

Journal of Rural and Community Development

Implementation Dynamics for Sustainability Planning in Rural Canada

Authors: Glen T. Hvenegaard, Lars K. Hallström, & Kelaine L. P. Brand

Citation:

Hvenegaard, G. T., Hallström, L. K., Brand, K. L. P. (2019).
Implementation dynamics for sustainability planning in rural Canada. *The
Journal of Rural and Community Development*, 14(1), 54–76.

Publisher:

Rural Development Institute, Brandon University.

Editor:

Dr. Doug Ramsey

Open Access Policy:

This journal provides open access to all of its content on the principle that making research freely available to the public supports a greater global exchange of knowledge. Such access is associated with increased readership and increased citation of an author's work.



**BRANDON
UNIVERSITY**
Founded 1899



Implementation Dynamics for Sustainability Planning in Rural Canada

Glen T. Hvenegaard (corresponding author)

University of Alberta – Augustana Campus

Camrose, Alberta, Canada

glen.hvenegaard@ualberta.ca

Lars K. Hallström

University of Alberta – Augustana Campus

Alberta Centre for Sustainable Rural Communities

Camrose, Alberta, Canada

lars.hallstrom@ualberta.ca

Kelaine L. P. Brand

University of Alberta – Augustana Campus

Camrose, Alberta, Canada

kelaine@ualberta.ca

Abstract

Many municipalities across Canada have prepared sustainability plans, but there is limited knowledge about the extent to which actions in those plans have been implemented. Based on 40 semi-structured interviews with rural leaders across Canada, we examined sustainability priority areas, rates of implementing actions, and the factors supporting and hindering implementation. Within the 5-dimension model for sustainability, the target areas, based on priorities and actions identified, were economic, environmental, and social dimensions, but governance was perceived to be important to facilitate the others. More than 75% of the sustainability actions had been completed. The key reasons for completion were community priorities, political will, available capacity, and available funding. The key reasons for non-completion were lack of capacity, lack of funding, lack of political will, and the lack of community priorities.

Keywords: Sustainability planning; Canada; priorities; implementation; citizen engagement

1.0 Introduction

Since the 1960s, researchers and policymakers have emphasized integrating policy, programming, and management across rural systems (Brundtland, 1987), as well as improving the viability, resilience, and competitiveness of rural communities (Douglas, 1996; 1999; 2010). However, rural Canada faces a growing number of complex external drivers, such as global market

forces and demographic shifts, that are often immune to policy reforms and programming (Sayer & Campbell, 2004; Hallstrom, White, & Dolan, 2012). While urbanization and the rural “brain drain” (Carr & Kefalas, 2009) are ongoing issues, recent research has focused attention on the interconnection of social, environmental, economic, and health systems (Sayer & Campbell, 2004; Marmot, 2007; Hallstrom, Coates, Mundel, Richter, & Finseth, 2013) within a broader framework of sustainability (see Flora & Flora, 2013).

Developing plans for sustainability is one important step in the broader social challenge of sustainable development. These plans can indicate how rural communities frame, view, and anticipate their futures. A major opportunity for innovation, therefore, lies in the relationship between the ideal of how these plans become action, amidst the larger context of local, regional, and higher-level political, economic, and social jurisdictions. Many communities in Canada and around the world have completed sustainability plans (or a provincial/local variant) as part of an intended structured and linear process. Rural communities now face the reality of attempting to convert often wide-ranging strategic goals and priorities into measurable, justifiable, and meaningful actions (Douglas, 2010). No single model has emerged from this work, and no known assessments of plan implementation have taken place for this process. When implementation has occurred, it is often not particularly strategic, rational, or linear as is commonly assumed (e.g., Bartlett & Kurian, 1999). As O’Toole (2000, p. 265) noted, “the practical world is now just as much in need of valid knowledge about policy implementation as it has ever been.” At present, these words hold especially true for both rural communities and sustainable development (Hallström et al., 2012).

As sustainability planning considers broader societal, economic, environmental, and political contexts, evaluating the nature of these plans and their progress toward implementation becomes more important (Hull, Alexander, Khakee, & Woltjer, 2011; Alexander, 2011). Evaluation must balance economic considerations with environmental sustainability and social equity (Hull et al., 2011). This need for evaluation applies to sustainable development plans, policies, programs, and projects (Caldwell, 1990; Bartlett, 1994), which has made researchers realize that normative elements of planning and public policy (i.e., values) are as important as the operational elements (Stone, 1997). Thus, this framework for evaluation should include community development practitioners, planners, economic development officials, political decision-makers, and researchers.

Even though the policy sciences (Lerner & Lasswell, 1951) have long emphasized the importance of ‘knowledge in, and of, public policy,’ we are only just beginning to situate the complex factors influencing the viability of rural communities (Green, 1974; Douglas, 1996; Swanson & Bhadwal, 2009). However, as this paper will attempt to demonstrate, the broader effectiveness and implications of a sustainability planning shift are worth examining from a variety of perspectives. Many rural communities shift

toward identifying priorities, attempting to implement key, community-led priority actions, or are revising their plans in light of a changing political, ecological, climatological, and socio-economic landscape. While we now have an improved understanding of the nature, scope, influences, and potential effects of sustainability planning in rural Canada (e.g., Hallström, Beckie, Hvenegaard, & Mundel, 2016), the ways in which sustainability planning has been interpreted, operationalized, prioritized, and shifted toward policy or social action by rural communities remain uncertain.

Even though some research has examined sustainability planning in Canada, the focus has been on the connection of planning to enhanced sustainability for communities, and in many cases the different methods and venues available for improving the content, validity, and legitimacy of such plans. While sustainability planning remains important for rural communities in Canada, the academic literature on implementation and evaluation remains limited. As Laurian et al. (2004) and Berke et al. (2006) have noted, the actual implementation of plans has generally been ignored or marginalized in the field of planning (Hallström et al., 2012; Dipa, 2014). Since the motivation to create sustainability plans in Canada is largely driven by financial rewards (Hallström, Hvenegaard, Stonechild, & Dipa, 2017), it is important to understand if and how those original motivations lead to implementation. Hull et al. (2011) provide some redress to this issue, but the emphasis has been on the effects of plan-making and the characteristics and determinants of plan quality (Berke et al., 2006).

