KNOWLEDGE MOBILIZATION: LOCAL COMMUNITY ENGAGEMENT, SUSTAINABILITY, AND ADAPTIVE GOVERNANCE

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By
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Anna Lozhkina, candidate for the degree of Master of Public Policy, has presented a thesis titled, *Knowledge Mobilization: Local Community Engagement, Sustainability, and Adaptive Governance*, in an oral examination held on April 29, 2019. The following committee members have found the thesis acceptable in form and content, and that the candidate demonstrated satisfactory knowledge of the subject material.

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ABSTRACT

The thesis is devoted to studying ecomuseums’ role in advancing sustainability practices in communities, as well as the role of communities and ecomuseums in gathering and preserving knowledge about local heritage. The value proposition of the research is to recognize the ecomuseums’ social, cultural, and economic potential in Saskatchewan, as well as propose policy recommendations to improve their role for the provincial development. As partnerships formed by communities, academic institutions, and ecomuseums influence and facilitate local decision-making, it is also essential to focus on the practices of adaptive governance to implement sustainability initiatives and contribute to local knowledge mobilization. The key research question considers if and how community social learning can be advanced through ecomuseums within the system of adaptive governance.

This project offers several key contributions to both the literature and society by using a community-based approach that addresses major aspects of heritage-based community development: How to facilitate ecomuseums as bridging organizations advancing sustainability, including if and how ecomuseums from the Ecomuseum Network in Saskatchewan contribute to sustainability and social learning. My general objective is to examine people’s perceptions about social learning processes and provide suggestions to the local ecomuseums, community members, and local government about policies and practices that can advance these processes and systems of adaptive governance involving the ecomuseums.

Using the methods of community-based participatory research (semi-structured in-depth interviews, document analysis, observation) the proposed thesis identifies
people’s perceptions about social learning and knowledge mobilization and the potential of the ecomuseums to advance adaptive governance. The conducted interviews and document analysis have enabled me to study sustainability initiatives, as well as realize the role of ecomuseums and communities in preserving local heritage and disseminating knowledge about it. Moreover, relationships with local schools and academic institutions contribute to knowledge mobilization. Analyzing community participation in decision-making has been beneficial to realize the importance of human resources and government support to sustain programs.

Based on the constructivist paradigm, I focused on community-based participatory research, where the connection between social participation and knowledge generation is rarely examined. That is why exploring how knowledge production and mobilization transforms into community-driven social learning seems topical. Furthermore, this study of knowledge is essential for capturing the constructivist posture, as it is value-driven and generated through people’s on-going interaction.

Participating ecomuseums included the White Butte Ecomuseum, Civic Museum of Regina, Calling Lakes Ecomuseum, North Central Ecomuseum, and Prairie Wind and Silver Sage Ecomuseum. I conducted 10 interviews: 6 with board and community members from the ecomuseums and 4 with public servants and policy analysts at the Ministry of Agriculture to gather their perceptions about sustainability and adaptive governance.

I identified practices that can advance the development of the local adaptive governance system, and acquired perceptions about sustainability initiatives and social
learning as they relate to adaptive governance, social development, environmental protection, and cultural heritage.

Based on the findings, I propose formalized educational strategies to facilitate more active knowledge mobilization and social learning. As the participants stressed the importance of social media, the communities’ representation and active participation, I also recommend a communication strategy to facilitate governance and foster community engagement, public dialogue, face-to-face meetings, and brand and image campaigns to enhance the ecomuseums’ credibility. To improve the adaptive governance, it seemed essential to develop value-based strategies supporting the UN goals of sustainable development, as well as partnerships, communication and educational opportunities for the communities.
ACKNOWLEDGEMENTS

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I would like to acknowledge and thank Dr. Adela Kincaid for introducing me to the project supported by the Council of the Town of White City and providing the amazing opportunities to become involved in local sustainability initiatives by the White Butte Ecomuseum and the Regional Centre of Expertise Network. I am really keen on developing in the areas of community engagement and sustainability and thankful for this exposure.

I would like to acknowledge the Council of the Town of White City and the Ecomuseum’s Committee for funding support through the Mitacs research program and the opportunity to participate in various volunteer and educational campaigns. I would also like to acknowledge The Faculty of Graduate Studies and Research and Regina Public Interest Research Group for their funding support throughout my degree and project, including the assistance with promoting and sustaining the project through various presentations, network events, and conferences.

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LIST OF ABBREVIATIONS

CBPR: Community-based participatory research
CLEM: Calling Lakes EcoMuseum
NCCA: North Central Community Association
NGO: Non-governmental organization
PWSS: Prairie Wind and Silver Sage Ecomuseum
RCE: Regional Centre of Expertise
RSM: Royal Saskatchewan Museum
SEP: Saskatchewan Ecomuseum Partnership
UN: United Nations
WBE: White Butte Ecomuseum

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CHAPTER 1
Introduction

Knowledge mobilization is a complex process aimed at generating and disseminating information and expertise among different communities and stakeholders, usually requiring the development of dynamic and adaptive social-ecological systems to monitor resource availability, make decisions about allocation, and respond to feedback at multiple institutional scales. Adaptive governance integrates the processes of generating multi-level social learning and preserving community heritage. Thus, the theoretical framework for this project is based on the concepts of adaptive governance, knowledge mobilization and social learning. Ecomuseums — i.e., community-driven projects aimed at preserving local cultural and ecological heritage — can be considered an integral part of community governance and help form bridging organizations that respond to local needs while mobilizing and disseminating community knowledge and contributing to sustainable development. All of these topics are central to research and community engagement activities being carried out by the Royal Saskatchewan Museum (RSM), with support from the Friends of the RSM.

In the work, I am exploring how knowledge generation and mobilization transforms into local social learning driven by communities. Studying this seems topical because the connection between knowledge mobilization and social participation is rarely examined, even in the field of community-based participatory research. This study of knowledge seems also essential through the lenses of constructivism as it is value-driven and generated through people’s on-going interaction.
As ecomuseums contribute to local and provincial social, cultural, and economic development, it is beneficial to recognize their role and propose policy recommendations to improve their potential.

This project contributes to a larger debate on the role of ecomuseums and their potential as sites for knowledge mobilization (Berkes, 2009; Fabricius et al., 2006) and community science (Hasan and Crawford, 2003; Van Kerkhoff and Lebel, 2006) within systems of adaptive governance (Olsson and Folke, 2001; Schultz et al., 2015; Westley et al., 2013).

To explore this debate, I conducted an applied policy research project focused on facilitating community engagement and volunteer programming to launch and support the WBE’s activities by analyzing current sustainability initiatives and the other ecomuseums’ activities. My aim is to identify people’s perceptions, challenges, and benefits in relation to social learning and knowledge mobilization while facilitating future community efforts to expand the concept of ecomuseums as bridging organizations and advance their adaptive governance practices.

By focusing on the novel ecomuseum concept and knowledge mobilization, combined with inter-organizational networks and partnerships between the University of Regina, the RSM (via the Friends) and the community in White City, I hope to provide opportunities for enhanced local awareness and actions, and greater opportunities for more in-depth analyses of fostering and managing inter-organizational networks and local governance, as well as support local sustainability practices.
CHAPTER 2
Literature Review

This section reviews the current state of research of knowledge mobilization, social learning, and adaptive governance, and their inter-relations. I also analyze conceptual interconnections to explore the concepts of socio-ecological networks and adaptive governance, as they relate to ecomuseums, educational institutions, and the local government.

Adaptive governance

The overarching theoretical framework is focused on the theory of adaptive governance which is especially relevant to socio-ecological systems (Reyers et al., 2013; Levin et al., 2013) and based on knowledge generation and resources for providing services, maintaining interactions, and developing the institutions of social coordination (Jansson et al., 1994; Kareiva et al., 2011; Goldstein et al., 2012).

Governance provides the formal institutional context (strategies, programs, policies) to define the patterns of decision-making regarding fundamental social functions (Homer-Dixon, 1999; Wisner et al., 2003). Governance refers to a wide span of formal and informal institutions encompassing organizations, policies, laws, actions, activities, and networks of influence, the private sector and civil society (Demetropoulou et al., 2010, p. 341). Governance is community-driven because it involves institutions through which citizens articulate their needs and interests, exercise their rights, and collaborate to mediate their differences (Kiparsky, Milman and Vicuna, 2012). As governance refers to self-organizing and autonomous networks, it implies various connections and interactions among different stakeholders, structures, policies, rules, and norms defining the processes...
of community decision-making, sharing responsibility and authority, allocating risks and ensuring transparency and accountability (Lebel et al., 2006; Raik and Decker, 2007).

Adaptive governance provides a mechanism for integrating processes associated with multi-level social learning and community heritage preservation. Adaptive governance is based on learning-based, participatory, flexible, collaborative, and experimental approach and design to governance and policy-making to enhance institutional adaptive capacity and sustainability (Hurlbert, 2016, p. 219).

The adaptive capacity of institutional systems can be defined by several governance features called institutional design principles (Hurlbert, 2016, pp. 219-222):

1) learning and institutional memory based on active community participation and collective choice arrangements;

2) variety of problem frames based on diverse opinions to offer various solutions and provide multiple options;

3) capacity formed through leadership as a catalyst to change and informational, human, and social capital;

4) trust building on mutual respect to maintain participants’ involvement in the process of governance;

Adaptive governance is especially relevant to socio-ecological systems (Reyers et al., 2013; Levin et al., 2013) and based on knowledge generation and resources for providing services, maintaining interactions, and developing the institutions of social coordination (Jansson et al., 1994; Kareiva et al., 2011; Goldstein et al., 2012).
The major challenge associated with adaptive governance is maintaining accountability because of structural flexibility (Hahn, 2011). The challenge can be addressed by generating bottom-up community-driven initiatives and supporting them through government authority, building relationships on trust, navigating environmental issues, and relying on bridging organizations in knowledge exchange and multi-stakeholder communication (Folke et al., 2011).

A transformative agency is especially relevant to make transformation toward ecosystem-based management and community-facilitated adaptive governance viable (Westley et al., 2013). Moreover, researchers have stressed the importance to recognize local stewards or knowledgeable individuals (Olsson and Folke, 2001), visionary or transformative leaders (Westley, 2002), policy entrepreneurs (Huitema and Meijerink, 2010; Shannon, 1991), and social innovators (Westley et al., 2006) in this process.

Within the system of adaptive governance, different actors perform their functions in knowledge mobilization processes presented in the Table 1 below.

<table>
<thead>
<tr>
<th>Groups of actors</th>
<th>Roles in knowledge mobilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientists</td>
<td>1) Learning from community members and delivering knowledge to decision-makers; 2) Disseminate knowledge among community leaders; 3) Participate in organizing learning practices</td>
</tr>
<tr>
<td>Local members</td>
<td>1) Learning from scientists; 2) Developing own experience in local heritage; 3) Organizing knowledge exchange among community members; 4) Organizing learning practices</td>
</tr>
<tr>
<td>Decision-makers</td>
<td>1) Mobilizing and making use of knowledge system;</td>
</tr>
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<td>---</td>
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<tr>
<td>2)</td>
<td>Combining learning practices;</td>
</tr>
<tr>
<td>3)</td>
<td>Integrating learning outcomes in agenda for future development;</td>
</tr>
<tr>
<td>4)</td>
<td>Enhancing the capacity of local institutions to deal with uncertainty and adapt to changed conditions</td>
</tr>
</tbody>
</table>

<p>| | |</p>
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<thead>
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<th></th>
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<tbody>
<tr>
<td>1)</td>
<td>Participating in the provision of learning services;</td>
</tr>
<tr>
<td>2)</td>
<td>Engaging a wider range of interested groups with activities;</td>
</tr>
<tr>
<td>3)</td>
<td>Disseminating results to a wider community;</td>
</tr>
<tr>
<td>4)</td>
<td>Providing feedback on strategic decisions regarding their interests</td>
</tr>
</tbody>
</table>

External stakeholders (educational institutions, NGOs)

Sources: Kates et al. (2001), Folke et al. (2005), Nabhan (1997), Ludwig et al. (2001).

Overall, adaptive governance depends on establishing trust, forming and developing ongoing learning processes in a community, developing collaboration involving various stakeholders, and revising existing structures and procedures. Ecomuseums can play a central role in this process by bridging connections and partnerships, facilitating knowledge exchange and transfer, and actively engaging a community in sustainability initiatives and local decision-making. (Lebel et al., 2006). Moreover, adaptive governance expands available practices for sustainable development (Schultz et al., 2015).

**Sustainability**

Sustainability can be defined as “a process aimed at achieving environmental, economic and social improvement, both locally and globally, or a state that can be maintained at a certain level indefinitely. This process binds in a relationship of interdependence, the protection and enhancement of natural resources to the economic, social, in order to meet the needs of the present generation, without compromising the ability of future generations to meet their own needs” (Brundtland, Khalid, and Agnelli, 1987).
Based on the definition, sustainable development encompasses three main pillars – environmental, economic, and social. The first attempt to operationalize sustainability through an action plan was in 1992 during the United Nations Conference on Environment and Development and resulted in the confirmation of the three interdependent factors of sustainability: 1) environmental protection; 2) economic growth; 3) social development (United Nations, 2012).

Sustainability also relies on the principle of intergenerational equity implying management of natural resources in a way that provides for the needs of the present generation without compromising future generations’ capacity to meet their needs (Brundtland, Khalid, and Agnelli, 1987).

In this thesis, sustainability is particularly considered through the pillars of environmental protection and social development. As discussed, social learning is a community-driven process seen as central to decision-making in environmental management and sustainability (Clark, 2001, p. 382). It builds on knowledge generation and mobilization capacity driven by community members to achieve their goals of sustainable development (Crilly et al., 2010, pp. 94-95), and based on learning-based approaches attributing to dealing with complexity and uncertainty in environmental science. As social learning occurs from mobilizing knowledge on local heritage, it attributes to the sustainable “efforts to protect and safeguard the world’s cultural and natural heritage” – the goal 11 in the 2030 Agenda for Sustainable Development.

Cultural heritage (Worts, 2010) links the dimensions of sustainable development (Vecco and Srakar, 2018), as well as the cultural, environmental, and social systems enhancing the principle of interconnectedness (Throsby, 2008). In this project, managing
such socio-ecological systems is considered a matter of adaptive governance incorporating social learning based on knowledge generation and resources for providing services, maintaining interactions, and developing the institutions of social coordination (Jansson et al., 1994; Goldstein et al., 2012).

Overall, the definition of sustainable development reflects “the systemic interrelationship among economic, social, environmental, cultural aspects, and the complexity of the framework within which conservation policies lie” (Nocca, 2017). That is why the discussion of adaptive governance encompassing knowledge mobilization about local heritage, which can be transformed to social learning by community and ecomuseums, relates to perceptions about initiatives facilitated by ecomuseums toward community-driven sustainable development.

**Knowledge mobilization**

Knowledge mobilization has been identified as a strategy to deal with uncertainty and complexity of current sustainability issues (Cash et al., 2003; Reid et al., 2006; Fabricius et al., 2006; Olsson and Folke, 2001). It is “a trans-disciplinary approach to improving organizational outcomes and learning, through maximizing the use of knowledge. It involves the design, implementation, and review of social and technological activities and processes to improve the creating, sharing, and applying or using of knowledge” (AS5037, 2005). Researchers (Boland and Tenkasi, 1995; Engestrom, 1999; Toulmin, 1999; Wenger et al., 2002) consider socially-constructed, collective knowledge as the predominant source of learning, creativity, and innovation.
Scientists have identified several crucial principles of knowledge mobilization as an approach contributing to community-based natural resource management (e.g., Blaikie, 2006; Kellert et al., 2000; Robinson, 2006), sustainability science and sustainability education (e.g., Clark and Dickson, 2003; Kates et al., 2001). These principles include:

1. Recognizing the need to integrate knowledge held by academic researchers and non-academic participants, such as land managers and the public;
2. Highlighting the need to build on different fields of knowledge to address multi-disciplinary environmental management problems;
3. Utilizing participatory research methods and facilitating participatory, multi-level governance processes;
4. Following iterative processes of knowledge creation, application, reflection, learning, and feedback to foster better science, decision-making and problem-solving;
5. Attempting to integrate knowledge across a variety of spatial and temporal scales by building inter-organizational networks.

Knowledge mobilization is especially relevant to communities. The expressions “community of interest”, “community of learning” and, most significantly, “community of practice” have captured the attention of many in the area of knowledge mobilization (Hasan and Crawford, 2007). Preserving and disseminating natural heritage and local cultural knowledge, generating creative knowledge, learning through practice and experience, and collaborating with bridging organizations to build and maintain learning infrastructure are the major elements of implementing the community-based strategies of
knowledge mobilization (Linger and Warne, 2001; Cecez-Kecmanovic and Jerram, 2002; Wenger et al., 2002). As it was noted by Raymond et al. (2010), knowledge integration studies pay little attention to the forms of knowledge which are privileged within the community and the engagement of different interest groups, especially within environmental planning and management.

Scientists have identified several methods and strategies to build coherent and resilient multi-institutional networks of actors for knowledge mobilization.

