

Transitioning to a New Approach for Sustainability: The Case of Manitoba Agriculture

Canadian agriculture has gone through a period of dramatic change in the last two decades, which reflect financial pressures, conversion of natural capital, and concentration of ownership and control within the primary industry. These trends have resulted from a combination of factors including, but not limited to, technological advances, low commodity prices, lower profit margins, an aging farm population, market demands, etc.. In Fall 2009, the United Nations released a report that estimates that by 2050 the world's population will be approximately 9.1 billion and projected that global food production must increase by 70% of what current rates are to meet the expected demand.¹ With the expectation that farmers must constantly produce more raw product, the issue remains how to best facilitate economic production while at the same time developing policies that consider social stability and the condition of the natural environment as an integral part of overall agricultural sustainability.

As trends within Canadian agriculture has shaped the current state of the industry, so too have policies and programming implemented to address concerns. The policy approach towards primary agriculture has experienced a shift from an overwhelming focus on economic growth and production to an effort that better incorporates ecological management as a central component of stability. This suggests that a transition in policy approach has been initiated. While policy action has included legislation, regulations, institutional changes, etc., there has most notably been an attempt to include a number of incentive based programs directed at improving ecological management by increasingly farmers' capacity to meet changing standards. The agricultural industry has pushed for change and international programming that embodies the concept of 'multifunctionality' and particularly the ecological goods and services (EGS) agriculture provides, have undoubtedly facilitated policy change.

While a number of programs exist that illustrate a shift in policy instrument application, for the purpose of this research paper and given the respective page limitation, the choice has been made to focus on one pivotal case study. The Alternative Land Use Services Program (ALUS), based on the understanding of the multifunctional roles of agriculture, serves as an example of an innovative policy approach. ALUS was a Manitoba pilot project (2006-2008) that was designed and promoted by agricultural producers in partnership with conservation groups. The first of its kind to be implemented in Canada, ALUS fostered partnerships among all levels of government and stakeholder groups as common objectives were promoted and embodied within the program. What started as a grassroots idea in Manitoba has since inspired similar projects throughout Canada and continues to demonstrate its potential for serving as a model for a more encompassing national policy in the future.

Theories of policy change represent an ongoing dialogue within the political science field. An important piece of work within Canadian political science has been Neil Bradford's *Commissioning Ideas* (1998). Bradford's work provides a theoretical foundation to grasp the interplay of ideas, interests, and institutions in the policy environment that facilitate and/or impede policy innovation at "critical junctures" in national policy. Understanding why and how a transition takes place, presents an important learning opportunity to better understand how policy change within the Canadian political system is enabled. As such, the intent of this paper is to address three main research questions. First, what key trends within the industry have contributed to primary agriculture's "critical juncture phase" that supported the idea that policy change was necessary. Second, why is the 'multifunctionality' of sustainable agriculture so important to consider in policy making? Third, how did Manitoba's ALUS pilot project represent

a significant shift in policy approach and what roles were served by ideas, interests, institutions, and context?

Section 1: Canadian Agriculture Trends: Building to a Juncture Point

The state of Canadian primary agriculture has been shaped by government policies, market demands, technology, and producer adaptation. The structural evolution of the industry has been largely based on increasing levels of production, but concerns have steadily been rising regarding whether or not this type of growth is sustainable in the long-term.

Trends

There are a number of noticeable trends that have accompanied the structural evolution of Canadian primary agriculture. Three key trends are consolidation, intensification, and conversion of natural capital. In addition to demographic changes within the farm population, these trends are largely the result of technology, markets signals/financial pressures, responses to the environmental challenges/opportunities, and the related government policies and programs.

The first trend within primary agriculture is **consolidation** of agricultural land and operations. Canadian farms have become larger and fewer in the post-World War II era. A declining farm population and financial pressures have greatly contributed to this pattern and technology has enabled a smaller population base to manage larger and more intensive farm operations.² Average farm size has grown considerably while the number of farms in Canada has steadily declined. Between 1976 and 2006, there was a reduction of 47.6% of Canadian farms and in the decade 1996-2006 alone, there was a decrease of 47,175 farms (20.5%), the majority of which were amalgamated into larger operations. During the period 1996-2006, Canadian farms grew an average of 20% in total acres, from 608 to 728.³ However, in analyzing these statistics it is important to be mindful that census data takes into account all types of farm operations⁴ and that many Prairie grain/oilseed farms are substantially larger.

Average area per farm has continued to increase, while land in production has remained steady. This means that agricultural production has not greatly expanded its overall land base but production increases indicate that farming operations have been intensified. As such, consolidation is intertwined with the second major trend in agriculture. **Intensification** is largely attributed to technology (mechanization, seed genetics, antibiotics/hormones in livestock, etc.), financial pressures (capital intensive and profit margins), and market demands. Gareth Edward-Jones states, "agricultural systems of the world's advanced economies have been focused more or less exclusively on the single target of increased food production ... policymakers simultaneously assumed that farm land itself would, and should, be managed to maximize food output."⁵ The increase in grain and oilseed production has largely resulted from an augmented use of fertilizers and chemicals (herbicides, pesticides, fungicides, and insecticides) to boost productivity and maximize production. For example, fertilizer use in Canadian agriculture grew from just over 400,000 metric tonnes in 1961 to over 2,600,000 metric tonnes by 2002.⁶

The capital intensive nature and lower profit margins of primary agriculture have also placed increasing financial pressure on farmers. In a 2001 Statistics Canada report it was concluded that regardless of farm size, farmers are spending significantly more than they were in the mid 1990's to make the same dollar.⁷ As farms have been getting larger, the industry has become more capital intensive as farmers rely on getting the highest yield from their crops just to afford the increasingly expensive inputs (machinery, land, fuel, etc.) and high freight rates. For example, for every dollar Canadian grain farmers earned in 2001, 87 cents went to pay for

operating expenses and for beef cattle producers it is higher at an estimated 94 cents for every dollar of revenue.⁸ Farming has intensified to produce larger amounts of product to respond to market demands, but also as a necessity for farm income stability. When farmers are subject to higher input costs and lower profit margins, the inclination is to intensify and consolidate.