Though sustainability can be ambiguous in terms of definitions and implications (Dale & Robinson, 1996; Hanna, 2005), it can be a guiding principle for community planners in terms of formulating strategies for facing the uncertainties and challenges posed by social, economic, and environmental transitions within a community. Moreover, sustainability planning programs help communities to recognize those aspects which are important to improve the overall conditions of local communities (Hanna, 2005). Additionally, Selman and Parker (1997) show how Canadian researchers and planners have undertaken various innovations for practicing and implementing community sustainability planning. Some examples include the ‘ecological footprints’ model from the University of British Columbia, the community planning framework of Richmond, British Columbia (which focuses upon how ‘social capital’ can replace ‘ecological capital’), and Toronto, Ontario’s ‘International Council for Local Environmental Initiatives.’ Similarly, Day, Albert, Gunton, Frame, & Calbick (2003) have explored different sustainability strategies within the context of land use planning framework of rural communities in British Columbia.

There are very few studies about the sustainability priority patterns in plans focused on sustainability, and these studies do not examine rural sustainability plans. Most studies simply list or describe the various sustainability goals, placing them in the context of variables such as

community characteristics and the political landscape (Newman, 1999). Similarly, Chess (2012) ranks a variety of actions by the many contributors to the planning process, but these actions are not broken down by sustainability dimension. Lindberg (2011) summarizes the rate of addressing a set of actions in Alberta sustainability plans, finding that the dimension of governance was addressed most often, followed by cultural, social, economic, and environmental dimensions. Similarly, another Canadian study found that economic, environmental, and social dimensions were prioritized ahead of cultural and governance dimensions (Hallström et al., 2017). In examining the role of the cultural dimension, in particular, in sustainability planning, Duxbury and Jeannotte (2012) found that integration of the cultural dimension with other dimensions was lacking. Even though there is considerable research on implementation rates and factors associated with programs and policies (Fixsen, Naoom, Blasé, Friedman, & Wallace, 2005), and some studies focus on implementation in sustainability (e.g., Owen & Videras, 2008), very little is directly related to rural sustainability planning. It is difficult to find, or use, studies examining the rate of implementing sustainability actions from planning processes because there are few such studies and comparing results would be difficult due to unique context-specific circumstances and varying stages of implementation (Fixsen et al., 2005). In addition, Alexander (2011) rightly asks the question about what constitutes successful planning in the context of both process and outputs (Edvardsen, 2001; Chambers, Glasgow, & Stange, 2013). In fact, most studies focus on the process of sustainability (Bagheri & Hjorth, 2007).

Some studies have examined the factors affecting implementation of actions contained within sustainability plans, but most examine jurisdictions other than rural municipalities. For example, the University of British Columbia found that administrative leadership, integration into curricula, integration into academic planning, and broad-scale education were key factors in promoting actions from the university's sustainable development policy (Moore, 2005). More broadly, in the metropolitan context, Wheeler (2000) suggests several factors that promote the implementation of sustainability actions, including vision statements, coalition building, institutional development, intergovernmental incentive frameworks, indicators, public involvement, and social learning. For American cities, Pierce, Lovrich, Johnson, Reames, and Budd (2014) emphasize the need for social capital to trigger the adoption of actions contained within sustainability plans. Similarly, higher rates of sustainability program adoption are found in countries with higher levels of citizen trust and when benefits are expected to exceed the costs of coordination (Owen & Videras, 2008). In the case of the cultural dimension of sustainability, Duxbury and Jeannotte (2015) argue that indicators (i.e., presence, number, and quality) are necessary to improve implementation of sustainability plans. Much more research is needed regarding citizen engagement in the planning and implementation processes (Dipa, 2014; Hallström et al., 2017; Jeannotte & Duxbury, 2012). Overall, Schofield (2001) calls for a revival in research on implementation rates in

public policy, a goal to which this present study will contribute. Hanberger (2011) also calls for more studies about processes that improve implementation rates in sustainability development projects.

2.0 Rural Sustainability Planning in Canada

Until the 1990s, Canadian community planners did not typically consider the importance of environmental issues and instead focused upon the maximization of short-term economic development of communities (Roseland, 2000). During the energy crisis periods of the 1970s and 1980s, many planners realized the importance of incorporating environmental aspects into community planning and emphasis was given to promoting environmental development (e.g., addressing the issues of climate change, loss of biodiversity, resource depletion, energy consumption, and loss of wetlands) rather than focusing on the purely economic interests of communities (Roseland, 2000).

According to Marbek Resource Consultants (2008, p.2), municipalities have to adopt “a collaborative, integrated approach to community planning that steers a community toward the implementation of local and global sustainability goals, using a long-term perspective in an adaptive institutional framework.” In turn, many municipalities in Canada have made significant investments in formulating and promoting comprehensive sustainable community plans by emphasizing public awareness, education, social learning, participation, equity, knowledge transfer, and mutual learning. Moreover, both larger and smaller municipalities are gradually shifting toward following this practice.

In the 2005 Canadian federal strategy supporting integrated and sustainable development in Canada’s cities and communities, the goal was to “accelerate the shift in local planning and decision-making toward a more long-term, coherent and participatory approach to achieve sustainable communities” (Prime Minister’s Office, 2005, p.4). Canada’s Federal Gas Tax Fund then made sustainability planning a key part of infrastructure and socio-economic development in communities across Canada and provided financial support to municipalities to develop sustainability plans. Each province signed an agreement with the Government of Canada which would facilitate a process for communities to provide an ‘Integrated Community Sustainability Plan’ to access this fund (about \$19 billion was invested by 2016 and \$2 billion per annum moving forward; Government of Canada, 2017). While every province has taken a different approach toward how municipal planning should integrate sustainability considerations, there is an increasing shift toward a more comprehensive planning program where the term “integrated refers to the practice of bringing diverse, normally separate, concerns and planning processes together, e.g., transportation, land use, environment, housing, waste, water, energy, community health, recreation, culture, municipal finance, and others” (Marbek Resource Consultants, 2008, p.33). The importance of including monitoring and evaluation early in the process

was also flagged, as was the early and accurate documentation of implementation and subsequent effects.

