place. By analysing the documents that were selected based on the Emergency Management Conference for First Nations in Saskatchewan, I was able to identify the guidelines, regulations and principal actors to refer to when the emergency occurred.

With the analysis, I was able to identify the target audience of the documents (community in general, band officers, special committees, etc.). I was able to identify what the objective was, and also what type of language was used, and how cultural inclusive the guidelines were. One of the most important findings that the documents provided was that there was a significant lack of information about hosting other communities. The documents were, in general, about how to create their own emergency committee, how to organize the communities to evacuate, how to create their own emergency plan to evacuate and what services were provided by non-governmental institutions. In addition, government-based, and Red Cross did not explore the role of culture in facilitating communities respond to emergencies. Reviewing the documents can reveal the extent to which cultural considerations were embedded in the planning stage. Its absence from the documentation provided an opportunity to raise questions during interviews about how culture was considered by each of the participant groups. The following table 10 illustrates similarities and differences between documents and interviews.

Table 6. 1. Similarities and differences between documents and interviews

Aspect to compare	Differences documents and interviews	Similarities documents and interviews
<i>Target</i>	Governmental documents and Red Cross guidelines focused on communities affected by emergencies, whereas interviews were more targeted to host communities.	The JIBC Document and BOFN interviews both focused on the community perspective on how to plan for an emergency based on inner community-based resources.
<i>Objectives</i>	The objectives laid out in provincial and federal guidelines were more oriented towards the logistical aspect of emergency planning. Interviews revealed that the objectives were more inclined to explore the cultural dimensions of evacuation by understanding their needs in order to provide a culturally appropriate environment (BOFN case)	BOFN interviews and JIBC document (<i>Aboriginal Disaster Resilience guide</i>) both considered the role of local knowledge, cultural values and elders as key components in guiding a First Nations –led emergency plan.

<i>Guidelines and processes</i>	Documents displayed a more technical, managerial and detailed explanation on the logistical steps to creating an emergency plan whereas interviews revealed that implementation of processes were spontaneously based on a sequence of events.	
<i>Structure</i>	The documents provided a guideline of which to refer to when an emergency happen, but throughout the interviews I was able to identify the lack of information on who to refer when you have the host community. Also, the BOFN plan seemed to be finalized, but interviews revealed the plan was on a draft stage.	
<i>Language</i>	Governmental documents provided a direct and more technical language. There was not a specific wording for First Nations guidelines, while the host community used a different language to refer to the whole process of planning for, receiving the evacuees' and the adaptation process.	The JIBC Document and BOFN interviews both explored key cultural definitions such as local knowledge, storytelling, values, and culture.
<i>Culture</i>	Through the analysis of the documents there were a few elements that referred to culture and values, but none of them referred to the host communities or how to prepare for receiving evacuees. The interviews allowed me to understand what were the cultural aspects included in the hosting community.	Both the BOFN plan and interviews highlighted the role of Elders as points of contact for an emergency.

The above mentioned table 10 illustrates the different contributions that documents and interviews have provided along the research process. As shown, documents excelled in providing a detailed snapshot of the planning aspect of the plans. However, they fell short in deepening into the role of culture in shaping the adaptation process with the exception of one document (JIBC). Interviews further elaborated on the significance of incorporating culture as a driver for ensuring adaptation for evacuees. And in some cases (the BOFN case) it confirmed the stage documents were at.

Thus, it can be said there is a degree of complementarity between documents and interviews in ensuring the full panorama of planning, implementation and follow up about hosting evacuees during a wildfire disaster at BOFN in 2015.

CHAPTER 7: CONCLUSION

7.1 Overview

In this research, I aimed to understand how planning for and responding to wildfire emergencies can be more inclusive of Indigenous knowledge and values. The context for this research was the 2015 summer wildfires in northern Saskatchewan, from where Indigenous communities were evacuated to shelters across the province, mainly in large urban centres (Saskatoon, Regina, and Prince Albert). These evacuations were organized and prepared by the Red Cross. Evacuees included members from Hall Lake, Lac La Ronge, and Grandmother's Bay. During the evacuations, First Nation communities took the lead in setting up evacuation centers within their reserves. One of them was the Rez Cross initiative organized by BOFN. Despite not being certified, BOFN hosted approximately 180 evacuees (CBC News, 2015). Overall, what made BOFN distinctive from city-based shelters was their focus on cultural values and Indigenous knowledge to guide their hosting of evacuees.

Chapter Two reviewed the literature that links the concept of effectiveness with cultural influences in DRR and considered evidence from Indigenous responses to emergencies. These insights allowed me to propose a wildfire emergency management framework that would identify criteria and cultural dimensions in emergency response planning. The framework is intended to help communities develop a culturally-sensitive strategy for emergency management by encouraging them to consider both culture in the emergency response and the interactions between the community and external actors. To build the framework, I oriented the research questions around the concept of effectiveness.

Through the literature, I explored effectiveness from the perspective of process and outcomes. Effectiveness as a process considers the planning stage where goals are envisioned. Effectiveness as an outcome starts from the planning phase but also considers how such goals are met with the right tools and resources to provide expected results. With these perspectives in mind, I built the emergency management framework, by adapting insights from Hanna et al. (2015), Adger et al. (2013), and Taysir et al. (2012). From the process perspective, the framework considers key aspects of planning: goal-setting and clarity of the process (community confidence), assignment of roles and responsibilities (accountability), consideration of context and interests

(comprehensiveness) decision-making (integrative decision-making), and participation. From the outcome perspective, the framework considers the extent to which goals are being achieved through culture (effectiveness drawn on material aspects of culture) attention paid to cultural values during the emergency, particularly the impact of culture on promoting community cohesion, identity, and a sense of place (Use of resources strengthens Indigenous identity), resource sufficiency, training opportunities (Education), program satisfaction (program effectiveness) . The framework also considers how culture can play a key role in guiding the planning, decision-making process, and overall implementation of an emergency response. Additionally, it reveals that cultural values are required to build trust in the community and that this trust attract evacuees through the principles of cultural engagement.

Chapter Three explained the research methodology and my rationale for selecting constructivism as my research tradition. Constructivism was appropriate for analyzing, proposing, reflecting and/or revising knowledge, worldviews, and identity codes through interaction. To complement this approach, I chose a case study to understand and assess a real-world initiative. I also used qualitative methods – document analysis and semi-structured interviews – as part of an iterative process that allowed me to revise data from emergency plans and guidelines and complement them with insights from interviewees. Using the findings from the document analysis and interviews, I revised my proposed framework in Chapter Two. Documents selected included the draft of the BOFN emergency plan and emergency guidelines from the Government of Saskatchewan, INAC, and Red Cross. An Indigenous-based document on disaster resilience was also included. I conducted 24 interviews with BOFN members, Red Cross and INAC representatives, and leaders from evacuated communities. The insights from the interviews were used to analyze the case of BOFN and build an understanding of Indigenous wildfire emergency management in Saskatchewan that reflects cultural values.

