CULTIVATING CHANGE:
USING THE GEOWEB TO MAP THE LOCAL FOOD SYSTEM IN THE NORTH OKANAGAN OF BRITISH COLUMBIA

by

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Abstract

Grassroots advocacy organizations seek novel ways to bring their message to the masses. The Geospatial Web (GeoWeb) is changing the way maps can contribute to communication strategies for advocacy efforts. In the North Okanagan of British Columbia the local food movement is a case for advocacy. I employ an Action Research process to the evaluate ways that organizations advocating for building a local food movement use the GeoWeb for social change efforts: I examine how a community organization, Food Action Society of the North Okanagan negotiates and utilizes the GeoWeb to address localized food security concerns and to strengthen the local food movement. To evaluate the GeoWeb as an advocacy tool, a Web Portal called Okanagan Food Portal was developed as a platform to host diverse information such as maps, directories and videos about local food in the region. Methods to evaluate the project include participatory observation, focus groups, questionnaire and semi-structured interviews. Results examine three areas, the politics of hyper-local media, perspectives of local food advocates and the feedback from the public demonstrations. The results reveal that the while GeoWeb offers new opportunities for counter-mapping and Public Participatory Geographic Information System (GIS) approaches, many advocates in smaller communities still cannot effectively utilize the mapping tools. The limited ability of smaller volunteer organizations to independently access these technologies reduces the ability for effective participation on the GeoWeb and therefore its applicability for advocacy in the community. In addressing the question of how the GeoWeb influences social change efforts in the North Okanagan local food movement, this thesis seeks to contribute to the wider discussion regarding how the GeoWeb may address longstanding issues of unequal power and access in mapmaking.

Table of Contents

List of Figures

List of Tables

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Chapter 1: Introduction

Grassroots advocacy organizations seek novel ways to bring their message to the masses. The central challenge for smaller organizations is communication to broad audiences, due to limited resources, access to technology and competitive mainstream media environment. Often small organizations are not represented adequately in society (Cammaerts, 2007). However, advocates are changing the ways they communicate and interact with their constituents using technology (Fine, 2006). With the rise of the user-generated World Wide Web, known as Web 2.0, advocates and citizens are finding a means to voice their concerns and harness support for their cause (Garrett, 2006). Web 2.0 is essentially an Internet where all users can publish and design their own content, with efficient means of sharing and commenting. In Web 2.0 content is distributed quickly and evolves rapidly, making it a hyper democratic space, for those with the savvy, skills and access (O'Reilly, 2005).

Advocacy invokes social change (Reid, 2000). It challenges the *status quo* reinforced by the agendas of government and private companies on a range of issues including social justice, economic equality and environmental protection (Shragge, 2003). The local food movement is an example of an advocacy issue that attempts to tackle all three of these issues on a community scale, through re-localizing food systems (Feenstra, 2002). Citizens involved in local food initiatives across North America have taken to the Web, to build digital networks that represent changes on the ground, the farm and community (Halweil, 2004). Understanding whether advocates and grassroots organizations can universally draw on these emerging communications tools for advocacy is a central concern of this study.

Web-based technologies are increasingly united with maps through the Geospatial Web or GeoWeb. Simply, this is the assignment of geographic location and coordinates to user-generated content on the Web, such as YouTube videos, Google digital photos and blogs (Hacklay et al., 2008). This content can then be searched, added to and visualized spatially through maps, such as Google Maps. The emerging GeoWeb provides mapmakers and geographers new ways to influence social change by increasing citizen participation in map development. Geographers, in particular the mapmakers or cartographers, have long been interested in the societal implications of equitable access and use of spatial information as demonstrated in critical cartography, counter-mapping and Public Participatory Geographic Information Systems (PPGIS) (Crampton & Krygier, 2006; Harley, 1989; Sieber, 2003; Peluso, 1995; Perkins, 2003). The GeoWeb offers an enhanced counter-mapping and PPGIS technology for advocates, with the distributed access and diverse modes of expression of the Web. The GeoWeb is providing new mapping possibilities for community-scale advocacy; the ways in which the GeoWeb contributes to these discussions are only just beginning to emerge.

This study evaluates how the GeoWeb supports advocacy as a communication tool. Here, I draw on the local food movement as an example of a pertinent social movement with significance to geography. Local food movements have stimulated conversations across social boundaries at regional and global levels, gaining attention throughout North America (Kingsolver, 2007; Nabhan, 2002; Mackinnon & Smith, 2007). It is often regional in focus, involving both rural and urban spaces (Feenstra, 2002). The roots of local food are in neighborhood community gardens, farmers' markets, family farms and roadside stands (Pollan, 2006). The movement aims to

distinguish between the benefits of locally sourced food versus the industrial food system that operates on an international scale and is dominated by multi-national companies (Pollan, 2006). Micheal Pollan (2006) in *Omnivore's Dilemma* potently describes the implications of North America's move away from local food, illustrating the impact to the health of both the environment and our-selves. Large-scale agriculture or agribusiness has been associated with impoverishing farmers, contributing to climate change, contaminating food with toxins and reducing both the diversity of food types and cuisine (Halweil, 2004; Nabhan, 2002; Shiva, 2000). Gary Nabhan (2002) asks in his memoir *Coming Home to Eat*, "what culinary melodies are being drowned out by the noise of that transnational vending machine" (p. 154). Vandana Shiva (2000) takes it a step further and associates the industrial food system with threats to democracy and conversely local food with sovereignty: "if we can still imagine food freedom and work to make it real in our everyday lives, we will have challenged food dictatorship [and] reclaimed food democracy" (p. 123).Advocates of local food suggest that eating closer to home is redefining our spaces, relationships and seasonal senses (Halweil, 2004). In all these respects food movements promise to redefine our relationships with fellow community members, the local ecosystem and, above all, eating.

The North Okanagan Valley in the interior of British Columbia is a region where local food movements are growing, led by voluntary community groups. The North Okanagan is made up of smaller towns and rural farming communities. In recent years, community organizations focused on food security concerns, are drawing attention to growing concerns around the increase of chronic health conditions and the precarious financial viability of agriculture sector in the region. In addition, advocates and local

governments acknowledge that the reliance on imported food and large-scale agriculture is detrimental to the environment. Advocates see these broad issues related to the move away from eating locally grown fresh food and the decline of small-scale family farms. A central challenge vocalized by advocates is to create awareness about local food issues and stimulate the greater community to support the local agricultural community by buying and consuming food from the region. As a result, communications tools that could support increasing awareness and connecting community members to sources of local food are a major priority to food advocacy groups in the North Okanagan.

To that end, I developed a website called the *Okanagan Food Portal* at http://okanaganfood.ca as a GeoWeb platform to support local food movements. This resource is referred to as the *Portal* in the proceeding chapters. A Web *Portal* is a type of website that presents information from multiple sources (Staab et al., 2000). As more and more ways to source and present spatial information through the GeoWeb emerge, Web *Portal*s have become a strategic way to increase coherency of a single webpage that uses diverse information sources (Yang et al., 2007). The *Portal* of this study provides a range of information pertaining to a local food movement of the Okanagan through a common web interface. The *Portal* included a directory and maps, articles, a video series and other multi-media documentation of local food topics. The *Portal* thus was used in this research to understand how the GeoWeb influences a local food movement.

The premise for this thesis is that the GeoWeb stimulates social change by acting as a tool for advocacy. I pose and address two overarching research questions:

- In what ways can the GeoWeb support the objectives of food advocates?

- How can the GeoWeb facilitate greater community participation in a local food movement?

This inquiry seeks to contribute to the discussion of the role of the GeoWeb in participatory mapping practice with the aims:

- To identify ways the GeoWeb contributes to advocates' objectives.
- To understand the influence of the media in the map.
- To comprehend how community members participate on the GeoWeb.

Action Research was engaged to reach this understanding through four phases (plan, act, observe and interpret), which began with a community partnership and culminated with this thesis. The research process included community planning sessions, development of the *Portal*, public demonstrations of the *Portal*, a survey of *Portal*-users and semi-structured interviews with self-identified local food advocates. The foundation of this work was the development of the *Portal* with the community organization, Food Action Society of the North Okanagan (FASNO). The *Portal* was designed as a tool for FASNO and their local food campaigns such as the *100 Mile Diet Challenge*.

This chapter provided an introduction to the impetus of this thesis, the broader geographic issues of citizen engagement in local food issues and studies carried out on a local case study. Next, Chapter 2 elaborates on local food movements as advocacy and details the regional context of this study. Chapter 3 then highlights the GeoWeb as a participatory mapping tool for advocacy and citizen engagement in local governance. Chapter 4 presents the methodology employed in the study: action research process of qualitative inquiry. Chapter 5 reports on the development of the Okanagan Food *Portal*.

Chapters 6, 7 and 8 present and discuss the methods and results of the study. Chapter 6 uses participant observation to evaluate the making and sharing of a video as part of the content development for the *Portal*. Chapter 7 incorporates focus group and semi-structured interview data to addresses the advocate perspectives on the Okanagan Food *Portal* and how the GeoWeb contributed to their objectives. Chapter 8 presents the results of the questionnaire from public demonstrations at the Interior Provincial Exhibition in order to elicit feedback on the *Portal* from community members. Finally, Chapter 9 summarizes the overall findings of the study and offers recommendations to the community and for further research.

Chapter 2: Local Food Movements

2.1 Introduction

In this study, the local food movement is presented as an example of an advocacy issue that is geographically pertinent. To contextualize this study on the ways the GeoWeb supports advocacy in the local food movement, I begin by presenting on discussions in the literature that are relevant to the movement, defining how local is interpreted in the movement and with that the reasons behind the movement. Next, I tie the relevance of food with advocacy and mapping that touches on how mapping can be an advocacy tool. This chapter concludes with the regional context of a local food movement in the North Okanagan, including a description of the community partnerships with Food Action Society North Okanagan and a local food campaign called the 100 Mile Diet Challenge that this study supported.

2.2 Defining Local

The *local food movement* can be described broadly as a collaborative effort to build a food economy based on the production nearby of resources (Feenstra, 1997; 2007). The products of the effort—like the farmer's market or roadside stand—have one key commonality, a personal relationship between the food consumer and the producer (Petrini, 2001). Studies demonstrate that the interest in eating local cuts across socio-economic divides, suggesting that eating local can support community unity (Alkon, 2008; Stephenson & Lev, 2004). The objectives of the movement reflect notions of sustainability to be better for the social, environmental and economic conditions of a place (Pollan, 2006). The 'local' in the *local food movement* necessitates re-orienting the

daily act of eating back to a place including the people, the environment and the connections between them. However, how people define 'local' shapes the extent to which participation in the movement connects to a community.

The 'local' in *local food* is often ambiguous. Feagan (2007) suggests that although the basic goal of shortening the food chain is understandable, the term *local* is vague. He argues this is problematic because it leaves the *local food movement* open to cooption by corporate food marketers. Previous food movements such as the *organic*, *whole* and *natural* have become mere terms, incorporated onto boxes of corn syrup laden foods and the original intent is lost; these earlier movements of small and local have been swallowed by large and global. The intent of any social movement is real change. Therefore, defining the meaning of 'local' is important in distinguishing the motivations of food advocates from the rhetoric of lost food movements.

Despite its possibly ambiguous meaning, *local* typically is perceived as the area that bridges the closest agricultural belt with the urban centre (Wilkins, 2005). This characterization is emphasized through the*100 Mile Diet*, which has recently taken hold in various urban regions as an easy way to portray what *local* means to food (Mackinnon & Smith, 2007). This movement delineates food as local if it originates (grown, harvested or hunted) within a 100 radius of your home location. The *100 Mile Diet Challenge*, advertised through popular media including a book, website and a TV series, encourages people to only eat food within this geographically defined region. Local is defined here as definitive and is generally thought to be an easy way of communicating the concept of local food to the public.

In contrast, local is also articulated through relationships to food and their community as Kingsolver et al. (2007) write in their recent family memoir:

> Local food is a handshake deal in a community-gathering place. It involves farmers with names, who show up week after week. It means an open-door policy on the fields, where neighborhood buyers are welcome to come have a look and pick their food from the vine. Local is a farmer growing trust. (p. 65)

In a similar way, the Slow Food movement encourages shortening distances through rebuilding the relationships between producers and consumers while conserving culturally significant types of food that are connected to a place (Slow Food USA, 2009). The Slow Food movement is a growing movement that has its roots in Italy but is now manifesting itself in many nations. One of the founders, Carlo Petrini (2001), explains his early ideas that sought to re-orient attention towards Italy's regional food traditions in order to restore the cultural foundations of Italy. Consequently, it is a direct reaction, as the name implies to the growing trend of fast food. Petrini writes:

> If fast food means uniformity, Slow Food sets out to save and resuscitate individual gastronomic legacies everywhere; if haste threatens the enjoyment of tranquil sensory pleasure, slowness is an antidote to the hurry and gulping down of nourishment (p. 17).

His concerns for the rise of fast food chains and the monopoly of corporations in our food systems motivated him to start Slow Food Nation. He emphasizes how the movement calls for an international response to the corporate food system stating, "it takes a stand against McDonald's and Pizza Hut, multinationals that flatten out flavors like steam rollers…we know we have to fight our battle on their ground, using their weapons: globalization and worldwide reach" (p. 18). In this sense, it has become a

global campaign for re-localizing food and most importantly reinstating culture and place to food through relationships.

Eating within a place is further contextualized through the concept of a *food shed* that Getz (1991) describes as the food that can grow within the physical elements of a geographic area and influenced by the social and cultural factors of a place. Kloppenburg et al. (1996, p. 37) depict it as a"…socio-geographic space: human activity embedded in the natural integument of a particular place". The analogy to a watershed implies it is bound by natural elements such as water levels, weather patterns and soil types. Perhaps most importantly for advocacy is how it maybe conceived in local decision-making. Feagan (2007, p. 26) illustrates "…the concept reconstructs the geography of food systems by compelling social and political decisions on food to be orientated within specific delineated spaces". Thus, again the many elements of society intertwine into the objectives including the social, economic and environmental. The spatial connotations of a *food shed* lend itself to map representation, a spatially constructed communication tool. The GeoWeb's multi-dimensional capabilities can act as platform to represent the social-cultural factors with the geographic area. In this study, the aim is evaluate how the concepts defining the *local food movement* can be communicated through the Okanagan Food *Portal* and the various applications used on the *Portal*.

2.3 Reasons to Eat Local

Recent reports depict the production practices of agriculture as a major contributor to global climate change, as well as a serious threat to what is left of small-scale farmers (Pimbert et al., 2006). At the same time the shift to export-oriented agriculture away from family farms has fueled an economic crisis in rural regions that has

left many farmers in poverty and unable to continue growing food. Consequently a return to small-scale farming is seen as a solution to reducing green house gas emissions and to elevating rural poverty (ICFFA , 2008; IPCC, 2007). On another front, large-scale farm operations and food processors have been behind recent food contaminations, resulting in a backlash from the public (Delind & Howard 2008). Due to these impacts, local food advocates demand a return to food production they can trust and that supports their farmers.

Small-scale farmers contribute to climate change management strategies in a number of ways (IPCC, 2007). The recent report, *Manifesto on Climate Change and the Future of Food Security,* illustrates that we must act quickly to re-localize our food supply and support small-scale farmers (ICFFA, 2008). They argue that farmers producing for local markets have a greater ability to adapt to changing environmental conditions because of the tendency to grow a diversity of crops that rely less on technological infrastructure for production and limit the distance of transport. However, small-scale farmers are vulnerable because of economic marginalization from government policy and corporate control of the industry. The report ultimately argues that supporting local food producers decreases economic vulnerability and that addressing current barriers for local production are vital.

Small-scale farmers tend to market food directly, which can be a simple mitigation strategy for climate change. Supplying to a region decreases food miles and the energy associated with transportation, storage, refrigeration and packaging (Peters, 1997). Pirog and Benjamin (2003) compared local with imported food items in terms of travel distance and found imported pumpkins may travel eight times farther than local

pumpkins, while conventional broccoli may travel up to 92 times farther than local broccoli. Reducing food miles are a way for consumers to identify their role in supporting a climate friendly food system and decreasing their emissions (King, 2008; Hoffmann et al., 2007).

Small-scale farmers tend to combine local knowledge, small-scale production and crop diversity to have minimal risk, which essentially allows for increased adaptability to environmental change. Reidsma and Evert (2008) found that in Europe regional farm diversity and small farm sizes reduced vulnerability to climate changes including extreme weather events, such as droughts and hurricanes. Their study was tied to the differences in profit aims, where producers with smaller farms aimed at sustaining production long-term and employed strategies that were focused on the health of the farmland. Larger farms, particularly corporate-owned ones, were focused on profit margins, relied on expensive infrastructure to both grow and sell their product and could collapse financially if crops failed due to climate variations or unpredictable weather events. Furthermore, farms producing large amounts of one item could not sell locally but exported too many different locations. While large farms contribute to a precarious food supply the smaller farms were found to be a much safer route to support in times of environmental change.

King (2008) also found that smaller farms were more likely to employ some form of agro-ecology to their management, which diminishes the need for off-farm inputs through low resource demanding management practices. It also avoids introducing pollutants and toxins that are a byproduct of high resource use, which maintains the health and well being of the local residents. In contrast, industrial scale farms rely on external inputs and monoculture production.

A major reason for the loss of small farms and the rise of mega farms is the economic “genocide” of local farmers throughout the world (Pimbert, 2006). Rebuilding local food systems cannot happen without empowering farmers. Campbell (1997) found that by re-localizing agriculture, the rural economy flourishes alongside the social benefits of a healthier food supply. Increasing community participation in direct farm marketing contributes significantly to building rural economies (Gale, 1996; Green et al., 1992) while at the same time, increasing economic viability, decreasing the loss of farmland, the loss of farmers and providing a path for future farmers (Peters, 1997).

Within this context, economy and the environment are intertwined because when farmers are viable they are more likely to be able to adapt to changing environmental conditions. However, advocating for economic support for local farmers may require extensive education and at times complex explanations to convince the public to switch to local foods, especially in regions where people do not generally associate with farmers. Other concerns such as “food scares” in terms of contamination of meat and produce have perhaps impacted the public on a much more personal level.

The argument that local food has a reduced chance of poisoning consumers has done much to drive citizens to change food behaviors. Delind & Howard (2008) discuss the mounting occurrences of large-scale food contamination issues plaguing the North American food system. They draw on the fallout of the 2006 occurrence of *Escherichia coli*, bacteria toxic to humans, which were found in bagged spinach. The government reaction to these contaminations was to increase regulations and to reconfigure policies. These new regulations in both Canada and the US affected small farmers disproportionately and re-enforced the large-scale industrial food model that was seen as

the problem. In some regions the fallout of policy changes resulted in a decrease of local food availability, as small farmers could not meet the standards, not of quality, but of the expenses associated with inspection and new procedures. Delind and Howard (2008) argue that these solutions are fueling the dominant food system and propose that the food scares are not nearly as big of a deal as the loss of local food supplies, suggesting it is better to continue to support farmers, despite regulations that do not, concluding, "just as a little food poisoning is a good thing, a way of strengthening our individual and collective immune systems, a little civil disobedience is also a good thing—a way of strengthening our individual and collective political will"(p. 315). While the food scares increased people's interest to seek out food grown closer to home without the hazy path from farm to plate, the new regulations reduced the availability of local food.

In addition to the conceptual and pragmatic reasons for eating local, Stephenson and Lev (2004) examined support for eating local from two communities with different socio-economic positions. They found that the support for local food "cut across" differences in income and education. Both communities also expressed willingness to pay premiums for purchasing local food. Nevertheless, the support outweighed actual purchases. Their study found that potential existed in both communities to develop local markets if type of products, method of delivery and cost were tailored to characteristics of the community.

2.4 Food, Mapping and Advocacy

Conceptions of advocacy highlight how *local food movement*s are negotiated within the framework of social change. Advocacy is generally understood as a process that attempts to challenge the dominant order through transforming values, attitudes and

behaviors (Shragge, 2003; Young & Everett, 2004). Advocates working in their communities are at the heart of social movements and are citizens working towards these changes (Jernigan & Wright, 1996).

The *local food movement* is situated within the wider prospects of community driven advocacy for social change. For example, Gottlieb (2001) suggests that the importance of the *local food movement* is its relationship between sustainable agriculture and environmentalism. The *local food movement* brings advocacy into both rural and urban spaces where it can work to bridge the traditionally opposing concerns of environmentalism (that focused on wilderness preservation) with economic concerns of farmers. These connections position the movement as one that brings together several issues under one umbrella that enables the *local food movement* to grow (Agyeman, 2005). Nevertheless, the growth of the *local food movement* is within a wider context of advocacy and social action.

Advocacy within the context of stimulating social movements is based on social action. Social action is reliant on changing individual behavior; participating in an activity or becoming socially engaged is a personal choice. Shragge (2003) illustrates how building collective social action through changing behaviors is central to building a social movement and emphasizes how behind any social movement is a collective identity. In the *local food movement* that identity can be generalized to citizens who value food that is grown close home and enact their values through behavior that supports this value, such as buying food at a farmers market. Alkon (2008) explores the links between individual behavior and values to collective action. Her study explores motivations of consumers at farmer's markets and found that consumers' interest in eating locally was

motivated by their desire to counter corporate globalization and create a local economy where they felt money that they put into their community goes back into their community. Consumers were quoted saying, “vote with your dollar” and “human need not corporate greed.” Her interviews with consumers and producers at the markets suggest that participation in the local food economy was driven by the desire for personal actions to contribute to broader social movements. Thus, eating local can be viewed as a political act and a personal way to participate in collective action.

The *local food movement* speaks about examining one’s values and changing behaviors that support sustainable agriculture such as sourcing food from local farmers directly. Overall, it entails shifting a paradigm that results in changes of social norms and, most importantly influences government policy (Shragge 2003).

Advocacy is becoming more specifically tied to governance. It is viewed as part of democratic governance because it is the vital link between citizens and decision-makers. In a recent audit of Canadian democracy, Young and Everett (2004) define advocacy groups explicitly as “any organizations that seek to influence government but not to govern”. They indicate that within Canada, advocacy groups are predominantly the groups in which citizens interact, albeit indirectly with government in order to influence policy. Furthermore, they found that the role of advocacy groups is rapidly growing. Young and Everett (2004) suggest that participating in advocacy has become a preferred mode for Canadians to be politically involved compared to joining a political party.

Participation in advocacy groups and social movements varies across communities. Reid (2000) distinguishes between *indirect advocacy* where individuals

take action on their own behalf and *non-profit advocacy*, which is focused more towards the influence found in collective action. A time-honored approach to participation in advocacy is through attendance at meetings, time spent organizing campaigns or other kinds of volunteer work, on the ground, in the community (Young & Everett, 2004). Young and Everett (2004) articulate these differences across a spectrum form *formal* to *informal*. In the *local food movement* formal participation may involve being a member of a food organization that lobbies government for policy changes, while informal would be an individual purchasing food at a farmer's market. These ways of viewing advocacy position the advocates a formal participation and the citizens that eat locally as either informal or indirect forms of advocacy. It is these two forms of participation that make up a social movement.