Particularly in the grain and oilseed sectors, the *conversion of natural capital* to cropland is a third noticeable trend in Canadian agriculture. Bush clearing and wetland drainage have increased the total cultivated land base on the Prairies. It has been estimated that 23% of land area in the Prairie Pothole region of North America was wetlands and it is estimated over 70% have been converted to cropland (2009).⁹ Canadian governments in the 1970s and 1980s also encouraged wetland drainage and cropland expansion on marginal land through a number of public policies including farm improvement grants, the Canadian Wheat Board quota system, and income stability programs.¹⁰ In addition, it has been argued that government fuel rebates and tax incentives promoted the incorporation of larger machinery into production practices, which increased the conversion of natural capital to cropland.¹¹ As farm equipment has increased in size and efficiency, many farm operators have cleared land to simply remove obstacles.

Given the high historic rate of drainage and conversion of natural capital, it can be reasonably concluded that the private benefits have outweighed the perceived costs of retention. Jia Yu and Ken Belcher argue that given most wetland and riparian areas found within the Prairies are located on privately owned land, effective policy must be informed and be responsive to the socio-economic characteristics of landowners.¹² Furthermore, mainstream thinking in agriculture needs to change if sustainable development goals (economic, social, and environmental) are to be met. There needs to be a shift in how natural capital is valued and how conservation can produce a range of public and private benefits. For example, wetlands serve many functions including flood mitigation, water cycling and purifying, wildlife habitat and biodiversity, etc.

Consolidation, intensification, and conversion of natural capital in Canadian agriculture raise some serious concerns for long-term sustainability. First, whether the continued growth and intensification of many agricultural sectors is economically, socially, and environmentally sustainable. Secondly, how farmers, who are dealing with financial anxieties, will be able to meet changing consumer demands and government standards with regard to production pressures, food quality, environmental management, and product safety. Therefore, policy initiatives that establish restrictions or incentive programs in pursuit of agriculture sustainability are critically important to ensuring broader sustainable development goals.

The framework of policies and programs that are directed towards sustainable agriculture and broader societal objectives related to sustainable development, will ultimately determine future capacity.¹³ The shift in policy action is greatly determined by a shift in thinking. As Neil Bradford's theory explains, for policy change to occur, it must begin with the acceptance that change is necessary. This central argument of Bradford's *Commissioning Ideas* (1992) is demonstrated at different points in the discourse relating to sustainable agriculture. At the international level this acknowledgement for change was first noted in documents stemming from the Earth Summit (1992). For example, *Agenda 21* states,

Major adjustments are needed in agriculture, environmental and macroeconomic policy, at both the national and international levels, in developed as well as developing countries ... This will involve education initiatives, utilization of economic incentives and the development of appropriate and new technologies ...

ensuring stable supplies of nutritionally adequate food, access to those supplies by vulnerable groups, and production for markets; employment and income generation to alleviate poverty; and natural resource management and environmental protection.¹⁴

A term taken from the *Agenda 21* document, the 'multifunctionality' of agriculture, has become a "leading principle and new paradigm for the future development of agriculture and rural areas."¹⁵ Multifunctionality promotes a deeper understanding of the multiple and functional roles that agriculture serves beyond the traditional understanding of what agricultural landscapes and farmers provide.¹⁶

Section 2: The Multifunctionality of Primary Agriculture

The concept of agricultural multifunctionality first arose in international policy debates at the Rio Summit (1992). Since then, many OECD countries have supported 'multifunctionality' as part of their policy approach towards sustainable development and rural development goals.¹⁷ For example, the European model for developing agri-environmental policy has characterized agriculture as a 'multifunctional industry', supporting the notion that sustainable development goals, viewed holistically, can have complimentary and interdependent benefits. Conversely, North America has been seen as lagging behind, as policymakers continue a 'traditional' approach, which is that agricultural production and environmental preservation are seen as substitutes and that there is a constant conflict of goals that exist.¹⁸

Rather than perceiving the pillars of sustainable development as being in competition with each other, it is important to seek ways that agricultural production and ecological sustainability are, or can be, complementary to one another. Better management practices (BMPs) are practices that are scientifically proven to help minimize the impact of agricultural activities on soil and water resources while maintaining the economic viability of the industry. Of course, the realization that change needs to occur often varies from the policy action of governments. For example, the Canadian agricultural industry has been, and continues to be, economically driven and under constant pressure to produce more. Societal demands for food safety, stability, and quality have brought it to a point that unless change occurs, the stability of the industry in the long-term is questionable.