<table>
<thead>
<tr>
<th>Methods and strategies</th>
<th>Implications</th>
<th>References</th>
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<tbody>
<tr>
<td>Building trust and social capital</td>
<td>Linking natural heritage and social capital;</td>
<td>Biggs et al., 2010; Bodin and Crona, 2008;</td>
</tr>
<tr>
<td></td>
<td>Establishing rules for stakeholders’ collaboration representing their heterogeneity;</td>
<td>Fell, 2008;</td>
</tr>
<tr>
<td></td>
<td>Linking institutions and the public</td>
<td>Hahn et al., 2006</td>
</tr>
<tr>
<td>Building common vision</td>
<td>Attracting a diversity of supporters;</td>
<td>Stephenson, 2010;</td>
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<tr>
<td></td>
<td>Creating community and stakeholders’ cohesion</td>
<td>Westley and Mintzberg, 1989</td>
</tr>
<tr>
<td>Facilitating social innovations</td>
<td>Organizing knowledge exchange about existing practices;</td>
<td>Bodin and Crona, 2008;</td>
</tr>
<tr>
<td></td>
<td>Generating new processes and options;</td>
<td>Huitema and Meijerink, 2010;</td>
</tr>
<tr>
<td></td>
<td>Enhancing knowledge generation by integrating various perspectives and practices</td>
<td>Westley, 1990</td>
</tr>
<tr>
<td>Establishing social networks</td>
<td>Bonding similar stakeholders (e.g. organizing local exchange among local villagers);</td>
<td>Biggs et al., 2010; Ernstson 2008;</td>
</tr>
<tr>
<td></td>
<td>Bridging different stakeholder groups to react to changed conditions and challenges;</td>
<td>Woolcock and Narayan, 2000</td>
</tr>
<tr>
<td></td>
<td>Linking and engaging with leaders in different sectors;</td>
<td></td>
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<tr>
<td></td>
<td>Providing opportunities for engagement with research and management</td>
<td></td>
</tr>
<tr>
<td>Facilitating knowledge building</td>
<td>Combining knowledge of local natural and social capital;</td>
<td>Bodin and Crona, 2008;</td>
</tr>
</tbody>
</table>
The challenges are mainly associated with the ways through which knowledge is generated: 1) personal experience (Polanyi and Knowledge, 1958; Fazey et al., 2006); 2) a formalised process (Pullin and Knight, 2001; Fazey et al., 2004; Fabricius et al., 2006); 3) social learning (Kleine, 1995; Clark and Murdoch, 1997; Fazey et al., 2006; Evely et al., 2008).

1. Knowledge generated through personal experience constitutes an experiential class (Polanyi and Knowledge, 1958; Fazey et al., 2006). This is a broad category that can include non-expert or expert knowledge derived through various experiential processes. Such informal knowledge usually reflects everyday reflection and interpretation of different situations on a local scale. A community-driven approach reflects some level of expertise of a local site or issue (Robertson and McGee, 2003) and lacks structured processes that regulate the way people’s experiences affect understanding (Abay et al., 2008).

2. Knowledge generated through formalised processes contributes to a scientific class (Pullin and Knight, 2001; Fazey et al., 2004; Fabricius et al., 2006). This is a category that includes systematic recorded knowledge or practice (Gunderson et al., 1995) and results in explicit and formal types of knowledge. An evidence-based approach prevails over personal experience and observation. (Fabricius et al., 2006).

3. Knowledge generated through a social learning process forms a hybrid class (Kleine, 1995; Clark and Murdoch, 1997; Fazey et al., 2006; Evely et al., 2008). This is
an integrated category derived from multi-disciplinary and interdisciplinary research (Long and Long, 1992). Such trans-disciplinary approaches are characterized by knowledge exchange and integration and the engagement of different interest groups including the public. In this class, even scientific evidence can be based on personal experience, observation, and interpretation (Ingram, 2008).

To overcome the challenges of a hybrid class where scientific evidence can be based on personal experience and knowledge formed through social learning should be equally recognized by scientists and community, it is essential to identify different types of knowledge which stakeholders agree to share, the types of content they are willing to offer and discuss, the depth of expertise and personal experiences they possess, and the types of social context that influence people’s perception and understanding (Raymond et al., 2010, pp. 1767-1769). As these types are mixed and combined from both local and scientific environments, institutional structures are needed to transform interdisciplinary and multi-purpose knowledge to a widely accessible form and unify the ways of trans-disciplinary integration.

To transform the process of knowledge integration into knowledge mobilization characterized by self-organized learning and knowledge dissemination, it is crucial to overcome the challenge of engaging different types of knowledge. It occurs as a result of people’s different perceptions about the nature of their decision-making. People may perceive their opinions as personal, evidence-based (scientific) or implicit and this affects the way they decide on the validity of knowledge (Dyson and Brown, 2006).

While the difference in perceptions affects personal attitudes to perceiving information and the willingness to learn, it also defines the way knowledge mobilization
results in research opportunities and scientific outcomes (Miller et al., 2008). Because of the hybrid nature of knowledge, a consensus on facilitating scientific outputs is needed. Therefore, the involvement of researchers from various disciplines, who assist with knowledge exchange and the engagement of different stakeholders, is essential since the beginning of learning processes (Raymond et al., 2010, pp. 1770). This might occur more easily while establishing certain institutional structures supporting the relationships of different stakeholders.

Scientists have identified several practical implications for investigators and researchers studying knowledge generation and integration:

1. Help participants become aware of their own and other’s opinions and how this difference in positions affects knowledge integration (Evely et al., 2008).

2. Provide participants with opportunities to learn about various perspectives and recognize their prevailed knowledge type (Raymond et al., 2010, pp. 1767-1770).

3. Provide meaningful institutional support for generating multi-disciplinary hybrid knowledge (Raymond et al., 2010, pp. 1767-1770).

Applying integrated and mobilized knowledge to social learning is a final step. To facilitate this process, scientists have proposed to rely on participatory monitoring and evaluation (Estrella and Gaventa, 2000), establish institutional structures supporting partnerships, and engage community members in evaluating objectives and outcomes.

Overall, institutional support is essential in integrating and disseminating multiple knowledge forms and embedding them into social learning processes (Berkes, 2009). Mobilizing knowledge is a part of social learning discussed in the next section.
Social learning

Social learning is a multidisciplinary phenomenon and of particular interest in education and psychology. In environmental science, learning-based approaches attribute to dealing with complexity and uncertainty. Iterative feedback between the learner and the environment occurs in the observation process and the process of changing the environment. While the changes, in turn, affect the learner, there is a need for various institutional forms that maintain and stabilize the learning outcomes (Berkes, 2009, p. 1696).

Social learning in communities is an ongoing negotiation and communication process resulting in the development of adaptive group strategies for problem-solving and perspective sharing (Pahl-Wostl and Hare, 2004, p. 193). Social learning is a multi-level, group-centered and community-driven process seen as central to decision-making in environmental management and sustainability (Clark, 2001, p. 382).

Studying social learning refers to participatory approaches as it examines the mechanisms of sharing, reinforcing, and transforming individual learning into a community-driven process (Sims and Sinclair, 2008).

As defined, social learning is reflective, aimed at generating options to adapt and amend in relation to the environment, and driven by community members to achieve their goals of sustainable development (Crilly et al., 2010, pp. 94-95). Local knowledge mobilization (Crilly et al., 2010) and social learning (Hasan and Crawford, 2007) are key components within systems of (local) adaptive governance.

Social learning in adaptive socio-ecological systems relates to the following policy processes (Levin et al., 2013, p. 116):
1) individual-level behaviors lead to collective system-level consequences influencing further individual actions through multi-level feedback;

2) social learning contributes to productivity and social welfare as properties in socio-ecological systems and criteria toward sustainable development;

3) social learning informs community and decision-makers how to manage failures in the future.

Regarding policy actions derived from social learning, optimal policies provide individuals with incentives to behave in ways that lead the system toward socially desirable outcomes. Therefore, there are circular relations between social learning and policy because after implementation policy creates social frames serving as attractors for those participating in social action and thus enhancing the basis for further social learning processes. The process of social learning as a linkage between knowledge generation and social action is an ‘institutionally enabled and constrained’ policy process meaning that the use of knowledge depends on implicit and explicit rules that govern social decision-making and the delegation of decision-making power (Van Kerkhoff and Lebel, 2006, p. 458).

**Figure 1**
Social learning as a policy process

As the Van Kerkhoff and Lebel (2006) suppose, in the context of sustainable development, steps before social learning, such as agenda-setting – decide on the problems to address – and knowledge generation integrating research and experience – contribute to the application of the process in practice. Moreover, social learning does not result spontaneously from the understanding of transmitted knowledge “but is a product of political context and how research findings align, conflict with, or transform existing power structures” (Van Kerkhoff and Lebel, 2006, p. 459). Thus, it “emerges from the interaction of the research process with the political processes of decision making and change” (Van Kerkhoff and Lebel, 2006, p. 459).

Ecomuseums

One of the definitions that consider ecomuseums as a multi-faceted phenomenon reflecting their complex and dynamic role, especially in community development, was proposed by Riviere (1985):

An ecomuseum is an instrument conceived, fashioned and operated jointly by a public authority and a local population. The public authority’s involvement is through the experts, facilities, and resources it provides; the local population’s involvement depends on its aspirations, knowledge and individual approach. It is a mirror in which the local population views itself to discover its own image, in which it seeks an explanation of the territory to which it is attached and of the populations that have preceded it, seen either as circumscribed in time or in terms of the continuity of generations (p.182).

Ecomuseums have been described as “museums without walls” that are locally organized and foster sustainable communities (Saskatchewan Ecomuseum Initiative, 2016). “An ecomuseum is a community museum that provides a unique mechanism for community engagement, in which community members work to preserve and learn from tangible and intangible heritage in its living form. Through community consultations, stakeholders agree on natural and cultural assets that they value and create plans to ensure
they are preserved and used to foster a culture of sustainability” (Saskatchewan Ecomuseum Initiative, 2016).

The major difference of the ecomuseums model from a traditional museum model lies in the component of community engagement. Ecomuseums provide a community with the opportunity to sustain historical interaction with environment. Transformation from a traditional museum model to an ecomuseums can occur through museum displays organized by community members, educational programming, community storytelling, or various art forms.

“According to Borrelli and Davis (2012), 98% of ecomuseums are situated in rural areas, focus on connections to local history, local physical geographic features, natural resources, natural habitats, and agricultural practices. The ecomuseum concept has been used widely in Europe but it has not been applied in most areas of North America. Only one ecomuseum has been documented in the United States but the idea has a long history in some parts of Canada, especially Quebec, where a number took root in the 1970s. Ecomuseums did not exist in Saskatchewan, Canada until 2012 but since then there has been a growing interest in their induction” (Kincaid and Sutter, in press).

In the province, the current ecomuseums are The White Butte Ecomuseum, Prairie Wind and Silver Sage in Val Marie, the Regina Civic Museum, and The Calling Lakes Ecomuseum. Other communities that have used or are considering the ecomuseum model include Nipawin, Middle Lake, Moose Jaw, Saltcoats, Gravelbourg, Wolseley, and Humboldt.

The White City Museum concept has evolved into a more regional ecomuseum known as the WBE under the guidance of the WBE Planning Committee. A regional
focus was recommended in a document called “A Sense of Place” developed by Alexce (2017) as the WBE strategic direction and business plan for 2017-2020. As this document notes, the “White Butte region… is an area with a new sense of itself as a place to connect with thriving communities. In other ways, it is an ancient area that has seen extensive human contact and interaction with each other and the environment for thousands of years. “Sense of Place” seeks to define a new way of exploring these sensibilities… through the multi-layered lens of an ecomuseum” (p 6). The region discussed is primarily centered on the communities of Treaty Four, White City, Balgonie, Pilot Butte and the Rural Municipality of Edenwold, including the Lower Qu’Appelle Region of the Wascana Watershed in the Aspen Parkland Ecoregion that begins east of Regina near the White Butte Trails.

Through this plan, the Council of the Town of White City with the WBE Planning Committee proposed to establish networks among the WBE the Saskatchewan Ecomuseum Network, Heritage Saskatchewan and the Museums Association of Saskatchewan, which resulted in the triangulated partnership between the University of Regina, the RSM (via the Friends) and the community in White City.

The goals of the “Sense of Place” plan are based on the pillars of community engagement and stewardship, education, and research. A strategic direction for the WBE was developed in a Discovery Session on September 21, 2016. The resulting mission is to “Bring to life the stories of the cultural heritage of the White Butte Region by engaging the community to use the stories of the unique people, places, flora and fauna to:

- define and develop a regional sense of place and sense of community;
- enhance community quality of life that contributes to sustainable development;
• and, contribute to healthy regional development decisions (Alexce, 2017).

The WBE is an appropriate focus for my research, as it was the ecomuseum initiating the study and is following strategic directions towards sustainable community development by disseminating knowledge about cultural and environmental heritage, facilitating local sustainability initiatives, forming partnerships and networks with different institutions, and connecting research opportunities to the regional priority heritage initiatives (Alexce, 2017). In the proposed research, the WBE’s and the other ecomuseums’ initiatives were studied to help identify future opportunities for knowledge mobilization and community-based science/research.

Ecomuseums can serve as a catalyst for local knowledge mobilization by engaging a community in sustainability initiatives. This involves collaborating with institutions (schools, universities, think tanks, government authorities) to enhance social learning, preserving natural and cultural heritage and disseminating knowledge about it, and empowering community members to engage further with science. Given that local government has the authority to foster sustainable community development, the question becomes:

*What policies and strategies could local government implement to improve social learning practices and advance the adaptive governance associated with the ecomuseums?*

In this process, ecomuseums can help sustain accountability of local governance systems – as they become the facilitators of local sustainability initiatives, engage the local community with various activities towards sustainable development, establish multiple connections and partnerships with community members, educational institutions, and
local government (municipal councils) relying on trust and two-way feedback. Moreover, ecomuseums can invite community members to form the board of directors, facilitate community-driven planning and programming towards sustainable development, and in this way provide opportunities to participate in local decision-making maintaining interactions and connections with municipal counselors and local policy-makers.

In the new museology, including the study of ecomuseums, community participation in decision-making processes aimed at sustainable community development is at the center of the agenda (Dos Santos, 2008, p. 50). There is a general concern of different interest groups, including government and professionals, on the effectiveness of the traditional activities of ecomuseums in directing their initiatives and educational services to the public (Dos Santos, 2008, p. 55). Following the agenda towards sustainable development, community-driven ecomuseums can take the leading role in facilitating and promoting sustainability initiatives.

In this respect, several actions of ecomuseums have been identified as fundamental to engage the local community with initiatives and stimulate commitments towards sustainable development (Dos Santos, 2008, p. 67):

1. Raising awareness of topical issues addressed by the community;
2. Raising awareness of local heritage and promoting local knowledge to visitors and the public;
3. Establishing an agenda for the future sustainable development by engaging the community with activities and relying on local inhabitants’ perceptions and opinions.
Considering attempts to facilitate sustainability initiatives by ecomuseums, scientists have stressed the importance of bottom-up and culture-based approaches that “place community participation and self-actualization at the core of its mission,” and “a dynamic approach to…heritage preservation that looks forward rather than backward’ (Kreps, 2013, p. 122). Moreover, actions and initiatives should embrace the features of cultural, demographic and environmental contexts (Davis, 1999, pp. 78-97).

Several principles for ecomuseums to follow have been proposed to enhance their role in facilitating initiatives and community efforts towards sustainable development (Montanari, 2015, pp. 374-375):

1. Meet local inhabitants’ need through ongoing renovation and improvement of current activities;
2. Encourage the visitors’ participation by asking for their opinions and perceptions;
3. Differentiate activities meeting the needs of various interest groups;
4. Facilitate collaboration and inter-organizational partnerships.

The path of sustainable development implies that ecomuseums facilitate initiatives following their mission and strategic direction. The most important strategic elements in this path have been revealed by Cogo (2006, pp. 97-98):

1. Preserving the value of local socio-cultural traditions;
2. Enhancing collective memory by reflecting the identity of the local community in heritage assets;
3. Studying and raising awareness about local environmental, social, cultural and historical topics;
4. Promoting active local participation in setting an agenda for sustainable development;

5. Establishing inter-institutional networks.

Ecomuseums can be considered as a complex of areas, natural and cultural heritage, society and memory (Rivard, 1988). The concept implies a range of geographical areas and/or a regional area of cultural and natural heritage, relies on a multi-disciplinary approach and the leading role of community members (Boylan, 1992). The main features of ecomuseums are: 1) sense of pride of local values, habits, and traditions; 2) connections with economic restoration in the community; 3) continuous attempts to preserve cultural and natural heritage (Heron, 1991).

Ecomuseums can serve as a catalyst for local knowledge mobilization in communities by developing learning infrastructure, promoting sustainability science and sustainability education, engaging community in sustainability initiatives and collaborate with institutions to enhance social learning by organizing sustainability initiatives, preserving natural heritage and disseminating knowledge about it, and empowering community members to engage further with science. Researchers in many disciplines have addressed essential aspects of community involvement (Flachs, 2013) and community volunteerism (Gallo and Duffy, 2016) in these activities.

Scientists have also stressed the importance of educational aspects and community involvement. Serving as sites for knowledge exchange, transfer and mobilization, ecomuseums can help form researcher-research user collaborations through service learning, community engagement and community-university partnerships (Lerner
resulting in opportunities for community-based research (Minkler and Wallerstein, 2003).

This institutional capacity of ecomuseums in knowledge mobilization enhances the connection between scientists and community as well as the public and government. Through education and community engagement, it is possible to generate knowledge transfer and exchange and extends them to the co-production of knowledge and community-driven social learning enabling social innovation (Phipps and Shapson, 2009, p. 213).

This above-described capacity of ecomuseums to serve as sites for local knowledge mobilization has its methodological background building on the theory of research utilization. Lavis et al. (2003) identified three main pillars in the theory: 1) producer push; 2) user pull; 3) knowledge exchange.

