



FOOD POLICY ENVIRONMENTS: DISCURSIVE EFFECTS, MATERIAL CONSEQUENCES

EDITED BY: Myriam Durocher, Caitlin M. Scott and Irena Knezevic
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FOOD POLICY ENVIRONMENTS: DISCURSIVE EFFECTS, MATERIAL CONSEQUENCES

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Editorial: Food Policy Environments: Discursive Effects, Material Consequences

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Keywords: food policy, food system, food policy analysis, framing, discourse

Editorial on the Research Topic

Food Policy Environments: Discursive Effects, Material Consequences

When the call for this Research Topic came out in 2021, our editorial team was hopeful that this collection of articles would inform *post-crisis* food system policy. A year later, we find ourselves still mired in crises. The world continues to struggle with COVID-19. Workplaces in the food industry remain high-risk sites (Fabreau et al., 2022; Marks, 2022), and access to vaccines and treatments remains limited in many parts of the world (Pilkington et al., 2022). The pandemic has enhanced existing inequalities, and marginalized populations have been disproportionately affected by the crisis (Tai et al., 2021; Public Health Agency of Canada, 2022). Concurrently, the war in Ukraine is threatening the supply of wheat and seed-oils (Weersink and von Massow, 2022; Wood, 2022), exposing the cracks in global supply chains. Food prices and inflation are rising (UNFAO, 2022) and consumers are noting a decrease in the quality of products on store shelves (Charlebois and Music, 2022).

This collection comprises ten articles that analyse food policy in various contexts and the effects those policies have, or have failed to have, on contributing to a more just and sustainable food system. Although our call was open to authors from anywhere, readers will observe that all the contributors to this topic work in Canada, which we recognize as a limitation of this collection.

Coulas uses the discursive institutionalism (DI) framework to examine the 2019 Food Policy for Canada: Everyone at the Table!, Canada's first attempt at a comprehensive national food policy. Coulas argues that DI analysis can reveal areas of policy collaboration that lead to more socially and environmentally just food systems.

Robin et al. offer an insightful reflection on how rigid and culturally specific understandings of food use and food safety—as implemented through settler governments' policies—have restricted access to traditional Indigenous food, limited the communities' ability to engage with food and land, and systematically undermined Indigenous knowledge.

Phillipps et al.'s article echoes these ideas by focusing on access to traditional foods in urban northwestern Ontario (Canada). Using an Intersectionality-Based Policy Analysis framework, they contrast “the colonial control over ‘wildlife’ and the Western food safety discourse” (p. 1) with the needs of urban Indigenous women, and call for the development of culturally safe partnerships with Indigenous communities to facilitate a transfer of power in policy-making.

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Access to traditional foods for Indigenous Peoples in urban environments is also the focus of Judge et al.'s work. They take a close look at fish and wildlife acts, hunting regulations, food premises legislation, and meat inspection regulations in three jurisdictions in Canada (one province and two territories). Their research reveals that access to wild foods in urban settings is constrained because policies are designed to fit within the colonial market-based system, which runs counter to the traditional values of sharing and reciprocity.

Vansteenkiste turns the reader's attention to Haiti, and specifically to women peasant farmers. In Haiti, the past half century has been marked by the policy push to integrate the country into the global economy. While the promise of these policies was improved food security, the result, Vansteenkiste details, has been to "actually force women to abandon agricultural production and intensify their labor in less lucrative distribution and consumption roles of imported goods" (p. 1) and reinforce the "patriarchal structure of the world food economy" (p. 2).

Hinton examines the role of corporate interests in the policy development process for Front-of-Pack Labeling in the Caribbean, arguing that "[The] resulting narrative is both a product and a function of the discursive power food companies wield in the standard-setting process and provide empirical detail about how food companies act to prevent policy attempts facilitating food systems transformation" (p. 1).

Soma and Nuckchady offer an exploratory examination of digital agriculture and related policies in the province of British Columbia (Canada). They identify a gap in policy making where equity and food sovereignty considerations seem absent in digital agricultural training and education, noting that agricultural technology development has failed to engage with the social aspects of digital agriculture. Their contribution invites for greater engagement with critical social scientists and critical data studies in the development of training and education.

Robert and Mullinix deliver a mini-review of the continued use of Gross Domestic Product (GDP) measurement as an indicator of wellbeing. They identify the presence of GDP measurement in Canadian food system policy and note the established limitations of GDP as an indicator particularly with respect to food systems policy. They highlight key observations

from "Beyond GDP" research and advocacy and suggest that these observations can aid the efforts to reform food system policy.

Coulas et al. consider school re-openings following the initial waves of COVID-19 infections. They analyse the provincial and territorial school reopening plans in Canada and note that the plans emphasized measures to limit infectious disease transmission, overlooking the benefits of school food programs and failing to use the reopening process as an opportunity to improve them. Their work points to the need for decision-makers to build capacity for effective school food programs that do not have to be compromised by other social worries, guidelines, and interventions, such as those related to public health.

Wilkes and Perttula provide a comparative analysis of flagship federal mandate documents in Canada. They find that the federal government's overarching policy narratives increasingly promote equity and inclusion, but these narratives are poorly reflected in the mandate letters to the Minister of Agriculture and Agri-Food Canada. They conclude by identifying "leverage points" that allow for better aligning these policy frameworks.

Together, these papers offer a starting point for food policy development that considers social and environmental justice and sustainability. They are critical of the policy environments that fail to adequately address these concerns, noting the cultural specificity of the values that underpin official policy and reflecting on the precarity of the specialized, industrial food production that was ushered in during the second half of the twentieth century and focused on economic measures as a sign of success. The authors collectively offer alternative conceptualizations of progress and wellbeing, recognizing that framing—or the way we talk about issues—is critical for creating policy environments that can enable inclusive, equitable, and ecologically-sound food systems. The collection will be of interest to researchers in the areas of food systems, policy discourse, framing and communication, and social and environmental justice.

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication.

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Discursive Institutionalism and Food Policy Research: The Case Study of Canada's National Food Policy

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“Food” and “policy” are ambiguous concepts. In turn, the study of food policy has resulted in varying approaches by different disciplines. However, the power behind the discursive effects of these concepts in policymaking—how food policy is understood and shaped by different actors as well as how those ideas are shared in different settings—requires a rigorous yet flexible research approach. This paper will introduce the contours of discursive institutionalism and demonstrate methodological application using the case study example of Canada's national food policy, *Food Policy for Canada: Everyone at the Table!* Selected examples of communicative and coordination efforts and the discursive power they carry in defining priorities and policy boundaries are used to demonstrate how discursive institutionalism is used for revealing the causal and material consequences of food policy discourses.

Keywords: discursive institutionalism, national food policy, ideas and interests, policy analysis, policy actors

INTRODUCTION

In 1976 Richard Simeon (p. 449) argued “almost every aspect of policy-making in Canada remains shrouded in ignorance if not mystery. The need, therefore, is to develop both theory and information-gathering together; each must inform the other”. Forty-five years later, this argument still rings true for studying food policy development. “Food” and “policy” are two ambiguous concepts, lending to policy makers in Canada's Indigenous, municipal, provincial, and federal governments to approach and frame food issues and solutions differently. Specifically, Canada's federal system is built on the recognition and support of its component parts—the policies and priorities of each jurisdiction reflect its people and regional characteristics. This means that food policy is understood and applied differently across Canada, including within different policy sectors (e.g., agriculture, health, education, poverty reduction, land development and economic development) and at different times in response to the needs of different populations. Developing a national food policy is therefore considered a wicked policy problem¹ in Canada.

¹Wicked policy problems are issue in policy and planning, at any level, that are difficult if not impossible to solve (Head and Alford, 2015). They cross multiple policy domains, stakeholders, levels of government and jurisdictions with each brining in different views, priorities, values, cultural and political backgrounds and championing alternative solutions (Weber and Khademain, 2008).

Collectively, there is no standard framework across Canadian governments for developing and implementing food policy. This makes it challenging for policy actors² to collaborate and for policy processes to be inclusive. Many scholars have highlighted the need for more integrated or systems frameworks to better align complex food environments (MacRae³ and Winfield, 2016⁴; Lang, Barling and Caraher, 2009⁵). Deriving from political science and policy studies, discursive institutionalism (DI) is a useful analytical framework for studying the complexities of food policy development in Canada. DI is an umbrella term that encompasses substantive content of ideas (objectives, motives, shared characteristics of actors involved in policy) as well as studies interactive processes of discourse (where ideas generate and under what conditions) to explain how institutions, including policies and programs, remain stable or change (Schmidt, 2011).

DI is a flexible and appropriate approach for understanding how ideas about food policy are communicated within and between different actors. It offers an interdisciplinary perspective for explaining the complexities of food policy development within complex institutional environments such as Canada's. The first part of the paper contextualized the Canadian case study and impetus for DI. First, research project is situated by presenting the aim of the Research and the research questions. Second, the single case study is illustrated within contours of Canadian food policy to substantiate the impetus for DI. Third, the core elements of DI are presented, highlighting what factors are required to assess ideas as causal forces influencing policy development. The second half of the paper demonstrates the pliability of DI to food policy research from two perspectives. First, the methodology for studying the development of Canada's national policy, *Food Policy for Canada: Everyone at the Table!* (2019) demonstrates how the DI framework can be applied by providing explanation of how the DI framework is used to analyze the Canadian case study. Second, select findings are presented to highlight important

considerations and recommendations for adopting the DI framework; this section demonstrates how the DI framework was tested using the Canadian case study. Collectively, the latter half of the paper presents a dual trajectory to substantiate how DI can be used and should be considered in order to develop both theory and information-gathering together where each informs the other.

Aim of Research and Research Questions

Broadly, the research aim is to systematically describe real-world and context-dependent constraints and opportunities that development of a national food policy faces in Canada. The underlying goal is to identify and describe how the ideas and beliefs of key actors were (or were not) causal forces in the development of Canada's first national food policy between November 2015 and June 2019. Specifically, the single case study focuses on efforts to build an integrated national policy that coordinates policy intra- and inter-departmentally within the federal government as well as through inter-intergovernmental communication and coordination. It explores a variety of issues across Canada's food system (i.e. food insecurity, student nutrition, agro-ecology, agricultural trade) and provides insights and contributions to better understand food policy within Canadian food studies.

The main research question is: *To what extent have efforts for an integrated approach to national food policy influenced a shift towards a new approach to food issues in Canadian policy making?* The supplementary questions are: 1) *Where has the idea of a more integrated approach to food policy come from in Canada?* and 2) *How does Canada's multi-level political system shape the possibilities and challenges associated with developing and implementing a more integrated food policy approach?* The overarching question considers whether the "Food Policy for Canada" process demonstrates continuity or transformation of Canadian food policy. In turn, the first supplementary question asks about the cognitive frames that influenced the policy's development while the second asks about the structural and procedural constraints and opportunities faced during policy development. These questions draw from and compliment different literatures in Canadian political science.

THE CONTOURS OF CANADIAN FOOD AND AGRICULTURAL POLICY: THE IMPETUS TO STUDY THE COMPLEX RELATIONSHIP OF IDEAS AND INSTITUTIONS IN NATIONAL FOOD POLICY DEVELOPMENT

Canada is a federation that includes a national government, ten provinces, and three territories. Under the British North America Canada The Constitution Act, 1867-1982, 2021 and subsequent Constitution Act, 1982, the provinces have the exclusive authority to govern in certain areas, such as health, natural resources, and education, while the federal government has authority over other areas, for example, trade and commerce. These two levels of government also share jurisdiction in certain domains, such as

²The term policy actor is used to identify both state actors (political and bureaucratic) and non state actors (stakeholders from across the food system) active in policy development

³MacRae (2011) argues food policy must be designed and implemented to reflect our biological and social dependence on food and the resources needed to produce it in a sustainable manner

⁴In more recent work MacRae elaborates the argument by urging that change must occur through joined-up policy, a concept leaning on elements of policy integration and reflects an ecological public health approach to food policy: "...coherent and comprehensive policy environment that links food system function and behaviour to the higher order goals of health promotion and environmental sustainability. A joined-up policy unites activities across all pertinent domains, scales, actors, and jurisdictions. It employs a wide range of tools and governance structures to deliver these goals, including sub-policies, legislation, regulations, regulatory protocols and directives, programs, educational mechanisms, taxes or tax incentives, and changes to the loci of decision making" (2016: p.141).

⁵Situated from a European perspective, Lang, Barling and Caraher (2009) advocate for an integrated approach to addressing food and nutrition-related health issues. They argue for food policies at multiple, interrelated, levels of governance based on the fundamental principles of ecological public health. This approach brings insights from complexity theory and systems dynamics, to encourage the open debate and pursuit of social values and embrace of interdisciplinarity as well as multi-actor approaches to address health challenges (Lang and Rayner, 2012).

agriculture. However, since 1867, courts have added nuance to questions of jurisdiction related to many areas of food system governance, sometimes granting more power to the provinces (e.g., environmental protection and land management), and sometimes articulating a more expansive view of federal power (e.g., international trade) (Richardson and Lambek, 2018).

In turn, over the last 150 years, the various levels of government have each developed myriad laws, policies, and regulations governing different aspects of Canada's food system(s). Canada's earliest federal legislation focused on food safety and adulteration of food products (e.g., the Inland Revenue Act 1875 and the Adulteration Act 1884—early versions of the Food and Drug Act). Over time, the term “food policy” has expanded to encompass the importance of and intersections between policies focused on agriculture, fisheries, nutrition, public health, the environment, and economy, “insofar as these policies help define the food that is produced, processed, distributed and consumed in Canada or exported” (Andrée et al., 2018: p.8).

Federal legislation directly governing food includes the Food and Drug Act (1920, 1985), the Canada Safe Food for Canadians Act (2012), the Pest Control Products Act, S.C., 2002, to name just a few. Canada also has cost shared federal-provincial policy frameworks such as the Canadian Agri-Food Policy Framework. Then, there are federally funded programs that shape food systems outcomes such as Nutrition North Canada, a program which subsidizes food retailers in select remote communities. Canada also has developed national strategies in consultation with provinces and territories, such as the Poverty Reduction Strategy (2018) and National Housing Strategy Act (2019) as well as federal dietary guidelines found in the Healthy Eating Strategy (2016) and Canada's Food Guide (2019). Meanwhile provincial, municipal, and territorial laws and policies, including recent provincial food policy efforts in Québec and British Columbia, as well as a raft of recent municipal food charters, combined with the effect of Comprehensive Land Claim Agreements negotiated between the Crown and Indigenous governments, all add layers of complexity to the policy landscape shaping food systems in Canada (Martorell and Andrée, 2018).

Furthermore, since the 1970s Canada has had two federally led food policy efforts: A Food Strategy for Canada (1977) and Canada's Action Plan for Food Security (1998) (Andrée et al., 2018). However, the substance of both policies reflects discursive efforts supporting the federal government's international trade relations and economic objectives for the agricultural sector. Predominant focus on these facets and the absence of social and environmental externalities ultimately leads to material consequences of Canada's historical patchwork of food-related law and policy that lacks coherence or a common vision of a healthy, just, and sustainable food system.

In response to this trend, Canadian stakeholders call for an integrated “pan-Canadian approach” (Andrée et al., 2018), or a “joined-up food policy” (MacRae, 2011; MacRae and Winfield, 2016), one which requires coordination across multiple federal policy domains (finance, health, environment, fisheries, agriculture, etc.) and levels of government, as well as encourages active engagement with civil society and industry actors. Between

2000 and 2014 these concerns gained enough momentum to move national food policy onto the federal agenda. In 2015, the window of opportunity opened when Prime Minister Justin Trudeau mandated Minister of Agriculture and Agri-Food Canada (AAFC) Lawrence MacAulay to develop “a food policy that promotes healthy living and safe food by putting more healthy, high-quality food, produced by Canadian ranchers and farmers, on the tables of families across the country” (Canada, 2015).

This moment was met with both excitement and concern by many stakeholders; at stake was the possibility to rectify shortfalls of the past. However, the ideas of what a national food policy could and should look like varied across food system actors. Some wanted transformative policy that proactively attended to issues faced by certain populations or regional needs (e.g., northern and indigenous food insecurity⁶) while others desired a “high-level” approach that reinforced and justified the existing agricultural framework but made room for slight adjustments (e.g., integrating programs or incentives that support the organic sector). The mix of demands from stakeholders and existing shortfalls of agricultural policy frameworks placed AAFC's food policy team in a challenging position: it lacked the necessary resources (i.e., available labour, expertise, funding, time) and precedence within the Department (e.g., existing policy templates, jurisdictional authority) to meet all stakeholder expectations. In June 2019 Canada released Food Policy for Canada but the final policy document was criticized for lacking focus and proactive direction to achieve all the policy's objectives in an equal and effective manner.

Collectively, Canada's patchwork approach to agricultural, agri-food, and food policies demonstrates the need to study the development of Canada's national food policy from an institutional approach, one that considers its historical underpinnings as well as exploring current constraints and opportunities within and across policy domains. The next section delves into the theoretical framework of DI highlighting important elements relevant for studying national food policy development.

HOW THE RESEARCH COMPLIMENTS AND IS SUBSTANTIATED BY EXISTING LITERATURE

A scan of Canadian food policy literature reveals there are no other examples of DI in Canadian food studies literature. However, Skogstad's (2012) work on agricultural policy shows that certain policy paradigms have played an important role in Canadian agricultural policy and help explain why food policy emerged and is evolving as a distinct policy field. In Canada, food policy is distinguished from agricultural policy by its focus on the production of food and agricultural products for sustenance and human necessity (e.g., food as a human right; policy reflecting social justice issues). However, it has historically been dominated

⁶Food insecurity is the “inability to acquire or consume an adequate diet quality or sufficient quantity of food in socially acceptable ways, or the uncertainty that one will be able to do so” (Health Canada, 2021).

and subsumed by AAFC, with its focus on economic and trade of agricultural products. Thus, conceptualizations of food policy as social policy are historically not included in the federal Agricultural Portfolio.

Skogstad (2012) identifies three paradigms of agricultural policy in Canada that have emerged since the Second World War. First, the Productivist Paradigm in Canada was shaped by state assistance programs between 1945–1980 with the objective to develop high quality and safe products for consumption, and to increase the overall amount of food produced ensuring a secure supply for both domestic consumption and for international export (Skogstad, 2008; Skogstad, 2012). Second, the Global Trade Regime Paradigm, underpinned by liberal market competitiveness (1980–2000) legitimized capitalist and corporate restructuring, globalization, overt dismantling of the welfare state, and reinforcing of state-market relations (Skogstad, 2008; Skogstad, 2012). During this period, agricultural reform became a priority for many countries, including Canada, and consequently, the Canadian government distanced its control and oversight of certain agricultural goods and services allowing for commodities to be more competitive in the global market (Skogstad, 2012). Finally, the still emergent Multifunctionality Paradigm (2000–present) is implicated in more comprehensive policy approaches but has had limited impacts in Canada to date. Specifically, “a multifunctional paradigm of agriculture puts value on the non-commodity social, environmental, and rural development outputs of agriculture, and recognizes that the market either will not produce them or will underproduce them—and rewards agriculture for doing so” (Skogstad 2012: 22). Examples of such non-commodity outputs include organic food production, traceability, and consciousness of environmental externalities.

Canada’s agricultural policy making is dominated by the Productivist and Trade Regime Paradigms. This is illustrated by the continued focus on export orientated agricultural production and increased production for international trade. Further, this approach has held because it safeguards against crises in Canada’s food system. That is, crises in the production and processing of agri-food goods (e.g., disease outbreaks among livestock; food safety recalls) do occur but their impact is mitigated or not identified as high priority to push decision-makers to consider alternative approaches for food and agricultural policy, such as a national food policy. In other words, the material consequences of the Productivist and Trade Regime Paradigms suggest Canadian agriculture and its management are strong. In turn, however, benefits to the overall economic well-being of the Canadian agriculture sector (e.g. corporate investments and state supported industrial farming practices) mask ongoing social justice issues (i.e. uneven distribution of food among populations, animal welfare) and negative environmental consequences (i.e. jeopardizing future sustainable food production).

Complementary to Skogstad’s argument that the Multifunctional paradigm was still emergent in Canada in 2012, the national food policy conversation leading up to 2015 suggested a distinct discourse of food policy was gaining momentum, placing pressure on the existing agricultural

policy framework. Specifically, the food policy discourse includes a larger breadth of issues brought forward by stakeholders who historically have not been part of agricultural policy development. The case study of “Food Policy for Canada” compliments Skogstad’s work by exploring whether and how agricultural policy paradigms in Canada are connected to but distinct from food policy paradigms and whether agricultural paradigms have shifted (or not) with the rise of food policy discourse and a whole of government approach to food policy making.

The supplementary research questions speak to the institutional constraints for integrative policy. Reflecting MacRae’s (2011, 2016) work on integrated or joined-up food policy, existing politics and political institutions pose both possibilities and challenges for forming an integrated national food policy in Canada. MacRae (2011) explains that food is a complex and challenging policy area because several dynamic factors are concurrently present, including: 1) intersections between a number of policy systems that are historically divided intellectually, constitutionally and departmentally (Barling et al., 2002; Skogstad, 2008); 2) Canadian government(s) have not institutionally enshrined food policy (e.g., a Department of Food does not exist) (Anderson, 1967; Cameron and Simeon, 2002; Simeon and Nugent, 2012).

This project considers the structural and procedural mechanisms of policy making within the Canadian federal system to better understand the communication and coordination challenges in designing Food Policy for Canada. Three areas come to the fore: 1) centralization 2) intergovernmental policy coordination with provinces and territories, and 3) inter-departmental and intra-departmental cooperation and collaboration in policy development. However, integrative policy points to centralized decision-making and accountability. Thus, the latter two areas of literature discussed are heavily reflective of the former.

Since 1867, Canada has swung between centralist⁷ and decentralist approaches. More recently, centralization and decentralization occur simultaneously across different policy fields and between jurisdictional authorities where policy makers agree both approaches are warranted. André Lecours (2017: 57) explains “the last several decades have witnessed decentralization in several policy fields, such as agriculture, citizenship and immigration, and natural resources, but also centralization in such crucial ones as social welfare and language.” Donald Savoie (1999), Savoie (2008), however, argues that power effectively rests with the Prime Minister who sits at the centre of government and strategically surrounds themselves with hand selected actors (e.g., ministers, civil servants, political advisors). The overarching objective of these political elites is to construct a strong central

⁷Centralization is described as a trend toward increasing the powers of a central government as opposed to regional and local governments (Scott, 1981). In comparison, decentralization is the delegation of state power and authority to subordinate agencies and actors

government. In turn, centralization is seen as a strategic approach for controlling communication and coordination of policy development. Collectively, this literature notes Canada's federal policy making is more centralized than most (Hansen et al., 2013). Therefore, studying the development of national food policy which rests on the idea of integrative policy, requires the consideration of the power relations of actors (and their ideas) within and across different political institutions under centralized constraints, and speaks to understanding how and why coordinative and communicative discourses might differentiate within and across these policy arenas.

The literature of inter-governmental policy coordination between the federal government, provinces, territories, as well as municipalities and Indigenous governments (Csehi, 2017; Bakvis and Skogstad, 2020; Simmon, Graefe, and White, 2013), suggests that food policy development has historically occurred separately, with the exception of the Agriculture Partnership. Hedley (2006) argues that such an approach reflects the idea that governments confine their activities to their own arenas and are reluctant to intervene in food policy decisions of the broader Canadian food system unless it aligns with the greater socio-economic pressures of the day. In turn, the issue of coordinating policy development through government collaboration is one of the major intergovernmental challenges facing Canada and needs more attention (Bakvis and Brown, 2010). Regarding the development of "Food Policy for Canada" it is necessary to capture the communicative and coordinative discourses occurring (or not) between governments to comprehend if and how intergovernmentalism is a key attribute to food policy formation. Thus, the fiscal, political, and administrative incentives used to invite or hinder communication and coordination across the different orders of government must be considered to explain how and why actors participated when shared rule remains underdeveloped and/or constantly changing.

Interdepartmental coordination⁸ or "new" or horizontal governance has been widely accepted as the current model of governing (Rhodes, 1997; Philips, 2004). In a number of policy areas (e.g., environment, health) there is a growing recognition the traditionally disjointed and siloed approach to policy making produces challenges for solving complex and sensitive policy problems. In response, this literature emphasizes that governments should encourage interdepartmental interactions, dialogue and exchange of information, all preconditions for the development of mutual trust and shared worldviews, as a strategy to enhance interdepartmental coordination (Peters, 1998; Salamon, 2002; Peters, 2003; Perri, 2004). In this effort central agencies can either play a disproportionate or supportive role in shaping the environment for policy development under interdepartmental coordination, especially when deciding policy solutions and

administrative frameworks that are detail oriented to a policy or program's objectives (Bakvis and Juliett, 2004). Here the literature points to the need to identify the variety of choices surrounding the type of objectives pursued, as well as deep deliberations of the appropriate combination of instruments and the extent of support for institutional innovations (Bourgault and Lapierre, 2000; Lahey, 2002; Gagnon, 2012).

DISCURSIVE INSTITUTIONALISM: A THEORETICAL APPROACH FOR ADDRESSING IDEAS AND POLICY FRAMES AS CAUSAL FORCES IN POLICY DEVELOPMENT

Individual actors and groups operate in structured environments or institutions, which Peter Hall and Taylor (1996, p. 938) define as "the formal or informal procedures, routines, norms and conventions embedded in the organizational structure of the polity or political economy". Therefore, from the institutional perspective, policy can be understood as an institution and the policy making process requires critical attention. DI helps to explain how human behaviour is shaped through institutionally prescribed rules, and conversely, how behaviour—especially discourse—can influence institutional change (North, 1990; Pierson 1993; Goodin, 1998; Immergut, 1998; Ostrom, 1999; Pierson, 2000a; Pierson, 2000b; Pierson, 2000c; Kay, 2005; Pierson, 2005; Pierson, 2006). The DI framework rests on the premise that ideas are causal forces in institutional settings, and brings together ideas, discourse, and institutions by addressing how agents create, maintain, and change institutions by considering how ideas influence the political and policy making context within a given set of institutional rules and dynamics.

DI considers how organizational rules and procedures coordinate the actions and cognitive limits of institutional actors (Berman, 1998; Schmidt, 2008), but also position some actors to wield ideational power through discourse, that is "the capacity of actors (whether individual or collective) to influence (other) actors' normative⁹ and cognitive¹⁰ beliefs"

⁹Normative ideas or elements are those which appeal to a logic or value of appropriateness (March and Olsen, 1989; Schmidt, 2000). These ideas constitute institutional change as a product of preferred behaviour and expectations which ultimately specify how things should be done (Palthe, 2014). Normative elements include: 1) the process by which an idea comes to the fore, makes it onto the policy agenda, and how it is perceived by interested parties; 2) asking what underpinning aspects shape the particular explanation of the idea; and 3) identifying if certain actors hold legitimate authority in attending to the issue

¹⁰Cognitive ideas are conceptual interest and necessity-based beliefs, usually orchestrated through shared meaning making when an institution undergoes change (Hall, 1993; Schmidt, 2002). DI theorists emphasize change is internalized by institutional actors and culturally supported (Palthe, 2014). Cognitive or logical analysis considers where particular foreground ideas and strategies for actions come from (e.g. previous experience) as well as asking what types of background ideas are rendered legitimate and relevant for solving the issue (Bhatia and Coleman, 2003).

⁸Interdepartmental coordination is the "coordination and management of a set of activities between two or more organizational units, where the units in question do not have hierarchical control over each other and where the aim is to generate outcomes that cannot be achieved by units working in isolation" (Bakvis and Juliett, 2004: p.9).

(Carstensen & Schmidt, 2016: p. 320). Ideational discourse considers the source and articulation of ideas, the context and objectives of those ideas, the meaning and mode of delivering the intended message, the target audience(s), as well as what is not communicated. From this perspective, policy actors are “sentient” (thinking and communicating) agents who generate and deliberate about ideas through discursive interactions that lead to collective action” (Schmidt, 2011: p. 107). In turn, understanding how and why actors think, say, and act is important for explaining the driving forces of policy formation and change.

Policy Frames and the Logics of Communication

In order to conceptualize and explain agency, actors’ behaviour is distinguished between foreground and background discursive abilities. *Foreground discursive abilities* are the deliberate and persuasive arguments actors make to change or maintain institutions and policies, and includes the order, context and manner in which communication occurs. *Background discursive abilities* are internal to actors and are usually subconscious (Schmidt, 2008). These are the processes that enable actors to speak and act without consciously following rational or external rules. Taken together, these discursive abilities represent a *logic of communication*, “which enables agents to think, speak, and act outside institutional constraints even when located within them, to deliberate about institutional rules even as they use them, and to persuade one another to change those institutions or to maintain them” (Schmidt, 2010: p. 1). Therefore, DI takes into consideration both the influence institutions have on actors, and how actors simultaneously influence institutions (Fioretos et al., 2016).

The logic of communication tends to be conceptualized through the formation (and change) of policy frames. A policy frame is “coherent systems of normative and cognitive elements which define mechanisms of identity formation, principles of actions, as well as methodological prescriptions and practices for actors subscribing to the same frame” (Surel, 2000: 496). From an analytical standpoint, DI scholars investigate the core beliefs, interests, and objectives of actors to understand their perception of discrepancies between what is and what ought to be (Berman, 1998; Bhatia and Coleman, 2003; Schmidt, 2011). Studying discourses—that is, how ideas are communicated to and coordinated between actors—helps with understanding how policy-actors’ attention comes to focus on particular elements or issues, whether attention is diverted from alternative perspectives, and how decision-makers come to define what are acceptable and unacceptable choices. Schmidt (2011: p.106) argues that “only by understanding discourse as substantive ideas and interactive processes in institutional context can we fully demonstrate (ideas and discourses’) transformational role in policy change”.

DI categorizes discourses into communicative and coordinative, depending on the institutional context within

which they occur. *Coordinative discourse* occurs in the policy sphere¹¹ when policy actors, consisting of state representatives (bureaucrats and public officials) and non-state stakeholders (advocacy groups, academics, for-profit organizations), are “engaged in creating, deliberating, arguing, bargaining, and reaching agreement on policies ...” (Schmidt, 2011: 116). They may have different resources, and varying degrees and kinds of influence, but ultimately they have shared ideas about a common policy enterprise (Haas, 1992). Comparatively, agents of *communicative discourses* attempt to influence mass political opinion and engage with the public to elicit support or disapproval for policy ideas. Habermas (1989) argues this can include any actor or manner of public engagement and communicative action that ultimately forms opinions (e.g., media, advocacy and interest groups), but Schmidt (2011) points out that in DI, communicative discourses are typically strategically designed by political actors and externally directed toward non-state audiences (e.g. government media release).

Policy Frames as Indicators of Transformation and Continuity

With the DI framework, policy frames are used to identify which and how norms and preferences that influence behaviour come to persist and change over time (Kangas et al., 2014). Policy frames rise and fall with changing political contexts and come to be replaced with new (or sometimes old) ideas and interests. The focus on policy frames helps theorists understand how old policy ideas give way to new ones, and how policy undergoes fundamental change (Blyth, 1997; Blyth, 1998).

A new policy frame and its associated ideas alone, however, do not come to indicate a shift in policy making. Instead, policy actors come to frame policy problems differently, and in turn, certain policy choices or policy frames appear more possible while others less so. If successful, an alternative, mutually agreed upon policy frame emerges (Bhatia and Coleman, 2003). As institutions shape the rules that govern which actors, whose ideas, and under what constraints are influential, the relationship between ideas (as expressed by institutional actors) and institutions is mutually constitutive and reinforcing, and sentient actors are the agents that connect the two. Here the DI framework focuses on the way in which institutions influence whether the discourse will be communicative or coordinative—that is, how and with whom do actors have to engage to make their desired outcome happen.

Collectively, the logic of communication and its intricate components highlight important elements for unfolding the narrative of Food Policy for Canada. Ultimately as the precedent structures and functions of Canada’s federal system suggest challenges for designing and implementing a national food policy, and there are many conceptualizations of what a

¹¹From an institutional standpoint, this context usually reflects activity within the state (e.g. within the bureaucracy and across ministerial departments and agencies). However, societal actors (e.g. advocacy groups, academics, businesses) are also active in shaping policy and therefore the policy sphere can reach beyond the physical settings of government buildings and include actors beyond the state

national food policy can or should entail, DI is necessary for parsing out the substance and processes that lead to the cognitive and normative elements found in the final policy document. Further, this approach can demonstrate logic of communication, helpful for considering if a shift in federal policy making, distinguishing food policy, has occurred.

FOOD POLICY FOR CANADA CASE STUDY METHODOLOGY

The example methodology provided in this section is gleaned from the author's dissertation research and is supported by the Social Sciences and Humanities Research Council (SSHRC) funded partnership Food Locally Embedded Globally Engaged (FLEdGE)^{12, 13}.

Methods and Methodological Framework

Looking across the literatures of policy paradigms, centralization, intergovernmental policy coordination, and inter-departmental policy development, identifying and considering the normative and cognitive elements of integrative policy and policy transformation requires a rigorous set of methods and methodological framework.

Data collection included primary data gleaned from semi-structured interviews and participant observation, as well as the collection of secondary data from policy documents. These methods occurred simultaneously between 2016 and 2021. Fifty-eight¹⁴ semi-structured interviews occurred with elite state and non-state policy actors active in the development of Food Policy for Canada. Interviewees included politicians, public servants, academics, agri-food industry representatives, and not-for-profit organization representatives. Participant observation occurred at academic conferences (i.e., Canada Food Law and Policy, Canadian Association of Food Studies), government led events (i.e., public consultation online survey, Food Summit), and non-governmental led efforts (i.e., Food Secure Canada's General Assemblies, developing a policy brief with the ad hoc Working Group on Food Policy Governance). The collection of policy documents included resources generated by policy actors from both within the state and from organizations across Canada's food system(s) (e.g., policy briefs, reports). These resources included those both published prior to and during the 2015–2019 policy's development periods. Those collected

before reached as far back as the 1970s and provided data of food policy discourses before the case study and a means for considering if policy frame transformation was occurring.

With three methods of data collection the data analysis required triangulation to confirm observations. Manually transcribed interviews were coded along side participant observation field notes and policy documents using NVivo 12 coding software. Coding highlighting themes reflecting cognitive and normative policy elements (e.g. common or distinct ideas or asks of policy actors—alleviating food insecurity, systems thinking approach, national food policy council—, specific policy instruments) as well as highlighted the processes of discourses, specifically, the context and means for conveying and coordinating information (e.g., public forums, politicized media events, departmental mandates, constitutional requirements, closed door meetings, types of policy instruments). Text, discourse, and thematic analysis were conducted to identify and examine the differences/similarities and points of convergence/divergence of coded data.

In order to identify and assess the ideational and institutional elements that demonstrate constraint and opportunity of the policy frame(s), the author developed the following framework (**Figure 1**) adopting tenets from Vandna Bhatia and William Coleman's (2003: p.720–721) *Framework for Analyzing Political Discourse and Policy Change*. **Figure 1** rests on three questions.

First, it is asked: Who is constructing the discourse(s) during the policy's development and what is the context of those discourse(s)? Here the researcher looks for elements that highlight the underpinning normative and cognitive aspects prominent in the policy frame: specific policy elements (problem definition, causal relationships, problem ownership, accountability, proposed solutions, policy instruments) and generic policy elements (new or historical policy relevant knowledge, individual or collaborative efforts activities or events). Data is categorized as coordinative discourse if it demonstrates policy actors are engaged in creating, deliberating, arguing, bargaining, and reaching agreement on policies, or as communicative discourses if it demonstrates an attempt to influence mass political opinion and engage with the public to elicit support or disapproval for the policy frame. Collectively, the data reveals: 1) what policy-actors' attention came to focus on particular ideas, elements, or issues; 2) whether attention has been diverted from alternative perspectives; 3) and how decision-makers come to define what are acceptable and unacceptable choices within the policy frame.

Looking across communicative and coordinative examples, the data is then considered for the kinds of influence and power different actors had and executed (or withheld) in shaping the policy frame. This is addressed by the second question: What are the consequences of the success of the discourse for the policy? Here the researcher considers if the communicative and coordinative examples point to trends in the types of discourse(s) occurring. As the research focuses on the causal forces of discourse and how communicative or coordinative discourses can serve to reinforce or to alter an existing policy framework, the data is categorized under rhetorical, instrumental, challenging, or truth-seeking discourses.

¹²FLEdGE is a research and knowledge sharing partnership hosted at the Laurier Centre for Sustainable Food Systems at Wilfrid Laurier University. Researchers are committed to fostering food systems that are socially just, ecologically regenerative, economically localized and that engage citizens. Research is based on principles of integration, scaling up and innovative governance with projects exploring the current and potential role of community and regional food initiatives for transformative food systems. For more, visit <https://fledgeresearch.ca/about>.

¹³Ethics was passed March 13, 2017 under the title *FLEdGE: The Pan-Canadian Food Policy Project*

¹⁴Of the 58 interviews 23 occurred with state actors and 35 occurred with non-state actors. This number reflects both initial interviews (46) and follow up interviews (12).

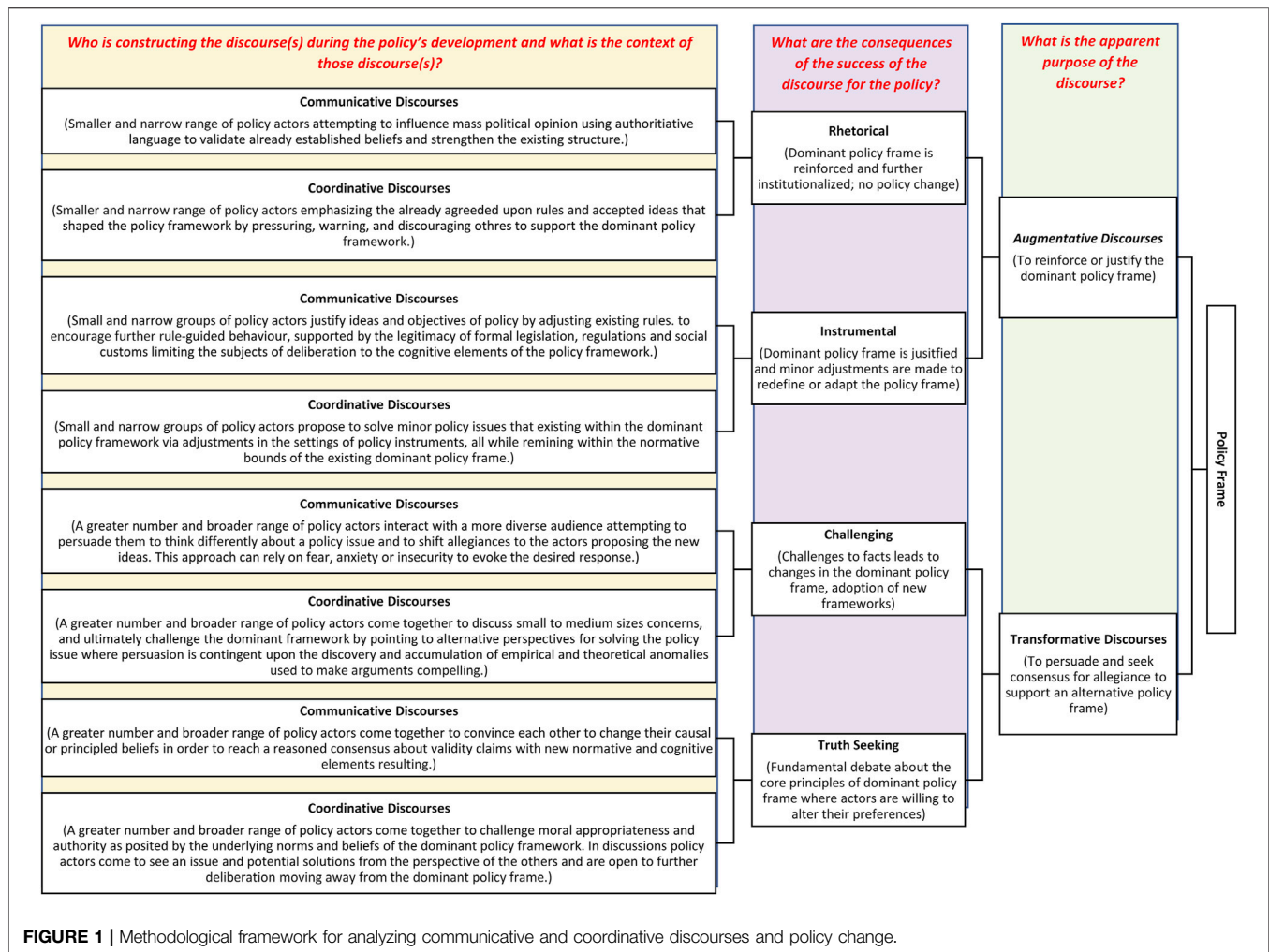


FIGURE 1 | Methodological framework for analyzing communicative and coordinative discourses and policy change.

Rhetorical discourse furthers an existing institutionalised and dominant policy frame where language is authoritative to validate already established beliefs and “strengthens the authority structure of the polity or organization in which it is used” (Bhatia and Coleman, 2003: 721; Edelman, 1997:109). Normative foundations of the framework are at the center of communication to emphasize what the policy issue(s) faced by society are and how the public had agreed to address them. Specifically, the already agreed upon rules of the system are emphasized and linked back to the previously accepted ideas that shaped the policy framework in the first place. Such efforts are illustrated through pressuring, warnings, and discouragement to support the dominant policy framework and actors become labeled based on their merit, competence, or other characteristics (Bhatia and Coleman, 2003).

Instrumental discourse is used to acknowledge small policy malpractices or inconsistencies that existing within the dominant policy framework. Such problems reflect efficiency and effectiveness that “policy elites propose to solve through adjustments in the settings of policy instruments, all while remaining within the normative bounds of the dominant policy frame” (Bhatia and

Coleman, 2003: 721). Here, the aim is to justify ideas and objectives of policy by adjusting existing rules. This encourages further rule-guided behaviour, supported by the legitimacy of formal legislation, regulations and social customs. Bhatia and Coleman (2003) explain this type of discourse limits the subjects of deliberation to the cognitive elements of the policy framework (policy relevant knowledge, activities, events and actions that affect desired outcomes).

Challenging discourses are directed outward seeking to alter a more diverse audience to think differently about a policy issue and to shift allegiances to the actors proposing the new ideas (Bhatia and Coleman, 2003: 721). This approach can rely on fear, anxiety or insecurity to evoke the desired response, or appeals can be reasoned and based on factual information/evidence. The cognitive elements of this policy framework challenge the facts that the dominant policy framework rests, and ultimately point to alternative perspectives of the policy issue. In turn, disagreement circulates the relevancy and accuracy of factual information, and how it should be interpreted. Drawing on Hall (1993), Bhatia and Coleman (2003: 721) explain “persuasion takes the form of a cognitive process that is contingent upon the discovery and

accumulation of empirical and theoretical anomalies in the dominant policy frame.” Collectively, facts and reasons are used to make arguments compelling.

Truth seeking discourses challenge moral appropriateness and authority as posited by the underlying norms and beliefs of the dominant policy framework. In this discourse “actors try to convince each other to change their causal or principled beliefs in order to reach a reasoned consensus about validity claims” (Risse, 2000: 9), and compared to the other three discourses noted above, actors are prepared to be persuaded when they see an issue from another perspective. If successful, an alternative and agreed upon policy frame emerges with new normative and cognitive elements (Bhatia and Coleman, 2003: 721). Schön and Rein (1995: 45) refer to this process as “frame reflection where in discussions policy actors come to see an issue from the perspective of the other’s policy frame, thereby creating a “reciprocal, frame-reflective discourse”.

Categorizing data as rhetorical, instrumental, challenging, or truth-seeking discourses is also important for understanding if, how, and why either communicative or coordinative discourses may have held more influence in the policy’s overall development and if those trends ultimately lend to continuity or transformative policy change. Specifically, challenging and truth-seeking discourses are hypothesized to be more conducive to significant policy change than are rhetorical or instrumental discourses (Bhatia, 2005). This leads to the third question: What is the apparent purpose of the discourse? Reflecting the DI framework, this question brings together data from questions 1 and 2 regarding the core beliefs, interests, and objectives of actors to understand their perception of discrepancies between what is and what ought to be (Berman, 1998; Bhatia and Coleman, 2003; Schmidt, 2011). In turn, trends across the data are grouped and categorized as either augmentative discourses, where actors focus on preserving an existing dominant policy frame, or transformative discourse, where actors seek to persuade others of an alternative frame.

FINDINGS, DISCUSSION AND RECOMMENDATIONS: DIFFERENT WAYS OF USING DI

Here select findings are presented to highlight important considerations and recommendations for adopting the DI framework. Specifically, this section demonstrates how the DI framework was tested using the Canadian case study and discussed important considerations for selecting and using the DI framework. As with other interpretive approaches researchers adopting the DI framework find themselves reviewing and adjusting their methods and methodology as they progress. Recalling Simeon (1976) argument, that we must develop both theory and information-gathering together in order for each to inform the other, this should not be seen as a burden but instead a learning process and steps required for validating the research. The case study of Food Policy for Canada garners important learning curves for others who are considering DI.

Preliminary Findings

The preliminary findings of this research situate Food Policy for Canada as demonstrating instrumental and augmentative discourse. Early stages of the policy’s development do demonstrate challenging discourses (i.e. where AAFC’s food policy team outwardly seeking a more diverse audience to conceptualize the possible solutions to the policy issue and to shift allegiances to the actors proposing the new ideas). However, later stages of the policy’s development, those focused on writing the policy document and including/excluding certain ideas, demonstrates instrumental discourse. Specifically, the predominant policy approaches in AAFC limited the policy’s development to minor adjustments of existing policy and programs because the discourse limited and focused the subject of deliberation to the cognitive elements of the policy framework (i.e. previous policy relevant knowledge, activities, events, and actions that affect desired outcomes under the Agricultural Portfolio). Collectively, although new policy actors were invited and enabled to participate in the policy’s development, behaviours of state policy actors continue to be heavily influenced by the structures, processes, and policy norms underpinning the historical trajectory of AAFC and the government of the day.

The preliminary findings, however, do not provide a comprehensive narrative of the intricate elements that shaped the policy’s development. Below select examples provide further detail and explanation. Furthermore, the subsequent sections point to important facets researchers should consider in order to parse out important information when designing and revising their methodology and selecting analytical framework(s).

Identifying and Explaining Ideational Power Relations

When analyzing the data, it became apparent that the substance of ideas and the processes lending to communicative and coordinative discourses were not consistent throughout different stages of the policy’s development. In turn, analysis needed to identify and explain the ideational power relations occurring between policy actors during the individual stages of policy development. When this new layer of analysis was applied it was found that multiple policy frames were present and being fought for by different policy actors during different stages of the policy’s development. Martin Carstensen and Vivian Schmidt’s (2016) work on types of ideational power proved helpful for unpacking and explaining how power was shaped by ideas and institutions within the policy’s development.