Finding ways to engage citizens in the governance cycle is gaining increasing attention as voter turnout drastically decreases in Canada. Gaventa (2004) calls for participatory governance that recognizes involvement goes beyond voting and seeks to increase citizen authority in policy formation. He states:

> With the re-conceptualization of participation as a right to citizenship and with the extension of the right to participation beyond traditional voting and political rights, comes the search for more participatory approaches to ensuring citizen voices in processes of democratic governance (p. 30).

The development of a *local food movement* relies on the collective action of a community, a place and, like many other social movements, the advocates that stimulate the actions on the ground. Increasing the involvement of community-based advocacy groups and their supporters in the governance cycle is arguably the first stage towards political transformation. This requires effective ways for citizens to participate.

Increasing participation can counter the economically dominant voices and move towards a more democratic society. In the case of local food issues, the large-scale food industry is implicated in the control of food policy and inhibiting the growth of the *local food movement* as seen in the reaction to food containments in North America (Delind & Howard, 2008). Local food advocates focus attention to small-scale farmers that produce for local consumption and hold many of the ideals discussed in this chapter. This study is concerned with finding effective ways to bridge both the formal and informal methods of advocacy participation, stimulating communication between advocates and the citizens within their community. At the same time communication strategies must strengthen the role of citizens within the decision-making processes of a democratic society.

Wilkins (2005) directly links food choices to the duties and responsibilities that come with being a member of a community through the notion of *food citizenship*. Food citizenship, Wilkins says, is the practice of engaging in food-related behaviors that support rather than threaten the development of democratic, socially and economically just and environmentally sustainable food systems. It ties our food behaviors to our responsibility to "place". Wilkins emphasizes food advocacy stating "…each of us can practice food citizenship by first thinking about the food system implications of how we eat and then by taking action" (p.271). In this way, food choices are directly linked to political action and thus social change. An increasingly dominant concept that further links food to advocacy is the social movement for *food sovereignty*. Food sovereignty has risen from vocal activists globally, especially within Indigenous organizations in Canada and in many parts of the global south. Michel Pimbert (2006) in *Transforming Knowledge and Ways of Knowing for Food Sovereignty* illustrates how the movement

calls for locally controlled food systems that are based on bio-cultural diversity. He quotes from the mission statement of an international advocacy organization behind the movement called, *The People's Food Sovereignty Network*, who define it as:

> …the right of peoples to define their own food and agriculture; to protect and regulate domestic agricultural production and trade in order to achieve sustainable development objectives; to determine the extent to which they want to be self reliant; to restrict the dumping of products in their markets (p. 33).

The diversity of tools available through the Web is increasingly important for local food advocates. The Web enables links between community members and out of their region to wider movements and organizations (Garrett, 2006). As high-speed Internet connections cut deeper into rural Canada, farmers are able to access these tools ever more (Cammaerts, 2007). In the report: *Cultivating the Web: High Tech Tools for the Sustainable Food Movement*, Hatfield and colleagues (2008) illustrate the significance of digital innovations to small-scale farmers and their advocates. They describe an online revolution where tools like blogs, websites and digital maps are becoming vital to communication strategies. They suggest that the most important aspect is that the tools are uniting people such as farmers, urban consumers, activists, artists and chefs; people are building the movement through finding each other. Hatfield et al. (2008) state: "the Internet will never replace the farmer's market but it can help you find your way there" (p. 7). Hence, Web-based tools offer great promise to connect like-minded individuals to support local food and build a social movement.

2.5 A Regional Case Study for a *Local food movement*

2.5.1 North Okanagan Food and Agriculture

This study is set in the North Okanagan Valley in the interior of British Columbia (Figure 2.1). The region is a strong agricultural centre for the province. It has a semi-arid climate that supports orchards, vineyards, ranches and many annual crops. The population size of the North Okanagan Regional District (NORD) is around 77,000 with the centers of settlement in Armstrong, Spallumcheen, Enderby, Lumby, Coldstream and Vernon (BC Stats, 2007). In addition to local district and municipal councils of these settlements, the North Okanagan Regional District provides regulatory authority over land-use.

Despite the amount of food produced in the region, as much as 90% of food products are imported from other regions (City of Vernon, 2008). In the North Okanagan, many farmers are not able to make a living producing food. Furthermore, NORD is increasingly recognizing that a changing climate poses complex risks to the agricultural sector, putting farmers further at risk (NORD, 2008). Food advocacy organizations in the region have identified a need to bring awareness to the consequences of relying on imported food as well as the need to develop community resources that work to support and encourage local food consumption (FASNO, 2008).

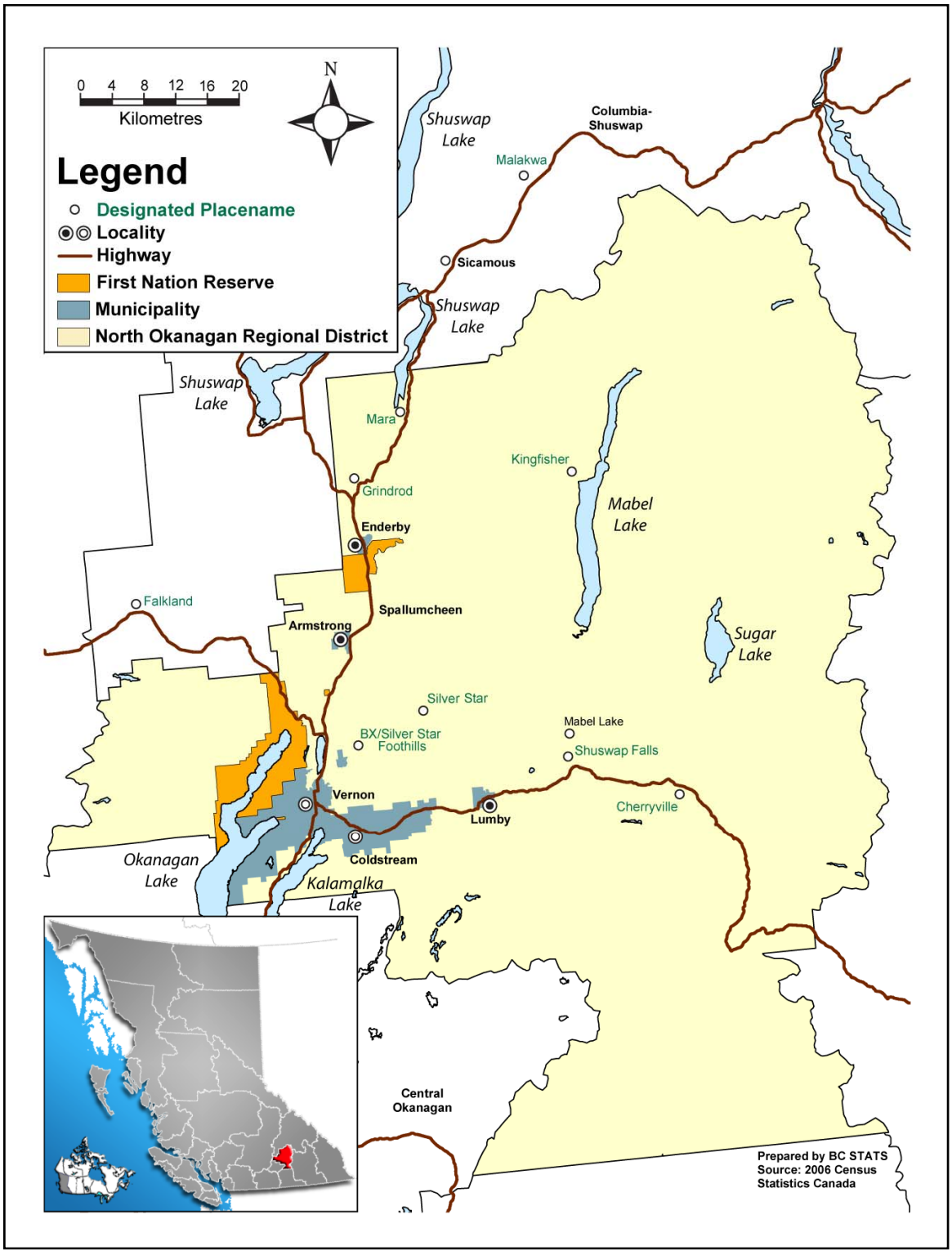


Figure 2.1 The North Okanagan region (modified from BC Stats, 2006).

Climate change is of particular concern in regards to food production in this region. At all political levels, re-localizing food consumption in a changing climate is acknowledged as both an adaption and mitigation strategy (City of Vernon, 2008; Ministry of Environment, 2008; Ministry of Agriculture and Lands, 2009; NORD, 2008). At the provincial governmental level in British Columbia, the vulnerability of small-scale farmers to climate change and economic impoverishment is acknowledged. The provincial *Climate Action Plan* anticipates that with annual warming, global food production will decrease and regional food production will need to increase (Ministry of Environment, 2008).Another provincial level report, *British Columbia Agricultural Plan: Growing a Healthy Future for BC Families*, emphasizes the importance of both family farms and local food production in relation to environmental change and sustaining the agriculture economy (Ministry of Agriculture and Lands, 2009). Foreseeable concerns from environmental change are: shifting production patterns, increases in crop pests and water shortages. Furthermore, there is a concern for the rapid loss of family farms and viable farmland. In addition to general statements about the province's support for the viability of producers, it recognizes that local food reduces the distance food travels and with that the amount of pollution from transportation and storage (Ministry of Agriculture and Lands, 2009).

Regional government administrations have responded to the provincial policy discussion. The North Okanagan Regional District (2008) is using provincial climate data to understand impacts to agriculture. According to NORD's (2008) report, "Climate Change and the North Okanagan", with the regional climate predictions, summer moisture regimes will decline, changing what can be grown and at the same time

increasing fire risk. Therefore the district is interested in working with farmers to adapt to changes in production patterns and prepare for severe weather-related events. The City of Vernon (2008) has the largest population within the North Okanagan Regional District. Their recent Official Community Plan (OCP) highlights protecting local agriculture as a major priority. The city maintains 24% of their land based within the Agricultural Land Reserve (ALR).The ALR is a provincial land zone where agricultural use is given priority. ALR operates on a no net loss policy, which means that no land designated as ALR can be used for non-agricultural purposes without replacing it with a similar land quality and area. In the new OCP, support of local food production through the protection of ALR encourages agricultural diversity and implementing land-use requirements such as buffer strips by ALR areas. However, the most relevant recommendation to this thesis is the municipal emphasis on supporting programs to increase awareness about local agriculture.

In the North Okanagan region, several organizations have taken on local food advocacy. The Okanagan Science Centre (2008) featured the exhibit, “Food for Health” that included events such as storytelling with established local farmers and a number of children’s activities around local farming. There are food related organizations emerging throughout the area. For example, the Armstrong Community Food Initiative (ACFI) formed to initiate a community garden in Armstrong and continued to get involved in hosting events and facilitating food system planning processes with the municipal government. In addition, farmers’ market organizations are rapidly emerging in towns throughout the region, such as Cherryville, Armstrong and Vernon; these organizations involve hundreds of small-scale farmers and food processors. The research aimed at

supporting FASNO (a grassroots advocacy organization) and the local food advocates, in building tools that provide novel ways to increase awareness and source local food. FASNO's mission is to "improve food security by cultivating a more sustainable regional food system through programs, projects, education, policy and community engagement" (FASNO, 2008, p.1).

2.5.2 Community Partnership: Food Action Society North Okanagan

This study reports on a research partnership that developed between FASNO and the Centre for Social, Spatial and Economic Justice (CSSEJ) at University of British Columbia – Okanagan (UBCO). FASNO supports a range of food related activities, including community gardens, events and support programs like the Good Food Box that supplies fresh produce at a low cost to families in Vernon. The members are particularly keen on increasing awareness within the region about community food security issues and have worked with several small-scale farmers to identify key issues affecting food production. FASNO came forward as an organization that was interested in forming a partnership with university researchers to explore new ways to address some of the concerns they were hearing in the community.

The organization was born as a result of community consultations during food security assessments by NORD the subsequent report *North Okanagan Food Security Assessment Plan* recommended a local host agency to support community food programs (see http://foodaction.ca/). The organization is primarily organized through a volunteer board of directors with a broad member base from throughout the North Okanagan region. Many of the core participants in the organization identify themselves as advocates or activists and articulate the organization's role as an advocacy group that works with

the local governments but remains at arm's length in order to effectively lobby for policy changes (personal communication Wendy Assen, November 15th 2008).

FASNO members made up the core of the participants of this project but other organizations and stakeholders of the *local food movement* were also involved, most notably volunteers from the neighboring ACFI. The development of the Okanagan Food *Portal* received support from Vernon Farmers Market Association members, Cherryville Farmers Market Association, Okanagan Greens Society, Certified Organic Association of BC, as well as volunteers not associated with a specific group including local food producers or proprietors of small-scale food businesses. Participants represented many aspects of the advocacy community and were also involved in much of the local food activities in the North Okanagan region. In this way, the project was able to reach many of the foremost advocates involved in regional food work.

2.5.3 100 Mile Diet Challenge

The development of the *Okanagan Food Portal* was aimed at supporting a specific initiative of FASNO called the *100 Mile Diet Challenge*. The campaign was inspired by Alisa Smith and J.B. MacKinnon (2007) book *100 Mile Diet: A year of eating local* that initiated the idea and spurred 'eat local' campaigns throughout the province (see http://100mile.foodtv.ca/). The idea also introduced early in this chapter is one that defines local as a definitive space and an easy way to communicate local to a broad audience. FASNO wanted to draw on the already established idea in popular media, but bring it to a local context. The campaign encouraged North Okanagan residents to participate in only eating food grown or processed locally for 100 days. FASNO's

challenge was to only eat what grew or was processed within a 100 mile radius from a participant's residence within the North Okanagan region.

The challenge was launched at the Interior Provincial Exhibition (IPE) September 2-5, 2009. IPE is an agricultural fair, held annually in Armstrong BC (see http://www.ipe.com). In 2009, it saw over 50,000 people attend over the 5 days. The fair highlights many different sectors of agriculture in BC, presenting horse shows, vegetable growing competitions and livestock contests. However, it has not "explicitly" advocated for local food in the past. FASNO and ACFI hosted the 100 Mile Diet Pavilion at the fair. The pavilion hosted events and demonstrations throughout the week within the broader context of an agricultural fair. The campaign saw 150 people sign up to follow the diet.

One of the main goals of this study was to develop tools with FASNO to support the *100 Mile Diet Challenge*. FASNO felt that one of the major barriers was their communication abilities and the need to find novel ways to increase support for their Challenge, potentially reaching outside of their current social networks. Communicating both the reasons to eat local food and the methods to find local food were integral to the *100 Mile Diet Challenge*.

2.6 Conclusion

Cultivating the *local food movement* necessitates increasing participation from the surrounding community. It is essential to the process of social change to build collective action, which entails appealing to the unique characteristic of the community. Studies demonstrated the support for local food can cross community socio-economic divides but that barriers exist that prevents access to local food. The diversity of food ideologies

existing behind and within the *local food movement* complicates how to communicate and organize the social movement. However, working at a community level provides opportunities for each community to construct how they perceive the *local* in their food system and then communicate it spatially.

The *local food movement* is an example of a movement that is essentially geographical. It is represented either through a definitive geographical space, such as the 100 mile diet, or it is oriented towards community relationships that advocate for knowing who and where your food comes from as in the Slow Food movement. It is an example of where the GeoWeb may facilitate greater participation locally but has demonstrated global implications for the environment and health of human beings. The North Okanagan in particular is a region facing many of the concerns articulated in the literature on local food. Local food organizations identify that the decrease in local food consumption has impacted the environment, health of citizens and reduced the financial viability of farmers. A priority for FASNO is to increase awareness about these issues in the community; however a barrier to this has been harnessing effective communication strategies that reach out into the community to increase participation for the movement. The 100 Mile Diet Challenge, was an initiative of FASNO's education committee, bring local food issues to the forefront in the North Okanagan, finding the tools to do this was the challenge.

Chapter 3: Mapping for Advocacy with the GeoWeb

3.1 Introduction

The relevance of the GeoWeb as a tool to support advocacy and *local food movement*s is situated within broader discussions in geography on maps and mapmaking. This study is oriented at evaluating the GeoWeb's potential as a spatial communication tool and thus a novel approach to mapping. Mapping has traditionally been a powerful way to communicate information visually. Maps provide a "visual picture of the landscape that everyone can understand" (Chapin, 2006 p. 94). Maps are used throughout many sectors of society for decision-making, but most often they have been made by and for the elite (Harley 1989; Cramption & Krygier 2006; Peluso 1995; Sieber 2003). The ways in which maps are made is changing with the advent of Web 2.0 and the GeoWeb, how this shifts the roles of maps in decision-making and the participation process will shape how the influence of maps as a tool for social change, in this case the *local food movement*.

3.2 Maps and Mapmaking

There is an established body of literature that explores the role of maps and mapmaking to encourage social change. Harley (1989) initiated the critical examination of the embedded power of maps by arguing that maps were more than a presentation of facts; in fact, they are decision-making tools manipulated to represent the agenda of the mapmaker. Critical cartography aspires to address the subjectivities of maps and links spatial knowledge with power (Crampton & Krygier, 2006). This evolving mapping paradigm has challenged the traditional model of maps developed for and by authorities

(Peluso 1995; Sieber 2006; Parker 2006). Advocacy in mapping practices is represented prominently in the field of counter-mapping, while Public Participatory Geographic Information System (PPGIS) offers lessons and strategies that complement and inform mapping for social change. Despite varied approaches, the fields aim to incorporate citizens' spatial knowledge in the development and use of locally relevant maps.

Counter-mapping is a foundational ideology that supports mapping for advocacy. It attempts to challenge maps founded on agendas of the governments or economically privileged organizations. Nancy Peluso (1995) coined the term counter-mapping through her articulation of efforts by local and international non-governmental organizations to map out Indigenous land-use in Indonesia. Peluso suggested that if maps are sources of power for the powerful—as traditionally they have been—local groups may appropriate that source of power, offsetting the "monopoly of authoritative resources" (p. 386). More than a decade later, Harris and Hazen (2006)put forward that counter-mapping projects are, "… specifically designed to dramatically increase the power of people living in a mapped area to control representations of themselves and to increase their control of resources"(p. 101).

Another important factor is that counter-mapping acknowledges the implications of information not only included on a map but also which is excluded or not represented on the official maps (Peluso, 1995). Cooke (2003) illustrates how citizen information excluded from a map can have grave implications for those citizens. For example, leaving such information such as territorial regions of Indigenous people's off a government map can result in limiting the rights to those lands and control over the resources (Cooke 2003). Ultimately, counter-mapping attempts to represent knowledge that is not

represented in the conventional modes of information managed by the authorities. Counter-mapping thus puts forward an advocacy ideology wherein mapping gives power to citizens by legitimizing their knowledge through the mapping medium.

Counter-mapping is oriented towards a process that increases power of marginalized people. Thus, it is not shaped by the technology but the process and ideology that the practice represents. It draws on multiple mapping technologies that are suited towards the ultimate objectives of a particular project. These techniques can vary from low-tech solutions such as using a pen and paper to draw out territorial boundaries, to harnessing digital mapping technologies that mirror

Where counter-mapping offers an ideology, PPGIS provides an approach to engage citizens in the process. Corbett et al. (2006) define PPGIS as "an intersection of participatory planning and geographic information technologies and systems" (p.10). PPGIS is ultimately shaped by the use of digital technology. Goodchild (2000) defines GIS as, "a computing application capable of storing, creating, manipulating, visualizing and analyzing geographic information" (p. 6). Traditionally GIS was a desktop software application but increasingly GIS is moving to interactive, open source and Web-based (Crampton, 2009). The central aim of PPGIS is to be inclusive of those who are socially, politically, or economically marginalized (Elwood, 2006). Sieber (2006) highlights it as a course of action that increases the interaction and involvement of the public in decision-making. Aberley and Sieber (2002) describe one of its guiding principles as "sharing the challenges and opportunities of place and situation in a transparent and celebratory manner" (p.1). This includes utilizing GIS-based tools in a participatory manner to help

promote the goals of non-governmental organizations, grassroots groups and community-based organizations.

In PPGIS, participation is aimed at filling the omissions left by mapping authorities through citizen spatial knowledge but without the explicit intent of mapping with a political agenda (King, 2002). Ball (2002) summarizes the role of citizen participation in the mapping process as involving some or all of the elements of consultation, advising, decision-making and reviewing and commenting. Studies suggest the extent of participation in PPGIS initiatives is dependent on factors outside of a researcher's control, such as resources for implementing expensive and complex technologies, or characteristics of the community attempting to be included (Ghose & Huxhold, 2001; Ghose & Elwood, 2004, Nyerges & Janowski 1997, Voss et al., 2004).

The fields of counter-mapping and PPGIS have the capability to be an influential tool for social change but is suggested that the technology has inhibited this potential so far (Ball, 2002; McCall & Minang, 2005). A central challenge to counter-mapping and PPGIS projects is the dominance of GIS technology that is complex and expensive, which limits participation from citizens in the process (Dunn et al., 1997; Dunn, 2007; Elwood, 2006). Where some counter-mapping projects have used multiple mapping methods to collect data such as hand drawn maps, the end results are maps that are based on the GIS technology of government maps. These GIS maps provide the air of credibility, legitimize the maps in the political and legal process and thus gain the needed authority (Harris & Hazen, 2006). However, it most often the experts trained in the technologies of GIS that make the maps and as a result, the extent of community input becomes unclear (Sieber, 2006). Furthermore, GIS fails to express or analyze subjective

knowledge such as beliefs, values or customs through the reliance on points, polygons and line data (Kwaku Kyem, 2001). In these ways, critics assert that many projects have failed to effectively incorporate local knowledge and represent people in the community (Dunn, 2007).So, while mapping can be a powerful tool for advocates to achieve their goals, there are serious apprehensions about mapping as a means for voicing community concerns (Fox, 1998). Discussion on how the evolution in mapping technologies mitigates these concerns is just beginning to take forth. Understanding how this changes participation and mitigates the concerns found in the literature of PPGIS and counter-mapping is a broad aim of this study.

3.3 GeoWeb as a Tool for Advocacy

With the advent of Web 2.0, virtual communities are emerging and growing rapidly (O'Reilly, 2005; Hick & McNutt, 2002). Web 2.0 offers interactivity, collaborative, information sharing and interoperability of website applications (Cosh et al. 2008). Where Web 1.0 Internet users were limited to passive viewing of Internet content, Web 2.0 provides users with the possibility to contribute and share information through video-sharing sites, blogs, wikis and social networking sites like Facebook. Most important for the spatial sciences are the recent innovations that allow for user-generated content on the Web to acquire geographic locations. The ability to locate digital content such as text, audio recordings or videos through digital mapping applications such as Google Maps, forms the core of the Geospatial Web or the GeoWeb (Hacklay et al., 2008). Combining data from two or more Web applications is known as a "mash-up" and these play a significant role in the new ways in which mapping is understood through the

GeoWeb (Miller, 2006). Incorporating these services in a map changes what maps communicate and how they can communicate.