Figure 2
Knowledge mobilisation activities and services

This figure can be applied to ecomuseums as non-academic institutions generating knowledge mobilization activities and service learning resulting in community-driven social learning. At early stages of knowledge mobilization starting as knowledge exchange, community engagement occurs as a part of activities implemented by ecomuseums as non-academic organizations seeking to enhance knowledge utilization for sustainable development. While expanding inter-organizational networks and collaborating with educational organizations, ecomuseums transform their sustainability initiatives towards service learning initiatives. This form of technology transfer to support knowledge mobilization results in community-driven practices and social innovation in the forms of community-initiated activities towards sustainable development and community-driven social learning (Phipps and Shapson, 2009, p. 215). Then, community members maintain established partnerships and facilitate opportunities to engage ecomuseums. The formed interactions among users (community members), academic institutions and ecomuseums generate iterative feedback and provide a higher-level institutional capacity for ecomuseums and community.

Community-driven social learning becomes an independent process towards sustainable development while the community follows the established institutional capacity and maintains formed multi-institutional partnerships relying on produced scientific knowledge embedded in social and environmental contexts (Van Kerkhoff and Lebel, 2006).

Zapletal (2012) and Corsane et al. (2007) have suggested a number of indicators and questions to evaluate and emphasize the role of ecomuseums as sites for knowledge mobilization and community-driven social learning (Appendix 1). Some of the questions
were used in the interviews (Appendix 2) to assess the ecomuseums’ attributes to facilitate knowledge exchange and establish social learning services. The facilitation of sustainability initiatives by ecomuseums provides a platform for community-driven sustainable development. The major component in this path refers to a real involvement of the community. Ecomuseums’ engagement with participatory tools is essential to their role in facilitating sustainability initiatives (Clifford and King, 1996; Parker 2006). Knowledge and understanding are the fundamental elements in this paradigm (Badia and Deodato, 2015, p. 35).

**Bridging organizations**

Ecomuseums can fulfill the role of bridging organizations within a system of adaptive governance to facilitate local knowledge mobilization (Kowalski and Jenkins, 2015). Bridging organizations serve as a platform for knowledge co-production, social learning, and inter-institutional collaboration (Hahn et al., 2006). They also serve as catalysts between different levels of governance, respond to new opportunities, generate feedback within the governance system, and facilitate knowledge generation (Berkes, 2009; Hahn et al., 2006). Whether ecomuseums become bridging organizations, depends on their role in knowledge mobilization and social learning (Cardoso, 2015), how they facilitate feedback between government and the local community, and how they catalyze knowledge co-production by engaging the local community in various initiatives (Westley et al., 2013).

The role of bridging organizations as a strategic agency linking and managing multi-disciplinary and inter-organization domains has been recognized as central to community sustainable development and within the system of socio-ecological networks.
and ecosystem stewardship (Westley et al., 2013). Within a set of different domains, a strategic agency is formed through the multi-disciplinary connections and strategies of different stakeholders. At various stages of knowledge generation, mobilization, social learning, collaboration, and implementation, each actor can take a leading role providing the grounds for institutional entrepreneurship (DiMaggio, 1988; Hahn et al., 2006). Key features of bridging organizations include:

1. They rely on collaborative mechanisms to link diverse stakeholders (Crona and Parker, 2012);

2. They assist with forming communities of practice through stakeholders’ coordination, trust building, and social learning (Crona and Parker, 2012; Berkes, 2009);

3. They provide expert information to decision-makers and play a major role in addressing socio-ecological problems (Haas, 1992);

4. They span the gap between science and policy by facilitating networks between scientists and decision-makers (Guston, 2001);

5. They contribute to local governance through issue framing, knowledge generation and exchange (Kowalski and Jenkins, 2015).

Major features of ecomuseums as bridging organizations include:

1. They provide learning services for knowledge generation, exchange, and co-production (Folke et al., 2005);

2. They can quickly respond to new opportunities (Berkes, 2009);
3. They generate co-management and adaptive practices by establishing multi-faceted networks with local academic institutions, government, and NGOs (Wilson et al., 2006);

4. They form multi-institutional networks building social capital and a common vision, assessing and promoting needed resources, providing a package of services, and facilitating other linkages (Berkes, 2009).

Ecomuseums’ functioning as bridging organizations within the framework of sustainability is based on the following principles (Licciardi and Amirtahmasebi, 2012, pp. 48-50):

1. The principle of intergenerational equity which implies management of natural resources in a way that provides for the needs of the present generation without compromising future generations’ capacity to meet their needs (Brundtland, Khalid, and Agnelli, 1987).

2. The precautionary principle arguing for risk-averse decision-making.

These principles are relevant to ecomuseums’ functioning within inter-organizational networks aimed at community sustainable development because it refers to the stock of community cultural and natural capital handing on to future generations (Appendix 3). Moreover, the long-term strategic implications for community engagement with sustainability initiatives require careful considerations of the roles of different interest groups and stakeholders, especially within formed inter-disciplinary multi-organizational networks.
Ecomuseums can be considered as bridging organizations also because community sustainable development and the conservation of local heritage cover different spheres making the convergence of aims and tools relevant to achieve an integrated approach (Appendino, 2017, p. 3). To follow the approach, institutions meeting the needs of stakeholders from different spheres and translating knowledge about local heritage are fundamental in this complex network (Appendix 4).

Community engagement with initiatives and collaboration are necessary since sustainable development forms the balance between the different dimensions and the issue should be addressed by following the multidisciplinary approach and exchanging scientific and local knowledge (Appendino, 2017, p. 4).

The importance of institutional support is enhanced through the complexity of cross-level and cross-domain connections and the challenges of adapting social value-based systems to changed conditions (Westley et al., 2013).

Scientists have identified several methods and strategies to build coherent and resilient multi-institutional networks of actors for social learning and community sustainable development.

<table>
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<th>Methods and strategies</th>
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<td>Building legitimacy</td>
<td>Recognizing local sustainability initiatives by formal authorities; Establishing consensus on formal and rule compliance</td>
<td>Hahn et al., 2006; Ostrom, 1990</td>
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<td>Creating an agenda for sustainable development of community</td>
<td>Referring to macro-level aspirations; Integrating various needs of interest groups; Building sustainability initiatives on the proposed agenda</td>
<td>Folke et al., 2003; Olsson et al., 2007</td>
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<td>Facilitating social innovations</td>
<td>Organizing knowledge exchange about existing practices; Generating new processes and options; Enhancing knowledge generation by integrating various perspectives and practices</td>
<td>Bodin and Crona, 2008; Huitema and Meijerink, 2010; Westley, 1990</td>
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<tr>
<td>Using and creating windows of opportunity</td>
<td>Organizing pilot projects; Creating and following timeline; Recognizing opportunities for the implementation of sustainability-concerned initiatives; Establishing consistent connections around topical issues in a timely manner</td>
<td>Gunderson and Light, 2006; Olsson et al., 2008; Westley, 2002</td>
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<tr>
<td>Facilitating opportunities for further communication and social learning</td>
<td>Identifying and creating new inter-disciplinary projects and initiatives; Revising issues and outcomes; Exploring new learning practices; Delegating stewardship in formal strategic decisions to community members</td>
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<td>Creating negotiation and linking mechanisms</td>
<td>Establishing rules for risk allocation and conflict resolution; Attracting mediators; Facilitating two-way feedback exchange; Providing contingency planning for unforeseen and changed conditions</td>
<td>Gunderson and Light, 2006; Ostrom, 1990; Imperial and Kauneckis, 2003; Westley, 2002</td>
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To facilitate social learning in communities, it is proposed to rely on a framework created from the discussed challenges of integrating local and scientific knowledge and consisting of several steps related to the policy cycle:

1. Problem identification. This is the initial step taken as a directory to define the purpose of future knowledge mobilization. Why is knowledge mobilization needed?
What is the purpose of social learning in the community? What issues will be addressed by the community through integrating knowledge and facilitating learning?

In this work, the issue of community sustainable development was considered. Therefore, social learning is proposed to be facilitated to develop and promote sustainability initiatives and engage different stakeholders in social learning processes creating multi-institutional platforms. All the ecomuseums have their strategies and programs which they form and initiate by first identifying the major sustainability concerns and issues in the communities.

2. The identification of knowledge types. What knowledge types do contribute the most to the addressed issues? How are different knowledge types relevant to the issues and goals?

The sustainability issue is characterized by the hybrid form of knowledge generated by different interest groups and integrated by the community. The mix of local and scientific knowledge can become better convergent because of various training and learning opportunities which involve the community and experts in common activities. Increased trust between scientists and the public leads to improved engagement with initiatives. Collaborative relationships are essential to positively perceive disseminated and shared knowledge by the community.

3. Knowledge integration. What mechanisms can be established to facilitate better understanding among different stakeholders and improve social learning processes? How can these methods contribute to integrating various knowledge types and enhancing community-driven learning opportunities?
Decision-making in sustainability is characterized by a value-driven approach. Therefore, it is crucial to identify the prevailing values of the community and participants and how they can be enhanced through knowledge mobilization and learning processes. If local and scientific knowledge relies on existing values and cultural beliefs, it is seen equally important and recognized by a community. To integrate local and scientific knowledge, it is fundamental to establish institutional mechanisms and create a value-based platform promoted through community-driven sustainability initiatives.

Another major aspect is to increase the confidence of participants in their abilities to affect a decision-making process and rely on their own knowledge while perceiving and analyzing new information. This is a key component towards establishing participatory approaches (Raymond et al., 2010) and mutually beneficial and consistent knowledge exchange between scientists and local people. Moreover, such reflective learning contributes to structured learning processes as people can critically evaluate findings at multiple stages of knowledge integration and reflectively add their own perceptions to knowledge mobilization following the value-based approach. Developing brand and image campaigns to enhance the ecomuseums’ credibility can help make their initiatives considered seriously by the community and community members heard if they are comprised in one of the ecomuseums’ board.

4. The application of knowledge integration and social learning to the issue. How does integrated knowledge change at the various stages of learning processes? How can the outcomes of knowledge mobilization be used to facilitate social learning opportunities in the future? How can new knowledge be incorporated into social learning
to flexibly deal with new information and update learning outcomes following arisen contingencies?

The major role in this step belongs to scientists who are able to identify prevailing knowledge types at the various stages of learning processes and assess the outcomes of social learning. To make the outcomes explicit and reliable, the engagement of community members with the evaluation is important and should be supported through different institutional mechanisms. The ecomuseums ask their community members for active participation in developing sustainability plans and strategies, representing the Board of Directors, providing on-going planning advice, and reviewing performance.

To provide the community with the mechanisms to address future contingencies and incorporate new knowledge into social learning processes, the exploration of new ideas should be done on a constant basis with sufficient institutional support. In particular, the interviews and surveys of community members can be conducted multiple times to revise the outcomes. Specialists can disseminate the outcomes to the wide audience after revisions. New knowledge should be aligned with local values and the community should be confident in using this knowledge as a reliable and valid source. The ecomuseums regularly conduct surveys incorporating questions on priority areas and factors of sustainable development, as well as asking for suggestions from community members.

Overall, the balance between local and scientific knowledge can be maintained through sufficient institutional support, ongoing collaboration, and the reliance on local values. Among other factors to consider in this framework the following might be mentioned: 1) the context of the established socio-ecological system; 2) strategies and
community mission; 3) participants’ skills (Cundill and Fabricius, 2009). Partnerships with local businesses and non-profits exemplify the principles of collaboration in adaptive systems where parties can rely on their areas of expertise and support the communities’ efforts to achieve their sustainability goals.

The more culturally relevant knowledge integration is, the more easily applied knowledge mobilization to social learning is (Raymond et al., 2010, p. 1775). The reliability of the outcomes depends on the progress and results of addressing the issue. To establish a structured and ongoing process of social learning, it is essential to enhance a deliberative process of collaboration between scientists and local people by improving the mechanisms of knowledge analysis and interpretation by community members. Social media help initiate two-way feedback and provide on-going community involvement. A problem-focused and value-driven approach should be prevalent at any stage of knowledge integration and mobilization.
3.1. Epistemological stance

Constructivism is the theoretical paradigm of this project. It implies that reality is socially created and researchers can co-construct meaning by fully engaging in researcher-participant relations (Crotty, 1998). The constructivist paradigm assumes that “social action is not caused; rather it is constructed through an ongoing process of meaning-making that occurs within and across individuals” (Donmoyer, 2012, p. 662).

These epistemological assumptions help answer the question “What is the relationship between the researcher and that being researched?” and are characterized by the attempts of a researcher to lessen the distance between himself or herself and that being researched. In practice, it means that a researcher becomes an ‘insider,’ collaborating and spending time in the field with participants (Denzin and Lincoln, 2018, p. 17).

In the 1980s the ‘paradigm wars’ started between qualitative and quantitative research (Maxwell, 2011, p. 10). Scientists in several influential works (Lincoln and Guba, 1985; Guba, 1990) argued that constructivism was the appropriate epistemological paradigm for qualitative research as it implied that people’s understanding of reality is a social construction rather than an objective truth and that different perspectives form the existence of ‘multiple realities.’ This ‘relativist’ or ‘subjectivist’ position stands in opposition to realist, objectivist, or positivist views.

Whereas not all scientists follow the ‘purist’ perspective, in which constructivism is seen as the only legitimate stance for qualitative research (Greene, 2007), the majority
of researchers assume that constructivist epistemology is an appropriate ground for qualitative research (Lincoln and Guba, 2000; Denzin and Lincoln, 2018).

The constructivist approach is based on several methodological considerations (Neubert and Reich, 2002):

1. Construction and dependence on observer views: an observer is simultaneously an observer and a participant, coordinating the processes of observing, participating, and acting;
2. Practice and the bearings of life-world: discourses are situated in cultural contexts and discourse communication implies contexts of relationships and life-world entailing subjectivism;
3. Methods and the delimitation of arbitrariness: there is a prevailing methodical orientation toward communicatively-shared interests and supported criticism.

According to a constructivist posture, participation is the basis to study social practices (de Sardan, 2008). Within this posture, the knowledge generation, as well as accepting multiple realities and performing one of those are inter-connected (Latour, 2012). As active experience constructs reality, it is impossible to be fully objective as people give meaning to what they observe. Moreover, values, history, and culture are embedded in attitudes and perceptions. That is why people perceive their experiences as having greater importance instead of considering whether their perceptions accurately reflect reality (Berger and Luckmann, 1991).

Potential challenges associated with integrating local and scientific knowledge attribute to the hybrid class formed through social learning processes. They result from the different types of knowledge which stakeholders agree to share, the types of content
they are willing to offer and discuss, the depth of expertise and personal experiences they possess, and the types of social context that influence people’s perception and understanding (Raymond et al., 2010, pp. 1767-1769). As these different types combine across both local and scientific environments, institutional structures are needed to transform interdisciplinary and multi-purpose knowledge into a widely accessible form and unify the ways of trans-disciplinary integration. These institutional structures form the system of adaptive governance. As the interviewed community members and public officials had different prevailing types of knowledge – experiential (community members) and scientific (public officials), I tried to understand their differences and embrace the variety of views of identifying sustainability issues and applying knowledge to them.

As noted by Raymond et al. (2010), knowledge integration studies have not examined which forms of knowledge are privileged and which are not within the community and the engagement of different interest groups, especially within environmental planning and management (p. 1767). There are challenges associated with integrating local and scientific knowledge and forming the hybrid knowledge class through social learning processes. They result from different types of knowledge which stakeholders agree to share, the types of content they are willing to offer and discuss, the depth of expertise and personal experiences they possess, and the types of social context that influence people’s perception and understanding (Raymond et al., 2010, pp. 1767-1769). As various interviewees agreed to share different pieces of their expertise and knowledge, it was interesting to notice the differences and similarities of their views on
the role of community and ecomuseums in generating knowledge, local programming, and decision-making as part of adaptive governance.

Employing the constructivist framework in the proposed research enabled me to remain flexible and open regarding participants’, partners’ and my own experiences. Having such a dialogue provided an opportunity to gain personal insights, consider cultural and social contexts, and better understand knowledge mobilization and social learning as hybrid scientific-experiential processes. Initiating dialogue and establishing mutual understanding through this sort of flexibility can foster deeper engagement based on collaboration and meaningful participation in the future.

The multiplicity of constructed realities helped recognize the importance of ecomuseums as boundary organizations within the system of adaptive governance. In particular, some ecomuseum members emphasized different aspects of the ecomuseums’ functioning: their role in identifying community issues and sustainability concerns, facilitating sustainability initiatives, and inviting community members to their programming and decision-making. Other ecomuseums members considered community as a driver force in the system and highlighted the importance of community members in identifying local issues and concerns, the key role of volunteers and human resources in facilitating and sustaining initiatives and preserving local heritage, as well as forming the board of directors to establish future direction and initiate local programming. Public officials relied mostly on scientific facts and considered formal aspects of community consultations seeing governance from structural and institutional perspectives and paying attention to formal processes and results. All of these realities and the multiplicity of views are crucial for adaptive governance because it consists of different actors playing
their roles and contributing to decision-making. Thus, recognizing what is most important for each actor helps formulate balanced perspectives on the participants’ role in knowledge mobilization; the processes of identifying major issues and concerns and applying knowledge to address them; the potential of ecomuseums to become boundary organizations and advance the system of adaptive governance relying on the strengths of participating actors (community members, knowledge institutions, public officials) and bringing their efforts to solve issues.