Power through ideas is the capacity of actors to persuade other actors to support and adopt their views through reasoning and argument. In this view ideational power is not about manipulating (Lukes, 1974) but demonstrating to other actors how a particular approach should stand out. In this sense, assessment of cognitive elements focus on an actor’s ability to clearly define the issue at hand and to put forth adequate and appropriate solutions. In turn, power is the ability to affect the range of possibilities other actors will consider (Campbell, 2004; Schmidt, 2006). Assessment of

normative elements reflect how well an actor posits the narrative about the causes of the problem and what needs to be done (Schmidt, 2006). Together, these elements demonstrate if and how an actor can stand back and critically engage with the ideas they hold.

An example of power through ideas is where stakeholder groups actively engaged with AAFC's Food Policy Team to broaden their comprehension of the issues and potential solutions regarding food insecurity in Canada. Before public consultations (2015–2016) the AAFC Food Policy Team indicated a narrow understanding of the issues inhibiting food security in Canada. This is demonstrated via the first of the Four Pillars¹⁵ (Food Secure Canada, 2016): the objective of “increasing access to affordable food”. Many stakeholders took offense to this problem definition as it did not adequately identify or consider the underlying systematic problems lending to food insecurity nor population specific needs. However, during and after public consultations in summer of 2017 the understanding of food insecurity in Canada and the possibilities for achieving food security were recognized by AAFC. In turn, AAFC's 2018 What We Heard Report¹⁶ identified a broader scope of priorities under the banner of food security: “increasing access to affordable, nutritious, and culturally-appropriate food in Canada included, among others: recognizing the link between food and cultural identity; increasing food security for all people living in Canada; addressing food security as an issue based on income security; increasing food security in Indigenous and isolated northern communities; and supporting local, community-based solutions to food security” (p. 6). Altogether, the capacity and power of policy actors outside AAFC influenced the Food Policy Team to support and adopt alternative views through reasoning, evidence, and argument.

Power over ideas is the ability of actors to control or dominate the meaning of ideas. Carstensen and Schmidt (2016) point to three areas where power can be examined. First is the control over the production of meaning and the diffusion of information occurs where an actor in power (e.g., prime minister, minister of cabinet) exercises their coercive power to promote and impose their ideas in order to guard against structural and institutional changes that may undermine them. Such power is exercised through mass media and propaganda to shape attitudes, convince the general public of the validity of their ideas, and crowd out alternative ideas. The second area considers actors with less power (e.g., advocacy groups) who are able to shift others into conforming with their ideas, but not through persuasion. The actor(s) affected may not believe in the ideas they adopt but

the way in which discourse is employed is strong enough to compel them to adhere to or conform with alternative ideas. The third area considers the capacity of actors, usually powerful political actors, to resist considering alternative ideas. The legitimacy of resistance is often based on technical or scientific information which substantiates parameters of what actions and solutions are workable or best fit.

Between 2015 and 2019 AAFC's Food Policy Team communicated and collaborated with a number of state and non-state policy actors to best capture the policy issues and potential solutions, demonstrating a collaborative control over the production of meaning. However, as the policy's draft moved through the formal adoption process between 2018 and 2019 (i.e., 5 revisions and memorandums for Cabinet to consider) the content and specific language adopted in the final policy document was constantly altered by higher level policy and political actors. For example, on June 17, 2019 on route to the launch of the policy in Montreal, the Minister of Agriculture, Marie-Claude Bibeau, was editing and reviewing the policy's contents even though the document had already been approved. One interviewee noted the adjustments caught the AAFC Food Policy Team off guard requiring them to halt releasing the final policy document and amending the webpage. Further, the adjustments made did not necessarily change the focus of the policy, but the added language and content was said to better reflect the Government's priorities at that time. Specifically, the Government's focus on expanding international agricultural exports: “There is tremendous potential for economic growth within Canada's food system given the growing global demand for high-quality food . . .” (2019: p. 7). Collectively, the act to alter the policy's content in and of itself undermined the meaning production efforts undertaken by AAFC and stakeholders demonstrating the first area Carstensen and Schmidt (2016) point to—where an actor in power exercises their coercive power to promote and impose their ideas.

Last, *Power in ideas* is concerned with analyzing deeper level ideas and institutional structures that actors subconsciously draw upon and situate their ideas against in order to substantiate their ideas. This level of analysis asks how and why actors seek to depoliticize certain ideas to the point that meaning becomes accepted or forgotten in policy discussions; why certain ideas enjoy more authority than others in structuring (Carstensen and Schmidt, 2016). This type of power is exerted through actors' subconscious philosophies and sentiments that ultimately shape policy making processes (Campbell, 1998; Schmidt, 2008). Here, analysis of power looks beyond the explicit ideas driving policy and program mandates and looks at the historical underpinnings of institutions that serve to guide or justify what ideas and actions are acceptable and not. This allows for a deeper assessment of constraints placed on policymakers when legitimizing their ideas to others and of elements limiting the range of policy options believed to be acceptable. Although a slow and evolutionary process, actors are constantly reconstructing these structures as they use them

¹⁵This document highlights four themes or pillars, deemed from the perspective of AAFC's food policy team in 2016, as central to Food Policy for Canada. This document has since been removed from Agriculture and Agri-Food Canada's website but can be access via Food Secure Canada

¹⁶This document provides reflection of what was heard in the public consultations which took place between May 31, 2017 and September 31, 2017

to navigate the changing realities in which they are situated (Carstensen, 2011a).

The concept of a national school food program¹⁷ in Canada illustrates how institutional factors outweighed ideational power in the development of Food Policy for Canada. The idea of a national school food program in Canada is long lived and supported by stakeholders across the food system. However, as the policy progressed AAFC's Food Policy Team found that the concept and proposed solutions were underpinned by a variety of issues not previously or adequately attended to in Canada (i.e. food insecurity, local food procurement, infrastructure in schools). Further, most of these issue areas fell outside the traditional domain of AAFC. Specifically, AAFC render school food as social justice policy and this framework could not be easily adopted within the rigid contours of economic policy traditionally executed in the department. In turn, the final 2019 policy document only referenced a national school food program as an ongoing effort: "The Government of Canada will also engage with provinces, territories, and key stakeholder groups to work toward the creation of a National School Food Program" (Government of Canada, 2019b; p. 9). Later in the summer of 2019, AAFC ended up handing the effort of a national school food program over to Economic and Social Development Canada (ESDC), the fourth largest department in the federal government headed by four different Ministers¹⁸, with the hopes that such a collaboration and pool of resources could bring the idea of a national school food program to fruition. Collectively, when analyzing the deeper institutional structure that lend to constraint and opportunity for Food Policy for Canada, the historical underpinnings of AAFC guided and justified to state policy actors that a national school food program was not possible under AAFC's portfolio.

Altogether, identifying and explaining ideational power relation is relevant for the case study of Food Policy for Canada because it helps for better understanding how and why some policy actors and policy paradigms prevail over others. Specifically, how certain policy actors come to exercise ideas and discourses, as well as institutional positions and resources to influence policy development. Power through ideas and power over ideas allowed for the researcher to consider what elements led certain ideas to be effective in influencing policy actors' normative and cognitive beliefs (direct interaction of actors and foreground abilities). In turn, power in ideas helped with parsing out the already established systems of knowledge and discursive practices in institutional settings which shaped what ideas were given

attention over others (background abilities and deeper subconscious forces at play).

Brining in Regulative Organization Analysis for Explaining Ideational Power Relations

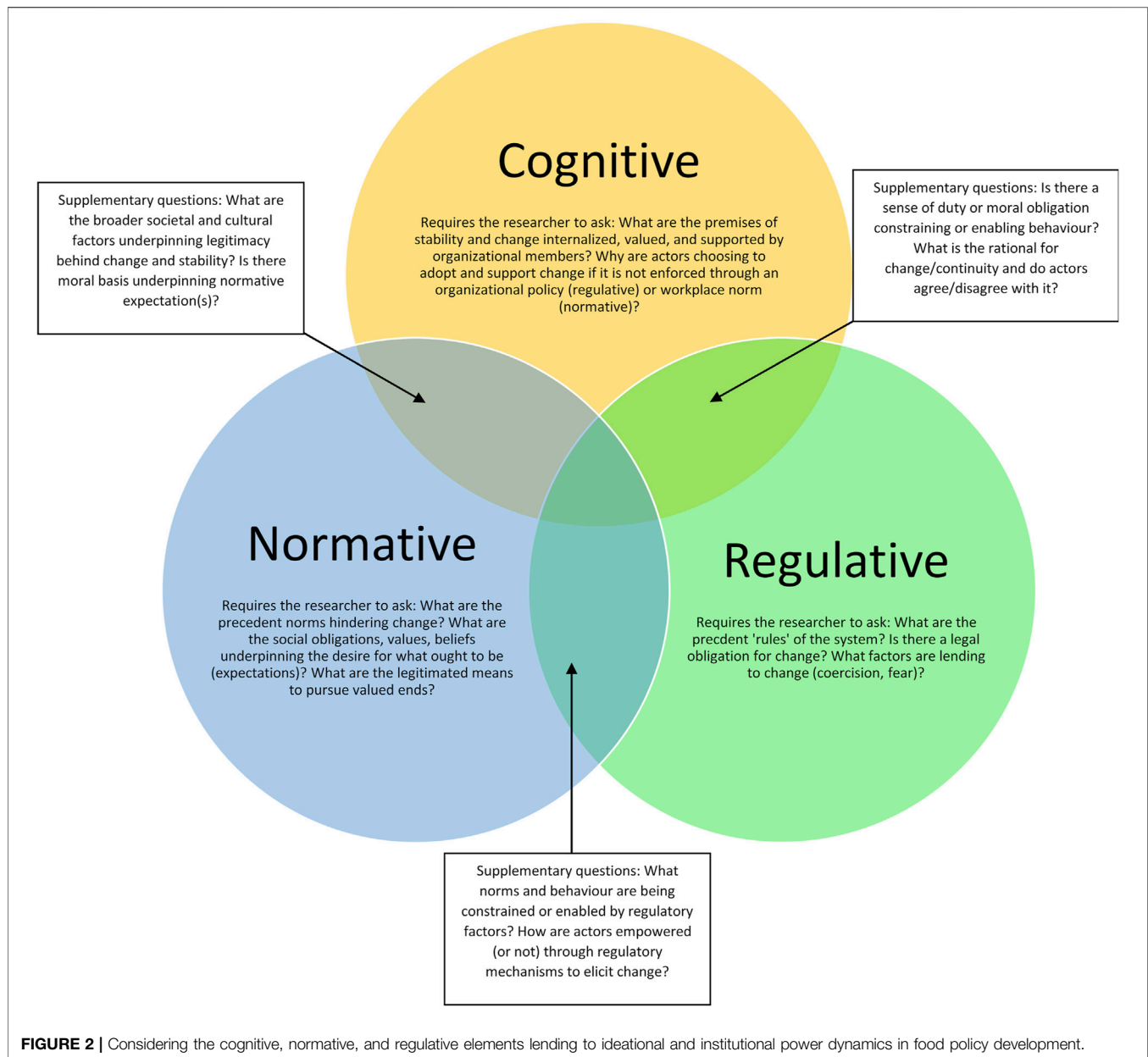
Adopting the DI framework places emphasis on ideas as causal forces ahead of institutional constructs. In some instances, the data "fit" within the DI framework demonstrating that particular ideas held more power in the decision-making process than institutional factors. However, the data also revealed powerful influence derived from regulatory facets, which DI literature does not adequately explain. In hindsight, placing a pronounced focus on the cognitive elements of ideas and less attention to the normative and regulatory elements of institutions made it challenging to untangle and comprehend the competing or simultaneous layers of ideational power relations (power through ideas, power over ideas, power in ideas) that came to shape the final policy document. On one hand, this is beneficial because DI does not funnel food policy researchers towards specific institutional areas of study, and this provides for flexibility and adaptability of framework. On the other hand, however, where the regulatory elements hold profound influence on ideation power it is necessary for researchers to bring analytical questions about regulative elements. Doing so lends to a more holist and thorough approach for analyzing different institutional factors impacting ideation and discursive power in food policy development. As a remedy, it is recommended that those using the DI framework should reflect the contours of regulative organization, drawn from public administration and management literature, in order to orchestrate deeper analysis across cognitive, normative, and regulatory elements of policy development (Figure 2.)

Regulative theorists view the organizational changes of a bureaucracy as a fundamental product of regulative organization. Specifically, the impacts on bureaucratic organization, management, and policy and program design are the result of the conflicts and compromises that arise between new and old policy frameworks (Palthe, 2014). As regulative aspects of institutions constrain and shape organizational behavior the role of regulative processes (e.g. rule-based systems of compliance and enforcement mechanisms) can be analyzed as drivers of institutional power and indicators of policy change (Scott, 1981; Meyer and Scott, 1983). Therefore, when studying ideational power dynamics there is also the need to consider if, why, and how convergence of regulative, cognitive, and normative elements in policy development and policy change occur.

Within this literature, the normative perspective points to a sense of duty and moral obligation driving change, usually from broader societal influences. For example, bureaucratic policy actors may feel obligated to alter their behaviour even if they do not identify or agree with the rationale. In turn, deeper analytical questions arise surrounding how actor behaviour is empowered or constrained by regulatory elements. From the cognitive perspective, premise of change

¹⁷A National School Lunch Program is a government orchestrated meal program operating providing nutritionally balanced, low-cost or free food options to children and youth in schools and childcare institutions

¹⁸ESDC falls under the mandates and oversight of the Ministers of: (a) Employment, Workforce Development and Disability Inclusion, (b) Families, Children and Social development, (c) Labour, and (d) Seniors



requires researchers to look at ideas and values internalized at the individual or smaller group level. For example, bureaucratic policy actors “choose to adopt and support a change because they believe in it and personally want to support it, even if it is not enforced through an organizational policy (regulative) or workplace norm (normative)” (Palthe, 2014: p. 61). Parsing out the regulative, normative, and cognitive factors underpinning policy actor(s) behaviour provides for explanation of legitimacy. Considering the underlying rationale for legitimacy in turn lends to parsing out why and how ideational power and institutions constructs come together to influence policy development. Here deeper analytical questions consider how conflicts between policy frames arise, are disputed, and resolved in the face of changing or continued underlying rational regarding regulative frameworks.

This lens is helpful for understanding how cognitive, normative, and regulative factors effected AAFC Food Policy Team’s communicative and coordinative discourses of food waste¹⁹. Prior to 2015 AAFC had paid limited attention to, nor adequately responded to, the issue(s) of

¹⁹The National Zero Waste Council, a prominent advocate against food waste in Canada during the development of Food Policy for Canada, defined food waste as “the loss of edible food and inedible food parts at the point of retail or consumer use” (2018: p.6). In comparison, food lost occurs in the stages between production and distribution, (e.g. food spoiled as a result of production and processing technologies). Food Loss and Waste (FLW) is used throughout this strategy. In some instances, food waste encompasses both loss and waste throughout the supply chain

food waste. Only through asking why and how food waste was not a policy priority was it explained that the regulative history in AAFC predominantly shaped normative and cognitive behaviour of AAFC policy actors. Specifically, precedent mandates, legislation, policy, and programs in AAFC focused on primary agricultural, processing (including food safety), trade, and in more recent years retail of food products; from AAFC's perspective, food waste was located in the food supply chain after human consumption and therefore fell outside their domain (an example of power in ideas). Early in the policy's development (between 2015 and 2016) this perspective made it challenging for the AAFC Food Policy Team to consider food waste as a priority area for AAFC and for Food Policy for Canada. However, as the policy process unfolded, food waste was strongly advocated for by policy actors outside of the state (i.e. The National Zero Waste Council, 2018; Food Secure Canada, 2016; Conference Board of Canada) and became a policy priority under Environment and Climate Change Canada (ECCC).

The AAFC 2018 What We Heard Report on Food Policy demonstrates that non-state policy actor's advocacy during the 2017 public consultation pushed food waste into the growing territory of Food Policy for Canada (an example of power through ideas). Specifically, food waste became understood as an integral part of other policy priorities, including: enhancing health and safety by mitigating the spoilage of food before it reaches northern and remote indigenous communities (2019b: p. 17); improving food literacy and labeling of food products for consumers to make informed choices (2019b: p. 18); addressing environmental implications of food production in Canada and redirecting food loss and food waste back into the supply chain as a non-food resource (p. 20). However, when compared to the framing of food waste outlined in the final policy document of Food Policy for Canada (2019b) the specific asks of stakeholders are not directly reflected but instead the overarching objectives of the government to alter existing regulatory elements within the Canadian food supply chain are: "...reducing food waste in Canada by transforming operations for the processing, retail, and food service sectors, and reducing food waste within the federal government" (Food Policy for Canada: Everyone at the Table!, 2019: p. 9). This priority was substantiated by noting Canada's obligations to fulfill the United Nations Sustainable Development Goal (SDG) 12 (Responsible Production and Consumption): "Target 12.3: By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses" (Government of Canada, 2019b: p. 13).

Collectively, it was found that throughout the policy's development the AAFC Food Policy Team was constantly conflicted between influences of power through ideas and power in ideas. Specifically, the rationale for including food waste as a priority area in the domain of AAFC and Food Policy for Canada was due to another ministerial department already tackling food waste, and less so a reaction to the broader cognitive and normative rationale provided by stakeholders. Specifically, the path dependency of AAFC—the precedent regulative,

normative, and cognitive constraints that previously disempowered policy actors to adopt new policy areas—became loosened to incorporate food waste within AAFC's normative and regulative frameworks. Specifically, the AAFC's Food Policy Team took the opportunity to work interdepartmentally with the Waste Reduction Management Division within the Plastics and Waste Directorate at ECCC whose efforts specialized on food waste between 2015 and 2019²⁰. In turn, the objectives surrounding the concept of food waste found in Food Policy for Canada (2019b) align with content found in ECCC's 2019 report Taking Stock: Food Waste and Reduction in Canada and with the government's explicit obligation to reduce food waste under the SDGs.

Collectively, the DI framework emphasizes ideas as causal forces, yet a methodological framework should be designed to remind and allow the researcher to consider how ideas AND institutions come together to affect policy development and change. In order to do so the regulatory aspects of policy making need to be brought to the fore along side normative and cognitive elements in analysis, instead of subsuming regulative elements within normative policy elements. This provides an additional lens of analysis requiring the researcher to ask important questions about how legality influences cognitive and normative elements and vice versa.

CONCLUSION

The first half of the paper explains how Canada's patchwork approach to food-related law and policy lacks coherence or a common vision of a healthy, just, and sustainable food system. By considering the historical trajectory of Canadian agriculture and agri-food policy in Canada the paper situates the impetus for using the DI framework. This invites others to consider the impacts of previous policy objectives and how those effect the recent development of Food Policy for Canada.

The latter half of the paper takes a dual trajectory to demonstrate the pliability of DI to food policy research. Specifically, how DI can be used and should be considered in order to develop both theory and information-gathering together, where each informs the other. First, select findings demonstrate that using the DI framework is beneficial for understanding the power underlying discursive effects in policy making—how food policy is understood and shaped by different actors as well as how those ideas are shared in different settings—as well as the material consequences. Second, select findings highlight important considerations and recommendations for adopting the DI framework, demonstrating how the DI framework was tested using the Canadian case study.

Considering the Canadian case study, the preliminary findings point to an overall minimal transformation in the arena of Canadian agri-food policy. However, the discursive effects

²⁰The efforts around food waste within ECCC precede the 2015–2019 period. However, the 2015–2019 period reflects the active communication and coordination efforts that aligned the focus on food waste across the ECCC report Taking Stock: Food Waste and Reduction in Canada (2018) and AAFC Food Policy for Canada (2019).

within and across the stages of policy development, including different policy actors and different policy spaces, do emulate efforts were taken to challenge existing policy frames. Altogether, this paper demonstrates that the logic of communication and its intricate components highlight important elements for unfolding the narrative of Food Policy for Canada. Ultimately DI is necessary for parsing out the policy's substance and developmental processes that lead to the cognitive and normative elements found in the final policy document.

Broadly, however, this paper also points to important intellectual and practical questions of food policy research. First, without DI what might be a consequence of the research process and findings? Without the DI framework a researcher may not consider the power of ideas as causal forces meaning important insights about the development and maintenance of power hierarchies within and across policy arenas is omitted. This is vital information for academics because DI compliments existing literature that overlaps disciplines providing flexibility for multi-disciplinary research. The case study of Food Policy for Canada compliments Skogstad's (2008; 2012) work by exploring how agricultural policy paradigms in Canada are connected to but distinct from food policy paradigms—thus lending to multiple disciplines studying the intersection of food and agricultural policy. From a practical perspective, DI helps bring theory and practice together; DI positions researchers to provide detailed explanation of observations and tangible solutions for future food policy efforts to other scholars and practitioners—a step not always considered in the research process.

Second, what are the material consequences?; how can using DI ultimately help shift food policy efforts towards transformative policy making in Canada? For the research process, DI helps with generating focused research questions and encourages depth and detail when explaining material consequences by blending multiple layers of policy and administrative organizational analysis. Specifically, DI focuses researchers' attention to policy actors' behaviour and policy environments in order to explain how discursive effects lead to the short- and long-term material consequences of policy development—consequences that demonstrate continuity or change of previous policy-making behaviours. From an institutional perspective this approach can highlight missed opportunities where policy actors can better collaborate to overcome pitfalls of the past—potentially identifying where and why change needs to occur (e.g. aligning ministerial department mandates regarding food policy; establishing a permanent interdepartmental committee on food policy) if the trajectory of Canadian agriculture and agri-food policy is to shift towards more socially just and environmentally conscious efforts based on holistic or joined-up policy making.

In moving forward, a comparison of national food policy discourses with localized and/or international examples would be interesting. Continuing research in Canada, a comparison of food policy discourses within and between provinces and territories and the federal government would help not only identify existing food policy efforts (i.e., generate an inventory of Canadian food policy), but also identify how and why specific institutional bodies can proactively

collaborate to produce effective food policy in the future. Further, identifying similarities and differences in how and why food policy development occurs in Canada, the United States of America, and Mexico could be helpful for navigating future collaborative policy making within and between these countries, especially for shaping trade discourse.

Altogether, adopting the DI framework reflects Simeon's call of doing theory and practice simultaneously in order to generate rigorous research practices; a framework offering many benefits to those interested in the discursive effects and material consequences observed through food policy analysis.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusion of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by The Carleton University Research Ethics Board-A (CUREB-A) Ethics Clearance ID: Project # 106467. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

MC, the sole contributor to the conception and design of the study, as well as organized and performed the analysis, wrote the draft and attended to all revisions, read, and approved the submitted version.

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Safe Food, Dangerous Lands? Traditional Foods and Indigenous Peoples in Canada

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There is a deep and troubling history on Turtle Island of settler authorities asserting control over traditional foods, market-based and other introduced foods for Indigenous peoples. Efforts to control Indigenous diets and bodies have resulted in direct impacts to the physical, emotional, mental and spiritual well-being of Indigenous peoples. Food insecurity is not only a symptom of settler colonialism, but part of its very architecture. The bricks and mortar of this architecture are seen through the rules and regulations that exist around the sharing and selling of traditional or land-based foods. Risk discourses concerning traditional foods work to the advantage of the settler state, overlooking the essential connections between land and food for Indigenous peoples. This article explores the ways in which the Canadian settler state undermined and continues to undermine Indigenous food sovereignty through the imposition of food safety rules and regulations across federal, provincial, and territorial jurisdictions.

Keywords: Indigenous, traditional foods, food security, policy, settler colonialism

INTRODUCTION

Over the last 20 years, Indigenous foods and food systems have received increasing scholarly attention [Ray et al., 2018; Burnett et al., 2015; Kelm, 1999; Lux, 2001; McCallum, 2017; McLachlan, 2014; Shewell, 2004; Cidro and Martens, 2014; Settee and Shukla, 2020; Truth and Reconciliation Commission (TRC), 2015]. Much of this work seeks to understand past, contemporary, and ongoing food insecurity. In Canada¹, Indigenous peoples experience rates of food insecurity that are disproportionately higher than non-Indigenous peoples (Skinner and Levi, 2018; Tarasuk, Mitchell, & Dachner, 2016).² Food insecurity, for Indigenous peoples, has been linked to higher rates of poverty as well as a lack of access to traditional food³ sources, to name but a few factors (Power, 2008). Tarasuk et al. (2013) have noted how Indigenous heritage is a “household

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¹Turtle Island represents ancestral understandings of the origins and significance of the land now known as North America and will be used moving forward. However, the policies presented in this paper are unique to so-called Canada, the northern portion of Turtle Island.

²According to Health Canada (2007), food insecurity is defined as occurrences of hunger due to a lack of access and availability of healthy, fresh, and safe foods.

³We use various terms (traditional food, country food, wild food, cultural food) to describe food that has been harvested from the land, air, and water. The term used depends on the context. For example, in provincial acts and legislation in Canada, they are referred to as wild foods or wild game. Traditional food is the term often preferred by First Nations peoples and country food is the term often preferred by Inuit. These terms may be used interchangeably throughout.

characteristic associated with a higher likelihood of food insecurity” (p.3). However, this picture is far more complicated. This article explores the ways in which the Canadian settler state undermined and continues to undermine Indigenous food sovereignty through the imposition of food safety rules and regulations across federal, provincial, and territorial jurisdictions.⁴ What we seek to illustrate here are patterns of federal and provincial policies across time that erode Indigenous food sovereignty.

For Indigenous peoples, food insecurity is rooted in settler colonialism⁵ and any move towards decolonization must be grounded in practices and support of Indigenous food sovereignties and land back movements (Daigle, 2017). Indigenous food systems on Turtle Island have undergone dramatic changes over the last 500 years because of settler colonialism which has sought to control and eliminate Indigenous people’s food knowledges and practices through the destruction of animals, lands, waters, and Indigenous bodies. It has forced changes to Indigenous diets through food availability, the residential school system⁶, the creation of the reserve system, and the introduction of poor-quality market-based foods at exorbitant prices (Rowse, 1998; Shewell, 2004; Monchalin, 2016).

As social determinants of health, food insecurity and settler colonialism have direct impacts on the spiritual, emotional, physical, and mental well-being of Indigenous peoples (Loppie Reading and Wein, 2009; Greenwood et al, 2018). Within this framework, comes the understanding that food insecurity and the impacts of colonial food systems, inhibits Indigeneity and reproduces trauma. Indeed, the inability to self-determine one’s food system, and thus health and culture, can result in feelings of isolation, a lack of belonging and in some cases *dis-ease* (Morrison, 2011; Cidro and Martens, 2014; Monchalin, 2016).

Relatively less scholarship has explored the connections between Indigenous food and social dimensions such as identity, belonging, and healing in Canada, thus the objective of this paper is to examine the ways in which access to traditional foods are restricted through federal and provincial and territorial food safety rules and regulations. These regulations are so prohibitive they prevent

Indigenous peoples and communities from pursuing moderate livelihoods (as guaranteed under the treaties), and impede the practice of cultural practices and values such as generosity, reciprocity, sharing, and kindness. It is important to illuminate the ways in which federal and provincial rules and regulations prohibit and limit access to land-based foods especially in urban and public spaces, highlight the contradictions that exist within those policies, and the ways in which these policies operate to sever the connections between food and identity for Indigenous peoples (Carter, 1990; McNabb, 1993; Jasen, 1995; Tough, 1995; Gulig, 2003; Sider, 2014). In this paper, we historically contextualize the efforts of the Canadian state to wrest control over food systems from Indigenous peoples and provide examples of how these practices persist into the present. Under the guise of food safety and risk, the settler state continues to exert unnecessary and assimilatory control over Indigenous people’s food systems. It is in these ways that food operates as a technology of power that simultaneously acts out and reinforces settler control over Indigenous peoples. Food insecurity is not only a symptom of settler colonialism, but part of its very architecture. Indeed, we see the bricks and mortar of this architecture through the rules and regulations that exist around the sharing and selling of traditional or land-based foods and how it impacts Indigenous cultures and communities.

METHODOLOGY

This historical and legal analysis explores food policies and legislation in the context of the ongoing colonial food system that has been imposed on Indigenous communities. We draw from various literatures including Indigenous studies, food history, and socio-cultural understandings of risk. Our focus is on so-called Canada, and while we discuss food overall, we emphasize through the policy discussion wild animals from the land, sea, and sky. Importantly, while we discuss the larger Indigenous food system in so-called Canada, it must be noted that Indigenous communities’ traditional and pre-colonial diets vary considerably; meat and fish feature prominently in nearly all Indigenous diets while plants as food vary from nation to nation.

Positioning Ourselves

We are a diverse group of scholars in food and settler colonial studies located in the geographic areas that came to be known as present-day Manitoba and Ontario (Treaty One, the Robinson Superior Treaty of 1850, and the Haldimand Tract). The first author is mixed ancestry Swampy Cree, and the other authors are non-Indigenous settler allies with a long history of working with Indigenous communities. Together, we research Indigenous food systems and illuminate the histories of government and corporate oppression of Indigenous peoples’ bodies, lands, and foodways.

DISCUSSION

Traditional Food

Traditional foods are considered those foods that extend back in time to represent a more historical diet; these are the foods that

⁴We draw attention to the continual violence, both physical and epistemological, of the lands of so-called Canada through the title of this paper.

⁵Settler colonialism is a system of domination, exploitation, and land/resource theft that differs from more conventional understandings of colonialism in that settlers come with the intention of permanent occupation. Settler colonialism is not a single event but a system that is established over a long period of time and involves a knowledge making process that seeks to construct settlers as the original inhabitants of the continent and the violence and genocide (physical and epistemological) that is necessary to secure the land is made to appear as normal, neutral, and inevitable. In other words, settler colonialism seeks to destroy to replace. We see settler colonialism historically and ongoing in countries like Canada, United States, Australia, and New Zealand (Wolfe, 2007; Tuck and Yang, 2012).

⁶The residential school system forcibly removed Indigenous children from their homes and into church and government-run boarding schools where children were beaten, sexually abused, and starved in order to kill the Indian in the child, a government policy that sought to assimilate children (Truth and Reconciliation Commission of Canada, 2015).

Indigenous peoples in the geographic area currently known as Canada have been eating for thousands of years. While there is debate over whether or not the term traditional food is appropriate because it implies that such foods are static and unchanging (Luppens and Power, 2018), we know this not to be the case. Thus, we employ an expansive definition that includes “the sociocultural meanings, acquisition/processing techniques, use, composition, and nutritional consequences” of traditional foods (Kuhnlein and Receveur, 1996, p. 418). Traditional food signifies more than just the physical food itself, but serves as an act of culture and within the structures of settler colonialism, a political act of resistance and resurgence. In Canada, traditional foods are those harvested from the land and water and include wild game, water mammals, fish, seafood, berries, and other wild growing fruits, vegetables, and medicines. Such foods are more nutritious than conventional, market-based foods produced within the industrial food system (Nakano et al., 2005; Kuhnlein and Receveur, 2007; Elliott et al., 2012).

Traditional foods are critical to Indigenous cultures. Through the practice of hunting, gathering, fishing, and foraging, Indigenous peoples have the opportunity to not only practice their culture, but also invoke spirit. Indigenous relationships to the land see plants and animals as gifts, part of an interconnected system of all living things. Through ancestral responsibilities to the land, Indigenous peoples are upholding long-standing agreements with all of creation to live in harmony. Animals are not only food, but living forms of spirit in an Indigenous food system. Indigenous peoples maintain their responsibilities to animals through harvesting following Natural Law. Indigenous scholar Waziyatawin (2005) describes their responsibilities:

“We believe that part of our spiritual responsibility as human beings is to maintain respectful relationships with all of creation. For some of us this might mean singing to the corn, offering prayers to plant and animal beings, or harvesting in a sacred manner. These culturally and spiritually significant actions nurtured us as well as the spiritual beings we encountered.” (p. 75)

Many of the rituals surrounding traditional food harvests are ceremonial. These include offerings to the land and feasting. For some Indigenous cultures, there are ceremonies dating back hundreds of years that celebrate seasons and giving thanks to the plants and animals of each season (Johnston, 1990). Many of these ceremonies continue today and they are integral to Indigenous food sovereignty (Robin, 2019). It is for these reasons and more that settler colonial states have used and continue to use traditional foods and food systems as means to control Indigenous populations and gain access to their territories and resources.

The Control of Traditional Food

There is a deep and troubling history, both in Canada and the United States, of state authorities asserting control over

traditional foods, market-based, and other introduced foods for Indigenous peoples. Over time access to traditional foods has been undermined through forced migration, land dispossession, climate change, and environmental contamination (Bussidor and Bilgen-Reinart, 2000; Coté, 2016; Daigle, 2017; Tester and Kulchyski, 1994; Tobias and Richmond, 2014). For instance, on the prairie regions of Turtle Island, control over access to food was exerted through the confinement of Indigenous peoples to reserves and the introduction of the pass system⁷ in 1885, the imposition of provincial hunting and game regulations that were in direct violation of the treaties, and the elimination of the bison. All of which served as key tactics in the government’s plan to break ancestral connection to lands by preventing access to sacred food sources in order to free up land for western agricultural expansion (Carter, 1990; Isenberg, 2000; Waziyatawin, 2012).

There is a history of Indigenous agriculture of crop plants that have been domesticated, such as corn, beans, squash (the “three sisters”), and sunflowers (Robson, 2020). While the imposition of western style agricultural practices on Indigenous peoples was part of the federal government’s assimilatory project, many Indigenous communities in the Prairie West successfully adopted these practices and competed with non-Indigenous farmers (Carter, 1990). However, these initial successes were quickly undermined by the federal government through a series of policies and regulations intended to reduce and eliminate agricultural production on reserve to prevent competition with non-Indigenous farmers (Carter, 1990; Ladner, 2009). We see similar tactics employed with the issuance of fishing licenses that impose catch limits and when First Nations were allotted one fishing license to feed their entire community. In contrast, non-Indigenous fishers received individual fishing licenses for commercial purposes (Piper, 2010). The story of the prairies is only one example of how the government asserted control over Indigenous peoples and their lands; the loss of fisheries through overharvesting and the introduction of fish farms in oceans and inland lakes is another. These examples offer insight into the government’s agenda to push industry onto Indigenous territories, and commercialize land and water-based food harvesting activities.

Knowledge about food was also undermined by the state. Interned in Residential Schools where the connection Indigenous children had to their culture and communities was severed, Indigenous children were starved and punished using food. Traditional foods, regarded by church and state authorities as symbolic of Indigenous culture, were denigrated by school authorities and banned from schools despite the failure of schools to replace it with either adequate or

⁷The Pass System was a government policy that policed and forbade Indigenous peoples’ movement within and outside their communities without travel approval from government appointed Indian Agents. It was part of a larger strategy of assimilation.

nutritious food (Coté, 2010). More importantly, in losing their culture through assimilation and abuse, Indigenous children lost food preparation and harvesting skills, including the language, songs, ceremonies, and celebrations of their ancestors. Indigenous children were disconnected from the land and for many the cycle of intergenerational learning was broken. Children were taught, and punished to believe that traditional food and the supporting of traditional practices and culture was inferior (Milloy, 1999; Truth and Reconciliation Commission of Canada, 2015).

Today, access to hunting, fishing, and trapping continues to be hindered by government restrictions that limit the amount of food harvested, sets game specific seasonal hunting, firearms licensing, and even controls the routes used for traditional harvesting (Socha et al, 2012; Gardner and Tsuji, 2014). The high costs of hunting, fishing, and trapping are additional barriers Indigenous peoples face in an effort to practice their culture (Lambden et al., 2006; Pal et al., 2013; Leibovitch Randazzo and Robidoux, 2018).

Many Indigenous peoples argue that separating food from the land furthers the destruction of both Indigenous cultures and lands (Tobias and Richmond, 2014; Monchalain, 2016; Richmond, 2018). Indeed, for more than 200 years the Canadian government has used assimilation as a tool to gain control of lands and to disconnect Indigenous peoples from their food sources (Shewell, 2004). Control over food access has also occurred in the realm of non-Indigenous market-based foods. Participation in the fur trade and rations provided through treaty negotiations introduced foods such as pork and white flour to Indigenous peoples that have been linked to poor health (Lux, 2001). Today, nutrient poor foods are the most affordable option for many Indigenous peoples with the costs of fresh and nutritious foods becoming increasingly prohibitive, particularly in fly-in and northern rural First Nations (Galloway, 2014; Burnett et al., 2015; Food Secure Canada, 2016; Galloway, 2017; Hammond, 2017). These examples provide a snapshot of the interconnections between food, land, and Indigenous culture and demonstrate how government policies, actions, and inactions have contributed to a loss of self-determination and well-being. Understanding these elements is critical to understanding contemporary food insecurity and its cultural consequences. Next, we turn to the rules and regulations regarding traditional—and sacred—food imposed by federal, provincial and local health authorities that restrict Indigenous people's access to food.

Current Traditional Food Policies

The rights of Indigenous people to access food from the land has been documented, articulated, and upheld through a number of jurisdictions and governments. Internationally, the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) (United Nations, 2007) acknowledges that “Indigenous peoples have the right to their traditional medicines and to maintain their health practices, including the conservation of their vital medicinal plants, animals, and minerals” (Article 24,

Section 1). Nationally, the Natural Resources Transfer Agreement (NRTA) recognizes access and consumption of traditional foods as a basic right for Indigenous peoples, and that “treaty and aboriginal rights relating to hunting, fishing and trapping are also recognized and affirmed as part of the Constitution of Canada by **Section 35** of the Constitution Act, 1982” (Manitoba Conservation and Water Stewardship, 2017, p. 1). Not included in the framing of these agreements is the health and safety of traditional foods themselves, as well as protection for the land from which these foods are harvested.

Currently, a significant barrier that restricts access to traditional foods are those policies imposed under federal, provincial, and territorial food safety rules and regulations. In many cases these regulations are so prohibitive that they pose significant challenges to Indigenous livelihoods, and impede cultural practices and values such as generosity, reciprocity, sharing, and kindness (Adelson, 2000; Hart, 2002; Anderson, 2011). These regulations are predicated on a western system of domesticated animals. Since pre-colonial Indigenous diets did not include the domestication of animals (Kuhnlein and Humphries, 2017), these policies are based on an entirely different colonial system that disregards Indigenous harvesting practices of wild animals and undermines Indigenous wellbeing (Dennis and Robin, 2020). Indeed, the safety rules and regulations imposed by provincial and territorial health districts and the federal food inspection agency around traditional foods directly impacts Indigenous people's right to practice their culture. The Canadian Food Inspection Agency (2013) has mandated that all meat farmed and fish harvested for commercial purposes are subject to regulations and inspections by provincial, territorial, and federal governments prior to any sale of food and before public consumption to reduce risk of food borne illnesses. In this context, risk is defined by the Canadian Food Inspection Agency and within these regulations, wild foods/game are considered high risk because they have not been produced, inspected, or processed in a federally inspected abattoir. Provincially, similar definitions and regulations are applied to wild game. Under Ontario's current Food Safety and Quality Act, wild foods such as moose or beaver, are also considered to be risky because they cannot be monitored, inspected, and processed in the same manner as those foods produced within the industrial food system. It is through these regulations, that the state defines risk in relation to food (Petersen and Lupton, 1996; Lupton, 1999), which is then used as a tool of settler colonialism to further demarcate traditional and wild caught or harvested foods as risky/dangerous and therefore in need of careful surveillance, and in doing so prevents these foods from being distributed or shared beyond immediate family.

Traditional foods obtained through recreational or subsistence practices are regulated through a different policy, the Safe Food for Canadians Act (Minister of Justice, 2012). Under the Safe Food for Canadians Act, a hunter with a hunting license may hunt and share food with his family, but not community. With the exception of

Nunavut, wild game that is not inspected cannot be legally shared or served in public spaces (Howell, 2012; Aurora Research Institute, 2018). Under the Nunavut Land Claim Settlement Act, Inuit have the right to sell, barter, exchange, and trade lawfully harvested game (Aurora Research Institute, 2018). Despite the opportunity to sell country food in Nunavut, there are a range of perspectives from Inuit as to whether selling country food, instead of sharing, has an impact on Inuit culture and identity (Searles, 2016). In most regions of the other provinces and territories, it is unlawful to sell wild game, in any form, even if it has been dried, frozen, salted, or smoked. Howell (2012) also notes that even the offer to share, without the exchange of goods, is illegal. Ostensibly these regulations are designed to protect both people (from potential illness) and the wildlife stock itself. In operation however, these regulations treat Indigenous practices around harvesting and relationship to land the same as the production and processing of foods within the industrial food system. Requiring Indigenous peoples to conform to such regulations is an effort to divorce the social, spiritual, and cultural elements of harvesting wild game that comprise a larger Natural Law for Indigenous peoples. It is in this manner that regulations meant to manage risk and supposedly ensure food safety, operate to prohibit access to wild foods and sever Indigenous peoples from their culture and community, and function as an important technology of settler colonialism. Howell (2012) shares a conversation with a Fish and Wildlife Officer in Alberta:

“We hope that people can appreciate that if we allowed people to sell the meat they hunted, it could be devastating on wildlife populations ... Settlers came here and hunted the buffalo, and other wildlife, to near extinction for its meat and hides. It’s a very real possibility.” (n.p.)

Within the formulation of these policies, there is no value given to traditional forms of sustainable hunting, harvesting, gathering, and fishing practices or to the sacred agreements contained within the Royal Proclamation, and later through the Canadian Charter of Rights and Freedoms, **Section 25** which support Aboriginal title and “treaty rights” (Monchalín, 2016). Indigenous peoples have long been environmental stewards of their lands and resources, including wildlife. While the hunting practices of Indigenous peoples have often been erroneously blamed for the decline of specific animal populations, such as caribou, recent research has shown that mineral resource development is the cause of declining caribou herds. Indeed, “there is no evidence that Indigenous harvest practices have had any influence on caribou population dynamics” (Parlee et al., 2018, p. 11).

When wild foods are served and/or shared with people who gather to create community or feast the following requirements must be met: the food handling area used for receiving, processing and containing wild meat must be inspected by a local health inspector; uninspected meat

cannot come in to contact with inspected meat, nor can any kitchen utensils, containers, or surfaces; and food handling certificates although not required, are advised for those involved in country food programs. In Manitoba, the guidelines can be found through the *Guideline for the Design, Construction, and Re-construction of a Food Processing Establishment* and include such requirements as approved wall surfaces, equipment and design installation along with lighting and ventilation (Manitoba, 2013). Access to potable water is also a requirement for these establishments; a challenge for many First Nations. For instance, in 2013, 118 Indigenous communities were under boil water advisories (Monchalín, 2016) and despite Federal commitments to remove all long-term drinking water advisories in First Nations communities by March 2021, 58 advisories remain, with 44 of those in the province of Ontario (Stefanovic and Jones, 2021). Moreover, urban community gatherings often take place in outdoor settings to enable traditional cooking techniques over an open fire (i.e., smoking goose or fish).

Similar prohibitive regulations exist in other provinces. In Ontario, meat must be inspected immediately ante and post mortem; clearly an impossible requirement for wild game. An establishment serving fish or wild game can only use game that was obtained under a valid license and it must record all revenues and expenditures from the event; it must notify the local public health unit of the event; post signage where the meat is served to communicate that it has not been inspected; it must notify each patron individually in writing that the meat they are being served is uninspected; and it must keep a list of all attendees who consumed the wild food⁸. This complex web of rules involves no less than three different ministries: the Ministries of Health (MoH), Natural Resources and Forests (NRF) and Agriculture, Food and Rural Affairs (OMAFRA). Many organizations have opted not to serve traditional foods rather than attempt to navigate these complicated rules and requirements. One example where an establishment has been able to make some progress with these regulations is the Meno Ya Win Health Centre in Sioux Lookout, northern Ontario. Meno Ya Win is a 60-bed hospital and 20-bed extended care facility and is one of the only provincial establishments that can legally serve wild food to its patients (Ya Win, 2014). Meno Ya Win was explicit about incorporating traditional foods into the Sioux Lookout Meno Ya Win Health Centre Act to establish the Sioux Lookout Meno Ya Win Health Centre (Chapter PR17) when the hospital legislation was initiated (Government of Ontario, 2001). This has enabled the facility to offer their *Miichim* (traditional foods) program of “uninspected” traditional foods to patients twice a week and frozen *Miichim* meals to patients who wish to keep to their traditional diet daily. Despite the allowance in the Sioux Lookout Meno Ya Win Health Centre Act (Government of Ontario, 2001) to legally serve wild foods, there are still challenges and barriers to

⁸<https://www.ontario.ca/page/serve-fish-or-wild-game-charitable-events>.

offering the program. All of the traditional food must be donated and the program is continuously seeking donations (Ya Win, 2014); the uninspected wild meat must not come into contact with any inspected meat necessitating a separate kitchen and kitchen tools; and anyone choosing to eat wild meat at Meno Ya Win must be informed in writing each time before they are served that the meat has not been inspected (Government of Ontario, 2001).

Even programs intended to improve access to traditional foods establish further barriers. At the federal and provincial/territorial levels, efforts have been made to introduce country food programs that are intended to increase the access of Indigenous peoples and communities to traditional foods but many of these programs are narrow in focus and frequently produce more barriers rather than less. For instance, under Nutrition North Canada (NNC) the federal government provides higher subsidies to ship country food between communities. However, in order for wild foods to be eligible for the subsidy under NNC, they must first be processed by an approved (federally licensed) abattoir. Only three of these type of processing facilities exist in northern Canada and all are located in the Far North (Burnett et al., 2015). In order to use these facilities, a hunter would have to ship harvested foods either farther north or south and then back again. Few communities and individuals have the capacity to navigate regulatory requirements regarding food safety or pay the costs.

Few Indigenous communities in Canada have been able to develop their own country food programs in order to provide places for local members to process and/or store their meat. One exception is Nisichawayasihk Cree Nation in Manitoba, where a country foods program has been in operation since 1975. The program provides year-round employment for two to three community members to manage the facility. Another four to five community members are hired as year-round hunters, trappers, and fishers. Through the Nelson House Country Foods Program, community freezers are stocked with traditional food and the food is distributed to Elders, single parents, and those facing other hardships such as illness or unemployment (Martens, 2015). In the summer, the program also adds a garden and hires gardeners along with berry and medicine pickers. The funds for this program were provided through the Northern Flood Implementation Agreement.

Although fruitful and important, these types of programs continue to face challenges. In order to meet the food needs of communities, country food programs must be supported by the necessary infrastructure, that includes the training of volunteers and/or staff who can work with federal and provincial guidelines and support staff, as well by as a considerable financial investment to make these programs sustainable. Meeting these regulatory requirements demands considerable effort and financial investment. The infrastructure needed to meet the requirements of all inspecting bodies is costly and not easily available for communities. In all cases, Indigenous communities must work with provincial agencies to understand and meet the requirements to process country foods.