Agriculture performs multiple and interdependent functions and roles. The definition of 'multifunctionality' slightly varies, but two main characteristics are constant. First, agriculture serves a greater function beyond its primary role of producing food, fibre, fuel, and feed for market. Secondly, agriculture has the potential to produce goods and services that have simultaneous private and public benefits.¹⁹ For example, farm operations that implement BMPs can produce economic benefits for the producer, while protecting water, soil, or air quality which has wider public benefits. Acknowledging that agriculture contributes to the landscape, the environment, communities, and the economy, is significant in how we understand the roles inherently tied to primary production. The functions that agriculture plays not only have local effects, but are also tied to broader provincial, national, and international impacts. To better understand the economic, social, and environmental roles of Canadian agriculture, the following discussion will explore each one in turn. However, it is critical to note that there is obvious overlap and linkages that exist among the roles and benefits produced.

Economic Function

The economic function of agriculture is possibly the most traditionally identified. The primary role of agriculture has been to produce marketable commodities for food, feed (i.e. livestock production), fuel, and fibre.²⁰ In turn, there are a number of economic benefits produced including the contribution to local, provincial, and national economies, and employment (direct and indirect through spin-off business). Agriculture has been, and continues to be, one of the most vital industries to rural communities, provincial economies (especially the Prairies), and Canada as a whole.

While it may seem that primary agriculture accounts for a small share of the total Canadian economy (1.7% in 2009) and national employment (1.8% in 2009), it is at the heart of the agriculture and agri-food system and any market changes, weather disasters, or crisis events leading to trade barriers (e.g. BSE) can have widespread impacts throughout the supply chain.²¹ For example, with international borders closed to Canadian beef during the period May 2003-August 2005 in response to the discovery of a BSE inflected cow, the loss to the Canadian economy was estimated to be over \$4 billion.²² As such, Canadian agriculture continues to play a significant role in the economy, particularly when the whole supply chain is considered.

Agriculture Canada describes the supply chain as a "complex, integrated production and distribution system" which "includes input and service suppliers, primary agriculture producers, food, beverage and tobacco processors, food retailers and wholesalers, and foodservice providers."²³ There are a number of clear economic indicators of the industry's contribution to employment, spin-off business, and general export revenue. In 2009, agriculture directly provided one in eight jobs in Canada (over 2 million) and accounted for 8.2% of the total national GDP.²⁴ Furthermore, Canada was the fourth-largest exporter and sixth-largest importer of agriculture and agri-food products in the world, with exports and imports valued at \$35.2 billion and \$27.9 billion, respectively.²⁵

Agriculture's contribution to provincial economies varies across the nation, as the relative size and nature of the production is diverse among regions. With regard to Manitoba, the wealth that comes from rural communities and agriculture stabilizes the provincial economy through business, investment and exports (estimated at \$4.1 billion in 2009).²⁶ When taking into account related activities (i.e. processing), the Manitoba government estimates that the agricultural industry accounts for 12% of the provincial GDP (2008) and employs over 62,000.²⁷

As a generator of wealth and employment through commodity production, the agricultural industry has largely focused its efforts on the economic pillar of sustainability. Primary agriculture is the foundation for the entire industry and any disruption causes a rippling effect from local communities to global markets. Economic stability for farmers is critical to ensuring primary production remains viable in the short and long-term. In turn, stable farm production supports social stability and is innately connected to environmental management as well. BMPs can mutually benefit the economic stability of farm families and their communities, but also ensure ecological sustainability which allows for continued production. To accept that agriculture has a larger role to play in our society, our understanding must go beyond the markets and economic statistics and consider social and environmental functions as well.

Social Function

Rural development and viability is largely connected to agriculture. Not only for the economic contributions of farm operations (jobs, wealth, etc.), but also for its larger social role. The Canadian agricultural industry helped shape our nation's development and continues to be an

important part of our rural heritage and culture. Along with other resource based industries of the Prairies (i.e. mining, oil, etc.), farming operations are key contributors to supporting rural communities through employment, businesses, schools, recreation, and culture.

The economic challenges that farmers have faced with declining profit margins and volatile export markets has in part contributed to a decreasing farm population. As younger generations are finding limited opportunities to enter farming, a knowledge base of skills to manage land and animals is being lost as the farm population ages and young people are moving away. The agrarian culture of rural communities still remains a vital part of the social function that farmers play. Skills are passed from one generation to the next and many farm families in Canada can trace their roots back to family members who immigrated to Canada. Ensuring that farming is economically viable for younger generations to consider is an important component in continuing knowledge, skills, and culture to continue to be passed down.

In a broader sense, agriculture also serves a social function by ensuring food security and safety (a quantitatively sufficient and qualitatively safe food supply). Food production is truly a global effort as trade between countries illustrates that the products we are able to buy locally can be a compilation of ingredients and manufacturing from various parts of the world. Trade disruptions or natural/non-natural disasters in one part of the world can therefore have consequences far beyond one nation's borders. The quality of life that citizens enjoy in any country is dependent largely on basic necessities such as food safety and supply. However, human health and wellness is also tied to how farm operations manage the environment. For example, water quality and supply can be significantly impacted either negatively (i.e. pollution) or positively (maintenance of wetlands, riparian areas, etc.). Land occupancy and farm management also serves the function of community aesthetics, recreation (e.g. agro-tourism), and ensuring standards of animal health and welfare.

Environmental Function

Interconnected to economic and social functions of agriculture, is the environmental role that agriculture plays. Stemming from the multifunctionality concept has been the ecological goods and services (EGS) term. EGS are a result of sustainable agricultural management, which creates both private and public benefits. Water quality and regulation, habitat provision, carbon sequestration, and recreation are among the key EGS provided by agriculture.