All the communities except PWSS revealed homogenous opinions on their priority areas of community sustainable development which was revealed at the stage of conducting document analysis. While studying campaigns in PWSS, it was discovered that the community has two groups emphasizing two different focus areas in identifying sustainability issues. It led to conducting two interviews with two ecomuseum members from PWSS supporting different aspects of the community’s preferences and focus.

3.2 Community-based participatory research (CBPR)

Based on the constructivist paradigm, this project is an example of community-based participatory research (CBPR). This form has become ‘an umbrella term for a school of approaches that share a core philosophy of inclusivity and of recognizing the value of engaging in the research process those who are intended to be the beneficiaries, users, stakeholders of the research’ (Cargo and Mercer, 2008, p. 326). CBPR is an overarching concept encompassing a variety of approaches to research based on the interrelated constituencies of participation, research, and action (Hall, 1992). CBPR has developed as a coherent worldview (Trickett, 2011) including ‘community involvement throughout the
whole process’ and ‘community empowerment’ (Israel et al., 2003). One distinguishing feature of CBPR is researchers’ perspectives and attitudes determining “how, by and for whom research is conceptualized” (Cornwall and Jewkes, 1995). CBPR recognizes that values are incorporated into science (Israel et al., 1998, Lahtinen et al., 2005) because human perspectives and actions lead to a social activity (Latour, 2012) which generates the questions and methods of science (Ziliak, 2008).

The major focus in participatory research is typically shifted from knowledge generation to social practice (Mantoura and Potvin, 2012) enhancing the role of social participation.

However, the connection between social participation and knowledge generation is rarely examined (Mantourat and Potvin, 2012). Therefore, exploring how knowledge production and mobilization transforms into community-driven social learning seems topical. Furthermore, examining knowledge generation is essential for capturing the constructivist posture, as knowledge is value-driven and generated through people’s ongoing interaction. Constructionists equate knowledge with power and argue that “cultural specifications” influence people’s lives (Zimmerman and Dickerson, 1996, p. 80).

While advocating for the participatory paradigm as a basis for research, Minkler and Wallerstein (2003) recognize the variety of ideological perspectives and motivations on which CBPR practitioners rely. Nevertheless, constructivism as a paradigm is often applied in CBPR (Wright et al., 2010).

Israel et al. (2003) noted that fundamental characteristics of CBPR include its focus on social participation and the influence of non-academic researchers in the process of knowledge generation (p. 177). This implies that experiential and scientific knowledge
can be combined through the practices of collaborative learning, two-way knowledge exchange and reciprocal expertise transfer, and shared decision-making (Viswanathan et al., 2004). Values, personal perceptions, and assumptions thus form the methodological guidelines of participatory research (Minkler and Wallerstein, 2003).

Several key features of CBPR relating to constructivism have been identified by scientists (Israel et al., 1998, pp.177-180):

1. Recognizing community as a unit of identity to “strengthen a sense of community through collective engagement” (p. 178);
2. Building on strengths and resources within the community;
3. Facilitating collaborative partnerships in all phases of the research;
4. Integrating knowledge and action for the mutual benefit of all partners;
5. Promoting a co-learning and empowering process by paying “explicit attention to the knowledge of community members, and an emphasis on sharing information, decision-making power, resources, and support among members of the partnership” (p. 179);
6. Building a cyclical and iterative process that includes: partnership development and maintenance; community assessment; problem definition; development of research methodology; data collection and analysis; interpretation of data; determination of action and policy implications; dissemination of results; action taking (as appropriate); specification of learnings; establishment of mechanisms for sustainability (p. 180);
7. Disseminating findings and knowledge gained to all partners (p. 177-180).
My methodological focus follows Donmoyer (2012, p. 665), in that instrumental or functional criteria are needed to formulate credible socially-constructed visions of multiple realities. As people have their own inherent constructions of reality, they cannot make objective judgments about the nature of reality and decide on the most correct view of it. However, they might consider which conception is most helpful or functional in achieving a particular goal and which conceptions of social reality are better for accomplishing a particular task. Or, rather than transiting between different conceptions and choosing the best one, they may simply operate within a single view of reality, which they firmly believe is the (singular) reality.

3.3 Data Collection

Before collecting data and conducting interviews, I received the Certificate of Approval by the University of Regina Research Ethics Board (Appendix 5). As I relied on constructivism in my research, I tried to become fully engaged in relations with my participants and become an ‘insider’ collaborating and spending time with participants. In particular, besides conducting interviews, I supported and participated the ecomuseums’ initiatives as a volunteer, participated in regular monthly meetings with the Ecomuseums’ Committee, attended the Facilitation Group of the Regional Centre of Expertise to discuss current sustainability projects and initiatives and articulate the future agenda for the ecomuseums. Thus, I became an observer and an active participant, helped establish connections among the ecomuseums, University of Regina, and the local schools. I also realized the importance of active experience, embraced and supported the communities’
values in their initiatives, and recognized the variety of viewpoints on major sustainability issues and priority areas for the communities and the ecomuseums.

I collected data by conducting semi-structured in-depth interviews and document analysis to study social learning processes. I identified interviewees by participating in ecomuseum-related initiatives taking place in different institutions, building on and maintaining the existing activities initiated by Drs. Adela Kincaid and Glenn Sutter, and by developing and promoting other educational and awareness campaigns aimed at engaging students, community members and interested parties in sustainability science and education. Meetings with a number of potential interviewees were already organized: with the White City Council in October-December 2017, and with the Facilitation Group of the Regional Centre of Expertise (RCE) in October 2017. The RCE in Saskatchewan is acknowledged by the United Nations University and addresses local sustainable development challenges through research and capacity development. In the research, I examined people’s perceptions of knowledge mobilization and community-driven social learning practices as they relate to adaptive governance. While conducting interviews with people doing the community participation, I identified practices that can advance the development of the local adaptive governance system. The proposed suggestions relate to informing how the community-driven social learning processes might be improved and advanced with the expansion of the ecomuseums concept as bridging organizations.

To design interview questions, I conducted literature review and document analysis and relied on the indicators of knowledge mobilization and social learning for sustainability purposes (Appendices 1-3) facilitated by ecomuseums, as well as the indicators of ecomuseums as bridging organizations (Appendix 4).
I conducted 10 interviews: 6 interviews with board and community members from the ecomuseums (1 interview with the WBE, Civic Museum of Regina, NCCA, and CLEM, and 2 interviews with PWSS) and 4 interviews with public servants and policy analysts at the Ministry of Agriculture to gather their perceptions about sustainability and adaptive governance. Moreover, the Ministry of Agriculture was referred by the interviewees from the ecomuseums in regards to the policies of regulating and managing local resources (local heritage), public consultations and communication, as well as the local governance system affecting the ecomuseums’ activities.

The contact interviewees’ information was gathered at the first stage of engaging in volunteer opportunities and provided by Dr. Glenn Sutter. I conducted document analysis and discovered that all the ecomuseums except Prairie Wild and Silver Sage had quite homogenous opinions on the sustainability issues and priority areas. That is why I decided to conduct one interview with each ecomuseum member representing a community and two interviews with ecomuseum members from PWSS reflecting on different priority areas in the community. My interview questions related to the indicators of knowledge mobilization, social learning, and the ecomuseums’ role in communities identified during initial literature review. I finished interviewing while ensuring that the common set of indicators related to the research questions was covered, confirmed, and identified by the majority of the interviewees. I also felt that thematic saturation was reached after finding out that the interviewees mentioned the common set of indicators and their opinions resonated with previously studied literature on the role of communities and ecomuseums in advancing sustainability practices. Thematic saturation after interviewing policy analysts from the Ministry of Agriculture was reached when their
perceptions on the formal processes of auditing, monitoring, and public consultation, as well as recognizing the importance of preserving social capital by the communities seemed mutually complementary and resonated with document analysis and literature.

After conducting the interviews, I transcribed them and shared with the participants to check for accuracy. Using NVivo, I coded the interview data creating the following codes: “ecomuseums,” “sustainability,” “issues,” “knowledge mobilization,” “social learning,” “community engagement,” “social media,” “partnerships,” “governance.” While coding, I relied on interview questions and research questions as they helped to focus on particular topics essential for analysis. After the initial coding, I referred to the literature review and document analysis again and refined several codes expanding them to “adaptive governance,” “sustainability issues,” “sustainability concerns.” Then, I added my notes incorporating own ideas, linkages to the literature, and interconnections important for my research questions. In the Chapter 4, the findings are summarized and in the chapter 5 they are generalized in relation to the literature focusing on facilitating social learning as a policy process and the role of the ecomuseums as bridging organizations toward community sustainable development. The chapter discusses major sustainability initiatives by the Civic Museum of Regina, CLEM, PWSS Ecomuseum, The North Central Community and their ecomuseums model, as well as their governance systems and the ecomuseum’s potential.

Relying on qualitative methodology (Bryman, 1984, pp. 77-78), I tried to embrace my research subjects’ views and advocate close involvement in community activities. Informed by constructivist epistemological principles, I used ‘participant observation’ and semi-structured interviewing to facilitate getting an inside view (Bryman, 1984, p.
78), as well as document analysis (consultant reports, business plans, strategic plans and agendas, local newspapers, the ecomuseum’s reports, RCE’s reports, the ecomuseums’ meeting agendas, the ecomuseums’ posters and distribution materials for sustainability initiatives, the communities’ action plans and proposals, the communities’ summary reports, the overviews of local projects, emails from Saskatchewan Ecomuseum Network, Saskatchewan Ecomuseum Partnership, and the White Butte Ecomuseum Committee).

In this research, I tried to “develop and maintain mutually respectful and dynamic partnerships with communities” (Tervalon and Murray-Garcia, 1998) while participating in forming the Friends of the WBE and advancing the partnerships within the Ecomuseum Network and with the University of Regina. I also applied a “commitment to self-evaluation and self-critique” (Tervalon and Murray-Garcia, 1998) while exploring various perceptions.

The primary goal was to inform decision-makers about various perceptions to advance social learning processes in a community by facilitating further dialogue and informed social action. It supports the general objective of qualitative studies to explore the nature of a particular problem or phenomenon even when research is not necessarily used in the policy-making process in any straightforward way (Torrance, 2008, p. 510). In this project, following Gibbons’ classification (1994), such knowledge is “trans-disciplinary…(and) involves the close interaction of many actors throughout the process of knowledge production” (Gibbons et al., 1994, p. 7).

While conducting the interviews, I formed my understanding of sustainability initiatives and social learning as they relate to adaptive governance, social development, environmental protection, and cultural heritage. Knowledge mobilization about local
heritage is seen as a basis for community-driven social learning, and together they are considered as constituencies of adaptive governance, with ecomuseums as bridging organizations toward sustainable development.

While the difference in perceptions affects personal attitudes to perceiving information and the willingness to learn, it also suggests how knowledge mobilization results in research opportunities and scientific outcomes (Miller et al., 2008). Because of the hybrid nature of knowledge, a consensus on facilitating scientific outputs is needed. Therefore, the involvement of researchers from various disciplines, who assist with knowledge exchange and the engagement of different stakeholders, is essential since the beginning of learning processes (Raymond et al., 2010, pp. 1770). That is why I interviewed people who are professionally engaged with different areas of sustainability science and could bring hybrid perspectives to bear on social learning processes.

The first stage of the research concentrated on acquiring people’s perceptions about social learning contributing to the locally significant areas of sustainable development. I conducted document analysis on the practices of knowledge mobilization and social learning and interviewed 6 experts associated with the Ecomuseums Network and involved in various areas of sustainability and ecomuseum development in Saskatchewan and 4 public servants and policy analysts at the Ministry of Agriculture. It helped acquire diverse perspectives and reflect on social learning and sustainability overcoming the challenges of integrating experiential and scientific knowledge. The contact information of the interviewees from the ecomuseums had been provided by Dr. Glenn Sutter.
Based on the results from the first stage, suggestions aimed at facilitating social learning and developing inter-organizational relationships among the ecomuseums, the Council of the Town of White City, and the University of Regina were proposed at the second stage of my research.

Participation in meetings with the RCE facilitation group allowed to present proposed strategies and tools to interested parties and members. Those networking opportunities were enhanced through the collaboration on sustainability science after creating strategies and initiatives. In particular, at the first meeting, we created an agenda for the WBE to implement the project. At the second meeting, we decided to attract volunteers and create social media campaigns to promote initiatives. At the third meeting, participants from various ecomuseums shared their feedback about the ecomuseums’ performance and local initiatives. After finalizing the first educational campaign (May 2018), I invited the members to contribute to the project and participate in the interviews. After conducting the interviews, I shared results with the interviewees and asked for their feedback.

To embrace the bigger picture, I decided to study international perspectives and participated in the VII International Congress of the Social Technologies taking place in St. Petersburg. The Congress was organized by the International Academy of Social Technologies embracing experts in sustainability and social science. Participating in that enabled me to network with experts establishing ecomuseums models in France and Germany, as well as scientists specializing in sustainable education and learning. I presented the project and received a feedback on how to improve volunteer and educational campaigns in which I was involved, how it might be possible to establish
further connections with the World Ecomuseum Network and the United Nations Major Stakeholders Groups, and how the system of adaptive governance may be enhanced by the ecomuseums. I incorporated that feedback into my conclusions and policy recommendations and developed a webpage on the Global RCE Network platform devoted to the current project and Saskatchewan initiatives to build international connections and participate in the global campaigns.

After finalizing all the interview results and the outcomes of our volunteer and educational campaigns, as well as local initiatives, I shared the proposed recommendations with the ecomuseums’ members and asked for their feedback. Then, I incorporated the findings and recommendations into the thesis.
CHAPTER 4
Findings

The Civic Museum of Regina is moving to an ecomuseum model as they have about 19,000 artifacts and now are trying to deal with its inventory in a sustainable and applicable way to reflect the story of Regina, engage with the community, network with different organizations (medicine, arts, education, etc.), and tell the old and the new story of historic artifacts (Appendix 6).

The Calling Lakes EcoMuseum (CLEM) is a non-profit advocacy group comprised of volunteers who encourage and lobby governments, communities and neighbors to protect and improve the Lower Qu’Appelle Watershed through education and collaboration. The vision of the CLEM is for the Lower Qu’Appelle Watershed to achieve sustainable development (Appendix 7) where its people, land, and water exist in a state of harmonized well-being (CLEM Newsletter, 2018).

The North Central Community Association (NCCA) is placing people at the forefront of the planning process by taking the initiative to bring community members and stakeholders to develop a cohesive and comprehensive Community Plan for the North Central neighborhood and develop their ecomuseums (Appendix 8). NCCA defines community planning as “a participatory process where community members and stakeholders are engaged in an interactive way to inform goals, objectives, actions, and policy to shape and work towards the community’s shared vision. Through this process, the NCCA hopes to bring people together to identify opportunities for future growth and development in the community” (NCCA website, NCCA Community Planning). The North
Central community planning process was organized into four phases and is outlined in the figure below.

**Figure 3**
The North Central community planning process


Prairie Wind and Silver Sage (PWSS) Ecomuseum works in partnership with the local community and Grasslands National Park of Canada to promote the conservation of native prairie landscapes while inviting the exploration and appreciation of prairie culture and natural history. PWSS is Val Marie’s provincially recognized ecomuseum, offering a variety of services, including:

- **ecomuseum** — preserves the local heritage of Grasslands, Val Marie, and the surrounding area through a combination of artifacts, mapping, photography, sound, and stories, incorporating a historical, environmental, and cultural appreciation of both the land and the community;

- two art galleries, each with an exhibition related to the region;
Prairie garden created by volunteers and staff and featuring indigenous species of grasses and flowers (Prairie Wind and Silver Sage website).

As my research relates to the field of community-based participatory research, I focused on the communities’ values, how they affect the communities’ efforts toward sustainable development and lead to a social activity in the forms of the ecomuseums’ and communities’ initiatives, volunteer opportunities and educational campaigns, as well as the ecomuseums’ displays. Moreover, to capture the constructivist posture, I examined major sustainability concerns in the communities and how knowledge is generated and mobilized by the ecomuseums based on the values and priority areas articulated by the communities. As social participation is essential for studying knowledge generation, I not only studied current projects and initiatives but also participated in them as a volunteer and helped facilitate local programming and social connections with various stakeholders and the University of Regina. Collaborative learning occurred through that enabled me and the participants to reflect on the outcomes of their projects and activities and come up with proposals and recommendations for further programming and planning.

As community participation implies various perspectives and types of knowledge, partnerships are increasingly important to understand various perspectives, guide research activities and inform future actions. This collaborative approach combines diverse inquiry, multi-stakeholder participation, and cross-scale knowledge mobilization as it is essential to recognize the strengths and perceptions which different partners bring. Moreover, a research topic seen as meaningful for community development should be recognized by community members and future research activities should be aimed at combining knowledge for social action (Minkler, 2005).
As my thesis work was supported by Mitacs Internship, I had a great opportunity to engage with different partners, such as the Royal Saskatchewan Museum (RSM), the University of Regina, and the Council of the Town of White City. Before and during the interviews (September 2017 – December 2018), I participated in regular monthly meetings with the Council and the Facilitation group of the Regional Centre of Expertise (RCE) in Saskatchewan. I communicated with the committee members from the Council, as well as the ecomuseums and community members.