There is an interesting point of tension in the health and safety of traditional foods. On the one hand, northern geographies where many First Nations peoples reside are known for their presence of persistent contaminants, which Kuhnlein and Chan, 2000 have indicated as being present through “atmospheric, marine, and freshwater/terrestrial routes” (p. 600). On the other hand, health and safety inspections for traditional foods are not readily available for Indigenous communities due to access issues. Yet, these inspections are mandatory for traditional foods. This has resulted in some Indigenous communities forgoing traditional foods in their diets. In the communities surrounding the oil industry, where cancer rates have been connected, in part, to the consumption of traditional foods, Indigenous peoples have stopped consuming traditional foods (McLachlan, 2014). Government control over the safety of traditional foods does not extend to the source of the food itself—the land—but rather concerns itself with human exposure to food borne illnesses that result through “improper” harvesting sources, processing, and storage (Jung and Skinner, 2017). This affirms how narrowly defined risk discourses concerning traditional foods work to the advantage of the settler state, overlooking the essential connections between land and food for Indigenous peoples. The larger backdrop of pollution, contamination, and resource extraction, including environmental racism, creates further barriers for Indigenous peoples’ access to land-based foods (see Daigle, 2018; McGregor, 2012; Waldron, 2018 for insight into Indigenous water issues as one example). In the context of Indigenous food sovereignty, the safety of the lands warrants further attention.

Despite these obstacles and the continued exertion of control over Indigenous peoples’ food systems, there are positive stories where communities have been able to meet the requirements for a food processing establishment. Nevertheless, this does not mitigate the need for examining the social, health, cultural implications of oppressive policies.

Traditional Food Policies and Identity

Numerous scholars, Elders and knowledge holders across Turtle Island, have discussed the connections between traditional food and identity (Adelson, 2000; Anderson, 2011; LaDuke, 2004; LaDuke, 2005; Martens and Cidro, 2020, to name but a few). For Indigenous peoples, food and culture are inextricably linked. Food practices including harvesting, hunting, cooking or feasting are an element of culture tied to identity and Indigenous well-being. The state has long used food to eliminate Indigenous peoples through starvation, coercion, and manipulation. In the dominant society wherein market-based food is the norm and land is seen as a product for consumption, control over the food system has been used to further assimilate Indigenous peoples into mainstream society. Viewing food through this lens removes the connection between land and people. Indigenous peoples are of the land (Robin, 2019). Thomas King (2012) describes: “land has always been a

defining element of Aboriginal culture. Land contains the languages, the stories, and the histories of a people. It provides water, air, shelter, and food. Land participates in the ceremonies and the songs. And land is home” (p. 218). If land describes who Indigenous peoples are and have come to be, then food from the land is how culture is *lived*. Too often Indigenous peoples have to view food as sustenance because they are facing conditions that limit their ability to eat at all (Power, 2008).

Yet, Indigenous peoples were and are self-determining (Ladner, 2009; Simpson, 2011). Having the ability to self-determine your diet and make decisions that support well-being is critical to achieving harmony, balance, and health. Indeed, the values of sharing, kindness and respect are foundational to many Indigenous cultures (Hart, 2002). Policies that deter and punish Indigenous peoples from practicing their values through the sharing of food ultimately confuses Indigenous identities. The sharing of traditional food is an act of kindness, respect, and generosity; it allows Indigenous peoples to look after community members and to also share the gifts that nature has provided. State policies and regulations prevent Indigenous peoples from fulfilling their roles and responsibilities as Indigenous peoples. In harvesting from the land, Indigenous peoples act as caretakers and stewards (Martens, 2018). Sharing is part of the gift that Indigenous peoples have been given through their relationships with the land. Further confusion lies around the notion of control; as Indigenous peoples have long understood that land is not something that can be owned. If you cannot own the land or the food that comes from it, how can it be controlled by the government? These are questions that undermine self-determination, culture, and identity. Food is a vehicle in which to carry out settler colonialism.

CONCLUSION

We are witnessing a resurgence of traditional values, protocols, and practices that may leave outsiders/non-Indigenous people wondering what roles they can play in challenging the deeply troubling history of exploitation, subjugation, and oppression that has long informed research on Indigenous peoples (Smith, 2005). Continuing to document the disproportionately high rates of food insecurity among Indigenous peoples and communities is unnecessary; Indigenous peoples have been researched to death, quite literally⁹. Instead, researchers need to engage and work with Indigenous communities, as *co-researchers*, to identify and dismantle the systems of power and oppression

that continue to disrupt Indigenous people’s well-being. The provincial food safety rules and regulations presented in this paper are just one piece of that system that needs to be better understood. Indigenous food values are not considered in state and industry decisions over food and land, rather colonial ideas of a food system devoid of any spirit are the norm. Of particular importance is the need to examine why Canadian society continues to collectively uphold policies that oppress Indigenous people’s bodies, lives, and livelihoods. Indigenous people are more than capable of defining who they are and their own protocols for determining food safety, but this process is curtailed by shape-shifting colonial governments that alter the lands, waters, and skies, amongst all living things as stated in both Natural Laws and treaties. We call on people to illuminate how the state uses notions of food risk to prevent access to land and cultural resources and as a technology to manage the “Indigenous problem.” Legislation to ensure lands and waters, soils and skies, are safe is desperately needed, and this work must be undertaken cooperatively between Indigenous and non-Indigenous peoples. However, non-Indigenous peoples must be willing to cede authority and listen to Indigenous voices. Moreover, at a time when the bodies of Indigenous children of being unearthed in burial sites across the country, it is time to center, adopt, and facilitate the Truth and Reconciliation’s 94 Calls to Action (calls for Health and Legal Systems, for example), and the Missing and Murdered Indigenous Women and Girls’ Inquiry Commission’s 231 Calls to Justice (calls for Health, for example). As food scholars, we must make the connection between this unearthing and the continual subjugation of Indigenous peoples through food policies. Hunger has been a terrible problem in Indian Country for far too long.

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TR, KB, BP, and KS conceived the idea and developed the initial concept for the paper. TR drafted most of the main text of the paper, with a few specific sections written by KB, BP, and KS. All authors reviewed and edited the paper, and approved the final version of the article for publication.

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⁹Historically, research on Indigenous peoples has been dangerous, extractive, and exploitive. With issues ranging from deliberate nutrition experiments on Indigenous peoples in the north (Mosby, 2013) to pharmaceutical patents using Indigenous knowledges, Indigenous research, as Linda Tuhiwai Smith, 2005 writes, has been harmful and even fatal.

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Communicating the Benefits and Risks of Digital Agriculture Technologies: Perspectives on the Future of Digital Agricultural Education and Training

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British Columbia's food system is experiencing an emerging trend in the digitalization of agriculture, which will impact agricultural practices in the province. The rapid growth of this field has created a niche for training and education in digital agriculture and more specifically, in areas such as robotics, artificial intelligence, big data analytics, and computing. However, it remains unclear whether current educators and trainers in British Columbia are communicating both the benefits and risks of digital agriculture, and the need for an inclusive and equitable approach to digital agriculture. To understand the emerging education and training landscape in digital agricultural technologies, this exploratory study engaged in a key informant interview with 12 participants, including educators, relevant government staff, and private training consultants/practitioners in the food and agricultural sector in British Columbia. The small sample is reflective of the nascent nature of this area of research, which seeks to better understand digital agriculture from the perspectives of agricultural educators and trainers both in the public and private sectors. The study found that there is currently a lack of consideration for equity and food sovereignty in digital agricultural training and education. This is primarily due to a gap in engagement with the social aspects of digital agriculture. Without engaging critical social scientists and critical data studies, digital agriculture education, and training may be conducted in ways that do not promote responsible and ethical innovation, and are therefore counterproductive to the development of a just and sustainable food system.

Keywords: digital agriculture, training, education, policy, communications

1 INTRODUCTION

For decades, the agriculture sector in Canada has been undergoing a trend toward a digital agricultural revolution. The promise of digital agricultural technology is that it presents an opportunity for improved productivity and environmental benefits through more efficient use of natural resources (Newell and Taylor, 2018; Rose and Chilvers, 2018). Some of the claimed benefits of digital agriculture are increased yields with fewer inputs, greater environmental stewardship, and social benefits such as less manual labour on farms (Edwards et al., 2020). On the other hand, there are also documented concerns. Weersink (2018) argues that digitization has led to the decrease in numbers of "average-sized farms" in Canada and a subsequent increase in large farms due to

technological innovations that accelerate production operations. Older farmers and rural farming communities could be excluded from this agricultural digital revolution due to a lack of accessible training and internet connectivity. Farmers might not always understand the data obtained from digital devices and there are also documented issues of trust with respect to data ownership and privacy, as well as a growing digital divide (Rotz et al., 2019; Weersink, 2018; Bronson and Knezevic, 2019). With the development of more advanced technologies such as wireless communication, big-data analytics, cloud-based storage, and data-driven genomes, this data-driven farming requires specific skills and training. The application of digital agricultural technologies and associated training must consider potential harm, farmers' concerns, as well as ensure equity considerations and the sharing of benefits from the technology (Wield et al., 2010; Wiseman et al., 2019).

The Government of Canada has invested around \$49.5 million to engage agricultural stakeholders from the different provinces in the development of digital agricultural tools (Brunner, 2019). For example, one government program—with a \$3 billion budget (2018–2023)—that aims to increase agricultural outputs using new agricultural technological innovations is the Canadian Agricultural Partnership (Government of Canada, 2020). Such financial incentives provide an immense opportunity for Canadian provinces, including British Columbia, to develop their Agri-tech sector. In July 2019, the Government of British Columbia set up the Food Security Task Force to investigate the benefits and costs of digitizing province's food system (Government of British Columbia, 2020). The findings of the task force identified digital agriculture as the way forward for a sustainable food system which reduces food insecurity and GHG emissions. Some scholars have also argued that such an initiative will lead to an improvement of internet infrastructure to support an increasing range of agricultural activities and countless benefits in rural areas (Bolfe et al., 2020). Another key recommendation by the task force members emphasized the creation of Agri-tech institutions that would facilitate the development of digital agricultural technologies and the training of farmers and students in using these tools (Government of British Columbia, 2020). However, some scholars argue in response to the task force that the focus on technology as a means to achieve food security and sustainable food systems is insufficient and calls for a more cautious approach to the role of agri-tech (Hansen et al., 2020).

It is within this emerging and rapidly changing landscape in both the agricultural sector and agri-food focused institutions that this study will highlight what may currently be a “niche” role of educators and trainers in digital agriculture in British Columbia. Due to what are often polarizing perspectives and communications around the potential risks and benefits of digital agriculture, it is critical to better understand the perspectives of agricultural educators and trainers on how they approach the issue of digital agriculture and identify potential gaps that have not been considered. Moreover, it is important to understand whether or not equity considerations and some of the concerns around the technology are being taken into account in digital agriculture education and training.

With the growing interest in digital agriculture and balancing both the potential benefits and risks around digital agriculture, this study seeks to provide insights into the current trend and the future of digitization within British Columbia's agriculture education/training sector, including in post-secondary institutions, in the public (via government provided resources and training), and in the private sector (via consultants). The study seeks to address the following research objectives: 1) To explore educators'/trainers' perspectives and approaches to the benefits and risks of digital agricultural technologies in their education, communication, and training; 2) To assess whether digital agriculture training and or pedagogy includes/considers outcomes such as social equity and food sovereignty; and 3) To identify appropriate policies to promote an ethical and responsible approach to digital agriculture in education and training. By engaging with 12 educators, trainers, and government staff who are involved in providing agriculture and digital agriculture training in the province of British Columbia, Canada, the findings from this study contribute to efforts to better prepare farmers, educators, and students for emerging trends in digital agriculture. Moreover, a better understanding of educators' perspectives/discourse on digital agriculture can help identify the skills and mindset needed to ensure that learners are exposed to a holistic understanding of both the benefits and the potential limitations of digital agriculture. In this study, a discourse analysis (Paltridge, 2021) will be applied to understand the dominant discourse that is framing digital agriculture training and education, particularly who benefits, and who bears the burden of risk and liability. Discourse analysis can be helpful with respect to understanding how spoken and written words contribute to the construction of certain views of the world (Paltridge, 2021), which in this study is based on how digital agriculture is portrayed by educators and trainers.

2 LITERATURE REVIEW

2.1 Digital Agricultural Revolution: Cause for Celebration or for Concern?

There has been an increasing call for the sustainable intensification of agriculture to reduce the carbon footprint of agricultural activities, increase food production, and improve the economic conditions of the farming community (Lowder et al., 2016; Firbank et al., 2018). Framing this “fourth agricultural revolution” as “smart agriculture,” and “digital agriculture,” public discourse and the media have promoted it as the technological fix of future agricultural and food system challenges (Van der Burg et al., 2019). Digital agriculture may take place in the adoption and use of new technologies, the use of advanced sensor capability, improved data connectivity, and computer-based artificial or augmented intelligence (AI) decision support and self-learning systems (Shepherd et al., 2020). While it is a fact that these digital technologies will change the farming culture of communities and agricultural actors, it is still too early to determine how these are perceived

by stakeholders and assess its impacts on the society (Balafoutis et al., 2020).

Precision agriculture focuses on the data generation process which involves on-the-field collection of data through mobile devices, field sensors and satellites. Digital agriculture, on the other hand, goes many steps further by connecting farm equipment to software platforms (Mehrabi et al., 2021; Clapp and Ruder, 2020). The on-farm data is processed using deep learning algorithms and big stack data to enable the farmers or the company to view all production parameters of real-time operations and provide advice regarding seed choice or application of fertilizer and pesticides (Ozdogan et al., 2017; Clapp and Ruder, 2020). These types of tools and information were once exclusively the domain of agricultural extension services but can technically complement or support extension-related work.

Proponents of digital agriculture argue that the use of technology simplifies the complexity of agricultural activities as more detailed and precise data is available to support complex decision-making on-farm; enabling the move “from precision to decision” (Shepherd et al., 2020, pp. 5083). It is claimed that such precise agricultural data paves the way for farmers to be in line with environmental standards and regulation that are becoming more stringent worldwide (Saunders et al., 2016). Furthermore, on a global scale, scholars argue that these digital technologies will provide greater market access for agricultural products as more information about the farm producing the food will create more transparency and traceability through the use of verifiable records and labelling in complex food supply chains (Shepherd et al., 2020).

Some scholars note that the digitization of agriculture would lead to increased production for fewer inputs and a reduction in toxins from agrochemical use due to more precise chemical applications (Basso and Antle, 2020; Shepherd et al., 2020). This phenomenon, in which more food is produced on less land and with less input, is claimed to result in fewer environmental impacts but also increases farm receipt (Garnett and Godfray, 2012). Greater efficiency and productivity are the main arguments of proponents of digital agriculture as it balances the socio-economic and the environmental aspects of sustainable agriculture and the food system (Basso and Antle, 2020).

However, there are also barriers identified by scholars about digital agriculture. For example, internet access in both urban and rural communities is critical to the uptake of digital agriculture and the use of Big Data analytics platforms (Weersink, 2018). Even in 2021, many rural areas of North America and Europe experience a lack of broadband and internet access because internet service providers do not generate the same profit margin as in large cities where they have millions of customers (Pant and Odame, 2017). Moreover, the average age of farmers in Western countries is viewed as a barrier to digital technology as increasing age has a negative correlation with the adoption of technological tools such as computers and online platforms (Tey and Brindal, 2012).

Beyond barriers to adoption, there are also larger concerns around the use of the technology itself and its potential negative

impact on farmers. Often, farmers are captured by sales pitches about a specific precision or digital agricultural system, which can make them believe that acquiring that technology will help them increase crop yield or better manage farm issues. However, the ways in which digital tools are marketed, combined with other powerful social forces, trap many farmers in technological lock-in via debt (McKinnon, 2019). Debt is a key mechanism that farmers engage in to acquire an agricultural technology of a specific brand and system (McMichael, 2013; Rotz et al., 2019). Unfortunately, these agricultural systems are sometimes unable to process agricultural data that come from digital tools of other brands, and this not only reinforces the societal dominance of certain technological systems over others, it also leaves the farmer with financial debt and limited data processing capabilities (Rotz et al., 2019; McKinnon, 2019; McMichael, 2013). Additionally, the dependence of farmers on digital software to guide their farming practices reinforces the technological lock-in as farmers lose their traditional way of evaluating trade-offs and may be unable to fix their machinery or perform agriculture without digital support (Carolan M. S., 2017; Rotz et al., 2019).

While digital agriculture promises environmental sustainability, negative environmental consequences can also happen if the technology is not utilized in the safest way due to a lack of strict regulations. Another major concern is the issue of data ownership. Land grabs in the twenty-first century depend on digital knowledge and needs agricultural data. From a digital agricultural technology provider's standpoint, land represents a block of data and digital agriculture acts as facilitator to capture information about micro-scale qualities of land and lives which are inputted into a data analytics infrastructure operated by multi-national corporations (Fraser, 2019). Such large vertically integrated and multinational enterprises have the data analytic platforms to evaluate the inputted on-farm data (Clapp and Ruder, 2020; Weersink, 2018). Even though farmers agree to the terms and conditions of using digital agriculture platforms, they have little influence in determining consent rights to their data as agricultural companies remain unclear data ownership and whether the data is used for other purposes, such as data sharing agreements with third parties (Custers, 2016; Wiseman et al., 2019). The collection of agricultural data and gene editing by these large agricultural companies make farmers more hesitant to share their data as they fear an agricultural research agenda that will cause economic and environmental consequences (Clapp and Ruder, 2020). Corporate-controlled data analytics platforms are indeed not the most appropriate medium to restore equity among the different agricultural stakeholders and safeguard the privacy and livelihood of small farmers, who feel excluded from the value chain (Weersink, 2018). Sadly, such approach with digital agriculture will continue to widen the profitability gap between marginalized small farmers and multi-national companies.

2.2 Digitization of Agriculture in Canada

When it comes to Digital Agriculture, the Federal Government of Canada is actively engaging the different provinces, education and research institutions, large agribusiness companies and small enterprises throughout the country. With a view to becoming a

global leader in digital technologies for food and agriculture, the federal government has launched the Canadian Agri-Food Automation and Intelligence Network (CAAIN) to regroup 61 technology and agri-food companies including eight core partners such as Alberta Innovates, the Vineland Research and Innovation Centre, Olds College, MDA Systems Ltd., Linamar Corp., Lakeland College, DOT Technology Corporation, and TrustBIX share in the \$49.5 million contributions from the Strategic Innovation Fund (Brunner, 2019). Additional funding of \$15 million will be allocated to other small and medium food enterprise partners to be able to work on an automation and digital technology project to highlight the economic benefits and impacts of digitization of the Agri-Food sector (Morin, 2020). Another federal and provincial program which aims to increase agricultural outputs using new agricultural innovations is the Canadian Agricultural Partnership with a \$3 billion budget (2018–2023) in the agriculture sector. The Canadian Agricultural Partnership is cost-shared between the federal and provincial/territorial governments with the federal government contributing 60% of the costs of the program and the provincial/territorial government contributing 40% (Government of Canada, 2020). This funding is beneficial for start-up, agri-food tech companies involved in a wide range of digital agriculture activities such as farm management platforms, the Internet of Things and novel farming techniques (Schmaltz, 2019).

The Government of Canada is setting the path for the gradual digitization of the agriculture and agri-food sector by providing financial incentives and promoting collaboration between agricultural and technology stakeholders more broadly, as well as in academia. A growing number of start-up agri-food tech companies are also collaborating with the Government of Canada as well as academic institutions (Government of Canada, 2018). The fact that industry (including small and medium-sized enterprises and consultancies), post-secondary institutions, research institutes, and non-profit organizations from multiple sectors across Canada are working with the government in the development of digital agricultural platforms outlines the importance of understanding the nuances of communications particularly around the benefits and limitations of digital agriculture.

2.3 Agri-Food Systems Education and Training

In 1870, John Carling, Ontario's Commissioner of Public Works and Agriculture announced that Canada needed agricultural education in "the science of farming" (Lawr, 1972, 334). The growth of nineteenth-century determinism and the intellectual environment that set the precedence of agricultural education is encompassed in the terminology of "scientific agriculture" with a popular expression at that time based on the idea that "the minds of the agricultural should be irradiated with the beams of science" (Lawr, 1972, 335). Early agricultural education at the University of Toronto in the 1850s saw students take courses in Agricultural Chemistry, Comparative Physiology, Mineralogy, Geography, Surveying, Botany, Management of Property, and Farm

Finance (Lawr, 1972). Compared to Canadian agricultural education, the American agricultural education in agricultural colleges flourished with significant public aid and land grants. The Canadian agricultural and education system was very much influenced by the success of agricultural colleges in the United States and the experimental farm model imported from British agricultural training. Reverend Clarke, a representative from Canada and rector of the first agricultural school in Ontario was sent to the United States to study the agricultural school model there. The earliest agricultural school (Ontario School of Agriculture) supported by the government had the hope of not only teaching good farming but also encouraging rural youth to take a farming vocation instead of leaving for the city. In his words, the school should "urge the importance of a higher standard of mental culture and a general uplifting of that noblest and yet most despised of human pursuits, Life on a Farm." (Ontario, 1871, 15 as cited in Lawr, 1972). Some who supported the school noted that "dirty hands" is not a necessary virtue in a farmer (Farmers' Advocate, 1877 as cited in Lawr, 1972).

In the 19th century, the science of genetics, animal and plant nutrition, and animal biology was non-existent or still in its infancy. As such, it took after the first world war for new scientific developments on vaccinations, soil testing, genetics that would support the pursuits of agricultural science (Lawr, 1972). Eventually, a key success of agricultural education and training programs were through the provision of local and extension support in arranging crop competitions, short courses, demonstration plots, and providing direct assistance for farmers. College-trained agricultural graduates of Ontario Agricultural College (OAC) became in demand and their expertise not only filled federal and provincial agriculture departments, their expertise was also exported to other countries (Lawr, 1972). In a nutshell, the history of agricultural training in Canada from 19th to the 20th century primarily focused on supporting vocational agricultural programs for the purpose of extension services and on teaching the economics of agriculture (e.g. Agricultural Economics) as well as natural science aspects pertaining to agriculture (e.g. plant science, soil science, chemistry, veterinary science, and engineering etc). The science focus was done to avoid the stigma of rural life and dirty work on the farm. The extension principles and methods of agriculture developed in North America and Canada were also transplanted in the global South to promote a particular approach of "scientific agriculture" to food production and agricultural development (Gill, 1996, 3).

However, the social aspects of agriculture, including the impact of agricultural practices on society do not traditionally enter into mainstream agricultural training or courses. In the emphasis on scientific agriculture, there has been a gap in considering the social aspects of agriculture. The social consideration of the impact of agriculture is traditionally housed under social science fields such as food studies, sociology and anthropology, and more recently in food systems. Previously, there were very limited avenues to study food systems as a whole (Hilimire et al., 2014). In recent years,

however, the number of university programs and food systems related courses increased as agricultural, environmental, and food systems related issues became more prevalent in urban and rural settings (Hilimire et al., 2014; Levkoe et al., 2020). Degrading soil and water qualities, environmental pollution, food insecurity, and accessibility, worsening labour conditions, concerns around food justice, and a changing climate due to industrial agricultural practices began to draw the attention of academia and the civil society in the whole socio-economic and environmental impacts of food systems (Hilimire et al., 2014; Francis et al., 2003). There are growing university and community partnerships around food systems, and an expansion of online food systems-related course offerings (Levkoe et al., 2020). A shift has also occurred in that agri-food system professional, and farmers increasingly need to understand global and local food systems as a whole and recognize the interconnectedness of human and natural systems (Liu et al., 2015). Food literacy education is also shifting beyond nutrition and food preparation skills to increase students' awareness about sustainable food production methods, the need to value the role of farmers, animal welfare, and the socio-economic and political factors shaping the food system (Sumner, 2015).

Within this context, farmers and agri-food professionals will need to develop the skills to deal with the dynamics, complexity, and uncertainty of the different processes in the food value chain (Shulman, 2005; Valley et al., 2018). As the rise of digital agriculture requires professionals who can analyze agricultural on-farm data and operate these new emerging technologies, post-secondary institutions will play an increasingly important role in preparing students, and future agri-food educators, trainers, and farmers for a world where digitization is more pervasive. However, post-secondary institutions are not the only spaces for farmer education and training as farmers may receive agricultural education training from extension services offered by the government, and private consultants. There is also a long history of alternative ways of knowing, sharing, and dissemination of agricultural knowledge both formal and non-formal approaches (Mars and Ball, 2016). For example, community-based extensions support benefits from the social capital of the local communities whether it be "fee-for-service" or free extension support organized by farmers (Yamada et al., 2015).

While historically there has been limited emphasis on food systems education programs that focus on complex food-system issues such as food sustainability, security, quality, and justice, more courses and programs have been established in several North American universities in the past decade (Jordan et al., 2014). Food justice and food equity studies have grown with the increased understanding that developing an agri-food system that is sustainable requires a holistic approach that considers environmental, social, and economic considerations (Migliorini et al., 2020). Equity in the food system also entails consideration of intersectionality and anti-oppression, particularly with respect to race, gender, class, and other factors that may result in inequalities (Sbicca, 2012). Concerns around inequity in the food system are addressed in the various works of social scientists ranging from the lack of justice in migrant labour

(Weiler et al., 2017), to inequities in food access for Indigenous peoples (Skinner et al., 2013) and more. While digital agriculture is covered extensively in natural science and technical science literature, in social science, there is only a scattered and emerging body of work investigating the social aspects of digital agriculture (Klerkx et al., 2019). Carolan (2018) found it surprising that social scientists have only recently started to explore what the Big Data revolution in agriculture will mean for farmers and food futures.

2.4 Discourse Analysis of Agri-Food Educators and Trainers

Currently, there is little in the literature to help students or farmers interested in digital agriculture to better understand the nuances (opportunities, risk, and limitations) and the implications of a food system that is highly digitized. As this field is still emerging, agri-food system practitioners, farmers, educators, and students need to start thinking seriously about digital agriculture as it is becoming a major component of the food system and as noted above, there are implications in how digital agriculture may impact everything from land use to food production, data collection, resource management, and more. An understanding of digital agriculture is key to prepare future food system professionals to better deal with its impact, opportunities, and its potential unintended consequences. Discourse analysis is a useful tool in understanding the framing of digital agriculture from the perspectives of educators and trainers that will impart training in this field. The method has been used to understand the perspectives of agricultural extension service workers and improve extension practice accordingly (Fleming and Vanclay, 2009). While the term discourse analysis is used in different ways by scholars in diverse fields (Fairclough, 2003), according to Paltridge (2021), discourse analysis examines patterns of spoken and written language including the relationships between language and the broader social/cultural contexts. It also considers how worldviews and identities are constructed through the use of discourse (Paltridge, 2021). In his approach to discourse analysis, Sinclair (2004) argues that analysis of meaning in discourse should be the key focus. Scholars working in Foucauldian discourse analysis are particularly interested in analyzing power (Cheek, 2004).

Unpacking power and meaning through discourse analysis in the context of digital agriculture is important. The historical context of agricultural education in Canada has sought to break free from the stigma of agriculture as hard labour that is non-scientific and "getting one's hands dirty," to "scientific agriculture" achieved through radiating the brains of "young men" with "the beams of science" (Lawr, 1972, 335). As such, understanding communication around digital agriculture is particularly important. Digital agriculture in its form seems to be the pinnacle of rational scientific agriculture that takes the literal "dirt" out of the business of farming. When data analysis from digital agriculture is seen as neutral, transparent, efficient, and rational, it takes away from the human dimension of agriculture and the human/corporate values behind data algorithm. Bronson et al. (2021) has identified the potential

human impact of data bias in digital agriculture, thus perforating the notion of analysis of agricultural data sets via digital agriculture as unbiased and simply telling “the truth”. As it pertains to telling the truth, Miles (2019) cautioned that despite the framing of digital agriculture as revolutionary in promoting sustainability and solving global problem of hunger, the proponent of the technology seems to be rooted in the same values of intensification and the structures of capitalist organization of production that offer little in terms of equitable transformation. Discourse analysis can help unpack these structures through the analysis of educators and trainers’ perspectives.

3 METHODOLOGY

3.1 Case Study: British Columbia

Most of British Columbia’s fertile soils are found in sinuous river valleys such as the Fraser River Valley, deltas, and the plains of the northeast. As per the Canadian Land Inventory, only 5% of the province 92,250,929-hectare land area is suitable for agriculture, 2.7% is capable of growing a reasonable range of crops and 1.1% is prime agricultural land (Smith, 2012). B.C. producers led the nation in farm sales of blueberries, sweet berries, prunes, raspberries, apricots, and pears while ranking second in farm sales of floriculture products, mushrooms, and watermelons and apples (AgriService B.C., 2019). The decreasing national trend in the number of farms and an increasing average of farm operators are also reflected in the agricultural landscape of British Columbia (Statistics Canada, 2021). A rise in the adoption of precision and digital agriculture tools has also been observed among British Columbia’s farming population to modernize and boost farming operations while the number of people employed in the province’s agriculture and agri-food sector is on the decline (Statistics Canada, 2021).

British Columbia remains the most diverse agricultural province in Canada since it produces over 300 agricultural products ranging from fruits and vegetables, dairy, livestock, poultry, eggs, fish, and seafood (B.C. Food Security Task Force, 2020). In 2016, around 50% of farms were using computers for farm management purposes and 1,432 out of 17,528 farms, which represents around 8% of all farms make use of Geospatial technology such as GPS technology and GIS Mapping (AgriService B.C., 2019). When it comes to automation technology, 12.8% of the farms in the province have already started using automation technology and the most common ones being automated animal feeding and automated environmental controls for animal housing (AgriService B.C., 2019). All these facts highlight the trend of digitization in the province’s agricultural sector, and an equitable outcome in the realm of digital agriculture will require coordination among the provincial agricultural industry, academia, government, and other food and farming stakeholders.

3.2 Research Design

Digital agriculture education and training occurs in many different places including in classrooms, in the field and

through online resources. As such, to evaluate educators’/ trainers’ perspectives, strategies, and approaches to digital agricultural technologies in their education, communication, and training; and to assess whether digital agriculture training and or pedagogy includes/considers outcomes such as social equity and food sovereignty, we identified a broad range of relevant groups who offer educational or training services around digital agriculture. The first group of key informants are individuals from universities/post-secondary institutions with an agriculture/food system focused department (“Academic”). We specifically excluded nutrition/dietetics focused programs. A preliminary internet research found that only 8 out of 25 post-secondary schools (public universities and colleges) have an agriculture or food department in British Columbia. This represents a percentage of 32% of universities and post-secondary colleges addressing food and agriculture issues of the province. Post-secondary institutions that tackle agricultural issues in British Columbia include the Faculty of Land and Food Systems at the University of British Columbia, the Institute for Sustainable Food Systems at Kwantlen Polytechnic University, British Columbia Institute of Technology, Simon Fraser University, and the Food and Agriculture Institute at the Fraser Valley Institute. The second category of key informants are private consultants and agricultural trainers (“Consultants”) who specialize in training farmers/agri-food system professionals on agriculture more broadly, and digital agriculture specifically. Farmers may pay to attend their workshop, or the trainers/consultants may go directly into the field to conduct private training. Private trainers may provide practical hands-on lessons on digital agriculture, including but not limited to, how to use drones and applications. The third category of key informants are public sector workers (“Government”) who provide educational resources, extension related work and training on a broad range of digital agriculture, including open access resources and online information. They may conduct outreach activities to promote digital agriculture resources, or farmers who are already familiar with their services may reach out to them.

This research project was conducted amidst the first wave of the COVID-19 pandemic (July 2020 to November 2020) and all in-person research activities had been suspended by [Name of University’s] Research Ethics Board (REB). To meet the objectives of this study, a qualitative research method was adopted which would not require in-person research activity. While 31 relevant individuals were identified and initially contacted for a semi-structured key informant interview, due to COVID-19, many of the potential interviewees, particularly post-secondary educators noted challenges around scheduling, as such, the final tally of key informants included a total of 12 participants from academia ($n = 4$), government staff ($n = 4$), and private trainers/consultants ($n = 4$). The educational background of the educators and trainers vary, with all the participants, except for one, holding graduate degrees (Masters and Doctoral degrees). Five of the participants interviewed had doctoral degrees. Some of the participants hold interdisciplinary degrees covering both the natural and social sciences. Educational backgrounds include but are not limited to, soil science, agrology, Geographic Information Systems, pest

management, sociology, resource and environmental management, environmental studies, agricultural education, horticulture, agroecology, ecology, biology, mathematics, and physics. Compared to the natural science/hard science, there were fewer social scientists trained educators interviewed (e.g. sociology, environmental studies). Due to the small number of educators and practitioners knowledgeable about digital agriculture in British Columbia, we have avoided connecting the quotes with the participants' academic training or listing detailed information about the educational background of the interviewees as this might identify the participants in our study.

A gift card of \$ 25 was offered to all interviewees as a token of appreciation and several declined. The interviews lasted between 25 and 55 min. Although all the interviewees are experts in teaching and training on food and agriculture, some interviewees had only cursory knowledge of digital agriculture, which we will discuss further in the findings.

All the interviews were conducted by phone or Zoom and then transcribed verbatim. The contents of the interviews have been anonymized and interviewees are identified by sector (e.g. academic, government, and consultants). NVivo Data Analysis Software was used to analyze the codes from the interviews. The interview transcripts were uploaded, and a thematic coding approach was used to code the interviews by assigning a "node" for each main theme related to each interview question. The interview transcripts and the responses to each interview question were reviewed to highlight important quotes and emerging ideas from the answer and assign them to its specific main theme node.

In applying discourse analysis (Paltridge, 2021), the statements were analyzed to better understand participants' perspectives around digital agriculture, particularly as it pertains to educators/trainers' perspectives of the benefits and risks; to assess issues of equity and food sovereignty; and to identify appropriate policies to promote and ethical and responsible approach to digital agriculture education and training. The findings from the study are categorized into key themes based on the NVivo coding. In this paper, we will focus on how the participants approach the topic of digital agriculture in their role as academics, consultants, and as government staff who provide resources on the field. Their approach, perspectives, and communications as it relates to the topic of digital agriculture informs and will shape future generations of agri-food professionals.

3.3 Limitations

The study was conducted during the first wave of the COVID-19 pandemic and since there was a ban on social gatherings, the recruitment of potential participants via emails was not as fruitful. This was particularly the case for the academic participants in the study as the COVID pandemic increased the workload of many post-secondary educators. One aspect to note is that since there are not very many educators and trainers working in this field, those who work in this field are expected to know the newest agricultural trends, technologies, and various aspects of digital agriculture.

3.4 Findings

In the following section, we have structured the findings based on the three research questions posed in this study. Although the

findings are categorized based on the three overarching research questions, there were overlaps in some of the themes.

3.5 Educators' and Trainers' Perspectives on the Benefits and Risks of Digital Agricultural Technology

3.5.1 Varying Definitions of Digital Agriculture

Prior to identifying the benefits and risks of digital agriculture from the perspectives of the interviewees, it is important to first identify the educators' and trainers' perspectives on what is meant by digital agriculture. Considering that the individuals we interviewed came from diverse disciplines and fulfilled diverse roles, setting the baseline on definition is useful.

Digital agriculture is an interdisciplinary field which involves agriculture, mathematics, engineering, computing science, and more. While the professors and experts interviewed are agri-food experts, it was very difficult to find someone knowledgeable in all of the aspects of digital agriculture. Despite the Canadian governments and the private sector investing millions of Canadian dollars in the agri-tech industry, digital agriculture is a relatively new concept, and most of the universities are not currently focusing on this topic. Those that do cover the issue in general still have a cursory or very specific knowledge for a particular technology.

As noted in the literature, there are multiple definitions of digital agriculture (Shen et al., 2010; Kooistra et al., 2015; Ozdogan et al., 2017). The first question asked to the participants was how they would define digital agriculture. Out of the twelve interviewees, eleven participants gave general and neutral comments about how agriculture and technology are currently more intertwined due to the increased use of computers, sensors, drones, cellphones, and decision support systems which contribute to gathering and analyzing on-farm information by farmers. Six participants elaborated on the relationship between data collection and the use of algorithms and big data to analyze on-farm data. On the other hand, another five participants defined digital agriculture as the same as precision agriculture. While some precision agriculture can indeed be part of the suite of digital agriculture, digital agriculture is much broader. This finding has implications for learners as it shows that some of the participants are conflating precision agriculture with digital agriculture, when precision agriculture is mostly concerned with using tools and equipment to collect granular on-farm data so that farmers can monitor farming activities. Digital agriculture on the other hand also covers advanced analysis on digital platforms to create value out of the data. Duncan, Abdulai and Fraser (2021) use the term "digital agriculture" to cover any form of information and communication technologies used in the field to make automated or non-automated decisions and practices. The conflation of digital agriculture with precision agriculture has implications as learners might not be exposed to the broad scope and diverse range of digital agriculture and applications. Although eleven of the participants defined and communicated digital agriculture in more neutral terms, one academic had negative views about digital agriculture and defined it as the following:

High technology, high-cost, and technologically dependent agriculture that only those with the most money can benefit. Although I know technology is part of our sustainable future, what immediately comes to my mind [when thinking about digital agriculture] is an unsustainable future. (Academic 1)

This statement demonstrates that within the realm of food and agricultural training, digital agriculture is a loaded term. As noted by the interviewee above, they felt that “only those with the most money can benefit” from digital agriculture (Academic 1). It is important to note that due to the broad nature of digital agriculture, digital agricultural tools can in fact include low-cost mobile technologies or free apps, and may not necessarily be as costly as other digital agriculture tools such as automated artificial intelligence controlled smart farming systems (Duncan et al., 2021). As such, it is clear there are gaps in understanding the diversity of digital agriculture tools available (both low cost and high cost), and the types of practices and technologies included are not necessarily agreed upon.

3.5.2 Benefits of Digital Agriculture

Concerns and opportunities have been identified around digital agriculture as noted in the literature (Rose and Chilvers, 2018; Weersink, 2018; Rotz et al., 2019; Edwards et al., 2020). As the participants interviewed are involved in the training of future students and farmers, it is important to understand the discourse around the benefits of digital agriculture. In this section, beyond the direct benefits of the technology as stated by some of the educators and trainers, they also noted the benefits of employment and training opportunities. We therefore identified the types of digital agriculture training and education currently offered by the trainers and educators. In general, there was a wide range of responses concerning the benefits of digital agriculture use; the main ones being the potential emergence of open-source data platforms, more precise agricultural practices, and the labour-saving aspect of farming. Five participants identified open-access platforms and open-access data as an important benefit of digitizing the agricultural sector and as an opportunity to equitably distribute the benefits of digital agriculture. Two educators stated that digital agriculture would act as an equalizer in terms of information access. One stated that “there is this whole world of open access/open-source technology and communities surrounding these that can promote equity” (Academic 2). The promise that digital agriculture could lead to more precise agricultural practices was shared by five participants. One educator explained how such a benefit would happen:

Digital Agriculture presents the possibility of. . .instead of reducing the complexity, we take all the complexity, and we learn from that. But to do that, we need to have a large enough data set. So, the only way to deal with complexity and all these interacting components is to have enough data. Hence, Digital Agriculture provides the opportunity to have these large data sets to analyze

the complexity so that we pull out some lessons to enable us to more precisely manage agriculture. (Academic 3)

Another private trainer emphasized the potential to improve resource use by making agricultural practices more precise and targeted. As one consultant noted, “digital agriculture would allow for more efficient use of resources. Whether it is water and fertilizer, it would be used in a more precise way.” (Consultant 1). As identified by most of the interviewees, making agricultural practices more precise can be achieved by gathering large sets of on-farm data and analyzing these data sets so that a farmer knows how much agricultural inputs to put in different sites of the farms. While this may be more relevant in the context of large, monoculture farms, the idea promoted is that with more data, better information can be obtained and therefore help influence farmers’ decisions in terms of yield, production, income, and energy use. With regards to opportunities, digital agriculture has been framed as an evidence-based and scientific approach to promote better resource and environmental management. Moreover, when mobilized in the form of open access data, one participant noted that “it [referring to digital agriculture] could be a great equalizer” (Academic 3).

Out of the four academics, three were involved in assisting students with digital agriculture projects. These projects were more about using digital software to analyze research data on agriculture. One professor explained:

I require everyone to complete a research project which includes a statistical analysis and students must take a statistics course as a prerequisite for the research project. I also teach experimental design and analysis and we use R-based analysis techniques. Honestly, there are some students that are excited about the open-source and open-access capacity of R as an easily powerful modifiable tool while some students are absolutely intimidated by it. (Academic 2)

Several professors also work in developing open access apps and work with open access digital software (Academic 4) to train data scientists. Machine learning and big data analysis are the focus of digital agriculture training at the tertiary level. Much emphasis is put on the statistical analysis of environmental data to enhance the technical skills of students for the world of work. This is explained by one professor:

I purchased a drone to be able to use in my undergraduate courses. The machine learning that we use in our lab is a combination of regression analysis . . . So, they need to be literate in the concepts and our graduate students need to have the skills because this is what is cutting edge. It is a place where you could create a niche where students are able to engage with agricultural systems or agricultural management that they otherwise would not. I would say around twenty percent of the students who contacted me would be interested in digital agriculture. (Academic 3)

Three government officials elaborated on the different web-based free open access digital tools such as the soil nutrient calculator that the Ministry has developed to help farmers adhere to regulations and improve their farming practices. One government official who has been involved in the development of digital platforms for agriculture stated that a significant amount of funds for training has been invested in digital agriculture training and education including on how it can assist with issues of climate change:

One example of regional support, we provide a lot of money to an organization called the Climate Action Initiative and where possible they develop educational and training tools. They help educate farmers on how a changing climate will impact farming and sharing tools and resources that will help them adapt. So, for example, they will often go out and go to a workshop in a region on irrigating in a changing climate and that story will also be promoting the water calculator and soil nutrient management tools. (Government 2)

Another government official identified student cooperatives (paid internships) as important training programs for digital agriculture. He noted that co-op students from universities are also hired and work on agricultural projects, therefore providing practical employment opportunities. While students gain basic technical skills during work on school projects, a co-op placement in the provincial government or even private sector helps them to apply their technical know-how and get the experience of working in their field. Two of the private consultants interviewed were directly involved in assisting farmers with digital agriculture. One of them stated:

We have also been involved in some work with drones and infra-red to get better information about soil mapping and the field to help farmers to plan, how they fertilize and how they manage crop nutrition based on the information of different types of fields/soil type. We were also involved in work using sonar technology related to field drainage (different sorts of soil drainage of the field). (Consultant 1)

The method of education and training used by consultants, government staff and professors included both online and in-person training, in classroom and at the farms.

3.5.3 “Move With Caution” Risks of Digital Agriculture Technologies

In identifying potential risks and harms, the participants identified concerns around data ownership by large corporations, potential use of data for harmful purposes, negative unintended consequences, natural resource exploitation, increasing debt, and surveillance by government. To sum up the findings, there was an overall theme of “move on with caution.” There were various expressions of concern amongst the participants on the potential harm of digital agriculture. Many of these concerns raised by educators and

trainers were concerns relayed from farmers or students that they work with or from secondary research. During the interviews, seven out of the twelve interviewees identified data ownership as the main concern of farmers and users of digital agriculture. The control and use of farmers’ data by multi-national companies is an ongoing practice, particularly as more digital platforms are offering solutions and analyses to farming challenges. One professor expressed that the older generation of farmers which constitutes the majority of the farming community faces difficulty in understanding what is happening to their data and where it is kept. Surprisingly, the participant (Academic 4) also identified that farmers are not only afraid of their data being used by multinational companies, but they are also concerned about data being used by the government. When one government official whose task includes providing resources on digital agriculture was asked about whether there is trust in governmental institutions around digital agriculture and data, she explained the issue has to do with the fear of potential surveillance:

There are concerns about government oversight and regulatory issues that farmers face ... If you are a very small farmer and not making a lot of money, you may not be fully paying all of the required taxes. There may be some loopholes that people are using, and they are concerned if we have their information and premises identification, we will be giving these to the CRA or even water licensing people. There is a lot of concerns over sending information into the government “Blackbox.” We see a lot of things such as we send them an email and on the same day, they get an email from other ministries such as water licensing, they automatically assume that we have been giving that information. (Government 1)

Agricultural data plays a major role in the proper functioning of farms and if farmers are the sole proprietor of their data (which ties to the second research question on food sovereignty), they recognize the strength and weaknesses of their own activities. If other external forces such as the government and multi-national companies are at the receiving end of such digital platforms and data, farmers are concerned that their weaknesses and strengths will be shared in the public domain. In a nutshell, digital agriculture may be viewed more of a liability than a benefit for them.

The next risk identified is the potential exploitation of resources. As one academic noted, while there is enthusiasm and excitement in incorporating digital technology into agriculture, it is important to move with caution, particularly as it pertains to unintended consequences around the potential elimination of ecosystem services:

...there is a lot of enthusiasm and excitement related to ways we can incorporate digital technology into our farming system. I think digital agriculture is wanted but we need to move with caution. There are some movements towards highly technical farming which could end using far more resources because these

eliminate ecosystem services when we try to replace ecosystem services with technologies. (Academic 2)

In addition to potential environmental impacts, another challenge identified as a key theme is economic risk, particularly debt. Three of the participants believed that investing in digital agriculture would result in an increasing debt load for small-scale farms. One of the academics interviewed is particularly concerned by the livelihood of small-scale farmers and advanced that farmers should think carefully before investing in new technologies as their return on investment may not always be economically viable. He explained:

Technology is invested and wasted. We have these supply managed commodities here in BC. The dairy industry is one of them and dairy people have the most debts of any of the farmers and yet they are guaranteed income. Their debt is all about technology because they keep innovating. This is the concept of the technological treadmill. What it has done to farming and the economics of farming. You adopt these technologies to increase your production (early adopters), and everybody adopts it and then it becomes a fixed cost to production. Everybody is producing more and therefore the value of production is less . . . And you are left holding the bag and therefore farms are going broke left and right. (Academic 1)

As identified in the literature review, many farmers are faced with being “locked-in” to certain agricultural technologies (McKinnon, 2019; Rotz et al., 2019). Farmers tend to acquire these genetically modified seeds or agricultural technologies by engaging in debt. This concern is echoed by one private training consultant who believes that financial literacy is key and communicating the need for farmers to thoroughly assess their digital agriculture investments is critical to avoid further debt. He explained:

You got to bring the financial equation in and do a study. . . how much they are paying in debts per year vs the increased returns compared to that debt, compared to the interest rate at the time. Right now, the interest rate is very low (down to 0%) and farmers might think that it is a good time to get into the market for buying equipment and they gamble on the fact that the world economy will recover in three to four years. In this case, the interest rate will go up to 5% and they will be hooked. I think this question needs to be asked parallel to the financial dimension of the investment of all that equipment. Anyone teaching farmers about these kinds of stuffs should be ready to open the spreadsheet and be honest around the numbers (Consultant 2)

In identifying the need for financial literacy, there is an emphasis on farmers’ personal responsibility or the educators’ responsibility to assess the economic merit of digital agriculture. However, the sheer amount of information on digital agriculture, the technical jargon, complex software and algorithms may make it

difficult for farmers to fully recognize the economic and legal risks, as well as benefits of adopting a particular digital agriculture tool.