The emergence of citizen media platforms and mash-ups is correlated with the rise of hyper-local media (Clark & Aufderheide, 2009). Hyper-local media refers to digital media such as videos, podcasts, or blogs that embody three elements: the event is located within a defined area; is intended for usage by residents of that area; and is created by a resident of that location (Bruns et al., 2008). It is proposed that the GeoWeb has fueled hyper-local content with Internet media increasingly located and accessed through maps (Braudy, 2008). The advent of hyper-local media may enhance the publics' understanding of data represented through maps and potentially augment the communication value of spatially oriented information within communities. These technologies are thought to be accessible to more and more people that have a computer and an Internet connection (Cammaerts, 2007). These tools shift the public from mere audiences to actively creating media. An important consideration in geography is how hyper-local media facilitated by the GeoWeb contributes to participation in the mapping process, representing local knowledge from the community to the community.

Developments in mapping and Internet communication technologies offer a new path for citizen participation, bringing the potential of citizen media applications together with the visual power of maps (Crampton, 2009). The GeoWeb, that merges geographic information with the abstract information that currently dominates the Internet is considered to bring the practice of map-making to the mainstream. (Plewe, 2007; Torpelund-Bruin & Lee, 2008). Plewe (2007) suggests the GeoWeb stimulates a new path for mapping that removes maps from the experts. Connections between local

knowledge and the GeoWeb provide grassroots communities with increasing methods for disseminating their own media (Kwaku Kyem, 2001; Miller, 2006). However, does simply providing the technology that supports mapping practices encourage participation in advocacy?

3.4 Citizen Participation on the GeoWeb

The question of how the GeoWeb changes participation in the mapping process is an ongoing discussion and an area in need of further research (Elwood, 2008; Sieber, 2003). Goodchild (2007) describes the GeoWeb as a participatory model where users collaboratively create, share and mash-up data and where information can be accessed through many channels, almost anywhere, when the user wants it. Furthermore, he suggests that if the early Internet can be considered a unidirectional medium, where there is a clear distinction between the producer and consumer of information, the emergence of Web 2.0 blurs this distinction and extends the ability to produce online content to the average user. Most importantly he describes the content as volunteer geographic information (VGI) and suggests that the most promising aspect is its potential to give a place to local voices, where traditional forms of media have not. Thus, these new spatial technologies, such as those found on the GeoWeb, may lessen the need for outside experts. How this changes the counter-mapping process and how maps are negotiated as a political tool in the absence of experts is an important area of research.

Elwood (2008) cautions that the creation of any spatial data is set within existing power relations within a community, in its access, representations and use. Differential access to technology or the *digital divide* is a long-standing concern within any discussion on advocacy and technology. It is particularly applicable in terms of the

GeoWeb. The *digital divide* conventionally refers to how citizens across various scales were able to either use a computer and/or access on Internet connection (Crampton, 2009). These divides were often separated based on income, ethnicity or rural versus urban (Servon, 2002). It is increasingly acknowledged that these gaps are closing as equipment costs decrease and the Internet penetrates deeper into non-urban and non-affluent areas (Compaine, 2001). However, recent studies suggest that while differential access and the possession of hardware are coming to a close, there is a growing *digital divide* in terms of usage and skills (van Dijk & Hacker, 2003). Some refer to this as the *digital skills divide* that is on the rise and continues to be based on socio-economic status, but also age and gender (Bimber, 2000; Tufts University, 2008). For example, van Dijk & Hacker (2003) found that women over 45 years of age, regardless of economic status, were falling behind in usage and skills required to effectively use digital technologies. Both Crampton (2009) and Elwood (2009) point to the *digital divide* as a critical factor of the effectiveness of the GeoWeb to engage citizens in the mapping process. Thus, it is important to extend an understanding of use of the GeoWeb to include skills and usage constraints, as these will challenge the uptake of GeoWeb.

Studies also suggest that participation on the Web is not as universal as some would like to believe (Mconnell, 2006; Steyaert, 2002). While users now have the ability to create content using Web 2.0 applications, the majority of users are thought to only be observing content. What is known as the 1% rule is commonly used to illustrate participation dynamics in an online community (Mconnell, 2006). According to Jakob Neilson (2006) user participation on the Web most often follows a 90-9-1 rule where 90% of all activity from users is what he describes as “lurkers”, 9% are intermittent

contributors and only 1% are heavy contributors, hence the 1% rule. These ratios are backed by website tracking systems that demonstrate the amount of unique visitors to a collaborative webpage such as Wikipedia. In the case of Wikipedia, Nielson points to how 99% of users just observe and only 0.2% actually participate through online contributions. While contributions may be unbalanced, benefit sharing and access to the information is not. These kinds of insights challenge the ability for the Web to harness greater participation in the mapping process and in advocacy.

The GeoWeb and corresponding user-generated communication tools may have the potential to play an important role in fulfilling community advocacy goals. On the whole, the literature implies that the GeoWeb can provide the tools for change, whereas counter-mapping and PPGIScan form the path (Goodchild, 2007; Kwaka Kyem, 2001; Miller, 2006). However, it is contingent on how advocates seek to use the tools and how the community they want to reach can participate in the mapping process in a way that overcomes the challenges found in PPGIS and counter-mapping (Harris & Hazen, 2006; Sieber, 2003).

It is important to understand the connections between access and participation when addressing the GeoWeb's ability to harness local knowledge and alternative voices. Recent studies articulate that there remains a growing *digital divide*; the divide may influence citizen participation on the GeoWeb but is dependent on the characteristics of the intended target community (Bimber, 2000; Nielson, 2006). Understanding how these issues take shape and impact mapping for advocacy can inform future studies in these areas.

3.5 Web Portals and the Okanagan Food Portal

Spatial technologies are continually changing on the Web and with the change mapmakers and Web developers seek coherent ways of displaying varied kinds of information (Yang et al., 2007). Web *Portal*s, defined as a webpage that presents information from diverse sources, are increasingly a way to connect diverse information with other services such as blogs, wikis and media galleries (Maguire & Longley, 2005). Specific to spatial data and the rise of the GeoWeb is the advent of GeoPortals defined by Maguire and Longley (2005) as, "Web gateways that organize content and services such as directories, search tools, community information, support resources, data and applications" (p. 3). The objective of a GeoPortal is to increase interoperability between spatial information and other Web services through a single webpage (Staab et al., 2000). *Portal*s offer a one-stop shop for users seeking diverse kinds of regional or niche information such as local food. Furthermore, a Community Web Portal aims to harness Web 2.0 capabilities to form a *Portal* where the community that is intended to use the information develops the content (Staab et al., 2000).

This study developed a Web *Portal* called *Okanagan Food Portal*. The *Portal* for this project operates as a webpage (okanaganfood.ca) and is based on a Web *Portal* interface to incorporate various spatial content. The *Portal* was developed to contribute to FASNO's communication strategies as a means to overcome challenges they were facing in communicating to the public. Furthermore, the *Portal* provided a platform to evaluate the concerns in the literature reviewed in this chapter, examining how the technology influences participation in the mapping process and the factors that shape this participation. The *Portal* was created through CSSEJ at UBCO, guided and informed by

FASNO members and managed by myself. The *Portal*'s various applications and types of content are reported on in Chapter 5.

3.6 Conclusions

A central question in this study is how the GeoWeb, as a mapping tool for advocacy, can enable community members to represent themselves spatially. Addressing this through the lens of advocacy within the *local food movement* necessitates an examination of both advocates' perspectives and the perspectives of the community they are trying to reach.

Mapping for advocacy is set within the ideologies of counter-mapping and guided by methods of PPGIS. The literature, while highlighting the importance of maps in the social change process has criticized the ability of past attempts to represent local knowledge because of the reliance on the complex and expensive technology needed to construct the maps. The emergence of the GeoWeb alongside the rise of VGI and hyper-local media offer new paths for the community to represent themselves both spatially and through using new media technologies. The advent of Web 2.0 has sparked geographers to look again at how technology influences change processes. However, it is unclear whether the GeoWeb can facilitate collaborative dialogue for community-scale social change efforts and whether advocates representing these processes can universally draw on these to augment their objectives.

The GeoWeb can provide a tool, but for its success it is necessary to understand how advocates and their target communities are able to participate on the GeoWeb. So far, it is unclear in the literature whether the GeoWeb is a tool that advocates might use to

realize their objectives nor is it understood how the characteristics of a community, can influence the process. It is apparent that a central objective of advocates is to increase participation; it is the backbone to building collective action and stimulating social change. Most importantly it is a vital piece of a democratic society, the grassroots of governance. In this light, the GeoWeb cannot merely be a space for participation but must facilitate a dynamic place for engaging in the *local food movement*.

The Okanagan Food *Portal* is a website and GeoWeb tool that draws on a Web *Portal* interface. It is developed for this study to evaluate its ability as a mapping tool for advocacy. The *Portal* draws on various applications and content to contribute to FASNO's communication strategy and assess the capabilities of the GeoWeb. Understanding the impact of this tool within a community context can inform how evolutions in technology influence a change in the practice of mapping for advocacy.

Chapter 4: Research Approach and Framework

4.1 Introduction

Mapping for advocacy requires a research methodology that is action oriented, adaptive and reflexive. This study employs a qualitative approach that proceeds from a reflexive position. Reflexivity is a way to identify the researcher's role in the construction of the interpretation (Guilleman & Gillam, 2004). This study is grounded in *Community-Based Research* as I worked to identify a research direction derived in partnership with the community. From *Community-Based Research*, I adopt an *Action Research* methodology adapted from Hearn et al. (2009), which outlines a cyclical process that directed the research plans, actions, observations and interpretation of this thesis. A qualitative mix method design using participant observation, focus groups, semi-structured interviews and questionnaires examine the proposition that the GeoWeb stimulates advocacy and social change. Mixed qualitative methods aim to comprehend the meanings through exploration and action with participants. In this study, the questionnaire provided a means to gain valuable feedback from the community where as the interviews and participant observation provided a more in-depth exploration from the experiences of *local food* advocates and my own experience in the process. These methods are presented with the results in the following chapters. Ethical considerations for this study guide both the interactions with the community and my interpretations presented in this thesis. I conclude with the methods for interpretation and analysis of this thesis

4.2 A Qualitative Reflexive Approach

A qualitative approach is necessary when a particular issue involves understanding perspectives. Evaluating the GeoWeb's potential in a community context aims to "empower individuals to share their stories" allowing participant perspectives to inform the analysis and interpretation of this study (Creswell, 2007, p. 40). Furthermore, qualitative research is essential to understanding people's experiences because it "accepts the complex and dynamic quality of the social world" (Hoepfl, 1997, p. 47). According to Winchester (2000), a qualitative approach allows for a "multifaceted and fluid reality" (p. 6). This permits a rich and relevant description of participants' experiences and viewpoints. Thus, research proceeds from the belief that the perspectives of local food advocates and community members are inevitably complex phenomena that necessitate an approach stemming from qualitative inquiry, grounded in *Community-Based Research* and directed by *Action Research.*

The qualitative research design for this study begins with the position that as a researcher I operate both as a participant and researcher with this study. This position requires the adoption of a reflexive approach in order to identify this position. Reflexivity is increasingly important to qualitative researchers in identifying their voice in the constructing of knowledge (Guilleman & Gillam, 2004). In particular, *Action Research* requires that the researcher identifies their position within the research process and this extends to the writing of the research. Mansvelt and Berg (2005) emphasize the importance of using the first person, stating it, "reflects the researcher's understanding of their position in time and place" (p. 257) Therefore, I use the first person, not to position myself above the research but within the context of the research itself acknowledging that

I provide but one interpretation of process and perspectives offered to me by the community.

Reflexivity provides a way to respond to the dynamic nature of *Action Research*, with the challenges of multiple voices and situated ethics. Patton (2002) describes how qualitative analysis is a "new stage of field work in which analysts must observe their own processes even as they are doing the analysis" (p. 276). For the most part, I was present in shaping the conversations, even with the questionnaires although not as evident, my presence still was a part of the responses. Therefore, as I weave community voices, I also weave myself into the results, as the teller of the story (Glesne, 1999). Rose (2001) articulates the means for identifying the 'storyteller' through incorporating critical reflection in our interpretations, while arguing that it is wise to write persuasively rather than as a truth. In this way, the heavy use of quotes woven throughout my interpretation provides the raw voice of the various participants and my use of first person situates myself within these texts. In addition, as a community participant myself, I draw my analysis from my own "texts" in the form of field notes from observations and the informal communications I had throughout the research process.

Reflexivity also provides a space for identifying my own vat of biases, privileges, identities and other personal experiences that I bring to the research. It is a way to work through my location as a researcher in the community and in a sense a member of the same community. Perhaps most importantly it is a tool for self-examination and ultimately works towards a coherent agent for social change.

4.3 Action Research Process

Community-Based Research is an overarching term that encompasses community-centered approaches to research with an emphasis on collaboration. Israel and her colleagues (1998) view the fundamental principles as:

- Participatory, researchers are not mere observers but part of the process;
- Cooperative, engaging community members and researchers in a joint process to which each contributes equally and
- Co-learning, where researchers and participants learn together.

An important element of *Community-Based Research* is that the creation of knowledge is aimed at solving a problem that is vocalized *by* the community (Wallerstein, 1999). Under the *Community-Based Research* ideology there is a direct link between the academy and society at a pragmatic scale of inquiry, the community (Chekoway, 1997). These principles guided this research and actions with the focus on community members informing and shaping the research model from the onset of the project.

Action Research begins with the principles of *Community-Based Research* but takes it one step further by insisting that the community-identified problem is acted upon within the course of research to stimulate change. Participants contribute to decision-making to guide the project, establishing the desired intent, purposes, processes and outcomes of the research project (Chavez, 2003). The emphasis is on generating solutions to problems that affect the participants of the study. A critical aspect of *Action Research* and *Community-Based Research* is the focus on knowledge translation outside the

traditional academic modes to something that is tangible to the public or intended audience (Stoecker, 1999). In pushing the envelope of research, the epistemology of *Action Research* also expands the role of rhetoric to incorporate the transfer of research through language and communication in general. Knowledge translation techniques are vital as far as they formulate the action agenda (Kindon, 2005). In my research, developing the *Portal* as community resource can potentially make the research project more accessible to participants and provide a means for knowledge translation. In addition, my final interpretation can inform the continuous *Action Research* cycle.

Action Research has been applied to the inquiry of new media and digital technologies for community advocacy. Hearn et al. (2009) argue *Action Research* is appropriate because innovation in the technologies and change is ongoing, resulting often in the processes and outcomes being ambiguous. In this context, they propose a continuous *Action Research* cycle that includes: planning, acting, observing and reflecting. Planning outlines the direction and actions for the research while observing actions generate operational knowledge and finally reflecting on those experiences informs back to the plan and the next set of actions, continuing the cycle.

Action Research necessitates an approach to research that is holistic as it aims to both provide action on a problem and stimulate knowledge that can inform solutions (Hearn et al., 2009). In this study, I employ a multi-method design to harness different perspectives and experiences from both the local food advocates and the community they are trying to reach. Community sessions using a focus group design, as well as semi-structured interviews provide an in-depth understanding of the perspective of the advocates (see Chapter 6). A questionnaire employed at the public launch of the *Portal*

allowed community members to share their perspectives on the *Portal*, both in terms of using the applications, observing the content and insights to what they might contribute (see Chapter 8). In addition, I draw from my own experience in the process through participant observation, in the form of a research journal and notes that allows me to draw on my own experience as a both a researcher and as a novice participant in using the GeoWeb.

For this study, I adapt the cycle and provide a framework that is articulated as an *Action Research* process with each phase culminating with a research outcome (Figure 4.1). The timeline provides an overview of the research project and events that occurred for each of the four phases that resulted in the research outcomes (Table 4.1). It is anticipated that following the conclusion of this study the cycle continues within the community and the interpretation is presented back to the community to contribute to forming a plan for the next cycle.

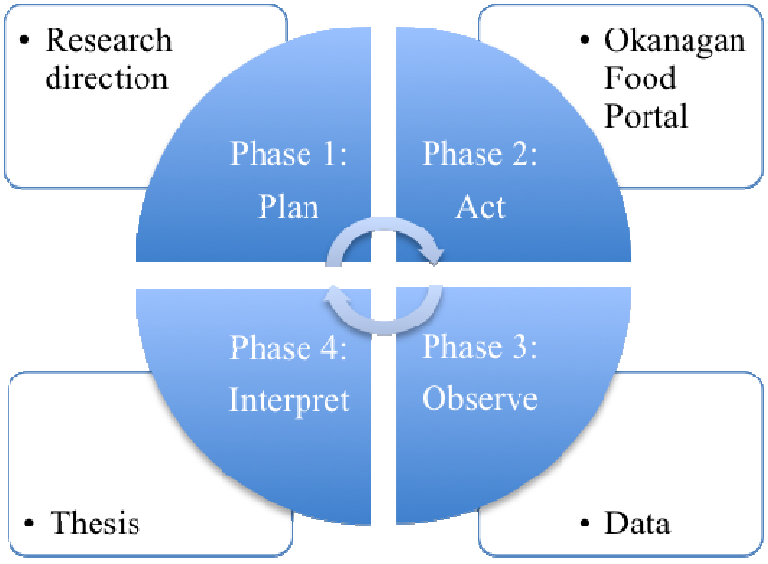


Figure 4.1Action Researchcycle (adapted from Hearn et al., 2009)

Research Milestone	Research Method	Outcome	Date
Phase 1: Plan			
Presentation to FASNO members	Participant observation	Partnership	Mar. 12, 2009
Planning session	Focus group	Research direction	May 13, 2009
Planning session	Focus group	Research direction	Jun. 30, 2009
Phase 2: Act			
Development of *Portal*	Participant observation	Directory, maps & video series	Jul.-Aug., 2009
Launch of *Portal* at IPE	Questionnaire	Community feedback	Sep. 2-5, 2009
Phase 3: Observe			
Finish data collection	Semi-structured interviews	Advocate perspectives	Oct.-Dec., 2009
Phase 4: Interpret			
Data analysis & writing	Analysis	Thesis	Jan.-Jun., 2010

Table 4.1 AR phases with research milestones, methods, outcomes and timeline

4.4 Ethical Considerations

In this study, I view ethics both through the guidelines set by the University of British Columbia – Okanagan ethics board as well as additional ethical considerations that arise through the *Action Research* process. Ethics in qualitative research can be simply understood as the researcher's moral conduct that encompasses the project (Edwards & Mauthner, 2002). Community research lends itself to a particular set of ethical practices that are more complex and theoretically based than procedural ethics outlined in typical university requirements that evolved primarily from biomedical research (Wallwork, 2008).Ethical dilemmas in qualitative research can arise from the

researcher being in a position of power over a research subject that may compromise the information provided and the ability of the person to make a true informed consent. Adopting a methodological framework informed by *Community-Based Action Research* seeks to balance these power relationships. In my research, the aim was for the community members to take part as co-participants and in some cases co-researchers. The main difference that exists within this framework was that participants actively made decisions on the research process, rather than being passive subjects. Ethical practice in this sense may not be an equal balance *per se* but could result in community members having more authority over the direction of the project. Cargo et al. (2008) argue that this could be more appropriate and a better ethical practice in certain contexts, than achieving a true democratic relationship between the university and community researchers. In this study, the main outcomes and design of the action agenda was not merely informed by the community but derived from the community, following this approach to ethical practice.

The study was approved by University of British Columbia – Okanagan research ethics board to conduct research with community members (Appendix A). The consideration of these ethical issues was necessary for the purpose of ensuring the privacy of the participants. Among the significant ethical issues that were considered in the research process include consent and confidentiality. In order to secure the consent of the participants, I relayed all-important details of the study, including its aim and purpose in all aspects of the research, in written and verbal form, for all data collection including community sessions, interviews and questionnaires (Appendix B to E). By explaining these important details, the participants were able to understand the importance of their

role in the completion of the research. The respondents were also advised that they could withdraw from the study at anytime during the process. With this, the participants were not forced to participate in the research. The confidentiality of the participants was also ensured by not disclosing their names or personal information in the research. Only relevant details that helped in answering the research questions were included.

During the research process, I operated both as a student researcher and within the community as a concerned citizen. Therefore, ethical considerations stemmed from my relationship as a community member and from my methodological viewpoint as an institutional researcher. My own understanding of ethical requirements included assuring the relevance of the research to community needs, understanding my obligations to the community and understanding the community context of an appropriate level of consent and participation in decision-making.

4.5 Interpretation and Analysis

Interpretation of the data is situated in qualitative analysis, where the “text” from focus groups, interview data and open-ended questionnaires were themed and coded (Cope, 2005). Coding data provides a means to facilitate familiarity and understanding of the perspectives provided by the community, while the use of quotes in the interpretation provides a meaning to the codes. In this way, each “text” was initially coded using broad themes related to the research questions and then broken into more detailed codes that emerged from the conversations. I have presented these themes and codes in the result sections. After coding I was able to carry out a reflective interpretation. This was a way to explicitly and openly balance my close relationship with the participants, community and the research topic.

4.6 Conclusion

Qualitative research is an approach that allows for potentially rich and situated descriptions of participants' experience of the research phenomenon and is a fundamental to community-centered methodologies. The approach for this study is grounded in a community partnership and a collaborative direction, based on the principles from *Community Based Research*. The *Action Research* process involved four phases that began with a community-planning phase, which informed the actions and the methods for the observations outlined in the results chapters and culminated with my interpretation presented in the next three chapters.

The *Action Research* process necessitates careful consideration of ethical practice, which I include as both the traditional concerns such as confidentiality along with a personal ethical practice that as an individual I bring to a community setting. Finally, the interpretation and analysis of for this thesis involves a standard practice of reviewing the data, coding and organizing it into themes to present experiences comprehensibly, as well as reflexive interpretation through use of the first person and weaving personal reflections where relevant.

Chapter 5: Okanagan Food *Portal*

5.1 Introduction

The content development of *Portal* informs the action phase of the cycle (Fig. 4.1) providing the means that informs my observations in Phase 3. Development and content creation began after the initial community session to formulate a tool for the *100 Mile Diet Challenge* and as a platform to evaluate the GeoWeb as a way to augment mapping for advocacy. My role in the development of the *Portal* was the management and the initial online development. I was responsible for providing technical support, which involved coordinating the website, making videos and mapping several types of information. Here, I outline the major components of the *Portal*, which includes the *Portal*'s content management system (CMS), the local food directory, maps, GeoLive application, Picassa web album and the Cultivating Change video series. These various applications came together as a GeoWeb tool that provided diverse ways to access information on local food in the North Okanagan.