Other scholars have explored the scope, challenges, and innovations within rural sustainability planning approaches in Canada. For example, Hanna (2005) illustrated the importance of local planning in stimulating the principles of sustainable development, as well as demonstrating how sustainable planning strategies can be used to adapt to the changes occurring due to transitions in natural resource-based communities (e.g., decreasing income level because of changes in the timber and fishing industries). Based on two case studies (e.g., Tofino and Ucluelet, two small towns on western Vancouver Island), sustainability planning has been touted as a tool for saving the communities from uncertain impacts of economic transition (Hanna, 2005).

Given this lack of understanding about implementing rural sustainability plans and Schofield's (2001) call for more research on implementation rates, the goal of this paper was to examine the patterns and influences of sustainability plan implementation in rural Canadian communities. In particular, we sought to answer the following questions:

- What are the levels and effects of citizen engagement in sustainability planning processes?
- What are the priority areas identified by municipalities in sustainability plans?
- What are the implementation rates of sustainability plan action items, broken down by priority area?
- Which factors support or hinder implementation rates of sustainability plan action items?

3.0 Methods

The Canadian Sustainability Plan Inventory (<https://wagner.augustana.ualberta.ca/cspi/>) is an online, fully-searchable archive of sustainability plans from communities across Canada. From the over 1,100 rural plans in this database, we randomly selected 41 rural communities with fewer than 150,000 residents that had indicated some implementation of actions listed in their sustainability plans. This level of implementation was then confirmed at the start of the interview (i.e., that participating communities had, by their definition, undertaken and possibly even completed the implementation of elements of their sustainability plan).

We conducted 30-minute semi-structured telephone interviews with a representative (either elected or administrative) of each target community from November 2014 to September 2015. Initial contacts were asked to identify an individual most likely to be familiar with the plan and its implementation. Thus, most respondents included town managers, planners, and economic development officers. Respondents received background

information about the study, the context of sustainability plans, and the target sustainability dimensions. Interviews were digitally recorded, transcribed, and then analyzed with SPSS 22.

Interviews included a combination of 31 closed and open-ended questions, as well as opportunities for additional probes from the interviewer. For some questions, respondents chose not to provide answers; we indicate this in cases when the sample sizes dropped to less than 90% of the respondents. The interview questions for this study focused on four main areas:

- Community characteristics and citizen engagement in the planning process: We asked questions about the size and location of the community, and a series of yes/no questions about arranging town meetings, favorable responses, and turnout for those meetings, citizen interest in making a change, and the importance of citizen participation. We also rated the responsiveness of citizens to requests for community meetings (high, moderate, and low community response).
- Community sustainability priorities: We evaluated the relative importance among the five sustainability dimensions by asking respondents questions in the following ways: 1) Answering yes/no to “Are the dimensions of (each dimension, in turn) a main priority of your community in particular?”; 2) Ranking from 1 (most important) to 5 (least important) the five dimensions of sustainability; 3) Answering which of the five sustainability dimension must precede the others to achieve sustainability; and 4) Answering an open-ended question about the main priorities and goals for the community (these were prompted for each of the five sustainability dimensions)
- Implementing sustainability actions: We asked which of the goals identified in the goals listed above resulted in completed actions. Actions in progress were considered not completed.
- Factors affecting implementation: We asked respondents about their level of agreement with statements addressing why steps were successfully implemented or why steps were not implemented.

For closed-ended questions with pre-set categories, we entered the coded data into our database directly. For open-ended questions, we developed themes inductively, which involved a thorough reading of responses, initial annotations for themes, a review with the co-authors for ambiguities and redundancies, and finalizing the codes. Some categories were established in the literature, while other categories emerged after a full review of the data.

4.0 Results

4.1 Community Characteristics and Sustainability Priorities

We received responses from 40 communities that self-identified as having implemented some actions from their sustainability plans. Of these, communities with less than 1000 people comprised 15% of the sample, followed by 1000-4999 people (15%), 5000-9999 (18%), 10,000-49,999 (40%), 50,000-99,999 (5%), and more than 100,000-149,999 people (8%). Communities responding were located in a wide range of provinces, with the exceptions of Quebec (due to language constraints), Manitoba, and Saskatchewan.

About 68% of the communities made use of the sustainability planning toolkits available through their various governments or municipalities' organizations, and of those using the toolkits, all said that they were useful. Most plans (66%) were completed by community staff, and 34% were completed by private contractors. Most respondents (92%) said their communities held town meetings to create community goals, and 78% of the respondents agreed that those meetings produced a "favorable turnout with citizens interested in making a change." Overall "responsiveness of citizens to requests for town meetings" was rated by respondents as low for 45% of communities, moderate for 37%, or high for 18%. While citizen participation was perceived by 70% of respondents to be "critical for creating and implementing the plan", only 21% of respondents indicated that "citizens were interested in the particular details of the sustainability plan." When asked if citizens of the community have a "clear vision of the outcomes of sustainability planning", 15% of the respondents indicated yes, 35% said 'somewhat,' and 50% said no.

We provided results about sustainability priorities in four formats. First, we asked whether each of the five sustainability dimensions was a main priority of the community. The majority of respondents indicated yes for all dimensions, but the percentages varied from 100% for economic, followed by environmental (95%), social (90%), cultural (70%), and governance (53%) dimensions. Second, respondents ranked the importance of each dimension of sustainability in the planning process (see Table 1). The highest importance was accorded to economic dimensions, followed by environmental and governance dimensions. While not ranking well in the 'most important' category, the social dimension placed strongly in the middle ranks and was low in the 'least important' category. The governance dimension had a bimodal distribution, with 25% in the 'most important' category (tied for second) and 53% in the 'least important category' (first). Third, in response to the question about which of the five sustainability dimension must precede the others to achieve sustainability, 50% of respondents indicated governance dimensions, followed by economic (28%), environmental (11%), social (11%), and cultural dimensions (0%). Last, the number of actions reported in the sustainability plans were greatest in the

social dimension, closely followed by the environmental and economic dimensions, with far fewer actions in the governance and cultural dimensions (see Table 2, columns 1 and 2).