Chapter Four presented findings about six documents, which were examined to determine if they met the effectiveness criteria. In general, I found that the documents align with the effectiveness as a process perspective by providing general guidelines on planning an emergency response. The federal and provincial documents are based on procedural guidelines and provide the organizational structure needed to plan for and respond to an emergency. Essentially reactive and

focused on the material aspects of the emergency, they provide community leadership with the legislative, policy, and logistics' procedures for planning and implementation. Since BOFN used the government guidelines to develop its emergency plan, the contents are similar. A finding confirmed later in interviews was that BOFN members were drafting the plan when the wildfires occurred. The Red Cross guidelines have a different intent: to advise individuals and families to take precautionary measures before an emergency (natural or human-caused) occurs. Of the plans examined, only *The Aboriginal Disaster Resilience Planning Guide* is holistic, includes cultural values, and fosters Indigenous engagement in discussions about preparedness.

Chapter Five analyzed findings from the semi-structured interviews. Essentially, the interviews confirmed findings from the documents and elaborated on the BOFN experience. In general, BOFN complied with all the effectiveness criteria (even if some only slightly applied) as it incorporated an emergency approach that reflected Indigenous behavioral principles. BOFN members took the initiative to create Rez Cross and based its functioning on communal principles for social interaction. These principles allowed BOFN members to organize themselves and create and coordinate Rez Cross. BOFN provided evacuees with physical items, a cultural environment, and counselling and also fostered a sense of belonging, sense of place, and social cohesion by collaborating with the evacuees and encouraging them to do the daily activities they would do on at home. Red Cross interviewees indicated having collaborated with First Nations communities in logistical procedures but had not implemented an Indigenous-based approach to evacuation reflective of Indigenous knowledge, values, needs, and concerns. Most of INAC's contributions consisted of financial and operational assistance to First Nation communities. Essentially, INAC is called on by provincial governments or First Nations when their capabilities to respond are limited. Finally, leaders from evacuated communities expressed satisfaction with their stay at Rez Cross. They adjusted to and recovered from the stress of the evacuation because members of another First Nation had welcomed them and met their dietary, cultural, emotional, and spiritual needs.

Chapter 6 explored culture-related research findings. First, it analyzed and compared the main contributions of Red Cross and Rez Cross in terms of basic needs, food, personal services, and cultural teachings and traditions. Essentially, I found Red Cross and Rez Cross to be

complementary rather than contrasting. Red Cross considered the physical and emotional aspects of adaptation, but BOFN moved beyond these areas and considered the mental and spiritual aspects. Second, it discussed key themes explored in the literature review, compared academic insights from the literature on effectiveness as a process, and considered the extent to which the concepts were sufficient to analyze the research and provided general directions on what needs to be considered. Then, I discussed the distinctive cultural ideas and values that guided BOFN's planning process and identified the following features: caring and compassion, "home away home," gender equality, champions, and community cohesion. This chapter also discussed effectiveness as an outcome, providing suggestions on what the study of effectiveness should ideally include in the context of Indigenous-led emergency responses.

Through this thesis, it was shown how planning for and responding to fire hazards can be more reflective of Indigenous culture and values. To this end, three objectives were proposed and met throughout the chapters. Specifically, the first objective, the creation of an evaluation framework in terms of processes and outcomes, was met in chapter two and reinforced in chapter six through a comprehensive framework that places cultural engagement at its core. The second objective, the implementation of an iterative approach to evaluate cultural inclusion in emergency responses was met in chapters four, five and six through the analysis of selected documents, interviews and discussion of findings. Finally, the third objective, providing recommendations regarding the inclusion of Indigenous culture in emergency responses, has been addressed in this chapter.

7.2 General considerations

The emergency plans and guides analyzed in this research focused on how to prepare a community for an emergency and evacuation. I did not find consistent guidelines or plans on how to become a host community. The BOFN document was the closest approximation to guidelines for an Indigenous community responding to an emergency. In the absence of other material, I used interview findings to help me understand how critical it is for host communities to consider the evacuees' culture (See Appendix E).

When a wildfire emergency occurs, Indigenous host communities, such as BOFN, can deliver more culturally appropriate emergency responses than other shelters because they understand the

physical, mental, and the cultural needs of the evacuees. But how can we determine if a wildfire emergency plan sufficiently addresses culture and values? Effectiveness must not be evaluated only by considering if a set of processes and outcomes achieves its objectives. We must also consider if the plan reflects a holistic understanding of the community's identity, society, and culture. The community itself is therefore the best judge of a plan's overall effectiveness.

One benefit of First Nation host communities is they can allay evacuees' fears and address uncertainties. As demonstrated in the research, some individuals from First Nations are reluctant to evacuate because they are unsure about where they are going and what awaits them. If people know before an evacuation that they will be evacuated to a friendly, familiar, and culturally compatible community, they may be more likely to evacuate. Therefore, there is a need to create trust between the current diverse approaches for wildfire Emergency Planning.

Indigenous responses to fire hazards have focused on how communities react when an emergency occurs in their communities but not on how they prepare to receive others affected by an emergency. This study focused on cultural factors that BOFN considered when receiving other First Nation people, including cultural traditions through its material (food, smokehouse, powows), and non-material aspects (storytelling, language) as well as social communal values.

7.3 Contribution of the research

My research contributes to the examination of culture in Indigenous-led emergency responses as mechanisms to ensure DRR. My argument is twofold: effective emergency responses should include Indigenous approaches, worldviews, and values; and, to meet evacuees' needs, shelters and host communities should consider their culture and all it involves. Emergency plans must include a community's identity, history, traditions, values, and its context for vulnerability because it is through these lenses that communities can collectively recover. Thus, the research findings suggest that culture should be considered as a macro-conceptual umbrella under which falls all socio-cultural and environmentally-related components provided by BOFN.

This research developed an analytical framework that is sensitive to and recognizes the centrality of Indigenous culture and values and cultural engagement in all aspects of the emergency response: planning, implementation, and follow up. This framework emphasizes the role of non-

quantifiable aspects of Indigenous culture, contributing to understanding of effectiveness of becoming a host community for emergency evacuees. In recognizing the centrality of culture, the framework suggests that Indigenous values are critical for the effective coordination of emergency management plans. The framework thus expands ideas of effectiveness, taking the concept beyond the mere execution of goals. This research proposes a new way to understand and evaluate effectiveness based on processes and outcomes anchored in Indigenous values and norms.

