

E C HANGE

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This module is intended to give you a broad understanding of climate change policy from a small-scale producer perspective in a Canadian context.

If any of the topics discussed pique your interest and you would like to explore them more thoroughly, you can refer to the number in the top right-hand corner that corresponds with a journal article cited in the final 'References' slide. There is a lot of interesting and useful information in these articles that is not presented here for the sake of concision.

Happy learning!





It is broadly concluded in academic articles that climate change policy generally contains significant gaps.

While much policy deals with framing issues that are shrouded in 'uncertainty and risk', climate change is unique in its singularity (there is not one singular precedent to follow) and totality (both in a global sense and in its impending continuation).





Hurlbert and Gupta (2015) consider this in relation to the increased flooding and drought that is associated with climate change:

"We hypothesize that although science predicts that climate change will increase the frequency of droughts and floods, within government policy, response to climate change, droughts, and floods is fragmented, which stymies adaptive governance.This fragmentation is evidenced by how these problems are framed and responded to in policy that is based on perceptions of uncertainty and risk."

Clearly, the framing of an issue is very important in policy and can restrict its practical application.



In the context of climate change policy, Hurlbert and Gupta call for an expanded model of "adaptive governance".

The definition of adaptive governance they make use of refers to "a range of political, social, economic, and administrative systems that develop, manage, and distribute a resource in a manner that promotes resilience through collaborative, flexible, and learning-based issue management across different scales."

The emphasis on resilience is noteworthy since it implies a comprehensive approach that is not only preventative, but also reconstructive.



Through their research (which involved case studies in Saskatchewan and Alberta), Hurlbert and Gupta determine that "in all study regions a strong environmental civil society engages with the problem of climate change, but with limited success in framing climate change as a policy problem warranting a concrete government policy response. Perhaps the inability to address climate change <u>effectively (defined as mitigating emissions) stems</u> from the dismal application of a comprehensive adaptive governance approach and failure to consider diverse constructions of risk and comprehensively consider the framing of policies."



THIS SUGGESTS THAT ONE OF THE PRIMARY FACTORS INHIBITING CLIMATE CHANGE POLICY IN CANADA IS THE RHETORIC BY WHICH IT IS DISCUSSED.



Take a moment on your own to reflect on why rhetoric is so important in policy.





Small-scale (or smallholder) agriculture is often inadequately covered in climate policy.

This is especially important to note in light of the economic and political vulnerability of smallscale farmers, that is likely to be exacerbated by the effects of climate change.





The research of Cohn, Newton, Gil, Kuhl, Samberg, Ricciardi, Manly, and Northrop (2017) determines that although there do not seem to be environmental risks that unequally affect smallholder agricultural systems, their socioeconomic position may make them more vulnerable to the effects of climate change.

As such, climate change seems to pose a greater risk in this area to small-scale farmers than to their large-scale counterparts.

However, small-scale farms tend to have greater diversity (both in terms of source of income and crops) which may help shield them.



Furthermore, the short supply-chain of small-scale farms also supports its ability to be resilient in the face of climate change.

However, there is also socioeconomic diversity between smallholders, with those who are most vulnerable and disadvantaged lacking these resources of resilience. 15



Other social markers affect the distribution of climate change effects: for example, women, a key group in small-scale agriculture, will be disproportionately affected by climate conflict.





As Cohn, Newton, Gil, Kuhl, Samberg, Ricciardi, Manly, and Northrop (2017) describe, "Smallholders face many barriers to adaptation, including limited economic and financial resources, lack of access to usable information, unavailability of appropriate technologies for different users, credit constraints, lower socioeconomic and educational status of users, and limited access to social networks. These constraints can lead smallholders to have lower levels of risk tolerance compared to other farmers, which also influences adoption. The uncertainty associated with future climate changes also poses a barrier for the adoption of adaptation measures. Policies and programs can help overcome these barriers and offer incentives for adoption of adaptation strategies, but need to account for the specific needs and constraints of smallholders."







Moving forward to the Canadian context with all this in mind, Agriculture and Agri-food Canada have only been tasked with pursuing climate-related initiatives since 2015.

Furthermore, an independent auditors report in 2024 found that these departments were lacking a cohesive strategy, something that had a severe impact on their ability to effect programmatic change.



Here are some of the key findings presented in the report:

- "Between 1990 and 2021, greenhouse gas emissions from the agriculture sector grew by 39%, mostly driven by an increase in emissions related to crop production."
- "In 2021, about 10% of Canada's total greenhouse gas emissions came from the agriculture sector, making it the fifth-largest emitting sector."
- "By January 2024, funding disbursed under the On-Farm Climate Action Fund program had resulted in 4,338 producers adopting beneficial management practices; and 1,320,000 hectares of land under improved management."
- "Delays in the review and approval of applications to the department's 3 key climate change mitigation programs delayed project implementation and results."



THE TOOLS AND RESOURCES OFFERED BY AGRICULTURE AND AGRI-FOOD CANADA ON CLIMATE CHANGE ARE EXTENSIVE.

Take a few moments to go through their website on your own. Jot down your reflections and any tools that may be of use to you.

PAUSE



Click on the chain link icon or copy-paste the URL below.

https://agriculture.canada.ca/en/environment/climate-change







Based on the audit, it seems that the extended adaptive governance model discussed previously is not being applied to sufficient effect (if at all).

The ineffectiveness of current governing systems on resolving and predicting climate-related agricultural issues is particularly concerning for vulnerable groups (such as smallholders).





Furthermore, the recommendations offered by the auditor's report are all aimed at improving logistical efficiency and increasing productivity within the departments (on the same projects and with the same objectives).

Based on the findings of Hurlbert and Gupta, this does not seem like an sufficient solution.

I concur, however, that this may be because recommendations for paradigmatic change may not be welcomed in a governmental departmental audit.



This paradigmatic change specific to Canada is further supported by the research of Hurlbert and Gupta:

"Many interviewees commented on the ineffectiveness of governments in adopting policies to prohibit the building of residences in flood plains.These factors, together with the lack of an Alberta flood plan, are glaring. Flood is framed as a technocratic, probabilistic event that governments respond to without factoring the uncertainty of climate change, long-term impacts, or diverse social constructions of risk included in the policy realm and without using any of the environmental governance approaches.





In this sense, there must be a holistic sense of risk that is included in climate change policy.



This is especially important in policy affecting the agricultural industry whose labour force often involves individuals belonging to vulnerable groups.





Agriculture is a field that bridges traditional and modern knowledge, and this continues to resonate in the actions of farmers in the face of climate change.

As Cohn, Newton, Gil, Kuhl, Samberg, Ricciardi, Manly, and Northrop (2017) describe:

"A number of agricultural adaptation strategies have been adopted by smallholders in order to cope with the stresses of a changing climate. These include on-farm diversification, adoption of water technologies and management, introduction of new crop varieties, and strategies to spread risks across space or time. The availability or suitability of each of these options will differ for individual smallholders depending on regional, local, and farm-level context." 20





You've reached the end of Module 8!

- We will continue with an exploration of Canadian agricultural programs in Module 9.
- Please make sure to complete the Module 8 Quiz before moving forward in your learning.
 - Thank you!





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