5.2 Backbone of the *Portal*: *Joomla!*

The *Portal* was created using the *Joomla!* CMS. A CMS is a computer software system for organizing and facilitating shared creation of content for a website, while open source refers to the source code being freely available for further development (Guptill, 2007). *Joomla!* provides an easy way to manage and incorporate different functionality into the *Portal* with minimal cost, making it a financially accessible tool for community organizations.

Joomla! is one of the major open source products available and is in wide use and like other open source software applications, it has a large library of extensions that increase its functionality. The extensions utilized in the *Portal* are summarized in Table 5.1. One of the main aspects of Web 2.0 is the possibility for users to construct content and *Joomla!* provides an article-publishing engine as well as several extensions such as a directory module that allow users to contribute and thus generate new content. A custom application, called GeoLive, was developed at CSSEJ to facilitate the contribution of content through a map. These functions enabled registered members of the *Portal* to upload articles to the blog, add listings to the directory, contribute comment and text to online maps through GeoLive, as well as submit geo-tagged media content such as videos to the multimedia gallery.

Table 5.1: *Joomla!* Extensions

Joomla! Extension	Function
Community Builder	User management system and system that enables users to manage their own articles, comments and directory listings
Content Reactor	Animated banner module
JCE	Enhanced article editing capabilities, providing a similar set of tools to desktop word-processors
MediaMAP server	This is the extension behind GeoLive
Google Maps plugin	For rendering maps from .kml files in articles that use Google Maps API
MorfeoShow	Linking to photo sources, including Picasa Web-based photo albums
Podcast Suite	Providing a framework for managing podcasts
SOBI 2	The directory package
JComments	Viewers can add comments at the end of articles
JVideoDirect	Provides a library of externally linked videos and ability for users to post new videos to the library

In *Joomla!*, a website is organized according to menus that link to Web pages from a main index or home page. *Portal* was organized into several pages as depicted in Figure 5.1. The main menu provided a link to the main page and the branching pages or sections: *About*, *Community Voices*, *Directory*, *Maps*, *Multimedia*, *Join* and *Members*. On each branching page, a sub-menu provided links to the next set of branching pages. On the pages several types of content were presented. The basic treatment of content in *Joomla!* is in the form of articles, which are organized into sections and categories. Articles contain metadata on the author, date of publication, keywords and main material. The *Home*, *Community Voices* and *About Us* pages presented articles in various ways. The *Home* page presented a Web log of articles while the *Community Voices* presented an index to the same articles by theme. The *About Us* pages included a mix of index and article layouts on background information on the project and *Portal*.

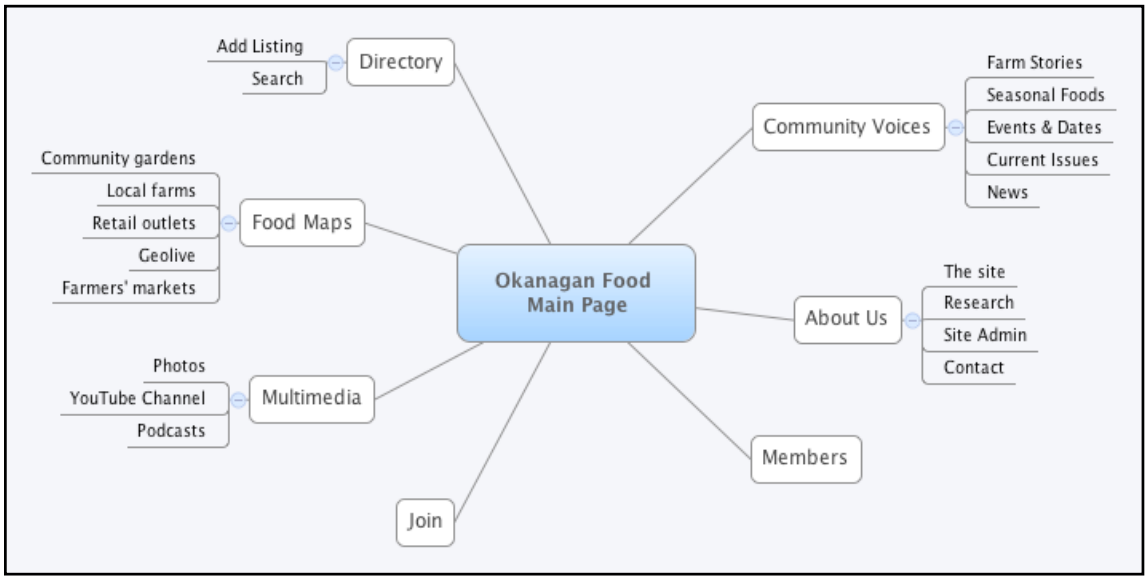
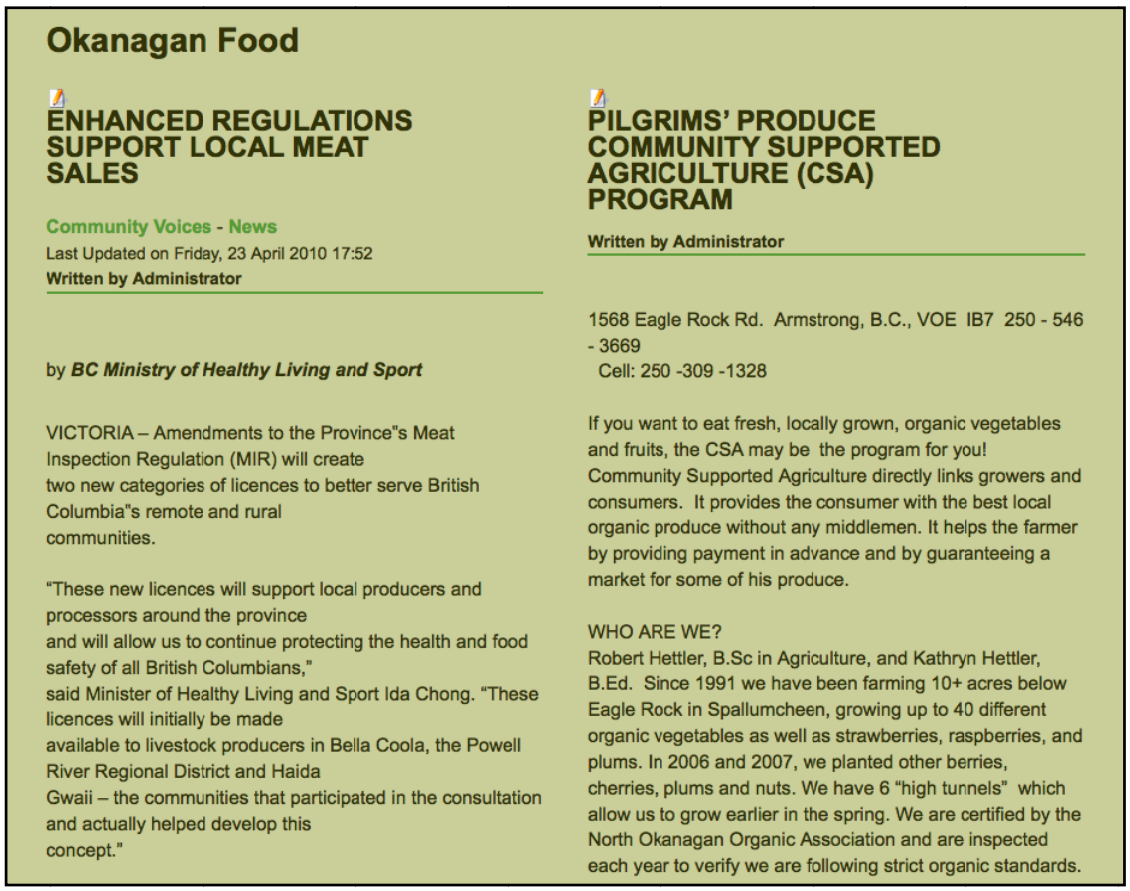


Figure 5.1Okanagan Food *Portal* site map

In addition to conventional print and picture media presented through a web log, or blog (Figure 5.2), *Joomla!* can accommodate several additional types of content by the

way of additional extensions, also called components. Maps, a directory and videos were implemented both as embedded rich media within articles as well as stand-alone modules. The *Multimedia* section of Okanagan Food illustrates the distinction between article and module. This section used a variety of extensions to present photo albums, videos and podcasts. In addition to manually including photos within articles, the extensions allowed including videos and podcasts, like images, amidst text. The extensions *Podcast Suite* and *JVideoDirect* allowed serving a library of rich media files that were linked to the local server as well as external servers like YouTube.



Okanagan Food

ENHANCED REGULATIONS SUPPORT LOCAL MEAT SALES

Community Voices - News
Last Updated on Friday, 23 April 2010 17:52
Written by Administrator

by ***BC Ministry of Healthy Living and Sport***

VICTORIA – Amendments to the Province"s Meat Inspection Regulation (MIR) will create two new categories of licences to better serve British Columbia"s remote and rural communities.

"These new licences will support local producers and processors around the province and will allow us to continue protecting the health and food safety of all British Columbians," said Minister of Healthy Living and Sport Ida Chong. "These licences will initially be made available to livestock producers in Bella Coola, the Powell River Regional District and Haida Gwaii – the communities that participated in the consultation and actually helped develop this concept."

PILGRIMS' PRODUCE COMMUNITY SUPPORTED AGRICULTURE (CSA) PROGRAM

Written by Administrator

1568 Eagle Rock Rd. Armstrong, B.C., VOE IB7 250 - 546 - 3669
Cell: 250 -309 -1328

If you want to eat fresh, locally grown, organic vegetables and fruits, the CSA may be the program for you! Community Supported Agriculture directly links growers and consumers. It provides the consumer with the best local organic produce without any middlemen. It helps the farmer by providing payment in advance and by guaranteeing a market for some of his produce.

WHO ARE WE?
Robert Hettler, B.Sc in Agriculture, and Kathryn Hettler, B.Ed. Since 1991 we have been farming 10+ acres below Eagle Rock in Spallumcheen, growing up to 40 different organic vegetables as well as strawberries, raspberries, and plums. In 2006 and 2007, we planted other berries, cherries, plums and nuts. We have 6 "high tunnels" which allow us to grow earlier in the spring. We are certified by the North Okanagan Organic Association and are inspected each year to verify we are following strict organic standards.

Figure 5.2Screen shot of the front page showing blog articles

5.3 Directory

The local food *Directory* contains information on farms, shops, or small businesses that are sources of locally produced food (Fig. 5.3). Each listing provides contact information, location including a map and description of the business. It can also incorporate media such as photos in the listing. Anyone visiting the *Portal* can add a listing; however the manager or administrator approves all entries. At the time of writing the directory held 78 listings. Registered users can manage the listings they posted, enabling them to update listings at anytime. In addition, the directory allows for comments (through the JComments extension) to occur within the listings, so people can comment on the listing or other applications.

Figure 5.3Screen shot of Food Directory

5.4 Maps

The *Food Maps* pages and *Multimedia* main page presented static maps showing the location of farms, farmers markets, community gardens and retail outlets (Fig. 5.4). Maps in *Joomla!* were rendered using the Google Maps plug-in, which enabled the embedding of *.kml* map files that used Google Maps as a base layer within *Joomla!* articles. Google Maps is an application programming interface (API) that allows the *Portal* to use a base map and a scaling interface to present the local content.

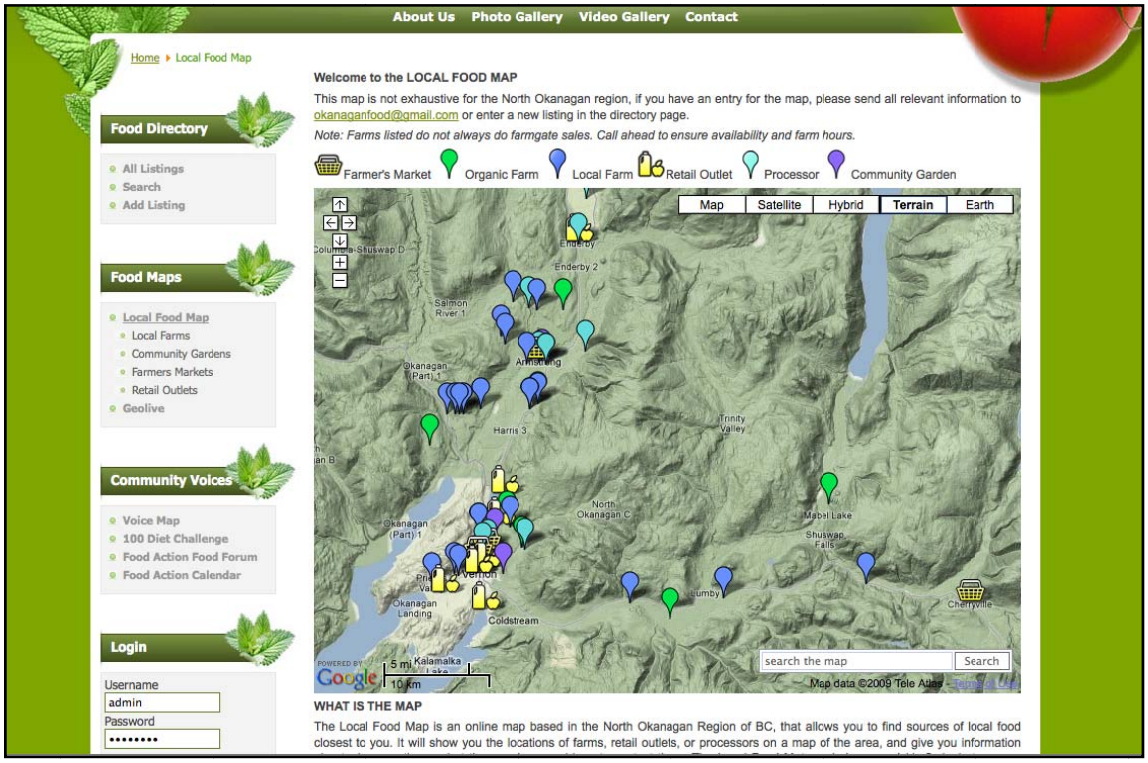


Figure 5.4Screen shot of Farm Map

5.5 GeoLive

GeoLive is an application that allows users to add their own markers to a Google Map or *.kml* map, with their own text or rich media (photos, video, or audio) (Fig. 5.5). It has added functions such a discussion platform and timeline that provides a way to view

chronological data. Most pertinent is that it provides a method to enable volunteer geographic data (VGI) that is hosted locally on the *Portal*.

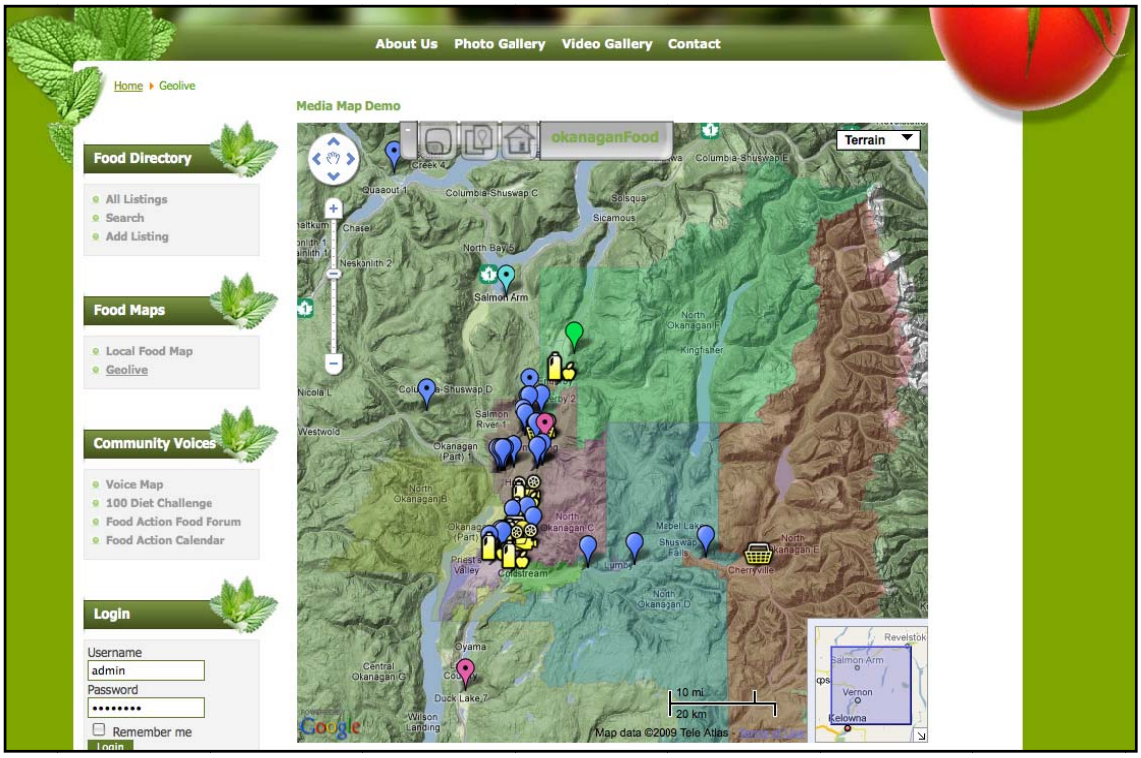


Figure 5.5Screen shot of GeoLive

5.6 Picasa Web Album

Picasa Web Album is online digital photo album service that allows a user to display, locate and form themes albums of photos' (Fig. 5.6). The *Morfeoshow* extension allowed the uploading of photos' through Picasa to display on the *Portal*, through a photo gallery interface. Photos were collected via email over the Action Research phase during July and August 2009. The *Portal* displays a collection of over 100 photos from farmers, farmer's markets, FASNO events, local food activities such as the building of community gardens.

Figure 5.6Screen shot of Picasa Web Album

5.7 Cultivating Change: Video Series

The Cultivating Change video series is a set of short (5 minutes or less) digital video pieces, presented on the *Portal* as well as through the *Okanagan Food YouTube Channel*. The series was developed during the Action phased form July to August 2009. I was responsible for managing the filming and editing, with local food advocates

constructing the content, appearing in the videos and a few helping to film and edit the videos. The series included six videos depicting activities and perspectives on local food in the North Okanagan including: Vernon Farmers' Market; Cherryville Farmers' Market; Vernon Community Garden; Rosebank Farm; *Where is the Meat?* and What is Food Security. The channel and *Portal* also hosts podcasts and video recording of talks from prominent food activists that were sponsored by FASNO to speak in the North Okanagan including Percy Schmeiser and Tom Stearn (Fig. 5.7). This provided a method to further disseminate the talks for people that were not able to attend the events. In addition, the videos have been showcased at the FASNO Annual General Meeting 2009 and the 100 Mile Diet Pavilion at the IPE, 2009.

Figure 5.7Screen shot of Okanagan Food, YouTube channel

5.8 Conclusion

The *Portal* showcases a diverse range of digital content that provides a broad overview of the local food system in the North Okanagan Region. The content includes maps of local farms, directory of farm listings, photos on a variety of activities and videos that cover pertinent concerns to local food advocates. The applications feature range of extensions that display directories, maps, photos, comments, videos and GeoLive. I provided a brief overview of the *Portal*, as it is the means of which I use to observe and evaluate the GeoWeb.

Chapter 6: Advocate Perspectives on the *Portal*

6.1 Introduction

This inquiry draws on the perspectives of the participants in the community planning sessions and semi-structured interviews to address the research question "in what ways can the GeoWeb support the objectives of local food advocates?" The results are presented with a discussion in two sections below: Advocates' Objectives for Action and Okanagan Food *Portal*. First, I present the advocate's vision of the local food system. Then I outline how they are currently working towards that vision. From this I identify the reasons they want to incorporate the GeoWeb into their practice. In the next second section, I examine the perceptions advocates had of the *Portal*. I view objectives within the context of a shared vision, the ways they enact change and their motivations for integrating GeoWeb tools into their practice. Participants' experiences of the GeoWeb are examined to assess whether viewing and contributing content aligns with, or is contradictory to the challenges of traditional advocacy approaches. Finally, through interpreting advocates perspectives, I examine the relevance and barriers to representing themselves and their vision directly through the GeoWeb.

6.2 Methods for Evaluating Perspectives

6.2.1 Community Planning Sessions

Community planning sessions provided an opportunity for interested members of the public along with FASNO members to shape the objectives of the *Portal*. Community sessions were organized in Vernon and open to the general public. The events were advertised through the daily paper, FASNO member email lists, Vernon event Website

and posted around town on community bulletin boards. Two sessions were held on May 13, 2009 and June 30, 2009. The two meetings brought together FASNO members and other interested community members. The first session set the course for developing the local food directory and maps. The second session provided direction for the video series.

These sessions employed focus groups to evaluate the community session process. Focus groups are a method to collect data through group relations on a subject determined by the researcher (Morgan, 1996). This method was used for collecting data during community sessions. Following a Community-based Action Research approach this method was utilized to provide a path for academic researchers and potential community researchers to come together to establish research goals and desired outcomes for the research process (Appendix C).

The first session was held at a community centre in downtown Vernon. Seven people attended the session representing FASNO members and other organizations such as Community Futures, an economic development organization. The session began with a presentation from Dr. Corbett and me on the GeoWeb and participatory mapping. The intent of this session was to initiate the project and set priorities to guide the project and the GeoWeb content that community members were interested in. Also, the group identified volunteers who could contribute information and/or skills to help with design and planning tasks. The presentation was followed by a brainstorming exercise that involved breakout groups to generate broad themes that attendees wanted to see incorporated into the *Portal*. Following breakout sessions a group discussion of the themes form the breakout sessions set priorities. The session lasted two hours, with the audio digitally recorded in its entirety and all notes from participants collected.

The Ministry of Agriculture hosted the second session. This was advertised through email lists, online public events boards and flyers posted around town. The objective of the meeting was to update the development of the research project and *Portal* including content and set the priorities for the next phase. The meeting brought together FASNO members with community members representing local health workers and community developers. The session began with a short presentation on the project including the results of the previous community session. It followed with a similar break strategy to discuss the path of the research and how the community would like to communicate *local food* to the community. In total eight people participated in the session. It lasted approximately two hours and all notes taken during the meeting were collected and the audio was digitally recorded. All audio was transcribed following each session. Feedback from the two Community Sessions is identified by the date as either CS May 13th or CS June 30th.

6.2.2 Semi-structured Interviews

I interviewed community members that participated in the project and who self-identified as advocates for the *local food movement* or community food security. Winchester (2000) describes interviews, as oral qualitative methods that give a voice to viewpoints that otherwise may not be heard. Interviews are specifically important because "individuals experience [the] same events and places differently" (Winchester, 2000, p. 6). Interviews with advocates were a direct way to receive feedback on the project and understand the place of these technologies in the work of these advocates. Advocates were targeted because of their connection in the community and commitment to social change. They represent the link between important stakeholders like farmers and

the greater community. Advocates are involved in multiple levels and activities within the community and, unlike many academic researchers, have a lasting relationship to the community.