Another contribution of this research is that it reaffirms the leadership capacity of First Nation communities to mobilize resources and people to collectively respond to an emergency. Much of the literature on adaptation has stressed the role of adaptation measures made by the communities directly affected; very little has investigated the role of First Nation communities in providing post-disaster adjustment for other communities. This research fills this gap. Although BOFN did not experience the wildfires itself, this case study demonstrates the First Nation's initiative in establishing an evacuation centre by building capacity and strengthening a sense of community and interconnectedness. The experience of BOFN also suggests that hosting communities can benefit from receiving evacuees from other communities. Three main positive impacts can be highlighted from the BOFN case: First, conversations between Elders, community members, and evacuees provided opportunities for *knowledge-sharing* through conversations about traditions, ceremonies, language, and identity; second, the hosting community acquired tools, developed skills, gained experience, and managed resources to deal with future emergencies. Third, the hosting community established friendly and trusting relationships that were maintained through social media and helped to unite diverse Indigenous peoples. As seen, this research describes an example of culturally-appropriate evacuation for other communities to follow.

7.4 Recommendations

One of the objectives of this research was to recommend ways to include Indigenous knowledge and values in wildfire and emergency response planning. This research has elucidated key lessons that decision makers should consider when preparing emergency responses for Indigenous communities.

1. *Know about your Community.* Hosting communities should be informed about evacuees' resources, geography, wildlife, connecting roads, land, and context, as much as possible. This knowledge is important for the members of the hosting community because it helps them to manage their resources: to know what to offer, how to provide it, and what to avoid when hosting evacuees.

2. *Use Indigenous culture, values, and symbols as a background to inform the effectiveness criteria.* This research found that culture informed BOFN's decision making and influenced implementation of the emergency response. Therefore, it is recommended that when applying the criteria, the following are considered: context, values, ideas, approaches, and social principles (caring and compassion, "home away home," champions, and gender equality), as well as cultural symbols and traditions (e.g., story-telling, Elders, traditional food, language). This recommendation also involves using clear and culturally-based communication based on wording and concepts familiar to Indigenous communities.

3. *Engage community members in the emergency response.* One of BOFN's main contributions was its inclusive and participatory approach to the functioning of Rez Cross. This form of engagement involved open communication through media and voice-to-voice technology to gather volunteers. Based on this finding, it is recommended that open participation be fostered among all members of BOFN through community engagement.

4. *Create and/or facilitate existing training opportunities for the hosting community.* BOFN leaders became *Champions* to coordinate resources and people in the management of Rez Cross. This initiative demonstrates the capability of a community to plan for and respond to an emergency based on its inner cultural foundations. However, it was found that this approach can be complemented with further training and/or accreditation on other operations. This additional training can include First Aid, creating an EMO, food safety, or accreditation by other agencies to improve operational capacity. The community can either create training opportunities, or it can

make use of available provincial training programs. One example is the Indigenous training workshops conducted by the PAGC. It is recommended that First Nation communities undergo training to transform their capacity into action. With training, Indigenous communities can both use their knowledge and apply it to more operational and logistics measures. In this way, this training complements Indigenous knowledge.

Host communities should be trained at a personal (individual) and social level (community members) to develop cultural engagement where non-Indigenous and Indigenous approaches can collaborate and merge into one central response.

As individuals, community members should be trained to acquire the skills to better handle their role as a host community in an emergency. To be successful hosts, community members need information about two types of resources: First, they need to know the physical resources to be used to host others – accommodations for guests (e.g., schools or the arena); tools in the community like power back up and a pumping machine; means of transportation (e.g., buses and vans); and places to store donated items. Second, they need to know the human resources – the people who have specific roles (leaders) when an emergency occurs (e.g., Elders, councilors, EMO and the team, firefighters, doctors, nurses, people who will support the initiative on the ground, and potential volunteers).

The training should not be reserved for the emergency management officers and their teams. Other community members should be trained, including regular individuals, leaders, and potential volunteers. They need to know how to organize and prepare in a short time. Training also needs to involve the whole community in simulations, giving everyone a complete picture of the community's role and actions as a host of evacuees.

5. Document the emergency response. This research found that BOFN needs to document the hosting experience of Rez Cross as a protocol for future emergencies. Written documentation is crucial for strengthening the capacity-building of

Indigenous communities. Documenting ensures that everyone knows how the process was conducted. The document should reflect the language and wording commonly used by the community, so it is accessible to everyone. Documenting is also critical since it can guide the emergency response should local decision-makers be absent.

6. Debrief with the community. BOFN had few opportunities to debrief. Although some members debriefed, the volunteers and Band members did not analyze the evacuation experience altogether. Reflecting on the emergency experience is recommended. This suggestion aligns with Recommendation 2 because it is another mechanism for engaging the community, providing an opportunity for people to voice their feedback, identify lessons learned, and consider challenges and limitations for further improvement. Debriefing can take the form of formal discussions, open conversations, or any other option preferred by the community. These discussions open the door for implementing changes in the future.

7. Clarify the proper authority to certify the host community's evacuation.

BOFN was unaware of steps to take to become certified as a host community. Although hosting competence is difficult to demonstrate, Indigenous communities need to know which non-Indigenous parties to contact, so they can work together to achieve certification. As of now, it remains unclear what the certification process is about and who deals with it.

8. Create guidelines for Indigenous communities establishing evacuation centres.

A manual is recommended with guidelines for First Nation communities interested in becoming a host community. It should include procedures to follow before, during, and after setting up a shelter, and a list of resources with information on the different institutions that could support the initiative (e.g., government and non-profits).

9. Disseminate information on establishing a shelter to Indigenous communities.

Once the communities interested in becoming a host community have mapped their community, trained community members, and developed a collaborative approach

with diverse external actors, the word should be spread, so other communities become aware of opportunities.

7.5 Future research

Through this research, I observed that in the context of Indigenous-led emergency responses to wildfires, opportunities exist to use the local knowledge and culture of communities to enhance both the resilience strategies of Indigenous communities and the emergency guidelines of external actors. I recommend that local knowledge and culture be studied more profoundly for two reasons: first, to create culturally-oriented information to guide the design of external emergency guidelines, and, second, to strengthen local emergency plans. To determine a community's vulnerability to wildfire, two specific types of document could be prepared: culture-oriented disaster resilience profiles and risk assessment analyses. In community-led evacuation centres like the Rez Cross, mapping the region with all available natural resources can help communities better plan for cultural and traditional activities. For example, the more that is known about natural resources, the better organizers can plan for the provision of traditional food and plants for medicinal purposes. Mapping can also be done for other resources such as transportation networks, infrastructure, geographical information, ecological zones, boundaries, and community sites. Another example is a traditional knowledge toolkit, as proposed in the *Aboriginal Disaster Resilience Planning Guide*, in which storytelling can be used to pass on information on aboriginal resilience and hazard preparedness. An inventory of skills and knowledge is also helpful in informing the community about "who knows what," information that can lead to better task-assignments.