The practical component of my Mitacs internship related to the final step in the framework, the application of knowledge integration and social learning to the issue. My role was to help establish the Friends of the White Butte Ecomuseum as an NGO, improve and establish partnerships and connections with local schools and the University of Regina attracting volunteers to sustain programs, and promote local projects facilitated by the Council of the Town of White City to improve community sustainable development. In particular, I engaged the campus community in understanding this research and its importance and received more support from Saskatchewan Museums Associations, the RSM, and 6 Ecomuseums. I conducted 10 semi-structured interviews, presented the project to the Ecomuseums Network and Saskatchewan Ecomuseum Partnership (SEP), participated in 14 meetings with ecomuseum and community members, presented a poster at the Conservation EXPO conference, networked with environmental scientists, and came up with proposals for the Ecomuseums. As I was engaged with students completing the Ecomuseums course, we built on those relationships. Most of them recommended the course, promoting interest among the University of Regina students. We were working on volunteer programming to sustain
the project in the future and engage volunteers with educational opportunities organized by the local ecomuseums in the partnership with the University of Regina. The University community was provided with current and future sustainability initiatives and become more aware and cognizant of them. We also found a student willing to pursue the Arts Internship at the University and sustain the project working on volunteer programming and funding opportunities.

In fall 2018, I pursued the international scope of the project during the internship which enabled me to engage with international institutions interested in studying ecomuseums and facilitate workshops at the International Academy of the Social Technologies. The Academy's offices are located in Europe (Germany, England, Finland, France, and Russia). I traveled to St. Petersburg in Russia in October-November 2018; participated in the VII International Congress of the Social Technologies taking place there; prepared and presented a presentation “Knowledge mobilization: Local community engagement, Sustainability, and adaptive governance” and a poster “The White Butte Ecomuseum Ecology Heritage Project”; organized seminars and workshops on October 15th, 19th, 26th, 30th and November 6th; collaborated with experts establishing ecomuseums models in France and Germany, as well as scientists specializing in Sustainable education and learning. Returning to Regina in November 2018, I shared my experience with the committee members from the Council of the Town of White City and participants at the RCE Facilitation Group meeting. Most of the insights supported our previous findings about the crucial role of human resources and volunteers in facilitating sustainability initiatives, the importance of knowledge exchange between knowledge institutions and ecomuseums, the benefits of face-to-face communication and multi-
institutional partnerships, and the leading role of ecomuseums to articulate local sustainability issues, preserve cultural and natural heritage and promote local campaigns.

During my internship at the Ministry of Agriculture, I had a chance to understand formal processes of identifying and solving local issues and concerns, policy cycles in preparing programs and local budgeting, consultations with the public. The major insights are gathered through the interviews with government employees.

The analysis of the interview data enabled me to answer the research questions on how the ecomuseums contribute to sustainability and social learning and how they could improve them advancing on adaptive governance in the future. As the participants reflected on the need to identify priority areas and major sustainability concerns in the communities, in the Chapter 6 it was recommended to apply a knowledge-based policy also relying on the studied literature. Moreover, as the participants recognized the necessity to build programming on the communities’ values, a value-based approach was defined to be crucial for the ecomuseums’ governance. Considering the variety of the ecomuseums’ projects and initiatives focusing on developing educational opportunities with the University of Regina, formalized educational strategies were proposed to improve knowledge mobilization and social learning in the communities. As it was found out that all the ecomuseums prioritized in-person meetings with community members and stakeholders and active community engagement with their programming and decision-making, an explicit communication strategy was recommended to advance on governance.
Regarding the indicators of the ecomuseums as sites for knowledge mobilization, social learning, and their potential as bridging organizations, some quotes are presented in the Table 4 below.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Quotes</th>
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<tbody>
<tr>
<td><strong>Education of local community within the frame of sustainable development</strong></td>
<td>“Those 17 sustainable goals of United Nations…. We maybe have to start setting up our own matrix that represents some of the things we need to touch on... we thought maybe there is an opportunity for us to interpret…and then maybe introduce them to the right people to talk about governance, or social work, or some of the things that are happening…. because we are in the world of sound bites and small pieces, how do we now set ourselves up to give them that taste so they want to come back for more? And that is how we are looking at it as an ecomuseum and getting into that.” (Ecomuseum member, Civic Museum of Regina)</td>
</tr>
<tr>
<td></td>
<td>“One of the things we are doing is we are working with a lady in rebuilding a Saskatchewan map outlining all of the treaty territories. It is an education piece…” (Ecomuseum member, Civic Museum of Regina)</td>
</tr>
<tr>
<td><strong>Participation of local community in sustainability initiatives generated by ecomuseums</strong></td>
<td>“Now I know there are so many needs and we have looked at the United Nations 17 goals on sustainable development and really it is a campsite for everything that we need to do as an ecomuseum…We want to go there, but what are the small steps we need to do? So part of it now is just bringing in volunteers, engaging people…So this is not just a conversation for you, but it is a conversation for as many people as we can get into a room. We have to slowly start bringing people in if we are to engage that larger conversation.” (Ecomuseum member, Civic Museum of Regina)</td>
</tr>
<tr>
<td></td>
<td>“The idea is that we are slowly going to build up our membership and the people that follow us just continually pick little topics that people are interested in, and bring them together with the goal… we need to start talking about some of the more serious topics and those are again focusing on the 17 sustainable goals.” (Ecomuseum member, NCCA)</td>
</tr>
<tr>
<td><strong>Local community’s participation in social learning</strong></td>
<td>“When you talk about sustainability, it is simply those spaces where people integrate, communicate, and build the neighborhood, and have discussions about what is going on…once we realized that in order for the community to listen to us, the voice had to come from the”</td>
</tr>
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Table 4
Quotes indicating the role of the ecomuseums as bridging organizations and sites for knowledge mobilization and social learning
| Towards Sustainable Development | University, and once we had the university’s voice, then we figured out the pathways to make it work, but we had to build the community confidence first.” (Ecomuseum member, Civic Museum of Regina)  
“It is important for the community to identify what is important to them rather than having experts come in and tell them what should be important to them.” (Ecomuseum member, NCCA)  
“Anyone who will do it can do it and ends up doing it. I think it is a good model. People who are interested and willing to do the work are doing the work, but I don’t know if it is the best model, I just know it is one that works for us.” (Ecomuseum member, PWSS) |
| Developing Ecomuseums as Bridging Organizations | “I have to say creating relationships is way more powerful than social media or media. If you create that, then those other ones will follow you and they will work…What can the new life be? We are looking at different micro enterprises or social enterprises and how we can start maybe making revenues around recycling, engaging community, immigrants as we start working towards a true ecomuseum model.” (Ecomuseum member, Civic Museum of Regina)  
“The only way I can see that you can move in a sustainable future is that you have to have the community, you have to have the universities, you have to have the policymakers and the First Nations. That is the only way that we will find sustainable development for moving ahead.” (Ecomuseum Member, CLEM)  
“Anyone who buys a membership can run for the board and contributes to the governance of the organization.” (Ecomuseum member, PWSS) |

Source: Based on Zapletal (2012) and Corsane et al. (2007) and the interviews.
Interviewing the ecomuseums’ members, participating in sustainability initiatives and various meetings including those with the RCE facilitation group improved my understanding of the ecomuseums’ role in social learning as a policy process based on the frameworks by Van Kerkhoff and Lebel (2006, p. 458) and Phipps and Shapson (2009, p. 216) and represented in the Figure 4 below.

**Figure 4**
Facilitating social learning as policy cycle

Regarding the first step, problem identification, the Ecomuseums’ committee members ask community members about local issues and needs and analyze surveys and reports. Members from the RCE facilitation group and Saskatchewan Ecomuseum Network also discuss various local needs in different communities and propose an agenda to address
them and organize related initiatives. The second step, the identification of knowledge types, was most noticeable in the RCE facilitation group as it embraced not only community and the ecomuseums’ members, but also professors and experts on issues from the University of Regina and other partnering universities. Knowledge integration in the forms of various partnerships and joint sustainability initiatives enabled researchers and community members to discuss potential solutions, improve and evaluate local initiatives, as well as enhance programs credibility by relying on the UN Goals of sustainable development and the fact that the RCE is acknowledged by the UN University. Moreover, active community members developing sustainability initiatives were given a chance to include their local projects in the UN Expert Project Database which enhanced motivation to promote local projects and solve sustainability issues and concerns. Those three steps in the framework of social learning as policy cycle were analyzed majorly through participating in meetings, observing participants’ communication, and analyzing the outcomes of those meetings (written reports, agendas, proposals, emails, project reviews, plans).

Analyzing the stage of applying mobilized knowledge to sustainability issues, it seems relevant to consider the ecomuseums’ role in facilitating sustainability practices, engaging the communities, and serving as bridging organizations in the local system of adaptive governance.

5.1. Ecomuseums as the Facilitators of Sustainability practices

All the ecomuseums have their sustainability initiatives to address different sustainability concerns attributing to all the discussed components of sustainability: social (cultural
heritage, diversity, community collaboration, First Nations), economic (sustainable economic growth), and environmental (local resources and natural heritage).

During the interviews the linkages between social learning and collective action were conformed while the participants shared their perceptions about major sustainability issues in the communities and exemplified collective actions with current sustainability initiatives to address the identified issues.

In particular, a participant from the Civic Museum of Regina identified recycling, racism, immigration, and the development of a collaborative and sustainable city, water and air management, and preserving culture and historic places as priority areas. Moreover, a community member highlighted the need to follow and rely on the United Nations goals of sustainable development while implementing the local agenda.

In PWSS, there were differences in the community’s opinions on priority sustainability issues, which is a distinguished feature of PWSS from the other participated communities having quite homogenous opinions. From PWSS, one interviewee identified key sustainability issues in the community as “farming and ranching, water and the possibility of drought.” Another interviewe highlighted the issue of the small community population as “that means keeping services and businesses going is a challenge” because “there are not very many customers.”

The WBE highlighted the issues of sustainable economic growth, including the evolution of transportation and infrastructure (road, rail, wagon, automobile; pipelines, gasification, electrification, etc.); cultural diversity and community; First Nations heritage; environment, wildlife and natural history (Appendix 9).
To sustain programs and initiatives, the ecomuseums recognize the importance of human resources, communication, community and ecomuseum membership, on-going experiential learning, and knowledge exchange. Moreover, the participants highlighted the need to build community spaces where members can gather and discuss current issues and initiatives which can turn into community hubs and the centres of community collective actions. The interviewees recognized the primary role of experiential learning in identifying major issues by the community members rather than simply relying on evidence-based knowledge and expert advice. It also highlights the distinguished feature of the ecomuseums to facilitate active community role in improving local well-being and moving towards sustainable development.

The ecomuseums’ board members recognized that the ecomuseums’ credibility builds on brand and image campaigns following and the supporting the UN Goals of sustainable development, as well as being a part of the United Nations through the representation in the RCE which helps facilitate sustainability initiatives and engage the community. So, this connection contributes to the ecomuseums’ presentation in the community and its efforts to organize community meetings and initiatives. The support of the ecomuseums’ campaigns by community members and collective social action depend on implementing the United Nations goals of sustainable development.

All the ecomuseums establish connections with the University of Regina and other institutions, such as local schools, to advance an educational component and sustain their initiatives. In particular, in CLEM the major events are water festivals building on connections with First Nations, the University of Regina, the First Nations University, agencies, the government, and local businesses, as well as the “Love our lakes” program.
PWSS has completed a project developed with Saskatchewan Heritage and a group of high school students to interview elders in the community about the restored grain elevator. The high school students interviewed their grandparents, their parents and collected the stories of how the grain elevator used to work. Then they put that together as a video and produced a book that will tell the stories of growing grain and why the use of the grain elevators and the shipping by train was so important to getting the economy established.

As ecomuseums’ members reflected on partnerships, they recognized the roles of community members, knowledge institutions, and policy-makers in building knowledge mobilization policy space to put joint efforts toward sustainable development with the help of the ecomuseums facilitating sustainability initiatives and bringing together different actors.

The majority of the interviewees reflected on the potential of the ecomuseums in facilitating sustainability campaigns and the prevailed communities’ role in identifying major sustainability issues. However, there are significant challenges associated with revenue generation and insufficient funding support to sustain programs.

Major sustainability issues identified by the ecomuseums are presented in the Table 5 below.
Table 5
Sustainability issues identified by the ecomuseums

<table>
<thead>
<tr>
<th>Civic Museum of Regina</th>
<th>PWSS</th>
<th>WBE</th>
<th>CLEM</th>
<th>NCCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recycling, racism, immigration, building and air management</td>
<td>1) Farming and ranching, water and the possibility of drought; 2) Small community population</td>
<td>Sustainable economic growth (the evolution of transportation and infrastructure); cultural diversity and community; First Nations heritage, environment, wildlife and natural history</td>
<td>Building a strong, mutually respectful relationship with all five levels of government; reacting to water health threats as they arise; inspiring communities and neighbors to value the Qu’Appelle Watershed</td>
<td>Racism and discrimination; the community’s safety; promoting Indigenous-run business; creating affordable housing; developing recreational areas; creating opportunities for viable partnerships; building the community identity and the unique sense of place</td>
</tr>
</tbody>
</table>

5.2. Ecomuseums as Sites for Community Engagement and Social Learning

Studying social learning aligns with participatory approaches as it examines the mechanisms of sharing, reinforcing, and transforming individual learning into a community-driven process (Sims and Sinclair, 2008). Moreover, social learning occurs in various loops of knowledge generation and mobilization and might proceed from single-loop learning when existing values and frameworks are taken for granted to learning-to-learn when the awareness of improving learning to adjust behavior to values is supported and the overall enhancement of social capital facilitating further collaboration and reinforcing joint decision-making (Berkes, 2009, p. 1697).
All the ecomuseums rely on their historic heritage, storytelling (with their artifacts and digital storytelling on their websites), networking and social events to facilitate knowledge mobilization and social learning, as well as volunteering. However, there are some restrictions regarding this process, such as: the limited scope of activities, geographical isolation, and limited human resources.

Besides engaging and volunteering, curating was recognized by the Civic Museum of Regina. From an ecomuseums member’s perspective, curating means storytelling and implying the efforts to become a tour guide in preserving local heritage and disseminating knowledge about it. “The museum attempts to eliminate social barriers and overcome current social segregation and isolation by initiating “Hire a Neighbor” project which engages the rest of the community to go out and meet the rest of their neighbors. As a Board Member elaborated on the project, it helps eliminate social barriers, segregation, and isolation positively contributing to the community’s efforts to engage in collective social action.

To attract volunteers, the ecomuseums initiate brand campaigns, actively rely on the UN goals and promote them, use social media, and establish connections with the University of Regina.

The majority of interviewees revealed that local and scientific knowledge are equally important for social learning and finding the right communication channel helps mobilize different forms of knowledge to facilitate knowledge exchange based on the community’s values and the major sustainability concerns. Also, Face-to-face contact and meetings are recognized as more effective than social media by all the ecomuseums.
The ecomuseums organize different events to engage the community. CLEM, for instance, organized “The State of the Lakes” festival with Dr. Peter Leavitt at the Treaty Four Governance Centre. At the 33rd Annual Treaty Four Gathering (September 2018), Dr. Peter Leavitt shared his twenty-five years of data regarding the Qu’Appelle River Valley watershed in Treaty Four Territory. His talk covered the past, and the current state of the water and what future generations may expect. Other topics included climate change and the importance of healthy wetlands and lake systems to people and the environment. Also, CLEM initiated a brand campaign “We love our lakes.” They created pamphlets, gave them out to community members. The ecomuseum worked with the tourist booth, got about 2,000 visitors and made that communication available. In this case, promoting generated in the community knowledge to wider audiences and asking for their participation in preserving the local water helps facilitate social learning based on the community’s values. Another pamphlet was created and shared with ratepayers asking for making sure to bring healthy water.

The interviewees from PWSS identified areas of community engagement and exemplified social learning with telling the history of ranching and Métis-history.

From the interview with one of the North Central leading community members and the document analysis of the community planning, I learned that the community follows consistent and strategically supporting community engagement approaches through various means and events.

1) Surveys. There were three surveys developed through the process to provide an alternative engagement tool and reach a diverse range of individuals. The questions were focused on identifying important changes, priority areas and
factors of sustainable development, as well as suggestions from community members to improve the sense of place.

2) The 40th Anniversary. On June 4th, 2016, the NCCA hosted the 40th-anniversary celebration for the Association. Residents and members of the wider Regina community were also invited to join in on the fun. The NCCA engaged in a community planning process and the members of Prairie Wild Consulting Co. participated in a survey.

3) Rider Games. As the current and newly developed Mosaic Stadiums are located within the boundaries of the North Central neighborhood, Rider Games are a vital part of community social life. Moreover, the games provide the consulting team with a chance to engage a broader community with surveys and share their ideas. Knowledge mobilization process occurring through this process contributes to the community planning and initiatives as feedback from different stakeholders is discussed at Board meetings and incorporated into proposals and recommendations to improve the local strategy. It also helps promote the positive perception and identity of the community which was identified as one of the priority areas of sustainable development.

4) Cultural Days. Cultural Days is a national event that is hosted annually in communities across Canada. NCCA hosted a Cultural Days event on October 1st, 2016 to celebrate art and culture in the community. To engage and capture more input in the planning process, NCCA board members conducted intercept surveys during the event. In 2018, on September 29, the NCCA
hosted the 6th Annual North Central Culture Days Event in its recently built Mâmawêyatitân Centre. As attendees and participants set up display tables, demonstrated their arts and crafts, and held information booths, this can be considered as an example of knowledge mobilization and social learning through inside and outside community engagement.

5) Door to Door. To engage those who may not be able to attend events, members of the consulting team go door to door asking people for their input through the intercept survey to contribute to the community planning and the neighborhood sustainable development.