Agriculture and related land use can have beneficial or harmful effects on the environment. The multifunctionality concept allows policymakers to better understand and optimize the linkages that exist between economic, social, and environmental functions. Agriculture's long-term sustainability depends on environmental conditions. Focusing primarily on encouraging and facilitating economic production has compromised the conditions of the environment and its thresholds. Water, soil, air, and biodiversity are critical components of grain/oilseed and livestock production. As such, the quality of our environment will undoubtedly be reflected in the state of economic and social stability of agriculture going forward.

Throughout Canadian history, agriculture has played a dominant role in the development of rural areas and in the shaping of rural landscapes. Furthermore, how land has been managed reflects the valuation we give to the functions and roles that agriculture plays in our society. Economic wealth stemming from agricultural production has been prioritized compared to social and environmental considerations. In part, this is due to the ability to measure commodity production based on market demands, GDP, jobs, etc. Applying EGS and the multifunctionality concepts into policy design illustrates a shift has been initiated that enables agricultural

production to have a larger role to play in sustainable development. Valuation of the multiple functions requires recognition and support for the short and long-term roles farmers can contribute to broader societal objectives.

Policy Consideration and Multifunctionality

There is clearly a large degree of overlap and connection between economic, social, and environmental functions and there is a relative synergy of benefits that potentially exists. However, economic, social and environmental objectives will not always be mutually supportive; there may be times when they are in direct competition. Where this is the case, governments must make policy choices that reflect the needs and priorities of the society, while also ensuring that certain minimum standards are observed. Consideration for how different levels (from local to global) of society will be impacted also requires intergovernmental relations in a long-term strategy.

The key to sustainable agriculture is that economic, social, and environmental considerations cannot be separated. Components of a sustainable agricultural industry include: environmental stewardship (management, conservation, rehabilitation), economic viability (markets, international of costs, scientific and technological innovation, trade policies), and social concerns (employment, rural development, global responsibilities), etc.²⁸ Sustainability in agriculture will depend upon two critical components: First, how the agricultural industry and farmers can best meet continuing demand without adversely affecting the resource base; And secondly, how policy action enables sufficient production and economic stability while acknowledging social and environmental considerations as key parts of long-term sustainability.

Section 3: Transitioning to a New Policy Approach: Manitoba's ALUS Initiative

Economic, social, and environmental considerations are integral to overall sustainability and there has been a greater focus in the last decade to better incorporate all three facets into policy action. More specifically, there has been a greater attempt to enact policies that enable better environmental management on farming operations to address the growing concerns over negative ecological impacts. The dialogue (international and domestic) on sustainable development objectives and acknowledgement that changes to agriculture are required in the short and long-term, has contributed to the implementation of new policy instruments and programming measures in Canada. Programs based on the understanding that agricultural lands provide EGS have been tested in an attempt to enable and better understand how sustainability can be pursued.

The first program to be implemented in Canada based on 'multifunctionality' and the EGS concept, was the Alternative Land Use Services project in Blanshard, Manitoba (2006-2006). Despite its lack of renewal in Manitoba, the ALUS pilot project has since been modeled in other provinces to address common economic and environmental policy considerations within agricultural policy. The ALUS project has been regarded as an innovative approach and successful in its application.

Neil Bradford argues in his work, *Commissioning Ideas (1998)*, there is an interplay of ideas, interests, and institutions that contribute to national policy innovation and change. With the regarded success of the ALUS project across multiple jurisdictions, there has been discussion generated about the possible merits of creating a broader national policy. The third part of this

section will discuss how actors, institutions, and context contributed to policy change and briefly touch on some key policy principles that a national policy should embody.

A Transition Begins

The discourse on sustainability as it relates to agriculture was formally acknowledged by the Parliamentary Standing Committee on Agriculture in their 1992 report, *The Path to Sustainable Agriculture*. The Committee recognized that agriculture's long-term viability was dependent not only on economic and social factors but also ecological conservation. The *Report* made a number of recommendations, among them was the creation of educational and incentive programs, which would assist agricultural producers with environmental stewardship. Unfortunately, despite the merit of these suggestions, government commitments towards sustainable policies came at the same time as extensive budgetary cuts to reduce government deficit at both the federal and provincial levels of government in the 1990s.²⁹ With budgetary reductions in both the areas of agriculture and the environment, the objective of sustainability was eclipsed by a focus on increasing production in multiple resource sectors with little policy action devoted towards a long-term sustainable development strategy.

Compared to other developed countries, Canadian governments have in the past used limited policy tools and that there has been international criticism for the "lack of innovation in environmental policy implementation".³⁰ Bruce Huff argues, "Commodity price and income stabilization programs have occupied much of the Canadian government's policy agenda and budgetary expenditures during the past twenty-five years".³¹ Furthermore, Canada has largely favoured the regulatory model in addressing environmental management and industry standards. Restrictions, limits, punishments/penalties, conditions, rules, are all ways in which governments have sought to control industries. Scott Swinton and Frank Casey explain the willingness and ability of the agricultural industry to comply with changing environmental standards and describe the benefits of the "carrot vs. stick approach".³² Nicholas Schneider explains that Canadian governments have largely relied on command and control instruments while other countries are ahead in using market based instruments and incentive programs.³³

Canadian agriculture policies (federal and provincial) in the 1990s were largely focused on the agricultural industry's expansion and economic growth. However, in the early 2000s, government leaders and farm group representatives were supporting the need to better incorporate environmental management into primary agriculture. This mutual support seemed to signal a greater awareness of the linkages between long-term sustainability for the natural environment and agricultural practices.