Indigenous communities are increasingly interested in developing their own emergency management plans. BOFN represents just one case. To date, the Red Cross and the federal and provincial governments have been key partners in providing Indigenous communities with physical assistance, policy guidance, and financial resources. However, as communities develop their own emergency plans, the role of these partners is likely to change, as are policies on emergency management. Future research might therefore examine these new roles and policy shifts. New agreements are being made and others are yet to come. To date, the Prince Albert Grand Council (PAGC) and the Red Cross have moved in this direction by signing a formal

partnership to enhance disaster emergency preparedness of northern communities. This agreement will result in an increased presence of Red Cross volunteers in the northern communities for the purposes of training while having PAGC use their expertise to enhance the cultural experience of residents. The focus of this agreement is geared towards capacity-building, allowing communities to respond more effectively to a disaster or hazard. In this regard, community's input will help set the direction of the partnership. As mentioned, "collaboration, learning and understanding First Nation culture and hearing what local leaders and communities have to say in regard to emergency management will better help each organization work towards a common goal, providing the best support to those impacted by emergencies." (Marr 2018, para.8)

Other future studies might investigate the experiences of other First Nations that hosted evacuees during the 2015 Saskatchewan wildfires. Examples of these communities include Ahtahkakoop Cree Nation and Muskeg Lake Cree Nation. Using the analytical framework developed here, comparative studies might look at similarities and differences in the emergency approaches of communities. This research could address how adaptation was tackled, what dimensions of adaptation were considered (mental, emotional, physical, and/or spiritual), and how they were implemented. It would also be worth investigating emergency measures taken by non-Cree Indigenous communities. A deeper understanding of the nature of the wildfire risk could also lead to new potential findings. Future research could study other natural hazards and human-caused emergencies to identify whether a community might respond differently.

Other research could be conducted on the uncertainty of adaptation impacts. As Adger (2005) points out, there is a wide range of possibilities here: from the effects of decreasing exposure to hazards on physical, ecological, and social systems to the effects of increasing resilience on the environment and wider sustainability objectives. One adaptation impact that might be studied is the benefits and costs of hosting evacuees in municipalities, cities, and other First Nation communities. These impacts could be analyzed at both the policy and community level – socio-culturally, environmentally and economically – to determine what elements might be replicated or avoided.

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APPENDIX A: Interview guide for Beardy's and Okemasis First Nation members



Interview Guide for Beardy's and Okemasis First Nation Members

General Questions

1. I would like to record your name, and just to make sure I have got it right, can you spell it for me? To begin with, would you tell me about you?
2. Are you between: 15-24; 25-34; 35-44; 45-54; 55-64; or over 65 years?
3. What is your regular job position? What are some of your job responsibilities?

Emergency Response Questions

1. What emergencies were you facing as a community over the last summer?
2. How did you respond to the emergencies as a community? What form did the response take? Please provide a full description.
3. Why did you undertake a responsive community-led initiative?
4. Did you set out goals for the fire evacuation to achieve prior to the emergency? Once the emergency became evident? How did you aim to achieve those goals?
5. Did your response to the fires involve external actors and/or approaches from other organizations? (Explain)
6. What was a typical day like during the time of the fire evacuation? Do you think there were any aspects of Indigenous knowledge, cultural values and/or ethical considerations that were applied in your response?
 - a. If so, how do you think this was different from evacuations to other locations?
7. Did you do a de-brief following the emergency evacuation last year? If not, why not? If yes, what form did that take? Did you report to any authority?
8. Who was assigned what roles when responding to the emergency?

If you think back,

 - a. what roles did men take on, what roles did women take on, and roles that were shared between men and women?
 - b. Were there particular roles or tasks for youth (15-24)?

- c. Were there particular roles or tasks for elders?
 - d. Were there particular roles or tasks for employees of the band?
 - e. Were there particular roles or tasks for other employees of other organizations?
 - f. Were there particular roles or tasks for other volunteers?
9. Now I would like to ask you questions about resources you used to response to the emergency.
- a. What kinds of resources did you obtain to respond to the emergency? (e.g., money, food, time, etc.)
 - b. Who provided these resources? From within the community? From sources outside the community (e.g., government, Red Cross, other First Nations, other)?
 - c. Were these sufficient to address the needs of the evacuees?
10. Do you think your response was successful in meeting the needs of the evacuees? (Explain answer) If you were faced with a similar emergency today, what might you do differently than last time?
11. Did your response involve any educational training opportunities for community residents/personnel? Have you personally done any training *since* the evacuations to help you prepare for the future? Has there been any training for other community members? (Explain) Do you think there are any needs for training now for the community?
12. Has there been any formal evaluation of the efforts at Beardy's since last year? If no, why not? If yes, how was the evaluation carried out? Who was involved in the evaluation?
13. What do you think is the next stage for Beardy's in addressing fire hazards? Did you learn anything that might apply to other kinds of climate hazards?
14. Do you think your community-led response helped build capacity for addressing climate hazards in the future?
15. Do you have any questions of me? Thank-you...

APPENDIX B: Interview guide for government representatives



Interview Guide for Government Representatives

General Questions

1. May I ask you what your name is? Can you tell me how to spell it (If name is difficult to spell)? Tell me about you.
2. Are you between: 15-24; 25-34; 35-44; 45-54; 55-64; or over 65 years?
3. What is your regular job position? What are some of your job responsibilities?

Planning

1. Could you tell me, why did the governmental authorities decide to undertake a fire hazard emergency guide focused on First Nations communities?
2. Were there any operational objectives envisioned for emergency plans for First Nations/ Métis communities that might be different from non- FN communities? If not, why not? If yes, please explain those objectives.
3. What is the overall approach/ strategy used for evacuating Indigenous communities in Saskatchewan? Did you use approaches/strategies from other programs previously launched? Are there any differences you employ when planning for the evacuation of Indigenous communities than when planning the evacuation of non-Indigenous communities?
4. What do you know about the establishment of the “Rez Cross” by BOFN in the last summer?
5. Do you think the Rez Cross was “Planned” in advance? If not, skip next question. If yes, what role(s), if any, did your agency play in the planning stage of Rez Cross? Do you know if any other external actors were involved? If yes/not, please explain your answer.