3.6 Social Equity and Food Sovereignty: A Missing Link in Digital Agriculture?

Equity concerns around digital agriculture were primarily framed on the lack of access to the technology, barriers to the adoption of the technology, and barriers to benefitting from the technology. Despite several participants expressing concerns regarding equity issues and advising to move forward with caution, few focused on integrating equity considerations as part of their training on digital agriculture. Most participants were focused on the practical usage of the tools and data analysis. If equity was included, it was mostly to consider how to create more access or developing apps that ensured farmers had ownership of their own data. For government staff, the notion of digital agriculture as “the great equalizer” can be mobilized by open-access digital agricultural platforms and offering cost-shared programs for farmers to make the technology more affordable and accessible. The question of whether or not digital agriculture will be able to transform an inequitable system, and whether or not there is a role for the perspective of critical social science is currently missing in most of the perspectives of educators and trainers (with a few exceptions). With respect to inequities in the food system, particularly between smaller farmers and larger operations, one consultant expressed concerns that digital agriculture adoption could alter the food system landscape in rural areas and many family-owned farms would be financially affected if they do not sell out to big companies:

Digital agriculture is adopted more easily by larger operation farms and more commercialized farms and is less likely to happen on family-owned farms. In the context of generational change, it will continue and there will be a trend towards larger corporation and more digitally integrated and it will lead to a reduction in the number of family-run operations that will have an impact on the agricultural landscape in the [Name of region] . . . Family-owned farms will be selling out/leasing their lands to big operations. (Consultant 3)

With respect to smaller farmers being squeezed, one government official had a more positive outlook on how digital agriculture could help with social equity. The main argument was that technological innovations continue to happen in all sectors and digital agriculture is useful for reducing farmers’ workload:

The technology side could attract more farmers to some extent. Because farming was thought of initially as weeding and feeding and technology changes how it [agriculture] is being done. It is appealing and could be attracting more people than it would in the past. (Government 2)

The labour argument has been identified in the literature with automation potentially reducing the need for labour and labour

cost (Rotz et al., 2019). However, there may be negative unintended consequences to reducing farm employment and making farm labour disposable, especially since the agricultural sector employs many people.

In addition to equity, the study is interested in understanding whether digital agriculture training and pedagogy includes considerations for food sovereignty. Food sovereignty is another key ingredient in the development of a just and sustainable food system. Food sovereignty is defined as “the right of local peoples to control their own food systems, including markets, ecological resources, food cultures, and production modes” (Wittman, 2011, 87). Themes around food sovereignty issues were limited and arose with regard to three issues: surveillance and data ownership, concerns around land grabs, and the loss of tangible agricultural knowledge due to a dependence on technology to make the decision. With respect to data ownership and data use, one professor commented on how multi-national companies have misused agricultural data from small farmers to grab their fertile agricultural land:

There are several studies on land grabbing that has access to information about land productivity potential, that has become more available to multi-national corporations... There are bundles of studies coming out about data colonialism. (Academic 4)

Despite using the term “data colonialism” in the context of land grabbing, there was no mention of Indigenous issues around digital agriculture or land access in any of the interviews. This is a major gap considering that agriculture in the province is largely practiced on unceded Indigenous territories. In not recognizing the importance of traditional ecological knowledge and Indigenous land, digital agriculture may be taught in a way that is antithetical to Indigenous food sovereignty. Another aspect of food sovereignty highlighted by one educator is concern around the potential loss of tangible knowledge. One professor raised a concern that farmers who adopt digital agriculture could be too reliant on digital data and would lose the ability to make decisions based on their observations and experiences:

If we build agriculture in an engineering system, rather than a biological system, we lose this connection to what is intuitive on the land. I guarantee you that the people who are good at digital agriculture and analyze these big datasets are not the people who will make decisions on the ground to keep plants and animals alive. (Academic 3)

The argument is that farmers should have the necessary tacit farming skills to ensure resiliency in the event of technological breakdown (Carolan M. S., 2017).

3.7 Policies for Ethical and Responsible Education and Training in Digital Agriculture Innovations

To better support responsible and ethical education, training, and innovation in digital agriculture, it is important to address

the many barriers to access and adoption. Many of the participants argue that the infrastructure and resources to employ digital agriculture is not sufficient in the province. There are currently numerous barriers to the access of digital agriculture in the farming community, which limit who may benefit from the technology. However, there were interesting responses arguing that digital agriculture is diametrically opposed, and therefore cannot be reconciled with regenerative forms of agriculture. The table below (**Table 1**) shows the frequency of the barriers to digital agriculture adoption identified by the twelve participants.

The issue of “digital divide” around internet access was mentioned by seven participants as both an equity issue and a barrier to adoption that needs to be addressed by policymakers. Many rural parts of British Columbia are still excluded from internet access because internet service providers are not investing in the infrastructure due to smaller populations and more physical constraints. One professor stated that before focusing on digital agriculture, this gap needs to be addressed and is a role that the government should support:

The places where most marginalized farmers are the places with the worst internet access. You can have all the digital technologies in the world but if people cannot afford a data plan, they are left out. (Academic 4)

Five participants mentioned that a lack of training and education deters many farmers from adopting digital agriculture since they are unsure of how to use digital agriculture devices. This is largely due to digital agriculture being developed without necessarily engaging and considering farmers’ ability to use or understand the technology. As noted in the previous section on training in academic institutions, at the back end, digital agriculture applies extensive statistical analysis, regression, computer science, and modeling. In a way, it may further divide farmers. When trying to fix digital agriculture based farm tools, farmers are faced with “digital locks” on technologies or proprietary software, which means that farmers ability to fix is limited (Carolan M., 2017). One private consultant (Consultant 3) expressed that digital agriculture would be more viable if farmers have a support system “where there is a full-time technician who responds to the technical issues faced by producers.” These types of support require stronger investment in extension support, which is currently limited in British Columbia.

What is perhaps interesting is the view of three participants that regenerative organic farming is incompatible with digital agriculture. This perspective emphasizes the polarization of this technology despite digital agriculture comprising a broad spectrum of technologies and analytical tools that can be utilized by regenerative and organic farms. There is a lack of current engagement between digital agriculture proponents and developers with regenerative agroecological farmers/groups. Some of the more complex, automated, “intelligent” technologies are also developed for larger monocultural farms and are not conducive to more diverse landscapes. One academic was quick to note that some of the digital tools used in digital agriculture is not new at all:

TABLE 1 | Frequency of the different barriers mentioned by the 12 participants.

Barrier	Number of participants
Internet Access	7
Debt	5
Not enough training and education	5
Lack of support system to help respond to technical issues (e.g. extension support)	4
Older farmers hesitant to adopt new technologies	3
The adoption of other types of organic regenerative farming	3
COVID-19 Pandemic	1

when I think about databases for example, they quickly supplanted paper records, spreadsheets became very useful, GIS systems for farms- have been used since the 1990s—these are digital technologies and applications. As digital technologies improve, there is a greater opportunity to apply new capacity to farm (Academic 2)

He continued to explain that digital agriculture depends on who owns the technology, how the technology is designed, how the information is used, and for what purpose. This is where digital agriculture can either be used ethically and responsibly, or used to promote harmful practices.

In terms of the future of farming and digital agriculture, access to agricultural land remains the main obstacle for people to be involved in agriculture (White, 2012), but it has been argued that digital agriculture represents an opportunity to attract young people to the field by providing them with highly specialized skills to understand best practices in an increasingly digitized agricultural sector (Panday, 2017). While proponents of Digital Agriculture (Balafoutis et al., 2020; Basso and Antle, 2020; Shepherd et al., 2020) always refer to digital agriculture as the future of agriculture, it was very insightful to hear what the participants had to say about youth and digital agriculture. Nine out of twelve interviewees affirmed that digital technology is not the critical factor that draws young people to the field of agriculture. One consultant stated:

Digital agriculture makes it easier for young people to understand what they are doing and how their actions influence their outcome. If young people are not interested in agriculture, Digital agriculture would still not make them want to farm. Young people who want to operate these self-driving tractors but who are not interested in grain farming will be less likely to get involved in agriculture (Consultant 3).

Another academic noted that despite teaching digital agriculture, two-thirds of his students would rather not have to worry about the technology (Academic 2). Three participants including one professor and two consultants pointed out that most young people who want to become farmers do not have the capital investment to acquire land, nor can they afford digital farming equipment such as self-driven tractors, computers, and drones. Moreover, they argue that those young farmers are focused on community-scale farming and will only adopt a

specific technology if it aligns with their vision of a sustainable food system. One professor explained:

This new generation of farmers want a very different life. They are not very hyper capitalistic. They do not see themselves first and foremost as businesspeople like other modern agriculturalists. They feel connected to the land, to plants and animals and to the process of producing wholesome food or the community they feel connected to. They will embrace technology that will help them to achieve this goal and not antithetical to that. This is what I think (Academic 1).

The perspective above speaks to a clash of values between what has been framed as a hyper capitalistic approach (i.e. digital agriculture proponents) versus a new generation of farmers that have different lifestyles and worldview(s) with respect to farming. Technology will be embraced if it can help farmers achieve the wholesome food system that they would like to see. As the professor noted, the idea of “wholesome” is portrayed as a system that is interconnected between people, land and animals. If technology serves to detach this interconnectivity, it would not be accepted. All of the participants highlighted the responsibility and role of the federal and provincial government in designing policies that would address concerns around the adoption of digital agriculture and to better improve the distribution of benefits. Three of the participants (all professors) emphasized the ethical responsibility of governments to regulate agricultural data that corporations are controlling at the expense of small farmers. They believed that the government should decommodify the food system and the food production industry by engaging more agricultural stakeholders and safeguarding the livelihood and data privacy of small farmers. This perspective is echoed by other scholars (Weersink, 2018). For digital agriculture to be considered as an equalizer, one professor stated:

Right now, big companies see digital agriculture as a money-making venture to consolidate power at the expense of the society. There is an important need for not only ethics but for serious regulations and I think this is a very important place for government to step in with a heavy hand and make sure that what happens in this wild west starts to benefit small agricultural stakeholders also. I do not trust the companies at all, and if the government steps in and starts to realize the value of this data, digital agriculture could be a great equalizer (Academia 3).

However, as noted previously, farmers may also have concerns around government surveillance. As such, data ownership is a challenging issue that needs to be explored further in the development of ethical and responsible digital agriculture innovation.

4 DISCUSSION

Of all the different revolutions in agriculture, digital agriculture stands out in its method of collecting large volumes of data (i.e. Big Data), and in how it is designed to take out the extensive knowledge it takes to do farming, and “simplify” the process of decision making through digital agriculture tools (Liu and Sengers, 2021). Digital agriculture is premised on the idea that with the press of a button, evidence-based recommendations will be provided to farmers based on harvested farm data (e.g. water, soil, and temperature etc). Instead of humans advising humans, artificial intelligence, modeling, and algorithm can provide this advice and “tell the truth” (Miles, 2019). Despite being identified as a “revolution”, Miles (2019) argues that digital agriculture is simply a continuation of the status quo of conventional farming, but one that is structured around informatics and algorithmic principles. Although most proponents have discussed digital agriculture as a way to simplify decision making process, one academic noted that digital agriculture is not really about reducing complexity, but rather about considering “all the complexity” and learning from that through gathering “a large enough data set” (Academic 3). Yet many questions remain, namely, who manages the data and who will be served by the data?

In fact, the question of “who will this technology serve?” was raised by many of the participants in this study. Several academics and training consultants raised concerns over the cost of these technologies when so many farmers are already straddled with debt. These questions are relevant as current studies have shown that smaller and more diverse farms are not supported by current digital agriculture tools (Bronson, 2019). One private consultant identified the need for farmers to have the full set of financial information and projection to be able to make informed decisions about potential investments in the technology as the full economic risks are not clear. The issue of technological treadmill, which intensifies corporate dependency has been addressed extensively in the literature (Carolan, 2020) and was also raised by participants. As the cost of digital technologies increases yearly, farmers may undertake more debt to keep their farming production line economically viable (Rotz et al., 2019; McKinnon, 2019; McMichael, 2013). Although most of the of the participants provided neutral definitions of digital agriculture, there were clear tensions in how digital agriculture was communicated and perceived by some. For example, one academic educator equated digital agriculture with “high cost” technologically dependent agriculture that only those “with the most money can benefit from” (Academic 1). Others are similarly cautious but see digital agriculture as having the potential of being the “great equalizer” (Academic 3). There is tension in discourse because the definition of digital agriculture can seem all

encompassing, covering a broad range of low cost to high-cost technologies. While many digital technologies (e.g. cellphones, online spreadsheets) have been used by farmers for a long time and are not necessarily new, there is recognition that digital agriculture is a new approach to gathering and using agricultural data, so as one academic argues, we need to “move with caution” (Academic 2).

Interestingly, there are significant differences between the perspectives of government interviewees and academic perspectives on opportunities in digital agriculture. The government staff interviewed felt that digital agriculture will attract more people to farming, especially youth, and especially those who have negative views of farming as a profession where one has to do “weeding” or “feeding” (Government 2). This excitement for digital agriculture is similar to the sentiment of the past with the idea that the new crop of farmers entering agricultural university should not need to get their hands “dirty” (Lawr, 1972). In contrast to the government staff, trainers and academics doing the work with farmers and students respond in a less enthusiastic or more neutral way. As these educators and trainers disseminate knowledge and training on agriculture and digital agriculture, the issue of the skillset needed to participate in digital agriculture naturally came up. Educators and trainers discussed using sonar technologies, to teaching regression analysis and R-based analysis for the purposes of digital agriculture. However, beyond farmers being seen as hesitant to learn (due to age etc.), educators noted that the majority of their students in post-secondary institutions studying agriculture were intimidated by digital agriculture, and in the word of one professor who teaches students how to use drones and analyze statistical data, most of his students who want to enter into farming “would rather not worry about digital agriculture” (Academic 2). As Academic 1 noted, there is a new generation of students interested in farming who are seeking a different lifestyle, who are not “hyper-capitalistic” and seek more connection to plants, land, and animals to develop wholesome food systems. A question to consider is whether digital agriculture will disconnect or better connect people with plants, land, and animals.

The issues stated above have to do with the concept of knowledge “legibility” as discussed in the literature by Liu and Sengers (2021). In terms of equity and food sovereignty, the work of Liu and Sengers (2021) in the United States on legibility highlights the harm of digital agriculture logic that is premised on both extractive data logics and colonial settler logics upon racialized and marginalized communities. Legibility “refers to systems of governance that use simplified understandings of a situation to control and direct management action upon it” (Liu and Sengers, 2021, 6). They argue that digital agriculture has introduced forms of legibility to simplify agriculture so as to make it reducible to data that can be crunched by machines and where the farmer’s personal hands-on experience and knowledge are devalued or obsolete. There is also the assumption that the digital agriculture model is “homologous to the outside world” and can be parachuted anywhere without understanding the nuances of context (Liu and Sengers, 2021, 6). As an interviewee noted, those who are “good at digital agriculture” and who analyze big data

sets are not necessarily those who will make decisions on the ground about keeping animals alive or plants alive (Academic 3). Nor do digital agriculture considerations integrate the role of migrant farm workers, peasant farmers, or other agricultural labourers that perform important functions in farming. Without addressing these underlying colonial settler logics and worldviews from a policy or regulatory standpoint, and without engaging with critical data studies, digital agriculture, just like its predecessors (the green revolution), will not help address the extreme inequalities and injustices in the food system, most of which negatively and disproportionately impact racialized communities (Sbicca, 2012).

Another aspect critical to food sovereignty is the importance of knowledge, including what types of knowledge will potentially be lost with a dependence on digital agriculture. These concerns were raised by participants due to the fact that technologies do tend to breakdown. For example, Carolan M. S. (2017) found that the Green Revolution has accelerated the loss of knowledge about crop management practices which allowed societies to grow food not only under adverse weather conditions, but also without the need of agrochemicals and expensive non-renewable resources. Similarly, digital agriculture could lead to the erosion of tacit skills that farmers gain from their farming experience due to an excessive reliance on the use of digital agriculture to make decisions over the operation of their farms. Tacit skills to be able to feel, practice and perform farming activities should be strengthened and digital agriculture should complement and support these practices instead of eliminating the need for traditional farming knowledge.

Data sovereignty is another element that ties to the broader issue of food sovereignty and equity, focusing on who decides, owns, manages, and governs the harvested data. As noted in the interviews, there is a vast difference when farmers are the sole proprietor of their data, compared to when it is managed and controlled by larger corporations, including when data is managed by government. A government staff member noted that smaller farmers may withhold taxes due to not making sufficient money and therefore may feel concerned about government surveillance should they participate in digital agriculture. This view seems to identify smaller farmers as a group that cannot be trusted and have unsubstantiated fear, but does not recognize the fact that data-driven farming has been used by large corporations to perform acts of surveillance ranging from data trading and data grabs of previously private data, to copyrighting data to prevent farmers from fixing their equipment (Ravis and Notkin, 2020). It is also important to unpack the idea that by simply making digital agriculture open access, that it will therefore be equal (Kloppenburg, 2014; Carbonell, 2016), particularly when considering the power of the intellectual property regimes currently being established by corporations to control the data (Carolan, 2020).

With regard to social equity, all of the participants interviewed highlighted the responsibility and role of the federal and provincial governments in designing policies that would better improve the distribution of benefits from the technology and addressing the barriers that have been identified in this study. However, this study found that there is currently a lack of critical

data studies, ethical, and critical social scientific awareness in digital agriculture training/education both in the government and in academia. In the U.S, there have been calls to ensure the integration of social sciences and humanities in science research and development (Viseu, 2015). Educators should ensure that digital agriculture is developed and taught with considerations of social justice and ethics (Ferreira and Vardi, 2021), and those from the natural and technical science or industry sector working in this field, should consider hiring or integrating social scientists as part of their team (Viseu, 2015). Responsible innovation should also ensure the inclusion of farmers in designing and developing tools that would help support their work. However, inclusion of stakeholders alone is not enough. As van Mierlo et al., (2020) identified, key to responsible research and innovation is inclusion in the development and innovation processes that allow for values and ideas that challenge the dominant assumptions, values and interests of proponents. As we found in the study, the fact that several participants noted that regenerative organic agriculture acts as a barrier to digital agriculture adoption means that the field of digital agriculture should be more “opened up” to including these values (van Mierlo et al., 2020, 379).

5 CONCLUSION

The paper started with three main objectives: 1) To explore educators'/trainers' perspectives and approaches to the benefits and risks of digital agricultural technologies in their education, communication, and training; 2) To assess whether digital agriculture training and or pedagogy includes/consider outcomes such as social equity and food sovereignty; and 3) To identify appropriate policies to promote an ethical and responsible approach to digital agriculture in education and training. As to the benefits and risks, this paper concludes that the three categories of educators (academics, government staff, and private agricultural consultants) have differing, at times diametrically opposed communications around the benefits and risks of digital agriculture. This is particularly the case with academics or trainers who have a deeper understanding of social equity issues, as opposed to those who approach digital agriculture from a purely technical, environmental or economic perspective. Our study found that while government officials are highly supportive and have more optimistic discourse with the digitization of British Columbia's agricultural sector, there were more concerns or skepticism raised about digital agriculture with the academics and trainers interviewed.

As for objective two on social equity and food sovereignty, the fact that racialized farm labourers and Indigenous communities were not mentioned at all in the context of farming work identified a major gap, particularly when they are currently at a disadvantage in terms of capital, land, and resources. This ties back to Liu and Sengers (2021) concerns around the settler colonial logics and the erasure of peoples and knowledges through current digital agriculture regimes. It is important to note that land sovereignty, knowledge sovereignty, data sovereignty, and Indigenous food sovereignty are all

interconnected issues (Fraser, 2019). These interconnected issues have not been sufficiently addressed.

It was also clear from the findings that current digital agriculture training and education lacked deep insights around social equity and food sovereignty (with a few exceptions as noted by some of the participants). The focus on equity was shallow and centred around the question of access to the tools, but not a critical engagement on the purpose/intent of the digital agriculture itself and what problem is it really trying to solve. As such, emphasis on increasing internet infrastructure to encourage participation in digital agriculture or encouraging open-source digital agriculture may gloss over deeper questions, namely, whether digital agriculture and a focus on increasing food production can help address some of the root causes around inequities in the food system. Otherwise, we, as Kloppenburg argues (as it pertains to open source), will simply be “re-purposing the master’s tools” rather than making truly systemic changes (2014, 1,225). As a technological innovation, digital agriculture will change the dynamics and transform the assemblages, and governance of agricultural operations in British Columbia and beyond. As such, any form of digitization must be practiced and taught in a way that promotes responsible research and innovation (Rose and Chilvers, 2018). Considering that this research is still emerging, and the educators are still small in number, there is time to ensure ethical education in this domain and the ethical development of technologies.

To conclude, this study identified numerous gaps and misunderstandings with respect to the definition of digital agriculture, as well as tensions around the role of digital agriculture and its future. To promote responsible and ethical innovation, the introduction of digital agriculture as a scientific pursuit to promote sustainability and economic benefits in agriculture should not be done without sufficient social considerations as well as social scientific engagement. Without social considerations, the drive for sustainability is incomplete and there may be gaps in knowledge for the next generation of practitioners as well as unintended consequences. It is therefore important for academic institutions and trainers to ensure deep engagement with farmers in the development and testing of agricultural

innovations to ensure that these technologies will result in positive social benefits to farmers (particularly small farmers, and new farmers), Indigenous peoples/Host Nation(s), and also deep engagement with critical social scientists. Whether digital or not, an educational/training sector that recognizes the nuances of digital agriculture (the good, the bad, and the ugly) and challenges the unequal structure that is at the root of food injustice, is what is needed to ensure the development of an equitable and sustainable food system.

DATA AVAILABILITY STATEMENT

The datasets presented in this article are not readily available because as required by ethics, we will delete all data including transcripts 3 years after the completion of this study. Requests to access the datasets should be directed to tammara_soma@sfu.ca.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the Simon Fraser University Research Ethics Board. The participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

The authors confirm contribution to the paper as follows: study conception and design: TS.; data collection: BN. Author; analysis and interpretation of results: BN and TS.; draft manuscript preparation: BN and TS. All authors reviewed the results and approved the final version of the manuscript.

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An Intersectionality-Based Policy Analysis Examining the Complexities of Access to Wild Game and Fish for Urban Indigenous Women in Northwestern Ontario

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The destruction of Indigenous food systems is a direct consequence of the settler-colonial project within Canada and has led to decreasing access to Indigenous foods, disproportionate rates of food insecurity and disconnection from Indigenous food systems and environments. We interviewed Indigenous women, non-Indigenous staff of Indigenous-serving organizations, and policymakers (i.e., those who develop, interpret, or implement wild food policy) to explore how the policy context has impacted Indigenous women and their communities' experiences of accessing Indigenous foods in urban northwestern Ontario. We applied an Intersectionality-Based Policy Analysis (IBPA) Framework to shape our research questions and guide the thematic analysis of the data. We found that stakeholder groups had differing understandings of the issue of accessing wild foods and Indigenous food security and their actions either supported or disrupted efforts for access to wild food to promote food security or Indigenous Food Sovereignty. Policymakers cited necessary barriers to promote food safety and support conservation of wildlife. Staff of Indigenous-serving organizations approached the issue with consideration of both Western and Indigenous worldviews, while Indigenous women spoke about the ongoing impacts of colonial policy and government control over their lands and territories. The main policy areas discussed included residential school policy, food regulation, and natural resource regulation. We also investigated community-level strategies for improvement, such as a wild game license. Throughout, we tied the colonial control over 'wildlife' and the Western food safety discourse, with infringements on Indigenous Food Sovereignty, experiences of racism in food settings and on the land, as well as with broad control over Indigenous sovereignty in Ontario. This work contributes to an increased understanding of how Western discourses about health, food, and the environment are perpetuated through systemic racism in government policy and reiterated through policymakers' views and interpretations or actions. Government institutions must develop culturally safe partnerships with Indigenous leaders and organizations to facilitate a transfer of power that can support Indigenous Food Sovereignty.

Keywords: Intersectionality-Based Policy Analysis, Indigenous Food Sovereignty, Wild Game, Indigenous Food Security, Northwestern Ontario

1 INTRODUCTION

Internationally, food insecurity is a question of gender justice as women are the most likely to be food insecure, least likely to own the means to produce food, and the most disadvantaged by food systems governance locally and internationally (BRIDGE, 2015; Carney, 2015; Brody, 2016; Pictou et al., 2021). In Canada, patriarchy and colonialism work to oppress Indigenous women, and are experienced through the dispossession of land, loss of Indigenous Food Sovereignty (IFS) and disproportionate food insecurity (Mintz, 2019; Pictou et al., 2021). Poverty, violence, lack of safe housing, and food insecurity are some of the realities for Indigenous women, girls, and 2SLGBTQIA+¹ people in Canada and Indigenous Peoples in urban centers experience greater health inequities than those who live on reserve (National Inquiry into Missing and Murdered Indigenous Women and Girls, 2019). These disparities are rooted powerfully in experiences of colonialism, specifically in gendered policies that affected profound social and cultural disruption in Indigenous Peoples lives (Neufeld, Richmond, and The Southwest Ontario Aboriginal Health Access Centre, 2020).

IFS respects struggles for self-determination within Canada, where food has been used as a tool of ongoing settler colonialization (Burnett et al., 2016; Martens et al., 2016). Policy is a pillar of IFS because oppressive land, water, food, economic, and environmental policies prohibit the land-based practices necessary to enact food sovereignty (Morrison, 2011; Morrison, 2020). Specifically, the degradation of IFS and construction of food insecurity is a function of Canadian settler-colonialism. Throughout history, Canada has inhibited Indigenous Peoples' ability to hunt, fish, forage, and farm in a multitude of political ways including resource extraction, creations of national parks, prioritizing sport hunting and tourism and limiting of how wildlife is shared or sold (Teillet, 2005; Burnett et al., 2016; Mintz, 2019). Now, many Indigenous Peoples face declining access to harvesting territories and waters as well as a decline in the availability of nutritious wildlife or plants, directly causing a reliance on store-bought foods (Morrison, 2020). When understood from a critical population health approach, this environmental dispossession creates situations which perpetuate basic health and social needs being unmet (e.g., employment, food security) as result of colonial socio-historical context and policies (Richmond and Ross, 2009). Indigenous Peoples have always disputed dispossession (Richmond and Ross, 2009) by fighting politically, by petition, by occupation, and in the courts (Teillet, 2005). Collaborative networks of Indigenous groups and Indigenous-serving organizations have been formed for knowledge mobilization, advocacy and action towards improving food security and IFS (Levkoe et al., 2021).

There is currently a shortage of legal work surrounding food security and food sovereignty in Canada (Settee, 2020), but in particular for Indigenous Peoples living off-reserve whom are required by provincial law to follow the same procedures as non-Indigenous populations when hunting or fishing despite their constitutionally-protected Indigenous and/or Treaty rights (Ermine et al., 2020). It is known that Indigenous harvesting is regulated in Canada through Treaty Rights, Aboriginal Rights,² and provincial regulation (Ermine et al., 2020), but how these policies are experienced in various urban regions across provinces within Canada and by Indigenous Peoples who have various levels of recognition by the federal government (i.e., Status Indian, Non-Status, Inuit, or Métis) is poorly understood and undocumented. Herein we apply an Intersectionality-Based Policy Analysis Framework (IBPA) to explore how the provincial and federal policy contexts have historically, and continues to impact Indigenous women and their communities' experiences of accessing wild foods³ in urban northwestern Ontario. Using an intersectional analysis "can help researchers to build common ground between Indigenous and Western worldviews, by examining how power works on both sides" (Stinson, 2018, p. 1) and enables the linkage of these two worldviews (Levac et al., 2018). This analysis was borne from questions regarding wild food policy from community organizations during previous research in both cities. Community organizations wanted more clarity on the interpretation of and practical application for provincial policies related to game and fish. Highlighting Indigenous women's experiences brings forth the "everyday decolonization and resurgence practices" of Indigenous Peoples which keep a continued focus on the revitalization of the well-being of their Indigenous communities by focusing on (re)localized and community-centered actions (Corntassel, 2012, p. 97).

²The Indian Act is federal legislation that codifies who is eligible for Indian Status as defined by the Canadian state. Status provides certain rights and benefits which are unavailable to non-status First Nations, Métis, or Inuit individuals (Government of Canada, 2021). Since treaties cover much of the land now considered Canada, those who have Treaty Rights as per their status within a First Nation, can legally harvest wildlife in their treaty territory (Government of Saskatchewan, 2018; Ermine et al., 2020). Inuit, Non-status, and Métis people also have legally protected Aboriginal Rights as per the Constitution Act of 1982 but generally do not have the same rights to hunting and fishing because they cannot use treaty territory and the state can infringe on these rights "if there is a valid legislative objective and the infringement is consistent with the honour of the Crown" (Ermine et al., 2020, p. 12).

³In this work we use the term wild foods to encompass non-farm raised meat or fish that are harvested from the natural environment through fishing, hunting, or trapping which are part of broader Indigenous or traditional food systems. We focus on this subset of foods, and in particular game and fish, because of their contention in the policy arena. We use the term wild foods throughout as this word is the language used in policy to differentiate meat that has not been inspected in a federally licensed facility. We do however acknowledge that the use of "wild" to describe these foods can be problematic in perpetuating barriers to their consumption. Further, there are many other foods which can be considered traditional or Indigenous that are outside of the scope of this analysis.

¹This acronym refers to people who identify as Two Spirit, lesbian, gay, bisexual, transgender, queer, questioning, intersex and/or asexual (Department of Justice, 2021).

2 THEORETICAL FRAMEWORK: INTERSECTIONALITY-BASED POLICY ANALYSIS

Public policy discussions center on what governments “ought or ought not” to do about public health issues (Hankivsky et al., 2012) which involves non-overt and opaque processes that are hidden to the public (Walt et al., 2008). The IBPA⁴ advances current Canadian best practices in understanding the policy implications for diverse groups (including sex and gender-based analyses and health equity or health impact assessments) by fostering understanding of the multi-level and dynamic social locations that shape individual and collective experiences as these occur through structural conditions and power structures (Hankivsky et al., 2012; Hankivsky and Jordan-Zachery, 2019). Moreover, through intersectional analyses we can explore how oppression is ordered and preserved through social differences, such as gender, race, social class and other aspects of identity (Kanenberg et al., 2019; Parker et al., 2019), as well as the complex system through which policies are developed, communicated, and interpreted. Indigenous women whose material experience of accessing wild food is constructed according to their unique but shared identities based around race, gender, geographic location, place, urbanicity, and ties to traditional practices and lands. IBPA allows for understanding the fluidity and fluctuations of identities shaped by socio-historical conditions and social structures such as settler-colonialism, racism and sexism to get at the deeper and more contextual meanings of Indigenous women’s individual and group experiences, needs, and strategic resistance to the existing policy while proposing policy solutions (Bensimon, 2003; Hankivsky et al., 2012; Hankivsky and Jordan-Zachery, 2019).

The authors come to this work as white settler women, and would like to acknowledge our positionality, including the fields from which we approach this work. The first author designed and completed this analysis as a graduate student in public health in the south of Ontario, as part of their larger thesis work surrounding accessing Indigenous foods in Thunder Bay and Sioux Lookout. The following two authors have combined 30 + years of experience working on food-based research with Indigenous Peoples and living in northwestern Ontario. These authors guided the conduct of the study, and recruitment for participation in this study was based on existing working relationships. Additionally, the last author brings their experience of 20 years, working with First Nations women on revitalization of Indigenous food systems in southern Ontario and Manitoba.

3 MATERIALS AND METHODS

We use an IBPA approach to interrogate the connections between the context of Indigenous Peoples lives in urban northwestern

Ontario, and processes of food and natural resource policy development; including how problems of Indigenous Peoples’ access to wild food and food insecurity are defined and the underlying assumptions about Indigenous Peoples and Western ideologies that are present in policies and through implementation contribute to health inequities (Fridkin, 2012). We pay particular attention to the policy values and rationale described by those who enact it (Hankivsky & Jordan-Zachery, 2019). The questions examined have been adapted from the IBPA Framework’s list of 12 overarching questions and guide our analysis (Hankivsky et al., 2012), and include: 1) *How is the policy “problem” of accessing wild food and food insecurity for urban Indigenous populations defined by stakeholders?* 2) *How does the current policy landscape address, maintain, or create inequities between different Indigenous people or groups?* (2b) *What assumptions regarding Indigenous Peoples, Indigenous foods, and harvesting practices underlie current policies that impact access to game and fish for urban Indigenous populations?* 3) *Where are the policy gaps and are there interventions to improve the problem?*

From 2017 to 2020, as part of a larger research project, we completed in-depth, open-ended interviews with 18 participants living in either Thunder Bay ($n = 15$) or Sioux Lookout ($n = 3$), two urban hubs in northwestern Ontario.⁵ Participants were categorized into three stakeholder groups to build a sample of multiple relevant actors: self-identified female Indigenous community members ($n = 6$) (i.e., those who currently access game and fish, desire to access more, or who are food activists), non-Indigenous staff of Indigenous-serving organizations ($n = 6$) (i.e., community organizations with services related to food), and policymakers ($n = 5$) (i.e., those who either create, implement, or interpret policy related to wild food).⁶ We acknowledge individuals can shift between groups based on their complex

⁵Thunder Bay is a regional service center situated on the north shore of Lake Superior on the lands of the Anishinaabe and Fort William First Nation (Fort William First Nation, n.d.). In 2016, the population of 121,621 made it the largest city in Northwestern Ontario and 12.7% of the population identified as Indigenous (the largest populations reported ancestry as Cree, Ojibway, First Nations ancestry and Métis) (Statistics Canada, 2017b; 2018b). Sioux Lookout is a town 350 km northwest of Thunder Bay on the lands of the Anishinaabe of Lac Seul First Nation, signatory of Treaty 3 in 1873 (Lac Seul First Nation, 2019). This is the essential service center for at least 30,000 people living in the rural and remote far northwest of Ontario (including 29 First Nations communities) (Municipality of Sioux Lookout, 2014). In 2016, 37.6% of the 5,272 population identified as Indigenous (the largest populations reported ancestry as Ojibway, First Nations ancestry, Oji-Cree, Cree, and Métis) (Statistics Canada, 2017a; 2018a).

⁶We interviewed individuals who worked at various institutions including public health units, community organizations, the Ontario Ministry of Natural Resources (MNR), and the Ontario Ministry of Food, Agriculture, and Rural Affairs (OMAFRA). Individuals were selected for their experiences and roles in these organizations but did not speak on behalf of them. Three of the individuals interviewed in Thunder Bay worked for organizations which also serve or govern in Sioux Lookout. All stakeholders are categorized into groups based on the way they described their role and their interactions with Indigenous populations in their roles. To layer confidentiality, when quoting an individual we refer to them by stakeholder group using gender-neutral names and pronouns. The Indigenous participants self-identified as women and some have chosen to be identified by their real names.

⁴The IBPA is based on the 8 guiding principles of intersecting categories, multi-level analysis, power, reflexivity, time and space, diverse knowledges, social justice, and equity. These principles inform the 12 IBPA questions which can be adapted to suit the context of their application (Hankivsky et al., 2012).

identities and multiplicity of roles in these communities.⁷ The Indigenous women who spoke with us hold a variety of Indigenous identities, including Anishinaabe, Cree and Inuk, with connections to First Nations and Inuit communities in northern Ontario and Nunavut.

Using the snowball sampling technique, the sample was expanded to others who were information-rich cases (Patton, 1990). In-depth interviews from 1 to 3 h occurred either in person or through video conferencing software. Participants gave verbal or written consent and interviews were audio-recorded and then transcribed prior to analysis. Interview guides provided a bank of potential questions according to the stakeholder group. In-depth open interviews were used to prioritize the lived and practical knowledge of participants in a format that allows for a complex exploration of the topic area in a co-learning environment (Lincoln and Guba, 2000). The conversational style is an important part of building research relationships and allowing for the interviewee to bring forth what is most relevant to their position in this policy ecosystem (Patton, 2014). These interviews were preliminarily coded using inductive and descriptive codes to capture the thoughts of participants in their own words. Through the iterative process of thematic analysis (Braun and Clarke, 2006, 2012), the theoretical framework of IBPA (Hankivsky et al., 2012; Hankivsky et al., 2014) was introduced retrospectively. The first author used the adapted research questions (as listed above) as guides to organize a second round of interpretive coding responding to the research questions. Themes and sub-themes were revised repeatedly throughout the analysis and writing process. In what follows below, we lay out the thematic findings of the IBPA analysis.

4 FINDINGS

The results are organized by theme and subtheme (where applicable) in response to the three research questions and are numbered accordingly (See **Table 1**). Question 2b is considered under the umbrella of the second question because these assumptions contribute to inequities. A temporal aspect (i.e., change over time) was considered throughout the analysis as interviews occurred over 3 years.

4.1 Stakeholders' Understandings of the Policy Problem of Accessing Wild Foods and Food Security

This section lists and summarizes stakeholder viewpoints that are expanded upon in greater detail throughout this work. Thematic findings are delineated by each of the three stakeholder groups below to respond to research question one—which is focusing on the differences in stakeholder understanding of the policy problem of access to game and fish as a means to support food security for urban Indigenous People in northwestern

Ontario. We found differences in problem definition across and within stakeholder groups.

4.1.1 Perspectives of Policymakers

For policymakers, the general sub-themes describing their framing of the problem were 1) food safety concerns with wild food, 2) preventing the commercialization of wild food, 3) case law definitions of Indigenous harvesting rights, and 4) administrative barriers to deterring consumption of wild game, for sake of conservation concerns. For example, a participant who implements policy focused on the importance of respect for treaty boundaries and the court-system when discussing increased consumption of game by Indigenous Peoples. Aiden explained the risk of being criminally charged for harvesting outside one's treaty area:

"In theory, someone could be charged for harvesting outside of their Treaty area. Because the current understanding, based on case law, supports inner-Treaty harvesting. [...] Yeah, so a lot of our directions are around case law."—Aiden, policymaker.

Another policymaker considered urban off-reserve access to wild game as a "minor issue" and described hunting as very accessible in northern Ontario. They chose to emphasize concern with wild game as a food source because it is not inspected in a federally licensed facility therefore it should not be shared with others. As sharing is a cultural food practice for many Indigenous Peoples, this tension is significant. They explain further that the policy will not be changed however, without stronger political advocacy on the topic, stating:

"There's *no inspection*.⁸ And that's why hunted game is considered consumer-owned, [...] completely controlled by the consumer, and it only is allowed to legally be distributed within their *immediate* family—Technically you're not even supposed to give it away."—Taylor, policymaker

Public health inspectors centered the issue of food safety and reducing commercialization of wild game as the reasons why policy must be in place restricting harvesting, even if it limits some access for Indigenous populations. For example, one of the inspectors, Alex said:

"The purpose is to say, look, there's some principles here that are going to protect you and your patrons. With the Food Premises regulation, it may look picky, like keeping paperwork and tickets and posters and all this kind of stuff, but the point is to keep people safe. You're talking about uninspected meat, right? [...] Yeah, it's a huge pain for someone who wants to do that. But *why* do we do it? We do it because we're talking about uninspected meat. And it's also not carefully, how it's transported and everything else is not really very

⁷For example, many of the Indigenous community members we interviewed are also active in organizations that serve Indigenous Peoples.

⁸In quotations, italics are used to demonstrate words or phrases where the participants placed an emphasis.

TABLE 1 | Summary of findings: Themes and subthemes by research question.**(1) Stakeholders' Understandings of the Policy Problem of Accessing Wild Foods and Food Security****Theme:** Perspectives of policymakers

Food safety concerns with wild meat

Preventing the commercialization of game

Case law definitions of Indigenous harvesting rights

Administrative barriers to deterring consumption of wild meat

Theme: Perspectives of Non-Indigenous Staff from Indigenous-Serving Organizations

Comprehend and value both Indigenous and Western worldviews

Navigate complex regulations and find loopholes to serve wild meat in the city

Poverty as a determinant of food insecurity

Theme: Perspectives of Female Indigenous Community Members

Residential schools de-skilling and stigmatizing Indigenous foods

Issue of sovereignty—government controlling their harvesting and consumption of wild foods in colonial systems

Environmental management and food premise policy do not respect Indigenous Rights

Poverty as a driver of food insecurity and the inability to afford to harvest

(2) Inequities in Food Insecurity and Access to Wild Foods: The current policy landscape in Ontario**Theme:** Assumptions about Indigenous Peoples, Indigenous foods, and harvesting

Racialization of Indigenous Wild Meat - in regulation and in society

Theme: Policy Areas and their Impact

Intergenerational Impacts of Residential School Policy on women's families and food practices

Food Regulation—"no food sovereignty within food safety."

Natural Resources Regulation—arbitrary treaty boundaries and colonial control of wildlife and Indigenous bodies

(3) Policy Gaps and Entry Points for Improvement**Theme:** Permanent Wild Game License**Theme:** Indigenous Led and Culturally Safe Collaborations Towards Indigenous Food Sovereignty

carefully controlled. [...] You actually *want* to have a hurdle for people to jump over. [...] Like, do you *really* want to do this? Like, it shouldn't be the easiest thing in the world to have a wild game dinner. Why? Because there's not that many moose left. Hence, why MNR doesn't want it commercialized."—Alex, policymaker

Public health inspectors shared the intense worry about any form of selling wild game, in restaurants or otherwise. While the inspectors were receptive to working with organizations to serve wild game, they are at the mercy of provincial regulations even with Indigenous-led organizations.

4.1.2 Perspectives of Non-Indigenous Staff From Indigenous-Serving Organizations

Non-Indigenous staff of Indigenous-serving organizations defined the problem of access to Indigenous foods in urban settings *via* the following sub-themes 1) an ability to comprehend and value both Indigenous and Western worldviews, 2) the necessity to navigate complex regulations and find loopholes to serve game to Indigenous Peoples in the city, and 3) poverty as a determinant of food insecurity.

The public health nutritionists interviewed recognized the conflict in adherence to Western food safety standards and promotion of Indigenous foods such as wild game, which impedes access in the cities. Emerson discussed the need to be more flexible in the regulation of wild game to serve community needs:

"That's part of the whole discussion right? Is what's the processes and who's really the regulating authority? Like the health unit they look after the consumption but then the MNR they're kind of concerned about you know the meat that's coming off land and not being—or not being inspected right? So it's everybody working together just to make it simplified and not be so strict on everything right? Got to kind of loosen up the rules a little bit just to kind of allow—especially now we've got more people coming from the remote communities into Thunder Bay. We need to you know, we need to evolve with that and they're living that, and they're relying on services and you know we need to evolve with that demographic change."—Emerson, non-Indigenous staff of Indigenous-serving organization.

When asked about reasons for Indigenous Peoples' food insecurity, a non-Indigenous staff of an Indigenous-serving organization in Sioux Lookout spoke about the situation of their clients:

"Social welfare does not provide enough money [for all needs] and we have seniors that come over here, and they just can't make it stretch. They just can't do it, and it's not because they're mis-using whatever funds they have. [...] And so it's really difficult. I think most of the people we see are on social assistance. You see a few younger guys that have work, but they're working at minimum wage, and housing costs in this town ... There is no housing, so they can charge whatever they want, almost. Subsidized housing, there is, you know, a minimum number of units and its all for family. One of our guys, he was on the list for ten years before he got his apartment."—Reese, non-Indigenous staff of Indigenous-serving organization

This perspective highlights how food cost is one of the basic needs which their clients experiencing poverty are trying to balance. The local housing crisis and insufficient social assistance are drivers of food insecurity for Indigenous Peoples and others living in situations of poverty in Sioux Lookout.

4.1.3 Perspectives of Indigenous Community Members

Indigenous women highlighted that their communities' access to wild food centered on the core sub-themes of 1) residential schools de-skilling and stigmatizing Indigenous foods, 2) the issue of sovereignty—government controlling their harvesting and consumption of wild foods in colonial systems, 3) how environmental management and food premise policy do not respect Inherent rights as Indigenous Peoples, and 4) that poverty is a driver of food insecurity and the inability to afford to harvest. Laurie spoke about her class privilege and her harvesting skills which facilitated her access to wild foods. She also commented on the way she shares with family and other community members:

"Well I'm in a situation where I'm very fortunate to have like it's 2 hours away, you know, I have a vehicle, I have access to being able to purchase a trailer to stay out there. Not everyone is fortunate like that, but I am. And because I can do that I'm able to share that food that I have with people that aren't able to access it."—Laurie, Cree woman residing in Thunder Bay.

She also notes the challenges of accessing wild foods for Indigenous populations in urban Thunder Bay who may not have financial means to travel to harvesting territory or may not have a skilled harvester in the home:

"[They cannot access the meat] unless they have relatives giving it to them as well. Unless they have a vehicle. Unless they have money for gas, you know you can't just walk out and go harvest from Thunder Bay. And smaller towns, rural towns you could walk out not

far and be surrounded by the bush."—Laurie, Cree woman residing in Thunder Bay.

Equally, another participant Samantha noted that in Thunder Bay, wild game has become increasingly policed by the health unit in comparison to ten to 15 years ago.

4.2 Inequities in Food Insecurity and Access to Wild Foods: The Current Policy Landscape in Ontario

4.2.1 Assumptions About Indigenous Peoples, Indigenous Foods, and Harvesting

The policies commonly referred to by participants in all stakeholder groups were the Ontario Ministry of Agriculture, Food, and Rural Affairs' Food Safety and Quality Act (which houses meat regulations), the Ontario Ministry of Health and Long-term Care's Health Protections and Promotions Act (which houses Food Premise regulations) and the Ontario Ministry of Natural Resources and Forestry's Fishing and Wildlife Conservation Act (which houses regulations surrounding hunting, fishing, trapping—and the possession, buying, and selling of wildlife) (Fish and Wildlife Conservation Act, 1997, S.O. 1997, c. 41, 2020; Food Safety and Quality Act, 2001, S.O. 2001, c. 20, 2019; Health Protection and Promotion Act, R.S.O. 1990, c. H.7, 2020). These Acts, along with the Indian Act (Indian Act R.S. C., 1985), dictate who can harvest which wild game (including the time of year, the need for a license, and which lands they can use) as well as how wild food is shared or sold, including within food premises across the province. When our participants in all stakeholder groups discussed these acts, it was clear that certain Western values (i.e. food safety, "health," conservation, natural resource management) underlie their purpose and are in conflict with Indigenous worldviews. Further deep-rooted often racist assumptions about Indigenous Peoples, their foods, and their sovereignty in accessing those foods (i.e., restriction of land-use according to colonial boundaries and laws) rationalize the current state of policy. The meat regulations and food premise regulations were found to be based on similar values of Western environmental health' or food safety principles and logic (as opposed to IFS), and thus are discussed together and referred to as "food regulation" where appropriate.