Table 1: *Ranked Importance of the Five Dimensions of Sustainability (% by rank).*

Dimension (n)	Most important	Rank 2	Rank 3	Rank 4	Least important
Economic (29)	45	35	3	10	7
Environmental (28)	25	18	36	11	11
Governance (28)	25	18	11	4	43
Social (26)	8	27	27	356	4
Cultural (25)	4	4	20	40	32

Table 2: *Number of Actions Reported and Completed by Sustainability Dimension*

Dimension	Number of actions reported	Number of actions completed	Percent of actions completed
Social	97	68	70
Environmental	93	74	80
Economic	92	71	77
Governance	27	18	67
Cultural	18	15	83
Total	327	246	75

4.2 Implementing Sustainability Actions

Respondents listed 327 actions in their sustainability plans, including those focused on environmental (e.g., prepare a climate change action plan), economic (e.g., contribute financially to a public works action plan), social (e.g., improve community walkability), cultural (e.g., preserve heritage buildings), and governance dimensions (e.g., collaborate with partner organizations on a regional sustainability plan). There were more actions reported for environmental, economic, and social dimensions than for cultural or governance dimensions (see Table 2). The implementation rate (i.e., completed, as defined by the community) for all actions was 75%, but was highest for cultural, environmental, and economic dimensions. Interestingly, while the number of cultural sustainability actions was the lowest among the five dimensions, the completion rate for that dimension was also the highest (83%).

Most respondents strongly agreed (23%) or somewhat agreed (51%) that the goals are being met according to the timeline. Similarly, most respondents strongly agreed (43%) or somewhat agreed (40%) that they are satisfied with the progression towards fulfilling the goals of the plan. Looking into the future, most respondents strongly agreed (29%) or somewhat agreed (53%) that they believed most or all of the specified targets in the plan will be met.

4.3 Factors Affecting Implementation

There are some similarities in the factors both supporting and hindering the implementation of actions identified in the sustainability plans. Successful implementation was supported by the combination of community priorities, political will, available capacity, and available funding (see Table 3). Non-success was the result of similar factors, including the lack of capacity, lack of funding, lack of political will, and the lack of community priority, education, consultation, support, and engagement (see Table 4). However, there were some differences in the explanatory power of the results. For example, while capacity is identified by respondents as an important, but not universal, factor for success, it is widely identified as a factor in failure. Most respondents strongly agreed (45%) or somewhat agreed (53%) that there were capacity constraints in implementing plan priorities. Similarly, political will (presumably as a balance to the reduced importance of capacity) is more important than any other factor (except for community engagement) for success, while funding is a major factor in non-implementation.

Most of the respondents strongly agreed (60%) or somewhat agreed (28%) that implementation steps were unanimously agreed to by the administration of the municipality, whereas fewer respondents strongly agreed (30%) or somewhat agreed (33%) about the same for the community-at-large. Most respondents strongly agreed (70%) or somewhat agreed (18%) that implementation steps had clearly defined end-goals, but were concerned about the sustainability goals having clearly defined targets (13% strongly agreed and 36% somewhat agreed). Respondents were more concerned about

resistance to change in the community (35% strongly agreed, 48% somewhat agreed) than in the municipal administration (5% strongly agreed, 45% somewhat agreed).

Table 3: *Reasons Why Sustainability Plan Actions Were Completed*

Reason	Number of Responses	% of Respondents
Available Capacity (proper timing, staff available, dedicated resources—funding not taken into account)	17	43
Available Funding	13	33
Political Will / Priority	22	55
Community Priority, Education, Consultation, Support and Engagement	23	58
Measurable Goals / Steps Laid Out	7	18
Other	2	5
Total	84	---

5.0 Discussion

5.1 Community Characteristics and Sustainability Priorities

The sample of 40 communities was fairly representative of communities across Canada, with the exception of Quebec, Manitoba, and Saskatchewan. Most communities made use of the sustainability planning toolkits available by various organizations. A key question in the broader sustainability planning literature is the role of public participation and engagement. As Dipa (2014) discovered, communities that employed mechanisms for community participation view the sustainability plans and subsequent actions as both more legitimate and more viable than those which did not employ these mechanisms. In turn, identifying different mechanisms, priorities, or pathways of how communities approached implementation is an important question. Our results show a mixed response to these issues. On the one hand, most respondents thought that citizen participation was critical for creating and implementing the plan. The vast majority of communities were successful in arranging town meetings to create community planning goals, and more than three-quarters of the respondents said that they had favourable

turnouts from citizens. Moreover, 55% of respondents reported that citizens showed a moderate or high response to requests for town meetings. On the other hand, respondents indicated that citizens commonly showed a general lack of interest in the details of plans and implementation.

Table 4: *Reasons Why Sustainability Plan Actions Were Not Completed*

Reason	Number of Responses	% of Respondents
Lacking Capacity (time restraints, not enough staff, not enough dedicated resources—funding not taken into account)	40	100
Lacking Funding	34	85
Lacking Political Will / Design Projects for Short-Term Government in Office	16	40
Lacking Community Priority, Education, Consultation, Support and Engagement	20	50
Working With Multiple Groups Delaying Projects and Increasing Cost	6	15
Other	4	10
Total	120	---

This contrast might indicate either a general political apathy in rural communities or an administrative perspective that differs from citizens. As Dipa (2014) notes, many municipal officials view implementation as synonymous with public administration, and therefore beyond the capacity, interest, or purview of any individual citizen or public organization. In fact, in some cases, given the complexity and integrative nature of sustainability planning, many municipal officials (elected and otherwise) view the design and implementation of sustainability programs or interventions as too ‘much’ for rural citizens and therefore prefer a more top-down, technocratic model of municipal policy-making. That said, 70% of respondents still saw broad citizen participation as a key factor in the creation of their plan. In other words, the planning tools or templates used may well have had a significant influence upon the planning process, expectations, and even outcomes, particularly if the toolkit downplayed or was seen to replace or supersede community engagement. Calder and Beckie (2013) emphasize the need for

education and dialogue in order to develop identity and engagement in the sustainability process and network.