6) Youth Engagement. To enhance wide community involvement in the neighborhood development and volunteerism, the NCCA facilitate sessions with students, grade 9-12. The sessions include an overview of the planning process, brainstorming and social cohesion exercises, and the development of the Mind Map of community assets in North Central (NCCA and Prairie Wild Consulting, 2017).

Moreover, the NCCA provides education opportunities in specific priority areas of their sustainable development. For example, in the area of housing, activities include educational programs, workshops, and life skills training, in particular in home maintenance, budgeting, navigating rental processes, home ownership opportunities, tenant and landlord rights. In their services and programming, the NCCA continues working with schools to organize sessions for youth engagement, as well as ensure education facilities and a safe space for children, youth, and the community to gather are maintained.
The WBE celebrated Canada 150 in 2017, they made a call to local schools that they wanted Grade 2 students to write about Canada and what celebrating Canada 150 would mean to them. They had about 12 students submitted their papers which the ecomuseum displayed in the Community center. In 2018, while celebrating Family Day, there was a proposal to reach out to local schools again and ask students to write about their family histories. Because of the lack of time and volunteers, this initiative was not realized. In spring and summer 2015, the White Butte Ecomuseum group met with the University of Regina class, the Interdisciplinary Studies (IDS) 290AB “Ecomuseums: Sense of Place Course” taught by Drs. Glenn Sutter and Mary Vetter, and the whole class met with the community in September 2015. The discussion in these meetings identified that interviewing long-time residents of the region and producing digital stories focusing on the interviewees’ personal history, community history, memories, and attachment to the region would help enhance the ecomuseum’s effort and provide excellent learning opportunities for the students. As a result, 9 digital stories were produced by the students in the form of a story map of the White Butte Region which can be accessed online
(http://townofwhite.maps.arcgis.com/apps/MapTour/index.html?appid=22ae6f4ac61d450ebc599b0d83a84a9c).

In May 2018, Dr. Adela Tesarek Kincaid and a group of students from the University of Regina delivered environmental science and sustainability lessons. During the three days (May 2 – 4), students (Grade 4 and Grade 6) from École White City School were engaged in various learning activities to explore the local environment. They investigated and created mandalas from materials found in nature, investigated the interdependence of plants and animals, including humans, within the White Butte habitat
taking part in a lesson on cow management on pastures, learned about the factors that are causing climate change and common grassland birds. The lessons provided an experiential opportunity and engaged learning while developing the students’ active understanding of themselves and their mindfulness of local nature.

Overall, talking about educational opportunities and the ecomuseums’ initiatives, the majority of ecomuseums members admitted that partnering with the University and local schools will be a key way to facilitate learning. The examples of various initiatives are summarized in the Table 6. In this case, the educational institutions can perform the functions of bridging organizations to facilitate the transfer of local and scientific knowledge and social learning promoting the community’s values to various audiences.

<table>
<thead>
<tr>
<th>The Ecomuseums’ initiatives aimed at engaging community</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CLEM</strong></td>
</tr>
<tr>
<td>“The State of the Lakes” festival</td>
</tr>
<tr>
<td>A brand campaign “We love our lakes”</td>
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5.3. Ecomuseums as Bridging Organizations

Based on the interviews, all the five ecomuseums play an active role as bridging organizations, developing partnerships and networks, attracting community in their boards and forming community groups with volunteers and leaders for sustainability initiatives, and developing explicit communication strategies. Their different features as bridging organizations are presented in the Table 7.
The major challenge all the ecomuseums face is insufficient institutional support as it is difficult to find funding opportunities, enough human resources and volunteers to sustain programs. Moreover, geographic isolation is another limitation to connect with other organizations having shared interests.

The ecomuseums establish a lot of partnerships and networks with non-profit organizations, local businesses (craft beer companies, restaurants, law firms, barber shops, media companies, festival organizers, insurance companies), educational institutions (University of Regina, College of Medicine, residential schools), arts and culture organizations, community organizations (establishing community hubs), other local neighborhoods, and different levels of government. The university is considered a key organization in the partnerships and for future connections by all the ecomuseums because of its ability to help mobilize knowledge and build confidence in making community opinions heard. The unique focus of the Civic Museum of Regina is developing own social (micro) enterprises. Moreover, as the museum has signed up to be a part of the committee meant to create a broader Community Action Plan to collectively respond to the “Calls to Action” of the Truth and Reconciliation Commission of Canada, it has established a community-led and owned approach; a meaningful, living process.

<table>
<thead>
<tr>
<th>CLEM</th>
<th>Civic Museum of Regina</th>
<th>NCCA</th>
<th>WBE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationships with levels of government</td>
<td>5 Own social (micro) enterprises</td>
<td>“Together Now Inter-Agency Network”</td>
<td>The “Hub and Spoke” approach;</td>
</tr>
<tr>
<td>New treatment center</td>
<td>Community Action Plan - “Calls to Action”</td>
<td>The Friends of the WBE as a non-profit organization</td>
<td>The White Butte Heritage Inventory</td>
</tr>
<tr>
<td>Environmental plan</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 7
The Ecomuseums’ features as bridging organizations
that acknowledges the past and paves the way forward for future generations creating further awareness of its initiatives through partnerships, inter-organizational interactions, and social media.

The CLEM differs from the other ecomuseums because of its primary focus on governance. One of the major long-term goals of the CLEM is to build relationships with five levels of government. The CLEM has established several partnerships with the City of Regina building the new treatment center; the District of Katepwa and the Lower Qu’Appelle WaterShed completing the “Love your Lakes” stewardship program; the Havelock Community and the Regional Centre of Expertise ensuring that 320 responses were sent to the Minister of Environment’s request for the Yancoal Environmental Impact Study and recognizing Yancoal’s environmental plan three clauses for community engagement (CLEM Newsletter, 2018).

The NCCA concentrates its efforts on building mutual connections and partnerships with other organizations with a shared interest to improve the community’s well-being. The NCCA participates in an inter-agency network “Together Now Inter-Agency Network” that meets on a regular basis to discuss initiatives, programs, services, and efforts in North Central. The purpose of the network is to share information, provide support, cooperate with each other, advocate, and discuss community planning. The following organizations collaborate with the North Central community in their sustainability initiatives: City of Regina, Ehrlo Sport Venture, North Central Community Association, Paul Dojack Youth Centre (PDYC), Scott Collegiate, Student Energy in Action for Regina Community Health (SEARCH), Regina Education and Action on Child Hunger (REACH), Regina Housing Authority, Regina Public Library: Albert
The WBE follows the “Hub and Spoke” approach implying that it utilizes a central location to provide coordination to a set of installations and sites and builds community-based partnerships throughout the region. The development of the “Friends of the White Butte Ecomuseum” as a regional, member-based, non-profit corporation is critical to the success of this model. Broad representation throughout the community will provide the “Friends” with the ability to source sponsorship, community funding, and volunteers. This is an active, engaged, community-based approach to supporting the ecomuseum’s activities and programming. It will make people feel involved in their own cultural heritage, as well as in the cultivation, preservation, and presentation of their stories. At this time, it is proposed the central location for the “hub” should be in White City, and the key “spokes” would be spread throughout the region. For example, one “spoke” might be a church or school site in the rural municipality of Edenwold, another might be the Balgonie pioneer museum, and another might be an artifact installation in the lobby of a corporation, library, or community center. Selected sites would also be “spokes”, such as the trail ways (White Butte Trails or the TransCanada Trail), glacial drumlin (teardrop hill) in Pilot Butte, parts of the Wascana Watershed, or preserved grasslands and green spaces. The development of the White Butte Heritage Inventory will make the selection of such sites and stories an ongoing process that requires community involvement (Alexce, 2017, pp. 25-26).
5.4. Governance of the Ecomuseums

From the group of ecomuseums studied the Civic Museum of Regina, PWSS, and the ecomuseum in North Central Community have defined governance processes.

The interviewees confirmed the findings from the literature reviews that to sustain the ecomuseums’ lifecycle in a flexible and sustainable manner, there is a need for human resources and volunteer support, partnerships with other organizations, and intergenerational knowledge exchange. It also supports the rationale and difference of the ecomuseums model from a traditional museum model. The latter typically heavily relies on government and resources support and at some point has a risk to become inflexible, very resilient, and unable to adapt to changed conditions. As the ecomuseums mostly rely on community engagement, there is a smaller risk to become inflexible because the community members define the purpose of future development, identify major sustainability issues, and put their joint efforts relying on experiential knowledge.

Civic Museum of Regina

The museum considers social enterprises a significant tool for building social networks. Moreover, it relies on the importance of collective leadership, social innovation, goodwill, and emotional intelligence in learning.

As the museum is going to establish a center for community development engaging with “different associations and non-profits together to be a center/community hub for creativity, or learning, or social development” (Ecomuseum member), social enterprises and auctions are major fundraising tools, as well as local grants and
government support programs. A participant exemplified these complex set of activities and inter-disciplinary collaboration with distributing and selling Saskatchewan maps.

The museum has well-established programming reviewed by funders in the local community and its board. Regarding governance, programming, and direction, the museum refers to a cultural plan by the City of Regina. The museum considers the most effective channels of communication to be person-to-person and collaboration to be evolved reciprocally.

**Governance in the North Central Community**

*Project Planning Committee*

To build local capacity and help guide the North Central community planning process, a project planning committee of nine people was established. The Committee includes community members and representatives of organizations within North Central. A letter of invitation was drafted amongst the NCCA Executive Director and the consultants and was emailed to each of the representatives asking them to participate on the committee. In addition, the Terms of Reference was developed and shared with potential participants to provide detailed information about the planning process; the purpose of the committee; roles and responsibilities; declaration of conflicts of interest; commitment and appointment of the committee; and, resources (NCCA and Prairie Wild Consulting, 2017).

North Central residents actively participate in all the sustainability initiatives and community programs, attend community events and can meet at local churches and gathering places to discuss and address the issues that affect them and their community.
When those concerns are expressed and formulated, the North Central Community Association in conjunction with the community develops a community vision and action plan, initiates and participates in prevention audit, and engages the community through committees, events, sessions, and follow-up interviews.

The NCCA is under the oversight of Executive Committee monitoring the board’s business and performance, Audit Committee reviewing financial workings, Albert Library serving as a self-sustainable committee of the NCCA and managing the community library, and Together Now Inter-Agency Forum comprising over 30 agencies in North Central, meeting quarterly, and serving as a platform to share resources and ideas throughout the community.

The interviewee from the NCCA described the effective governance model of the ecomuseum as a board of partners and members of the community. This exemplifies the following principles of adaptive governance with the role of ecomuseums as bridging organizations (Appendix 7): social interactions between diverse stakeholders, co-existence of specific objectives of various working groups, the crucial role of face-to-face interactions in developing working relationships, delegation and concentration on specific tasks, two-way feedback, and centralized implementation.

Governance in Val Marie (Prairie Wind and Silver Sage ecomuseum)

An interviewee highlighted the need for open membership and the importance of board that is elected from the community members and, as it is a small community, there is no competition for the spot,
Overall, based on the interviews, all the ecomuseums have their adaptive governance strategies, based on a value-based approach and supported by mission statements reflecting the United Nations goals of sustainable development. There are some limitations in adapting the initiatives and strategies to the local context because of insufficient funding support and human resources to sustain programs. These limitations, along with the geographic isolation of communities from central governance organizations, also cause some difficulties in sharing practices with a larger community. Nevertheless, all the ecomuseums actively develop partnerships and networks; engage with local community and academic institutions to generate ideas and exchange knowledge; follow and support regional, national, and international (the United Nations) agenda and programs on sustainable development; assign the leading role in identifying priority areas to the communities; follow a strong value-based approach and mission statements; promote and preserve local heritage; search additional opportunities for financial and institutional support to sustain programs and respond to changes in regulation and internal challenges.

In the system of local governance, different institutions and organizations can fulfill the roles of bridging organization. For instance, the ecomuseums can initiate campaigns to preserve local water or trees, attract volunteers, inform community and stakeholders, and ask for active participation. The University of Regina can provide with support to invite scientists to deliver lectures and enhance the credibility of the ecomuseums’ efforts, as well as attract students and volunteers to campaigns. Local businesses can also attract more human resources and increase local awareness and involvement by fundraising and social entrepreneurship.
This shift toward institutional entrepreneurship typically starts from making community-driven initiatives recognizable and approved by various stakeholders. Then, collaboration between community and organizations occurs to mobilize resources, explore new opportunities, and facilitate social innovations critical to the further transformation of socio-ecological systems.

Based on the interviews, Civic Museum of Regina and North Central Ecomuseum have the most developed institutional conditions for social learning and inter-organizational collaboration. White Butte Ecomuseum, Calling Lakes Ecomuseum, and Prairie Wind and Silver Sage Ecomuseum are in the process of building legitimacy and forming governance structures (creating the boards with community members, organizing decision-making and funding processes), and creating the windows of opportunities by inviting the community to initiate projects and applying for financial support (local and regional grants).

All the participating ecomuseums have practices and initiatives aimed at preserving natural and cultural assets, facilitate value-driven strategies to meet their sustainability goals, establish partnerships with various stakeholders, generate and disseminate knowledge about natural resources and community values, and engage the community in ongoing communication.

The formation of the ecomuseums’ strategies and programming exemplifies that framework to facilitate social learning in communities discussed in the Literature Review because first community members are asked about major issues and needs, then the ecomuseums invite them to participate in planning, and finally, the outcomes are
communicated to the municipalities and the local government. Feedback from the communities is sought at all stages, even after formalizing strategies, to launch initiatives.

Social learning seen as a prerequisite for social contracts results in cooperation which can emerge spontaneously in small groups or break down in larger groups with more complex social ties and networks (Ostrom, 2009). The participating ecomuseums have local working groups to initiate and launch initiatives and form connections with the University of Regina and the local schools to attract volunteers and engage with the communities. Cross-scale processes of cooperation lead to multi-scale feedback from multiple attractors and alternating paradigms in decision-making (Brock and Durlauf, 1999). Reviewing outcomes and results at meetings with the ecomuseums, community members, and interested stakeholders exemplifies those values of social learning and helps articulate and communicate a shared vision to decision-makers.

The participating ecomuseums facilitate agenda-setting, taking into account political realities and negotiating with the municipalities about the potential use of local resources, attract community members and scientists to identify major issues and find ways to address them, and then communicate outcomes to the communities and decision-makers asking for their feedback and adjusting programs and policies if needed.

The figure 5 below summarizes the discussed ecomuseums’ role in social learning as a policy process based on the frameworks by Van Kerkhoff and Lebel (2006, p. 458) and Phipps and Shapson (2009, p. 216), as well as their role in facilitating sustainability practices, engaging the communities, and serving as bridging organizations in the local system of adaptive governance.
Figure 5
The ecomuseums’ role in social learning and adaptive governance towards sustainability
CHAPTER 6
Conclusions and Policy Recommendations

My main research questions were focusing on the role of ecomuseums from the Ecomuseum Network in Saskatchewan in facilitating sustainability initiatives and mobilizing knowledge about local heritage, as well as their potential to improve these practices in the future and influence local and community decision-making.

Ecomuseums can be considered as an example of institutions of social coordination and sites for knowledge mobilization preserving local resources and heritage, disseminating knowledge about it, and facilitating connections and interactions with community members, educational institutions, other communities, and local government. They have various sustainability practices and projects aimed at preserving local heritage and engaging community. They actively use social media to promote programs and events. To initiate knowledge transfer, the ecomuseums rely on in-person communication and meetings. The active role and representation of the community as the board of decision-makers in ecomuseums positively affects governance practices, promotion campaigns, managing resources, and building credibility. Staffing support in the forms of attracting volunteers and human resources from partner organizations is essential to sustain programs.

The value proposition of the research was to recognize the ecomuseums’ social and economic potential in the province. The ecomuseums preserve local historic and cultural heritage, create employment and tourism opportunities in the region, facilitate community engagement through storytelling, displays, various art forms. As they rely on
the United Nations Goals of sustainable development, it provides the basis for implementing and sustaining the local agendas recognized and supported by the communities and government.

The interviewees identified various sustainability issues which sometimes lie beyond experiential knowledge to address them. Recognizing the intensity of issues, including the ones related to climate change, community members may possess less experience than needed to combat the negative impacts of challenges. Thus, the ecomuseums can provide the platform to create a knowledge mobilization policy space engaging scientists, community members, and policy-makers to expand available knowledge and come to a consensus on prioritizing issues and community resources.

My participation in sustainability initiatives and volunteer campaigns helps recognize the importance of engaging the communities, building partnerships with the University, and collaborating with policy-makers on articulating the ecomuseums’ programming and applying for funding support. The Internship at the Ministry of Agriculture enabled me to realize the role of formal auditing and monitoring in the area of managing natural resources, the role of public consultations, and the importance of the communities’ efforts in articulating their needs and preserving social capital.

Regarding the initial framework of social learning which consists of several steps related to the policy cycle, the ecomuseums identified major sustainability concerns and issues, such as recycling, racism, immigration, preserving local heritage and resources (water), farming, reconciliation; integrated local and scientific knowledge by initiating events and activities with the University of Regina, asking scientists to support their initiatives and deliver lectures to the communities, and attracting volunteers to engage
with community members and other stakeholders and support campaigns; relied on the communities’ values and invited community members to form the Boards of Directors and contribute to local decision-making and programming.

From the government’s perspective, there is a risk of bureaucratic barriers undermining the successful implementation of sustainability initiatives. That is why the real or potential representation of policy-makers in the Ecomuseums’ Boards and the community’s participation in the public discussions and consultations delivered by the government are essential.