We found that it is key to consider how living in an urban off-reserve setting impacts the ability to enact Treaty or Indigenous Rights surrounding harvesting. A staff of an Indigenous-serving organization commented:

"On reserve my understanding is that there is no provincial jurisdiction or legislation [...] They have their own kind of [Indigenous] governance, whereas in urban settings there is still that component of –the provincial regulations still exist. So we can talk a little bit about that, the tensions that might be there—how, at the same time at the Indigenous level, they have an agreement with the federal government, but then it's provincial regulations that kind of are the barriers that are holding them back. [...] Provincial regulations say

it's up to the health unit to kind of determine what's appropriate [...] But I would say the health unit is more of the interpreter and also the implementer if they choose to do so."—Blake, non-Indigenous staff of Indigenous-serving organization

Despite long-standing jurisdictional complexities, since the Constitution Act of 1982, wildlife has been assumed to be a provincial matter. Equally, while the health of the non-Indigenous population is the responsibility of the province, it is the federal government's responsibility to protect the health of Indigenous Peoples (Judge et al., 2020). Thus, in practice, urban Indigenous Peoples and the staff of organizations, which serve them, as demonstrated in our study, are left with the struggle of understanding and navigating the blurred lines of jurisdiction over wild foods. There is an intricacy of applying laws that govern wild food, as it is at times considered wildlife and at other times considered food. Consequently, accessing wild food implicates multiple ministries in Ontario. The policymakers we spoke with were not overly concerned about the impacts of the bureaucratic ambiguities in this policy area while Indigenous participants highlighted the impacts of these policies contribute to the structural violence enacted on their communities by the Canadian state.⁹

4.2.1.1 Racialization of Wild Game—in Regulation and in Society

We found that Western food safety policy has stigmatized and created barriers to wild foods that are known to have deep intrinsic value to Indigenous Peoples, contributing to their mental and physical health, spirituality, cultural identity, and nutrition (Martin, 2012; Robin and Cidro, 2020). The staff of Indigenous-serving organizations and Indigenous women linked negative stereotypes and anti-Indigenous racism which manifested through concerns over foods and food practices that are associated with Indigenous Peoples. A staff of Indigenous-serving organization in Thunder Bay elaborated:

"Indigenous neighborhoods within the urban setting . . . lot of times, they'd be characterized as, like, for lack of a better word, the slums, poverty, low income. [...] Just that racial description of it already has a negative impact, that then kind of sets a foundation for other things, like accessing wild game, right. Like, oh, it's different, it's separate, it might be risky. I think that's a huge part of it."—Blake, non-Indigenous staff of Indigenous-serving organization.

⁹We argue that the policies mentioned herein do contribute to the structural violence Indigenous Peoples experience in daily life as they are both the product of and reproduce the social conditions of discrimination and racism (Farmer, 2005) experienced by Indigenous Peoples. While there is sometimes acknowledgement that assimilatory policy during the settling of Canada has led to the health and social inequities experienced by Indigenous Peoples within reserve, off-reserve, urban, and rural settings in Canada today (e.g., chronic diseases, tuberculosis, food insecurity, suicides etc.), there is less analysis which ties other policy arenas, such as food safety regulation, as contributing to marginalization and consequent impacts such as food insecurity in present day.

Laurie re-iterated how in cooking wild game at different venues throughout Thunder Bay, she repeatedly felt stigmatized:

"I just don't like the fact that it's, stigmatized as being dirty you know? [...] I feel like a dirty Indian cooking wild meat. I don't like that feeling. We have to be inspected, but every other meat in a grocery store doesn't? They're pumped full of antibiotics and [...] hormones and yet that's ok and wild meat is not. There's something wrong. It is very undignifying."—Laurie, Cree woman residing in Thunder Bay

These racially motivated assumptions about Indigenous foods are important to understand how in practice, wild game is over-regulated and over-monitored in community organizations, while market foods are not. A staff of an Indigenous-serving organization underlined that the association of wild game with Indigeneity results in structural discrimination by targeting surveillance of wild game while often ignoring other obvious food safety risks. This fact perpetuates inequities for Indigenous Peoples, who are often structurally vulnerable because of their social positioning (Carney, 2015), to consume their culturally relevant foods, promote their food security, and have self-determination in their food choices.

4.2.2 Policy Areas and Their Impact

4.2.2.1 Intergenerational Impacts of Residential School Policy on Women's Families and Food Practices

To be clear, residential schools are considered as a policy intervention in this work, as they were designed and implemented by the Canadian federal government as one of the interventions in their assimilatory policy efforts towards Indigenous Peoples (de Leeuw, 2007; Wilk et al., 2017). Our Indigenous participants set the stage for their current realities and experiences by linking the traumas of residential school and what their mothers or grandmothers endured with an impact on the lifelong food practices and food insecurity of the survivors and their children. Laurie shared the story of her mother, growing up on the land in her First Nation, and how her First Nation would harvest in collective coordination—with dedicated hunting camps and trap lines. She indicated however, how her mother's attendance at residential school disrupted her life in many ways, including her overall well-being and diet:

"She had that knowledge from her parents, but then when she went to residential school she got exposed to anything but wild food, like porridge and stuff like that, milk. [...] They're just not used to that kind of foods so to introduce something that made them sick. There was a lot of malnutrition and overcrowding, she developed TB, her and her siblings. So, eventually she ended up back home with her mother because my grandmother got TB so they had to take care of each other. Then she was able to go back on the land again, but it was from there where she was able to pass on that knowledge."—Laurie, Cree woman residing in Thunder Bay

Laurie's story demonstrated that only once their family was reunited on their harvesting lands could the cultural transfer of gendered food-related knowledges continue.

Similarly, Jennifer mentioned that in adulthood she reflected on unappetizing recipes her grandmother used to make her as a child—only to realize they were the foods she had grown accustomed to eating in residential school. Laurie also underlined how cultural food guidance was severed because of attending, or being a descendent of a survivor of residential schools:

"It wasn't people didn't want to do it [traditional food practices] before, they were ashamed. They did it, they just didn't do it openly like they are doing it right now. [...] Like my mom, she would, in [town] we wouldn't even build a fire or cook outside or anything. We would take a boat, go to an island and we'd build a fire and she'd cook her geese in hiding. And even when we roasted a goose or boiled a goose she made sure like wash your hands really good so no one smells you because of the smell. [...] Because they were told it's not the right way to eat, to cook. [...] Today it's being more celebrated. I think that's what we're doing, seeing all these more of the community trying to access land-based programs."—Laurie, Cree woman residing in Thunder Bay

Further, Kelsey touched on the intergenerational impacts of residential school on the women in her family – both her mother and grandmother, which contributed to her growing up and experiencing food insecurity in the city of Thunder Bay:

"So I'm originally from here, I guess this is where I've lived all my life. Like I was telling you, I grew up hungry, because I come from an Indigenous single mother. Survivor of resident school, and so is my grandmother. And kind of I guess off reserve, displaced woman, not really—she didn't really stay anywhere too long. [...] And then we ended up in Thunder Bay."—Kelsey, Indigenous Community Member

Indigenous women in this study shared the intergenerational impacts of residential schools that have broken family ties and led to themselves or other women in their immediate family moving away from home communities to urban settings, either for a short time or permanently.

4.2.2.2 Food Regulation—"No Food Sovereignty Within Food Safety"

In food regulation in Ontario, due to settler-colonial underpinnings of the definitions of health and food, there are fundamental differences in the way wild meat, as opposed to federally inspected meat, is viewed. We found that food safety and mitigating risk of food-borne illness preoccupied the health inspection team (i.e., staff who inspect food premises) over holistic notions of well-being derived from food. This instance is an example of disruptions of Indigenous knowledges of health and well-being. A policymaker highlighted their perception that

wild game poses a significant food safety risk and how the current legislation inhibits Indigenous self-determination in personal, interpersonal, and community settings:

"It's just like, food safety, [...] We're wanting to make sure that it's processed to the same standard as bovine, with the same kind of oversight, or pork, for that matter. Just because it's, it reaches so many more people. I guess, it's interesting how it intersects with First Nations governance and self-determination. Because it's perceived as very limiting. [...] I can see how that would be so challenging, because it really, I don't want to say contradicts, but it doesn't, it's not in line with the whole meat processing, I don't know how OMAFRA would offer those kinds of exemptions when, it just contravenes the logic around meat processing and food safety."—Jayden, policymaker

This necessity to hold wild meat to the same Western food safety standards as farmed meat is unrealistic and the current provincial regulations do not offer organizations the ability to serve it regularly. In Ontario, to serve wild game in a community setting (i.e., food premise), first, it must be donated. Second, regulations require recording of the harvest location and personal information of the harvester, signage informing patrons they are consuming uninspected meat, recording of patron contact information, separate storage of wild meat, and specific sanitization procedures or use of separate kitchens to ensure no cross-contamination with other foods. By following these requirements and applying through the local health unit, organizations can be granted wild game event permits which allow the serving of game in public as a one-time non-profit event. This process is resource-intensive for organizations who desire to serve wild game consistently and reproduces structural racism. The Sioux Lookout Meno Ya Win Health Centre can serve wild game regularly due to their exception clause in food premise regulation (O.Reg 493/17: Food Premises, 2017),¹⁰ yet they continue to have to use separate kitchen facilities for food preparations. Thus, this approach, if legal, would still be unfeasible and unrealistic for most non-profits. An active harvester in Thunder Bay pointed out how Indigenous food practices are viewed as inadequate within this Western system. Their traditional practices for harvesting and butchering game are starkly classified as different and unsafe by health unit inspectors, evidenced by the hurdles in place to serve it:

¹⁰The Sioux Lookout Meno Ya Win Health Centre was created in response to a protest in 1988 regarding the poor health conditions of First Nations populations in Northwestern Ontario. Advocacy on behalf of the organization translated into an exemption in provincial food legislation ("Miichim: Traditional Foods, 2021). When the Ontario Food Premises Regulation 493/17 came into force on July 1, 2018, section 38 (5) named only one food premise, the Meno Ya Win Health Centre, as allowed to store and serve uninspected food, such as wild meat and fish, across the province (Ontario Ministry of Health and Long-term Care, 2017). The Miichim program offers Indigenous food minimum twice a week to their patients who are mostly from northern First Nations communities ("Miichim: Traditional Foods," 2021).

“So yeah, they [health unit inspectors] create barriers. Not only that, but when we package it and when we care for it, we have to do it in a specific manner that’s to their code, *as if the process we have is unclean*. And then we have to have a separate freezer for it, so, you can’t have any wild game near chicken. God forbid you do that, right? Poisoned chicken that’s already dead.”— Brooke, Indigenous community member.

The staff of Indigenous-serving organizations and Indigenous women strongly indicated that they experienced an over-regulation of wild meats due to food safety concerns yet the under-regulation of all other foods being served to the public through non-profit organizations. This was maddening to Cameron because they repeatedly had to turn away wild game that was offered to the community kitchen before 2019 when they were legally unable to store it or serve it under provincial food premise policy. In particular, Cameron noted the low quality of foods being donated (e.g., rotten produce or unmarked meat) was never the subject of health inspection:

“Well, that’s like I have all those conversations with the health unit. Like how can you come here and regulate this amount like to this capacity regulating whether I’m serving wild game or not but you’re not regulating the rotten –vegetables coming in here and the ground beef. [...] Our freezer’s full of all the other stuff that’s been donated like [...] I don’t understand the disconnect that’s happening here. Why are you overregulating wild game but underregulating other stuff that probably is actually going to cause people to be sick?”—Cameron, Non-Indigenous staff of Indigenous-serving organization

The Indigenous participants and staff of Indigenous-serving organizations questioned why the health unit could accept the health risks of consuming poor-quality produce stemming from donations that could not be traced in the case of an outbreak yet, would not extend that same leniency to allow the serving of wild game without a large number of stipulations. The health inspectors must implement these food regulations, and thus the decisions of how to do so lie with them.

Here we view how settler colonialism acts through food policy, including how settlers think and act to promote a settler-colonial view of “health” undermining IFS. Impeding Indigenous Peoples from enacting their traditional practices of harvesting and consuming wild game as a culturally valuable food source may be further pushing food consumption towards market sources and contributing to disproportionately high rates of food insecurity. However, ultimately, it is a limit on IFS, of which self-determination and supportive legislation and policy are pillars.

4.2.2.3 Natural Resources Regulation—Arbitrary Treaty Boundaries and Colonial Control of Wildlife and Indigenous Bodies

As mentioned above, to ensure accordance with the provincial Fishing and Wildlife Conservation Act, health inspection teams

demand information such as the location where the game was harvested and the name of the harvester. Both staff of community organizations and harvesters pointed to how these requirements add to the surveillance of the movement and practices of Indigenous Peoples by the state. Also, the requirements re-iterate Indigenous Peoples’ settler colonial oppression as they are disrupted from sharing food with others. Brooke demonstrates their resistance:

“Then I have to sign paperwork, I have to say what I killed it with, I have to say where I killed it at, I have to say how hot it was, you know, how I took care of it. You know, it’s giggle-worthy, that they think they’re going to get any of that information. Yeah, sure, they’re going to get things on a piece of paper, but you’re never going to *actually know* where we shot that animal. Because it’s none of their business [...] They don’t appreciate when you put “the bush” or “the water”—Brooke, Indigenous community member

Our Indigenous participants highlighted how conservation officers are the direct enforcers of the Fishing and Wildlife Conservation Act, but health inspectors also monitor for infringements of the act when they approve wild game to be served to the public. Both conservation officers and health inspectors made it clear that the guiding principle of this regulation is to prevent the commercialization of wild game. However, this purpose must be questioned as Indigenous Peoples harvesting their Indigenous foods and sharing with their communities is infringed by the Act—and yet these practices are in no way in the spirit of commercialization. Moreover, and equally important, at the individual level, the federal government controls who is classified as a “status Indian” according to specifications in the *Indian Act*, and thus who is afforded the rights to harvest within the settler colonial resource management framework. The implementation of hunting regulation is a further application of the colonially constructed and imposed categories of Indigenous identities. Non-status Indigenous populations are left with inequitable access to traditional territories for lands-based practices.

The natural resources regulatory regime of Ontario has always been employed to settle and develop Ontario. Since the early 1900s the ideas of wildlife access for all, and conservation, were gaining popularity and Ontario policymakers continued with assimilatory motivations to protect the interests of sport hunters and fishers—with no recognition of Indigenous commercial economies and at the expense of Indigenous Peoples harvesting (Teillet, 2005). Many wrongly assumed that with the entrenchment of Aboriginal and treaty rights into the Constitution Act in 1982, natural resource policy would have to integrate these aforementioned rights (Teillet, 2005). In this study, the words of implementers of policy, confirmed the dominant discourses of preventing commercialization, protecting wildlife, land ownership and managing natural resources.

In practice, Indigenous Peoples harvesting is restricted according to provincial laws. Indigenous harvesters re-iterated that conservation officers did not understand the application of treaty rights and that instead, they clung tightly to precisions

about the exact land people are on. Brooke points to their status in both Canada and the USA, and how they view their harvesting rights and experiences with conservation officers in Ontario:

“People don’t really appreciate Treaty rights often, and they always try to challenge them—most Treaties, I don’t know if you ever really look at them, you know, they’ll say, you know, your Treaty area and your traditional lands. These are defined by non-Indigenous people. Now, I don’t have a border anywhere. I’m actually dual Indian. So I’m American Indian, and I’m also Canadian Indian. And I also *will* harvest in any Treaty area I choose to, because of the reason that I just told you. I don’t have these borders. I can walk where I want, and I’m going to kill something if I want to eat it. But you come across conservation officers—and I don’t know if it’s a resentment thing, or they’re envious of the rights that I have—but they definitely try to push you and challenge things, and you know, you can outsmart them pretty quick. I say, oh, really, where’s your GPS? Let’s make sure we have the coordinates so we can look this up. Right? Which they don’t appreciate, but it’s always worth a good laugh. Conservation Officers are not my fav, at all.”—Brooke, Indigenous community member.

The main sub-theme repeated by the Indigenous women who harvest was the arbitrary treaty boundaries which often do not reflect traditional territories of which their people have occupied for millennia. In particular, they described how the culture of conservation in Ontario – implemented by conservation officers—differed from other provinces, such as British Columbia. The Indigenous women underscored that in Ontario you must know exactly where each treaty boundary lies, which becomes comical in northwestern Ontario where multiple treaty areas all intersect. Dakota tells us an exemplary story:

“One time I was on a plane, I was coming from Poplar Hill, and we had someone from the MNR [Ministry of Natural Resources] on our plane with us, and it was a charter plane and someone had given us fish and we were like, oh no, only Treaty 5 can have those. And I said, well I’m Treaty 5, sure, but we were about to go into Treaty 3—hey, Treaty 3! [Laughter]. We were just throwing it back and forth. It was like, what are you going to do? But, Ontario is the only province or territory that tries to limit the Treaty rights and the portability of those Treaty rights. Between Treaty areas. Like, if I was in BC, if we were in BC we wouldn’t have to worry about that.”—Dakota, Indigenous community member.

Further, Dakota’s comments signified how conservation officers do not understand that treaty and Indigenous rights are implemented as per the Canadian constitution. She compared their regulatory power and behaviour towards Indigenous Peoples to that of police officers. Equally,

Indigenous participants highlighted that environmental management practices implemented by the Ontario Ministry of Natural Resources, such as spraying blueberry bushes, have disrupted the traditional harvesting lands and made wild food increasingly unsafe or inaccessible in proximity to urban living areas. Specifically, Dakota described how in the Ontario policy landscape, forests are treated as commodities, or “natural resources” whereas she sees the land, plants, animals as ecosystems that are interconnected with humans, a perspective that aligns with many Indigenous worldviews.

4.3 Policy Gaps and Entry Points for Improvement

4.3.1 Permanent Wild Game License

Throughout the duration of this study, health inspectors at the TBDHU have taken actions to assist the acquisition of wild game in Indigenous-serving organizations through the development and implementation of a permanent wild game license. The license was first negotiated with a shelter in the fall of 2019. For staff of Indigenous-serving organizations, the downstream impacts of a lack of provincial policy which supports consistent use of wild game in food premises (i.e., serving and storage) means that there are not detailed policies or practices in place to uphold the practice. In the case of Cameron’s organization, they took it upon themselves to develop these policies from scratch and seek health unit approval. Here we examine the reactions from various stakeholders to give insight into the tensions surrounding the license. Also, we investigate its merits as an exemplary practice to be used in other jurisdictions.

The permanent wild game license does not change the necessary administrative barriers outlined above (e.g., tracking donations, putting up signage, etc.) but it translates to less surveillance of organizations. They are permitted to either solicit, store donations, or serve wild game whenever they desire. To acquire one of these licenses, organizations must meet TBDHU’s health inspector’s requirements. The staff of Indigenous-serving organizations we interviewed who were in the process or had recently acquired a permit described the health inspectors as willing to accommodate certain practices that are specific to the needs and resources of their organizations. Further, the ability to solicit donations gives an outlet to the residents of Thunder Bay (Indigenous and non-Indigenous) who have previously been refused the opportunity to donate wild game to Indigenous-serving non-profits.

Laurie and Samantha highlighted that for Indigenous Peoples, engaging with the health unit on topics of wild game can create more barriers than serving game without engaging them. Laurie recounted how she was cooking with wild game at her college but when her supervisor attended a meeting hosted by the health unit on serving wild game in institutions, he felt they could no longer continue with their existing practices:

“If we were to do anymore wild meat stuff like that, I would now be expected to fill out those forms [...] Now he wants to dedicate just one kitchen for wild meat

instead. We are segregating it now. I thought that was problematic. I was like ‘what the hell did you guys do over there? You know I thought this was supposed to be helpful not set us back? So I was like I thought I got full range, freedom to do things there and then as soon as he went there [to the health unit meeting] I got restricted and I just wasn’t too happy with that.”—Laurie, Cree woman residing in Thunder Bay

We must ask: *who* is this license for? There is value in distinguishing this policy intervention’s use within *Indigenous-led organizations* versus non-Indigenous-led organizations that *serve* Indigenous populations. This is crucial because the license is still enforcement of the problematic settler-colonial policies discussed earlier. As Indigenous Peoples, choosing to enact their Indigenous or Treaty Rights to harvest from their lands and consume this food are practices that should not be regulated by the local health units as that is not their jurisdiction.

Additionally, the permanent wild game license is based on Western food safety principles. These principles are derived from broader Western understandings of food science and food illness which are valued over socio-cultural and holistic understandings of food. One of the stipulations under the license is that meals with wild game are to be cooked from a list of pre-approved recipes that follow food safety principles and are approved by the health unit. This once again highlights discriminatory practices towards wild game and Indigenous knowledge (including its oral transmission). The shelter staff explained how insulting it would be to ask Elders to follow recipes provided by the non-Indigenous organization:

“They [health inspectors] had identified they wanted us to have recipes, which again, we laughed at because we don’t do recipes for *anything*[...] Never have I been told I have to have this done for the pasta we cook every single day, or [...] tell the people what to do with the wild game, cause God forbid, it doesn’t look like ground beef or smell like ground beef, we don’t know what to do with it. *I just thought that was absurd*. [...] I’m white and I’ve never cooked wild game before, but here’s my recipe for you to cook the meal that you have *offered* to cook for our community. Like, just so offensive.”—Cameron, non-Indigenous staff of Indigenous-serving organization

Additionally, Jordan, a staff from another Indigenous-serving organization, said that while the license would be useful for their organization they have concerns about the lack of consultation and integration of Elders and traditional knowledge into the permitting process. Jordan reiterates that when their organization works with Indigenous-led organizations the non-Indigenous staff follow their lead and abide by their traditional cooking methods:

“We are supportive of the temperature charts and things like that to make sure that we’re checking the

temperatures of meat and things like that. [...] But if we’re working at or with an Indigenous run organization we have a different conversation, we talk to the Elders about what they want to do, what they think is appropriate. Compared to in our space here, where we’re like, okay we’ll follow the process.”—Jordan, non-Indigenous staff of Indigenous-serving organization

Throughout the process of acquiring a permanent wild game license for their organization, Cameron was never satisfied with the responses to their questioning of the food premise regulation. They were operating from a food sovereignty lens while the health inspectors continued to bring their values of Western food safety. When speaking with us they continually questioned the need for a separate wild game policy at all:

“I was like what about the hot-handling temps and she was like, ‘Well, I guess goose would just fall under poultry’. [...] *Ya it would cause it’s a bird*. Like, similar to like moose and deer falling under the same red meat as, *it’s the same*. [...] So, I said, couldn’t we just add this to our food policy to begin with? Why do we have to have a separate wild game policy if we already have one in place that says all these temperatures for all of these other things?”—Cameron, non-Indigenous staff of Indigenous-serving organization

Within the health unit themselves, we witnessed that public health nutritionists were working to instill values of IFS and Indigenous worldviews to the broader institution but that each sub-field of public health tends to prioritize the values that underlie their education and relevant legislation. In this case, there has been a local adaptation of provincial regulations, yet some participants suggested a hesitancy exists on the health unit’s part to advertise it for fear of criticism from within the environmental health field. However, since 2017–2018, the public health nutritionists of the Northwestern Health Unit (NWHU) and TBDHU in northern Ontario have been using Northern Fruit and Vegetable Program Enhancement funding from the Ontario Government for an IFS portfolio.¹¹ Thus, the tensions will likely continue as food safety philosophies come into direct conflict with IFS when Indigenous populations try to access wild game in urban areas because food regulation was not

¹¹The Ontario Ministry of Health and Long-Term Care has funded the Northern Fruit and Vegetable Program since 2006 in the Algoma and Porcupine Health Unit and has expanded to others over time. The main program goal is to increase the consumption of fruits and vegetables for students in northern Ontario by providing two servings of fresh fruits and vegetables to elementary students weekly as well as educational resources on healthy eating and physical activity. In 2018, it expanded to the NWHU and the TBDHU catchment areas (Northwestern Health Unit, 2018; Terry and Terry, 2018). Enhancement funding to this program targeting IFS is now part of annual funding for both health units. The responsibility to use this funding is part of the respective public health nutritionists’ portfolios.

written with their interests in mind. Thus, the outcomes of the implementation of the license appear to have re-iterated many of the historical issues of racism, discrimination, and disruptions to IFS for Indigenous Peoples living in the urban center of Thunder Bay. We found the license was perceived as a barrier to Indigenous Peoples and Indigenous-led organizations but as an opportunity to Indigenous-serving organizations. Moving forward, the perpetuation of settler-colonial power in control over Indigenous Peoples' food practices should not be ignored.

4.3.2 Indigenous Led and Culturally Safe Collaborations Towards Indigenous Food Sovereignty

We learned from Indigenous women and staff of Indigenous-serving organizations that improving relationships between the diverse Indigenous community and Indigenous-serving organizations is critical to community-level food security and takes financial and human resources. The public health nutritionists responsible for the use of the IFS funding have been instrumental in building genuine relationships with Indigenous partners, but they have lots of work ahead. The NWHU's approach is to partner with existing Indigenous-led organizations doing health and food work, such as the Sioux Lookout First Nation's Health Authority as opposed to direct engagement with each First Nation community, the strategy of the TBDHU.

Additionally, cultural safety training was recommended by Samantha to target inspectors with stringent Western food safety logic and practices to better promote the overall well-being and sovereignty of the community they serve. Indigenous participants underlined that it is the creation of culturally safe spaces for embracing Indigenous cultures, paired with increased access to wild game, that is key to keeping the cultural and spiritual aspects attached to Indigenous foods in urban spaces. The IFS funding injected necessary resources to bring Indigenous leaders from within these cities and regions together to begin strategically around Sioux Lookout and Thunder Bay. This is a potential first step, yet Samantha highlighted the tensions of government control over this funding:

"Like I told the health unit, I said, 'I'm coming after that enhancement fund'. Because literally give that money to Indigenous folks who are directing their work in their communities and let's make change; like not you holding my purse strings or to tell me what I can and cannot spend on and fight me."—Samantha, Anishnaabe woman.

The sentiment that money should be going directly to community initiatives as opposed to funneled through Western institutions was mirrored by many, including non-Indigenous staff of Indigenous-serving organizations and staff of both health units. Samantha further expressed the need to break colonial governance structures in communities to see food across many areas.

We heard that productive partnerships working on Indigenous food systems between First Nations, Indigenous

organizations, community organizations, and policy stakeholders (including the health units) had IFS, as opposed to food security as their guiding principle. Peyton spoke from their perspective of a non-Indigenous person working for a health unit:

"We have a *very* broken system which we're all very aware of, it's not hidden. And plus we do need to change the system ... I think it is not necessarily the best approach to give health units the money for the First Nations' communities, but that's what we have so let's put it to good use."—Peyton, non-Indigenous staff of Indigenous-serving organization

Peyton acknowledged that there is an all-around agreement that the current provincial and federal government approach to food security in northwestern Ontario is deeply flawed in design which leaves colonial institutions in control. Equally, that non-Indigenous people working in health organizations must be reflexive of the policies they enact and the roles they can play in disrupting and reconfiguring these systems.

5 DISCUSSION

The burden of these current food and natural resource regulations, the application of the Indian Act, and the devastating intergenerational impacts of residential schools have been explored herein as equity concerns because they impede the rights of food, health, and culture for Indigenous Peoples. Policymakers explanations showed the values behind their practices in implementing food and natural resource regulations, illuminating in this context how the language and communication of land management comes from a Western world view of domination over non-human beings and is in conflict with Indigenous eco-philosophy based on the values of interdependency, respect, responsibility, and reciprocity (Morrison, 2011; Cornthassel, 2012; Martens et al., 2016).

Yet, food can be a powerful tool to restore relationships with Indigenous identity when disconnected from land and culture (Robin and Cidro, 2020). Learning and practicing traditional food knowledges brings about feelings of pride and identity for our participants and other Indigenous women who have experienced disruptions in cultural food knowledge due to urbanization and assimilatory policy (Neufeld et al., 2017; Neufeld et al., 2020). We reiterate that women have central roles in Indigenous food cultures and continue to lead movements aimed at both social and environmental justice (Neufeld, 2020; Pictou et al., 2021). Our IBPA demonstrates how gender intersects with race among other social differences to illuminate how the structural constraints of policies impact women in their roles of harvesters and food providers.

Structural racism in colonial policy is responsible for the disproportionate health inequities experienced by Indigenous

Peoples in settler-colonial nations (Stout, 2018; Morrison, 2020). Specifically, Indigenous participants' destruction of access to Indigenous foods via policy can be understood as a form structural violence (Farmer, 2005). Structural violence refers to the ways in which large social forces are translated into the embodied individual experiences of assaults on the personhood, dignity, or value of the person causing suffering (such as experiencing racism or poverty) (Farmer, 1996, 2005; Scheper-Hughes and Bourgois, 2004). Depending on social positioning, this everyday violence is not visible or perhaps deemed legitimate or necessary as it is enacted by the state (Scheper-Hughes and Bourgois, 2004). Here, embedding individual experiences of everyday harm (i.e., limited access to fish and wild game and food insecurity due to disruptions in IFS) within the socio-political and cultural context of the province of Ontario demonstrates that the distribution of such harm is not uniform, but can be traceable back to political and bureaucratic decisions which cause extreme suffering. Through policymaking and implementation, immense power is felt by the groups that policies are constructed to oppress—in this case, Indigenous Peoples.

Pictou et al. (2021) and Kepkiewicz et al. (2015) highlighted that there is a need for current settler food movements to better critically engage with intersecting structural oppressions such as capitalism, colonialism, patriarchy, and white supremacy. We argue that provincial and federal governments who claim goals of improvement of health equity—specifically improving food security for Indigenous populations, must interrogate the tensions between goals and the deeply rooted white supremacist values permeating the institutions they represent. These experiences of confrontation with conservation officers highlight how a restoration of lands and water-based relationships by Indigenous Peoples are continually perceived by colonial institutions, both provincially and federally, as a threat to state sovereignty. In practice, provincial ministries give more power to resource extraction companies than Indigenous Peoples who are the first to experience impacts of changes to these ecosystems in multiple ways, including through food sources (Mintz, 2019). Calls exist for governments who manage wildlife and natural environments to authentically integrate Indigenous worldviews and rights into their policy and practices to promote Indigenous Peoples' ability to enact their rights to land-use (Loring and Gerlach, 2015; Ermine et al., 2020).

The racialization of wild game cannot be understood outside of the racism which exists in the city, and which the Indigenous women described. In cities with less racial tensions, possibly due to lower proportion of Indigenous Peoples, other health units may not be paying as close attention to wild game in institutions and thus reducing some barriers *via* lack of surveillance. In Thunder Bay, the issue of systemic racism in policing (McNeilly, 2018) and through the killing of Barbara Kentner (Porter, 2020; Ray and Burnett, 2020) has been brought to the public's attention and thus forcing reaction from the various institutions. Significantly, the issue of gendered violence is

one that has been raised in the context of IFS (Morrison, 2020; Pictou et al., 2021). In sum, licensing as an intervention should be evaluated to understand the impact (if any) on addressing access to Indigenous foods in Thunder Bay to determine its value to be applied locally, within Ontario, or in other Canadian provinces.¹² At the time of interviews, many stakeholders were concerned about possible reprimanding by the health unit for those who chose to avoid this colonial process.

This work has revealed patterns of gendered impacts of settler colonialism that were identified in the National Inquiry into Missing and Murdered Indigenous Women and Girls. The report cited four pathways to the maintenance of colonial violence in Canada: 1) trauma that is historical, multigenerational, and intergenerational 2) social and economic marginalization 3) maintaining the status quo and lack of institutional will 4) ignoring the agency and expertise of Indigenous women, girls, and 2SLGBTQQIA people (National Inquiry into Missing and Murdered Indigenous Women and Girls, 2019). The stories of our participants tied together the lives of women in their families and communities to demonstrate the everlasting impacts of residential school policy including processes of environmental dispossession which have indirectly contributed toward circumstances of food insecurity associated with disconnection from land and knowledge systems (Richmond and Ross, 2009). Our work exemplifies both the direct and indirect impacts of environmental dispossession on Indigenous communities. Directly, limited access to lands has the consequence of decline in harvesting and procurement skills, ultimately leading to low consumption of Indigenous foods. Through assimilatory policy such as the Indian Act, and the residential school system there is also a more indirect pathway explored in this work that impacts the well-being of Indigenous Peoples via decreased access to wild foods and food insecurity. Women recounted experiences of hardship of their mothers, intergenerational trauma, and experiences of themselves or Indigenous Peoples in their communities experiencing socio-economic marginalization, interpersonal racism, and structural racism while enacting their traditional food practices. Understanding environmental dispossession as a distal determinant of health underlines the importance of addressing policy areas which contribute to it, in order to produce more benefits than solely addressing proximal determinants of health (Richmond and Ross, 2009).

The current barriers to sharing food in their preferred ways in the urban setting pointed to strong values and discourses of white supremacy, food safety, and conservation in institutions that implement the policies related to harvesting, sharing, and selling of wild game—as well as food processing and consumption. The question of institutional will is key as

¹²In terms of the permanent wild game license explored in this work, health units do have some flexibility in the interpretation of food premise regulation. In their interpretations, there should be more emphasis placed on a holistic and balanced approach to well-being, where food safety is but one consideration alongside Indigenous food sovereignty, and the right to privacy, food security, culture, and health.

individual health inspectors are evidently holders of power in the realm of urban Indigenous Peoples' access to wild meat—and the TBDHU has demonstrated a change in the application of wild food policy within the period under study. This evidence demonstrates that with institutional support in organizations serving game, as called for through Indigenous community resistance and support from ally organizations, innovative locally-informed solutions that center more holistic views of food and well-being can be implemented to partially overcome policy barriers.

The concept of cultural safety is relevant in moving forward with Indigenous and settler relations in the pursuit of IFS. Cultural safety acknowledges the safety risk of inappropriate interactions (Nguyen, 2008) and moves us beyond cultural awareness, which is simply an acknowledgment of culture in health contexts. To achieve cultural safety, there must be purposeful power-sharing and self-reflection of individuals within the organization alongside cultural training for service providers and policy-makers (Brooks-Cleator et al., 2018). Our research demonstrates how Indigenous-serving community organization staff have engaged in a reflection of their roles and worked to disrupt institutional barriers to accessing wild food for their Indigenous clients, indicating that some progress towards culturally safe environments may be occurring. However, it is clients themselves who have the power to define interactions or environments as culturally safe—and we also heard Indigenous women in this study describe the opposite. A cultural safety approach may facilitate existing cross-organizational work at the community level and lead to tangible results to promote food security, which is not in direct conflict with Indigenous conceptions of well-being.

Further, we propose further use of an IBPA framework to serve our understanding of urban Indigenous Peoples and women's experiences of inequity within Canada and internationally. If governments at various levels are to adequately consider Indigenous Peoples as beneficiaries of their policies, they have a long way to go in terms of transforming policy development and implementation. The language within these policies also needs to be carefully considered, as well as how wild food policy is communicated. This research reveals that the values underlying the formation of regulation undoubtedly trickle down to those who implement it and those who feel its effects in their daily lives based on their social location (i.e., the intersection of characteristics such as class, geography, gender, Indigeneity, and Indian status). An intersectional approach to policy investigating Indigenous food security and IFS, can connect multiple interrelated inequities stemming from overlapping structural conditions. Consequently, there is an opportunity to take action in one sphere with broad-reaching impacts on multiple health and social outcomes (e.g., food insecurity, poverty, mental health, chronic disease). Researchers should aim to share resources widely to stakeholders to increase public outcry and thus political action (Varcoe et al. 2011). Equally, the IBPA framework is based on the principles of time and space, making it useful in many contexts to promote a policy analysis for Indigenous Peoples' food challenges that is responsive to the historical complexities of colonialism, the *trans*-national climate crisis, and the global nature of

industrialized food systems. A power-based analysis illuminates who holds privileges as a result of government action. In practice, the application of equity as a value is often actively avoided in Canadian government policy and decision-making (Varcoe et al., 2011).

6 CONCLUSION

This work is unique in its use of IBPA to analyze interview data, its focus on the inherent values in specific policies, and expressions of such values through institutions in Ontario as experienced by individual Indigenous women and their communities at large. We highlighted how stakeholders defined the topic of access to wild food, and how their actions either supported or disrupted the efforts for food security and IFS. We tied the colonial control over wildlife and the Western food safety discourse, with infringements on IFS, experiences of racism in food settings and on the land, as well as with broad control over Indigenous sovereignty in Ontario. The topic of accessing wild game and fish in the city brings together many aspects of Indigenous People's rights to live sovereignly in the nation-state of Canada. Provincial and federal governments must negotiate hunting and food policy that fosters IFS through a respect of Treaty and Indigenous rights in all places across Canada whether urban or remote, on or off-reserve.

The examination of Indigenous and settler relations in urban Canada is critical and must be further investigated to promote IFS (Dennis & Robin, 2020; Pictou et al., 2021). Dismantling of settler colonialism requires settlers to redress epistemic violence in food studies and unlearn positivist Western knowledge systems while integrating diverse ways of knowing into decolonial practices (Pictou et al., 2021). Systemic racism and the tensions between the practice of different knowledge and governance systems grow when non-Indigenous people are unaware of how their values influence the way they see the world and interact with others. Jurisdictional confusion and siloed thinking in institutions is an indication of the inability to reconcile how food is interrelated to the natural world. We advocate in unison with previous demands for both individual and community self-determination to reinstitute healing and intergenerational food relationships for urban Indigenous Peoples within Canada (Neufeld, 2020).

To move forward, colonial governments must acknowledge that there are multiple ways of reaching the same goal: having access to and consuming culturally relevant foods and support well-being. Cornthassel (2012) cautions against a performative rights-based discourse which the state implements to avoid strong movements of decolonization and resurgence. Respect, reciprocity, and interconnectedness are principles of Indigenous law that can help to decolonize Western-based notions of rights in the context of Indigenous populations (National Inquiry into Missing and Murdered Indigenous Women and Girls, 2019). Recognizing Indigenous Peoples as the environmental stewards of their territories will support their collective food security as well as demonstrate exemplary practices to shift the values

inherent in local, national, and global food systems we all rely on. As such, supporting IFS is part of a cross-cultural understanding process of prioritizing Indigenous knowledges, traditions, customs, and laws to inform action-oriented policy and community resiliency, tying to the broader goals of the sovereignty of food, land, and every aspect of Indigenous lives and reconstructing relationships amongst Indigenous and non-Indigenous peoples through food justice (Morrison, 2011; Martens et al., 2016).

Indigenous Peoples' lands and waters require protection that is not forthcoming from provincial governments. The above shows that, from Confederation on, Ontario never did, and never intended to respect, recognize or protect Indigenous lands and resources but rather grasped control by every available means, including the use of policy, force, settlement, public opinion, and in the courts (Teillet, 2005). There is a need to disrupt the inequality in privilege and power in policy-making that dictates governance of traditional lands and waters within Canada and other settler-colonial nations (Morrison, 2020). Indigenous Peoples and communities are critical to the evolution of humanity and the protection of biodiversity heritage. Meaningful participation and power in policy will enable the use of diverse knowledges, including Indigenous women, to facilitate a re-design of the agri-food system in a sustainable manner that supports Indigenous Food Sovereignty and respect for all land and waters—no matter the political boundaries (Morrison, 2020).

DATA AVAILABILITY STATEMENT

In order to protect the anonymity and confidentiality of the sample of participants, raw data will not be made available. The communities have small populations that would make participants easily identifiable.

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Beyond GDP: Lessons for Redefining Progress in Canadian Food System Policy

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Gross Domestic Product (GDP), while initially conceived to measure economic activity, is now the most widely used indicator for societal progress and wellbeing. Its contemporary (mis)use has been documented and discussed in 'Beyond GDP' research. This mini-review brings a food systems lens to Beyond GDP research by providing an overview of the limitations of GDP as an indicator of wellbeing, and by illustrating examples of how these are embodied in Canadian food system policy. We offer a brief summary of some established and emerging areas of research dedicated to improving assessments of societal wellbeing in policy development. We highlight connections between Beyond GDP research and advocacy for food system policy reform and suggest that strengthening connections between the two areas of research and advocacy can help center societal wellbeing within food system policy research and development in Canada.

Keywords: ecological economics, GDP, societal wellbeing, Canadian agri-food system, agriculture policy, food system policy

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1 INTRODUCTION

Gross Domestic Product (GDP) is a measure of the total monetary value of all final goods and services within a jurisdiction, usually measured over a year. GDP is the most widely used governmental indicator for societal progress (Costanza et al., 2009; Raworth, 2017). The assumption underlying this application is that increasing economic production will increase societal wellbeing. So central is GDP to policy development, that the metric has been called "the world's most powerful number" (Fioramonti, 2013) and is used ubiquitously as both a policy objective and a metric to assess policy success across government domains.

Despite its contemporary (mis)use, GDP was not conceived as an indicator of wellbeing. The origins of contemporary GDP are often traced back to American economist Simon Kuznets, who developed a single measure of national income for the purpose of assessing the economic impact of, and recovery from, the Great Depression (Raworth, 2017). After the second world war, GDP was adopted by international financial institutions, notably the World Bank and the International Monetary Fund, as the standard for tracking economic activity with a single, convenient, aggregate statistic. The indicator evolved in the latter half of the 21st century to become, by extension, a measure of societal progress and wellbeing (Stiglitz, 2020).

Ecological economics aims to embed human activity within its life-supporting ecosystems. Its objective is to advance ecologically sustainable societies that equitably share resources between humans, generations and non-human species (Costanza, 2008). An established body of ecological economic research documents the challenges of conflating economic activity with societal wellbeing (Stiglitz et al., 2009; Stiglitz et al., 2010; Washington, 2021). This work underscores how GDP, now used out of context, obscures important dimensions of wellbeing, incentivizes short-term profits over long-term prosperity, and skews our decision-

making and policy development. Many have called for improved frameworks to move beyond GDP and ensure that our decision-making is informed by values such as ecological health, quality of life, equality, political voice etc. (Stiglitz et al., 2009; Giannetti et al., 2015; Raworth, 2017; Podlasly et al., 2020; Washington and Maloney, 2020).

This mini-review article brings a food systems lens to this body of work, referred to as ‘Beyond GDP’ literature. It provides an overview of the well-documented limitations of GDP as a guiding policy metric, and presents examples of how these are embodied within Canadian agriculture and food (agri-food) policy. It then provides a brief summary of some established and emerging research dedicated to moving beyond GDP with alternative metrics and policy paradigms. We conclude by suggesting opportunities to draw from Beyond GDP scholarship to advance research centering wellbeing in Canadian agriculture and food policy.

2 DISCUSSION

The food system is the network of people, activities and resources that provide communities with food. This includes farming and other forms of food provisioning, as well as food distribution, processing, retail, preparation and waste management. The food system is multifunctional. In other words, it is central to achieving multiple goals related to the wellbeing of society, including feeding people, sustaining human health, providing jobs and opportunities to create businesses, and supporting community economic development etc. Food system policy research in Canada often emphasizes that existing policy overlooks many of these important dimensions of human wellbeing for the purpose of economic growth in the agri-food sector (Andrée et al., 2018; Koc et al., 2008; MacRae, 1999; MacRae, 2011). Advocates for food system policy reform have expressed this critique in a number of ways. MacRae (1999) assessed that Canada “do[es] not have a food system, but an agriculture and agri-food industry” and that rather than nourish people, the goal of the Canadian food system is to grow a profitable, competitive agricultural industry. Others noted that the food system is not managed in the public interest (Food Secure Canada [FSC], 2015; Levkoe et al., 2017), or that food system policy should improve coordination to address policy gaps and contradictory outcomes (Food Secure Canada [FSC], 2015; Food Secure Canada [FSC], 2017). In all of these framings, we believe that calls for food system policy reform echo broader arguments in the Beyond GDP literature, notably that economic growth in-of-itself is insufficient to ensure wellbeing.

Centering Growth in Canadian Agri-Food Policy

The majority of Canadian food policy development has been undertaken by Agriculture and Agri-food Canada [AAFC] (formerly Agriculture Canada), and focuses on the agri-food sector¹ (MacRae, 1999). Skogstad’s periodization of Canadian

agri-food policy (Skogstad, 2008; Skogstad, 2011) highlights how increasing global competitiveness and export values has been a major policy pillar since the 1980s. Skogstad noted how agri-food policy underwent a shift from a “productivist” or “state assistance” paradigm (1945–1980s) to a “market liberal” paradigm (1980s–1990s). During the former, agri-food policy sought to improve conditions for the sector by encouraging increased production and by providing assistance through income support and domestic market protections. In contrast, the market liberal paradigm is shaped by neoliberal priorities, emphasizing global market competitiveness and reduced government intervention as the primary pathway to vitality in the agri-food system (Skogstad, 2012; Andrée et al., 2018). During this period, we see the embodiment of liberal market priorities within agri-food policy goals. In 1989, Agriculture Canada published a new vision for agri-food, *Growing Together*, which stressed the need to reduce reliance on government support, to develop and liberalize trade markets, and to eliminate market-distorting policies (Agriculture Canada, 1989; Skogstad, 2008). In 1993 and 1994, AAFC announced its overarching goals to reach minimum annual export values of \$20 billion and to capture 3.5% of world trade by the year 2000 (Agriculture and Agri-food Canada, 1994). These policy targets were met. In 2001 Canadian agriculture and agri-food export values surpassed \$25 billion. Canada was the third largest exporter of agri-food products, representing 4.2% of the global share of agricultural exports (Agriculture and Agri-food Canada, 2003). Government policy orientations continue to target growth through export markets. The Federal government budget in 2017 flagged the agri-food sector as a key area for future economic growth and set the target of \$75 billion in annual exports by 2025 (Agriculture and Agri-food Canada, 2017). In Canada, as is likely the case in many other countries, the relationship between growth-focused policy and beneficial food system outcomes remains largely unquestioned and hence unexamined among agriculture and food policy efforts.

Skogstad (2012) notes that agri-food policy has incorporated more multifunctional goals since the year 2000. For example, high-level visions intended to guide agri-food policy have included some references to values such as environmental stewardship, rural community vitality, and food safety (Agriculture and Agri-food Canada, 2005; Agriculture and Agri-food Canada, 2008; Agriculture and Agri-food Canada, 2011). While Skogstad noted this shift, she questioned to what extent they are implemented and prioritized relative to neo-liberal goals of increasing production, export values and agricultural contributions to GDP.