In 2002, a decade after *The Path to Sustainable Agriculture* report was released, the federal and provincial governments finally made a significant step with the creation of the Agricultural Policy Framework (APF). The policy initiative included five pillars³⁴, which combined to form a strategy for ensuring a more stable agricultural industry—one of which was the tenet of ecological capacity and stewardship. The joint federal-provincial agreement acknowledged the economic pressures faced by agricultural producers and established the Farm Stewardship Program, which provided financial, technical, and educational assistance to identifying, implementing, and measuring environmental practices. The incentives provided by the program proved to be extremely successful within the farming community as producers demonstrated their commitment to environmental management when they were aware of BMPs and had support (education, financial, etc.) to implement them. The APF was renewed with slight modifications in 2008 under the name 'Growing Forward'.

The acknowledgement of the EGS agriculture provides have been a contributing part to the discourse and subsequently new program design. The EGS term is by no means new, as countries throughout the world have embraced the concept and implemented programming that recognizes, facilitates, and rewards the multiple roles of farmers. EGS are products of healthy, functioning ecosystems. These goods and services may be valued in markets or may be considered outside of existing markets, but their management constitutes an important investment in environmental and social sustainability for current and future generations. Healthy rural landscapes provide EGS such as: wildlife habitat, groundwater recharge, flood and erosion control, carbon sequestration, biodiversity, and air and water purification.

EGS are rarely accounted for in our determination of wealth. Therefore, the demands of the market motivate farmers to convert natural capital. As farm groups pushed for change in the late 1990s to better enable environmental management, inspiration was taken from international programs that placed value on farmers' ability to provide EGS and apply BMPs. The Keystone Agricultural Producers (KAP) in Manitoba, were the first farm group in Canada to develop a program based on the EGS concept. The ALUS program was first presented by KAP in 1999 and at the time was considered a 'radical idea'. It would take six years for KAP, in partnership with their national affiliate (Canadian Federation of Agriculture) and conservation group Delta Waterfowl, to convince the federal and provincial governments to create the first pilot project.

ALUS Pilot Project

The policy action of the Manitoba government since the early 2000s has demonstrated somewhat of a shift towards a broader focus on environmental management. The province has created new departments (e.g. Department of Conservation and Department of Water Stewardship), enacted legislation (e.g. Water Stewardship Act, 2005), and increased numerous environmental regulations (Water Quality Management Zones, 2005). Concerns especially in regards to high levels of eutrophication³⁵ in Lake Winnipeg have caused a great deal of public attention and agricultural operations have been identified and criticized as a main contributor. In response, the provincial government has largely targeted the industry with policy action.

The Alternate Land Use Services (ALUS) project, often referred to as “the farmers’ conservation program”³⁶, represents an innovative policy concept and an alternative policy instrument for enhancing environmental management. It links the environmental demands of citizens to the farmers who provide EGS such as clean air and water to society as a whole. ALUS has shown enormous potential by demonstrating that it is possible for industry groups, conservationists, landowners, and various levels of government, to work together to find shared goals and workable solutions that reflect both economic and environmental considerations. KAP states,

ALUS is an agriculturally focused conservation program that was developed by farmers, for farmers. It provides incentives for farmers and landowners to maintain and improve the environment on behalf of all Canadians ... ALUS is unique because it is drawing together all of these groups to work together on a program that meets a common goal.³⁷

The federal and provincial government agreed to test the concept by establishing a pilot project in the Rural Municipality of Blanshard beginning in 2006. The purpose was to determine how farmers would respond to a voluntary incentive-based program and to understand how

environmental goals could most effectively be met. The three-year initiative was delivered through the Manitoba Agricultural Services Corporation (MASC), an existing organization that farmers were familiar with. As such, ALUS was able to utilize relationships between local MASC representatives and farmers and there were clear expectations in terms of administration. ALUS received national, provincial, and local funding³⁸ and payment levels were based on land use, estimated rental value, and the number of acres it applied to.

The response to ALUS was overwhelming with approximately 20,000 acres³⁹ enrolled, over 75% of landowners participating, and a high compliance rate (over 90%) each year of the program.⁴⁰ ALUS allocated \$5 to \$25 per acre⁴¹ to farmers to maintain and protect wetlands, riparian areas along waterways, natural areas like grasses or brush, and sensitive lands prone to erosion, salinity or other ecological damage. The success of the ALUS project has been recognized on a national scale and similar pilot projects have since been established in Saskatchewan, Alberta, Ontario, Quebec, etc. and has been administered province-wide in PEI. Farm organizations, conservation groups, and governments from across Canada have looked to the project in Blanshard as an example of the potential that exists to involve the agricultural industry in working towards environmental objectives (clean air, water, wildlife habitat, and biodiversity).

Policy Change, Context, and Suggested Principles for National Framework

Neil Bradford argues that policy change begins with the acceptance that change within the existing framework is necessary and new ideas are put forth as a way of moving forward.⁴² Moreover, as part of the realization that change needs to occur, interests play a crucial role in generating and disseminating new policy ideas. In addition, actors must work within institutional structures and processes that shape policy choices, implementation, and evaluation. However, while interests and institutions undoubtedly play central roles in the policy change process, the context of which policies are created and evaluated is also a key determinant. The policy legacy of governments and the current policy environment shape the nature of how policy change occurs. Principles applied to establishing a broader national policy framework related to bridging economic interests of agriculture and the environment must be considerate of stakeholders, institutions and processes, and be flexible enough to adapt to the context to which they all exist.

a: Actors

The long-term sustainability of the agricultural industry is critically important. Concerning production trends have been recognized by the industry and farm groups are largely responsible for the push for change. ALUS has been an excellent example of how industry can, and wants to be, part of developing workable policy solutions.