Implementation

6. Now, I’d like to focus on the implementation of the evacuation site established by BOFN last summer. ...the “Rez Cross”. Why do you think they established this evacuation centre?
7. Are you familiar with BOFN efforts made to obtain government’s approval for this facility? If yes, why do you think they were not able to obtain this approval? Do you think there were

services or protocols missing from the “Rez Cross” initiative that are important for an evacuation centre?

8. If they were not certified, why do you think people went to Beardy’s? Do you think they provided any services that were “missing” from government-sanctioned services? Do you think there were any “successes” experienced at Beardy’s that might be considered by government for future hazard events?

What role(s), if any, did your agency play in the implementation stage of Rez Cross? Do you know if any other external actors were involved? If yes/not, please explain your answer.

9. What activities were undertaken at Beardy’s during the evacuation that you think were successful? What could have been done better? Did Beardy’s have sufficient resources to host evacuees? If not, what things were missing?

Follow Up

10. Thinking back to the provincial emergency plan, are there any considerations that are specific to Indigenous communities or all communities were considered in the same way?

11. Was there any training/education opportunity considered for community residents prior to the wildfire? If yes, tell me about this. If not, why not?

12. When communities, like BOFN, undertake emergency measures, are they accountable to another authority? If so, who would that be? Who was responsible for the evaluation of BOFN? Who does that person report to?

13. Did you do a de-brief with Beardy’s following the emergency last year? Did you do a de-brief with other localities that hosted evacuees. If not, why not? If yes, what did you learn from this? Was there a formal evaluation of BOFN? If so, what measures might be taken to follow up from the evaluation?

14. Now that the fire season is over for the year, what kinds of follow-up are you undertaking now? Will you work with BOFN to help plan for any future emergencies? Was the follow up stage successful? What could have been done better?

15. Have you heard about Alberta’s emergency planning for wildfires affecting Indigenous communities? If yes, what do you know about this initiative? Are there any lessons that can be applied to Saskatchewan? Why? Why not?

Do you have any questions for me? Thank-you...

APPENDIX C: Interview guide for Red Cross



Interview Guide for Red Cross

General Questions

1. May I ask you what your name is? Can you tell me how to spell it (If name is difficult to spell)? Tell me about you.
2. Are you between: 15-24; 25-34; 35-44; 45-54; 55-64; or over 65 years?
3. What is your regular job position? What are some of your job responsibilities?

Planning

1. Do you have an emergency plan focused of First Nations communities? If so, why did you create such plan?
2. What is the scope and expected impact of your emergency plan?
3. What were the expected objectives in the short –term?
4. What were the expected objectives in the long-term?
5. Did you consider guidelines/approaches/strategies or lessons learned from other programs within and outside the organization?
6. Do you know about the Rez Cross initiative implemented by BOFN? Were there any lessons learned from them that were considered in the emergency plan?
7. Did you consider cultural aspects/ criteria/values/local knowledge in the design of the emergency plan?
8. Who was assigned what roles in the planning stage of the emergency plan?
9. Was the planning stage successful? What could have been done better?

Implementation

10. Did you consider cultural aspects/ criteria/values/local knowledge in the implementation of the emergency plan?
11. Who was assigned what roles in the implementation stage of the emergency plan?
12. Did you have sufficient resources to implement all aspects of the plan? If not, what was missing?
13. Was the implementation stage successful? What could have been done better?

Follow Up

14. Did you do a de-brief within your organization? Did you do a de-brief with BOFN? Did you do a de-brief with other communities that hosted evacuees? What did you learn from this?

15. Were expected goals based on cultural aspects of Indigenous communities?

16. Thinking back to your emergency guide, do you think that the objectives set out impacted culturally on the community? If yes, could you elaborate on how they were achieved? If not, could you tell me what limitations were found?

17. Was there any training/education opportunity considered for community residents prior to the wildfire? If yes, tell me about this.

18. Was the follow up stage successful? What could have been done better?

APPENDIX D: Interview guide for leaders of First Nations evacuated



Interview Guide for Leaders of FN evacuated

General Questions

1. May I ask you what your name is? Can you tell me how to spell it (If name is difficult to spell)? Tell me about you.
2. Are you between: 15-24; 25-34; 35-44; 45-54; 55-64; or over 65 years?
3. What is your regular job position? What are some of your job responsibilities?

Interview Questions

1. What emergencies were you facing as a community? What did you decide to do as a community?
2. What do you know about the BOFN offer to host evacuees during the fires last summer?
3. How did you find out about the BOFN hosting evacuees? Why did you decide to go to BOFN? How many of your community went to BOFN?
4. What was a typical day like in BOFN? Please describe your answer.
5. What activities did you do once you were there? Were those activities attractive to you? Please explain your answer. Do you think any of the activities at BOFN were different than if you had stayed at a Red Cross evacuation facility?
6. According to your experience, were there any cultural values and/or ethical considerations included in the BOFN emergency response? If so, what were these? How were they applied? If not, why do you think they were not included?
7. Did members of your community successfully adjust to BOFN? If yes, could you explain through some examples how it happened? If not, could you explain what the main limitations members of your community faced?
8. Do you think BOFN hosting you was effective? Do you think BOFN center was more effective than the other evacuations? Why yes/not?
9. What do you think needs to be improved in the reception of people at BOFN?

10. Would you recommend BOFN (Rez Cross) for other FN communities? If yes, why? If not, why not?

11. If Beardy's offered to host people from your community in the future, would you recommend them to stay at Beardy's during an emergency? Why or why not?

12. Since returning back to your community, have you reviewed your own response to future fire hazards? If not why not? If yes, what would you do differently than last year? What would you do the same?

13. Do you have any other comments or questions for me?

Thank-you....

APPENDIX E: Plain language explanation of findings

UNIVERSITY OF SASKATCHEWAN
School of Environment and Sustainability
USASK.CA/SENS

REZ CROSS- EMERGENCY PLANNING & RESPONSE AT BEARDY'S & OKEMASIS FIRST NATION (BOFN)

What is the "REZ CROSS" & when it happened?

The "REZ CROSS" was an Indigenous-led initiative provided by BOFN to host evacuees (Indigenous and non Indigenous) affected by the wildfires of 2015. The word "REZ" is an abbreviation for reserve. Based on the idea of Red Cross helping people, they adapted it to BOFN context.

What was the process leading to "REZ CROSS"?



What were the objectives of hosting guests?