The following section summarizes the primary critiques from Beyond GDP literature that advocate for alternative measures of policy success beyond economic growth. We illustrate these points with examples from the Canadian food system to highlight the connections between Beyond GDP research and food system policy.

The Limitations of GDP for Measuring Wellbeing in the Food System

Inclusion of all Monetary Goods and Services

GDP measures the total monetary value of all final goods and services—regardless of whether these contribute to societal wellbeing. For example, healthcare expenditures, junk food sales, costs of pollution protection/remediation, and unjust

¹The agri-food sector includes the following activities: primary agriculture and related input and service suppliers, food beverage and tobacco processing, food retail and wholesale, and food service.

labor practices may all contribute positively to GDP while adversely affecting societal wellbeing (Giannetti et al., 2015). For example, poor diet is a major risk factor for chronic diseases in Canada, including ischemic heart disease and type 2 diabetes (Institute for Health Metrics and Evaluation [IHME], 2010). The economic burden of diet-related health conditions has been estimated at \$13 billion CAD annually (Nshimyumukiza et al., 2018). As another example, fertilizer and other nutrient runoff from agriculture is a leading cause of freshwater eutrophication across Canada (Council of Canadian Academies [CCA], 2013; Liu et al., 2021). While national-level data on the cost of managing and remediating harmful algal blooms is limited (International Institute for Sustainable Development [IISD], 2017), governments in North America have reported spending tens of thousands to tens of millions of dollars in remediation efforts and increased operation and monitoring costs (Lyder et al., 2015; U.S. Environmental Protection Agency, 2015). These costs are considered positive contributions to economic growth within GDP accounting frameworks.

Obscured Growth Distribution and Societal Inequities

Even in purely monetary terms, GDP's measure of value omits critical components of societal and economic wellbeing. GDP excludes indications of inequality, obscuring the relationship between increased economic activity at a national level, and increased economic wellbeing at the household level—i.e., who is benefitting from economic activity. For example, the number of Canadians with incomes below the “low-income cut-off” increased between 1980 and 2005, despite real GDP almost doubling over that same period (Victor, 2008; Washington, 2021). Juxtaposed, such conflicting indications of economic progress raise important concerns as to how a singular focus on growing the economy can advance overall societal wellbeing, and, by extension, the appropriateness of the widespread use of GDP in shaping and evaluating policy.

This dynamic is highlighted by examining net farmer incomes over the past few decades. While the sale values of farm commodities have increased in Canada since the 1970s, net farm income (excluding government subsidies) has declined and remained relatively depressed at levels that often cannot support farming businesses and families (Qualman, 2019). It's estimated that between 1985 and 2018, input costs accounted for more than 95% of farm cash receipts (Qualman, 2019). This suggests that nearly all of the value generated by farmers during this period was redirected to other actors, including agribusiness input manufacturers and service providers such as seed, fertilizer, energy, or machinery companies, financial institutions etc. (Qualman et al., 2018). As such, focusing on the values of farm sales and contributions to GDP obscures the economic wellbeing of many farming families and communities.

Furthermore, many social, environmental, and economic determinants of wellbeing are structured around the outcomes of systemic racism and colonialism, yielding inequities that disproportionately disadvantage racialized communities (Public Health Agency of Canada [PHAC], 2018). For example, rates of household food insecurity in Canada are highest among Black

and Indigenous households (Tarasuk and Mitchell, 2020). Household food insecurity is approximately two to four times as prevalent among Inuit, First Nations, and Métis households relative to non-Indigenous households (Public Health Agency of Canada, 2018) and Black Canadians reported experiencing moderate or severe food insecurity 2.8 times more frequently than White Canadians (Public Health Agency of Canada, 2020). These disparities are entirely obscured within attempts to measure societal wellbeing through GDP.

Omission of Ecological Value

Ecological integrity is excluded from GDP's accounting framework. Economic activities that deplete natural resources and/or accelerate climate change can all contribute positively to GDP, despite their capacity to degrade the ecosystems upon which societal wellbeing depends. Such omissions have engrained the prioritization of short-term monetary gains at the expense of long-term ecological stewardship, incentivizing the degradation of the ecological integrity required to support the wellbeing of future generations (Washington, 2021).

Kissinger and Rees (2009) highlighted how agricultural intensification for the purpose of meeting increasing export demand has degraded Canadian prairie ecosystems. This includes a near elimination of tall grass prairie ecosystems (Chliboyko, 2010), the draining of approximately 70% of historic wetlands (Seburn and Seburn, 2000) and the loss of biodiversity dependent on these ecosystems. GDP accounting frameworks count the positive additions of increased export values while overlooking the impacts of habitat and biodiversity loss.

Exclusion of Non-Market Services

Household labour, parenting, volunteerism, and other activities integral to prosperous societies are not accounted for in GDP, as they are not monetized and exchanged for a price on the market (Mazzucato, 2018). The food system's essential purpose—feeding people—is largely overlooked in markets that prioritize monetary value. For example, climate change brings the potential for layered emergencies in the form of drought, wildfires, geopolitical instability, resource constraints, sea-level rise etc. (Intergovernmental Panel on Climate Change [IPCC], 2021). Stewarding regional food production capacity has been identified as a way to increase resilience during times of food system disruption (Dorward et al., 2017; Rees, 2019). However, this non-market value is overlooked as agricultural land is converted to more lucrative uses, eroding regional food production capacity and increasing local vulnerability to distant disruptions.

These omissions in the GDP accounting framework have significant implications for policy discussions. This is particularly true for the food system. For example, climate change economist, William Nordhaus (1991) argued that efforts to mitigate climate change should be limited in order to reduce adverse effects on economic growth. He proposed that, since agriculture and forestry, the two sectors most impacted by climate change, only contribute to 3% of the United States national output, the impacts of climate change on agriculture are of relatively little concern. Nordhaus proposed that the associated economic losses can be easily recovered with a few

years of GDP growth—the majority of which results from sectors that are “negligibly affected by climate change” (William Nordhaus, 1991; Nordhaus and Boyer, 2000). Nordhaus’ valuation of the food system based strictly on contributions to GDP has been strongly critiqued for overlooking the integral role of agricultural and natural systems in supporting human life (Daly, 2000; Erickson and Gowdy, 2002).

Shifting From Agri-Food Policy to Coordinated Food System Policy

As mentioned, agriculture has been the subject of the majority of food policy development in Canada, cited as its “primary driver” (MacRae, 2011). As such, food policy has largely overlooked many critical social and ecological dimensions of the food system. For example, there is relatively little public policy addressing food security and access (McIntyre et al., 2016; McIntyre et al., 2019) or the relationship between food environments and health (Vanderlee et al., 2019). In addition to producing policy gaps, siloed approaches to food policy development have been critiqued for delivering conflicting goals and problematic outcomes (MacRae, 2011). For example, local and provincial governments are increasing institutional local food procurement to bolster local economic development (Sinclair et al., 2014). However, international trade agreements are perceived as limiting the potential of these programs (Macrae, 2014; Grube-Cavers et al., 2018).

For more than three decades, scholars and grassroots movements have been advocating for more coordinated and comprehensive approaches to food policy development. (Koc et al., 2008; Andrée et al., 2018). Advocacy efforts have led to the adoption of Food Policy for Canada in 2019 (Agriculture and Agri-food Canada, 2019), the first national strategy encouraging policy development across previously siloed areas of the food system. This was accompanied by the creation of the Canadian Food Policy Advisory Council (Agriculture and Agri-food Canada, 2021) to inform ongoing federal policy efforts. While these advancements mark a notable step toward coordinated food system policy development, food policy advocates have responded that the policy falls short in key dimensions of wellbeing (Andree et al., 2021; Food Secure Canada [FSC], 2019; Macrae, 2019). Such outcomes however are not surprising if policy remains embedded in a larger growth-focused framework where GDP is a primary metric of success. The next section provides a brief overview of two areas of Beyond GDP research that, we believe, can offer helpful perspectives, language and models to advance more fundamental change in food system policy.

Pathways for Beyond GDP Research to Inform Food System Policy Development Shifting Metrics: From GDP to Wellbeing and Sustainability

A number of alternative economic indicators have been developed in response to the limitations of GDP. For example, the United Nations Human Development Index (HDI), a

composite indicator of GDP per capita, literacy and life expectancy, was developed to incorporate measures of development beyond economic activity. However, the indicator is critiqued for its omission of any measure of ecological sustainability (Morse, 2003). The Genuine Progress Indicator (GPI) (1997) adapts the GDP methodology, adding previously omitted elements (e.g., volunteerism) and subtracting contributions from activities seen to negatively impact wellbeing, such as crime and pollution (Giannetti et al., 2015). GPI studies have made important contributions by pointing to divergences between GDP and wellbeing (Kubiszewski et al., 2013). However the metric has been critiqued from both theoretical (Brennan, 2013) and methodological (Lawn, 2013) standpoints, particularly in how it omits an indication of sustainability. One often noted drawback to single, composite indicators is that they require an arbitrary weighting of their components, and the consequences of doing so are often obscured (Stiglitz et al., 2009). The landmark report by the Commission of the Measurement of Economic Performance and Social Progress (Stiglitz et al., 2009) recommended that a dashboard of indicators be used to measure societal wellbeing and underscored the need to assess the sustainability of current activities in addition to, and separately from, the level of wellbeing that they provide.

In Canada, alternative GDP indicator work has perhaps most notably taken the form of the Canadian Index of Wellbeing (CIW), a composite of 64 indicators across eight domains (Canadian Index of Wellbeing [CIW], 2011). Indicator reports have been updated periodically since its release in 2011 (Canadian Index of Wellbeing, 2016) as well as downscaled to provincial (Smale, 2019; Canadian Index of Wellbeing, 2014) and regional levels (Canadian Index of Wellbeing, 2018). Hayden and Wilson (2016) note that, despite the robust development process and continued work, there is no evident impact of the CIW on federal or provincial policy-making. They suggested that, while indicators are important tools for informing decision making, they are not in and of themselves agents of transformative change. In order to meaningfully impact policy, indicators must be embedded within decision-making paradigms that prioritize their value.

Shifting Frameworks: From Exponential Growth to Ecological Boundaries

A movement of scholars and activists are calling for a more fundamental paradigm shift to adequately address the social, economic and ecological concerns stemming from the growth-focused policy development of the 20th century. Examples include steady-state economics (Daly, 1991; Washington and Twomey, 2016), the de-growth movement (Martínez-Alier et al., 2010), and Doughnut Economics (Dearing et al., 2014; Raworth, 2017), to name a few. While exploring the origins, ideological overlaps and divergences between these paradigms is beyond the scope of this mini-review (see Martínez-Alier et al., 2010; Washington and Maloney, 2020), they all have an important common foundation: sustainability requires that human activities be bounded by the capacity of the ecosystems to regenerate and absorb (Daly and Farley, 2010) and society

cannot sustain infinite growth on a finite planet. This research argues that our pathways for “success” must therefore shift away from increasing material wealth through exponential growth, and toward providing for healthy, dignified lives within ecosystem capacity. This more fundamental paradigm shift has important alignment with calls for food system policy reform to deliver better outcomes for societal wellbeing.

3 CONCLUSION AND FUTURE RESEARCH

Despite their alignment, policy reforms within the food system literature are rarely framed explicitly in the context of Beyond GDP literature. This review suggests that Beyond GDP research can provide powerful perspectives, language and models to help advance the fundamental reforms frequently called for by proponents of food system policy change. Reciprocally, the food system presents a unique opportunity to explore ecological economic models and applications. We offer that strengthening connections between the two areas of rich and established research can therefore be mutually beneficial and highlight the following questions. What alternative metrics to GDP can inform food policy development that centers societal wellbeing? What alternatives to growth-focused economic

models can guide the food system to support wellbeing across ecological, economic and social dimensions? And, importantly, how can we address the barriers, including governance structures, political forces, knowledge gaps, and vested interests, that prevent transformative paradigm change? We offer these questions to guide future research at the intersection of ecological economics and food systems policy.

AUTHOR CONTRIBUTIONS

NR was the primary author, developing the concept for the paper, completing the literature review, synthesizing key concepts, writing the draft and attending to the revisions. KM reviewed and edited the article and provided intellectual guidance for its conceptual development. Both authors reviewed and approved the final version of the article for publication.

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Gender in the World Food Economy: Inequitable Transformation of Haiti's Food Economy

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Over the past five decades, agricultural trade liberalization and integration into the global food system have undermined gender equality, women's empowerment, and food security in Haiti. International actors who design agricultural policies are aware of gendered contributions to Haitian food security, yet ignore this knowledge to privilege an ideological belief that trade liberalization and structural adjustment programs will advance gender equality. I argue that agriculture and food policies must treat gender roles and responsibilities as constitutive to the solution by recognizing their critical contribution to the structure of Haitian agrarian society and accordingly food security. I advance this claim by analyzing scholarly literature, institutional documents, and interviews with interlocutors ($n = 292$) from rural, peri-urban, and urban settings across Haiti to document how: 1) dominant narratives support an ideological belief that trade liberalization will advance gender equality; 2) integration of Haiti's local food economy into the world food economy demands the reorientation of gendered labour; 3) women must participate in a system that while purporting to improve food security, ultimately diminishes their nutrition and social, economic and political wellbeing. This research documents that policies designed to globalize Haiti's food economy on the premise of improving food security actually force women to abandon agricultural production and intensify their labour in less lucrative distribution and consumption roles of imported goods. This analysis documents that the transition ultimately reifies gender inequalities, heighten food insecurity, and contributes to feminist food scholarship.

Keywords: world food economy, gender, peasants, food security, Haiti, migration, small farmers

INTRODUCTION

While the world food economy is widely credited for providing affordable food, it is also increasingly criticized for delivering price spikes and food insecurity to countries of the Global South (Clapp, 2012); Haiti is no exception. Haiti's current reliance on global food imports has contracted the historically rooted peasant¹ economy of food and is fundamentally responsible for chronic rural poverty and food insecurity (Dupuy, 1989; Mintz, 1989; Fatton, 2002; Mintz, 2010; Dubois, 2012;

¹Peyizan and paysan(ne) are widely used in Kreyòl and French to refer to rural food producers in Haiti. Interviewees refer to themselves as peyizan in an effort to re-valourize the term with urban dwellers. Although some English speakers find the term pejorative, the term peyizan is used in this English manuscript to build support for the interviewees' wishes.

Cohen, 2013; USAID, 2016). Yet, although diminished, agriculture remains central to the Haitian economy; once responsible for 40 percent of Haiti's GDP in the 1990s, today it contributes only 25 percent (FEWS Network, 2018). National production supplies just 43 percent of Haiti's food needs, 51 percent is met by food imports and 6 percent by food aid, leaving the population vulnerable to global price spikes; by comparison, in 1981 food imports represented only 18 percent of the Haitian diet (MARNDR, 2010; Julie et al., 2017).

Astonishingly, despite this decline in consumption of local production, 60 percent of the Haitian population still participate in farming (Cohen, 2013). Contributing to this effort are women, who historically are the backbone of the production-distribution-consumption triad of the local food economy and hence food security. During the 1970s and 1980s, Haiti's food economy began its integration into the world food economy and intense pressure was placed on women to participate. The integration was presented as the solution to food insecurity; however, the approach privileged a global production and efficiency view, acknowledging the nuances and contribution of Haitian women's roles and responsibilities, and then ignoring the disruption foreign food policies would inflict (World Bank, 1998; USAID, 2016; World Bank, 2020). The continual outcome of the transition of women's roles and responsibilities is having profound effects on women and family's wellbeing, health, and nutrition, and women's ability to live outside of the law's restrictive categories of property and personhood where women build their economic and political power. Furthermore, because the world food economy remains production and profit-driven, there seems to be little concerted effort from the international community to readjust these damaging policies to improve the situation.

The majority of the political economy literature on Haiti's food security either misses the social considerations of the Haitian peasantry or treats them as a single social unit while missing the various gendered experiences of women. For instance, scholars critique the dominant narratives from international entities (i.e., WB, IMF, UN, IDB, USAID), and Haiti's national actors (i.e., the elite business and political class), that support Haiti's insertion into the world food economy and results in a food system that propagates structural poverty for peasants (Dupuy, 1989; Mintz, 1989; Trouillot, 1995; Fatton, 2002; Hallward, 2007; Mazzeo, 2009; Mintz, 2010; Dupuy, 2012; Lundahl, 2015; Vansteenkiste, 2018). However, in doing so they miss that the associated outcomes are not merely economic or political problems in which women are marginalized, but a social problem centered in gender relations. Other literature speaks of the Haitian female in their gendered role of *poto mitan*—the center post of family relations and commerce activities (N'Zengou-Tayo 1998; Edmond et al., 2007; Renée and Schuller, 2009; Vansteenkiste, 2017; Moore, 2020), but fail to attribute the historical successes of local food security to the same gendered role and responsibility; a necessary step to understand the impact of integration into the world food economy. The 1994 RFSA team found female-headed households more vulnerable than male-headed ones, yet in times of scarcity social networks ensured vulnerable people—children under age of five, pregnant

and lactating women, the elderly and chronically ill—were given priority in feeding, marking the critical importance of social relations in maintaining food security (Baro et al., 1994:23; Baro, 2002).

This paper contributes to feminist food scholarship and addresses these scholarly gaps by documenting how: 1) dominant narratives support an ideological belief that trade liberalization will advance gender equality; 2) integration of Haiti's local and gendered food economy into the world food economy demands the reorientation of the *poto mitan* (gendered labour), and; 3) Haitian women must participate in a system that purports to improve their food security yet ultimately diminishes their income, nutrition, health, social, economic and political wellbeing. I will achieve this aim by 1) reviewing the political and economic narratives that support the integration of the local and global food economies, yet misses a discussion of gendered social considerations; 2) documenting the use of gendered labour to assist the transformation of the local food economy; and 3) examining the profound effects on women's roles and responsibilities and their ability to make economic contributions to the household and community.

Findings reveal that the transformation of Haiti's food systems and associated outcomes are not merely economic or political problems in which women are marginalized, but a social problem centered in gender relations. The transformation disrupts an agro-ecological system intertwined with meaningful social networks at the expense of women's well-being. Necessary to this understanding is Moore's (2020) attention to the importance of feminized political geography encapsulated in the *lakou* (homestead), *eritaj* (ancestral land), market, and bodies of women. Building on her argument that societal and national patriarchal political projects circumvent women's economic and political power built in the *lakou/eritaj/market* nexus, I document how this struggle is intensified by the patriarchal structure of the world food economy.

HISTORICAL CONTEXT

Haiti has a long history of class divisions, which works to diminish any reasonable social contract between the state and civil society. Specifically, the smaller ruling political and business bourgeoisie instrumentalize state machinery to meet their own needs. These needs differ dramatically from the majority of small peasant farmers and urban poor. In this process, the Haitian elite encourage importation to prop up their business ventures, which reorient women's labour away from producing-distributing-consuming for local food security to distributing-consuming cheap imports to the demise of local food sovereignty. The result is a predatory state that extracts surplus labour and the wellbeing of civil society to ultimately further impoverish the rural and urban poor.

Origins of the Gendered Local Food Economy

During colonial rule, slaves planted the genesis of today's local food economy in food gardens on small plots of land along the

margins of plantations, which led to marketing produce and capital accumulation, marking the beginning of the peasant class and economy (Murray, 1977; Mintz, 1985; Trouillot, 1990, 48–49, 54; Carney, 2008). Since food and protections allotted to slaves were not provided as stated in Louis XIV's 1685 Code Noir (James, 1963)², the plots were a means of survival. Plantation owners tolerated gardens since the activity subsidized the cost of plantation production by feeding the labour (Fick, 1990; Weis, 2007, 32). One of the burdens carried by female slaves was the reproduction of the slave class via food production and childbirth (James, 1963).

Political exclusion was entrenched through language as all government business was conducted in French, the official language of Haiti, until Creole was added in 1987, making Haiti a bilingual country. Until then, the official language designation excluded Creole-speaking peasants from participating in the governance of their country or understanding any decisions made on their behalf. In a further act of exclusion, legislation passed in 1825 marked rural peasants as second-class citizens, followed by a 1945 ruling whereby the term “*Paysan*” was required to appear on birth certificates until revoked in 1988 (N'Zengou-Tayo, 1998, 119). The law impacted which school peasants were allowed to attend and, ultimately, which jobs they could secure. It served as a clear marker of *mounn andeyò*, literally, “people outside,” and demarcated the spatial boundaries between the extractive urban elite class and the peasants from whom they extracted cheap labour. Women understand that Haiti's macho and classed society constructs them as *klas defacorize*—marginalized class, a socio-economic position that is an outcome of Haiti's historical political economy (N'Zengou-Tayo, 1998; Bell, 2001).

In Haiti's patriarchal society, women were considered family dependents—sisters, mothers, wives—voiceless apolitical innocents; women did not gain suffrage until 1950 (Charles, 1995a). In their gendered roles, women are sole owners and solely responsible for selling the garden harvest to contribute to the local food economy and household economics (Mintz, 1971; Lowenthal, 1987; Schwartz, 2015). These activities revolve around the *lakou*. Schwartz (2015:2) notes women have a high degree of control over the *lakou*, food harvesting, processing, and local redistribution and marketing, marking the *lakou* as “the single most important and often only means of social and material security.” It is both a symbolic and material space where extended kinship-based exchange constitutes social reproduction (Merilus, 2015; Moore, 2020). It is the place where women are solely responsible for household income and expenditures (Schwartz, 2015). Yet despite the autonomy earned, the *lakou* and *eritaj* remain patriarchal structures, which women may or may not inherit from their fathers and more

often gain access through sexual relations (Charles, 1995b; Moore, 2020).

Conjugal unions called *plasaj* (common-law marriages) constitute 85 percent of peasant unions and oblige women to center their activities around the *lakou* and local markets, while also providing them access to men's land. Rigid gender roles limit time for political participation, formal employment opportunities, and movement, making access to land for market gardens an important resource for women. Within the conjugal framework, a woman cultivates a field on the man's land. Men's lands are often small and geographically separated. Division for distribution through inheritance is responsible for the size of the small parcels of often less than 1.5ha. Men purchase subsequent small parcels of land throughout their lives and will participate in sharecropping and to a lesser extent rent or sharecrop land. Often the man helps with heavy labour (e.g., land preparation, weeding), but when he is absent, children will help, as will neighbours and relatives in a *konbit* (mixed gender team) system of sharing labour and harvests (Lowenthal, 1987). Alternatively, landless labour of the community may be hired. The arrangement gives women autonomy to pursue market activities to generate income for the household. Further, this mutually supportive, reciprocal arrangement is at the heart of the local food economy and food sovereignty. This shared labour and women's roles in local food production make possible men's export-oriented production and participation in the world food economy.

By the turn of the 20th century, peasants had built a relatively self-sufficient local food economy independent of any world food economy (Mintz, 1989, 262). Haiti remained self-sufficient until the mid-1980s (McGuigan, 2006; Schwartz, 2008; Gros, 2010; Mintz, 2010; Dupuy, 2012) and exported surplus commodities such as coffee, rice³ (Gros, 2010), and sugar (FAOSTAT, 2017) to the global market. The nation also developed state grain storage as insurance during shortages (Gros, 2010, 978). All this local development relied on women's labour to produce, distribute, and establish consumption patterns of the local food economy, which hinged on participation in patriarchal conjugal relationships described earlier.

In the Haitian pluricultural system, many diverse crops are rotated and intercropped through small plots allowing farmers to manage the risk of crop losses while harvesting most of the year (Baro, 2002; Fuller-Wimbush and Fils-Aimé, 2014). Pluriculturalism is an integrated system that provides multiple agro-economic, environmental, and socio-cultural functions (Baro, 2002; Jean-Denis et al., 2014), and guarantees investments close to the *lakou* allowing for the management of plants and fertility through kitchen and small farm animal waste. Increased resource and crop diversification, intercropping, and rotation associated with pluriculturalism is directly linked to the protection of soil and accumulation of biomass (Hutchinson et al., 2007; Baro, 2002).

²Code Noir was a legal framework established to protect slaves from the brutal treatment inflicted by white planters (Schuller 2016), it also dictated that slaves were property to be divided between inheritors and required slaves to be baptized and practice Catholicism (Fick 1990).

³Haiti was self-sufficient in rice production until 1987 (Gros 2010: 980).

The World Food Economy—An Agricultural Exchange Regime

The period prior to the 1974 World Food Conference hosted by the FAO can be described as the alignment of Western industrial agriculture with neoliberal ideology. It is important to note that while the FAO has historically upheld supply-centric models of food security, and promoted trade liberalization within the agricultural sector, the organization itself has undergone many shifts and transitions since 2005, and is currently positioned within a wider field of international forces that often promote alternative ideas of governance (Gustafson and Markie, 2009). However, the period prior to this change is important for the consideration of Haiti's case.

The FAO is a UN international governance structure, established in 1945 to deal with post-war concerns of production, distribution, consumption, and trade in an integrated fashion, with basic human dignity, economic development, and national and global security underpinning its work (Gustafson and Markie, 2009). The FAO's efforts to create a World Food Board to establish food reserves, redistribute world supplies, and stabilize prices, was met with national protectionism, leaving only international industrial and agricultural development and trade, and commodity policy, the main alternatives for advancement (FAO, 1946; Gustafson and Markie, 2009). Within these policies is a glaring omission of the roles of responsibilities of women in food systems. In the 1970s, cereal prices tripled, fertilizer prices quadrupled, and a food crisis ensued. The FAO prepared for the 1974 World Food conference to deal with the crisis. One outcome was the first internationally agreed-upon food security definition:

Availability at all times of adequate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices (Devereux and Maxwell, 2005, 15).

The 1974 definition of food security, influenced by earlier moves to industrialize food production (Clapp, 2012, 6), a less-than-completely-successful green revolution, the establishment of the US Food for Peace Program in 1954 to distribute US over-production, and then the World Food Programme in 1961, led to the conception of "food security" in terms of supply. This helped to cement the idea that industrial agriculture was the best development goal.

The objective of the conference was to ensure that no short-term food shortage would occur despite forecasted population growth (FAO, 1974, viii). The FAO's contribution, "The State of Food and Agriculture 1974," focused on three pillars to inform world food issues: production, trade, and regional analysis. This narrow path of analysis led the conversation toward privileging industrial agriculture and economic growth, with data on increased global trade utilized as a measurement of success. The FAO looked to regional analysis as opposed to individual country data, precluding the differing agroecological practices, which are more suited to

fit the socio-economic variations of individual countries, and the gender, class, and race differences experienced by Haitian producers. The same policy was applied across the global south via the *middle space*, which included USAID with programming largely informed by the FAO. Together, the events minimized other ways of thinking about food, making it difficult to consider the benefits of social stability and the roles of women in small-scale, peasant food production.

During the 1980s, the FAO's vision of increased trade to grow the world food economy found support from the WB and IMF through the imposition of a series of policies under the Structural Adjustment Programs (SAPs). At SAPs core was a neoliberal ideology promoting currency devaluation, enhanced trade liberalization, increased foreign direct investment, and the restructuring of Haiti's local governance system, aiming to capitalize on Haiti's comparative advantage of cheap labour and tropical exports. (McGowan, 1997; Weis, 2007; Gros, 2010).⁴ Until this time the state-controlled food prices through administrative injunctions and state reserves which were dispersed to meet food shortages (Gros, 2010). Just as the FOA had, SAPs worked against local food sovereignty by promoting the production of export crops over staples for domestic use and weakened the state's ability to control its economy and protect its local producers (Gros, 2010). With SAPs pressure to reduce social programs and extension services, the rural infrastructure deteriorated - including roads, production facilities, and a lack of competitive technology. With heightening unequal trade liberalization rules, foreign imported food rose to account for 60 percent of all food consumed in Haiti and 80 percent of all rice (Wilcock and Jean-Pierre, 2012; Cohen, 2013; IFAD, 2013 Dupuy, 2014). Rice imports disrupted consumption patterns of other locally grown crops, such as beans, grains, roots, and tubers. Exporting crops specifically impacted women, since their main income stream relied on marketing garden crops. They moved from primary producers in the local food economy to primary consumers and distributors of imports. Overall, trade liberalization has been a failure for Haiti by most measures. Per capita GDP fell from US\$632 in 1980 to US\$332 in 2003; this mirrors the declining contribution of agriculture to Haiti's GDP—from 32.9 percent in 1996 to 27.1 percent in 2002 (Gardella, 2006). Meanwhile, the value of imports increased from US\$354,158 in 1980 to US\$1,188,000 in 2003 and US\$3,700,000 in 2013 (FAOSTAT, 2017). These statistics demonstrate changing import competition that impacted women's agricultural production and livelihoods.

Instead of increasing agricultural support and improving peasant functioning to meet the growing population's needs, the structure deepened existing extractive tendencies of the *middle space* and

⁴SAPs following the Washington consensus prescriptions also applied, to many countries in the global south, fiscal discipline, concentration of public expenditure on public goods, tax reform, market-determined interest rates, competitive exchange rates, privatization of state-owned enterprises, and legal guarantee for property rights (Gros 2010).

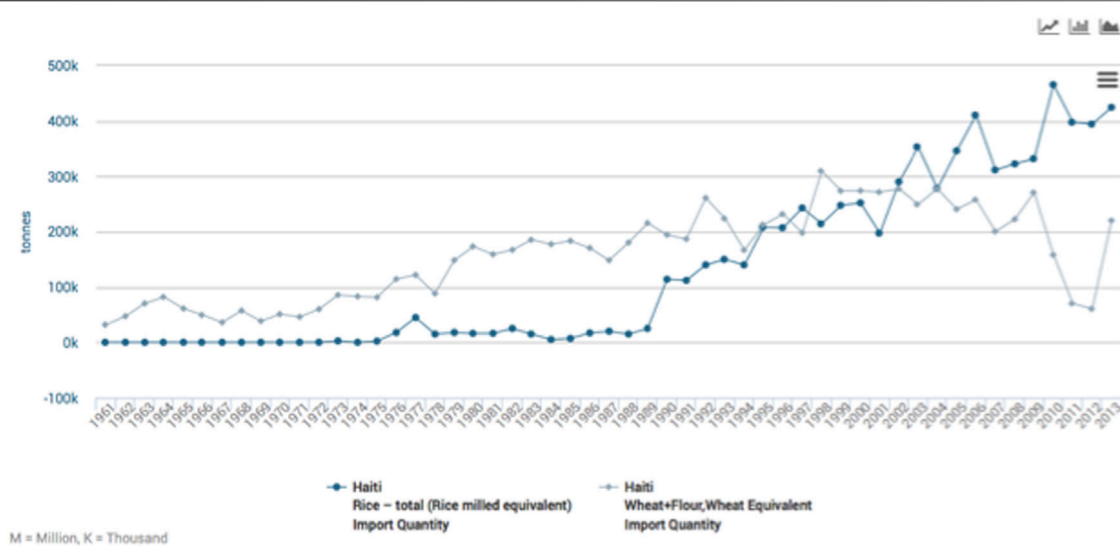


FIGURE 1 | Wheat and rice imports to Haiti 1961–2012.

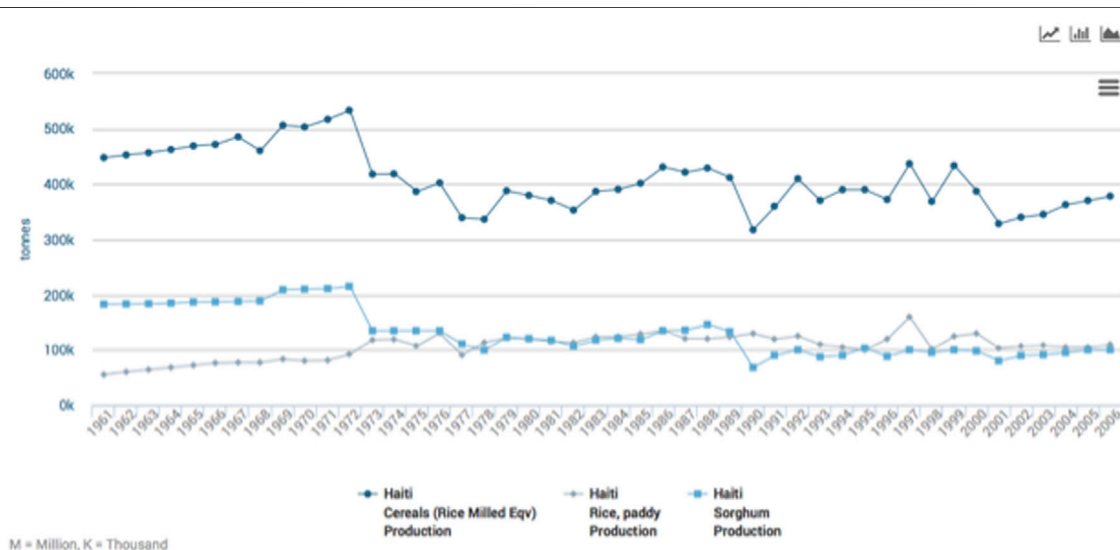


FIGURE 2 | Declining and stagnation of national production—sorghum, rice, cereals.

Haiti's intermediary class to refocus business activities on food imports which dominate local market opportunities. National production for food security retracted through the installation of policies that placed peasant farmers in direct competition with cheap, subsidized, imported foods (Gros, 2010; Cohen, 2013) (see Figures 1, 2), negatively impacting women's ability to generate enough income for the household through traditional agricultural activities. Simultaneously coffee, sugar, and textile exports (see Figure 3) declined, impacting men's ability to contribute to household income requirements. Together, events spurred the agrarian rural-urban migration patterns.

Developing a Feminist Theoretical Framework

Transnational feminism and gender and development literature provide the lens for this analysis. A transnational feminist lens helps explain how inequality experienced by Haitian women is grounded in the intersectionality of historically-developed class, race, and gender roles particular to Haiti (Charles, 1990; Charles, 1995a; N'zengou-Tayo, 1998; Bel, 2001; Charles, 2010; Schulle, 2015) and more broadly to community focused societies in the Global South (Nagar and Swarr, 2010). Furthermore, transnational feminists argue that if we fail to consider power

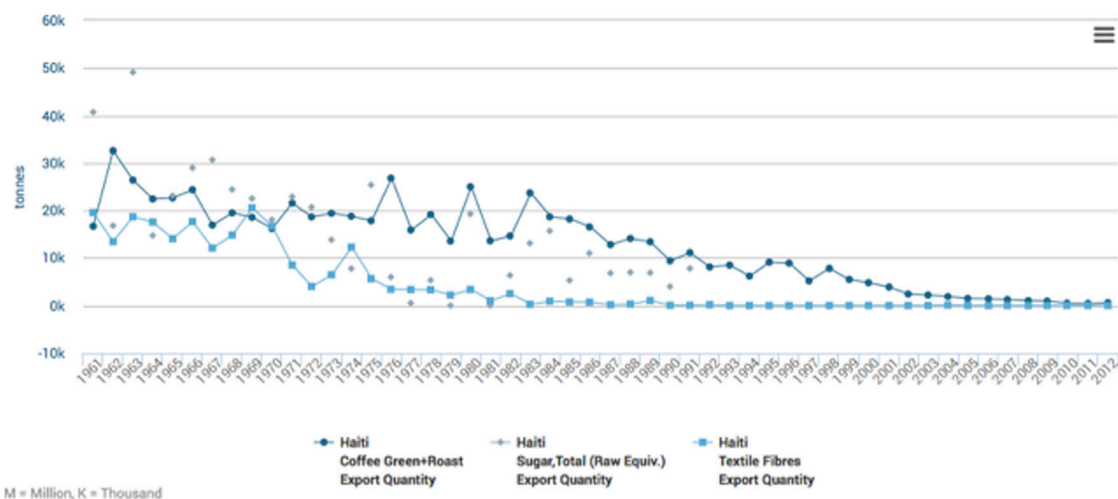


FIGURE 3 | Haiti, declining exports - coffee, sugar, sisal (1961–2012).

relations intersected by race, class, and gender, then we fail to understand subjectivity as derived from a collective consciousness (Mohanty et al., 1991; Wekker, 2006; Smith, 2008; Nagar and Swarr, 2010; Nightingale, 2011; Salem, 2014).

It is difficult to reconcile intersectional discrimination because it is mediated by political dynamics that are both internal and external to communities (Sylvain, 2011). When power is located externally, it often obscures intersectionalities and assumes that people are homogeneous. Disrupting this process is important to ensure that peoples' heterogeneous needs and choices are met (Cornwall, 2003). Internally, social norms dictate people's roles and responsibilities making it difficult for women to access resources and positions of power to serve women's needs. Therefore, what we first must understand is the process: how does power create social exclusions and inequalities? Many global institutions working on food security purport to include the participation of women without the consideration of the type of participation or accounting for the social structures that shape gendered lives (Carella and Ackerly, 2017), thereby failing to meet the concerns of transnational feminists. While others, such as USAID (2017) and the World Bank (2020), acknowledge gendered roles, they fail to acknowledge the damage caused by the neo-liberal trade regimes they advance.

Gender and development literature focuses on the masculinized and gender-blind nature of development policy at local, national, and international levels. It draws attention to how development excludes women's knowledge and experience, yet simultaneously relies on their labour to privilege men's activities (Moser, 1993; Schroeder, 1999; Cornwall et al., 2004; Li, 2007; Rai and Waylen, 2008; Ransom and Bain, 2011; Neumann, 2013; Enloe, 2014; Powell, 2017; Sweetman and Ezpeleta, 2017; Bastia and Piper, 2019; Pearson and Sweetman, 2019). For instance, agricultural development policies miss the roles and functions of women and privilege the male experience (Ransom and Bain, 2011).

Central to the marginalization of women is the treatment of power. I examine how dominant narratives of causes and

solutions to food insecurity are maintained, even in the face of evidence that Haiti is disadvantaged by its inclusion in the world food economy. The problem is complex, since power from the international level is neither homogenous nor comes from one governing source with a singular intention or will; power comes from a range of actors and sources (Li, 2007). Clapp (2012) identifies this as the *middle space*, where actors called "intermediaries" work to control and influence how the world food economy operates. It is in the *middle space* where norms, practices, and rules take form and shape powerful social relations. These relations reach across geographical space, with the help of the Haitian ruling class, to reproduce and adapt existing class, race, and gender hierarchies to meet the goal of integrating Haiti's local food economy; in so doing, they have profound social and material effects on women's lives. The agendas of international actors who focus on resources extraction manipulate naturalized gendered roles and the multiple meanings of women's work to harness women's labour (Enloe, 2014). In Haiti, women's labour in the local food economy is naturalized through its categorization of informal, subsistence, or household and used as a free service to maintain the health and wellbeing of a cheap labour force to produce export goods for the global market. Women's multiple roles and labour are manipulated to uphold a system that dialectically serves to marginalize them. I argue that to improve food security, local gendered roles and responsibilities must be recognized and treated as constitutive to the solution while attending to the improvement of local food sovereignty.

In this analysis, I bring together the concerns of transnational and gender and development scholars to document what is absent from scholarly literature, which is evidence of the further marginalization of Haitian women's lives as an outcome of the integration of Haiti's local food economy into the world food economy. I achieve this by building on the lessons from these feminist scholars combined with the experiences of poor rural, peri-urban and urban women to guide an interrogation into the intersection of shifts in food systems with gendered roles in

agrarian life, to demonstrate that the world food economy relies on women's labour to meet its own ends and ultimately heighten gender and social inequality and food insecurity.

Methods and Methodology

I document the transition of the food system using the feminist lenses outlined above to review institutional documents and data retrieved from the FAO, USAID, World Bank, and Government of Haiti, as well as scholarly literature, and field observations, and data collected between 2010 and 2017. Focus groups, as well as structured and semi-structured interviews, provide insight into perceptions of changing diets, access to and availability of food, livelihoods, and household wellbeing. In total 293 respondents from the following three groups were interviewed: 1) Haitian peasants ($n = 57$ men; $n = 92$ women) locate in rural and peri-urban areas in the Commune of Limonade, in the North Department, who were interviewed to understand their changing experience and struggles with food production, distribution, consumption, and access to land; 2) poor rural-urban migrants in urban Cap Haitien, the North Department ($n = 30$) were contacted through a non-governmental nutrition centre, and interviewed about their reasons for migration, struggles with food security and malnourishment of their children in urban centres; 3) women marketers distributing food ($n = 113$) were interviewed in five different urban markets: Marche Kwa de Bosal, Kwa Bouke, Mache Salomon, and Mache Tèt Bèf in Port-au-Prince in the West Department, and Mache Cluny in Cap Haitien, in the North Department, to understand their experiences selling imported and local food, and consuming food. Data were analyzed for opinions regarding food security and changing food regimes. I considered in detail the classed, raced, and gendered position of women, who are considered the *poto mitan*.

RESULTS AND DISCUSSION

As garden production became less competitive in local markets, Haitian women began to leave the *lakou* and migrate to urban centers for work and to find better schools to prepare their children for a non-agricultural future inscribed with higher status.

Statements by Haitian women verify these changes in their day-to-day production and consumption patterns.

Rice is no longer a special Sunday meal, it is eaten every day because we can buy cheap Miami rice. It replaces locally grown rice, rootstocks, millet, pitimi, and sorghum (Interview, Limonade, January 2014).

Lam veritab made good flour and cakes, but now cheap imported wheat flour is used (Interview, Cap Haitien, March 2014).

Spaghetti with hotdogs is a traditional Haitian breakfast (Interview, Port-au-Prince, May 2013).

Integration into the world food economy works at cross-purposes with Haitian women as it removes women from the

income-generating potential of the production triad used to feed rural households and stabilize food sovereignty. The aftereffect of this loss is greater participation in the less lucrative distribution and consumption vectors and profound effects on women's ability to make economic contributions to the household and food security for the community. This inability to generate enough income and food for rural households and communities leads to increased migration⁵ to urban centers in search of employment. As women migrate with their children (N'zengou-Tayo, 1998, 126) they lose further control over their means of subsistence used to provide for the household. They descended onto the lowest rung of social status as underemployed trinket sellers and urban slum dwellers, increasingly vulnerable to political unrest, and illness (N'zengou-Tayo, 1998, 126; Charles, 1995b, 149). In this precarious situation, women at times turn to sex as a means to earn money. Interviewees concur that sex is a frequent demand to secure employment at NGOs and Haitian businesses. Expert interlocutors validated this and their own participation in the practice (Interview, Cap Haitien, March 2014). Further, field observations and scholars document the sex trade and violence women experienced by MINUSTAH (UN) peacekeepers and UNIPOL officers (Kolbe, 2015).

As women migrate from the rural *lakou* they leave behind strong social networks that keep male violence in check (Schwartz, 2015), and community support networks that provide moral economies of care - namely reduce the risks and vulnerabilities associated with food shortages and health crises (Vansteenkiste, 2017). Further, the social economy and extended family that act as a trade, credit, labour sharing, and safety network are also left behind. Migrants often arrive in the city minus a social network of support, leaving them extremely vulnerable and dependent on humanitarian assistance. An urban interlocutor revealed: "I share less and I hide my own food shortages from my neighbours. They don't need to know my business." As the local food economy declines, traditions of mutual solidarity are lost, leading to the demise of social stability. When disassembling moral economies of care, social instability increases, and women are at greater risk of violence, food insecurity, and associated poor health.

Adapting the Feminized Locally Oriented Food Economy

Haiti's local food economy operates largely under the control of women. It is a gendered domain that places women as the main owners of the production harvests and guardians of the local food economy as women oversee the production-distribution-consumption triad of local food products. Integration into the world food economy works at cross-purposes with Haitian women as it removes women from the income-generating

⁵I argue rural-urban migration increased as income opportunities decreased. However, migration patterns are motivated by multiple factors including access to secondary school, relatives in the urban, etc. Scholars argue for and against access to land causing migration (Lundahl 2011 *versus*; Gardella 2006; Sletten and Egset 2004).

potential of the production triad used to feed rural households and ensure food sovereignty. The aftereffect of this loss is greater participation in the less lucrative distribution and consumption vectors and profound effects on women's ability to make economic contributions to the household and food security for the community. This inability to generate enough income and food for rural households and communities leads to increased migration⁶ to urban centers in search of employment. As scholars note, "gender roles and a households' organization of labour along gender lines influences who migrate, where to, and for how long" (Bastia and Piper, 2019).

Today, still, the majority of rural peasant women are tied to the home. Women are central to household economics, community food security, and social stability, relying on gardens, marketing food products, charcoal, artisan crafts, and raising animals. Men contribute heavy labour, care for large animals, and money from informal employment and selling export crops (Schwartz et al., 2015). The act of participating in food production, distribution and consumption, and sharing, is a moral marker that establishes personhood and membership into a social unit (Kivland 2012). Household food is not only the immediate household, which is fluid and dynamic in membership in and of itself; rather it extends to neighbours and relatives in a tradition of *sharing plates*. Households are linked through sharing food and agricultural labour, creating a larger unit of interdependence. As observed during fieldwork, a household shares food in accordance with the importance of the person—the more critical one is to the woman's network and survival, the larger the plate of cooked food one receives. Therefore, the household in Haiti is not a single production unit but a social network of neighbours and kin designed to reduce vulnerability through production and trade (Schwartz et al., 2015). These smaller units are situated within regional and national production and trade circuits. This larger local distribution system mitigates a lack of appropriate food storage by taking advantage of the variety of micro-climates with differing seasonal harvests to trade (Schwartz et al., 2015). The seasons also encourage a system of seed sharing (Murray and Alvarez, 1975).

Madan Sara are responsible for up to 90 percent of the local trade in Haiti (FTF, 2016), making them essential. These women travel to remote mountain areas, buying and selling food goods, sharing political, agricultural, and health information, and extending credit. One Madan Sara interviewee explained "I rent a large truck with two other Madan Sara and we travel up to the mountain where we trade food, news, and credit with cultivators." Where possible, the women rent trucks to travel large distances, and operate or supply food depots in a lucrative, intricate, regional and interregional distribution system that is necessary for Haiti's food security. In total, the local system is a feminized space characterized by a class hierarchy of street

vendors; small and large market vendors; small boutiques; local, regional, or national Madan Sara; and Madan Sara depot owners (wholesale and retail). Elite Haitian males, participate in the top rung of this hierarchy within the wholesale export-import sector, and own warehouses and depots, strengthening their historical position as gatekeepers between the world food economy and the local food economy by increasing importation of food.