ALUS was significant in that it brought together industry and conservation groups to work towards a common objective. For example, Delta Waterfowl was instrumental in helping develop the policy proposal in its initial stages and co-operation between KAP and Delta Waterfowl demonstrates that common ground can be found between conservationists and industry groups. When ideas are developed, the action (or inaction) that follows is highly dependent on the support of effective and committed leaders to shape the political agenda and the involvement of multiple stakeholders was successful in developing a new policy approach.

Agriculture, like many resources industries, is often painted as simply the 'problem'. For manageable steps to be found that work toward sustainability goals, industry must play a role in the 'solution' as well. Farmers' input greatly benefits policy creation as they have first-hand

expertise about what works within the farm-gate. Farm groups like KAP, have proven their ability to invoke grassroots support among farmers and promote understanding, acceptance, and compliance for BMPs to be implemented and maintained. Farmers must be a part of educating the public about the roles they serve, and in turn must be recognized for the contributions they make. Progress must be monitored and education must be part of the overall initiative.

Sustainability is based on the ability to find common ground and workable solutions so that citizens can still benefit from a stable economy and environment for generations to come. Governments and industry must play leadership roles, but success in these broad ventures will require a high level of public understanding about the importance of sustainable development and in the legitimacy of the solutions being proposed.⁴³ Therefore for citizens, the required role is one of engagement in trying to understand how their daily lives are affected by the agricultural industry—economically, environmentally, and socially. The sustainability of the agricultural industry will affect both rural and urban Canada and there should be more awareness for the connections that exist. A program like ALUS based on the EGS concept allows society to invest in the protection of ecosystems and meaningful multi-stakeholder involvement creates trust among policy actors, which facilitates compliance, accountability, and transparency.

b: Institutions

Issues such as climate change or water pollution transcend borders, which necessitates collaboration between municipalities, provinces, national governments, and foreign counterparts. The challenge remains that environmental policy action is dependent on the involvement of multiple jurisdictions that must establish common goals, provide resources, and coordinate. The creation of effective public policy is by no means an easy or uncomplicated task. There are multiple considerations and challenges that come with constructing policies associated with economic and environmental sustainability. While broad goals can be identified, the means of achieving objectives through coordinated manageable steps and being able to measure their effectiveness is often the greatest obstacle.

The federal system in Canada is often regarded to present multiple challenges to timely, innovative, and effective policy action.⁴⁴ However, it is unfair to assume that the political system is incapable of innovative and effective policy creation as institutions constrain, but also create policy opportunities.⁴⁵ First, federalism allows for provinces to be “laboratories for innovation”, and ALUS is a great example of a locally developed policy that has since inspired broader adoption. Secondly, given the executive dominated nature of policy decisions, strong leadership can serve to support bold policy vision and legislative support.⁴⁶ If common goals are supported with government commitment, there are significant benefits to joint federal-provincial initiatives, including the potential to: combine resources, prevent overlap and conflict of regulations and programming, share research, address regional issues more effectively (e.g. Lake Winnipeg pollution), and allow for national standards while at the same time tailoring initiatives to address capacity and needs of individual provinces.

Political leadership and bureaucratic co-operation are critical to developing, implementing, and evaluating a national-provincial policy that embodies the same principles as ALUS. Performance measurement can be a useful tool for policy creation, reinforcing government accountability (and action) on a particular issue, and making the most efficient use of taxpayer dollars. Investment in new technologies, measuring environmental impacts, cost/benefit analyses, and creating programs that promote economic stability, will allow for new markets to be accessed, progress to be evaluated (short and long-term), and BMPs to be

identified and implemented. Pilot projects across Canada serve as a valuable learning opportunity to better understand stakeholders' response, the efficiency of administration, and create dialogue for revisions.

c: Context

Policy preferences and capacities are understood in the societal context in which the state is embedded.⁴⁷ A course of government action is “anchored in both a set of values regarding public goals and a set of beliefs about the best way of achieving those goals”.⁴⁸ As no government policy, program, or strategy occurs in a vacuum, understanding the context in which political issues exist is of central importance. Broader governance trends, public support/concern, and budget considerations are examples of the many factors that shape policy change.

In the past fifteen years, governments in North America have moved towards a trend of deregulation, privatization, and devolution. 'Smart regulation' has its place in reducing overlap and allowing for efficient use of public spending. However, in many cases lower levels of government have been forced to do more with less money. In this type of policy environment there are both opportunities and constraint for innovation and new policy ideas. While municipalities and provincial governments have been creative when faced with financial constraints, attempting a policy approach that will produce more long-term benefits than short, may be regarded as politically risky. Budget cuts in the 1990s delayed the incorporation of programming and in the last couple of years of economic pressure at the federal and provincial level, similar cutbacks have been made. When economic growth is the prime concern, debt/deficit reduction strategies, international agreements/obligations, and prioritizing of the government's agenda, seem to take priority over developing a long-term sustainability strategy.

While stakeholders are at the root of the push for policy change, the process largely depends on government actors to be fully committed to allocating funds, involving stakeholders, evaluating, educating the public, etc. The larger trend of environmentalism in recent decades, demonstrates that citizens are becoming more aware and concerned of environmental impacts. In turn, governments have become more cognizant of public support and have responded with policy action. Issues related to wetland loss, chronic flooding, intensive livestock operations, and the pollution of Lake Winnipeg, have fostered a reaction from Manitoba's citizens.