Ten advocates were interviewed both individually and in a group. They represented FASNO members, community volunteers and members from the Armstrong Community Food Initiative. Participants received a letter of intent prior to the interview and signed a statement of informed consent before each interview (see Appendix C and D). All interviewees had been active participants in the project and had shown a great interest from early on, attending the community sessions, contributing information for the *Portal* and providing feedback throughout the project.

The interviews followed a semi-structured interview format to elicit a two-way conversation and encourage any further information of the advocates they would like to share (Appendix E-Interview Script). The interview questions were sent out a week before the interview to provide an opportunity for advocates to contemplate and prepare their responses. The interviews took place at a location indicated by the advocate and lasted 30 to 60 minutes. All interviews were digitally recorded and transcribed following the session. Participants from the interviews are anonymous and are identified as "Participant A" through "Participant J".

6.3 Advocates' Objectives for Action

Advocates articulated their vision throughout the community sessions and interviews as, "working towards better health within the community". In Chapter 2.2, I drew on ideas presented in the literature that describe how *local food movement*s foresee

the growing and consuming of food closer to home as a way of strengthening the environmental and social aspects of a place (Feenstra, 2002). The social health of a community involves both the economic and social conditions that people live under (Wilkson & Marmon, 2003). Environmental sustainability is increasingly understood within strategies for climate change adaptation that emphasizes the resilience of a community's life giving resources such as food (ICFFA, 2008; IPCC, 2007). The advocates echoed both concern for social and environmental concerns and how a vision for better health in the community drove both their motivations and actions. The common strategy for achieving the vision of a locally sustainable and secure food system was reducing the distance food is grown by encouraging personal connections that come from knowing the producer or processor, ideas which mirror those found in the popular literature (Mackinnon & Smith, 2007; Petrini, 2001).

6.3.1 Envisioning a Local Food System

Advocates had a sophisticated vision of the local food system they were trying to achieve. Collectively this stemmed from environmental concern, well-being of community members and the viability of farmers. Subsequently the *codes* or key themes (see Chapter 4.5) derived for this section are environmental health, community wellbeing and viability of farmers.

6.3.1.1 Environmental Sustainability

The vision for environmental sustainability expressed was primarily within an ambition for a sustainable food system. For example, *Participant J* explains her understanding of sustainability as:

> …it sort of means everything that it is promoting and protecting the biodiversity of the planet as well as not negatively impacting environmental systems such as water and soil. A healthy food system supports and improves the natural systems.

Conserving the environment through strengthening *local food* production was seen as a way to decrease greenhouse gas emissions and as a way to ensure a food system that is not reliant on imports. *Local food* producers were also perceived to be potentially more sustainable as they were often small-scale and used diverse practices, compared to imported food that was the product of large commodity farms. Indeed, sustaining small-scale farms is a major goal established within the popular and academic literature on the *local food movement* (King, 2008; Kingsolver et al., 2007; Pollan, 2006). As discussed in Chapter 2.3, small-scale farms are found to have a greater ability to adapt to the changing environmental conditions, while also reducing the amount of pollutants such greenhouse gasses emitted (ICFFA, 2008; IPCC, 2007).

Protecting local food production in the face of climate change was strongly expressed as a desire for some advocates. For example, Participant I expressed her aspiration as:

> …we need to transition to more sustainable ways to producing food and also resilient ways to increasing food in light of climate change…if we can't salvage anything else, let's at least try and salvage our food production.

However, while connections between the environment and *local food* were articulated in the interviews, in the community sessions environmental issues were situated within social concerns. Environmental sustainability was largely discussed as an important outcome of strengthening the local food system. The participants expressed that their experience working in the community was that environmental issues were not

necessarily an effective method to initially engage people and in some cases it might be aversive. *Participant I* felt that food was her tool to address environmental issues,

> …I just took stock of where I live and what ways of addressing these larger issues are available to me and I saw food […] as a way of addressing these larger environmental issues such as reducing emissions and it is a way of engaging people that works better than say climate change meetings.

While some advocates articulated environmental sustainability as primary motivation for advocating for *local food* it was not the way they saw communicating to the North Okanagan community. Instead the focus was largely on strengthening relationships between farmers and the community as well as connections between advocates involved in various initiatives such as community gardens, community kitchens and other related activities.

6.3.1.2 Community Wellbeing

Advocates expressed that a healthy food system begins with universal access to food. In the Community Sessions, participants expressed that *local food* can be viewed as elitist, as *local food* can be considered specialty foods sold at farmers markets or health food stored and associated with higher prices. Also the extra time it takes to grow your own food, or stop at a farm stand can be out of limits for many people. It was acknowledge that many individuals in the community have a hard time affording any form of whole foods such as fruit and vegetables. Finding ways to alleviate lack of access to fresh food, while supporting *local food*, was a vital component to the vision of advocates. In support of this *Participant F* states, “first thing I think of, is that everyone has access, that is number one.” The participant notes how she became interested in the *local food movement* through her work as a nutritionist where she experienced that people

were not consuming enough fresh food and that many health problems she saw from children through to adults were linked to food. She sees the goals are:

> …really driven mostly by food security and that can be on the personal level or in our community, that individuals have enough food that maintains health, but also on a community level supporting our community food system, that can feed us better food now, but also into the future.

In the community sessions advocates felt they could promote eating fresh food, but "it is not engaging unless you have the skills unless you cook." (CS June 30). Another participant shared, "I am a product of my environment, growing up in a single mother home, eating Kraft dinner. I am just learning how to cook in my thirties" (CS June 30). In this light, not just acquiring food but other aspects defined access to *local food*, "…it means that people have access to good food… and they know what to do with it" (Participant C). Advocates felt the community kitchen in Armstrong was a key resource to meeting these needs, as *Participant D* explains "…people are actually learning how to deal with what to do if you have an over abundance of something, you don't throw it away you process it."

Several advocates were involved in promoting and working with community members actively to grow their own food. They did this through community kitchens and community gardens. Community kitchens provide a space for people to cook collectively and also for instructional workshops. The community gardens in Vernon and Armstrong provided a space for people to not only grow their own food but also for knowledge exchange. The linkage between these programs allowed people to learn how to utilize affordable *local food* in a practical manner. *Participant H*, described his goal was to "…move the ball forward, get more people aware, growing food, however they do it, at

home in the community garden, small things locally." Advocates expressed access as a first step in the food system. It was viewed that access ensured all community members had the ability to grow or acquire as much fresh food as needed to maintain optimal health and had the skills to prepare the fresh food. In this way, the vision includes people easily being able obtain fresh food, having the necessary skills to process fresh food and the ability to grow their own food.

Advocates understood that the local food system was disconnected between generations and trades. *Participant B* highlights, "we have an aging farm population that is completely impoverished and we have people that don't know how to eat properly." *Participant C* states, "I have grandchildren, I want to be motivated that we continue to have good healthy food for every generation." It is a community that Participant C says, "…includes all parts such as the grower, the processor and the distributor all of them…each player has to feel they can make a living doing it, they each have to feel good about their role." In support of this *Participant E* envisions a cycle where "the seed gets planted and… it never gets finished." That is it continues to thrive from generation to generation, a system that "…can feed us better food now and into the future" (Participant E).

6.3.1.3 Viability of Farmers

Knowing where your food comes from and building personal relationships with your farmer, was what defined *local* in the literature (Kingsolver et al., 2007; Petrini, 2001). A foundational concept of the *local food movement* is that a local food system requires viable farmers. Perhaps, the most fundamental factor advocates highlighted was the importance of farmers' ability to sustain a *local food* supply. *Participant B*, stresses

her vision is to "…ensure there is some kind of profitability in the farming sector so we can continue to have food suppliers to have food lands, so we can continue to have the sort of sustainable environment that lasts." *Participant I* reiterates these concerns stating, "I am concerned that farmers are not making it economically, we need to find ways to keep them in farming or we won't have any food produced in our area anymore." *Participant H* illustrates the implications of disappearing farms saying, "I would like to see fruit and nut trees come back" but explains the challenges stating,

> …If you look around we have acres and acres just sitting there with a horse or a cow, not a lot of food being grown. There is lots of land that would grow all sorts of vegetables and fruit but it is not economically feasible because we can be swamped with all sorts of stuff from Washington and California.

Advocates felt ties to food producers sustained their engagement in food issues over time in both eating *local food* and re-building local food security. In this case, relationships directly linked a community member both with the person who grew their food and with a specific place where it was grown. A participant suggested that we all become "…a co-producer, by knowing who producers your food and so it is not just two chickens for ten dollars anymore […] you start to connect in different ways" (CS June 30th). Participants expressed that producer to consumer relationships in the community were important in developing a deeper connection to the food and a deeper connection to the community in general. A central part of this research is to examine how a *Portal* can seemingly work to facilitate these connections.

Advocates have a social outlook that involves the strengthening the wellbeing of community members, including farmers, where farmer and consumer mutually benefit from a more localized food system. Economically, the farmers are supported through a

local population that purchases their food. Socially, the public is healthier through being able to access fresher whole foods. The community as a whole was viewed as more viable and functional with stronger connections between farmers, advocates and the greater community. Environmental sustainability was considered strengthened through these interactions with reduced emissions from food transportation and a stronger focus on smaller-scale productions methods. The ways that advocates pursue their vision is subsequently what I will draw on next to provide context to how they perceive the GeoWeb supporting their activities on the ground, in the community.

6.3.2 Acting for Change

Possibly the most critical element of advocacy is the way advocates take action in their community to work towards social change. Advocates in this study were involved in several different *local food* initiatives such as coordinating community gardens, participating on municipal committees and organizing food events (e.g. Organic Festival and the 100 Mile Diet Community Dinner). While the vision of a healthy localized food system helps guide actions, advocates participated in their community for diverse reasons. Understanding both why and how advocates are acting provides insight to the relevance that the GeoWeb might have in contributing to these actions. The codes derived for this section are acting together, problem solving and raising awareness.

6.3.2.1 Acting Together

For many advocates involvement in *local food* activities connected to many other aspects of their life whether it was part of their professional discipline, simply social time with friends or linked to leadership positions within their community. These motivations

for volunteering and taking part shaped the ways they participated in the movement. For example, *Participant B* was a farmer, agronomist and advocates she explains:

> I have been working for a long time for both farmers to be more efficient and smarter but also trying to engage consumers and the financial resources…from a variety of angles.

On the other hand, *Participant E* connects her position on council with a local government with her role as a *local food* advocate within the community as "…it is trying to make sure at my level the people sitting across from me at the council table realize how important [local food] is." In contrast, *Participant C* explains:

> I am totally new to the food issue…it was more about wanting to make a difference in the community…there is a lot of times you just sit back and say that I wish it was different.

She highlights the social aspect, "I am new to the community it is probably a way I can make new friends that I wouldn't do otherwise." Social time was an important factor for volunteering across the advocates interviewed. For volunteers not retired yet, activities were taking place in the advocate's spare time after work or on the weekend. Therefore, it was important that volunteer activities were social activities. This often resulted in advocates relying on their social ties in the community for conducting activities and this largely shaped what kinds of actions took shape.

Relationships built through social ties in the community were articulated as strengths particularly in the North Okanagan that is made up of smaller communities. *Participant D* highlights the advantages of her community stating:

> One thing I get really excited about is that we are a small community some of us have lived here for a long time you know lots of people; it is a lot easier to

> enact change when you can go to somebody and you call them by their first name.

Taking it a step further, *Participant I* articulates her experience as, "…people are very influenced by their social environment and part of that is peer pressure so forming those relationships can bring people out." Moreover, *Participant G* draws on her social relationships as a way to grow the movement explaining, "I see it as what can I do within my scope of influence and its about talking to friends and introducing them to the concepts and making it an enjoyable experience." She felt that "if everyone within the advocacy community tried to bring someone in than it could grow." *Participant F* further highlights the importance of relationships in making things happen saying,

> …in any project that I have started what I learned is that having relationships whether that is with you local politicians or stakeholders in your community is that when you do have different relationships then you have a means of networking and it helps to further your goals…you don't feel like you are all alone.

Relationships between advocates and other community members were responsible for many of the successes they already achieved, drawing on their social networks to get more leadership support, bring in more volunteers or generally increase awareness. These kinds of actions also took place during public events. An example of this was Participant A's successful experience in organizing a *local food* event, he explains:

> …The thing that we have done that has had the biggest effect on people has been our festival and probably why that has been so successful is that it is face to face. I think that it is a hard thing to improve upon and probably the best way to make an impression is to have them right in front of you and be able to speak to them. So anything you can do that brings them back to that principle.

These *on the ground* interactions, whether based on tapping into established relationships or forming new relationships to grow the movement, were seen as a focal point.

Nurturing relationships between individuals and the community were seen as ways to deepen the connections that would provide the foundations for re-building local food systems.

Perhaps, what stood out the most was the extent to which advocates reached out to food producers as part of their action in the community, whether it was through existing relationships or ensuring they regularly visited farms and farmers markets. Some advocates had long-term relationships with local farmers. *Participant I*, explains, "I have that empathy for producers I am always hearing about stuff like how the Cut and Wrap guy just got shut down, there is that personal connection, I know people affected by some of the stuff that is going on." In contrast, other advocates pointed to the challenge they found in finding farmers, "when I first moved here, it was fragmented and hard to find farmers (CS May 13th). These experiences fueled the desire for advocates to find ways to connect people in the community to the farmers that some have grown to know so well. In particular, advocates wanted to find ways to connect community members to farmers. The *Portal* could act as a catalyst to help initiate the process of finding the farmers; the personal relationships can only grow from there.

6.3.2.2 Problem Solving

The challenges that advocates spoke of when planning and undertaking actions focused mainly on two key factors, the reliance on volunteers and the general lack of awareness in the community. FASNO is a volunteer run organization, as is the neighboring ACFI. The reliance on volunteers was articulated as one of the largest challenges because it constrained both the time spent on activities and the skills that were brought to those activities. *Participant D*, states, "…one of the things holding us back is

that we have a lot of good ideas but we don't have enough time." As well *Participant H* emphasizes the fatigue volunteers face stating, "…all this kind of activity is dependent on volunteers…volunteers get tired and there is continued turn over and it does not have the resilience." Further to this, many of these projects are long-term undertakings and require much time before results become apparent. *Participant D* expresses this challenge stating, "we can't expect volunteers to do everything, we can't expect them to stay with these kind of projects, they are a lot of work and we are not going to change things overnight."

In addition to availability of volunteer time, the activities undertaken were also reliant on the expertise or skill volunteers have. *Participant C* says, "volunteers all bring something to the table and you hope that the mix brings the skill set for what you need to do but sometimes it doesn't so you have to look outside and then it gets challenging." This was particularly a problem when advocates were interested in broadening their communication abilities. This was expressed by *Participant G* saying, "…there definitely is a technical gap in my generation and in the younger generation there is a huge divide and so its closing that, getting us old folks more technically able." Advocates felt that increasing communication abilities could provide a path to their ultimate goal of sparking more interest in *local food* and generally a better awareness of food related concerns within the North Okanagan. In addition, advocates expressed that increasing awareness can alleviate pressure on the current circle of volunteers by bringing more people in to organizations. However, the general lack of awareness was also perceived as one of the greatest challenges the advocates face.

Participant I strongly felt, "…we need to just keep pounding away at education and make people aware." *Participant E* further expresses this sentiment as,

> …once you have the awareness then you can get the people acting, until more people are aware of the concerns or the issues then we can't go anywhere with it, a few people cannot make the change.

However, *Participant A* felt, "…people have to be willing to listen, I think that is the hardest part, to just try and get them to stop and listen." Community characteristics also impacted the level of awareness as *Participant I* felt in the North Okanagan,

> …there is not a lot of awareness…because it is a more conservative area and having conservative media and an older population but there is strength in that as well because people are farmers and foresters, things that tie to real resources which makes them have a certain type of understanding.

In this light, tailoring messages and communications strategies that appeal to the way local communities understand issues was important for the advocates to tap into. *Participant B,* emphasizes this sentiment stating, "…if it is not fun, if people are not getting something out of it that makes them feel good, than they are not going to do it, we need to incorporate as much fun as we can."

6.3.2.3 Raising Awareness

Advocates identified diverse approaches, access to the local media and drawing in a younger audience as key strategies for raising awareness. This would involve what *Participant G* explains is increasing the, "...mixing of different ways of reaching people." *Participant G* felt strongly that FASNO as an organization needs to find a way to get more publicity and build more links in the generic sense, not literal sense, between

FASNO, which is an advocacy group primarily and all the various organizations we are advocating on behalf of such as *local food* producers.

However, *Participant H* articulated a huge challenge, "…media is frustrating around here, the newspaper often does not print what you ask…it is very hard to get your message out into mainstream media, I don't know why." To amplify this support *Participant J* felt, "…we need more young people to keep it going, it will not continue to grow otherwise." It was expressed that the younger generation were more connected to Web based technologies and that connecting through the Web might draw in younger people. Therefore advocates were interested in finding ways to communicate that didn't rely on mainstream media and that brought in younger people to the movement. For these reasons, they felt the GeoWeb that would support their current advocacy practice in the community.

The ways people enact change are largely grounded in their relationships in the community. Sharing their vision and growing those relationships between producers and consumers was seen as fundamental to the *local food movement*. However, the biggest obstacle vocalized by many of the advocates was reaching beyond their social networks to bring in more people. The next challenge expressed was the dependence on volunteers that resulted in time constraints and limited the skills of the group. Most volunteers were of an older generation and felt they had a limited capacity to incorporate communication tools from the Web. However, advocates acknowledged reaching more people could potentially increase volunteers and the diversity of skills in the group. Incorporating new tools into their practice was seen as way to boost communication and potentially increase awareness about food issues in their communities.

6.3.3 Moving the Action Online

The main motivation advocates identified for incorporating GeoWeb tools and utilizing the Internet was to increase awareness in the community around *local food* issues. In particular, linking community members to *local food* sources and expressing the importance of these linkages was seen as possible on the Web. These motivations were identified both in the early parts of the action research process as well as emphasized again during the concluding interviews.

The advocates in this study were focused on working in the community and (at the time of initiating this project) were using a very limited range of Web based tools to support their cause. In the interviews, advocates expressed that email was their primary tool, while some advocates received information through list-serves or similar email postings. They were only marginally familiar with digital maps such as Google Maps or other services like Facebook or YouTube. They did not use them for advocacy. However, with new campaigns on the horizon such as the *100 Mile Diet Challenge* information presented through the *Portal* would potentially address a need.

The advocates identified that the best initial use of the *Portal* was to build maps and a directory hosted through a website that identified sources of *local food* (CS May 13). The importance of developing this resource was articulated by several people in attendance at the sessions such one participant spoke out that there is “no good communication system to reach the producers…we don't know them or about them” (CS May 13). The group identified that finding *local food* sources was the biggest obstacle to enabling the greater community to participate in supporting the local food system. At this point there was no producer directory for people to find farmers and most of the

information was only available by word of mouth. Maps were seen as a resource for community members taking part in the *100 Mile Diet Challenge*, to easily find *local food* and provide the opportunity to add additional locations, enabling a community-generated resource. The next section will explore the perspectives of the advocates on the *Portal* drawn from the concluding interviews.

6.4 Perspectives on the Okanagan Food *Portal*

In the previous section, I explored advocates perspectives on a healthy food system along with their approach to advocacy. Advocates felt the main challenge was a lack of awareness in the community about *local food* and that their volunteer organizations were limited in capacity. Consequently, advocates were interested in trying new technologies to reach the community. In particular within the context of the *100 Mile Diet Challenge* they were interested in mapping out where *local food* sources were and using video to disseminate reasons why *local food* was important. Here, I incorporate perspectives from the concluding interviews to understand advocates experience in viewing and participating on the *Portal* to understand how it fulfilled the objectives identified in the last section. I draw on Nielson's (2006) idea of participation inequality, to understand the advocate's perspectives as "lurkers", "intermittent contributors" and in a few cases "heavy contributors." Barriers to participation are explored with the contrast between advocates at different stages of participation.

6.4.1 "Lurking" on the *Portal*

Participants viewed as "lurkers" simply observed the content on the *Portal*. The main parts of the *Portal* were the *local food* maps, directory and video series. Advocates

communicated their perspectives on these parts differently. Therefore, the codes used to interpret perspectives are organized based on these parts of the *Portal*.

6.4.1.1 Directory

From the advocates, the *local food*s directory was identified as an important component of the *Portal* early on in the project and it continued to be a focal function through the project and in the concluding interviews it was still prominent. It functioned as an accessible means to look up farmers and food processors by food type, location or farmer's name. Ironically it was also the easiest part of the *Portal* to build and received the most online activity for viewing and contributions. This was largely because it was practical, easy to use and fulfilled an ongoing need—finding sources of *local food*. The following quotes emphasize this importance and the general ideas on the directories position within the *Portal*. For example, *Participant F* reflected on the function of the directory stating,

> …we knew there was a gap between consumers wanting local food and trying to find it. Hopefully that continues as a key role in not only in bringing people to the *Portal* but also into food security issues overall and so in that respect potentially we could build our society, as more people get involved in food security issues in general.

Furthermore, *Participant G* adds to this point of view as,

> …looking at the food *Portal* in order of priority first comes the directory. If I want to find out who has lamb for sale from a personal perspective that is the most interesting but also from a consumer market place they want to know where is the food, where can I get it.

The directory sparked the most interest from the advocates and they wanted to maintain this part of the *Portal* into the future. *Participant I* supported this by stating,

"…the directory and maps are nicely linked into the 100 Mile Diet Challenge and I think that can only grow."

6.4.1.2 Food Maps

The *local food* maps that depicted locations of the farms, community gardens, retailers and food processors were a visual aid to the directory. Maps also contained additional media, like photos of farms and the short videos. The GeoLive mapping application was in development through much of the research process and thus did not have particular comments from the advocates. *Participant C* explained, "…it gives you a visual perspective like that cheese I really like, is way out in Cherryville." In other ways, people felt maps provided more of an entertaining function as Participant B stated, "…it is actually quite fun I have had that feedback, that it is fun." However, others felt more broadly that the maps had limited appeal as *Participant J* expressed, "…the limitations I have with Google Maps in general is that it is not visually compelling, it is not really cool fun that pulls you in and grabs you." This participant felt that other ways of representing local food in a community such as an artist drawn map would perhaps capture a sense of place more effectively. However, most advocates felt that by and large the maps functioned as a visual aid to the directory and characterized the *local food* sources on a broad scale.

6.4.1.3 Video Series

The videos attempted to more deeply represent *local food* issues within the community at particular locations. The video series Cultivating Change included videos on activities of *local food* in the North Okanagan. *Participant I*, explained the significance of the videos to the organization in general as,

> …people were really proud of that at the [FASNO] Annual General Meeting. It is kind of like a resource and we used it to talk about what we have done, such as the garden video…it is a nice way of communicating.