Despite of the important role Madan Sara play, they are under pressure to reorient to the advantage of foreign producers as food distributors of imports. With decreasing prices for agricultural exports and removal of import tariffs during SAPs, the Haitian business elite expanded their activities to capitalize on lucrative import opportunities in the new food economy. Imports include staple grains—rice, beans, lentils—and also highly processed foods: wheat flour, hotdogs, spaghetti, Coca-Cola and Tampico (processed artificial juice), cornflakes, crackers, sweet drinks, processed snack foods, candy, evaporated milk, tomato paste, and vegetables and legumes from the Dominican Republic. Also imported are foods rejected by American consumers (e.g., chicken feet) and Dominican consumers (e.g., broken rice).⁷ As businessmen increase food importation, Madan Sara are forced to participate in the distribution of cheaper imports to meet consumer demands and to neglect the distribution of local production. The Madan Sara, like elite Haitian males, take advantage of the new tariffs and global food system and leave behind smaller producers in their rural circuits to add distribution of imported goods from the Caribbean and the neighbouring Dominican Republic.⁸

As globalization changes the local food economy, the transition relies on the adaptation of consumption patterns. Cheaply-priced imports encourage changing preferences, as do the lack of clean water, fuel, storage, or labour for preparation.

Interviewees reported the following changes to consumption patterns.

We used to feed our babies alaroot, a wild food. It is not recultivated and people are eating it less. This knowledge is lost between generations and young people use imports. Alaroot is good for the soil. Even as late as 1998, we could find women selling it in the streets in Cap-Haitien (Interview, Cap Haitien, March 2014).

We used to eat tchaka more often. It is made with corn; we break the corn to take off the shell and mix it with beans and meat, sometimes pumpkin. It is delicious and has lots of nutrients. If you eat it at nine in the morning you won't need anything else until six at night. It's less popular now because it takes a lot of time to cook and

⁶I argue rural-urban migration increased as income opportunities decreased. However, migration patterns are motivated by multiple factors including access to secondary school, relatives in the urban, etc. Scholars argue for and against access to land causing migration (Lundahl 2011 *versus*; Gardella 2006; Sletten and Egset 2004).

⁷Some food products are misrepresented in Haitian markets such as Corn Soy Blend sold as Corn (USAID 2013). Milk products are edible oils and Haitians are generally unaware of the difference.

⁸In the 1970s there arose an international Madan Sara who would travel to other countries within the Caribbean to bring back material items for sale (N'Zengou-Tayo 1998).

charcoal is expensive. And, we need to get to the market to work. It is African food and we leave some on the ground for the ancestors – the Lwa (Interview, Limonade, September 2013).

As the local food economy changes, so do socio-cultural consumption patterns. One urban interviewee reported feeding her children sweet pop and bread for dinner when she could afford nothing else. Changing consumption patterns are not considered healthy by many Haitians. Women interviewees from Cap-Haitien reported:

We work in the garden to make Haiti strong. Our food is fresh; the imports make us sick (Interview, Cap Haitien, May 2013).

Imported foods are not the same as our food. I prefer food that is grown in Haiti. It has more vitamins, is organic, fresher, and tastes sweet (Interview, Cap Haitien, October 2013).

We need to put our heads together and solve this problem. The land is sick and we are sick (Interview, Cap Haitien, October 2013).

Generally, interviewees expressed an understanding that the current hardships are directly tied to the changing local food economy caused by imports. As explained by a male agronomist:

When we make changes we don't improve. We start back at zero because we replace our ideas with American ideas and don't take the time to critique them. We are losing a lot of knowledge with this system of replacing knowledge instead of transferring knowledge (Interview, Limonade, May 2013).

The traditional Haitian diet is largely plant-based, consisting of yams, manioc, sorghum, sweet potato, millet, maize, and eggs, and with less poultry, pork, goat, and beef. Cultural nuances that are left unrecorded by FAO data include the addition of *moringa* leaves for strength, and *alaroot* flour for making baby formula, to suggest two of many. Jean-Baptiste (1994), offers a deeper look at the ethnobotany of green leafy vegetables used for food and medicine in Haiti and gives evidence to suggest that the Haitian diet is more complex than Western measurements of consumption may capture. The changes to local diets concerns women, as one older woman explained:

When our children were sick we would just go to the garden and get the medicine. Now we have no garden and no knowledge. The food in the market is less fresh; it has to be transported for hours, plus harvest time, plus sitting in the market. And medicine plants need to be fresh for the best potency (Interview, Cap Haitien, October 2013).

Incomplete data collection has led to misunderstanding and underrating healthy eating practices by local actors.

Today, changing consumption patterns reflect changing identities and economic power, as well as changing trade policies.⁹ Trade policies make it possible for Haitians to enjoy their favorite Sunday meal, rice, and fried meat, every day of the week, displacing traditional consumption patterns. An interviewee commented on the outcome of this structural change.

After our parents are finished working in agriculture who is going to replace them? We are victims of acculturation. City dwellers think they live in New York or Boston; their mentality changes with movies. We have young parents and they have nothing in their minds to help themselves. They go to the market early to earn money and they don't know how to garden or teach their kids to garden—everyone is poorer. We have many single-parent families, this is common now, and it makes it difficult for society to improve (Interview, Cap Haitien, February 2014).

Despite knowing that the food system is failing, Haitian consumers are trapped, trying to stretch meager earnings further; they have no choice but to buy cheap imports. As rice fills families' stomachs, so do sugary beverages (Stevens, 1998), displacing traditional fresh fruit juice. Healthy consumption patterns, and linkages between structural food insecurity and poor health, are often lost in the discussion of production, which focuses on efficiency and yields.

Adaptations to export-agriculture, to meet the demands of the world food economy, further marginalize women in their role as *poto mitan*. Although men provide the heavy labour to cultivate gardens, their participation after that is often directed to coffee or cocoa production for export. Men's export crops, since the 1940s, have been under the jurisdiction of state-selected rural and urban elite families who control both imports and exports (Charles, 1995b). As exports declined in the 1970s with the associated debt crisis recession (see **Figure 3**), men migrated in search of work¹⁰, sometimes to sugar plantations in the Dominican Republic, or further. This left women without male labour for cultivation. It also resulted in less income, greater hardship, and the weakening of the production unit. During an interview, one urban woman migrant lamented: "My husband went to the Dominican Republic; I have waited 5 years for him to return." As the global market shifts and wanes, the female-dominated local food market is assumed to always serve its reproductive and subsistence roles, despite the pressures put upon it, such as the retraction of male support.

⁹The concept of "the peasant in need" is engrained in the American consciousness. Post-earthquake, American farmers donated rice to Haiti as part of relief efforts, stating: "The U.S. rice industry has long enjoyed a trade relationship with Haiti that is very meaningful to us." USA Rice Chairman Jamie Warshaw said, "We would like to demonstrate our concern for their suffering by donating rice, which is a staple in the Haitian diet" (Western Farm Press 2010).

¹⁰Between 1961 and 2010 total migration to all countries increased from 51,997 persons/year to 150,000 persons/year (World Bank 2017), representing economic and politically motivated movements.

Today, many women sell imported food products.¹¹ Many have abandoned their own production and migrated to urban centers in order to get by in a marginalized political economy of food. Some Haitians are very aware of this problem and unhappy with it, reporting: “The imported foods are bad for the country. Those foods prevent Haiti from being a country that can produce for itself,” and “We feel ashamed when Haiti imports foods. Eating other foods is not good because we don’t encourage the local production.” Although aware of the issue, and motivated to change the local food economy to improve their circumstances, some suggest that they are unable to do so because of their lack of financial power and political voice.

Meanwhile, powerful transnational corporations push for greater trade flexibility to sell and source within and between nations, strengthening their linkages and power globally. In essence, moving regulations out of the reach of governments and citizens, and shifting sovereignty from national governments to the world food economy regime (132; McMichael, 2000; Weis, 2007; Clapp, 2012). In Haiti, international corporate actors of the *middle space* make alliances with Haitian elite intermediaries to alter their activities from exporting small scale coffee, and cocoa, that yielded poor profits in the world food economy, to becoming profitable food importers. As in other global south contexts (see Powell, 2017; Sweetman and Ezpeleta, 2017; Bastia and Piper, 2019; Pearson and Sweetman, 2019), local citizens are excluded from decision-making processes regarding the use of land resources to benefit their social and economic systems. These intermediaries shifted the local food economy to align with their economic interests, heightening inequality, food insecurity, and existing class tensions.

CONCLUSION

This paper narrates the historical transformation of the Haitian food economy through a gendered lens, to demonstrate how gender roles are instrumentalized to heighten food insecurity in a structure paradoxically designed and purported to alleviate hunger. Central to the narrative are actors in the middle space who organize power relations to demand women’s participation for the functioning of the neoliberal food regime, demonstrating that the gendered development- food security nexus needs meaningful attention. For Haitian women, hard-won social and material security and autonomy gained within the patriarchal *lakou* and *eritaj* system are lost as women’s source of production—the local garden—is replaced by offshore agriculture, and the value of their activities—income for the household and community food security—is captured as profits in a global value chain leaving heightened food insecurity and dismantled social networks.

¹¹Flour is duty-free when imported on market day at Ouanaminthe (border town with DR). Officially tariffs are 3.5 percent on wheat flour and 4 percent on bulgur and hard wheat. The number of wheat flour importers is more than twenty. There are three main importers for rice, two for vegetable oil, and one for wheat grain. Palm oil is imported from Malaysia through the USA (USAID 2013). The World Bank (2015) suggests the concentrated nature of importers is leading to higher prices.

Intermediary actors purposefully ignore the demands placed on women and their traditional critical role as *poto mitan* of the local food economy, removing women from the production side of the equation, yet counting on them to fulfill the responsibilities assigned to them as women in their distribution and consumption roles. By doing so, the world food economy relies on unequal gender relations and ultimately intensifies the patriarchy and gender inequities embedded in the local context to meet its own ends. Without offering meaningful support mechanisms or allowing participation in the new food economy, the arrangement asks women to uphold: 1) food distribution and consumption; and 2) a socio-economic system that sustains community wellbeing marked by food security and social stability, but removes the income generation of the production side of women’s production-distribution-consumption triad. Haitian women and men have become consumers and distributors for the world food economy; their participation dialectically undermines their production system, food sovereignty, and wellbeing. The outcome is loss of income and autonomy, food insecurity, social instability, migration, poor livelihood choices, poorer health, and greater dependence on a global food system that is causing their woes. Therefore, women’s roles and contributions to gendered food and social production must be analytically visible and accounted for to ensure equitable integration with the world food economy. This case study allows us to see the material impact of powerful social relations between female and male peasants, their local food economy, and international actors shaping an inequitable world food economy.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusion of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by University of Guelph 13MR031. The patients/participants provided their verbal or written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

The author confirms being the sole contributor of this work and has approved it for publication.

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Discursive Power: Trade Over Health in CARICOM Food Labelling Policy

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Moving towards a more sustainable, healthier, and equitable food future requires a significant system transformation. Policies to achieve this transformation are notoriously difficult to achieve, especially where actors with conflicts of interest are involved in governance. In this paper, I analyze how corporate actors frame issues inside a process to develop Front-of-Pack Labelling across the Caribbean. Focusing on three major framing strategies, I show how industry actors argued 1) (falsely) that FOPL would privilege Chilean food suppliers; 2) that FOPL would constitute a major transgression of international trade law; and 3) that a regional public health organization (the Pan-American Health Organization) is an illegitimate influence on the policy. Together, these three framing strategies reconstruct the policy problem as one of trade rather than public health. I argue that the resulting narrative is both a product and a function of the discursive power food companies wield in the standard-setting process and provide empirical detail about how food companies act to prevent policy attempts facilitating food systems transformation.

Keywords: standards, food labels, trade, health policy, CARICOM, power, discursive power

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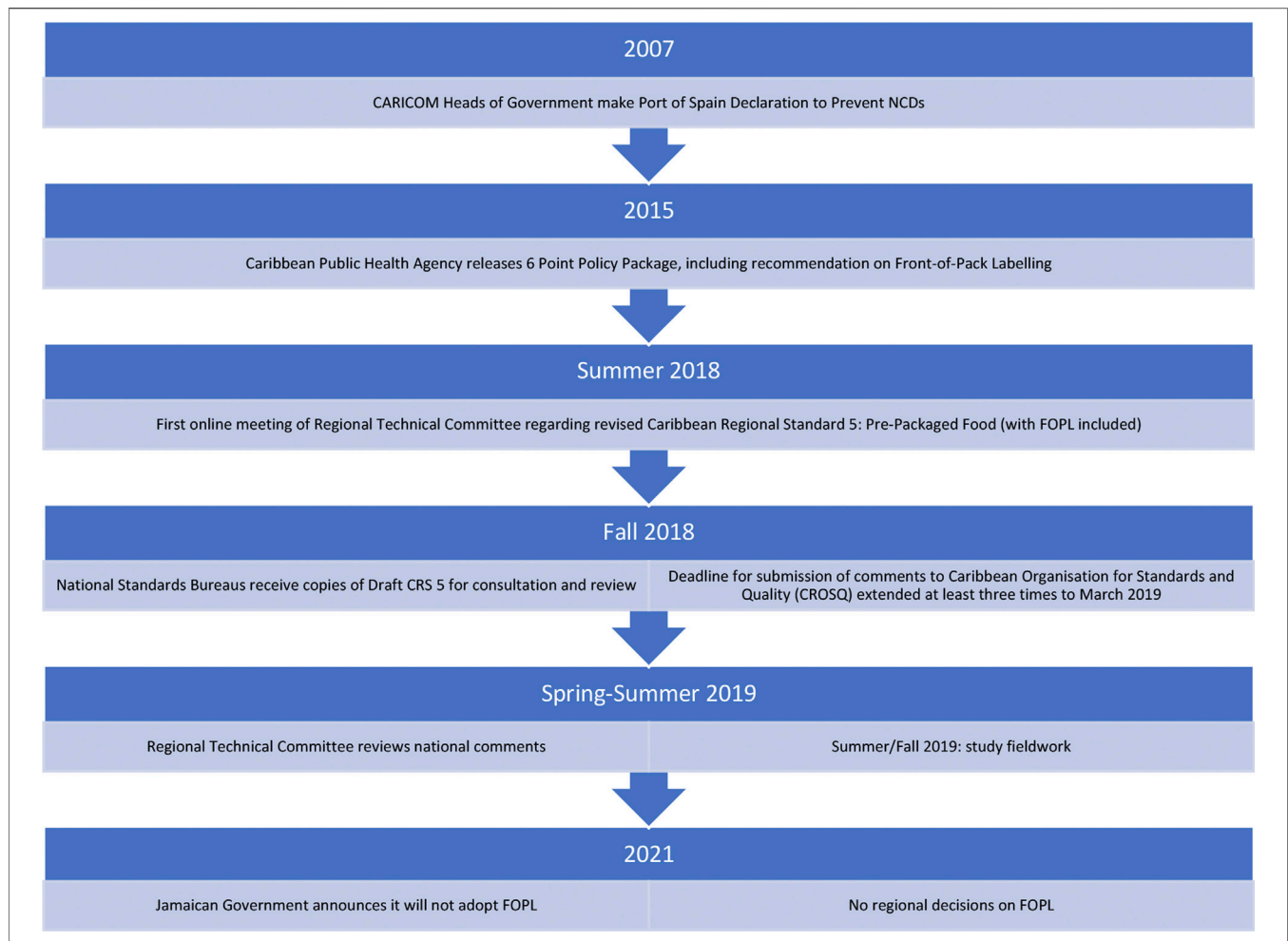
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INTRODUCTION

In response to ever-climbing rates of non-communicable diseases, the Caribbean Community (CARICOM) Public Health Agency (CARPHA) recommended instituting Front-of-Pack Labelling (FOPL) across the region (CARPHA, 2017; Samuels et al., 2014). FOPL schemes aim to inform consumers of the healthfulness of food products more easily than the traditional “back panel,” thereby improving consumer choices in the retail food environment. Many states have now moved or are moving towards implementation of FOPL (Kanter et al., 2018). Public health advocates in CARICOM encouraged policymakers to implement FOPL to honour the commitments the Heads of Government had made to prevent NCDs in the region.¹ As a result, a delegation from CARICOM met with Chilean counterparts in 2017 to learn about and eventually adopt a Warning Label-style FOPL for CARICOM (PAHO, 2019). While the policy had significant regional political support, there is no supranational health body with the power to implement policy across the region and so instead, FOPL moved into the regional standard-setting process to be implemented. In the summer of 2018, FOPL underwent an ideational shift, from a public health policy solving a public health problem, and transformed into a food labelling standard inside a trade-focused venue, ultimately reframing FOPL as a trade problem.

¹See Samuels et al., 2014 for tracking member-state commitments as a way to hold governments accountable for action on NCDs.



At the time of writing, the outlook of FOPL in CARICOM is uncertain. Since its entry into standard setting, the labelling scheme has been delayed many times, national committees have failed to reach consensus positions in favour of labelling, and, most recently, the Government of Jamaica has signalled it will not adopt FOPL (Chung, 2021)—a major blow to the regionality efforts of the original public health policy (see **Figure 1**).

Standard setting is an internationally recognized process that began with and evolved around industry needs to harmonize technical expectations. Referenced in World Trade Organization articles and agreements, standards are integral to international

trade law (Boza et al., 2019; Thow et al., 2019). FOPL was effectively transferred from the authority of public health experts in a “public” venue, into a venue intended for the promulgation of industry interests and trade—a “hybrid” venue (Clapp, 1998)—where the private sector has significant influence. Here, industry actors have detailed knowledge about process rules and operating culture (Murphy, 2015), leading to the successful frame-shift of FOPL from a health solution to a trade problem. FOPL—intended to curb sales of ultra-processed foods—is in direct conflict with the food industry’s profit from the sales of these food products—leading to a significant interest conflict, but one where industry actors have the upper hand.



FIGURE 1 | PAHO. (n.d.). Front-of-package labeling—PAHO/WHO|Pan American Health Organization. Retrieved October 16, 2021, from <https://www.paho.org/en/topics/front-package-labeling>.

TABLE 1 | Overlapping categories of participants.

Reference name for group	Professional capacity (committee participant)
Loose Coalition of Health Advocates	Regional public health researchers, Pan-American Health Organization (PAHO), Healthy Caribbean Coalition (HCC)
"Health" Actors	Healthy Caribbean Coalition (HCC), national health NGOs, ministries/departments of health
Civil Society	Citizens' groups (e.g., retiree groups), representatives of schools/colleges/universities
Neutral	Other government departments (e.g., consumer affairs, national investment and business development corporations, labs). Participants who were not "health" or "industry," e.g. local catering business, agroprocessors
Distributors/Importers	Supermarket managers, industry associations (chambers of commerce, lobby groups)
Industry Actors	Supermarket managers, industry associations, food manufacturers

In this article, I use a frame analysis to describe three overarching arguments used by industry actors to frame FOPL to suit their interests in the national standard-setting committees of the overall regional CARICOM standard-setting process. Together, these arguments suggest a complete reframe of the FOPL policy from a health solution to a trade problem—and demonstrate discursive power exercised by industry actors. In the discussion I try to disentangle the sources and contribution of authority to framing and the resulting effect on the production of discursive power in standard setting for a food systems policy. Finally, I examine why corporate actors have been so much more successful in promoting their vision of reality than health advocates and why a process where this is the case was chosen to develop and adopt FOPL.

MATERIALS AND METHODS

This research project was undertaken at the request of public health researchers in CARICOM. In 2015, researchers began a 36-month project to measure government action on NCD prevention against the regional political commitments (Samuels et al., 2017; IDRC, 2018). Following this research project and the publication of the CARICOM Public Health Agency's Six-Point Policy Package, public health researchers expressed interest in understanding the *next steps*—what they described as "the black box of regional policy implementation." This research project was a response to this request, beginning in 2019 as part of a research award at the Canadian International Development Research Centre. I conducted 32 semi-structured interviews with 31 unique participants involved in national and regional standard setting in-person in St Kitts and Nevis and Barbados in July and August 2019, and *via* phone with participants mostly from Jamaica from September to November 2019. Participants were either technical officers with standard-setting organizations or committee members. Committee members were categorized into overlapping groups for writing to maintain confidentiality where needed (see **Table 1** above).

I conducted three additional interviews with related subject matter experts to further inform the analysis. While 11 member-states of CARICOM were "active" in standard setting for FOPL, three states—St Kitts and

Nevis, Barbados, and Jamaica—were chosen as case studies to illustrate the different characteristics of the full CARICOM membership. Jamaica and Trinidad are the two largest food manufacturers and exporters in the region, though Jamaica has the larger population. St Kitts and Nevis is one of the smallest states in CARICOM, has little-to-no food manufacturing and export, and has only recently become integrated into international standard-setting infrastructure. Finally, Barbados represents a good middle-ground case, where there is some small local food manufacturing, little export, and medium-sized (for the Caribbean) population. Barbados is also where the CARICOM Regional Organisation for Standards and Quality (CROSQ) is located.

I use a majority vote at the regional standard setting level as a proxy signal for the intermediate outcomes of success or failure. In the summer of 2019, after a suggestion to delay FOPL indefinitely (see **Section 4** for more details) all member states submitted votes. Barbados, highly supportive, voted to keep FOPL. St Kitts and Nevis voted to delay indefinitely. Jamaica's national committee could not achieve a consensus position to vote and thus abstained from the vote. Since then, Jamaica's government has announced a national rejection of FOPL in 2021 (Chung, 2021), while Barbados and St Kitts have not announced any decisions.

Interview data was coded in January and February of 2020, using a grounded theory approach (Charmaz, 2006) in Nvivo software. An initial round of coding produced 15 major themes emerge, and in subsequent coding rounds three more higher-level codes were added as well as sub-codes. A second coder also reviewed the data to determine whether codes were consistently applied (Schreier, 2012). The three discursive framing strategies outlined below are taken from the codes from *Resistance Strategies > Reframing*, which were determined by first coding for participants' positions on FOPL (positive, negative, neither) and then identifying strategies of resistance or support. Neutral participants who were compelled or persuaded by both resistance strategies *and* some support strategies are referred to throughout the following analysis. Additional desk research took place in 2020 to fill in remaining questions, including significant document review from relevant international organizations regarding standard setting (WTO, ISO, CROSQ) and health policy making and sharing (PAHO, WHO).

This paper uses frame analysis to help fill the gap that exists around corporate influence in food policymaking: it examines discursive power as it is actioned through a black box of hybrid private-public policymaking. At the time of writing (August 2021), the Government of Jamaica announced that it would *not* move forward with adoption of FOPL. The paper then also explores a dynamic that is frequently understudied—why do some food systems policies fail? I argue that in this case, the food industry successfully reframed FOPL from being a public health solution to being a trade regime conflict. The sources of the food industry's discursive power are the significant knowledge of the standard-setting regime and expert authority inside the process itself.

FRAMING AND DISCURSIVE POWER

In the study of politics, *power* is both a foundational and debated concept. “A has power over B to the extent that he can get B to do something that B would not otherwise do” (Dahl, 1957) has been the frequent starting point for discussions around power. Over time, ideas around power have evolved and now often consider more “faces” (Bachrach & Baratz, 1963) or “views” (Lukes, 1977). A growing literature in the study of global governance and international political economy describes the power of transnational corporations (Cutler et al., 1999; Falkner, 2008; Green, 2013; Hall and Biersteker, 2002). Corporate influence in food and agri-food governance has been examined both by political economists (Clapp and Fuchs, 2009; Falkner, 2009; Fuchs, 2005; Fuchs and Kalfagianni, 2009) and by those who address corporate power and conflict of interest from a public health perspective (Baum et al., 2016; Moon, 2019; Thow et al., 2019; Friel, 2020; Milsom et al., 2020). The vast array of spaces and approaches where influence happens means that empirical detail around exact pathways of power operationalization can be lacking.

Clapp and Fuchs (2009) proposed a three-dimensional view of corporate power that focuses on the interplay of instrumental, structural, and discursive facets of power, aiming to consider both the nature of corporate power in the global agri-food governance system and to examine it in various topic areas. This study contributes to this growing body of research on corporate power in food governance by focusing specifically on discursive power and the strategies of framing used by food companies in CARICOM to prevent FOPL adoption. Fuchs (2007) describes discursive power as “the capacity to influence policies and the political process as such through the shaping of norms and ideas” (p. 139). Discursive power helps illustrate the ways that policy decisions are often made as a result of “discursive contests over frames” (Fuchs, 2007) and the ways that actors link designated problems to different categories by associating them with specific fundamental norms and values (Kooiman, 2002).

A component of corporate power in agrifood governance (Clapp, 2009), discursive power is present when policy issues

are framed, how actors are framed and how broader political and social norms can be influenced. Fuchs and Kalfagianni (2009) write that some of the discursive activities of businesses include: framing policy issues, framing actors, and the impact of broad societal and political norms (Fuchs and Kalfagianni, 2009; Fuchs 2005). Scientific and technical discourses around biotechnology and genetically modified organisms are existing examples of framing of policy issues in global food governance (Görg and Brand, 2006; Newell and Glover, 2003). I use the tools of frame-analysis, developed in communication studies, to illuminate the empirical pathway of discursive power in standard setting in CARICOM.

From frame-analysis literature, I argue that FOPL in CARICOM was originally “framed” as a public health solution, and that a successful “frame-shift” took place to reframe it as a trade problem. I use Entman's definition of framing—that “to frame is to select some aspects of a perceived reality and make them more salient . . . in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation” (1993, p. 52). While usually referencing communicating texts, Entman's definition suggests frames as tools with intention to promote specific versions of reality (Vliegenthart and van Zoonen, 2011, p. 107). Emphasizing intentionality and promotion of a particular viewpoint makes framing analytically useful to describe a pathway of discursive power. That is, it helps to answer the question of how discursive power is operationalized.

This analysis takes two assumptions from the international political economy literature on food governance and corporate power. First, I assume that the standard setting process in CARICOM, directed by the CARICOM Organisation for Standards and Quality (CROSQ), like other standards organizations, is a venue for decision making that is a hybridized regime of public and private influence (Clapp, 1998) and second, that interests can be overlapping and reinforcing. Standard setting began, and has always, propelled the interests of private industry (Murphy, 2015). The addition of national governments in standard setting though, as well as standards' creep into traditionally public domain areas like environmental management, make tracing and delineating whose interests win out challenging. While standard setting for food labelling has been primarily dominated by the Codex Alimentarius—jointly facilitated by the World Health Organization (WHO) and the UN Food and Agriculture Organization (FAO)—which we might consider a public or intergovernmental organization, national interests are still pursued as they are in other intergovernmental spaces. For example, when regional standards on coconut water might serve a wider economic interest to CARICOM. Caribbean states may be more likely to push for an international standard in this arena (see Büthe and Mattli, 2011). Untangling in whose “interest” a standard is pursued is thus difficult, but this study works towards unravelling the pathways that those with power can use to achieve their interests.

RESULTS: FOOD INDUSTRY FRAMING STRATEGIES

The food industry used three major framing strategies, to different effect in the different case study countries, to contribute to an overall reframe of FOPL from a public health solution to a trade regime conflict. These strategies are the operationalization of discursive corporate power in standard-setting. The strategies are explored below with direct quotes from interview participants.

Framing Strategy 1: Privileged Trading Partners

In all three framing strategies, industry actors and some other “neutral” participants either ignored or were unaware of its underlying roots as a health policy, instead focusing on the ways that FOPL conflicted with trade norms and rules. In this first strategy, both opponents and neutral participants reacted to a belief that Chile would receive preferential trading conditions, since Chile had already implemented a similar style of FOPL (Corvalán et al., 2021).

“... Industry you know, said to us ... you are then explicitly saying that we’re going to give preferential treatment to Chilean goods over the goods that we currently import from other places which would then have to be labeled.” Participant 4, Barbados Ministry of Health, (22/08/19).

Implicit in the quote above, and in all three case study countries, participants on the national committees raised a common question: Why should CARICOM member-states privilege Chile as a trading partner? The idea of a trade advantage or privilege is akin to the “first mover advantage” theory common in standard setting literature (Büthe and Mattli, 2011). Since Chilean suppliers had already adopted the “High-In” black octagon format and had therefore adapted to the financial and social costs of this labelling regime, we might expect Chilean exporters to have an advantage over other external suppliers who would only now need to take on the social and financial costs to comply.² In other words, they would have an advantage as the “first mover” in the market.

While neutral actors usually framed FOPL as a strange, or even baffling position to take, industry actors were more likely to frame it as irresponsible, however both frames rested on the idea that Chile is a relatively minor trading partner with CARICOM.

²This line of reasoning is a false representation. Food labels the case study states must be in English (this differs in other language-speaking countries in the Caribbean but remains true for this study). This has been a popular concern in recent years in Caribbean media with the increasing number of Asian grocery stores and increasing presence of pre-packaged food with non-English language labels. The result is that Chilean labels would still need to undergo costly changes, since they are currently manufactured in Spanish, negating at least part of the first mover advantage.

“... this is why I’m skeptical about the Chile one because we don’t do that much business with Chile.” Elsa Webster, Barbados Association of Retired Persons (Participant 3, Civil Society, 23/08/19).

CARICOM’s small market size was a major reason that non-industry committee members, like Participant 3 and other civil society members, were compelled by the idea that Chile should not be given any trade advantage. Participants described the parallel claim that CARICOM would not represent a large enough market to dictate rules to bigger trading partners, resulting in the risk that trade with Chile would increase while other large-scale international suppliers from the United States and United Kingdom might simply choose to forgo the CARICOM market. In each case study country, at least one representative of domestic food distributors argued that their United States and United Kingdom suppliers would rather exit the market altogether than comply with new labelling requirements. Distributors and their representatives described the loss of imported food products as an assured certainty, in that suppliers would simply not think the CARICOM market was worth the added labelling costs. As such, international suppliers would either 1) forgo the CARICOM market entirely, implying a loss of access to products for customers; or, in some cases, distributors conceded that 2) suppliers would pass the increased costs of labelling onto the distributors and/or consumers. The most extreme framing of the risk of losing overseas suppliers came from one distributor in St Kitts and Nevis. This distributor reframed FOPL as a food security issue by implying the low levels of food production in most Caribbean islands:

“If this was implemented, then every product imported from the US, Great Britain, or Canada, that does not comply, would automatically have to be exempted or else you would die of starvation.” Participant 18, Distributor (12/08/19).

The distributor was adamant that without exempting United States, United Kingdom, and Canadian suppliers’ compliance with FOPL, there would simply not be enough food available, again suggesting that there was no scenario where these suppliers might simply comply with new labelling requirements. Going without food imports from traditional suppliers seemed especially sensitive because of the English-speaking Caribbean’s historical-cultural association with the United Kingdom and the cultural attraction to the United States. In each study country, committee members explicitly discussed consumers’ desires to eat foods from these two regions *over* foods that may be imported from Chile or other South American countries, which is described in more detail below. In this case, if a trade advantage *must* be provided (or in other words, if a labelling scheme must be implemented) participants often thought it would be preferable to use a labelling scheme from a more established trade partner.

“And they have to look and see, where do we do our trade business with? Are we doing our trade business with Chile? Are we doing trade business with businesses that subscribe to the Chilean model? Or is our trade partner, our largest trade partner the United States? Where do we get our aid from? Not from Chile.” Participant 18, Distributor (12/08/19).

While importers and distributors were the most outspoken about this issue, emphasizing that FOPL would privilege Chilean suppliers, the framing was also picked up by other, non-industry stakeholders on the national committees as both inconceivable and somewhat baffling. Non-industry committee members were often unclear on why the “Chilean format” (as it was broadly referred to) had been chosen, demonstrating that FOPL had been reframed as a trade problem, without its public health origins, as it entered the standard setting process. Without a clear understanding of the public health policy goals for choosing the Chilean format, the decision was perceived by participants as strange, even amongst those who were supportive of FOPL in general. Even some health advocates on the committees considered choosing a *Chilean* labelling format to be somewhat peculiar, enabling more space to reinforce industry claims of an unfair trade advantage.

Other committee members, including local manufacturers and cottage industry representatives agreed that a United Kingdom or United States labelling system over Chilean labelling would make the most sense. Participant 29 (24/09/19), a neutral committee member, explained that local Jamaican manufacturers did not want to use a form of labelling that was in use in South America, since their primary exports were going to the United Kingdom and United States. Manufacturers in Jamaica preferred to use the same label that was used in the United Kingdom (currently, the Multiple Traffic Lights³) or the United States (currently no FOPL). At the same time, other participants described industry actors’ concern about the level of trade done with Chile compared to the United Kingdom and United States:

“Right, so the thing about it is that [industry] said that they’re not opposed to a Front of Package labeling system, because there are a number of labeling systems out there in the world. However, what [they] are opposed to is this particular system that we have selected ... And why was the Chilean model [chosen when] we have low trade with Chile? [When the] principal trading partners outside of the region, [are the] UK, and the US ... ?” Participant 1, Regional Neutral Participant, (23/08/19).

One reason these arguments were especially compelling seemed to come from beyond the strong trade relationships and was related to a perception of both quality and cultural preferences. Foods from the United Kingdom and United States were frequently framed as

superior (Participant 18, 12/08/19), reinforcing the argument that Chile should not be the recipient of a trade advantage. In Barbados especially, there is a strong link with United Kingdom products and heritage, including an exclusive relationship between Waitrose (a high-end United Kingdom grocery retail chain) and Massy’s (a local Barbadian grocery chain). This was seen as an advantage for the tourism economy, which is largely dominated by British tourists (Participant 15, 21/08/19).

The appeal of United Kingdom products in Barbados was also intimately tied to a perception of quality and affluence since British products are significantly higher cost than local equivalents.

“... there’s a perception that the quality of the food is different, in terms of the taste and everything else ... one may argue, yes, because you’re talking about a developing country versus a developed country, the standards are different in the UK than they are in the Caribbean. The inputs are different, the way the manufacturing processes are different. So, the final products should differ. And that is what is representative of our psyche. We think that something from a developed country, [is] way more better than something from a less developed country.” Participant 15, Neutral Participant (21/08/19)

Products emanating from anglophone countries such as the United Kingdom and the United States, and to a lesser extent, Canada, were generally considered more desirable than products from Chile, making the choice of labelling scheme seem ill-considered to most participants. In St Kitts and Nevis, reported preferences for the two anglophone country suppliers were mixed, while in Jamaica, more committee members expressed concern that US suppliers would be disadvantaged to Chilean producers. The idea that Chilean trading partners would receive an advantage over others proved persuasive to both non-industry and non-distributor stakeholders on all national committees though.

A framing strategy that focuses on rejecting labelling based on trade preferences is only effective because of the pre-existing norms and concerns that operate in standard-setting venues and processes. By framing opposition to FOPL around trading preferences, industry actors strategically used both the norms and concerns of standard-setting—particularly around providing an equal playing field for trade; and committee members’ underlying desires for foods associated with different countries, to bolster and legitimize the rejection of FOPL. By focusing on the trade concerns of the committees, industry actors were able to reframe FOPL as FOPL not as a public health policy solution to a major health crisis, but instead as a baffling advantage to an obscure trade partner.

The Chilean trade advantage was perceived as a legitimate frame by all committee members, not simply the members who had trade backgrounds or were from industry. The perception of legitimacy illustrates that this frame carried real weight, or authority. Until the summer of 2018, FOPL was considered a public health policy solution to reduce NCDs in CARICOM. By appealing to preferences for United States and United Kingdom products especially—and suggesting a risk of losing access to these products—the Chilean trade advantage framing persuaded

³For an overview of different FOPL schemes and their strengths and weaknesses, see Kanter et al., 2018.

many committee members (who were mostly ambivalent about FOPL otherwise) that it was an unreasonable advantage. Complicating matters, this is both in line with international trade rules of non-discrimination amongst trading partners (Boza et al., 2019), and yet acts against this norm when cultural preferences come into consideration. Importantly, these same committee members were often unaware that FOPL had transferred into standard setting as a public health policy at all. The invisibility of the public health roots of FOPL gave the Chilean trade advantage framing its “baffling” quality, and likely contributed significantly to opposition.

Given the simplicity of the Chilean trade advantage narrative; the appeal and familiarity with major suppliers’ products; and the absence of evidence provided that the chosen “Chilean format” was an effective public health policy tool; it is unsurprising that this framing became the most cited reason for resisting the regional standardization of FOPL in CARICOM. The argument served the overall discursive strategy of reinforcing existing private sector authority by ignoring and therefore erasing the public health (and public authority) origins of FOPL, legitimizing trade concerns as the *only* concern that should be considered.

Framing Strategy 2: Technical Barriers to Trade

While the Chilean trade advantage narrative frames FOPL rests on the shaky ground that Chile will have a first mover advantage and other major trading partners will simply forgo the market, another more sophisticated narrative also bolstered the legitimacy of trade discourse on FOPL in CARICOM. Industry actors argued that FOPL would, assuredly, constitute a Technical Barrier to Trade (TBT). Importantly, Chile’s legislation, including FOPL, was intensely discussed and ultimately survived at the TBT Committee of the World Trade Organization (WTO), suggesting that CARICOM’s FOPL would also be unlikely to also constitute a TBT.⁴ Similar to the Chilean trade advantage claim, this framing relies on the pre-existing norms around trade in the national committees. WTO rules form the basis of the standard-setting process itself, providing significant authority and legitimacy to any claims that infer it.

All food industry actors who participated in this study framed FOPL as a certain TBT, but the Chambers of Commerce in (at least) Barbados and St Kitts and Nevis were especially forceful in their portrayal of FOPL as a transgression of the TBT agreement. The claim was also compelling for most non-industry committee members who were familiar with standard setting and therefore accustomed to the WTO’s authority and rules. Food industry actors argued that an FOPL scheme, especially one as stringent as

the “High-in” Warning Label model, would certainly constitute a Technical Barrier to Trade and therefore be rejected under WTO rules. Article 2.2 of the Agreement on TBT states that:

“Members shall ensure that technical regulations are not prepared, adopted or applied with a view to or with the effect of creating unnecessary obstacles to international trade. For this purpose, technical regulations shall not be more trade-restrictive than necessary to fulfil a legitimate objective, taking account of the risks of non-fulfilment would create.” (Article 2.2, Preparation, Adoption and Application of Technical Regulations by Central Government Bodies)

Under the Agreement on TBT, the WTO considers standards set by relevant international standards bodies as “standards,” whereas those set by governments, intergovernmental organizations or the UN are considered technical regulations (Boza et al., 2019; Clapp, 1998). Therefore, any variation—in the form of legislation, policy, or rules—from international standards are considered technical regulations (Participant 1, August 23, 2019). Codex Alimentarius, a body jointly facilitated by WHO and FAO, is responsible for phytosanitary and other food safety standards (Henson and Humphrey, 2009). Since it was explicitly recognized by WTO for these standards, Codex is also an approved international standard setter for many food issues, including food labelling standards. The important distinction is that *international standards* can never be considered a TBT, but technical regulations (legislation, policy, or rules) instituted by non-standard setters (e.g., governments) *may* be considered a TBT.

The standard investigated here that includes FOPL is a revision to an existing Caribbean Regional Standard (CRS) 5 on Pre-Packaged Food Labelling, which, although existing as a regional standard, has not been adopted uniformly across CARICOM. The existing CRS 5 was introduced in 2010 as a regional standard, however, it is mostly in accordance with the Codex General Standard for the Labelling of Prepackaged Food (CXS 1-1985, revised in 2018). The revision to CRS 5 proposed in 2018 added a “High-In” Warning Label style FOPL similar to Chile’s, which has since become a controversial focal point of the process. Including FOPL in CRS 5 is framed as a transgression of TBT agreement by industry and other stakeholders, since it moves CRS 5 further from the Codex International Standard.

Although many private sector actors in the process vocalised this argument, the representatives of the Chambers of Commerce in Barbados and St Kitts stood out in their framing that FOPL in the “High-In” Warning Label format would, unequivocally, constitute a TBT (see below for an explanation of the counterargument) and therefore be challenged at the WTO. While the Chamber of Commerce was mostly absent from national committee meetings in St Kitts therefore did not make any formal comments or complaints in this regard, their representative did not view FOPL as a legitimate regulation inside the WTO regime. Similarly, the Chamber of Commerce in Barbados was described by other participants as “very loud” (Participant 31, 24/07/19) in meetings using the same framing.

⁴See Boza et al., 2019 for a detailed examination of the discussion resulting from claims made against Chile’s FOPL at the TBT Committee. Boza and colleagues expertly explain the concerns of other states against FOPL by categorizing them as: “(i) the necessity and restrictiveness of the measure, (ii) the compliance with the principles of: harmonization, non-discrimination and transparency, and (iii) the implementation of the legislation” (p.83). The study describes the ensuing discussion and results, and applies other similar cases as examples.

Many committee members framed FOPL as a *certain* TBT, especially those from the food industry, using the weight of the TBT Agreement inside the standard-setting process to legitimize this claim. At times, industry actors went so far as to claim they were being helpful in protecting countries from having to fight a potential WTO challenge:

“They [industry] go into [the] WTO argument. This, this is a WTO problem and Barbados will get in trouble as a country with WTO - if you go in this direction . . . we just want to help you. We just want to protect you. Thanks.” Participant 4, Barbados Ministry of Health, (22/08/19)

By portraying these efforts as helpful, and given the authority of WTO and TBT inside standard setting, industry actors, particularly in Jamaica and St Kitts, successfully portrayed that there was no ambiguity around FOPL constituting a TBT. Many non-industry committee members also accepted this portrayal. In reality, transgressions are only confirmed through WTO challenges (Foster, 2021), and the evidence of Chilean FOPL points to a low likelihood that CARICOM FOPL would be considered a TBT (Boza et al., 2019). Certainty regarding what is or is not a TBT then, rests with legal experts and ultimately, the results of a WTO challenge. As is described below, the argument put forward by industry has been countered by some legal experts. Since there is no legal consensus as to whether FOPL in this format constitutes a TBT, and since ultimate certainty would only result from a WTO challenge, this argument results in a risk calculation of three possible outcomes for implementation in the current format (as a technical regulation):

- 1) it could be challenged, deemed a TBT and then dismantled in response;
- 2) it could be challenged, deemed a *legitimate* technical regulation and remain standing (see below);
- 3) or, it might remain unchallenged—leaving it to stand *and* its TBT status uncertain.

The strategy put forward by private sector representatives that the “High-In” Warning Label is unequivocally a TBT, is therefore, in reality, more ambiguous than industry actors have portrayed, and is perhaps even unlikely given Chile’s experience (Boza et al., 2019). At the same time, the framing was compelling to most members of the committees.⁵ Government officials in Barbados and Jamaica also remarked that their trade department colleagues’ lens suggested an indisputability around FOPL as a TBT, making it both illegal and unnecessary, and further dismissing it outright. Committee participants from government reported their trade colleagues were indifferent to any potential health rationale, signaling that they understood trade rules as inherently more authoritative than public health

policies in this venue. That the FOPL in CRS 5 would be considered a TBT and not be allowed under trade rules was expressed by other non-industry committee members—even those who were supportive of FOPL—demonstrated that this framing strategy was perceived as inherently valid—displaying the way that underlying authority of trade rules and the WTO shaped perceptions of legitimacy in the standard setting space.

Still, while all stakeholders acknowledged the potential validity of the TBT argument, not all were resigned to its purported veto. In Barbados, the Ministry of Health hired an outside and independent consultant with experience in tobacco labelling issues in Australia⁶ to investigate the TBT argument. Similarly, the Healthy Caribbean Coalition, a health NGO and network in the region, worked with a lawyer and professor based at the University of the West Indies (UWI) Cave Hill. Both came to similar conclusions: the second sentence of Article 2.2 (above) enables governments to create technical regulations that serve legitimate objectives, as long as these are not “more trade-restrictive than necessary.” These experts argue that FOPL is filling a legitimate objective in the Caribbean (by reducing the incidence of NCDs) and would therefore be allowed under the Agreement on TBT. This argument also seems to have been born out by Chile’s experience managing concerns at the TBT Committee meetings at WTO (Boza et al., 2019).

Whether considered legitimate or not, the fear of a WTO challenge is frequently sufficient to steer countries away from action. Just as international environmental management standards can become a ceiling rather than a baseline for progressive action (Clapp, 1998), if no action is taken on FOPL because of the perceived risk of a WTO challenge, international standards can become *de facto* ceilings constraining domestic policy space (Koivusalo et al., 2009; Labonté, 2019) for individual countries. Advocates for FOPL anticipated the need to prepare for a WTO challenge *should* FOPL be adopted across CARICOM. Since a reduction in NCDs, a population-level public health goal, is nearly impossible to concretely connect to any one variable and therefore act as the legitimate objective achieved by FOPL, advocates have started to strategize 1) an appropriate “legitimate objective” and 2) the actions required to generate evidence that would justify that objective. There is some question among these circles as to whether evidence generated in Chile (see Correa et al., 2019) would be sufficient to justify similar FOPL in a different regional context, or whether Caribbean-specific (or even country-specific) evidence generation would be required. If this is possible, the “legitimate objective” must be tied to the evidence provided—this means the “legitimate objective” might be a reduction in processed food product purchases (Foster, 2021). The anticipated work involved is onerous and lends some credibility to industry’s claim to help countries avoid an arduous process.

When claiming FOPL is an indisputable TBT, the trade frame nullifies any opportunity for FOPL in CRS 5 or beyond. The underlying cognitive legitimacy (Cashore, 2002) associated with

⁵Chile and Uruguay’s FOPL have so far gone unchallenged. See Boza et al., 2019 for an excellent review of the concerns raised and discussed at the TBT Committee related to Chile’s Food Law.

⁶In fact, on behalf of the tobacco companies.

the WTO and the TBT Agreement—a *taken-for-grantedness* within the standards process—allowed this discursive strategy to be persuasive with all committee members, even those who were supportive of FOPL more generally. Advocates who believed FOPL could win a WTO challenge still viewed TBT as a legitimate line of reasoning and were taking precautions to prepare for that eventuality, signalling the perception of power of the WTO and its rules. By applying the TBT argument and emphasizing the possibility of a WTO challenge, industry members of the national committees were conceptually venue-shifting (Keck and Sikkink, 1998; Baumgartner et al., 2019) by insinuating the inevitable consequences if FOPL moved forward. Taken together, the Chilean trade advantage and the TBT argument both shifted FOPL entirely away from a framing of public health and towards a framing of trade problems—and therefore into a conceptual space where the predominance of the WTO and international trade rules can nullify all opposing arguments.

Framing Strategy 3: Legitimate vs. Illegitimate Standard Setters

“So, one of the industry arguments was PAHO has no legitimacy here. Right? PAHO cannot create an international standard for food or for trade. ‘Because PAHO is not a standard setting body, not established as a standard setting body. So, if you’re going to use thresholds as defined by PAHO, then we can’t accept it.’” Participant 4, Barbados Ministry of Health, (22/08/19)

In the third framing strategy, food industry actors reframed some actors as illegitimate, further reinforcing the authority of the WTO and trade rules and completing the frameshift of FOPL away from public health and towards trade. Incoherence in policy communities can lead to a lack of consensus (Bernstein, 2011): in this case, public health actors were considered exogenous and illegitimate. Whereas in other spaces the Pan-American Health Organization (PAHO) was viewed as a policy champion, this framing successfully negated PAHO’s influence over FOPL. This discursive strategy went further than simply erasing the public health origins of FOPL, it dismissed their expert authority entirely.