For ALUS to be taken from a conceptual stage to implementation, there were many contributing factors. Government priorities, public support, the push from stakeholders, international programming influence, and capacity (financial, administrative, institutional, etc.) all combined to enable the pilot project. Manitoba's policy legacy has demonstrated a willingness to partner with the federal government to implement policy and programs in multiple policy fields and ALUS was facilitated by this existing relationship. The idea that change was necessary, the support of various policy actors, institutional capacity, and the policy environment contributed to a shift in policy approach and willingness to attempt a new way of addressing environmental concerns related to resource production.

Conclusion

Policy is a course of action, but anchored in both a set of values regarding appropriate public goals and a set of beliefs about the best way of achieving those goals. The challenge remains on how to achieve manageable steps towards meeting environmental ideals, while also being considerate of economic and social issues.

Agriculture is deeply intertwined in the discourse related to sustainable development. Agriculture occupies large areas of land in both developed and developing countries and how lands are managed can have widespread environmental impacts that transcend borders. With the constant pressure to produce more raw product to meet consumer demands, production trends have raised serious concerns from within and outside the industry about long-term sustainability.

The roles and functions of Canadian agriculture are often not fully acknowledged or appreciated. The multifunctionality of agriculture demonstrates that there is a larger contribution that a stable industry serves. Food production, job creation, economic contributions, and environmental stewardship are just some of the fundamental roles agriculture plays. Discussion related to 'sustainable development' and 'multifunctionality' has influenced Canadian policy makers regarding the societal role of agriculture and key policy changes have been initiated over the last decade.

Policy innovation has been sparked by a critical juncture in agriculture and enabled by key stakeholders, institutional capacity, and new conceptions of how sustainable development can be defined and how short and long-term related goals can be met. The transition to better incorporate ecological management as a central component of agricultural stability policies, demonstrates a shift from the economic driven and command and control policy approach of the 1990s. Manitoba has utilized a number of policy tools as part of a broader attempt to work towards sustainable development objectives. The ALUS program demonstrates an innovative policy attempt and the multiple projects it has since inspired in Canada is encouraging. Further study of Canadian ALUS programming and an evaluation of objectives being met, would serve as a valuable foundation to implementing an extended national policy in the future. One policy cannot address all challenges, but policy instruments that build capacity and reduce financial pressure can serve an important role within an overarching policy framework.

The transition to a new approach for sustainability in agriculture has not been sudden or fast paced. Rather, the shift in policy can be better characterized as gradual, cumulative, and still evolving. Some positive steps have been taken, yet there are still a long way to go. With joint jurisdiction over agriculture, both federal and provincial governments will be required to depart from the tradition of market-driven economics to an approach that better incorporates the value of ecological goods and services. How governments choose policy measures as part of a larger sustainable development framework ultimately will determine how and to what extent objectives are met.

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- ¹ United Nations, FAO, *How to Feed the World in 2050*, September 2009 [Online]
- ² Art Wilson and Allen Tyrchniewicz, *Agriculture and Sustainable Development: Policy Analysis on the Great Plains*, (International Institute for Sustainable Development, January 1995), 10.
- ³ Canada, Statistics Canada, *A statistical portrait of agriculture, Canada and provinces: census years 1921 to 2006*. January 2009 [Online]
- ⁴ Census farm defined as “a farm, ranch or other agricultural operation which produces at least one of the following products intended for sale: crops, livestock, poultry, animal products, greenhouse or nursery products, Christmas trees, mushrooms, sod, honey or bees, and maple syrup products.” Canada, Statistics Canada, *A statistical portrait of agriculture, Canada and provinces: census years 1921 to 2006*, January 2009 [Online]
- ⁵ Gareth Edwards-Jones et al., *Ecological Economics*, (Oxford: Blackwell Science Ltd., 2000), 190.
- ⁶ United Nations. FAO. *World Agriculture towards 2015/2030*. London: Earthscan, 2003.
- ⁷ Statistics Canada, *Farming Facts 2002*, Ministry of Industry, Catalogue no. 21-522-XPE, 2003 [Online]
- ⁸ Ibid.
- ⁹ Jia Yu and Ken Belcher, "An Economic Analysis of Landowners' Willingness to Adopt Wetland and Riparian Conservation Management", *Canadian Journal of Agricultural Economics*, 59 (2011), 207-222. Also see: John Pattison et al., "The Economic Benefits of Wetland Retention and Restoration in Manitoba", *Canadian Journal of Agricultural Economics*, 59, 2, (June 2011), 226.
- ¹⁰ G. Cornelis van Kooten and Andrew Schmitz, "Preserving Waterfowl Habitat on the Canadian Prairies: Economic Incentives vs. Moral Suasion", *American Journal of Agricultural Economics*, 74, 1, (1992), 79.
- ¹¹ Ibid. Also see: Brett G. Cortus et al., "The Impacts of Agriculture Support Programs on Wetland Retention on Grain Farms in the Prairie Pothole Region", *Canadian Water Resources Journal*, 34, 3, (2009), 245-254.
- ¹² Yu and Belcher, "An Economic Analysis of Landowners' Willingness to Adopt Wetland and Riparian Conservation Management", 207.
- ¹³ H. Lehman et al., "Clarifying the definition of sustainable agriculture", *Journal of Agricultural and Environmental Ethics*, 6(2), 127-143.
- ¹⁴ United Nations, *Agenda 21*, United Nations Conference on Environment & Development, (Rio De Janeiro, Brazil: UN, 1992). [Online]
- ¹⁵ Guido Van Huylenbroeck and Guy Durand, *Multifunctional agriculture: a new paradigm for European agriculture and rural development*, (Aldershot: Ashgate Publishing, Ltd., 2003), 16.
- ¹⁶ Geoff. A. Wilson, *Multifunctional Agriculture: A Transition Theory Perspective*, (Wallingford, Oxon, GBR: CABI Publishing, 2007), 4.
- ¹⁷ John Warren et al., *The Agri-Environment*, (New York, Cambridge University Press, 2008).
- ¹⁸ Warren et al., *The Agri-Environment*, 32-33.
- ¹⁹ Wilson, *Multifunctional Agriculture: A Transition Theory Perspective*, 186.
- ²⁰ Manitoba Cattle Producers Association, *Environmental and Rural Stewardship Remuneration for Agriculture in Manitoba: A Recommended Framework for introducing a province-wide Social and Ecological Goods and Services incentive program*, November 2008 [Online]
- ²¹ Canada, Agriculture and Agri-Food, *Overview of the Canadian Agriculture and Agri-Food System, 2011*, February 2011 [Online] Also see: Canada, Agriculture and Agri-Food, *An Overview of the Canadian Agriculture and Agri-Food System*, May 2007 [Online]
- ²² D. Le Roy et al., *The Losses in the Beef Sector in Canada from BSE*, Sept. 2006 [Online]
- ²³ Canada, Agriculture and Agri-Food, *An Overview of the Canadian Agriculture and Agri-Food System*, May 2007 [Online]
- ²⁴ Canada, Agriculture and Agri-Food, *Overview of the Canadian Agriculture and Agri-Food System, 2011*, February 2011 [Online]
- ²⁵ Ibid.
- ²⁶ Manitoba, Manitoba Agriculture, Food, and Rural Initiatives, *The State of Manitoba Agriculture*, May 2010 [Online]
- ²⁷ Ibid.
- ²⁸ Wilson and Tyrchniewicz, *Agriculture and Sustainable Development: Policy Analysis on the Great Plains*, 53-55.
- ²⁹ Mark S. Winfield, "Environmental Policy and Federalism", In Herman Bakvis and Grace Skogstad, *Canadian Federalism: Performance, Effectiveness, and Legitimacy*, (Don Mills: ON, Oxford University Press, 2002), 132.
- ³⁰ Ibid., 47.
- ³¹ H. Bruce Huff, "The Changing Role of Public Policy in Canadian Agriculture", *American Journal of Agricultural Economics*, 79, 5, (Dec. 1997), 1404.