The videos were also a strategy to communicate concerns out to the public. Supporting this sentiment *Participant B* declared, "I think it informs people; the videos are really great, it captures people's attention." *Participant A* also felt that, "…videos are a fantastic way to get someone to stop and listen." In addition, a potential function of videos is to advocate not just to the wider community but also within advocates circles on particular issues that need action, such as lobbying government for a policy change. *Participant H* felt the role of videos were to "…connect like-minded people to advocate for or against on an issue." In these ways, videos can be used to communicate activities such as community gardening, but also strategically to advocate for something very specific in a short period of time. This concept is explored more in depth in the following chapter.

The perspectives on the *Portal*, as the advocates viewed the content, supported the objective of increasing awareness about *local food* issues. The feedback on the directory and the local food maps suggests they were successful at identifying sources of *local food* and the videos provided a platform for communicating activities and concerns as they arose.

6.4.2 Contributing to the *Portal*

The next stage in examining participation on the *Portal* was to reveal how advocates were able to contribute content, using the various applications. Participation on the *Portal* could include adding listings to the directory, points to the map using GeoLive

and even submitting articles to the blog. Nielson's model proposes that only a small fraction (1%) of visitors to a website will actually contribute content. The advocates who have a direct interest in relaying advocacy messages, generating more support for their organization and to increase *local food* consumption would be expected to be the main contributors to the *Portal*. However, their perspectives shed light on the challenges advocates faced in participating in this way on the *Portal* and more broadly on the GeoWeb.

One of the more significant aspects was that advocates acknowledged the importance of the collaborative nature of the *Portal* and in particular the directory listings, as they were free and open to all *local food* proprietors. Participant A highlights this saying, "…being able to add your own content that changes things for sure it certainly makes it if you don't have to be a large producer, you don't have to have a shop, you just have to have an interest in food." This is important in re-directing the mapping process to a bottom-up model; however the challenges to effectively achieving this were obvious in the overall analysis.

Many advocates expressed they were not yet comfortable with using the various *Portal* applications. Advocates articulated this challenge to participation as, "…we are too old for it." (Participant C) and, "…we are resistant. (Participant D)" Another advocate asked,"…through this entire project the question has been how do we get enough people comfortable using it so the [*Portal*] becomes dynamic." (Participant F).

Several advocates expressed that the group was challenged with the new technologies because they were all of an older generation and not familiar with the new

technologies. This went back to the issues of time constraints for learning the applications on the *Portal* and the dependence on the skill set of volunteers. The following comment provides an example of this concern:

> …we are one generation here. If you want to connect with the other generations you have to move out into their spaces…we don't all have to be on Facebook, it means that one or two younger people might come to the table, as different points of view, as different options (Participant C).

However, *Participant J* as a younger member did feel comfortable using and contributing information to the *Portal*. She understood that the other advocates found it challenging, she expressed "…for people to contribute you need to make it really easy, but what is the level of easy?"Another advocate simply felt contributing was another step in the process explaining, "…that is in the future, people need to get used to the tools." (Participant G).

Whether contributions online would change as the project moves into new phases of development or the advocates have more time to explore the applications is unclear. At this time, advocates are comfortable as "lurkers" on the *Portal*. Advocates throughout the project provided information offline that was then added to the map, directory or blog. The information was most often sent to me to through email to add to the *Portal*. The advocates were more interested in the end product than the process of contributing directly online themselves. The maps in this way appear to fill the same role as traditional PPGIS projects that feature citizen knowledge (Voss et al., 2004). The maps were made with expert incorporated, not contributed, local knowledge. Therefore, the advocates while directing the project and providing much of the content still were not able at this

stage to participate directly online, relying on the use of "experts" to form the final presentation on GeoWeb.

6.4.3 Barriers to Reaching Community

A central of objective of advocacy identified by the participants of this study was the desire to reach out into the community, in this case, to the residents within the North Okanagan region. The *Portal* provides a way for advocates to communicate to the community but barriers exist in bringing the community to the *Portal*. Whether that was reaching farmers to contribute content or simply to get people to search for *local food,* advocates were concerned with how to get people to the *Portal.*

Farmers supplying food to the region was a specific target of advocates for the *Portal* and more broadly to connect to the organization in general. One suggestion,

> …a lot of farmers wouldn't be spending any more time on the computer than they need too, but they would read something in the newspaper most of them read the newspaper and some of them would take the next step…just getting the awareness and the time in the paper for the people to know, so they know to go look (Participant E).

In a similar way, *Participant A* explained, "… we found in the farming community they do use technology, but in a very specific way and at a fairly limited level…" and "…there are not a lot of people that are confident in using the Internet, especially producers."

Comments on the use of the *Portal* to reach the broader community encompassed the concerns over getting people to *Portal*, such as, "…there has to be more of an awareness, to get people to the website, because it does not help if you have a beautiful website and no one goes to it " (Participant J). Aligned with this concern, was that people would not visit unless they were already interested in *local food,* for example, "…it is

good if you are already interested but the challenge is getting people to the website… its being open to look up where local turkey is ” (Participant G). This was restated in several ways, as “… as a larger education tool getting people to change values it is not the best thing, so we may have already caught them some other way, it is kind of like preaching to the converted ” (Participant J). These perspectives exemplified that the *Portal* supports people already interested in finding *local food*. It may influence behavior through increase purchasing of *local food* but the *Portal* probably won’t change people’s values, a major objective in advocacy.

While the *Portal* offers rich potential as an advocacy tool, advocates express that it was difficult to get people to the *Portal* to find the information they were trying to relay. Outreach to farmers, who are a group considered too limited Internet users, would need more traditional mediums, like newspapers, to potentially point them to the existence of the *Portal*. Other people using the *Portal* were probably already engaged in the *local food movement*. Finding ways to get people to the *Portal* to view the information was perhaps the biggest challenge the advocates felt in harnessing its full capability. It was felt that people using the *Portal* would already be participating in the *local food movement* in some way. As a result, the *Portal* was not considered an awareness tool in itself but a supplementary tool to augment support, a tool that may influence behavior but not change values.

6.5 Conclusion

This chapter explored the research question: In what ways can the GeoWeb support the objectives of food advocates? The perspectives shared through the community sessions and semi-structured interviews provided an insight to how the

advocates worked in the community, the reasons why they were interested in the GeoWeb and their reflections on the ways the GeoWeb supported their objectives. Drawing on ideas of participation inequality, it was apparent that advocates were only able to minimally participate online and not able to actively contribute to the *Portal*. Through the experience with this project, they were also able to identify the challenges to incorporating new tools into their practice.

Advocates expressed their ideal local food system as one the encompassed social, economic and environmental considerations. Access to fresh food among all members of the community was considered by many to be the starting point to realize the system they envisioned. Strengthening the relationship between farmers and their community as a way to eliminate the impoverishment they saw on the farms and ensure a viable local food system into the future was also prominent. Environmental issues were important motivators to advocates, but they felt that the characteristic of the community did not lend well to situating *local food* issues within a concern for the environment. Therefore framing the possibility of local sustainable food system was made in terms of providing health and supporting local farmers.

Objectives of the advocates were primarily to increase awareness in the community on the concerns they identified through their vision. More broadly, it supported the activities they were already doing such as the community gardens or community kitchens. Through more exposure they hoped to increase their volunteer base and the skills brought to the group.

The ways that the GeoWeb (through the *Portal*) contributed to these objectives was to provide a resource to find local farmers and learn about the food that they produce and more specifically as a tool for the *100 Mile Diet Challenge*. However, participants were not able to contribute directly online, despite efforts to encourage this. The main barriers to online participation was access in terms of the advocates' skills, which reflected the emerging concerns of the digital divide where skills rather than equipment is limiting access to Web technologies (Bimber, 2000). Furthermore, they were concerned that the *Portal* was limited at this time because they did not feel enough people knew about the *Portal*. In general, advocates expressed at this point the *Portal* was a tool for the converted. However, it was proposed that its role in this initial phase was to stimulate action between "likeminded" individuals that held similar values around food. In the next chapter, I harness this sentiment to explore how hyper-local media, can contribute to the objective of advocates to stimulate action in the community towards government policies. Diving deeper into the *Portal* and drawing on the development process of one video to understand the influence of citizen media, that is essentially local.

Chapter 7: Politics of Hyper-local Media

7.1 Introduction

Media, in its many different forms, has long been a tool for community advocates to get their message out to the masses. Most often, advocates rely on the mainstream media such as newspapers, television and radio to voice the cause (Cammaerts, 2007; Hearn et al., 2009). During heated times, such as civic elections, a diverse array of concerns compete for the media's center stage; while only well-funded special interest groups can afford to pay for advertising on media air ways. As a result, many issues especially in smaller rural communities never make it to the campaign trail. Here, I present the methods and findings from the process of making and sharing a digital story, as an example of a GeoWeb tool. The story sought to bring a community's concern to the election campaign. Specifically, the digital story *Where is the meat?* addressed a new provincial regulation, the *Meat Inspection Regulations* (MIR).

The story bridges two significant considerations of this research: 1) in what ways can hyper-local media contribute to advocate objectives and 2) facilitate community participation in the *local food movement*? These questions are examined through recent meat regulation policy changes and their impact on local food production. Observations from my participation in making and disseminating the story bring to light how the GeoWeb offers tools for advocacy. In addition to the results of this process, I draw on the YouTube analytics application Insight. I conclude with interpretations on how the nature of the media influences advocacy.

7.2 Methods for Evaluating Media

I observed participants to evaluate the process and impact of hyper-local media on the GeoWeb to meet advocate objectives. Participant observation is described as direct involvement of the researcher in the events being studied (Creswell, 2007). Methods for this case study followed four components:

- Participating in a community digital-story workshop
- Assisting in putting together the video: *Where is the meat?*
- Spreading the video throughout the community
- Examining the process

FASNO members were invited to attend a three-day community digital storytelling workshop that was facilitated by the Bits and Bytes representatives and hosted by the provincial Interior Health. Bits and Bytes is an online resource centre for food security information, which aims to "enhance collaboration among rural and remote, community-based food security organizations, technical and practical experts, government agencies and national organizations" and is maintained by Food Secure Canada (see http://www.bitsandbytes.ca). This workshop was one of its initial projects following their Website launch and was intended to train food action volunteers around BC on digital media with the aim for representatives to share their food security stories online, through the Bits and Bytes Website and with other food security networks. I was invited to participate in the workshop by a member of FASNO. The workshop consisted of participants from several BC Interior community food action organizations, mostly from rural communities.

The analysis for this component of the study included notes taken throughout the workshop, the production of a digital story and finally the dissemination of the video. To compliment my experiential data I also included the information of the YouTube Insight application that tracks videos hosted through YouTube along with the informal feedback I received on the video though comments posted in email and on the web.

7.3 Community Participation: Locating the Story

Digital stories are presented as an example of hyper-local media on the Web. Hyper-local media essentially refers to media that is based within a specific location where the content, the creator and audience are all from the same place (Braudy, 2008). It has gained increasing attention with the rise of citizen media and the GeoWeb. In recent years, there has been an explosion of digital storytelling workshops conducted in communities around the world (Burgess, 2006). Technically speaking, digital storytelling combines photos with audio narration in a video format (Lambert, 2008). This style of new media is most often aimed at telling a personal narrative with the aspiration to "share, record and value stories from [peoples] lives" (Center for Digital Storytelling, 2008). Overwhelmingly, portrayed as a method to empower individual marginalized voices, it is increasingly being used more specifically to address advocacy issues (Hearn et al., 2009). In this study, the digital story was created to raise awareness about new meat regulations on a prominent concern in the North Okanagan for farmers and one that FASNO was very keen to address.

7.3.1 Grassroots Policy Action

Advocacy, in this study is viewed as the "grassroots of governance." In particular, the populace of a region is involved in lobbying government to shape policy development and ultimately the governance structure. Political campaigns are a strategic part of governance in a democratic society and provide an opportunist moment to expose specific issues and encourage political leaders to publicly address their positions. It is during such times that the contested space of the media becomes apparent. Those interests able to afford airtime or share entertaining stories have a privileged voice, given at the expense of other perhaps equally relevant, community issues. In the most recent 2008 presidential elections in the United States, new media in the form of online social networking applications combined with Internet video sites such as YouTube played a central role for not only politicians but also citizens to engage in electoral debates (Perimutter, 2008). The political parties in the 2008 election in British Columbia promised to follow this path harnessing social networking tools to connect to voters of British Columbia. This study, explored the ways the digital story, *Where is the meat?* could participate in this campaign and voice the issues of a smaller community that is often left out of these debates.

7.3.2 Making the Story

The results in this section begin with my experience participating in the three-day workshop on digital storytelling in partnership with a member of FASNO. The focus of workshop was on learning the skills to make a digital story with the intention that we would complete a story by the end of the workshop. During the three days, we were instructed on how to formulate a story, use video editing software and combine and draw

from mixed media sources, such as music files, photos and audio narration techniques. Discussions with the other participants confirmed that the technologies were new to most people in the workshop; most did not have access to the necessary software or equipment for making the videos. This was also the case for my community partner. I did have software and equipment from the university and therefore was designated to edit and present the final video.

My community partner wrote and narrated the story, while I focused on editing; it proved to be more complicated than first anticipated. My partner vocalized that although she was interested in the product, did not have the volunteer time to continue with it. She also expressed during the workshop that she couldn't imagine actually doing this again, because she was uncomfortable with the technologies and the time involved in putting it together. Through the editing process, I maintained contact with my community partner to ensure I was representing the initial intent of the story and that it aligned with her original ideas. The resulting video was a community advocacy story on the impacts of the MIR's to the North Okanagan region oriented to challenging the public to listen and act.

The new MIR's instituted in September 2007, changed the face of small-scale livestock production in BC. While the safety of industrial large-scale farming was under question with reports of deaths for contaminated meat in Canada, small meat processors serving their region were being shut out of the local market (Fitzpatrick, 2008). The regulations seemed to act against the growing momentum in progressive food policy and the public interest in *local food* (City of Vernon, 2008). The MIR was designed to increase the safety of all meat slaughtered and processed in the province, by augmenting the regulations on abattoirs and enforcing new standards (Ministry of Agriculture and

Lands, 2008). These new standards were dispersed equally across all scales of animal production but with differential impacts. Many custom abattoirs operating in mostly rural communities and primarily servicing small and organic farmers went out of business (Johnson, 2008). This was due to the high costs, relative to small operations, that the abattoirs would endure for upgrades to meet the new requirements. In addition, the volumes of paperwork and fragmented communications from governing bodies exhausted farmers and processors out of business (Marr, 2007). As a result, farmers and community food advocates were concerned over the loss of *local food* sources, increased vulnerability of agricultural land development and the state of the tenuous agricultural economy (Conover, 2008). The Okanagan Shuswap Green Party (2007) collected over 7,000 signatures in a petition, calling for the government to reconsider the MIR. One citizen wrote in the online petition:

> This is a step backward. In this age of climate change, we should be trying to eliminate transport, not increase it by eliminating local sources. If new regulations are required, we should first be told of the problem so that communities can help develop solutions that work for us, not against us.

Despite the detailed reports and lengthy petition, the call for change received little response from government representatives. In support of outraged farmers and concerned citizens, FASNO members sought to make it an election issue, it was a provincial policy that affected rural communities and marginalized voices, which needed to be addressed. In the spaces of collaborative media services such as YouTube it was anticipated that our message could be shown alongside the political leaders and indeed it was.

Following the community workshop and three weeks of editing, the next stage was to get the story out to the public. The story, now in a video format and uploaded on

YouTube, could be sent out to list-serves, posted on websites and linked to Facebook. It was anticipated that the “viral effect”, where the message passes from one person to another through online social networks, would also be another aspect of the process (Cammaerts, 2007). The viral effect can be very beneficial for advocacy. With minimal effort your message gets out to networks that you may not have ready contact. Utilizing the viral effect, I disseminated the link to the video through Blogs and websites, including YouTube, my personal research blog, my personal Facebook page and bitsandbytes.ca. I also circulated links to the video on email lists including the BC Food Systems Network, Community Food Security and BC Farm to Campus.

7.3.3 Insight Application

YouTube Insight (2009) is an application linked to the video that tracks where, who and how the video is accessed. It is described as an “external facing analytics and reporting product that enables anyone with a YouTube account to view detailed statistics about the videos that they upload to the site” (YouTube, 2009, p.1). This service is available through five tracking and reporting applications:

- *Views*: captures the viewing trend of a video in a specific geographic market over a certain period of time.
- *Popularity*: provides insight into how popular a particular video has been over time and in a given region.
- *Discovery*: shows video content owners how viewers "discovered" their video.
- *Demographics*: illustrates the demographic breakdown of those users that are watching your video.

- *Hot Spots*: demonstrates the difference between the drop-off rate for your video and the drop-off rate for the average video of similar length.

I utilized *views*, *popularity*, *discovery* and *demographics* for the results. The results from Insight showed total *views* for the video were 689 at the date of writing. The *discovery* application revealed that the following websites accessed the video were responsible for 14% of the total video views: foodcomoxvalley.org, eatkamloops.org, twitter.com, foodlinknanaimo.com, communitycouncil.ca, foodlink.com and beyondfactoryfarming.org. Most of the views (49%) are labeled viral, which YouTube defines as accessed directly through the email links and unable to specifically track (YouTube, 2009). Embedded links were responsible for 15% from the following sites: foodcomoxvalley.org, bitsandbytes.ca, lifethroughthecracks.blogspot.com, video.google.co.uk and back9media.com.au.

The video was also accessed through YouTube searches and links from related videos, which accounted for 20% of the total views. Figure 7.1 summarizes the time period when views occurred, showing *popularity* over time. It demonstrates that the most interest in the video was after its initial release and leading up to the election. The interest has continued at a reduced rate since then but is still being viewed. The most views originated from Canada, but people from many other countries have accessed the video including India, Turkey, Chile, Spain, UK, Bolivia, Philippines and USA. In addition, *demographics* showed the dominant age range viewing the video were between 45-65. Which mirror the demographics of the North Okanagan and the *local food* advocates.

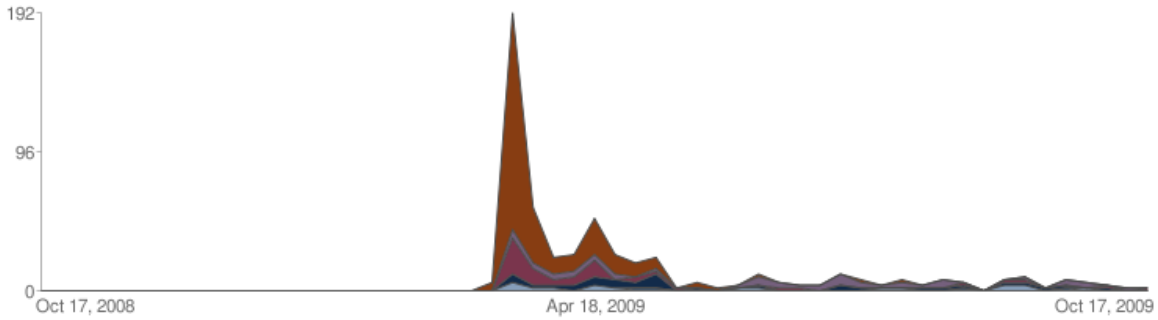


Figure 7.1 Number of views from release date March 22, 2009 (YouTube, 2009).

In addition, to the Insight information, people sent general comments through email and posted on YouTube, such as:

> Good job. It has affected the southern part of the Okanagan too. We have lost our favorites Willowbrook Meats and others. I can only hope we vote the liberals out of the majority this May.

Several people sent in appreciation remarks such as “well done; we can't let this issue die” or more specific to the election “another good reason why we need to look at this next election as a turning point!” Others posted more in-depth comments that targeted the current elected government and premier Gordon Campbell, such as:

> The Campbell doesn't care about small farms or animal welfare. If they did, we would have a very different system where animals are slaughtered close to home. If their regulations were really necessary, wouldn't there be numerous cases of people dying or getting sick from meat slaughtered under the current system? The problems with food safety are coming from the industrial model, Maple Leaf, big conventional poultry operations. Thanks for making this video!

Additional comments, focus on the video itself, providing feedback on the tone, length and messaging within the video. These respondents were already very familiar with the issue and were concerned that the “right” message gets out, a message where people are called to action. The advice from various people tended to be mixed, some people

commented it was too long, others wanted more detail and some people wanted the music or tone changed. But others commented saying they liked the tone of voice or the message style. There were no specific questions submitted. Regarding the style and with a lack of time, I did not make any of the recommended changes, but thanked people for providing the feedback.

The video link was also shared with the specific political parties, sent to the campaign offices of the NDP, Green, Liberal and Conservative Parties. Neither the local representatives of the Liberal nor the Conservative Parties responded to the video. Responses from the NDP were: “thanks for the input and the link, an interesting video. Did you catch our platform release on Thursday?” and a bit more detailed from the Greens:

> Another example of why it's more important to change our leaders more than our light bulbs! I gave the BC government and the federal government (it all started there in '96) a petition of 10,000 names, yet have heard NOTHING from either one. That's why I'm running as MLA in Vernon-Monashee, to change the MIR and to prevent the privatization of water and power.

The video was able to reach out to the community for support, which is a novel benefit of social networking platforms. The video also vocalized concerns directly to government representatives, mirroring traditional forms of advocacy of lobbying government with letter writing campaigns (Young & Everett, 2004).

7.4 Understanding Hyper-local Media for Advocacy

The process and the results of this study demonstrate that advocates can spread their message through video to other networks out of their region as well as building support within their region. Here, I will review the results in relation to the literature and

reflect on this video project with the aim to understand the influence of these kinds of technologies. Three main aspects come out of my own experience of the process: the manner of dissemination, the quality of citizen media and the means for evaluation. This discussion is aimed at further explained the results and concerns within new media literature to form a richer perspective on how this tool addresses community advocacy issues.

7.4.1 Dissemination

New media tools like digital storytelling are thought to provide an opportunity to reach broader listeners and appeal to diverse audiences through the "viral" paths Internet applications present (Kahn & Kellner, 2004; Tacchi, 2006). In theory, these technologies are open to the greater public and are thought to create a more democratic media, where messages from community advocates can be shared alongside political elites (Carano et al., 2007; Garret, 2006).

The digital story discussed in this paper demonstrates that it is possible in online environments such as YouTube to mobilize your own media messages for an election campaign. For example, the story was searched and found by over 600 viewers, mostly during the election. In addition, my experience of searching for BC election videos on YouTube and in general Google searches, found this video featured in many cases ahead (in regards to number of hits to popularity) of political party videos. It was also easily distributed through email and posted on various websites, so expediently and efficiently reached a wide range of people in different places around the province. Thanks to the viral effect, the video reached sites that were not food related, potentially increasing the scope of the conversation. However, from the responses most people were already

sympathetic to the issue, or had experience with the MIR in their own community. Also, the politicians that responded had political platforms that already supported the issue, the Liberal and Conservatives simply did not reply. This supports van Loons (2008) critical analysis of information and communication technologies that form and rely on digital "tribal formations" of networks that draw from seemingly likeminded individuals. The list-serves employed for dissemination and from the responses supported the "tribe" notion, including those responses from local politicians that collectively recognized the MIR as a political concern but had little power to act on it. As a result, it is unclear if it reached and influenced new ears.