Respondents indicated the highest priorities for the economic, environmental, and social dimensions of sustainability, but ranked economic, environmental, and governance dimensions highest in the planning process. Respondents ranked the governance dimension highest in needing to precede the other dimensions in order to achieve sustainability, presumably to promote the effective functioning of agreed-upon procedures. Lindberg (2011) also found that governance was rated highly among a set of actions in Alberta sustainability plans. Nevertheless, in the present study, the number of sustainability plan actions reported was highest for the social dimension, closely followed by the environmental and economic dimensions.

The rankings of sustainability dimensions likely reflect respondents' familiarity with the original three dimensions of sustainability (Brundtland, 1987). However, in the second ranking, governance is considered as both important and not important. This may indicate a lack of understanding of the role of governance in the goals of sustainability and in the process of assisting the sustainability of other dimensions. The third ranking affirms the role of governance in facilitating all of the other sustainability dimensions. This supports Lindberg's (2011) earlier finding that governance actions were most often addressed in municipal sustainability plans. Some communities are well aware of the importance of governance sustainability and the value of embedding sustainability initiatives within the organization responsible (Leung, 2009). The last ranking reinforces the first ranking by emphasizing the priorities for social, environmental, and economic dimensions in setting out action items. This result might reflect greater awareness of the original three dimensions of sustainability but would also reflect a community's current needs in these dimensions.

5.2 Implementing Sustainability Actions

The number of actions for environmental, economic, and social dimensions were more commonly implemented than for cultural or governance dimensions. The completion rate for all actions was fairly high (75%), but was highest for cultural, environmental, and economic dimensions. At first glance, these results appear unsurprising. Many Canadians still see sustainability and related planning exercises as primarily oriented toward environmental issues, and the conventional model of sustainability commonly used in many rural communities is built upon only three pillars (environmental, social, and economic). As a result, many communities may not acknowledge cultural or governance dimensions of sustainability within planning or policy, and the economic realities for many rural communities across the country have led to a strong emphasis on economic initiatives (such as job creation or agricultural/sectoral subsidies) for community development (see, for example, Bunch et al. 2014).

It is understandable that governance-based projects were limited in number and in priority. Political institutions and processes are often designed to be resistant to change, and it is challenging to imagine radically different alternatives. This is reinforced by the broader pattern of municipal governance in Canada (often noted as among the weakest in the OECD—Sancton, 2011) which tends to legally homogenize municipalities regardless of size or population, limits revenue opportunities, and places municipalities outside the broader federal distribution of powers. This puts municipal governments in a vulnerable position, one that is further reinforced by a general lack of public and electoral engagement, limited revenues, low voter turnout in rural areas, and the high rate of elected seats being acclaimed rather than contested (Phillips, 2014). Moreover, declining rural populations result in a smaller tax base for economic development that can lead to reform, but of limited scope. For example, the villages of Irma, Chauvin, and Edgerton in Alberta share administrative costs and a single Chief Administrative Officer, while Flagstaff County, Alberta has started to examine regionalized or collaborative approaches in order to reduce redundancy, share resources and reduce costs. While in many ways, these should be considered sustainability initiatives, they are rarely framed within the sustainability planning context and are largely considered to be fiscal policy initiatives.

These responses point to a potential incompatibility in how municipal sustainability is approached by rural communities. Specifically, there may be a ‘knowledge to action’ gap between what municipalities know they should do, and the actions that they can do. In turn, this raises questions about the broader impact of sustainability-oriented policies and action—if communities either cannot pursue the most important reforms or face structural factors that shape their implementation choices, the longer-term impact of sustainability planning is likely reduced. For example, Duxbury and Jeannotte (2015) noted that the identification and implementation of actions might not occur simply because there are no adequate indicators developed, especially in the case of cultural actions.

Most respondents thought that the sustainability goals are being met in a timely fashion, are satisfied with the progress, and believe that most or all of the targets in the plan will be met. This is a decidedly administrative perspective or assessment of the work of municipal administrators. If we had interviewed citizens of the municipalities, there might be different viewpoints. Other researchers have found different perceptions of sustainability among stakeholders (AlWaer, Sibley, & Lewis, 2008).

5.3 Factors Affecting Implementation

As expected, there were some similarities in the factors both supporting and hindering the implementation of sustainability plan actions. Factors supporting implementation included community priorities, political will, available capacity, and available funding. Factors hindering success included the lack of capacity, lack of funding, lack of political will, and the lack of

community priority, education, consultation, support, and engagement. However, there were some differences in the explanatory power of the results. For example, while capacity is identified by respondents as an important, but not universal, factor for success, it is widely identified as a factor in failure. Similarly, political will (presumably as a balance to the reduced importance of capacity) is more important than any other factor (except for community engagement) for success, while funding is a major factor in non-implementation. As a result, what emerges is a potentially complex set of factors that influences the likelihood of successful implementation, and as might be expected, a greater emphasis (measured by frequency) on non-implementation rather than success. For example, in this study, cultural dimensions were ranked lowest by municipal officials but had the highest rate of implementation. In future studies, it would be helpful to know which factors were important in helping or hindering the implementation of sustainability actions, broken down by dimension.

The respondents' perceptions of the approval process suggested greater agreement among municipality staff than among community residents. This may be due to respondents being most closely connected to, and having greater insights about, administrative staff than community members. Similarly, respondents were most concerned about resistance to change in the community than within the municipal administration. While we don't have data to unpack these perceptions, this difference may be due to greater understanding by respondents of fellow administrators than the general public or it may be due to real variations in views (Chong et al., 2009; AlWaer et al., 2011).

Interestingly, while the majority of responding communities did draw upon an existing model, guide or template for sustainability plans (68%) and found them useful (100%), there remain questions about the functional utility of the templates and subsequent plans (only 15% of communities indicated that there was a clear public understanding of the goal(s) of the plan. Similarly, it is not clear to municipalities that such plans necessarily lead to successful, meaningful or publically or politically acceptable outcomes. Framing the planning processes from the toolkits within other models mentioned in the introduction may help with implementation, but need to be carefully integrated from the start.