1. Provide supplies to evacuees
2. Unite families that were separated
3. Ensure guests were not alone
4. Provide mental health support
5. Provide a culturally appropriate environment for evacuees
6. Transport for health and recreation services
7. Make available traditional food

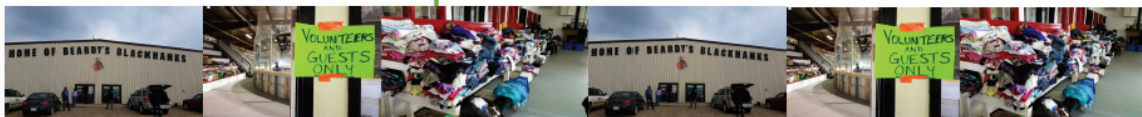
Where was "REZ CROSS" established?



What benefits did BOFN provide?

1. A welcoming and flexible environment that accommodated the dietary, and socio-cultural needs of the guests.
2. Spiritual guidance with the Elders.
3. Unrestricted access to supplies.
4. Access to Facebook as a mean to communicate to family members.
5. Pick-up services to bring separated family members back to BOFN.

What roles did volunteers play?





REZ CROSS- EMERGENCY PLANNING & RESPONSE AT BEARDY'S & OKEMASIS FIRST NATION

What challenges have yet to be considered?

1. The community needs to document the hosting experience of "REZ CROSS" as a protocol for future emergencies.
2. Community members, in general, need more training opportunities.
3. The hosting facility of the community needs to be accredited by other agencies to improve its operational capacity to host evacuees.
4. Band Members need to create both an inventory and a storage site to deal with the oversupply of donations for emergencies.



Recommendations

- Formal follow up on lessons learned is needed to fill the gaps in planning for and responding to in future events.
- Written documentation of the "REZ CROSS" experience is critical so that immediate action is possible if decision-makers are absent.
- Training opportunities should be expanded to the community in general.

Overall, what was BOFN's approach?

Knowing	Preparing	Adapting	Reflecting
<ul style="list-style-type: none"> • Understand -ing Culture & Context. 	<ul style="list-style-type: none"> • Spreading the message (Facebook & In person) • Assigning roles. 	<ul style="list-style-type: none"> • Honoring & respecting cultural traditions. • Applying values & social principles. 	<ul style="list-style-type: none"> • Open conversations about their experiences.

How did culture guide the adaptation process for evacuees?

Values & Social Principles	Cultural Symbols and Traditions
 <ul style="list-style-type: none"> • Caring • Compassion • "Home away home" • Champions • Gender Equality 	 <ul style="list-style-type: none"> • Storytelling • Elders as symbol of wisdom • Traditional food • Language • Cultural events (e.g., Pow wow)

How did the "REZ CROSS" benefit BOFN?

1. Conversations between elders, community members and evacuees provided opportunities for *knowledge-sharing* through conversations about traditions, ceremonies, language and identity.
2. Tools, skills, experiences and resources were provided to the community to deal with future emergencies.
3. Friendly and trusting relationships were established and maintained through social media, which helped to unite diverse Indigenous peoples.

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Note This fact sheet was written by Sandra Betancur, MES candidate at School of Environment and Sustainability (University of Saskatchewan), based on her research. Email: smb347@mail.usask.ca Further information is available on request. (February 2018).



APPENDIX F: Interviewee consent form

Interviewee Consent Form

Project Title: Inside the Rez Cross: An assessment of preparing for climate hazards in Beardy's & Okemasis

Researcher: Sandra Milena Betancur Vesga, Master candidate, School of Environment and Sustainability (SENS), University of Saskatchewan, 305 Kirk Hall, 117 Science Place, Saskatoon, SK, S7N 5C8, Tel (306) 966-8415, e-mail: smb347@mail.usask.ca

Supervisor: Maureen Reed, Professor and Assistant Director Academic, School of Environment & Sustainability, University of Saskatchewan, 328 Kirk Hall, 117 Science Place, Saskatoon, SK, S7N 5C8, Tel (306) 966-5630, e-mail: maureen.reed@usask.ca Fax (306) 966-2298.

Purpose(s) and Objective(s) of the Research:

The purpose of this research is to understand how can planning for and response to wildfire emergencies become more inclusive of Indigenous knowledge and values. The research Objectives are:

1. Develop a draft evaluation framework for emergency planning that is sensitive to process, outcomes and inclusion of Indigenous knowledge and values;
2. Use an iterative approach to apply the framework to evaluate how Indigenous knowledge and values have been introduced in provincial and selected local-level emergency plans, including the plan of Beardy's and Okemasis First Nation (BOFN);
3. Make recommendations that identify ways of including Indigenous knowledge and values in wildfire and emergency response planning

Procedures:

The researcher will conduct the interview. Location and time will be agreed among the researcher and interviewee. Interviews have an expected duration time of 30-60 minutes. They will be audio recorded and transcribed, if permitted by the interviewee. Questions about procedures, interviewee's participation or any other issues related to the research are welcome at any time.

Funded by:

This research is being funded by an Insight Grant of the Social Sciences and Humanities Research Council (SSHRC) of Canada.

Potential Risks:

There are no known or anticipated risks to you by participating in this research.

Potential Benefits:

This research will be an enriching process for both the researcher and participants. By accepting to be interviewed you are providing valuable insight on your experience regarding the planning, implementation and follow up stage of the Rez Cross initiative. Your comments enable the researcher to reflect on the effectiveness of the evacuation plan which will yield drawing lessons

for the community that can be considered in future climate hazards. Likewise, your experiences are significant input in the development of an assessment framework that is sensitive to the socio-cultural dimensions of sustainable adaptation to climate change.

Compensation:

Participants will not be compensated financially for this interview.

Confidentiality:

Consent forms will be handed in or orally transmitted to participants. The researcher and the principal investigator will make use of identifying information and responses. Storage of data will be linked to the identity of participants. The reason is that this research is based on a particular case study that aims to obtain varying perspectives according to the sector the respondents represents. Through this form you are asked to grant permission to use your comments as citations whenever is needed in the writing stage of the research. This requirement does not yield potential risks as the research is entirely focused on the providers of evacuation plans and not on the evacuees (who are subject to vulnerability).

Likewise, it is worth mentioning that the snowball sampling will be used as a means of recruiting potential respondents. Through this process you may come across respondents that you either know (at the community or outside) or have contact with. Having said this, it is much appreciated that you refrain yourself from disclosing the content of the interview as it would impact the direction of the research.