7.4.2 Quality

A central criticism, of citizen created media is the poor quality of the product and as a result, the message (Keen, 2007). Andrew Keen strongly criticizes Web 2.0 citizen media in his book *The Cult of the Amateur: How Today's Internet is Killing Our Culture*. He accuses Web 2.0 applications of creating "oceans of mediocrity" (p.35). This was supported from initial reactions that suggest successful dissemination was dependent on media quality and presentation. The first comments I received though email were directed at the presentation of the media such as "it is very long and not pronounced clearly" or "it is a bit too laid-back and cozy, sounding more like a nice story than an urgent call for change." This begged the question, how effective is the video to get across the message if people are mostly caught in the presentation?

I experienced firsthand the challenge untrained advocates face in attempting to learn how to produce media (especially digital storytelling), even with the help of a training workshop. The workshop provided a short period of time to piece together our

story and we found ourselves quickly trying to grapple with learning how to make a digital story. We had little time to really evaluate the best way to convey our message as we were lost in trying to figure out the software. Following the workshop, I spent considerable time editing the video. Perhaps, the lengthy process of making a video and learning the software reduces the appeal for community advocates. It certainly did for my community partner.

Gane & Beer (2009) argue that not participating in these new media technologies can leave an advocacy organization out of the conversation—as an increasingly large number of organizations draw on sites such as YouTube for information, news and ideas. While making your own media is important, it is difficult for cash strapped organizations to achieve high quality media messages. Nevertheless, there is a pressure for advocacy organizations to acquire these skills, investing time and money to compete for attention, while striving for better quality media on user-generated sites (Kahn & Kellner, 2004). The pressure is further exacerbated by the fact that they are largely volunteer run. The resulting tensions are comparable to those found when using traditional forms of media. However, citizen media is more of a struggle to elevate your message within the ever-growing volume of user-generated content, rather than battling for the journalist's attention. Thus, as mentioned early, the message may only reach your "tribe" of attentive listeners, already interested in the issue and fail to have broader appeal unless carefully crafted.

7.4.3 Impact

The final discussion point in this chapter is the dilemma of trying to evaluate the influence of hyper-local media, such as digital storytelling on advocacy issues.

Advocates, who invest time to communicate their message, are understandably more interested in participating if they are clear of the impact. The results of the YouTube Insight tracker were useful in this regard. It neatly outlined the outcome of the viral effect, with listings of other blogs and websites linking to the video, how it was viewed and the geographic locations of the people accessing it. On the other hand any definite impact it had on the election campaign is ambiguous. The demographic data provided from Insight, such as average age of viewers, did not articulate its source. Simpler calculations, such as the raw number of views, was more straightforward to understand how many and at what time people were viewing it. For instance, there was a spike in viewers following when the link was emailed to lists that allowed me to assess if list-serves were increasing attention to the video.

A significant aspect to tracking the video was to maintain only one source for broadcasting. This provided a straightforward ability to follow the viewing of the video. I learned this quickly as my initial posting on the blog did not allow me to track views of the video. By using the embedded and web link provided by YouTube, no matter how it was accessed, YouTube tracked it. However, there are missing components to the evaluation process that is a specific challenge posed by digital media. The nature of the Web makes it difficult to comprehend the impact to viewers that accessed the video, but did not respond. Participation reflected Neilson's ideas of participation where in this case, a sharp minority created the video (for example me and my colleague), with only a few providing feedback and the majority only viewing the video (Nielson, 2006). How to reconcile this void in the evaluation process seems daunting.

To address this final point, I switch courses to reflect on advocacy and a different path for assessing success. Alison Fine's 2007 book, *Momentum: Igniting Social Change in the Connected Age* emphasizes the importance of evaluating digital media technologies in relation to advocacy. She refers to "connected activism" as a path towards self-determination for advocates. Being digitally connected can reduce isolation within advocacy work in rural communities. Fine states, "powerlessness and fear are the activists chicken and egg. It doesn't matter which came first—they work hand in hand to prevent us from working and learning collaboratively" (p.15). In this context, she suggests that by taking a more reflective approach to evaluation, community advocates can understand how connecting through digital technologies works to elevate core issues of powerlessness. This is particularly important considering the amount of investment being put into technology training and technology training. A possible route to this form of analysis is to understand the motivations as an individual advocate and ask how and in what forms digital media can work, rather than assuming all technologies are good for advocacy. In this perspective, a major component in understanding the success of media technologies on advocacy issues is not just the impact it has on the observers or "lurkers" of media but also on the contributors (Nielson, 2006).

7.5 Conclusion

Digital-stories are an innovative approach for advocates to highlight hyper-local community issues in the media. It can be an empowering tool for broadcasting marginalized concerns impacting rural communities. The digital medium can provide a bridge between the advocates and their communities, offering an opportunity for communication and participation in *local food* concerns. At the same time, it provides a

method to address issues directly to government representatives. In the context of a political campaign, digital stories and other forms of citizen media can be presented alongside the messages of political candidates, increasing democratic debate and providing a different voice on common issues.

The digital story, *Where is the meat?* was broadcast on YouTube and viewed over 600 times. It sparked a series of interesting responses and found its way to different websites, across different areas of the province and indeed found its way to other countries. This provided a voice for North Okanagan concerns. On the other hand, it was time consuming, of amateur quality and ambiguous in terms of its overall contribution to the election frontier. Finding ways to elevate these constraints would increase its ability as an advocate tool and its ability to facilitate participation in the *local food movement*.

Hyper-local media is about bringing together advocates and their community, as by definition it presents a message from locals to locals. In this case, the video encouraged participation on the GeoWeb in the form of feedback and comments through the YouTube channel. It also urged community members to participate in the political process by advocating for change on a policy issue, an important role of advocates and more general of citizens in a democracy. In this way, hyper-local media potentially can increase awareness about issues in a very direct way. However, understanding the degree that it stimulates change is ambiguous and thus must be grounded in advocates objectives and designed to reach beyond the converted.

Chapter 8: Community Feedback on the Portal

8.1 Introduction

In this chapter, I interpret the results from the questionnaire delivered at the IPE, to better comprehend the research question: how can the GeoWeb facilitate greater community participation in a *local food movement*? The findings introduce the perspectives of community members on the *Okanagan FoodPortal*. The questionnaire is set within the context of evaluating it as a tool for the *100 Mile Diet Challenge*, as part of the action research process. The *Portal* provided an information resource for the participants of the *100 Mile Diet Challenge*. Thus, the questionnaire provides an understanding of how the target audiences received messages from advocates and interacted with the tools offered through the *Portal*. I begin by reviewing the profile of the respondents, including their involvement in the *local food movement*. The second part focuses on feedback about participating on the *Portal*. The final section provides a broader interpretation of what the GeoWeb offers in so far as stimulating participation.

8.2 Methods for Questionnaire

The fourth tool used in this study is a questionnaire. Questionnaires are considered useful for collecting responses from a broad population in an efficient and timely manner. McGuirk and O'Neill (2009) suggest questionnaires are practically effective when mixed with other qualitative methods such as interviews and participants observation, forming a mixed-method approach that can yield important insights from diverse angles. For this study, questionnaires were initiated September 2-6, 2009, during the 100 Mile Diet Pavilion at the IPE (Appendix E). The pavilion showcased *local food*

related issues throughout the exhibition. It was a joint initiative of FASNO and the ACFI. Computers were set up to conduct demonstrations of the *Portal*, in the lobby of the pavilion adjacent to the presentation theatre and alongside information tables from the local organizations. The pavilion received representatives from the surrounding community including local media, farmers, retailers and government officials. Researchers, including Dr. Jon Corbett and myself provided the ongoing demonstrations of the *Portal* throughout the five days of the IPE. After demonstrations were complete participants were presented with the option to participate in the questionnaire following their experience in reviewing the content and trying out the *Portal*'s applications.

The questionnaire aimed at assessing the *Portal*'s mapping applications and content from the point of view of potential users to the site. The questionnaire consisted of a mix of open-ended and close-ended questions. The mix of questions styles provided feedback in short answer format as well as the opportunity for elaboration on answers and further comments with the intention to maximize response rates. The format followed de Vaus (1995) framework for qualitative questionnaire design to elicit both feedback on the *Portal* and to understand who was providing feedback. The format involves four distinct types of questions:

- *Behavior*, uncovers what people do such as eat local or imported food
- *Belief*, questions about beliefs intend to determine interests in food
- *Attitudes*, these questions are designed to reveal what people think is desirable or undesirable such as using Web technologies
- *Attribute* questions to establish respondents' characteristics like gender

The first section of the questionnaire assessed respondents' involvement in the *local food movement*. The next section focused on the usability of the applications and the last section profiled respondents including information on their access and ability of using computer technologies.

Following the IPE the questionnaire was available digitally through an online survey software website Survey Monkey. The website was linked to the *Portal* and also promoted through the FASNO email list. The online questionnaire collected five responses over a six-week period. Following that period all responses from the in-person questionnaire were entered into the Survey Monkey software program alongside the online responses for analysis. The total responses amounted to 50 with only 5 from the online questionnaire.

The target population for the questionnaire is potential users of the *Portal*. The aim was to get a broad response from the area of the North Okanagan region representing a wide range of perspectives including *local food* advocates, people already interested in *local food*, farmers that may contribute actively to the site and people that are not yet interested but maybe influenced by the content. The geographic target population included people that lived in the North Okanagan region. However, many people that attended the exhibition were visiting from elsewhere especially neighboring regions such as the Thompson or the Central and Southern Okanagan; the questionnaire was open to all interested in participating.

8.3 Findings of Questionnaire

Responses included how participants were involved in the *local food movement* and identification of barriers to reaching people through the *Portal*. An important aspect of the questionnaire was to understand characteristics of potential users of the site: respondents are considered representative of users. Furthermore, feedback about the site was intended to demonstrate where researchers and FASNO could improve the *Portal* to enable more people to participate online. The results from the questionnaire fall into three broad areas: who users are, their position in relation to food issues and how users engage with the *Portal* applications and content.

8.3.1 Who the Users Are

A concern expressed from FASNO members during the development of the *Portal* was that a large portion of their intended audience did not have access to the Internet nor the computer skills required to use the *Portal* applications. Advocates expressed that, like themselves, the community they were trying to reach also were the wrong side of the digital divide. For example they represented mainly women over 45 years old. The questionnaire indeed revealed that out of the 50 respondents 26 of those were above 45 years of age with the majority of respondents between 45-55 years of age being female.

To adequately utilize the *Portal* one must have access to a computer, high-speed Internet and the skills to use both these technologies. A broad level of access in the community is vital for the GeoWeb to successfully support advocacy efforts. All respondents indicated they had access to a computer with 98% of respondents having

direct access to a high-speed Internet connection. The majority of respondents (88%) indicated they were intermediate or experts in their computer skills with 90% of respondents using their computer daily to several times a day. Therefore, contrary to early assumptions made by advocates, people in the North Okanagan appear to have access to the technologies required to access the *Portal*. Several respondents did indicate that access was an issue to participate. For example, one respondent describing their work as “farming” noted that “many farmers do not use computers”, while two other respondents identified, “I think my computer skills have to improve” or “I'd need a course on how to do things on the computer.” These respondents indicated on the questionnaire that they did have the technologies but clearly were not comfortable with using the *Portal* applications.

8.3.2 Users Position on Food Issues and Use of the Web

A key factor of evaluating success is whether users are already engaged in the issue and then determining if it is attracting people previously not engaged. However, this shows if users are maintaining a pre-existing predisposition to their interest in *local food*. A limitation of the questionnaire was that it was administered at the IPE’s *local food* exhibition, where potentially people attending would be already engaged. However, it was at a public event with over 50,000 people attending over the five days, so the audience was potentially diverse. Most respondents, 74%, stated they were involved with *local food* production or advocating for *local food*. Furthermore, (72%) identified that the location where their food was grown was very important. This implies that most respondents were already interested and engaged in food issues. Open-ended answers showed that respondents supported, advocated or produced *local food*. Figure 8.1 shows

the ways respondents supported *local food*, identifying they were either farmers, advocates, home gardeners or purchased *local food*. Within the supporters, 28% of respondents indicated they grew some amount of their own food through home gardens and supplemented this from local farmers (Figure 8.2). One respondent simply emphasized their support as, "we like to purchase *local food* to support our community." Another supporter reiterated this stating, "I buy local produce whenever I can and always ask for local produce when I shop." In addition, several respondents tied their work to food concerns. A stay at home mom describes her work as, "I feed kids, vacuum floors, nurse my baby… and analyze food production" while another woman states, "I teach preschool and see horrible prepackaged lunches every day." Overall, many of the people that participated in the questionnaire were actively supporting the *local food movement* and the work that *local food* advocates were doing.

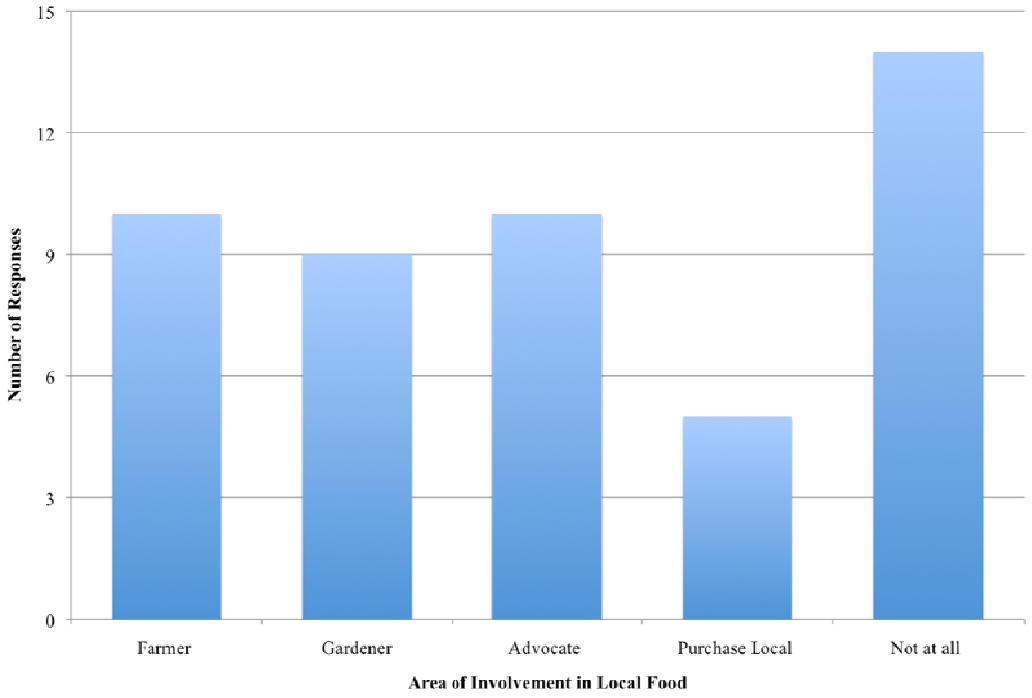


Figure 8.1. Are you involved in food production or advocating for local food?

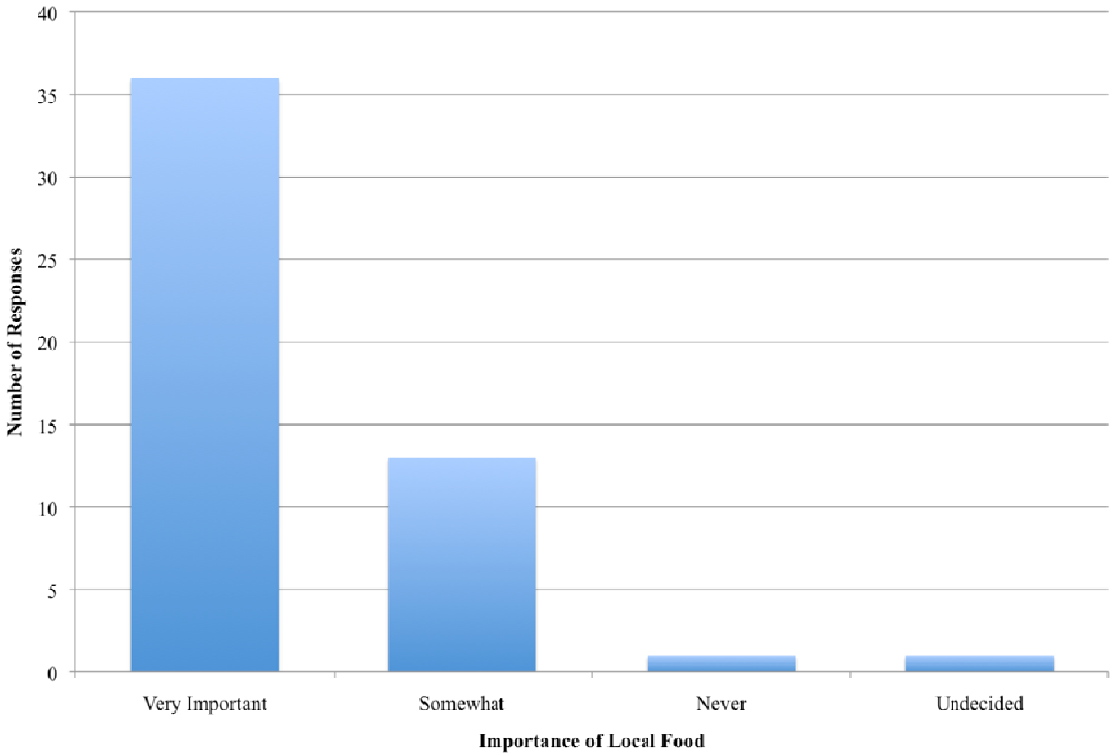


Figure 8.2 How important is it where your food is grown?

The results so far are not entirely surprising given the questionnaire took place within a location of *local food* advocacy—the 100 Mile Diet Pavilion at the IPE. Nevertheless, at least 26% fell somewhere outside of this active support, indicating they were not involved with promoting *local food* or did not consider it very important where their food was grown. These are the segment of the community that advocates are keenly trying to reach. In particular, people that indicated they thought it was somewhat important, where the food was grown are the largest group most likely to be interested in the *local food movement* but no yet participating. Finding ways to spark their interest and engage in the movement is a primary aim of advocacy.

8.3.3 How the Users Participate

Enabling engagement that transcends to action in the community is a goal of FASNO. Therefore, determining whether the *Portal* can bring people into the movement is essential. This section is based on questions 3-8, which made up the largest component of the questionnaire and examines the GeoWeb applications and the content of the *Portal* along with their ability to influence users to change their habits and buy *local food*. The responses provide insight to how people may interact with the *Portal* and engage with the *local food movement* online.

Responses revealed community members were interested in contributing information about different aspects of the food system, including ways to share information about services and products. They were interested in using the *Portal* to link up farms to restaurants or farms to community kitchens. Respondents were interested in using the GeoLive mapping application to contribute location-based information or to direct people to existing food related points on the map. The interest in locating producers and finding sources of *local food* was emphasized. Respondents found appeal in adding new listings related to their own local knowledge and providing reviews through the comment features for farms in their neighborhood. People were also interested in contributing to the community blog, providing recipes and kids lunch ideas from the *local food*.

Respondents indicated that they found the local maps the most interesting, with the *local food* directory a close second. One respondent described this as, “it is really nice being able to see, at the click of a mouse, where everything is.” Another respondent suggested it was “…fun to look at pictures and see what's going on in the community.”

38% of respondents indicated that the *Portal* would influence how they buy food, one of the main objectives of the *local food movement*. For these respondents the reasons were pragmatic such as "greater awareness of where to get *local food*" or "I will be able to easily find more local products." The remainder indicated they were not influenced because they were already participating in buying *local food* for example, "I was already making a point to source locally" or "I already grow my own food and buy locally." This revealed that many respondents were participating in the *local food movement* in some capacity. However, even those "converted" suggested the *Portal* could expand their ability to learn more through pursuing new *local food* options or provide a deeper understanding of the values behind the food. As a result, influence was largely derived from information available in the directory listings and maps that were easily accessed and involved only a minimal level of participation.

While many respondents indicated their primary interest was in the directory or maps, some of the more detailed responses were based on the videos located in the *Community Voices* section on the *Portal*. Responses implied that the content provided a more in-depth connection to local activities from food advocates and farmers. As one respondent stated, "I find the community voices section of the food *Portal* the most interesting because it shows local advocates and has a personal feel and connection to community members who are concerned about food." At the same time, respondents also indicated the importance of connecting with real people in their community. As one respondent describes her vision, "I would like to see people gathering more like the old barn-raisings to get projects like community gardens, canning, cold storage, dehydrating all happening." Also other respondents emphasized the relevance of the local content. In

the words of one respondent, "local food maps help me to have a detailed idea about the local condition. The advocacy part helps to raise the idea of empowering the locals." Therefore, formulating connections both offline and online seems to be necessary to reach out to multiple audiences in the community.

Responses were made on ways to improve the ability for users to participate and contribute information through the *Portal*—a key factor in understanding how users might engage. A review of the responses suggests that people were comfortable using applications such as GeoLive. Most respondents, 40 in total indicated it was straightforward to use. Suggestions for improvement reflect preferences for types of content such as adding to blogs or including more text articles than videos. Other respondents felt it was important to simplify language, have more tutorials or instructions for the applications and provide "alternatives for inexperienced users." Another respondent wanted to "jazz it up" with perhaps local arts to further make it have a more local feel. It seemed that making the *Portal* features simple and local would encourage greater participation. Therefore, the community members emphasized that they preferred particular aspects of the food system, which they had a daily interest in. The most important aspect for respondents was being able to locate their community on the maps and experience a strong community identity in the overall feel of the *Portal*.

8.4 Community Participation

The GeoWeb is full of potential for building locally themed content that is visual and dynamic, with the ease of spreading it through the Internet. It is regarded as a way to increase participation in counter-mapping processes and contrasts the less accessible and more complex Geographic Information Systems software (Crampton, 2009). In addition,

it changes how and what can be represented on a map, with the added ability for VGI and multi-media to present concerns of a community. However, it comes back to the question, how can the GeoWeb facilitate greater community participation in a *local food movement*? While it was found to fulfill needs of the community it also had significant limits to facilitating participation in the North Okanagan.

8.4.1 Appealing to the Locals

Put simply, FASNO's *100 Mile Diet Challenge* generated interest through promoting a concept already supported through mainstream media, while the *Portal* provided localized content that complimented the challenge. The questionnaire results identified that the content presented through the *Portal* influence the advocacy issue, mainly by helping people find sources of *local food*. The disconnect between producer and consumer was one of the obstacles FASNO identified that needed to be overcome to support local food system in the North Okanagan. Overall, the questionnaire suggested the tools associated with the GeoWeb did assist communication between an advocacy group and its target community.