Some examples include the 'ecological footprints' model from the University of British Columbia, the community planning framework of Richmond, British Columbia (which focuses upon how 'social capital' can replace 'ecological capital'), and Toronto, Ontario's 'International Council for Local Environmental Initiatives.' Similarly, Day, Albert, Gunton, Frame, & Calbick (2003) have explored different sustainability strategies within the context of land use planning framework of rural communities in British Columbia.

Purkis and Seal (2012) provide a summary of ways to bridge the gap between planning and implementation. For example, Berke et al. (2006) found a low

rate of plan implementation, and key factors affecting successful actions were plan quality, enforcement style, awareness building, and agency staff capacity. Wheeler (2013) also found that funding, staff capacity, cooperation, political will, and public interest are critical for implementation. Many of these factors were also identified by respondents in this study, including capacity and awareness. While Laurian et al. (2004) recognize the complexities of evaluating implementation (i.e., breadth and depth), they recommend a consistent methodology to make comparisons across sectors and jurisdictions. We hope that this approach provides a rigorous approach to identifying key enablers and barriers of plan implementation.

6.0 Conclusion

The goal of this paper was to examine the patterns and influences of sustainability plan implementation in rural Canadian communities, with a focus on priority areas, implementation rates, and factors affecting implementation. With respect to priority areas in sustainability planning, the focus on environmental and economic actions items is likely reinforced by the parameters and nature of the original initiative to promote sustainability planning. When asked about the actions reported in the sustainability plans by dimension, the highest numbers were reported for social, environmental, and economic dimensions, with much fewer actions reported for cultural or governance dimensions. Identifying these key priority areas for rural communities is helpful in more nationwide planning exercises that might target specific sustainability dimensions (Hallström et al., 2017).

These results have real implications for the long-term success and resilience of rural communities; as Flora and Flora (2013) have noted, community sustainability is not, and cannot be, determined by economic growth alone. Rather, factors such as social, political, cultural, and human capital are all necessary conditions for additional investments in built, financial, or natural capital to become successful components in the development of the community. The emerging model is consistent with the broader pattern of rural development and federalism in Canada—in the absence of a national or even provincial models for rural community development, communities are left largely to their own devices, are limited by financial, political, and administrative constraints, and may not be positioned to pursue high impact actions. While further analyses are required in order to validate this possibility, the mere possibility raises meaningful questions for rural communities in Canada.

We also found that the highest the number of completed sustainability plan actions were in the environmental, economic, and social dimensions, but the highest percentage of actions completed was for the cultural dimension. Despite a significant degree of local, public, and political skepticism regarding the implications of sustainability planning, many of the communities involved have implemented a substantial number of actions

toward achieving goals in their sustainability plans. Overall, about 75% of the identified actions had been completed.

Success in implementing these actions was attributed to community prioritization, available capacity, and available funding. The key reasons for not completing the plans' actions were similar: lack of capacity, lack of funding, lack of political will, and the lack of community priority, education, consultation, support, and engagement. When faced with the choice between implementing actions toward multiple sustainability dimensions, the ready availability of funding may actually present a broader test for rural communities. There is no doubt that infrastructure presents very real challenges to rural populations and municipalities (Adams & Maslove, 2009; Federation of Canadian Municipalities, 2012), but the question remains as to whether these actions are being driven by characteristics, such as being easy to implement, rather than by community planning priorities (as is common in Canadian public policy, regardless of sector). While all perfectly valid reasons for action, especially given the common inflexibility of both federal and provincial grant programs, relative ease of implementation may well be a factor. However, this raises the broader question of how the other dimensions of sustainability may fare when it comes to implementation.

In addition to the difficulties noted above, respondents noted resistance within the community and municipal administration to change as a barrier to implementation. While not surprising (institutional change is hard at all levels and scales), this does raise the question of just how much innovation can actually be triggered by sustainability planning (especially given the emphases on environmental and economic/infrastructural issues). Given the histories of rural development in Canada (largely based on agriculture, resource extraction, and 'anchor business' economic development (e.g., Epp & Whitson 2001), and the path dependencies that have resulted (whether economic, political, and/or environmental), there are challenges to moving forward on innovative arrangements in terms of municipal governance (which is defined and controlled by provincial legislation), fiscal policy (which involves significant federal-provincial negotiations), inter-municipal collaboration (particularly in western Canada, where municipalities have been conditioned to compete with each other, rather than to co-operate), and social change. This project reflects some of those challenges—for example, only a fifth of respondents indicated that citizens were interested in details of the sustainability plan, and 83% agreed or strongly agreed that there was resistance to change among community members regarding sustainability initiatives.

There are a few limitations to this study. First, in requesting respondents for the study, the communities identified a representative to respond on their behalf. We hoped that this respondent would have good knowledge about the entire sustainability planning process, but some respondents would not necessarily be familiar with the causal details of municipal actions. Second, the small sample from Quebec, Manitoba, and Saskatchewan limits

generalizability to those regions; we would need greater representation from those provinces in order to fully understand the patterns across the country. Third, only selected communities which had prepared a sustainability plan and which had implemented one action were invited to participate in the study. Those requirements will have affected the rates of action implementation in the sample and will have limited our understanding of communities which did not implement any actions.

The results of this study suggest many topics for future research. A deeper understanding of various factors (e.g., community characteristics, engagement strategies) affecting sustainability priority areas would help identify future priorities based on a regional or demographic basis (Hallström et al., 2017). Furthermore, future research should focus on which implementation strategies (e.g., financial incentives, regulations, education, toolkits) are successful or not and why (Messah & Mucai, 2017). This information would provide insights into how the planning process might affect the likelihood of implementation. It would also be helpful to know which enabler and barriers are most important for implementing each of the sustainability dimensions. In addition, research should examine if and how the implementation actions actually achieves the sustainability priorities, using agreed-upon indicators (Briassoulis, 2001). Last, an expanded sample size would provide an opportunity to statistically test the relationships initially identified in the current results.

Acknowledgements

This research was funded by the Social Sciences and Humanities Research Council of Canada (Environmental Outreach Grant 605-2009-0014), the University of Alberta Killam Fund (Cornerstone Grant RES0018696), the Alberta Rural Development Network (Grant RU-053), and the Alberta Centre for Sustainable Rural Communities. We thank Nusrat Dipa for help in collecting data.