With this in mind, you will be asked to put a check mark on the following statements:

- a. I grant permission to be audio taped yes: _____
___ No: _____

- b. I grant permission to let my identity be used by the researcher yes: _____
No: _____

- c. I grant permission to let my comments be quoted by the researcher yes: _____
No: _____

Storage of Data:

The researcher and the Principal investigator will be the only individuals having possession of data, interview transcriptions and audio recordings. This information will be stored in password protected computer files.

Right to Withdraw:

As researcher, I have considered you to participate in the interview considering your experience and role. However, you are entirely free to decide whether or not be part of the process. You might decide to withdraw upon request. This decision will be accepted if made before December 2016, considering research will significantly advance in 2017 and data might have already been manipulated and disseminated. Once agreed on these terms, your comments and identity information will be deleted and will no longer be included in the final document.

Follow up:

You will have the right to ask for results and be informed of the stage of the research by contacting the researcher at smb347@mail.usask.ca. I will set two meetings at the community. The first one will be conducted before final submission to ask for your insight and feedback of the process, and the second one will be done after final results are approved.

Questions or Concerns:

As mentioned before, you are free to contact the researcher to ask for information of the research, and to have your questions and concerns solved. If you would like to investigate about your rights as a participant you can call the Research Ethics Office at the following number (306) 966-2975 or by email at ethics.office@usask.ca.

Consent

Signed Consent

Your signature below indicates that you have read and understand the description provided; I have had an opportunity to ask questions and my/our questions have been answered. I consent to participate in the research project. A copy of this Consent Form has been given to me for my records.

_____ *Name of Participant* _____ *Signature* _____ *Date*

_____ *Researcher's Signature* _____ *Date*

A copy of this consent will be left with you, and a copy will be taken by the researcher.

Oral Consent

If consent is obtained orally, this will be audio-recorded. The Consent Form will be dated, and signed by the researcher(s), as below, to indicate that “I read and explained this Consent Form to the participant before receiving the participant’s consent, and the participant had knowledge of its contents and appeared to understand it.”

_____ *Name of Participant* _____ *Researcher's Signature* _____ *Date*

Visual Data Consent

Your signature below indicates that you have read and understand the description provided; I have had an opportunity to ask questions and my/our questions have been answered. I consent to participate in the research project with myself and or my property photographed. A copy of this Consent Form has been given to me for my records.

- Photos may be taken of me [my property] for: Analysis _____ Dissemination*

*Even if no names are used, you [or your property] may be recognizable if visual images are shown as part of the results.

APPENDIX G: Crosswalks

Crosswalk guide for Beardy’s and Okemasis First Nation

Research Objective	Variable	Defining Criteria (How is it measured?)	Question to be asked in the interview
1 & 2	Community Confidence (process)	The intent of the process is acknowledged and clearly stated	<p>1. What emergencies were you facing as a community over the last summer?</p> <p>2. How did you respond to the emergencies as a community? What form did the response take? Please provide a full description.</p> <p>3. Why did you undertake a responsive community-led initiative?</p>
1 & 2	Integrative Decision-Making (process)	The process considers knowledge of other processes, and impacts beyond the immediate time scale of the policy, plan or program.	<p>4. Did you set goals to achieve? How did you aim to achieve those goals?</p> <p>5. Did your response involved external actors and/or approaches from other organizations?</p>
1 & 2	Cultural Comprehensiveness (process)	Consideration of context for vulnerability, different values and interests, integration of local knowledge.	<p>6. What was a typical day like during and after the emergencies? Do you think there were any aspects of Indigenous knowledge, cultural values and/or ethical considerations that were applied in your response?</p>
1, 2, & 3	Accountability (process)	Roles and responsibilities for planning, implementation and follow-up, and reporting are clearly identified.	<p>7. Did you do a de-brief following the emergency last year? If no, why not? If yes, what form did that take? Did you report to any authority?</p> <p>8. Who was assigned what roles when responding to the emergency?</p> <p>9. What do you think is the next stage for Beardy’s in addressing climate hazards?</p>

3	Participation (process)	Participation opportunities are made well known and appropriate to the stage of the process and the social-cultural context.	<p>10. In what ways the community was involved? Accordingly could you tell me what role different groups played?</p> <p>I would like to ask you to reflect on these particular groups: Youth (15-24), Elders, Women, employees of the band, volunteers, employers of other organizations.</p>
1, 2, & 3	Effectiveness (Outcomes drawn on material aspects of culture)	Achieving goals draws on material and/or lived experience of culture.	11. Were your goals based on material and/or lived experience of culture (Indigenous knowledge)? Did you achieve them?
3	Use of resources strengthens Indigenous Identity (Outcomes)	<p>Resource sufficiency and distribution strengthen capacity</p> <p>Community cohesion, identity, sense of place is promoted and achieved</p>	<p>12. Do you think your community-led response build capacity? How capacity culturally impacted your community and other communities?</p> <p>13. Did you secure sufficient resources to respond to the emergency? What resources did you obtain? Did they help to build capacity?</p>
3	Program Effectiveness (Outcomes)	Successful delivery of programs and projects is deemed successful by participants.	14. Was your response deemed successful within the community? What could have been done better?
3	Education (Outcomes)	Training and education opportunities for community residents are enhanced	15. Did your response involve any educational training opportunities for community residents/personnel?

Crosswalk guide for Government Representatives

Research Objective	Variables	Defining Criteria (How is it measured?)	Question to be asked in the interview
1 & 2	Community Confidence (process)	The intent of the process is acknowledged and clearly stated	<p>1. Could you tell me, why did the governmental authorities decide to undertake a fire hazard emergency guide focused on First Nations communities?</p> <p>2. What operational objectives envisioned for emergency plans for First Nations/Métis communities might be different from non-FN communities? Were they culturally sensitive?</p>
1 & 2	Integrative Decision-Making (process)	The process considers knowledge of other processes, and impacts beyond the immediate time scale of the policy, plan or program.	<p>3. What is the overall approach/ strategy used for evacuating Indigenous communities in Saskatchewan? Did you use approaches/strategies from other programs previously launched?</p> <p>4. What role(s), if any did your agency play in the planning or implementation of the Rez Cross? Do you know if any other external actors were involved? If yes/not, please explain your answer.</p>
1, 2, 3	Context	The interviewees are aware of BOFN's response and know about other emergency responses.	<p>5. What do you know about the establishment and operation of the "Rez Cross" by BOFN last summer? Do you think there were any "successes" experienced at Beardy's that might be considered by government for future hazard events?</p> <p>6. Have you heard about Alberta's emergency planning for wildfires affecting Indigenous communities? If yes, is Saskatchewan starting to do the same thing? Why? Why not?</p>
1 & 2	Cultural Comprehensiveness (process)	Consideration of context for vulnerability, different values and interests, integration of local knowledge.	<p>7. What principles were considered when developing the guide? Why were they considered? Where were they chosen from? Were there any principles for First Nations that might not be relevant for non-Indigenous communities?</p>