- ³² Scott M. Swinton and Frank Casey, "From Adoption to Innovation of Environmental Technologies", In Frank Casey, Andrew Schmitz, Scott Swinton, and David Zilberman, eds., *Flexible Incentives for the Adoption of Environmental Technologies in Agriculture*, (Norwell, Massachusetts: Kluwar Academic Publishing, 1999), 354.
- ³³ Nicholas Schneider, *A breath of fresh Air: The state of environmental policy in Canada*, (Vancouver: Fraser Institute, 2008), 3-11.
- ³⁴ APF's five pillars: Business Risk Management, Food Safety and Quality, Science and Innovation, Environment, and Renewal.
- ³⁵ Eutrophication occurs when a water body acquires a high concentration of nutrients (phosphates and nitrates) resulting in excessive algae growth. High levels of pollution deplete the water of available oxygen, causing multiple problems especially to biodiversity.
- ³⁶ KAP, "Alternate Land Use Services: National Update 2006". November 2006 [Online]
- ³⁷ Lenore Smaldon, "ALUS: Changing attitudes and gaining speed", *Keystone Agricultural Producers, Farmers' Voice*, Fall 2006 [Online]
- ³⁸ Funding for ALUS was provided under the following formula: Federal Government 60%, Manitoba Govt 20%, RM of Blanshard 7%, and Delta Waterfowl 13%.
- ³⁹ Keystone Agricultural Producers, "Alternate Land Use Services: National Update", [Online]
- ⁴⁰ Manitoba. "Agriculture: Climate Friendly Farms" *Beyond Kyoto: NEXT STEPS: 2008 Action on Climate Change*. 2008. [Online]
- ⁴¹ Ibid.
- ⁴² Neil Bradford, *Commissioning Ideas: Canadian National Policy Innovation in Comparative Perspective*, (Toronto: Oxford University Press, 1998), 12-13.
- ⁴³ Robert W. Morrison, "Energy Policy and Sustainable Development", In G. Bruce Doern, ed., *Canadian Energy Policy and the Struggle for Sustainable Development*, 85.
- ⁴⁴ Grace Skogstad, "Intergovernmental Relations and Politics of Environmental Protection in Canada", In Kenneth M. Holland, F.L. Morton, and Brian Galligan, eds., *Federalism and the Environment*, (Westport: Greenwood Press, 1996), 125.
- ⁴⁵ Michael Atkinson, ed. *Governing Canada: Institutions and Public Policy*, (Toronto: Harcourt Brace Jovanovich Canada Inc., 1993), 44.
- ⁴⁶ Kenneth McRoberts, "Federal Structures and the Policy Process", In Michael M. Atkinson, ed. *Governing Canada: Institutions and Public Policy*, (Toronto: Harcourt Brace Jovanovich Canada Inc., 1993), 159.
- ⁴⁷ Michael Howlett and M. Ramesh, *Studying Public Policy: Policy Cycles and Policy Subsystems*, (Don Mills, Ont.: Oxford University Press, 2003), 26.
- ⁴⁸ Atkinson, *Governing Canada: Institutions and Public Policy*, 19.