

**TRANSITIONING TO A NEW APPROACH FOR SUSTAINABLE DEVELOPMENT: THE CASE OF  
MANITOBA AGRICULTURE**

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# Transitioning to a New Approach for Sustainable Development

## The Case of Manitoba Agriculture

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### RESEARCH QUESTIONS

1. How has primary agriculture experienced a "critical juncture phase" and why is sustainable agriculture so important?
2. How and why has the policy framework in Manitoba changed to address it?
3. To what extent has incentive based programming demonstrated potential for reaching sustainable development goals and what are key principles that should be incorporated into policy moving forward?

Methodology: Literature review, an evaluation of relevant Canadian and Manitoba programs (1990-2010), an examination of media coverage, interviews with key stakeholders, and a statistical analysis of agricultural and environmental trends.

### STATE OF AGRICULTURE

- Structural evolution of Cdn Agriculture shaped by: Technology, market signals, producer adaptation, and government policy measures.
- Trends in primary agriculture: Consolidation, intensification, declining farm population, increase use of fertilizers and chemicals to improve yield, rising input expenses, debt accumulation, conversion of natural capital, etc..
- These trends have resulted from a combination of factors including, but not limited to, technological advances, low commodity prices, an aging farm population, higher land values, market demands, extended periods of economic instability within the farming community caused by unpredictable and often volatile export markets, etc..
- Fall 2011—United Nations estimates that by 2050 the world's population will be approx. 9.1 billion and projects global food production must increase by 70%.
- Increased demands from a growing global population, diversion of grain crops towards areas such as biofuel production, and smaller profit margins combine to put pressure on farmers to constantly produce more.
- Ag's environmental impact is centred on four main areas: Water (nutrient surpluses, spread of pathogens, entry of pesticides, water conservation), air (emissions, GHGs, odours), soil (erosion, loss of organic matter), and biodiversity (habitat availability, impact on wildlife).
- Key concerns—short and long-term economic stability, food security, and environmental degradation.
- Critical juncture phase—With the expectation that farmers must constantly produce more, the issue remains how to best facilitate economic production while at the same time developing policies that consider social and environmental stability as an integral part of overall Ag stability.

### SUSTAINABLE DEVELOPMENT

- 'Sustainable Development' term popularized by Brundtland Commission (1987) as a "Bridging Concept". *Agenda 21* (1992) focused a great deal of attention on agricultural sustainability and the multifunctional roles the industry serves.
- Ag has been at the heart of the sustainability debate. Reasons: Occupies large land base and economic stability, food security, and environmental quality are all basic and interconnecting foundations of society.
- Focused on achieving a perceived balance between economic activity and environmental stewardship. Debate arises regarding valuation, perceived trade-offs, societal priorities, and translation into policy action.
- The policy framework gov'ts implement largely determines how and if goals are met.

### SHIFT IN APPROACH

- Policy innovation—product of an interplay of ideas, interests, and institutions. Policy change begins with an understanding that something different is needed.
- 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 policy environment can present challenges for innovation (budget restraints, federal relations, bureaucratic resistance, etc.).
- 1990s—Parliamentary report (1992) recognized Ag's long-term viability dependent on ecological conservation. Recommended education and incentive programs to enable producer capacity. However, the 1990s were largely characterized by: Production/economic growth focused R&D, government cutbacks (both provincial and federal), major policy changes (Crow Rate demise), and command and control regulation policy tools.
- 2000s—Rising environmental concerns amongst Canadians, environmental agenda at federal and provincial level, int'l examples of market-based instruments and incentive programs, Cdn Agricultural Policy Framework and Farm Stewardship Program (2003) (Environmental Farm Plans—education and financial support for implementing BMPs).
- Manitoba—Dept. of Water Stewardship created (2003), *Water Protection Act* (2005), nutrient management regulations, ALUS pilot project embodying the EGS concept (2006-2008), etc.. MB policy context (wetland loss, chronic flooding, ILO expansion in 1990s, rising pollution problems in Lake Winnipeg, etc.).
- Transition theory—gradual and cumulative process, enabled by stakeholders (grassroots support key), institutional and administrative capacity, and changing conception of the multiple roles of agriculture.