Based on the common findings from the interviews, a key role in sustaining programs belongs to community members and volunteers. In identifying major issues and concerns, it is essential to give more credit to a community opinion (not an external expert). In mobilizing knowledge, it is crucial to consider intergenerational knowledge exchange. In forming partnerships and connections with other organizations with a shared interest, it is preferable to rely on face to face meetings, however, geographical isolation is a significant barrier in this process.

Although the research confirms the positive impact of the ecomuseums on economic and social development in the province, there might be possible negative strategies because of the limited scope of the ecomuseums’ activities, the differences in perceptions about major sustainability issues in the communities and even the differences in opinions in the community, as in the case of PWSS. As different ecomuseums highlight various priorities for the communities’ sustainable development, it might be difficult to facilitate a common agenda by the government and distribute resources according to the ecomuseums’ needs.
Overall, the ecomuseum members interviewed perceive sustainability with regard to the social and economic development of the communities and recognize the importance of preserving local heritage (natural and cultural) and disseminating knowledge about it, engaging the communities to sustain initiatives, creating employment and tourism opportunities. To enhance the processes of knowledge mobilization and social learning, the interviewees mentioned the key role of universities and knowledge institutions in collaborating with ecomuseums and facilitating community events and sustainability initiatives, supporting community efforts to implement their projects and receive credibility, developing partnerships and networks with other organizations with a shared interest, and helping find and engage volunteers to sustain programs, which in summarized in the Figure 6.

Figure 6
The ecomuseums’ potential in enhancing social learning and adaptive governance towards sustainability
A knowledge-based policy is required to address multi-dimensional problems in various sustainability priority areas and possible to be implemented through joint efforts of community decision-making boards also represented in ecomuseums, local and provincial governments. Applications for local and provincial funding support through the city council, non-profit organizations and associations provide the potential to find programs support and expand the network of interested stakeholders to sustain initiatives.

The engagement between local communities through ecomuseums and knowledge institutions facilitates social learning occurring as a result of intergenerational knowledge transfer and co-creation inside communities and with external stakeholders, such as knowledge institutions, universities, schools, and social enterprises.

Experiential learning as a primary source of knowledge generation should be supported through the active involvement of the community in preserving and disseminating knowledge about local heritage (for example, organizing displays, community storytelling). Organizations in the field of academia help generate scientific knowledge and through established partnerships with the communities mixed knowledge can evolve. Moreover, instead of one-way information flow or training, both expert and community knowledge should be applied to address concerns.

To facilitate social learning in communities, it is advantageous to consider this process in regards to policy cycle and firstly identify major sustainability concerns and issues by the community, then identify how local (experiential) and scientific knowledge can be generated and applied to address the articulated priority areas, integrate various knowledge types to enhance understanding among different stakeholders and learning opportunities for the community, and apply those practices to address the identified
issues. Typically, inter-organizational partnerships and networks can be facilitated through the joint efforts of community members and ecomuseums having community members in their boards.

A value-based approach and resource management are crucial to developing an effective model of ecomuseums governance. The development of tourism, local employment in collaboration with local businesses through sustainability initiatives, partnerships and social enterprises, and educational opportunities broadens the scope of activities and creates new connections with other communities and organizations. Informal educational opportunities could include community storytelling and outdoor lessons, while formal components as the Ecomuseums course or Arts Internship Program aimed at promoting and developing local heritage through ecomuseums could be utilized at the University.

Formalized educational strategies may facilitate more active knowledge mobilization and social learning in communities in the following ways:

1. a facilitated process to enable the local community to define concerns and articulate goals and vision for sustainable development to community members, decision-makers, and other communities;

2. local, provincial, and federal government agencies apply the community’s values and the UN goals of sustainable development to their strategies;

3. academic expertise is mobilized through knowledge institutions and partnerships (or broader networks, such as the Regional Centre of Expertise Network) and communicated to all interested parties with required feedback from them.

Communication strategy to advance on governance might be based on:
1. Engagement with those directly impacted in the community;
2. Public dialogue and consultation with ecomuseums and community boards;
3. The priority of holding face-to-face meetings;
4. The sufficient and complimentary use of social media, including the ecomuseums websites, partner organizations website, newsletters, emails, community newspapers, academic journals, governmental information resources;
5. The opportunities for formal and transparent consultations with governmental bodies and agencies;
6. Brand and image campaigns to enhance ecomuseums’ credibility and make people recognize their capacity;
7. Applying a value-based approach and funding considerations to facilitate social learning as a policy process;
8. Recognizing and promoting the value of service-learning to address sustainability concerns;
9. Employing the best practices and scientific knowledge for community consultations and decision-making.

Policy recommendations

In the area of the ecomuseums’ management of natural resources, formal monitoring and auditing processes are typically required. Based on the perspectives of the Ministry’s public servants participating in the study, sustainability considerations should be based on local impacts measures as outputs and outcomes, compared with provincial and national standards, then transformed into a benchmark unified around the international standards.
of sustainable agriculture. Whereas outputs are measured based on experiential (local) knowledge and sources, the assessment of outcomes requires science, more solid expertise, and information support. From the Ministry’s perspective, the monitoring and auditing of natural resources should be conducted by a third-party agency specializing in specifically auditing and performance standards and the report and results should be communicated to interested stakeholders and the public before the Ministry’s verification and final approval. Moreover, after auditing is completed, the further assessment is required to determine the effectiveness of auditing and implementation processes by comparing the outputs after completing self-assessment, then after the third-party’s auditing, and finally after the Ministry’s assessment of overall performance and the implementation of auditing results. The goal of such multiple assessments is to provide a coordinated approach, develop a local benchmark consistent with unified international standards, and enhance the motivation of the public and those affected by sustainability assessment to contribute to a more open and transparent public consultation and engagement. The transformation process is crucial to facilitating community-driven social learning from generated and mobilized knowledge through multi-stakeholder networks. In the previous paragraphs, the central role of bridging organizations was highlighted in this process.

In the area of preserving social capital and cultural heritage, the ecomuseums establish their own governance systems assigning to the Board of ecomuseums and community members the major responsibility to advance on sustainability practices, facilitate knowledge generation and social learning in communities partnering with the University and other knowledge institutions, and engage communities in these processes.
As the ecomuseums rely on government support and funding, it is beneficial to design sustainability initiatives according to major issues identified by the communities and supporting the strategic agenda of the City of Regina and the Government of Saskatchewan. The success of grants applications depend on the ecomuseums’ capacity to match the community’s interest and the government’s priority, as well as the their ability to implement the government’s approach into the ecomuseums’ programming and articulate the communities’ needs to policy-makers.

As preserving local heritage is fundamental to community sustainable development and adaptive governance expands practices for sustainable development, it may be beneficial to:

1. Facilitate dialogue and knowledge generation on sustainable development and community issues among scientists, community members, and decision-makers;
2. Develop enhancement activities applying community skills in their social, economic, and cultural contexts (community centers, social enterprises, ecomuseums boards, exhibitions, and displays);
3. Develop tourism in relation to community identity and the local representation in addressing larger sustainability issues (brand development and marketing campaigns);
4. Enhance heritage management by incorporating environmental measures, and monitoring outputs and outcomes. Ecomuseums can help facilitate learning opportunities, promote the community’s values, preserve local heritage and attract wider audiences to sustainability initiatives;
5. Develop the evaluation of heritage development, indicators, and state of its preservation;
6. Improve knowledge transfer and information dissemination about the value of local heritage (social, economic or symbolic function).

To advance on the adaptive governance of socio-ecological collaboration involving the active engagement of community and ecomuseums, it might be advantageous to:
1. Articulate a shared vision and develop a value-based strategy supporting the UN goals of sustainable development;
2. Encourage social innovations and community leadership;
3. Develop flexible and resilient partnerships and networks able to adapt and respond to changes;
4. Design the system of monitoring and measuring outcomes from sustainability activities by the community members and decision-makers;
5. Develop educational opportunities with knowledge institutions and generate the portfolio of community projects;
6. Negotiate the joint efforts of scientific and political sectors to enhance local capacity;
7. Create two-way feedback and channels for expressing criticism and concerns;
8. Provide more face-to-face communication opportunities.

Overall, ecomuseums can help facilitate knowledge mobilization and social learning, preserve local heritage, establish partnerships with educational institutions, provide learning opportunities for the community and other stakeholders, and establish a dialogue.
among community members, scientists, and decision-makers. These social interactions between diverse stakeholders, two-way feedback, the facilitation of sustainability initiatives and community engagement are the key components of adaptive governance enhanced by community-driven social learning and ecomuseums as bridging organizations.

**Future research**

While considering the framework of social learning, I uncovered that in problem identification the directory is heavily based on the purpose of future knowledge mobilization. Reflecting on the interviews, I found that the ecomuseums gave more credit to community opinion and not an external expert. Future work could elaborate on the role of community and external resources in identifying problems and then developing a potential directory to define the purpose of future knowledge mobilization.

Reflecting on knowledge types, it was discovered that the mix of local and scientific knowledge is needed to address identified issues. However, in the literature, it was not discussed whether there might be mutually exclusive knowledge and what to do if scientists and community members do not agree on goals and values. Future work could inform these contingencies and consider how to mitigate potential conflicts in integrating diverse knowledge types, as well as convince community members and interested parties in knowledge validity, relevance, and consistency with the values. The preliminary research could consider how to choose and agree on values, their varieties in communities and epistemological preferences. Moreover, it would be advantageous to consider the role of ecomuseums in this process as bridging organizations: how they
might help improve the consistency of values and knowledge exchange, as well as the acceptance and recognition of goals, values, and knowledge by both community and external parties (experts, decision-makers, and knowledge institutions).

Discussing the application of knowledge integration and social learning to sustainability issues, the literature emphasizes the role of scientists who are able to identify prevailing knowledge types at the various stages of learning processes and assess the outcomes of social learning. However, the majority of interviewees highlighted the key role of volunteers, community members, and other human resources in this process, as well as the importance of intergenerational knowledge exchange. Thus, future work could examine the potential of ecomuseums, community members, and knowledge institutions in applying social learning to sustainability issues and facilitating knowledge transfer to other generations.
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## Appendix 1

### Indicators assessing the role of ecomuseums as sites for knowledge mobilization and social learning (used for interview questions)

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Questions to consider</th>
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| Education of local community within the frame of sustainable development  | Are the programmes or educational resources on sustainability available to community members? 
|                                                                           | Is the community involved in research or academic work? 
|                                                                           | Is the purpose of educational activities towards sustainable development clearly explained to and understood by the community?                                                                                          |
| Participation of local community in sustainability initiatives generated by ecomuseums | Do ecomuseums offer educational opportunities and guidance services? 
|                                                                           | Are the sustainability initiatives actively and openly promoted? 
|                                                                           | Is feedback from community members actively sought and taken into account by ecomuseums? 
|                                                                           | Are local community members encouraged to take a leadership role in the sustainability initiatives?                                                                                                               |
| Local community’s participation in social learning towards sustainable development | Are projects and learning services offered to community members? 
|                                                                           | Do ecomuseums use the best present scientific and social findings to create a sustainable plan and promote it to the community? 
|                                                                           | Is the balance between scientific and local knowledge supported through the two-way interactions of the community and academic institutions? 
|                                                                           | Does the community establish agenda for the future development considering educational opportunities and involving established partnerships with ecomuseums and academic institutions? |

Source: Based on Zapletal (2012) and Corsane et al. (2007).
### Appendix 2

**Interview sample questions**

<table>
<thead>
<tr>
<th>Potential interviewees</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professionals associated and/or familiar with the Ecomuseum Network</td>
<td>At the beginning of each interview/meeting provide necessary background information about the project, explain the concepts of knowledge mobilization and social learning, and ask participants for any clarification and/or add to the provided information. Keep careful notes at meetings/interviews and audio record each meeting/interview. If an interviewee is familiar with the White Butte Ecomuseum, the interviewer will propose the following questions: Do you know the examples of initiatives/tools provided by the White Butte Ecomuseum to facilitate learning? Can you comment on them? How did you know about them? What did you find most effective in the White Butte Ecomuseum’s initiatives, activities and events? Do you see any weaknesses or challenges in the ecomuseum’s process of sharing information with the broader community? If so, what are they? Do you have any suggestions about how to get the broader participation in the ecomuseum’s initiatives and the facilitation of community social learning? What social media channels do you consider to be the most reliable, popular and useful in regards to promoting the ecomuseum’s initiatives? Do you have any suggestions about how to get the broader participation in the WBE’s initiatives and the facilitation of community social learning? How could the WBE and the Council offer educational opportunities to the community? How could knowledge exchange and two-way feedback be facilitated with the WBE and the Council? What do you think the governance of ecomuseums should look like? Who should be in charge? How should decisions be made and resources allocated? How should the community have input into these decisions? How often and through what mechanisms, and by whom should the ecomuseum’s activities be reviewed? How should sustainability be measured and reported on?</td>
</tr>
<tr>
<td>All potential interviewees</td>
<td>What kind of learning needs does your community have in the area of sustainability? What area of sustainable development do you consider as the most significant for community? What are the key sustainability issues in your community?</td>
</tr>
</tbody>
</table>
What kind of knowledge or learning do community members need to address these issues?
What types of knowledge are necessary for sustainable development (e.g., local/experiential, scientific, other)? What purposes do each serve within your network?
How could the local community preserve local heritage? What is the role of ecomuseums in this process?
What would be most helpful to you in getting the local community involved in research activities?
Which programmes or educational resources do you consider as the most relevant and beneficial to enhance sustainability?
How could ecomuseums and the local government offer educational opportunities to the community?
What mechanisms could be established to facilitate better understanding between different stakeholders (local government, ecomuseums, and the University of Regina) and improve social learning processes?
What is the role of the community in facilitating knowledge exchange and the local network involving ecomuseums?
What do you think the governance of ecomuseums should look like?
Who should be in charge? How should decisions be made and resources allocated? How should the community have input into these decisions?
How often and through what mechanisms, and by whom should the ecomuseums’ activities be reviewed?
How should sustainability be measured and reported on?
Appendix 3

The major elements of ecomuseums’ sustainability initiatives and their potential impacts on local development

<table>
<thead>
<tr>
<th>Pillars of ecomuseums’ sustainability initiatives</th>
<th>Potential impacts on community development</th>
</tr>
</thead>
</table>
| Sustainable tourism (Hunter 1997; Ritchie and Crouch 2003) | • consistent enhancement of existing resources;  
• job creation on the site;  
• the redistribution of income;  
• restraining the depopulation of rural areas;  
• reducing the depletion of natural resources and pollution;  
• limiting the commercialization and standardization of cultural heritage (Romei, 2008);  
• maintaining competitiveness of local resources |
| Practice of the cultural district (Becattini, 2004). Cultural districts can be seen as industrial districts where culture and cultural heritage are the dominant factors (Santagata, 2002, p. 15) | • mobilizing the aesthetic, technological, anthropological and historical content of the district through the dissemination of local resources featuring community identity (Santagata, 2002);  
• enhancing cultural heritage of an area and the infrastructure (Valentino, 2003);  
• fostering employment and multi-sectoral innovations;  
• integrating the productive and industrial systems of the local community |
| Model of the quality of territory (Song 2006): the idea of local development based on cultural heritage | • promoting social development;  
• fostering economic growth;  
• building a sense of place;  
• enhancing local uniqueness |

Source: Based on Badia and Deodato (2015).
Appendix 4

## Indicators assessing the role of ecomuseums as bridging organizations

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network structure</td>
<td>• social interactions between diverse stakeholders;</td>
</tr>
<tr>
<td></td>
<td>• structurally cohesive process of decision-making;</td>
</tr>
<tr>
<td></td>
<td>• independent planning;</td>
</tr>
<tr>
<td></td>
<td>• centralized implementation</td>
</tr>
<tr>
<td>Functionality</td>
<td>• co-existence of specific objectives of various working groups;</td>
</tr>
<tr>
<td></td>
<td>• the central role of leadership to enhance group productivity</td>
</tr>
<tr>
<td>Communication and interaction</td>
<td>• the crucial role of face-to-face interactions in developing working</td>
</tr>
<tr>
<td></td>
<td>relationships;</td>
</tr>
<tr>
<td></td>
<td>• delegation and concentration on specific tasks;</td>
</tr>
<tr>
<td></td>
<td>• reasonable workload and achievable commitments</td>
</tr>
<tr>
<td>Institutional support</td>
<td>• elimination of excessive administrative barriers;</td>
</tr>
<tr>
<td></td>
<td>• the central role of horizontal institutional structures;</td>
</tr>
<tr>
<td></td>
<td>• two-way feedback;</td>
</tr>
<tr>
<td></td>
<td>• simple logistics in building institutional networks</td>
</tr>
</tbody>
</table>

Source: Based on Kowalski and Jenkins (2015).
Appendix 5

Research Ethics Board
Certificate of Approval

PRINCIPAL INVESTIGATOR
Anna Lozhkina

DEPARTMENT
Johnson Shoyama Graduate School of Public Policy

REB#
2018-125

SUPERVISOR
Dr. Kathleen McNutt, Dr. Amber Fletcher, & Dr. Glenn Sutter

TITLE
Knowledge mobilization: Local community engagement, sustainability and adaptive governance

APPROVED ON
August 2, 2018

RENEWAL DATE
August 2, 2019

APPROVAL OF
Application for Behavioural Research Ethics Review
Recruitment materials
Interview questions
Consent form

Full Board Meeting

Delegated Review

The University of Regina Research Ethics Board has reviewed the above-named research project. The proposal was found to be acceptable on ethical grounds. The principal investigator has the responsibility for any other administrative or regulatory approvals that may pertain to this research project, and for ensuring that the authorized research is carried out according to the conditions outlined in the original protocol submitted for ethics review. This Certificate of Approval is valid for the above time period provided there is no change in experimental protocol, or related documents.

