



DATA BRIEF

Rapid Scenario-Planning Exercise to Review Risks of the Agricultural Sector

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March 2016

Context and Purpose

In January 2015 the Premier of Manitoba formed the Agriculture Risk Management Review Task Force with a mandate to work with industry to ensure that risk management tools are responsive to the changing needs of producers. *Agriculture Risk Management in Manitoba*, the Task Force's final report, was released in December 2015.¹

The International Institute for Sustainable Development (IISD) provided research support to the Task Force Secretariat, including facilitating a rapid scenario-planning session with Task Force members to stress test a series of business risk management programs under a set of plausible economic, social and environmental conditions. The intent of the scenario session was to help clarify the Task Force's understanding of the risks and opportunities inherent in these programs under climate change and other related factors, along with possible actions that could be taken to mitigate risks and leverage opportunities.

IISD and the Task Force analyzed two business risk management programs, including *AgriInsurance* and *AgriStability*,² and one landscape-level integrated flood and drought management intervention.³

The Process

The group used a rapid scenario-planning approach to create a policy wind tunnel⁴ to stress test the three programs of focus. The approach included the following steps and outcomes.

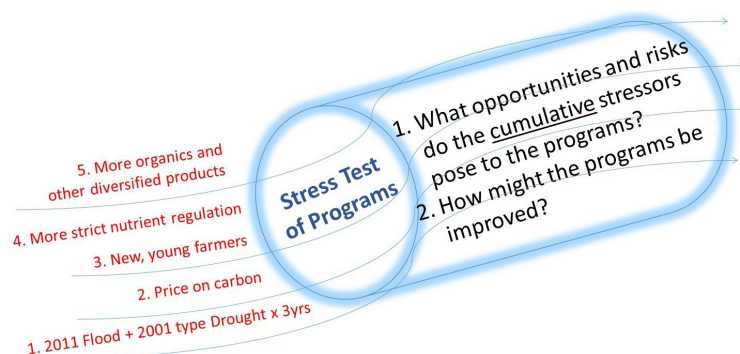


¹ See the Manitoba Agriculture Risk Management Task Force report here: <http://www.gov.mb.ca/agriculture/growing-forward-2/pubs/ag-risk-mgmt-task-force-report-2015.pdf>

² For a description of the AgriInsurance program, see: <http://www.agr.gc.ca/eng/?id=1284665357886>; for a description of the AgriStability Program, see <http://www.agr.gc.ca/eng/?id=1291990433266>

³ For the background on this intervention, see the Land, water, and people: From cascading effects to integrated flood and drought responses report at <http://www.ihdpu.unu.edu/docs/Publications/Secretariat/Reports/SDMs/Land,%20Water,%20and%20People%20-%20SDM.pdf>

⁴ For more on this approach, see <https://www.iisd.org/library/creating-adaptive-policies-guide-policy-making-uncertain-world>



Steps in Creating a Policy Wind Tunnel and Facilitating a Rapid Scenario-Planning Session for the Manitoba Agriculture Risk Review Task Force

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	Step	Description
Foresight	1. Define the Focus Question	The IISD team worked with the Task Force Secretariat to define the focus question for the exercise. The focus question was: <i>What might be the potential future performance of select insurance and non-insurance programs in supporting the adaptive capacity of producers?</i>
	2. Identify key factors affecting performance	Deliberations of the Task Force, including presentations received, suggested that the following key factors would provide relevant context for discussing vulnerability and risks related to the focus programs: <ul style="list-style-type: none"> • Climate change (extreme flood and drought, including water allocations based on interprovincial agreements of the Prairie Provinces Water Board) • Climate policy (carbon tax and offset markets) • Demographics (retirements combined with an influx of young, beginning farmers) • Environmental policy (increased nutrient management regulations) • Diversification/consumer preference (organics and other new innovative crop varieties)
	3. Develop scenarios	One perfect-storm-style scenario was identified, which brought together extreme situations in all of the key factors identified.
Insight	4. Identify risks and opportunities	In a half-day rapid role-play session, Task Force members were immersed in the perfect storm scenario and then posed with the following question in relation to each focus program: <i>What opportunities and risks do the cumulative stressors pose to the program?</i>
Action	5. Identify possible actions to mitigate risks and leverage opportunities	Given the risks and opportunities identified by Task Force members for each of the focus programs, the following question was then asked: <i>How might the program be improved to leverage opportunities and mitigate risks?</i>

The Scenario

Weather Whiplash: 2011 Flood Followed by a 2001-Type Drought for Three Years

In recent years, producers in Manitoba have been challenged by a changing climate. For example, the 2011 flood cost taxpayers CAD 1 billion, with a record one third of cropland unable to go to seed. The Manitoba Flood Review Task Force referred to it as being of “a scope and severity never before experienced in recorded



history” and owing to a “perfect storm” of weather-related factors.⁵ Yet the flood was immediately followed by two months without any rain, wilting what crops remained.⁶

The 2001–2002 drought was also devastating across the Prairies. Agriculture and Agri-food Canada reported that net farm incomes during this period were negative for several provinces, and crop insurance payouts approached the CAD 1 billion mark each in Saskatchewan and Alberta.⁷