References

- Adams, E., & Maslove, A. (2009). Innovations in transfer payments to local governments: The case of the gas tax fund. Paper Presented to the Canadian Political Science Association 81st Conference. University of Toronto, Ontario.
- Alexander, E. R. (2011). Evaluating planning: What is successful planning and (how) can we measure it? In A. Hull, E. R. Alexander, A. Khakee, & J. Woltjer (Ed.), *Evaluation for participation and sustainability in planning*. (pp. 32–46). London: Routledge.
- AlWaer, H., Sibley, M., & Lewis, J. (2008). Different stakeholder perceptions of sustainability assessment. *Architectural Science Review*, 51(1), 48–59.

- Bagheri, A., & Hjorth, P. (2007). Planning for sustainable development: A paradigm shift towards a process-based approach. *Sustainable Development*, 15, 83–96.
- Bartlett, R.V. (1994). Evaluating environmental policy success and failure. In N. J. Vig, & M. E. Kraft (Ed.), *Environmental policy in the 1990s: Towards a new agenda* (2nd ed.). (pp. 167–197). Washington, DC: Congressional Quarterly Press.
- Bartlett, R. V., & Kurian, P. A. (1999). The theory of environmental impact assessment: Implicit models of policy making. *Policy & Politics*, 27, 415–433.
- Berke, P., Backhurst, M., Day, M., Ericksen, N., Laurian, L., Crawford, J., & Dixon, J. (2006). What makes plan implementation successful? An evaluation of local plans and implementation practices in New Zealand. *Environment and Planning B: Planning and Design*, 33, 581–600.
- Briassoulis, H. (2001). Sustainable development and its indicators: Through a (planner's) glass darkly. *Journal of Environmental Planning and Management*, 44(3), 409–427.
- Brundtland, G. H. (1987). *Our common future*. New York: Oxford University Press.
- Bunch, M., Parkes, M., Zubrycki, K., Venema, H., Hallstrom, L., Neudoerffer, C., Berbés-Blázquez, M., & Morrison, K. (2014). Watershed management and public health: An exploration of the intersection of two fields as reported in the literature from 2000 to 2010. *Environmental Management*, 54, 240–254.
- Calder, M. J., & Beckie, M. A. (2013). Community engagement and transformation: Case studies in municipal sustainability planning from Alberta, Canada. *Community Development*, 44, 147–160.
- Caldwell, L. K. (Ed.). (1990). *Between two worlds: Science, the environmental movement, and policy choice*. New York: Cambridge University Press.
- Carr, P. J., & Kefalas, M. J. (2009). *Hollowing out the middle: The rural brain drain and what it means for America*. Boston, MA: Beacon Press.
- Chambers, D. A., Glasgow, R. E., & Stange, K. C. (2013). The dynamic sustainability framework: Addressing the paradox of sustainment amid ongoing change. *Implementation Science*, 8(117). Retrieved from <https://doi:10.1186/1748-5908-8-117>
- Chess, J. (2012). *Integrated community sustainability planning – Implications for rural British Columbia*. Victoria, BC: The Pacific Institute for Climate Solutions.

- Chong, W. K., Kumar, S., Haas, C. T., Beheiry, S. M. A., Copien, L., & Oey, M. (2009). Understanding and interpreting baseline perceptions of sustainability in construction among civil engineers in the United States. *Journal of Management in Engineering*, 25(3), 143–154.
- Dale, A., & Robinson, J. B. (Eds.). (1996). *Achieving sustainable development*. Vancouver, British Columbia, Canada: UBC Press.
- Day, J. C., Albert, K. H., Gunton, T. I., Frame, T. M., & Calbick, K. S. (2003). *Strategic land use planning for sustainable resource management*. Vancouver, British Columbia, Canada: Simon Fraser University.
- Dipa, N. J. (2014). *Participation, planning and sustainability: Case studies from Hinton and Wood Buffalo, AB*. M.Sc. Thesis, Department of Resource Economics and Environmental Sociology. Edmonton, Alberta, Canada: University of Alberta.
- Douglas, D. J. A. (1996). Taking charge: Planning and development strategies for sustainable communities. In R. D Needham, & E. N. Novakowski (Eds.), *Sharing knowledge, linking sciences: An international conference on the St. Lawrence ecosystem*. (pp. 21–25). Ottawa: University of Ottawa.
- Douglas, D. J. A. (1999). The new rural region: Consciousness, collaboration and new challenges and opportunities for innovative practice. In W. Ramp, J. Kulig, I. Townshend, & V. McGowan (Eds.), *Health in rural settings: Contexts for action*. (pp. 39-60). Lethbridge, Alberta, Canada: University of Lethbridge.
- Douglas, D. J. A., (Ed.). (2010). *Rural planning and development in Canada*. Toronto: Nelson.
- Duxbury, N., & Jeannotte, M. S. (2012). Including culture in sustainability: An assessment of Canada's Integrated Community Sustainability Plans. *International Journal of Urban Sustainable Development* 4(1), 1–19.
- Duxbury, N., & Jeannotte, M. S. (2015). Making it real: Measures of culture in local sustainability planning and implementation. In L. MacDowall, M. Badham, E. Blomkamp, & K. Dunphy (Eds.), *Making culture count: The politics of cultural measurement* (pp. 145–161). London: Palgrave Macmillan.
- Edvardsen, M. (2011). Evaluations of local planning efforts: A simple test of policy implementation and corresponding results? In A. Hull, E.R. Alexander, A. Khakee, & J. Woltjer (Eds.), *Evaluation for participation and sustainability in planning*. (pp. 47–66). London: Routledge.
- Epp, R., & Whitson, D. (2001). *Writing off the rural West: Globalization, governments and the transformation of rural communities*. Edmonton, Alberta, Canada: University of Alberta Press.