The respondents as representatives of the North Okanagan community were shown to be of mostly an older generation, female and participating to some degree in the *local food movement*. This mirrors the advocates from this study who are key to organizing much of the FASNO activities. In addition, it reflects the general demographics of the North Okanagan, which according to the last census show a majority of females and a dominant age structure of 45-64 years of age (BC Stats, 2007). In light of these figures, the questionnaire respondents represent the community profile that FASNO is trying to access. However, the GeoWeb is thought to appeal mostly to younger

generations, who are readily absorbing new applications as they emerge on the digital scene (Sourbati, 2009). The age profile of this community may inhibit reaching people through the Internet that are not already active in the *local food movement*.

The majority of respondents verified they were already participating in the *local food movement* and were using the *Portal* to further enhance what they were doing offline. However, if the potential target citizens for advocacy are not comfortable with using the technology then it may not be the best entry point for participating. As these tools are still novel for most, it may be a matter of time before the medium is in widespread use for conveying spatial information and advocacy messages. Thus, increasing the use of the tools is dependent on appealing to the characteristics of the potential local users.

8.4.2 Tackling Access

Previous studies in counter-mapping identified that the kind of technology influenced the level of access for community members (Harris & Hazen, 2006). The GeoWeb has largely been used to document and communicate often random and unofficial spatial data, partly because of its dependence on VGI and coupling with social networking applications (Goodchild, 2007; Hecht & Gergle, 2010). VGI is essential for generating locally relevant content and achieving the democratic potential of the GeoWeb—moving away from expert driven mapping practices. To channel local knowledge through the GeoWeb, a decent level of access across the community is vital for success.

The majority of respondents had direct access to the essential equipment that the GeoWeb requires, nevertheless people expressed that they lacked the skills or were uncomfortable with using new applications. Consequently, they had access to the technology but the quality of access inhibited their ability to participate on the GeoWeb. In this way, the "digital divide" is not limited to people with no computers or Internet, but extends to community members, especially of the older generation, that face barriers because of a low proficiency with emerging digital applications (Chakraborty & Bosman, 2005). This interferes with the diverse grassroots movement and allowance of VGI in the mapping process. Contributions at this time rely on a few trained individuals, which echoes the reliance of experts in geographic representation. The trained individuals will impact and shape the localized content and as a result digital map-making is at risk of falling to the same criticisms found in the PPGIS literature, where information is contributed mainly by the 'expert" map designers.

8.4.3 Placing the GeoWeb in the North Okanagan

Growing the *local food movement* necessitates appealing to the uniqueness of the community and increasing participation in the process of social change. Respondents suggested several ways this could happen: simplifying the information presented through language, providing basic instructions on the *Portal*, increasing textual informational over multi-media and providing alternatives for accessing content. Respondents indicated they needed more instruction or were generally not confident to getting on and using the applications without support. Despite these suggestions, applications such as GeoLive were described as easy to use and the directory and food maps were said to be straightforward. In addition to making it simple, respondents were encouraged by the

presence of local content and familiar faces that appeared on the *Portal*. The local content sparked a sense of ownership and community spirit, as people recognized their place within the globalized Web. With a sense of identity, respondents suggested it was important to increase character and find ways to showcase things such as local art or other factors that represent place. Furthermore, some respondents indicated that they prefer participating in the community rather than online and creating these spaces is essential in forming long-lasting relationships and experiences. In essence the success of using the GeoWeb could be measured by the ability to fuel real change in behavior and values offline.

8.5 Conclusion

The analysis of the questionnaire found that in order for the GeoWeb to facilitate participation it must address: who is accessing the tools, the quality of access and the factors that enable citizen participation. The questionnaire responses ultimately identified that basic access to technology was in place, but barriers exist in regards to level and confidence of skill to use those technologies. As well, most of the users (74%) were already participating in the *local food movement*. In hindsight, the GeoWeb tools and content are not yet reaching deep enough into the North Okanagan community as a whole. So far it is a tool for the "converted." This suggests the need for active promotion of the *local food movement* and the spatial information available from FASNO, while offering instructional seminars, tutorials with ongoing support related to how to use the tools. Generating more traffic to site will hopefully ignite an increasing amount of VGI and stimulate an ever-greater interest and understanding of the *local food movement* in the North Okanagan.

Chapter 9: Recommendations and Conclusion

9.1 Introduction

This study evaluated the *Okanagan Food Portal* as an example of GeoWeb, from the perspectives of *local food* advocates, community members and my own experience. The *Portal* was developed in partnership with local advocates to represent GeoWeb capabilities through an *Action Research* process aimed at addressing:

- The ways that the GeoWeb supports the objectives of food advocates;
- How the GeoWeb facilitates greater community participation in a *local food movement*.

In this study, I sought to relate the influence of advocates' objectives to hyper-local media and comprehend how the GeoWeb, as a platform for presenting how such content, reached, was used, and ultimately changed the community. Thus, the effectiveness of the GeoWeb as a counter-mapping tool was assessed. In this multi-faceted assessment, I found limitations in reaching the community and enabling advocates to participate effectively online; I argue that the central challenge of the GeoWeb is access. This has been identified as a concern for Web technologies in general (Compaine, 2001). It is an acute problem for small communities with limited capacity because they are often the first to suffer the consequences of environmental change, adverse policies, or economic forces, while being stewards of renewable resources that benefit society at large (ICFFA, 2008). Small-scale groups and organizations need tools that enhance and facilitate advocacy (Agyeman, 2005).

In this final chapter, I aim to synthesize the findings of this study by offering recommendations. I begin this discussion with recommendations on conducting and continuing the Action Research process and strategies for bridging the divide to realize the claims of this thesis. To conclude, I generalize my findings on how *local food movement*s offer a perspective on the GeoWeb as a technology for social change movements.

9.2 Recommendations

The action research process implemented in this study, involves knowledge translation as a key component of the interpretation phase. The findings from this thesis may be incorporated back into the research cycle, informing the next stage of plans. At the time of writing this thesis, the management of the Okanagan Food *Portal* was transitioning to FASNO. UBCO researchers including myself have reduced their roles in the project. FASNO remains interested in learning about the GeoWeb as a means to support their *local food movement* objectives. This thesis can be viewed as a culmination of the initial research cycle with future cycles being led by FASNO, *local food* advocates and possibly future students.

This study was limited to evaluating the development and initial implementation stage of the *Portal* and the responses of the community and advocates. Further studies that evaluate the transfer of the management functions of the *Portal* to FASNO would provide additional insight to how the GeoWeb supports advocacy. FASNO expressed interest in implementing training programs and developing manuals that specifically target the applications on the *Portal* as part of the transfer process. I would suggest that, based on the limited familiarity with Web applications, the modules should be made up

of documents that can be accessed off-line and that outline in clear steps, with screen shots, how to use each application. Furthermore, emphasis on the simpler applications such as the blog, or maintaining directory listings, would be a good start for FASNO members. Broadly, more in-depth training could elevate some of the concerns brought forth by this study.

Evaluating this next part of the cycle is essential to creating a better picture of the relationship between access and participation on the GeoWeb. Further research that evaluates the relationship between access and community characteristics would provide insight to the degree it influences participation. Conducting comparative studies across different locations with a range of demographics and populations would be essential to this evaluation.

A final recommendation is to further examine the purpose of university partnerships with grassroots organizations. Through a community to university connection, researchers at the CSSEJ, gain valuable knowledge on the role of the GeoWeb. Within the context of this study, maintaining these connections can reduce the resource constraints that grassroots organizations are faced with. In the course of sustaining a relationship between CSSEJ and FASNO, researchers can evaluate the longer-term implications of multiple action research cycles and learning processes, to understand more comprehensively the ways the GeoWeb can support advocates and facilitate community participation.

9.3 Conclusion

I open my conclusion with a quote from Noam Chomsky (2002) that exemplifies the role of the Web in facilitating advocacy and in this study reiterates my findings on GeoWeb. He writes,

> …we must realize that the Internet alone will not organize people. Social activism will still involve painstaking, face-to-face, grassroots work. The Internet may make it easier, but the careful process of organization will remain a human effort and the only guide for this powerful tool will remain human judgment." (Noam Chomsky, excerpt from Hick and McNutt's 2002)

The GeoWeb may open the door to greater representation of grassroots organizations in the making and sharing of maps that extend their cause but how far this door is opened remains unclear. The premise in this thesis was that the GeoWeb would stimulate social change by acting as a tool for advocacy. The main findings of this study suggest that the GeoWeb:

- Influences behavior, but not yet values
- Unites likeminded community members, as a tool for the converted and,
- Amplifies the "digital divide" resulting in access as a central issue to effectively utilizing the GeoWeb.

Behaviors in the *local food movement* are broadly conceptualized as eating locally grown food. Advocates in this study expressed their objective was to increase awareness within the community as a way to engage more people and strengthen the *local food movement* in the North Okanagan region. The GeoWeb enabled contributing content and presenting it in ways that engages people to change their behaviors around food, a broad objective of social change. It did this through presenting information on

where to source local food. Community and advocates expressed it increased their ability to eat local. Furthermore, the various VGI platforms such as video enabled advocates that relay stimulating messages to enhance the community's political involvement. Overall, incorporating GeoWeb applications into their current advocacy practice was seen as a way to support the work already happening in the community.

The advocates and community perspectives both suggested that so far, the *Portal* united likeminded community members. However, it is primarily tool for the "converted." This was potentially an important first step in its adoption into the *local food movement*. The feedback from the digital story also proved that it reached people already interested or affected by the MIR policy. Yet the fundamental objective of advocacy is to reach past the converted to build a larger movement. This often requires appealing to a wider audience and often entails influencing not only behaviors but values. Changing values, is a much harder task and one that necessitates both getting the message to new ears and delivering a message that people will hear. Advocates felt that a smaller community and face-to-face relationships are essential for value changes. In contrast, people reinforce their own values online and rarely seek to challenge their ideas.

I argue that the GeoWeb is dependent on significant resources to adequately catalyze its effectiveness to support decisions, behavior and change. This study found that limits to time and skills significantly hamper small-scale organizations ability to fully leverage the power of the GeoWeb. The volunteers that are the *local food* advocates represent a demographic where access to the technologies presents multiple challenges. Furthermore, a more diverse expertise is required to present multi-media maps with the GeoWeb. The mapping applications that can be used to harness VGI such as GeoLive

require knowledge of computer programming to develop. In addition, mash-ups involve various media, which require literacy in multiple skills for content creation. In the development of the *Portal* and generating content, I was responsible for providing technical support, which involved designing and laying out the website, making videos and mapping several types of information. Drawing from the digital story example, I found that learning and developing the video required substantial time and resources both to learn the skills and to produce the video. Although the applications used to develop the *Portal* were open source and therefore "free" in order to successfully develop and implement, significant resources are required. Therefore, while these technologies are seemingly open to local advocates, limited resources and knowledge restrict this accessibility.

In closing, I suggest that the GeoWeb is not yet a tool that advocates can universally draw on. Instead, it is dependent on a number of factors that influence participation in the mapping process. For *local food* advocates who operate within small groups, organizations and communities, the ultimate challenge is to find the resources to have their voices heard. The GeoWeb offers an exciting frontier to amplify effectiveness as this study suggests. However, the access limitations of small-scale grassroots movements imply that they remain embedded in the larger power dynamics within society. Further studies may examine how training programs and other resources, such as ongoing student projects at CCSEJ, improve participation and representation. In addition, conducting training workshops in the community would also further the awareness of the *Portal* and potentially increase contributions from individuals in the North Okanagan who are not yet participating in the *local food movement*. Finally, sustaining the

relationship between university researchers and community-based groups can strengthen the capacity of the under-represented groups while developing the GeoWeb as an advocacy tool.

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Appendices

Appendix A – UBC Research Ethics Board Certificate

The University of British Columbia Okanagan
Research Services
Behavioural Research Ethics Board
3333 University Way
Kelowna, BC V1V 1V7

Phone: 250-807-9412
Fax: 250-807-8438

CERTIFICATE OF APPROVAL - FULL BOARD

PRINCIPAL INVESTIGATOR:	INSTITUTION / DEPARTMENT:	UBC BREB NUMBER:
Jon Corbett	UBC/UBCO IKE Barber School of Arts & Sc/UBCO Admin Unit 1 Arts & Sci	H08-02628

INSTITUTION(S) WHERE RESEARCH WILL BE CARRIED OUT:

Institution	Site
UBC	Okanagan

Other locations where the research will be conducted:
I will be doing interviews where it is convenient for farmers, possibilities include home, farmers field or community centre. Interviews will take place in my study area, the North Okanagan Regional District, which will include the towns of Vernon, Lumby, Enderby, Grindrod, Cherryville, Coldstream, Armstrong, and Spallumcheen.

CO-INVESTIGATOR(S):
Pamela H. Tudge

SPONSORING AGENCIES:
Geomatics for Informed Decisions (GEOIDE) - Networks of Centres of Excellence (NCE)

PROJECT TITLE:
Cultivating Change: Community Food Security and Participatory Mapping

REB MEETING DATE:	CERTIFICATE EXPIRY DATE:
March 23, 2009	March 23, 2010

DOCUMENTS INCLUDED IN THIS APPROVAL: **DATE APPROVED: April 20, 2009**

Document Name	Version	Date
Consent Forms:		
Consent for Use of Mapping Content	2	April 14, 2009
Focus Group Consent Form	2	April 14, 2009
Individual Interview Consent Form	2	April 14, 2009
Advertisements:		
Recruitement Letter	1	March 1, 2009
Questionnaire, Questionnaire Cover Letter, Tests:		
Interview Script	1	March 1, 2009
Other Documents:		
Community Support Letter	1	April 14, 2009

The application for ethical review and the document(s) listed above have been reviewed and the procedures were found to be acceptable on ethical grounds for research involving human subjects.

Approval is issued on behalf of the Behavioural Research Ethics Board Okanagan and signed electronically by:

Dr. Daniel Salhani, Chair

Appendix B – Focus Group Schedule

1. Generate ideas for inclusion in the map
2. Organize these ideas into themes
3. Identify relevant local organizations (i.e. organic association, community garden groups, farmers orgs)
4. Establish volunteers to support creation of ideas.

Appendix C – Letter of Intent

The Centre for Social, Spatial & Economic Justice
Irving K. Barber School of Arts and Sciences
University of British Columbia
3333 University Way
Kelowna, BC, Canada, V1V 1V7
Telephone: +1.250.807.9392
Jon.Corbett@ubc.ca

Cultivating Change: North Okanagan Community Food Mapping Initiative

About the Project

This study **Cultivating Change: A Community Food Security and Participatory Mapping Project** is being conducted through the University of British Columbia Okanagan in partnership with the Food Action Society of the North Okanagan as part of a Master's research thesis. The goal of the project is to bring together community members in the North Okanagan region to collectively map local food resources and develop an Internet–based food map that will be made publicly available. Through this project we hope to better understand how the digital mapping applications influence decision-making on climate change initiatives and how they can be used to engage the public on the relationship between climate change and community food security issues. The mapping component of the project will take place approximately from May 2009 until August 2009. We hope to launch the map as part of a public food event, organized by the Food Action Society of the North Okanagan in late August 2009.

Invitation to Participate

We are looking for volunteers within the region to participate in the project and help us in generating an informative local food map. We are requesting submissions for the map in the form of photos, video or text on local food production. All submitted information would be made publicly available over the Internet. You can also participate as part of the Action Team to learn more about North Okanagan local food resources and/or digital mapping applications. All participation is strictly voluntary. The time requirement is flexible to suit your needs. At the conclusion of the project we will be conducting interviews with participants about the project. We do not foresee any direct benefits or potential harm to you as a result of participating in this research.

If you are interested in participating please contact Pamela Tudge at (250)-938-2310 or at okanaganfood@gmail.com. Any concerns about the project may be directed to the research supervisor Dr. Jon Corbett at (250)-807-9348, or email at jon.corbett@ubc.ca

Appendix D – Statement of Informed Consent

THE UNIVERSITY OF BRITISH COLUMBIA | OKANAGAN

Dr Jon Corbett , Principal Investigator
IK Barber School of Arts and Sciences
UBC Okanagan
3333 University Way
Kelowna, B.C. Canada
V1V 1V7

November 18, 2009

Cultivating Change: A Community Food Security and Participatory Mapping Project--Statement of Informed Consent

This study is being conducted through the University of British Columbia Okanagan. You are being asked to participate in this interview because of your involvement in **Cultivating Change: A Community Food Security and Participatory Mapping Project**. We are grateful that you have agreed to be interviewed. The interview should take about 60 minutes to complete and your responses will be tap-recorded by the interviewer. You are free to end this interview at any time, with no consequences.

The goal of the project is to bring together community members to collectively map local food resources in the North Okanagan and develop a digital mapping tool that can be used to strengthen community food security. Through this project we hope to better understand how these technologies facilitate participation in the mapping process and how they can be used to engage the public on the relationship between global environmental change and community food security issues. We do not foresee any direct benefits or potential harm to you as a result of participating in this research.

We are committed to respecting your privacy. The data we collect during this interview will be securely stored at UBC Okanagan. All information released for external use will be purged of anything that might identify you, such as names, addresses, telephone numbers, etc. If in the future we would like to follow up on some of the information you have given us, you will be contacted first to request your further participation. No other use will be made of the contact information that we have collected.

For questions related to this research, please contact Dr. Jon Corbett at 250-807-9348, or email at jon.corbett@ubc.ca. Concerns related to your rights as a participant in this interview can be addressed at 604-822-8598, or email at rsil@ors.ubc.ca.

By signing this form, you are indicating that you have read and understand the points outlined above, and consent to having the information you provide used for research purposes. Note that you are signing two copies, one of which is for you to keep.

I have received a copy of this consent form. ☐

_____ _____
Signature of Participant Date

_____ _____
Signature of Investigator Date

Appendix E – Interview Script

November 18th, 2009

You have been invited to participate in this interview/focus group session based on your involvement in ***Cultivating Change: A Community Food Security and Participatory Mapping Project***. The interview will take no more than 60 minutes. During the duration of the interview I will be tape recording our discussion to allow me to concentrate on what you are saying, if you are uncomfortable at anytime please let me know and we can stop the interview.

I have a series of questions to guide our discussion, please answer to the best of you ability and if you have anything additional to add, please let me know. Thank you again for agreeing to participate in this interview/focus group.

About the Project

This project is a collaborative project involving the members of the North Okanagan Food Action Society, the public and faculty and students from the University of British Columbia Okanagan. The project is being conducted through the University of British Columbia Okanagan is partnership by the North Okanagan Food Action Society. The goal of the project is to bring together community members to collectively map local food resources in the North Okanagan and develop a digital mapping tool that can be used to strengthen the community food security. Through this project we hope to better understand how these technologies facilitate participation in the mapping process and how they can be used to engage the public on community food security issues. Any and all participation in the project is purely voluntary, and you are free to withdraw from the project and/or this interview at any time.

Semi-structured Interview Questions:

1. What ways are you involved in the community on local food action initiatives?
2. What does a healthy food system (community) mean to you?
3. What are some of your motivations in participating in the community on food related issues?
4. What do you see as some of the goals of your work?
5. What are some of the main challenges you feel are to achieving your goals within the community?
6. What kinds of things in the past have helped you (& your organization) to achieve objectives?
7. In what ways were you able to participate in this project up until this point?
8. What are kinds of information and communication tools do you feel could help you in your food security work?
9. Do you use any forms of digital online technologies (clarify) in your work (facebook, google maps, google earth, or twitter). What are some reasons that you do or do not use these technologies.
10. How do see the North Okanagan food website and the various applications on the website, contributing to the goals of the work you do and the organizations you are involved in?

11. What do you see as some of the limitations of the tools available on the website, in relation to your overall goals for community food concerns? (Can these be overcome?).
12. How do you feel these applications influence your participation in contributing to the website?
13. Were they easy to use and/or did you find them accessible, in what ways?
14. Did you feel there are any challenges associated with using the applications?
15. Is there a different approach for increasing participation, you can suggest?
16. If the technology were different (for example paper mapping, or physical discussion groups) would this have changed your level of participation?
17. Do you feel comfortable submitting information to the website, why or why not?
18. Do you foresee potential ways the site could be used, but has not yet?
    a. Why do think the site has not been used in that way?
19. Can you give specific suggestions, for future ideas for the site that we can incorporate, on say other student projects at UBC-O.

Thank you again for participating in this project and informative interview/focus group session. I will have available a digital copy of my thesis to all participants on completion and a summary option of my findings. If you have any further questions or feedback don't hesitate to contact me.

Appendix E – Questionnaire

OKANAGAN FOOD *PORTAL*

This questionnaire is designed to evaluate the North Okanagan Food *Portal* - a joint project between researchers at the University of British Columbia Okanagan and the Food Action Society of the North Okanagan. The aim of the food *Portal* project is to nurture a community of local food, advocating connections between producers and citizens and citizens to the local economy and our environment. In particular, this research aims to better understand how multimedia and Internet mapping applications like Google maps can be used to explore community food security issues.

We are interested in learning about your experience as a user and/or contributor to the food *Portal*. Your cooperation will help us evaluate how these mapping and multimedia applications influence community participation in local issues.

Thank you for your time!

---

1. Are you involved in *local food* production or advocating for local food? ☐ Yes ☐ No

If you answered yes above, in what ways?

2. How important is it to you where your food is grown:

very important ☐ sometimes important ☐ never important ☐ undecided ☐

3. What section of the food *Portal* do you find most interesting? In what ways?

4. Has any information on the food *Portal* influenced how you buy food? ☐ Yes ☐ No

If you answered yes above, please explain:

6. In what ways do you foresee that might you use the food *Portal*?

7. Did you find the Geolive mapping application a straightforward tool to contribute information? ☐ Yes ☐ No

Please explain:

8. What kind of information do you foresee that you might contribute to the *Portal* using the Geolive tool?

9. How could the food *Portal* be improved for you to better participate and contribute information?

10. What is your age, please tick the appropriate box below?

☐ 16-24 ☐25-34 ☐35-44 ☐45-54 ☐55-64 ☐65-74 ☐75+

11. Are you: ☐ Male ☐ Female

12. How would you describe the work that you do?

13. Do you have easy access to a computer? ☐ Yes ☐ No

14. Do you have easy access to the Internet? ☐ Yes ☐ No

15. What level of Internet access? ☐ High-speed ☐ Dial-up

16. How would you rate your computer skills?

☐ Non-user ☐Beginner ☐Intermediate ☐Expert

17. How frequently do you use a computer?

☐ Never ☐Less than once a month ☐Weekly ☐Daily ☐ Several times a day

18. Do you have any questions or comments that you would like to make?

Thank you for taking the time to fill out this survey, if you have any questions please feel free to contact us.

Pamela Tudge, Project Coordinator

okanaganfood@gmail.com or 250-938-2310