Climate Policy: Price on Carbon and Offset Markets

It is reasonable to presume that some form of Canada-wide carbon pricing policy will exist in the near future. In its 2009 report, the National Round Table for the Environment and Economy (NRTEE) laid out a plausible scenario with a carbon price of CAD 100/tonne of carbon dioxide equivalent.⁸

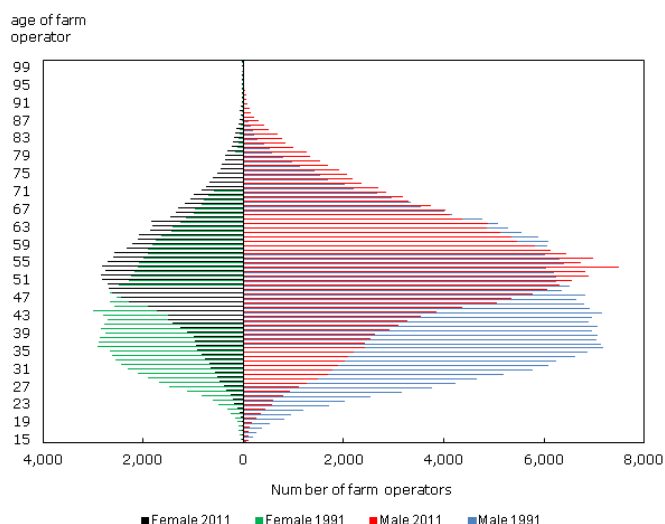
It is also plausible that accompanying a carbon price policy in the future would be a market for carbon offsets through which heavy emitters could purchase from carbon sink sources. In this regard, the 2009 NRTEE report noted that, for example, “offsets might come from a farmer who has adopted new manure management approaches that reduce methane production.”



Demographic Shift: New and Young Farmers

It is widely known that a demographic shift is underway in Canada, and this will be particularly acute for the agriculture sector. In 2011, 55 per cent of farms in Canada had oldest operators 55 years of age or older. The situation in Manitoba was just under the national average at 52 per cent.⁹ It is certain that a wave of new and young farmers will need to enter the agriculture sector to maintain productivity levels and the rural way of life.

Distribution of farm operators by age and gender, Canada, 1991 and 2011



Source: Statistics Canada, Census of Agriculture, 1991 and 2011

⁵ Manitoba 2011 Flood Review Task Force. (2013, April). *Report to the Minister of Infrastructure and Transportation*. Retrieved from https://www.gov.mb.ca/asset_library/en/2011flood/flood_review_task_force_report.pdf

⁶ N. Vanderklippe. (2011, August 31). Drought follows spring deluge for Manitoba farmers. Retrieved from <http://www.theglobeandmail.com/news/national/drought-followsspring-deluge-for-manitoba-farmers/article592773/>

⁷ Agriculture and Agri-food Canada. (2015, July 6). Lessons learned from the Canadian droughts years 2001 and 2002. Synthesis report: Abstract. Retrieved from <http://www.agr.gc.ca/eng/?id=1326987176314>

⁸ NRTEE. (2009). *Achieving 2050: A carbon pricing policy for Canada*. Retrieved from http://www.naviusresearch.com/data/resources/Technical_Report_Achieving_2050.pdf

⁹ M. S. Beaulieu. (2015, November 30). Demographic changes in Canadian agriculture. Retrieved from <http://www.statcan.gc.ca/pub/96-325-x/2014001/article/11905-eng.htm>



Environmental Policy: Lake Winnipeg Goes Eutrophic, the Collapse of Commercial Fishing and More Stringent Nutrient Management Regulations

With the potential for higher summer temperatures and increased runoff under climate change, it is plausible that Lake Winnipeg could become highly eutrophic. That combined with the risk of invasive species such as the zebra mussel could plausibly lead to a collapse of commercial fisheries in both of Manitoba's great lakes. Such an impact could, in turn, result in a more stringent nutrient management regulation, perhaps in the form of increased buffer zones and requirements for nutrient management plans and actions.



New Products: More Organics and Other Diversified Products



Changes are already underway in Manitoba's agriculture sector in relation to new products. In Canada, it is projected that organic food and beverage sales could increase from 1.7 to 5 per cent by 2018.¹⁰ Monsanto Canada is projecting that between 8 million and 10 million acres of corn and 6 million and 8 million acres of soybeans will be seeded in Western Canada by 2024.¹¹ It has also been noted that Manitoba's 1.3 million seeded acres of soybeans in 2013 indicate a "tremendous growth curve."¹²

¹⁰ R. Arnason. (2015, January 29). Consumers want organic, so why are farmers wary? How bad is it? Retrieved from <http://www.producer.com/2015/01/consumers-want-organic-so-why-are-farmers-wary/>

¹¹ G. Gilmour. (2015, March 6). Are specialty crops poised to surge in Western Canada? Retrieved from <http://www.country-guide.ca/2015/03/06/are-specialty-crops-poised-to-surge-in-western-canada/46009/>

¹² Ibid.

FOR MORE INFORMATION

For more information on rapid scenario planning processes and policy wind tunnels, contact Dr. Livia Bizikova, Director of IISD's Knowledge for Integrated Decisions Program at info@iisd.ca.

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