- Federation of Canadian Municipalities. (2012). *Canadian infrastructure report card, volume 1: 2012 municipal roads and water systems*. Ottawa: Canada Infrastructure.
- Fixsen, D. L., Naoom, S. F., Blasé, K. A., Friedman, R. M., & Wallace, F. (2005). *Implementation research: A synthesis of the literature*. Tampa, FL: University of South Florida, Louis de la Parte Florida Mental Health Institute, The National Implementation Research Network (FMHI Publication #231).
- Flora, C. B., & Flora, J. L. (2013). *Rural communities: Legacy and change* (4th ed.). Boulder, CO: Westview Press.
- Government of Canada. (2017). *The federal gas tax fund: Permanent and predictable funding for municipalities*. Ottawa: Infrastructure Canada.
- Green, L. W. (1974). Toward cost-benefit evaluations of health education: Some concepts, methods and examples. *Health Education Monographs*, 2(1), 34-64.
- Hallström, L., White, B., & Dolan, H. (2012). From rural research to policy and back again. *Journal of Rural and Community Development*, 7(3), 1–3.
- Hallström, L. K., Coates, W., Mundel, K., Richter, S., & Finseth, N. (2013). *Open door needs assessment report*. Camrose, Alberta, Canada: Alberta Centre for Sustainable Rural Communities, University of Alberta. ACSRC Report Series #21-13.
- Hallström, L., Beckie, M., Hvenegaard, G., & Mundel, K. (Eds.). (2016). *Taking the next steps: Sustainability planning and collaboration in rural Canada*. Edmonton, Alberta, Canada: University of Alberta Press.
- Hallström, L., Hvenegaard, G. T., Stonechild, J. L., & Dipa, N. J. (2017). Rural sustainability plans in Canada: An analysis of structure, content and influence. *Journal of Rural Studies*, 56, 132–142.
- Hanberger, A. (2011). Evaluation of local sustainable development – approaches and use. In A. Hull, E. R. Alexander, A. Khakee, and J. Woltjer (Eds.), *Evaluation for participation and sustainability in planning*. (pp. 268–267). London: Routledge.
- Hanna, K. S. (2005). Planning for sustainability: Experiences in two contrasting communities. *Journal of the American Planning Association*, 71(1), 27–40.
- Hull, A., Alexander, E. R., Khakee, A., & Woltjer, J (Eds.). (2011). *Evaluation for participation and sustainability in planning*. London: Routledge.
- Jeannotte, M. S., & Duxbury, N. (2012). Experts and amateurs in the development of Integrated Community Sustainability Plans: Linking culture and sustainability. *Canadian Journal of Media Studies*, 10(2), 141–175.

- Laurian, L., Day, M., Backhurst, M., Berke, P., Ericksen, N., Crawford J., ... Chapman, S. (2004). What drives plan implementation? Plans, planning agencies and developers. *Journal of Environmental Planning and Management*, 47, 555–577.
- Lerner, D., & Lasswell, H. D. (Eds.). (1951). *The policy sciences: Recent developments in scope and methods*. Stanford, CA: Stanford University Press.
- Leung, P. (2009). *Best practices scan of sustainability decision-making and planning for the municipal sector*. Ottawa: Natural Step Canada.
- Lindberg, C. (2011). *Catalyzing change: Leading practices in Alberta municipal sustainability planning*. Ottawa: Stratos Inc.
- Marbek Resource Consultants. (2008). *Sustainable community planning in Canada: Status & best practices final report*. Ottawa: Federation of Canadian Municipalities.
- Marmot, M. (2007). Achieving health equity: From root causes to fair outcomes. *The Lancet*, 26(9593), 1153–1163.
- Messah, O. B., & Mucai, P. G. (2017). Factors affecting the implementation of strategic plans in government tertiary institutions: A survey of selected technical training institutes. *European Journal of Business and Management*, 3(3), 85–105.
- Moore, J. (2005). Policy, priorities and action: A case study of the University of British Columbia's Engagement with Sustainability. *Higher Education Policy*, 18, 179–197.
- Newman, P. W. G. (1999). Sustainability and cities: Extending the metabolism model. *Landscape and Urban Planning*, 44(4), 219–226.
- O'Toole, L. J. (2000). Research on policy implementation: Assessment and prospects. *Journal of Public Administration Research & Theory*, 10(2), 263.
- Owen, A., & Videras, J. (2008). Trust, cooperation, and implementation of sustainability programs: The case of local agenda 21. *Ecological Economics*, 68, 259–272.
- Phillips, K. (2014). The importance of voting in municipal elections. Retrieved June 20, 2018, from the Canadian Index of Wellbeing blog <https://uwaterloo.ca/canadian-index-wellbeing/blog/post/importance-voting-municipal-elections>
- Pierce, J., Lovrich, N., Johnson, B., Reames, T., & Budd, W. (2014). Social capital and longitudinal change in sustainability plans and policies: U.S. cities from 2000 to 2010. *Sustainability*, 6, 136–157.
- Prime Minister's Office. (2005). *Integrated community sustainability planning: A background paper*. Ottawa: Prime Minister's External Advisory Committee on Cities and Communities.

- Purkis, J., & Seal, B. (2012). *Bridging the gap in community sustainability planning implementation: Research summary*. Ottawa: Natural Step Canada.
- Roseland, M. (2000). Sustainable community development: Integrating environmental, economic, and social objectives. *Progress in Planning*, 54(2), 73–132.
- Sancton, A. (2011). *Canadian local government: An urban perspective*. Oxford: Oxford University Press.
- Sayer, J. A., & Campbell, B. M. (2004). *The science of sustainable development: Local livelihoods and the global environment*. Cambridge, United Kingdom: Cambridge University Press.
- Schofield, J. (2001). Time for a revival? Public policy implementation: A review of the literature and an agenda for future research. *International Journal of Management Reviews*, 3, 245–263.
- Selman, P., & Parker, J. (1997). Citizenship, civicness and social capital in local agenda 21. *Local Environment*, 2(2), 171–184.
- Stone, D. A. (Ed.). (1997). *Policy paradox: The art of political decision making* (2nd ed.). New York: W.W. Norton.
- Swanson, D., & Bhadwal, S. (Eds.). (2009). *Creating adaptive policies: A guide for policy-making in an uncertain world*. New Delhi, India: Sage; Ottawa: International Development Research Centre.
- Wheeler, S. M. (2000). Planning for metropolitan sustainability. *Journal of Planning Education and Research*, 29(2), 133–145.
- Wheeler, S. M. (2013). *Planning for sustainability: Creating livable, equitable and ecological communities*. London: Routledge.