1, 2, & 3	Accountability (process)	Roles and responsibilities for planning, implementation and follow-up, and reporting are clearly identified.	<p>8. Did you do a de-brief with Beardy's? Following the emergency last year? Did you do a de-brief with other localities that hosted evacuees. If no, why not? If yes, what did you learn from this?</p> <p>9. Is BOFN emergency response accountable to a higher authority? To whom is accountable? Who was responsible for the evaluation of BOFN? Who did that person report to?</p>
3	Participation (process)	Participation opportunities are made well known and appropriate to the stage of the process and the social-cultural context.	10. What actors participated in the overall process? Who was assigned what tasks? How were they selected?
1, 2, & 3	Effectiveness (Outcomes drawn on material aspects of culture)	Achieving goals draws on material and/or lived experience of culture.	11. What role did culture play in the planning and implementation phase of your emergency plan? How did this experience shape ideas about what you are doing now?
3	Use of resources strengthens Indigenous Identity (Outcomes)	<p>Resource sufficiency and distribution strengthen capacity</p> <p>Community cohesion, identity, sense of place is promoted and achieved</p>	<p>12. Did you have sufficient resources to implement all aspects of the plan? If not, what was missing?</p> <p>13. Thinking back to your emergency guide, do you think that the objectives set out impacted culturally on the community? If yes, could you elaborate on how they were achieved? If no, could you tell me what limitations were found?</p>
3	Program Effectiveness (Outcomes)	Successful delivery of programs and projects is deemed successful by participants.	14. Do you think that the planning, implementation and follow up stage were successful? Explain your answer.
3	Education (Outcomes)	Training and education opportunities for community residents are enhanced	15. Was there any training/education opportunity considered for community residents prior to the wildfire? If yes, tell me about this.

Crosswalk guide for Red Cross representatives

Research Objective	Variable	Defining Criteria (How is it measured?)	Question to be asked in the interview
1 & 2	Community Confidence (process)	The intent of the process is acknowledged and clearly stated	1. Do you have an emergency plan focused of First Nations communities? If so, why did you create such plan?
1 & 2	Integrative Decision-Making (process)	The process considers knowledge of other processes, and impacts beyond the immediate time scale of the policy, plan or program.	2. What is the scope and expected impact of your emergency plan? 3. What were the expected objectives in the short –term? 4. What were the expected objectives in the long-term? 5. Did you consider guidelines/approaches/strategies or lessons learned from other programs within and outside the organization?
1, 2, 3	Context	The interviewees are aware of BOFN’s response	6. Do you know about the Rez Cross initiative implemented by BOFN? Were there any lessons learned from them that were considered in the emergency plan?
1 & 2	Comprehensiveness (process)	Consideration of sociocultural effects: Community cohesion, identity, sense of place. Consideration of context for vulnerability, different values and interests, integration of local knowledge and potential feedback	7. Did you consider cultural aspects/ criteria/values/local knowledge in the design and implementation of the emergency plan?
1, 2, & 3	Accountability (process)	Roles and responsibilities for planning, implementation and follow-up, and reporting are clearly identified.	8. Did you do a de-brief within your organization? Did you do a de-brief with BOFN? Did you do a de-brief with other communities that hosted evacuees? What did you learn from this?

3	Participation (process)	Participation opportunities are made well known and appropriate to the stage of the process and the social-cultural context.	9. Who was assigned what roles in the planning and implementation stage of the emergency plan?
1, 2, & 3	Effectiveness (Outcomes drawn on material aspects of culture)	Achieving goals draws on material and/or lived experience of culture.	10. Were expected goals based on cultural aspects of Indigenous communities?
3	Use of resources strengthens Indigenous Identity (Outcomes)	Resource sufficiency and distribution strengthen capacity Community cohesion, identity, sense of place is promoted and achieved	11. Did you have sufficient resources to implement all aspects of the plan? If not, what was missing? 12. Thinking back to your emergency guide, do you think that the objectives set out impacted culturally on the community? If yes, could you elaborate on how they were achieved? If no, could you tell me what limitations were found?
3	Program Effectiveness (Outcomes)	Successful delivery of programs and projects is deemed successful by participants.	13. Do you think that the planning and implementation stage were successful? Explain your answer.
3	Education (Outcomes)	Training and education opportunities for community residents are enhanced	14. Was there any training/education opportunity considered for community residents prior to the wildfire? If yes, tell me about this.

Crosswalk guide for Indigenous Evacuees*

Research Objective	Variables	Defining Criteria (How is it measured?)	Question to be asked in the interview
1, 2, 3	Context	These questions were addressed to know what evacuees knew about BOFN's response	<ol style="list-style-type: none"> 1. What emergencies were you facing as a community? What did you decide to do as a community? 2. What do you know about BOFN emergency response? 3. How did you find out about BOFN emergency response? Why did you decide to go to BOFN? How many of your community went to BOFN?
1, 2, & 3	Effectiveness (Outcomes drawn on material aspects of culture)	Achieving goals draws on material and/or lived experience of culture.	N/A
3	Use of resources (Outcomes – identity is strengthened)	Resource sufficiency and distribution strengthen capacity Community cohesion, identity, sense of place is promoted and achieved	<ol style="list-style-type: none"> 4. Did your community successfully adjust to BOFN? If yes, could you explain through some examples how it happened? If no, could you explain what the main limitations the community faced were? 5. What was a typical day like in BOFN? Please describe your answer. 6. What activities did you do once you were there? Were those activities attractive to you? Please explain your answer. 7. According to your experience, were there any cultural values and/or ethical considerations included in the BOFN emergency response? If so, what were these? How were they applied? If not, why do you think they were not included?
3	Program Effectiveness (Outcomes)	Successful delivery of programs and projects is deemed successful by participants.	<ol style="list-style-type: none"> 8. Do you think BOFN hosting you was effective? Do you think BOFN center was more effective than the other evacuations? Why yes/no? 9. What do you think needs to be improved in the reception of people at BOFN? 10. Would you recommend BOFN for other FN communities? If yes, why? If no, why not?

			<p>11. If Beardy’s offered to host people from your community in the future, would you recommend them to stay at Beardy’s during an emergency? Why or why not?</p> <p>12. Since returning back to your community, have you reviewed your own response to future fire hazards? If not why not? If yes, what would you do differently than last year? What would you do the same?</p>
3	Education (Outcomes)	Training and education opportunities for community residents are enhanced	N/A