Any significant changes to your proposed method, procedures or related documents should be reported to the Chair for Research Ethics Board consideration in advance of its implementation.

ONGOING REVIEW REQUIREMENTS
In order to receive annual renewal, a status report must be submitted to the REB Chair for Board consideration within one month of the current expiry date each year the study remains open, and upon study completion. Please refer to the following website for the renewal and closure forms:
https://www.uregina.ca/research/for-faculty-staff/ethics-compliance/human/ethicsforms.html

Laurie Clune PhD
REB Chair
University of Regina
## Appendix 6

### Sustainability issues and concerns identified by the Civic Museum of Regina

<table>
<thead>
<tr>
<th>Project</th>
<th>Overview and current issues/concerns</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Artifact Review</strong></td>
<td>As they move to an ecomuseum model, there is not the need to house or hold pioneer artifacts that can be seen in other museums or in antique stores. A need to set out to review the collection and items that are not of historic significance to Regina be given to other museums, sold or moved to a prop category as a means to tell the story.</td>
</tr>
<tr>
<td><strong>Reconciliation Regina</strong></td>
<td>City of Regina has set up a committee meant to create a broader Community Action Plan to collectively respond to the Calls to Action. Reconciliation Regina has created a Steering Committee to guide its path forward, as well as a Governance Circle (Subcommittee) to determine its vision, mission, values and goals; and a Communications Circle to discuss ways in which to create further awareness of its initiatives. Civic Museum of Regina has signed up to be a part of the committee. An outcome of Reconciliation Regina will be the creation of a Community Action Plan, which will be a community-led and owned approach; a meaningful, living process that acknowledges the past and paves the way forward for future generations.</td>
</tr>
<tr>
<td><strong>Inside the Civic Museum</strong></td>
<td>Due to the success with the Author Series, hosting monthly talks at the museum</td>
</tr>
<tr>
<td><strong>Social Enterprise</strong></td>
<td>The museum needs to develop alternative revenue streams and one concept is to develop social enterprises that have a community impact. Social Enterprises are essentially enterprises that seek independence from both the state and private capital through strategies that create a social economy. Discussions include vintage Regina T-shirts depicting historic events in Regina history. They can also be seen in mugs, calendars, etc. Antique auctions, refurbishing collectables into art. Working with newcomers to build or start a Fair trade enterprise etc. The item is open to discussion and a business plan needs to be developed.</td>
</tr>
<tr>
<td><strong>Digitization Protocol</strong></td>
<td>Use saskcollections.org online database for the collection. Need to develop a coding systems for items deaccessioned, photos that have been digitized and are no longer in the collections, to catalogue the library for an easy access using the same database.</td>
</tr>
<tr>
<td><strong>Regina Timeline Website</strong></td>
<td>The museum’s website has an option to enter significant dates on a Regina timeline</td>
</tr>
</tbody>
</table>
| **Link historic pictures to**   | North Central Community Association (NCCA) with the help of the University of Regina Geography department designed a Google map of
<table>
<thead>
<tr>
<th>Google Maps</th>
<th>Regina to show where things were built. NCCA had a sliding scale that showed the location of buildings and places by the decades. Capture social media pics from “Vintage Regina” and “If you grew up in Regina” and pin them to a map of the city showing growth and what the city looked like in each decade. <a href="http://northcentralregina.ca/map/">http://northcentralregina.ca/map/</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>TC Douglas Voting List</td>
<td>Have received a framed copy of framed voting list showing TC Douglas living in Cathedral. The item is being donated to the NDP head office in Regina with a historic panel. Need to set up a time to present the item, along with press, social media and website</td>
</tr>
<tr>
<td>Auto Mobility</td>
<td>Auto Mobility serves clients with mobility issue. They would like to have medical equipment curated in their location</td>
</tr>
<tr>
<td>History of Medicine</td>
<td>Every fall, 40 Year 2 medical students move to the University of Saskatchewan, College of Medicine, Regina Campus based at the Regina General Hospital. One part of their education is a module called “arts and humanities”. A stream within this module is the history of medicine</td>
</tr>
<tr>
<td>Glass Wheat Field</td>
<td>Set up (semi) permanent home for the Glass Wheat Field</td>
</tr>
<tr>
<td>Transit Uniform</td>
<td>In the collection – on loan a transit uniform of the first women in Regina to drive a bus. Next steps would be to tell the story of the owner and expand to possibly a #metoo story of issues being the first women driver</td>
</tr>
<tr>
<td>Loom</td>
<td>Met with craft merchants from the Centennial Market. There is some interest from the weaving guild. The guild believes they can restore the item for be used as a teaching tool</td>
</tr>
<tr>
<td>An interpretive First Nations Feast</td>
<td>There is an opportunity to work with a First Nations group and develop a traditional feast and have it interpreted as a means to teach First Nations culture to non-native and new comers to Regina. Partners would include a First Nations organization, elders, theatre group, culinary group etc.</td>
</tr>
<tr>
<td>Residential School Demonstration</td>
<td>Conceptually Regina residents have no idea of how many First Nations and Métis people that were impacted by Residential Schools. Some years ago a group of women did a silent vigil in the Heritage Neighbourhood and dressed up in black with white faces to make a statement of missing street workers. The same concept could work as we line hundreds of silent protestors on Albert St from North to the South with people on sidewalks holding signs stating their linkage to Residential Schools and or 60’s scoop. The concept is great for visual statement on how many people were affected by Residential Schools/ 60’s scoop. Need to have multiple partners with linkages to First Nations survivors.</td>
</tr>
<tr>
<td>Hire a</td>
<td>Following up on ecomuseum topics, the museum has an opportunity to</td>
</tr>
<tr>
<td>Neighbour</td>
<td>launch a “Hire a neighbor” program throughout the city. Simply put the project is a series of large cards that can be placed in a window facing the street, asking neighbours to shovel snow, rake leaves or cut grass (similar to “No Milk Today” sign). The program was successfully launched in North Central and has the ability to be replicated throughout the city. Ideally it would be a break even event if a corporate sponsor would be found.</td>
</tr>
<tr>
<td>Human Justice Students</td>
<td>Continue to work with the Facility of Human Justice to receive students who require a semester of practicum work. Research globally how countries dealt and implemented reconciliation as seen in Australia and New Zealand. The contributors to the United Nations Declaration on the Rights of Indigenous Peoples report referenced other countries where reconciliation has happened. How did other colonialist/oppressive societies move to reconciliation and what did they do that we can learn from and implement?</td>
</tr>
<tr>
<td>YQR WhyQR Regina</td>
<td>Begin recording stories on how and why people (not born here) come and stay in Regina. Possible Volunteer or student project, include indigenous students, reach out to film students. Have set up the domain WhyQR and YouTube channel</td>
</tr>
<tr>
<td>Journalism Students</td>
<td>The School of Journalism is always looking for students. Need to develop a process where by students can research some of the museum’s artifacts and develop a story for the larger public</td>
</tr>
<tr>
<td>Treaty Map of Saskatchewan</td>
<td>Distribute an updated map of all the Treaty Land, Reserves and TLE land in the province and sell maps as a Social Enterprise project</td>
</tr>
<tr>
<td>Frontenac Back Staircase</td>
<td>The Frontenac has a back servant’s staircase that is not open to the public, but does open on occasion for tours. Would this be an opportunity to stage the area with all the history that was collected by researcher for Doors Open 2017. Develop a work plan and gather all the research that was collected and develop a larger and in-depth story of the building for future events</td>
</tr>
<tr>
<td>Revera Retirement Residence</td>
<td>Create a permanent gallery space at the Retirement home for rotating displays. All graphic work is complete and the exhibit was set up on Tuesday Oct 10th in the afternoon. Management would like to participate in reminiscent kits and museum volunteers to present on an ongoing basis. Has been installed</td>
</tr>
</tbody>
</table>

Source: Interview with Rob Deglau, Community Outreach Coordinator at the Civic Museum of Regina
### Calling Lakes Ecomuseum: strategic planning, goals and objectives

<table>
<thead>
<tr>
<th>Goals</th>
<th>Objectives</th>
</tr>
</thead>
</table>
| Achieve a strong Ecomuseum’s committee that is internally robust and well-positioned to meet challenges | • Increase the committee numbers by 5, ensuring the members are diverse (skills, race, age, background);  
• Achieve economical sustainability through sponsorship opportunities (research grants);  
• Communicate open meetings with agenda and dates;  
• Have clear guidelines as far as governance and structure of the committee: develop the Terms of Reference for the Ecomuseum |
| Inspire communities and neighbors to value the Qu’Appelle Watershed | • Promote self-celebration for the community and the Ecomuseum by giving out trees in the July 1 parade;  
• Create a webpage |
| Have a strong, mutually respectful relationship with all five levels of government | • Invite all levels of government to join the Ecomuseum members in the July 1 parade |
| React to water health threats as they arise                          | • Raise awareness and educate our community on the current Quill Lake situation |

## Appendix 8

### Sustainability issues and concerns identified by the North Central Community Association (NCCA)

<table>
<thead>
<tr>
<th>Areas of sustainable development</th>
<th>Recommended actions</th>
</tr>
</thead>
</table>
| **Partnerships**                 | • Collaborate with existing and new partners;  
• Work towards the discrimination of racism and discrimination;  
• Share North Central’s success stories;  
• Make a database for organizations and agencies;  
• Celebrate volunteerism |
| **Services and Programs**        | • Support NCCA partners;  
• Bring another daycare to North Central;  
• Bring a detox centre to the community;  
• Ensure schools are safe places for everyone;  
• Create youth friendly activities;  
• Be a welcoming community for all cultures and generations;  
• Provide healthy food options in the community |
| **Community Pride**              | • Promote community events;  
• Ensure the community is safe;  
• Enhance the visual appeal of the community;  
• Celebrate all cultures |
| **Economic Opportunity**         | • Bring in more businesses to the area;  
• Promote Indigenous-run business;  
• Provide opportunities for training and work experience for youth;  
• Start with small markets and events to draw in people;  
• Upgrade store fronts |
| **Housing**                      | • Identify the challenges;  
• Provide affordable and attainable rental and ownership properties;  
• Look at different housing models for different needs;  
• Ensure homes are safe;  
• Explore an advocacy board for renters;  
• Provide education on home maintenance to homeowners, renters, and property owners |
| **Crime and Safety**             | • Improve overall safety in the area;  
• Increase lighting in streets, parks, alleys; |
<table>
<thead>
<tr>
<th>Priority/actions</th>
<th>Initiatives</th>
</tr>
</thead>
</table>
| Ensure open/green spaces and recreational areas remain accessible to all community members | - Park improvements to Kinsmen Park and Dewdney Park;  
- Continue to work with the City of Regina’s Parks and Recreation;  
- Review park space programming, explore opportunity and engage the community regularly (an outdoor walking group);  
- Host more community events with free activities for all ages;  
- Work with community members and organizations to ensure facilities and amenities are maintained and safe to use |
| Focus on year-round recreational programming informal, formal, indoor, and outdoor areas | - Maintain an inventory of programs that are offered through NCCA;  
- Continue to promote activities and events;  
- Continue to support other community organizations and municipally-led initiatives that provide year-round programming and identify opportunities for potential partnerships |
| Create opportunities for viable partnerships, shared resources, and databases | - Continue to be a leader in the community to facilitate partnerships with organizations, community groups, and the City;  
- Continue to utilize social media and other web-based services in communications to share information about |
| Community-based events, organizations, and other opportunities;  
| Continue to publish the Community Connection paper;  
<table>
<thead>
<tr>
<th>Approach potential partners to help with raising funds for projects, events, programming</th>
</tr>
</thead>
</table>
| Celebrate the strong volunteerism  
| Increase awareness of volunteering through communications and other methods to encourage others to volunteer in North Central;  
| Promote community-based volunteer opportunities by developing a volunteer database |
| Promote positive perceptions about the community identity and the unique sense of place  
| Lead and support programming and education that targets the elimination of racism and discrimination;  
| Support and encourage actions and programs from various community-based organizations;  
| Work with local media to increase ‘feel good stories’ about North Central to improve public perception of the community |
| Ensure housing remains attainable in North Central  
| Work with the City of Regina and other housing-focused organizations to create/review an attainable housing strategy that targets priority needs;  
| Advocate for the community to identify new policies and potential incentives for private, public, and non-profit sector developers;  
| Collaborate with other levels of government for adequate funding for affordable housing;  
| Develop a rent-to-own program that helps individuals set up for home ownership;  
| Incorporate educational workshops in the program for home maintenance and budgeting |
| Ensure North Central is a safe place for all community members and visitors  
| Continue to support the White Pony Lodge’s community watch program;  
| Incorporate more proactive and positive police presence;  
| Collect and remove garbage and waste from streets and alleys;  
| Develop a yard equipment library that offers rakes, shovels, brooms, lawn mowers, etc. to residents and organizations to help clean up streets, alleys, and yards;  
| Increase fire safety through education and fireproof garbage bins;  
| Work with Police, the City, and other organizations and agencies on efforts to curb gang-activity;  
| Provide a 24-hour youth safe shelter that has staff on hand to help with supports and counselling |
| Continue the acknowledgement of the diversity of the community and develop tourism opportunities | • Promote the acknowledgement of newcomers and Treaty 4 and Métis traditional lands;  
• Continue to explore and conduct best and promising practice research of creative tourism opportunities of similar scale, e.g. a walking tour of public art and murals in the community, Jane’s walk;  
• Events that bring community members together such as block parties and community gatherings will continue to be supported |
|---|---|
| Consider opportunities of enhancing North Central’s image | • Changing the name of Dewdney Avenue into a more culturally relevant and appropriate name;  
• Incorporate multi-lingual signage in the community, utilizing Canadian Indigenous languages |
| Celebrate the heritage and arts of North Central | • Development of the eco-museum and create an art gallery;  
• Regularly promote current events and activities |
| Encourage business and entrepreneurship spirit | • Promote North Central as the place to locate Canadian Indigenous run businesses and organizations;  
• Work with Canadian Indigenous Bands to develop Urban Reserve lands between Albert and Angus, and 5th and 7th Ave;  
• Focus on opportunities for youth involvement in economic development through training;  
• Develop a Business Improvement District for North Central;  
• Advocate with the City to provide tax breaks/incentives for small businesses and Canadian Indigenous run organizations and businesses |

# Appendix 9

## Sustainability issues identified by the White Butte Ecomuseum Committee

<table>
<thead>
<tr>
<th>Major sustainability issues</th>
<th>Opportunities</th>
</tr>
</thead>
</table>
| **Sustainable economic growth** | • Build tourism opportunities around cultural heritage and regional network of significant places (Great Trail, Pilot Butte glacial drunlin), events, historical sites, museums (Balgonie), etc.;  
• Build upon the tourism potential in the White Butte Heritage Inventory;  
• Understanding the role of the ecomuseum  
Transportation, Infrastructure and Pathways | • Community events to gather and share stories;  
• Create storytelling venues and exhibits throughout the region with local partners;  
• Work with formal education systems to gather and tell stories – e.g. Heritage Fairs; University Ecomuseum Class  
| **Cultural diversity and community** | • Recognize 10,000-year legacy;  
• Ancient buffalo hunting grounds;  
• Educational links with indigenous people in the region and schools  
| **First Nations heritage** | • Educational links with schools, regional agriculture-related organizations and companies to tell their stories – such as implement manufacturers/dealers; Prairie Valley School Division;  
• Link with members of the Prairie Conservation Action Plan, Ducks Unlimited, Nature Saskatchewan, Nature Conservancy of Canada, Wildlife Federation;  
• Regional history of food;  
• Work with formal education system, Royal Saskatchewan Museum re history of local ecosystems and natural history relevant to the Aspen Parkland Region;  
• Links with Sask. Water Corp  
| **Environment** | • Heritage trail development;  
• Growing and gathering our food;  
• History of land use, agriculture and livestock;  
• Grasslands and water use;  
• Community gardens;  
• Clean and sustainable  
| **Wildlife and natural history** | • Educational links with schools, regional agriculture-related organizations and companies to tell their stories – such as implement manufacturers/dealers; Prairie Valley School Division;  
• Link with members of the Prairie Conservation Action Plan, Ducks Unlimited, Nature Saskatchewan, Nature Conservancy of Canada, Wildlife Federation;  
• Regional history of food;  
• Work with formal education system, Royal Saskatchewan Museum re history of local ecosystems and natural history relevant to the Aspen Parkland Region;  
• Links with Sask. Water Corp  
| **Source:** Alexce (2017). |  

- Understanding the role of the ecomuseum  
- Evolution of transportation and infrastructure (road, rail, wagon, automobile; pipelines, gasification, electrification, etc.);  
- Importance of pathways and trails;  
- The Great Trail (TransCanada Trail) development  
- History of family, community and traditions;  
- Cultural timeline past to present;  
- Changing dynamic  
- Movement and lives of people in place and time;  
- Language and oral history traditions  
- Grasslands, heart space, waterways and wetlands evolution;  
- Flora and fauna – understanding changing climate and patterns  

- Heritage trail development;  
- Growing and gathering our food;  
- History of land use, agriculture and livestock;  
- Grasslands and water use;  
- Community gardens;  
- Clean and sustainable  
- Timeline;  
- Geographical and geological diversity;  
- Grasslands, green space, waterways and wetlands evolution;  
- Flora and fauna – understanding changing climate and patterns