Figure 1. Lake Winnipeg Watershed—Extends over four Cdn Provinces and two US States. Intergovernmental relations are key to addressing environmental issues in Manitoba

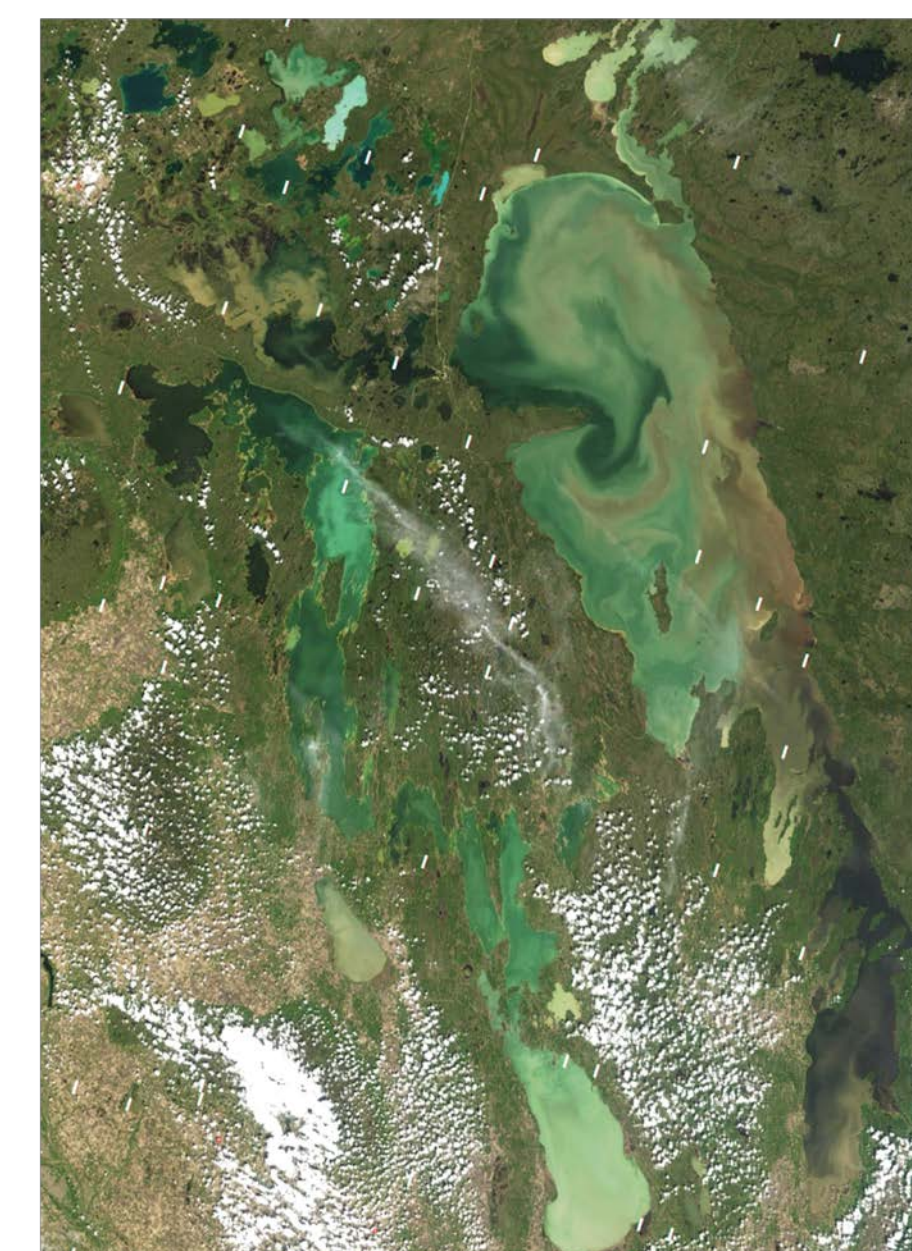


Figure 2. Lake Winnipeg has experienced damaging levels of eutrophication in the last two decades due to increasing levels of nitrogen and phosphorous

### EGS and MB CASE STUDY

- Ecological goods and services—public/private benefits arising from healthy ecosystems. Include: Maintaining water cycles, storing and cycling essential nutrients, breaking down pollutants, flood mitigation, carbon sequestration, biodiversity, recreation, etc..
- ALUS—presented to MB gov't in 1999 by the Keystone Ag Producers. Demonstrated a push from the industry itself for improved management.
- ALUS goal—protect existing wetlands, sensitive land, riparian zones, and natural areas. Payments \$5 -\$25/acre. Funding: Fed. 60%, Prov. 20%, RM 7%, Delta Waterfowl 13%.
- Three-year pilot project in Blanshard, MB—20,000+ acres enrolled and ~75% of eligible producers participated. Indications of success include: High uptake and compliance rate, multi-stakeholder support (industry, conservation groups, all levels of gov't.), and it served as a model which other provinces have since adapted (i.e. SK., ON., PEI, AB, BC, Que.).

### PRINCIPLES MOVING FORWARD

- Suggested policy principles designed to guide policy action and support incentive programs as part of a sustainable development framework in Canada.

Policy Principle	Details
1. Clear Indicators & Periodic Evaluation	<ul style="list-style-type: none"> <li>• Performance measurement (cost-efficiency, targets, goals, etc.).</li> <li>• Monitoring of compliance and progress towards set objectives.</li> <li>• Periodic evaluations to allow for necessary changes and to facilitate dialogue.</li> </ul>
2. National Program—Provincial Tailoring	<ul style="list-style-type: none"> <li>• Environmental concerns cross borders—requires a national scope.</li> <li>• Sharing information, enabling projects through joint funding.</li> <li>• Provinces able to tailor program to address their unique needs.</li> </ul>
3. Flexibility	<ul style="list-style-type: none"> <li>• Length of agreements, land use alternatives, treating small and larger farms accordingly, and voluntary involvement.</li> <li>• Combination of instruments that fit local conditions.</li> </ul>
4. Predictability & Simplicity	<ul style="list-style-type: none"> <li>• Predictable and stable funding is key for short and long-term goals.</li> <li>• Ensure contract obligations are transparent and straightforward.</li> </ul>
5. Technology	<ul style="list-style-type: none"> <li>• Technology has always been central to agricultural development.</li> <li>• Investing in research to find Better Management Practices (BMPs).</li> <li>• Capitalizing on existing tech. (i.e. soil testing/mapping, enviro. scanning, etc.).</li> </ul>
6. Stakeholder Involvement	<ul style="list-style-type: none"> <li>• Building trust between groups and gov't, meaningful input in policy design, implementation, and evaluation stages of policy making.</li> <li>• Experience and expertise—utilizing first-hand knowledge of landowners.</li> </ul>
7. Targeting	<ul style="list-style-type: none"> <li>• With often limited funds, governments must identify and target key ecological areas that would benefit from BMPs. Targeting must be based on sound science.</li> </ul>
8. Equity	<ul style="list-style-type: none"> <li>• Remuneration must be fair and equal to all producers involved.</li> <li>• Consideration must be given to land value, commodity prices, etc..</li> </ul>
9. Multiple Policy Tools	<ul style="list-style-type: none"> <li>• Recognizing that incentive programs may enable capacity, reduce financial anxieties, and ensure compliance more effectively than command and control approach. "Carrot vs. Stick Approach".</li> <li>• Still a need for a broad base of policy tools within framework (e.g. smart regulation). Choice of policy tool is key to reaching objectives.</li> </ul>
10. Institutional Capacity	<ul style="list-style-type: none"> <li>• Using existing organizations (arms-length of gov't)—e.g. crop insurance—producers understand forms, admin. process, local assistance.</li> <li>• Supporting local leadership and involvement.</li> </ul>
11. Education	<ul style="list-style-type: none"> <li>• Building skills, awareness of BMPs and their short and long-term benefits (public and private).</li> <li>• Public education about EGS that agriculture and farmers provide.</li> </ul>
12. Broader SD Framework	<ul style="list-style-type: none"> <li>• Agriculture is central to broader sustainable development goals but it is necessary to understand it is only one part of the problem and should not be unfairly targeted. Consideration must be given to broader economic, social, and environmental impacts of policy actions.</li> </ul>

### CONCLUSIONS

- Farmers are the stewards of the land and how they manage their operations has far reaching economic, social, and environmental impacts. Policy must address financial anxieties that often accompany changing standards and increased production demands and focus on building capacity to incorporate better management practices.
- Policy innovation has been sparked by a critical juncture in primary 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.
- There has been an evident shift in policy approach towards primary Ag in Canada. The transition illustrates an effort to incorporate ecological management as a central component of agricultural stability policies. Manitoba's approach has utilized a number of policy tools as part of a broader gov't attempt to work towards sustainable development objectives.
- The ALUS program demonstrates an innovative policy attempt and shift of approach in Canadian policy making. The pilot projects throughout Canada based on the EGS concept serve as a valuable foundation for implementing an extended national policy in the future.