All standards bodies use the Code of Good Practice for the Preparation, Adoption and Application of Standards in Annex 3 of the Agreement on TBT. Since this code is the basis for all standards development, not just the current CRS 5 revision or food labelling, familiarity with the process varies between those stakeholders who have taken part in the process before and those who were consulted strictly because of their technical relevance to FOPL (e.g., health NGOs). As such, stakeholders familiar with the standards process had a different sense of who is or who is not a legitimate actor (or authority) compared with the new participants who were unfamiliar with the process (and also largely supportive of FOPL).

The illegitimacy of some actors in the CRS 5 revision process were portrayed in two ways:

- 1) Some actors do not have a designated, legitimate role in the process; and/or,
- 2) Some actors do not have the correct jurisdictional designation to participate in the process.

In the first instance, PAHO was the target of this argument. Committee members who were familiar with standard setting, and particularly familiar with food labelling, were aware of the Code of Good Practice and the processes associated with it. As such, they are accustomed to deferring to the International Organization for Standardization (ISO), or, in the specific case of food and food labelling—Codex.⁷ The revisions to CRS 5 revision that contained the FOPL format taken from a separate country (Chile) and critical nutrient thresholds designated by PAHO, was portrayed as outside of the usual operating norms.

And many of us said, “Well, you know, we’re not understanding the logic here, where PAHO is kind of pushing this edit to the standard—PAHO is part of WHO?” Participant 5, Representative of Jamaican Firm, (18/09/19).

Participants who were not accustomed to the standards process, such as those being consulted for their “health” perspective (e.g., government health departments or local NGOs), usually accepted PAHO as a legitimate actor with expert authority to set nutrient thresholds, while industry groups rejected PAHO as a standard-setter because of its detachment to the standard setting regime.

“So, one of the industry arguments was PAHO has no legitimacy here. Right? PAHO cannot create an international standard for food or for trade. “Because PAHO is not a standard setting body, not established as a standard setting body. So, if you’re going to use thresholds as defined by PAHO, then we can’t accept it.” Participant 4, Barbados Ministry of Health, (22/08/19)

Framing PAHO as exogenous to standard-setting processes usefully negated the expert authority of this organization. By framing their participation in standard-setting as illegitimate, the critical nutrient thresholds set by PAHO also became illegitimate. These thresholds were simply “too tight” according to industry participants (Participant 2, 18/09/19), suggesting the underlying reason behind framing PAHO as an inappropriate standard-setter.

Again, the operating norms and culture of standard setting create the environment where these claims are both relevant and persuasive. As quoted above, industry understood that PAHO is a

⁷Codex Alimentarius, the global body responsible for setting food safety and labelling standards, is in fact jointly facilitated by the World Health Organization (WHO) and the UN Food and Agriculture Organization (FAO). PAHO is the regional office of the WHO—suggesting an obfuscation, at best, of the legitimate role of PAHO.

regional body of the WHO, which, together with the FAO, facilitates the Codex Alimentarius. Codex is deemed legitimate, whereas PAHO is not. From the perspective of industry and neutral participants who are used to being part of the standard-setting community then, the legitimacy of a standard-setter is drawn more from its position in the standard-setting regime, whereas for non-accustomed participants, legitimacy was derived from technical expertise. Framing PAHO as an illegitimate actor was persuasive then *because* other participants were used to dealing with Codex or other standard-setting bodies, and PAHO seemed outside of this norm.

PAHO was also considered illegitimate because of its regional focus. Industry actors underlined its relationship with the WHO and its global, or regional reach. In contrast, these stakeholders underlined the *national* relevance of the standard under questions. Although the standard is put forward by the regional standards body, national standards bureaus still have significant control over the consultation process and national governments retain the right to make standards mandatory or leave them as voluntary (through national adoption and legislation). In this case, committees are used to operating as national committees, with less regard for regional harmonization or consideration. This is especially true in the case of Jamaica, which has the most developed standards regime of the three case study countries and whose labelling standards often become a default standard across CARICOM because of their leading manufacturing capacity and population size (products from Jamaica are consumed across CARICOM). As such, industry stakeholders characterized PAHO's global and regional ties as being pushed through CROSQ and into domestic processes,⁸ grouping PAHO with other "private influences".

"So the effectiveness of that [national] subcommittee, and that overall committee in terms of influencing some of these things that CROSQ ended up taking on were, made it more of a regional CARICOM issue before it became a Jamaican issue. And that approach . . . from my read on the situation was led by some private influences as well as PAHO. Kind of pushed into CROSQ you, you know, the standard development for this particular standard we're discussing." Participant 5, Representative of Jamaican Firm, (18/09/19)

While this argument tended to be along health versus industry lines, there was one exception. The Healthy Caribbean Coalition, the transnational advocacy network responsible for alerting members of the Non-Communicable Disease alliance to FOPL as part of the CRS 5 revision, was also challenged for this transgression of jurisdictional lines. Since the Healthy Caribbean Coalition is considered a regional organization, their initial application to sit on the national committee in Barbados, where

they are based, was denied (though it was approved after the first introductory meeting). The Healthy Caribbean Coalition's presence, while successful in pushing the issue forward, was perceived by some other FOPL supporters for its "aggressive" approach (Participant 4, 22/08/19). The Healthy Caribbean Coalition used strategies common in transnational advocacy networks, including bringing together counterparts in other countries in CARICOM, educating partners on the standards process and providing them with common industry arguments and rebuttals. This regional activity was perceived by a few involved as being in contradiction to the 'national' process – though interestingly, similar evidence of coordination among national Chambers of Commerce did not seem to garner the same criticism. It is notable however, that industry actors did not target the Healthy Caribbean Coalition as an illegitimate actor in the way they targeted PAHO's legitimacy. There are two potential reasons for this: 1) because when the Healthy Caribbean Coalition sat on the Barbados committee, they were chosen by Barbadian health organizations to represent all domestic health organizations and so could operate more like a national entity, and 2) in other national committees (outside Barbados) their influence might not have been explicitly known. The Healthy Caribbean Coalition's legitimacy was questioned not by industry but by other health advocates and the technical officers who facilitated the standards process at different levels, indicating some level of dissonance and fragmentation in the health advocacy side.

In contrast, some organizations have inherent legitimacy in the process. The Codex Alimentarius and relatedly, the WTO or the TBT agreement, were all inferred regularly and framed as inherently legitimate.

"So, when I got to the meeting, and then to learn that it was a matter of a Chilean input, in my mind, I would be saying: "Well, I am accustomed to something coming from Codex, how is it now that I'm hearing about a Chile input?" (Participant 20, neutral participant, 08/21/19)

In the example above, a neutral participant based in Barbados explained that their familiarity providing technical expertise on Codex standards left them uncertain regarding the relevance of a "Chilean" model. These types of comments were common and highlight the association of Codex within the (food) standards process. No respondent in this study questioned the legitimacy of Codex to influence the proceedings, unlike the legitimacy of other bodies such as the Healthy Caribbean Coalition and PAHO. While this is unsurprising, given the central role Codex plays within the international (food) standards regime, it is worth noting again here that FOPL in the Caribbean did not begin as a standard—it began as a public health policy. So, while the respondents interviewed as part of the national and regional standards processes questioned *some* actors' interests, motivations and influence, Codex (and other trade-related actors) were exempt from questions of legitimacy.

Community membership and familiarity with process then are relevant conditions as to how participants interpreted and perceived legitimacy of actors. While familiarity induces immediate acceptance and deferral to the authority of Codex,

⁸PAHO seems to be sensitive to these claims. While a partner in the initial policy transfer project and a funder in earlier parts of the process, PAHO has been quiet in terms of advocacy on this issue. Participants reported that PAHO was absent from the national meetings.

these participants viewed PAHO as an outsider influence without legitimacy. There are both conceptual and instrumental reasons for this: PAHO is not normally a standard-setter and sits outside the standards regime paradigm; and, by framing PAHO as an illegitimate actor and Codex as a legitimate actor, FOPL can be shifted continually further away from a health narrative and further into a venue dominated by authorities relevant and supportive of trade.

Actors also had different reactions to these accusations of legitimacy or illegitimacy. While PAHO was instrumental in the initial stages of getting FOPL on the table, they largely stepped out of facilitating its' progress once it was delegated into the standard setting process. This caused some frustration for health advocates, who see them as an institutional force with great influential power within the region. But PAHO's ability to exert influence regionally could be interpreted as crossing jurisdictional boundaries at the national level. PAHO was very careful in attending (only infrequent) meetings as technical experts to present evidence in a neutral and technocratic way, rather than as policy champions. In an even more extreme case, PAHO attended the National Consultation in Barbados, led by the Ministry of Health and BNSI, and yet did not present in this venue, even when asked. While this study was limited by not speaking with a PAHO representative directly, PAHO acted with extremely sensitivity to arguments of sovereignty and intentionally avoided taking a stronger public stance for this reason (Participant 32, 07/16/19). Yet PAHO represented expert authority for many, lending credibility to FOPL as a public health policy, rather than a standard:

"PAHO is the health institution for the region and they're mandated by their member states to provide advice and recommendations on the best policies for health, you know, and labeling is one of their recommended best interventions..." Participant 23, Health Organization, (05/11/2019)

Losing PAHO's participation then also helps to erase these roots as a public health policy. The Healthy Caribbean Coalition and other health advocates interpreted the mandate of PAHO as one which is supportive of the region's health; where health is an important and reasonable priority; and that PAHO is a legitimate standard-setter with expert authority. Health advocates in the region not only saw PAHO as a legitimate actor in the standards process, but also saw a right for PAHO to be a policy champion during the process. The same advocates that were frustrated and disappointed by public silence on the issue from PAHO, were frustrated because they felt PAHO should be a (or the) leader on the issue. Instead of carrying the institutional weight associated with PAHO, individual health advocates, NGOs and health ministries were left countering narratives and arguments put forward by industry, leaving the health advocacy side of the process fragmented and unprepared.

The characterization of PAHO as an illegitimate standard-setter, among those familiar with the standards process, was both unsurprising and informative. The discursive power to frame who is or who is not authoritative within the process, remains with those who are familiar with the process and understand the rules of the

game. As such, it allows industry players and familiar government department representatives to defer to authorities that support their desired outcome. Participants versed in these rules dictated the interpretation of the rules, reinforcing standards set by Codex as *the only legitimate standards*. Characterizing PAHO through lack of official role in the process or through jurisdictional claims of territoriality both contributed to the same outcome: a lack of legitimacy for a major international organization, and the resulting inability to exert influence, provide expertise, or champion FOPL in the process.

The claim of being an illegitimate standard-setter also helped shift FOPL out of the control of public health advocates like PAHO and health ministries. If PAHO is illegitimate actor, then national health ministries barely fare better—they might have appropriate national jurisdiction, but they still have no place in standard-setting architecture. Public actors are generally seen as legitimate in prescribing societal behaviour, as public health actors do, in liberal democratic theories because of their accountability to the public (Cutler, p.33, in Hall and Biersteker, 2002). The displacement of public health actor legitimacy, raises a question of whether the state—or, in this case, the regional governance architecture—is complicit in a delegated authority for public (health) to private authority (Hall & Biersteker, 2002). If PAHO has no legitimate role in the process, and Codex has unwavering authority, an unconscious reckoning between rules motivated to improve public health motivated and rules motivated to appease private industry has taken place. Indeed, Clapp argued in 1998 (p.312) that states adopt international standards partly because of the fit with a "prevailing liberal ideology" and "reduced regulatory role for the state."

These frames—the Chilean trade advantage, the "inevitable" TBT challenge, and framing some health actors as illegitimate—were persuasive to both industry and non-industry stakeholders. By arguing that FOPL is a transgression of the rules-based trading regime, industry stakeholders used the authority associated with WTO rules to set a foundation where FOPL is a trade conflict and helped to erase public health goals entirely from the discussion by making PAHO an improper influence. Similarly, industry opponents of FOPL falsely argued that Chile would gain an unfair trade advantage in the region, using committee members and consumers' desire for United Kingdom and US products to bolster the trade argument. Food industry actors and other committee members in all three case study countries used the authority derived from the WTO in standard setting by discursively framing FOPL as being in opposition to the rules and authority of the international trade regime.

Emphasizing the consequences of transgressions of trade rules also then reinforces WTO authority, making trade regime conflicts more important than public health concerns. The result has been an eroded public health authority over FOPL and reinforced private sector authority over it. In summary then, food industry actors have used and reinforced authority from the international trade regime to exert discursive power strategies, reframing FOPL towards a trade conflict narrative. This trade-oriented narrative emphasized that FOPL is subject to the international trading regime, and in doing so, made the original purpose of FOPL invisible to committee members.

DISCUSSION: FRAMING, DISCURSIVE POWER AND AUTHORITY

Taken together, the framing strategies employed by the food industry in the regional FOPL standard-setting process contribute to a frameshift from regional public health policy to trade regime conflict. The successful reframe, and the ensuing commitment by the Government of Jamaica to reject adoption of FOPL, raises two more questions for consideration. First, let us consider why the food industry was so much more capable than health advocates in promoting their vision of reality.

Given that FOPL was proposed by the CARICOM Public Health Agency and adoption was encouraged by public health advocates and experts, it is somewhat surprising that the shift into the development and adoption phase of the policy cycle—standard setting, in this case—produced such a monumental shift in power and authority over the policy. Key to this distinction is the fact that upon entry into the standard setting regime, FOPL lost its identity as a *public policy measure*. While public health experts and advocates followed FOPL into standard setting, the existing participants on food labelling standards committees had no prior knowledge around FOPL as a public health solution. The result was two incoherent communities attempting to make governance decisions on food systems: “health advocates” with no familiarity in standard setting, and everyone else, who had long been involved in standards and therefore had much more experience and familiarity in the standard-setting regime.

In assessing whether global governance is legitimate or not, Bernstein (2011) argued that legitimacy is the result of two or more communities interacting and accepting the authority of an institution. The institution should have broader legitimating norms and discourses (what Bernstein describes as *social structures*) that are prevalent in the given issue area. In describing political legitimacy in global governance, Bernstein highlights the importance of coherence amongst those communities. Because legitimacy is contingent on shared acceptance of rules, “[t]he coherence or incoherence of that community matters, since incoherence or strong normative contestation among groups within a legitimating community make establishing clear requirements for legitimacy difficult” (Bernstein, 2011, p.21). In this case, the amalgamation of two communities—health and standard-setting participants—have made it impossible for either side to perceive the policy process as legitimate. The communities have contradicting beliefs around the authority of specific institutions, with health advocates ascribing authority to PAHO and standard-setting participants ascribing authority to the WTO and trade regime rules and norms.

While the competing communities value different authorities, these valuations also tell us something about how authority is sourced and attributed. FOPL originated in the public health policy sphere, where public health advocates and researchers had expert authority. Sources of knowledge in this sphere are agreed on, as in any epistemic community, which Haas defines as “a network of professionals with recognized expertise and competence in a particular domain and an authoritative claim to policy-relevant knowledge within that domain or issue-area” (Haas, 1992, p.3). Inside this coherent community, public health advocates and researchers were viewed as experts on FOPL and

considered to have an authoritative claim to policy-relevant knowledge, but once shifted into standard-setting the incoherence of community and lack of authority of public health actors was evident.

Forum shopping, or venue shifting, is often used by those searching for a friendly audience to their cause (Keck and Sikkink, 1998). In this case though FOPL was shifted into a *less* friendly venue, with a less coherent community. In standard setting, there is also a foundation of coherent community members. Standard-setting participants view the WTO and its offshoots as the authority institutions, with trade rules and norms as the operating rules and norms of standard setting as a process. Those who have knowledge and familiarity of these rules and norms become experts of process. In the same way that public health experts had an authoritative claim over FOPL, food industry actors had an authoritative claim over the knowledge of standards and standard setting. This version of expert authority equated to knowledge on process that health actors lacked once FOPL shifted into standard setting. Food industry actors had authority inside standard setting, based on process knowledge that formed the source of discursive power. *Knowing* the rules and norms of standard setting meant that food industry actors could frame FOPL inside this venue as being 1) inconsistent with international trade rules, both in transgressing specific rules (providing an advantage to Chile and a TBT); and 2) inconsistent with international trade norms, by not accepting PAHO and other health actors as legitimate authorities.

Taken together this answers the first question: Why was the food industry so much more capable than health advocates in promoting their vision of reality? The food industry was more capable because this stage of the policy development cycle took place in a venue where industry members possessed more discursive power and shaped committee outcomes accordingly. That is, industry actors had the power to reframe the conversation because they understood the rules and norms of the venue FOPL had been shifted into. Similarly, Kooiman (2002) has pointed to the way that business power influences policies by designating problems to specific categories through specific norms and values.

A subsequent question then is why and how a venue where discursive power and expert authority of businesses was equal or more than that of health advocates was chosen for this stage of the policy development cycle. When this question was put to them, health advocates, policymakers and standard-setting technical officers all agreed this was the *only* way to achieve uniform FOPL policy across the region. Actors argued that the nature of CARICOM’s regionalization efforts meant that there is no supranational health infrastructure to impose regional policy. While economic and trade-facilitating architecture had been developed from early in CARICOM’s history (Alleyne, 2008a), the structure of CARICOM as a community of sovereign independent states (Grenade, 2008) means must be a high degree of motivation amongst national players for cooperation and coordination in different topic areas to be achieved (Alleyne, 2008a). Whereas economic and trade-oriented cooperation and coordination have been the

foundation of CARICOM's integration and forms the first of its "Pillars," health instead fell under the catch-all pillar of "functional cooperation," where all other issues are coordinated (Alleyne, 2008a; 2008b). The pragmatic response then, amongst participants, was that FOPL was shifted into standard setting for the simple reason that it was the only option for a regionally uniform label to be implemented.

The pragmatic decision obfuscates the wider underlying structural power of the food industry to shape the food environment. This study has pointed to the framing that demonstrates corporations' discursive power to shape the perception of a policy problem and solution, ultimately reframing FOPL as a problem of trade rules rather than a public health policy solution. If the source of this discursive power lies in the chosen venue though, and a venue does not exist to carry on the work of public health policy in the region, the pragmatic answer to our second question is not sufficient. In concluding her 1998 article on the implications of ISO 14000 for environmental management ceilings, Clapp foresaw the underlying structural power of businesses in global environmental governance. National governments were embracing international standards because they fit the "prevailing liberal ideology held by most states, which calls for a reduced regulatory role for the state" and standards fit nicely into the "era of global free trade" (p.312). The fact that regional standard setting was the only venue to produce regional health and food systems policy should tell us what is prioritized in regional governance: trade over health. In other words, in this case we see that institutional arrangements and discursive power are complementary to corporate power over food systems policy.

CONCLUSION

FOPL has ultimately failed to be adopted in CARICOM. Jamaica's recent decision to reject FOPL and the regional standard's continued delay in being approved indicate that the framing of a trade conflict has indeed been a successful one. While non-communicable diseases continue to be a major killer in the Caribbean, health has not been prioritized over trade interests, both in the larger governance structure of CARICOM and in the dynamics of this particular case. While seen as a pragmatic decision given the governance structure of CARICOM, the shift of FOPL into regional standard setting opened the policy up to be reframed as a trade issue rather than a health solution. We can see this as a shift into a "public-private regime" (Clapp, 1998) or even private authority, where private sector interests hold the balance of power.

The consequence of discursive power in regional standard setting was a complete reframe of the food systems and public health policy that began the process. But even this analysis of framing can obfuscate an underlying problem: the prevailing liberal ideology that undergirds decision making about food systems. This study has illuminated the pathways of specific discursive power of the food industry inside the standard setting regime in CARICOM, but it also points to the

prioritization of trade and economic regional infrastructure as a source of this power over food systems policymaking. Rather than a pragmatic answer to a governance question, FOPL's shift into standard setting shows the underlying priorities of the governance system in question. Moving a policy that is based on curbing the sales of ultra-processed food, into a venue dominated by the power and authority of those who create, sell or distribute ultra-processed foods, has proved to be an exercise of futility. The adoption of a universal, warning-label style FOPL in CARICOM has, at this point, failed and this failure demonstrates the institutional and discursive power of the food industry to maintain the status quo.

DATA AVAILABILITY STATEMENT

The datasets presented in this article are not readily available because of Confidentiality Agreements. Requests to access the datasets should be directed to lbhinton@uwaterloo.ca

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by University of Waterloo, University of the West Indies (Mona and Cave Hill Campuses), Chief Medical Officer St Kitts and Nevis, IDRC Advisory Ethics Committee. The patients/participants provided their written informed consent to participate in this study. Written informed consent was obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article.

AUTHOR CONTRIBUTIONS

The author confirms being the sole contributor of this work and has approved it for publication.

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/fcomm.2021.796425/full#supplementary-material>

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A Comparative Policy Analysis of Wild Food Policies Across Ontario, Northwest Territories, and Yukon Territory, Canada

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Access to and availability of food harvested from the land (called traditional food, country food, or wild food) are critical to food security and food sovereignty of Indigenous People. These foods can be particularly difficult to access for those living in urban environments. We ask: what policies are involved in the regulation of traditional/country foods and how do these policies affect access to traditional/country food for Indigenous Peoples living in urban centers? Which policies act as barriers? This paper provides a comparative policy analysis of wild food policies across Ontario, the Northwest Territories (NWT), and the Yukon Territory, Canada, by examining and making comparisons between various pieces of legislation, such as fish and wildlife acts, hunting regulations, food premises legislation, and meat inspection regulations. We provide examples of how some programs serving Indigenous Peoples have managed to provide wild foods, using creative ways to operate within the existing system. While there is overwhelming evidence that traditional/country food plays a critical role for the health and well-being of Indigenous Peoples within Canada, Indigenous food systems are often undermined by provincial and territorial wild food policies. Provinces like Ontario with more restrictive policies may be able to learn from the policies in the Territories. We found that on a system level, there are significant constraints on the accessibility of wild foods in urban spaces because the regulatory food environment is designed to manage a colonial market-based system that devalues Indigenous values of sharing and reciprocity and Indigenous food systems, particularly for traditional/country foods. Dismantling the barriers to traditional/country food access in that system can be an important way forward.

Keywords: wild food, traditional/country food, policy, regulations, urban, Indigenous, Canada

INTRODUCTION

Globally, food systems have come under threat from the impacts of climate change, industrialization, environmental degradation, as well as new threats such as the COVID-19 pandemic (FAO, 2021). These impacts have disproportionately affected Indigenous Peoples ability to access their lands for food and water sources (United Nations, 2007; CCA, 2014). There is a growing effort to increase knowledge and access to local food

resources for Indigenous Peoples (Pal et al., 2013). The United Nations' Millennium Development goals highlight important issues impacting Indigenous groups, such as: sustainable development, reducing hunger, the empowerment of women, and increasing access to safe and nutritious foods. The harvesting, preparation, and consumption of traditional/country foods¹ remains deeply embedded in the familial, cultural, and social fabric of communities is an essential component of the social and cultural well-being of Indigenous Peoples (Pal et al., 2013; CCA, 2014). Addressing some of these issues the Declaration of Atitlán, drafted at the First Indigenous Peoples' Global Consultation on the Right to Food, states that the "denial of the right to food for Indigenous Peoples is a denial of their collective Indigenous existence, not only denying their physical survival, but also their social organization, cultures, traditions, languages, spirituality, sovereignty, and total identity" (United Nations, 2002).

In Canada issues of food insecurity and food sovereignty for Indigenous Peoples are extremely pressing. Indigenous Peoples face disproportionate rates of food insecurity, six times higher than the national average and "represent the highest documented food insecurity rate for any aboriginal population in a developed country" (De Schutter, 2012). Half (49.2%) of First Nations households in Canada are food insecure (FNIGC, 2018) and data from the 2017/2018 Canadian Community Health Survey showed 21.6% of households in the Northwest Territories (NWT), and 16.9% in the Yukon as food insecure (Tarasuk and Mitchell, 2020). Investigations of Indigenous food security and sovereignty in Canada have focused primarily on First Nations and Inuit communities, however this picture is much more complicated. Common misconceptions suggest the boundaries between urban and community spaces are static, this is not the case. Food, both traditional/country and market-based flow between communities and urban spaces and very little attention has been paid to these movements.

Access to traditional/country foods for Indigenous Peoples in urban contexts promotes health and wellbeing, and there exists a strong desire to eat these important foods (Lardeau et al., 2011; Elliott et al., 2012; Skinner et al., 2016). Yet, there is evidence that a move to an urban center leads to dietary changes that includes the increasing consumption of both fast foods and fruits and vegetables, and a decrease in the intake of traditional/country foods (Brown et al., 2008). Access to traditional/country foods may be problematic for urban Indigenous Peoples (Baskin et al., 2008; Elliott et al., 2012) and food sharing of both traditional/country and store-bought food

is less prevalent than within small community settings (Brown et al., 2008). Reasons cited include the distance from their home community, being disconnected with family still living in their community, and the emphasis on monetary culture in the city (Brown et al., 2008; Elliott et al., 2012). Despite these reasons, there is research that suggests Indigenous Peoples can overcome urban challenges to access traditional/country food through grass-roots collaboration with local partners (Cidro et al., 2015) and Indigenous cultural revitalization.

As we describe in this paper the acts, regulations, and legislation regarding wild food in three provinces/territories, we show that government policy continues to shape access to traditional/country food for Indigenous Peoples living in urban settings.

Prior to the establishment of wildlife policies by the Canadian governments, Treaties enacted by the Crown were the only policy texts implicating Indigenous Peoples access to wildlife (CIRNAC, 2020a,b). Canadian policies pertaining to wildlife have been in existence for more than a century, with the driving rationale for these policies being to preserve and conserve resources (Sandlos, 2011). Historically the use of federal and provincial/territorial wildlife policies, have been used to assimilate and discriminate against Indigenous Peoples (Moss and Gardner-O'Toole, 1991). The use of licensing systems to push institutional wildlife conservation goals ahead of Indigenous treaty rights have become ubiquitous across Canada (Passelac-Ross, 2006). In northern Ontario, Gardner and Tsuji (2014) found that the form to apply for a federal Possessions and Acquisition License was only available in English and French. This created a barrier for community members who predominately spoke Cree (Gardner and Tsuji, 2014). Furthermore, the process to acquire a Possessions and Acquisition License involves a paid course and licensing fees, which compound with the additional costs required to hunt (Pal et al., 2013; Gardner and Tsuji, 2014; Leibovitch Randazzo and Robidoux, 2018). These courses were developed with settler colonial perspectives, ignoring any Indigenous knowledge or practices. Hunting on the land is already a challenging activity, with the inherent challenges of finding an animal, the high upfront costs of fuel, equipment, and other harvesting supplies, and the growing number of safety risks through changes to land due to changes in the climate (Ford et al., 2006; CCA, 2014; Spring et al., 2018; NIECB, 2019).

Jurisdictional Complexities

The rights of Indigenous Peoples to harvest wildlife on their traditional lands are entrenched in Treaties and under Section 35 of the Constitution. However, the entrenchment of rights within the constitution alone does not provide an explanation of how harvesting activities can be controlled by governments or how Indigenous harvesting rights are applied in urban settings. This complexity is further compounded by the nation-to-nation agreements that were established prior to the constitution, better known as treaties.

The powers of both levels of government in Canada are entrenched within the Constitution Act of 1982 (Beaudoin, 2019). The federal government's major responsibilities are national defense, currency, and good governance (Beaudoin,

¹Traditional food, country food, traditional/country and wild food are all terms utilized within this paper. The Canadian Council of Academies (CCA, 2014) has established that the use of traditional/country food is the most appropriate language to be more inclusive of the cultural-ethnic nuances among the diverse Indigenous groups in Canada. However, within the policy descriptions in this paper, the term wild food or wild game are used instead of traditional/country food as wild food/wild game is the terminology used in acts and regulations. This is due to the fact that within policy, wild game has no cultural significance and wildlife is understood only as a resource. This paper shall use traditional/country food interchangeably when referring to cultural and spiritually significant foods, while the term wild food or wild game will be used while referring to the context of a policy.

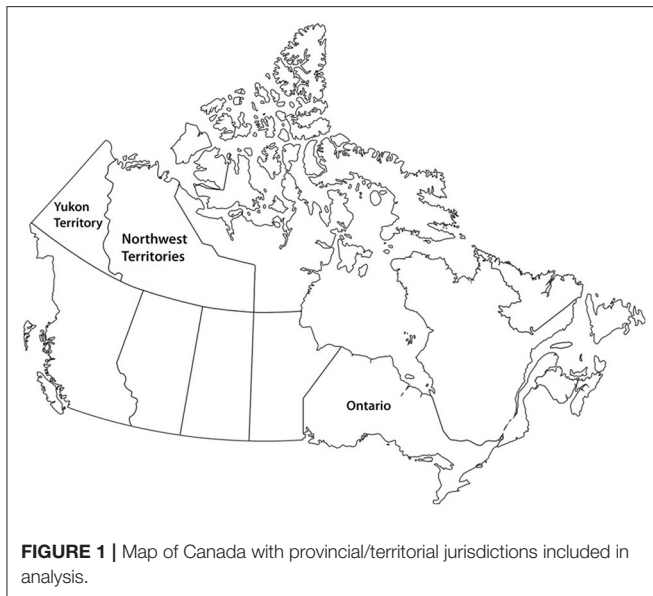


FIGURE 1 | Map of Canada with provincial/territorial jurisdictions included in analysis.

2019). In addition, the federal government is responsible for matters on Indigenous reserves, such as implementing social services and coordinating healthcare (Lavoie et al., 2011; Kerr and Kwasniak, 2014). On the other hand, provincial and territorial governments are responsible for managing lands and resources, hospitals, and civil rights (Beaudoin, 2019). The designation of jurisdiction over wildlife is not explicitly covered in the Constitution, rather it was arbitrarily transferred to the provinces through the Natural Resource Transfer Agreements in the 1930s, as wildlife was simply understood as a resource (Kerr and Kwasniak, 2014). A challenge with this division of governing responsibility is that accessing traditional/country foods in an urban setting intersects both areas of jurisdiction, as food, health, culture, and the lands are intrinsically linked for Indigenous Peoples (CCA, 2014; Halseth, 2015).

Our extended team has been working on a larger Canadian study that examines networks of food sharing and how government and organizations have shaped and informed food economies, policies, and access to traditional/country food in urban, and rural/remote settings (Johnston and Spring, 2021; Robin et al., 2021; Phillipps et al., 2022). A component of this project is to explore the policies involved in the regulation of traditional/country food harvested from the land and the impacts on access to these foods in urban environments, particularly for Indigenous Peoples (CCA, 2014). This paper provides a comparative policy analysis of traditional/country food policies across Ontario, the NWT, and the Yukon Territory (Figure 1), Canada, by examining and comparing various acts and regulations, such as wildlife acts, hunting regulations, food premises legislation, and meat inspection regulations. The single province and two territories within this paper were strategically chosen to assist in providing policy context for our community partners and their urban and rural/remote focused research projects throughout northern Ontario, NWT, and Yukon.

To do this, we ask the following research questions: (1) What policies are involved in the regulation of traditional/country foods and how do these policies affect access to traditional/country food for Indigenous people living in urban centers? (2) Which policies act as barriers? We classify a barrier as any part of a policy that inhibits an Indigenous person from accessing traditional/country foods.

SELECTION OF POLICIES AND METHOD OF ANALYSIS

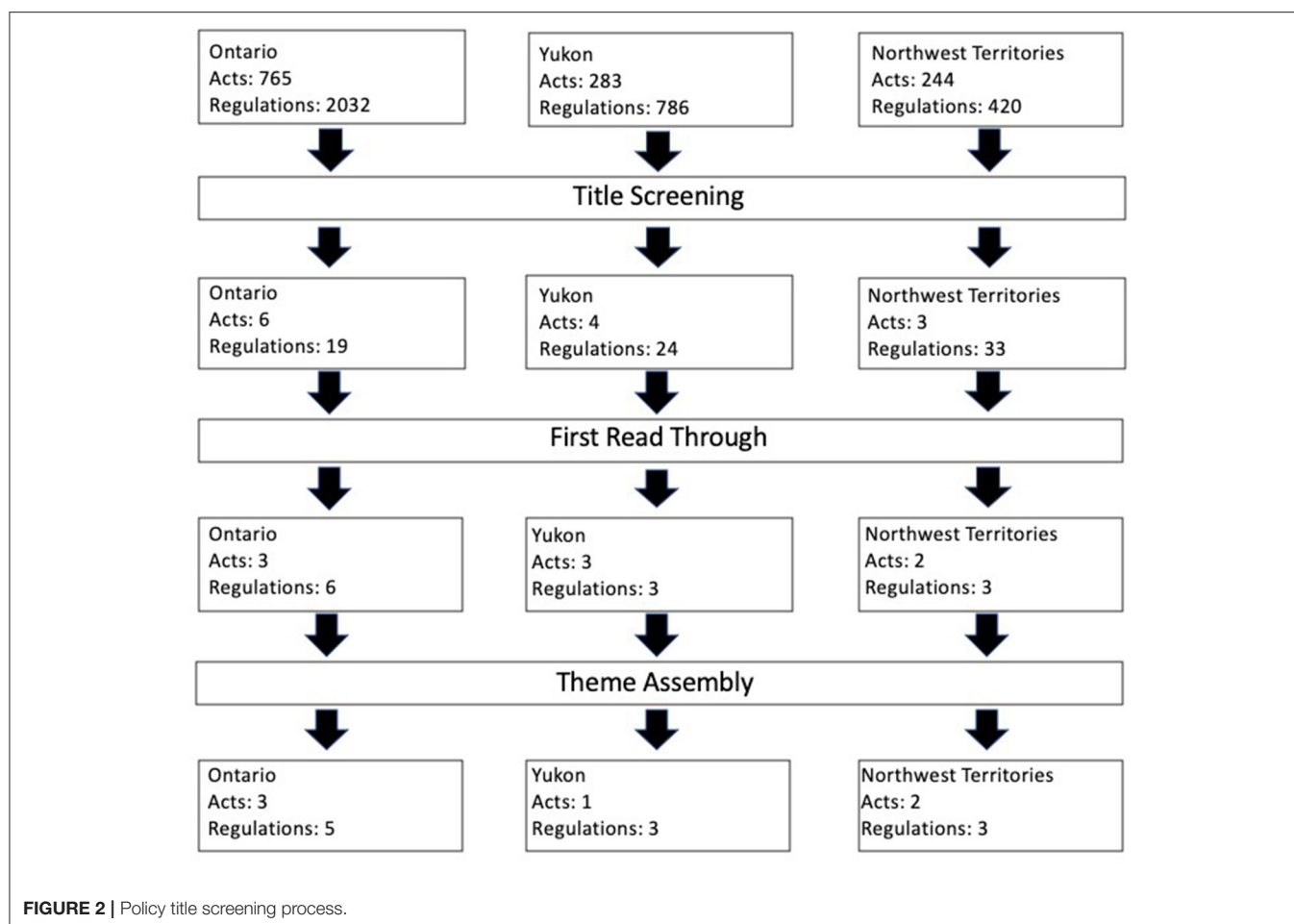
This paper is exploratory in nature and does not utilize structured analysis of the policies surrounding access to traditional/country food in Ontario, NWT, and Yukon. Rather, this paper has taken a practical approach to identify the policies with authority over access to traditional/country food within the three provincial/territorial jurisdictions included in this analysis.

Search for and Screening of Legislated Acts and Regulations

With the establishment of the Montreal Declaration on Free Access to Law in 2002, participating legal information institutes committed to promoting access to public legal information through the internet (CanLII²). This resulted in organizations like the Canadian Legal Information Institute (CanLII, see text footnote 2) to provide the public with access to court cases, statutes, and bills. The establishment of this declaration encouraged governments across Canada to post their legislated bills and statutes on their respective government websites. A legislated act is a statute that was introduced to parliament and received assent from the House of Commons, The Senate and The Crown to become law (Health Canada, 2006). A legislated regulation is made authority under an Act, which defines the application of enforcement of the statute (Health Canada, 2006).

This paper utilized a title screening process (see Figure 2) of provincial (Ontario) and territorial (NWT and Yukon) government websites to identify all the legislated acts and regulations pertaining to wild food that were relevant for this study. Policy reference pages on federal agencies' websites were consulted to identify the relevant legislated acts and regulations from the federal government. For the provincial, territorial, and federal pages, every policy listed on the respective government agency website was included within the title screening process. This resulted in a total of 1,292 legislated acts and 3,238 legislated regulations between the three jurisdictions being included into the title screening. For the screening process, if a legislated act or regulation had oversight over traditional/country food, with regard to how it is acquired, processed, or served, it was considered relevant and retained. Whether or not an act or regulation was deemed relevant was left to the discretion of the researchers, whom have previous experience and background knowledge on Indigenous food insecurity, food systems, and policy. Due to the desired specificity and structure of legislation

²Canadian Legal Information Institute (CanLII). *Montreal Declaration on Free Access to Law*. CanLII. Available online at: <https://www.canlii.org/en/info/mtldeclaration.html>.



texts, simply reading an act or regulation's title was enough to screen and gauge if a title should be included. If a policy was ambiguous or suspected to have any relevance to the research questions, it was passed through this initial title screening to be reviewed and examined at the next step. After the first read through (see **Figure 2**), six legislated acts and 11 regulations were retained and included in the analysis.

Thematic Policy Analysis

If a section or subsection was found to have any relevance to any of the identified themes, these sections were copied and pasted into a separate document for tracking. This process was essentially the coding stage of the analysis, where the sections of policies from the three jurisdictions were organized into similar groupings. Drawing from the work of Braun and Clarke (2006) on thematic analysis, the grouping of codes was organized into three themes that captured the different aspects of policies that can be considered by Indigenous Peoples to access traditional/country food in an urban center (Braun and Clarke, 2006). The first theme was Wildlife and Hunting, which included all sections of policy that pertained to hunting, wildlife conservation, and wildlife management policy mechanisms. The second theme was Meat Processing, which included policies on

abattoirs, wild game processing and meat inspection protocols. The third and final theme was Food Establishments, which included where wild game can be served, the requirements to process meat in a butcher shop, and the protocols to have charitable events that serve wild game meat. The results of this analysis are organized in the typical settler view of the supply chain for meat, where an animal is killed, processed, and then sold to the consumer.

Jurisdiction Profiles

Jurisdiction profiles have been established to situate the policies in a context that allows for a comparison between the three jurisdictions included in this article. In addition, as this study will highlight the importance of geography and place, as what lands a person plays a significant role on which policies apply in each situation. By establishing jurisdiction profiles, the context needed to inform the interpretation of a policy is constructed, allowing for a comparison to be made between jurisdictions. Each policy will be assumed to apply to an Indigenous person in each respective jurisdiction profile. We use the example of moose meat to illustrate each jurisdiction profile, where each hypothetical Indigenous harvester is trying to acquire moose meat within the jurisdiction of their provincial/territorial policies. We chose

moose as different moose subspecies can be found within all three jurisdictions and are regularly harvested by Indigenous Peoples (Schuster et al., 2011; Skinner et al., 2013; Halseth, 2015). While there are no endangered species statutes or international conservation agreements that apply to the species of moose within the jurisdictions in this analysis, these types of policies often must be taken into consideration when hunting other species, such as caribou (Parlee and Wray, 2016). It is important to note that there are other types of traditional/country food such as fauna or fish that are regularly consumed by Indigenous Peoples (CCA, 2014; Halseth, 2015). However, expanding the search to include the policies that pertain to plants or oceans and fisheries was not feasible within the scope of this paper.

This paper utilizes John Weeks' definition of urban, which is "a placed-based characteristic that incorporates elements of population density, social, and economic organization, and the transformation of the natural environment into a built environment" (Weeks, 2010). In Ontario, the jurisdiction profile is located in Toronto, as the city has the largest Indigenous population in Canada, with roughly 47,000 people as of 2016 (City of Toronto³; Ministry of Indigenous Affairs, 2018). In the Yukon Territory, the jurisdiction profile is located in Whitehorse, with an estimated Indigenous identifying population of almost 3,900 (Statistics Canada, 2019). It is the biggest population center in the territory, and all policy barriers and facilitators will be situated as an Indigenous person living in the city (Statistics Canada, 2011). In the NWT, the largest urban center is Yellowknife, with an estimated Indigenous identifying population of 4,300 (Statistics Canada, 2017). Due to this city being biggest population center in the territory, the jurisdiction profile will be located here. With the establishment of jurisdiction profiles, the contexts can be assumed during the reading of the policy texts, and a comparison between the jurisdictions can be made.

ASSESSMENT OF POLICIES

Through the title screening process, six legislated acts and 11 legislated regulations across three provincial and territorial jurisdictions were identified. These policies have been organized by Ministry (see **Table 1**) and by theme (see **Table 2**).

When the identified policies are organized by ministry, there is no apparent pattern or significance in its organization. However, when the policies are organized by theme, some interesting nuances appear. The first pertains to the relationship between legislated acts and the regulations that are under them. In some jurisdictions, the regulations under an act are not categorized under the same theme as the act itself. This can be seen with Both Wildlife acts (Yukon and NWT) and the Fish and Wildlife Conservation Act. Despite these acts falling under the Wildlife and Hunting theme, almost all the regulations fall under the Food Establishments theme. The second nuance is that some acts and regulations overlap between two different themes. This can be

TABLE 1 | Identified policies organized by ministry.

Jurisdiction	Ministry	Legislated acts and regulations
Ontario	Natural Resources and Forestry	Fishing and Wildlife Conservation Act <ul style="list-style-type: none"> • Hunting Regulations • Possession, Buying and Selling of Wildlife Regulations • Trapping Regulations
	Agriculture, Food and Rural Affairs	Food Safety and Quality Act <ul style="list-style-type: none"> • Meat Regulations
	Health and Long-Term Care	Health Protections and Promotion Act <ul style="list-style-type: none"> • Food Premise Regulations
Yukon Territory	Environment and Natural Resources	Wildlife Act <ul style="list-style-type: none"> • Wildlife Regulations • Game Farm Regulations
	Energy, Mines and Resources	Meat Inspection and Abattoir Regulations
Northwest Territories	Environment	Wildlife Act <ul style="list-style-type: none"> • Sale of Wildlife Regulations • Wildlife General Regulations
	Health and Social Services	Public Health Act <ul style="list-style-type: none"> • Food Establishment Safety Regulations

TABLE 2 | Identified policies organized by theme.

Theme	Jurisdiction	Legislated acts and regulations
Wildlife and hunting	Ontario	Fishing and Wildlife Conservation Act
	Yukon	Wildlife Act
	Northwest Territories	Wildlife Act
Meat processing	Ontario	Food Safety and Quality Act <ul style="list-style-type: none"> • Meat Regulations
	Yukon	Meat Inspection and Abattoir Regulations <ul style="list-style-type: none"> • Game Farm Regulations
	Northwest Territories	N/A
Food establishments	Ontario	Health Protections and Promotion Act <ul style="list-style-type: none"> • Food Premise Regulations • Hunting Regulations • Possession, Buying and Selling of Wildlife Regulations • Trapping Regulations
	Yukon	Meat Inspection and Abattoir Regulations <ul style="list-style-type: none"> • Game Farm Regulations • Wildlife Regulations
	Northwest Territories	Wildlife Act Public Health Act <ul style="list-style-type: none"> • Sale of Wildlife Regulations • Wildlife General Regulations • Food Establishment Safety Regulations

seen with Wildlife Act in the NWT being categorized under the Wildlife and Hunting and the Food Establishment themes.

³City of Toronto. *Indigenous people of Toronto*. <https://www.toronto.ca/city-government/accessibility-human-rights/indigenous-affairs-office/torontos-indigenous-peoples/>.

Wildlife and Hunting

Policies pertaining to wildlife or hunting have a direct influence on access to traditional/country food since the only way for an Indigenous person to access traditional/country food is to go out on the land and harvest themselves. Despite the entrenchment of harvesting rights, territorial and provincial governments may impose restrictions through policy to achieve government mandates. The following section includes the findings from the analysis which highlights the barriers which Indigenous Peoples in urban centers encounter.

Lands

The *prima facie* similarity among these policies is that what can be done by an individual looking to harvest depends on what lands they are on. In Ontario, there are over 40 different treaties that exist in the province and Indigenous hunters are entitled to only hunt on the lands which their band is a benefactor under their unique treaty right (Ministry of Indigenous Affairs, 2018). Under the Indian Act, a band is defined as “a body of Indians, for whose use and benefit in common, lands, the legal title to which is vested in Her Majesty” (Indian Act, 2017). There are only certain circumstances where an Indigenous hunter can harvest on treaty lands that are not their own in Ontario. For example, possessing a Shipman letter, which is written permission from another band’s leadership to hunt on their treaty lands within the province (Shipman, 2007). In the territories, the introduction of Comprehensive Land Claim Agreements and Self Government Agreements adds another layer of complexity to understanding what policies apply to harvesters on different lands. For an Indigenous person living in Whitehorse YT, they would be entitled to hunt on the traditional lands their band manages or the settlement lands that their land-claim or self-government-agreement encompasses (Yukon First Nations Self Government, 2019). In Yukon, there are 13 unique Land Claim and Self Government Agreements. These lands are the property of the Indigenous communities and the beneficiaries within, which gives exclusive rights to hunt on these lands, with some restrictions being imposed by the federal or provincial governments (Yukon First Nations Self Government, 2019). Similar to Ontario, to hunt on the traditional territory that is not of the hunter’s band within Yukon, they must receive written consent from the Indigenous government group managing the land (Yukon Department of Environment, 2018). In the NWT, harvesters are only entitled to harvest within their respective band’s lands (Government of Northwest Territories, 2013, 2020). There are four different settlement agreements and two reserves under the Indian Act, all of which have unique rules and restrictions for harvesting on their respective lands (Government of Northwest Territories, 2013, 2020). The identified policies involving land use for harvesting present challenges for Indigenous Peoples living in urban centers. These individuals have essentially only three options, enter the provincial or territorial lottery, to travel back to the lands where their band has treaty rights, or request for a Shipman’s letter or similar permission to hunt on other treaty right lands.

Licensing

An Indigenous harvester in Ontario must have the necessary licensing and tags to hunt moose that is not on the lands which their band is benefactor (Fish Wildlife Conservation Act, 1997). For Indigenous individuals looking to harvest on lands other than their treaty lands, they must have an Outdoors Card, a federal firearms license, a H2 hunting license, an animal tag from the lottery system and, a Shipman’s Letter (Ministry of Natural Resources and Forestry, 2021). Tags are distributed by the Ministry through an online lottery system to hunters that pay a tag fee and apply to enter a draw within a specific wildlife management unit (Ministry of Natural Resources and Forestry, 2021). In Ontario, Indigenous Peoples hunting on their band’s treaty lands do not need any form of hunting license if they stay within the treaty’s geographic boundaries (Ministry of Natural Resources and Forestry, 2021). For Indigenous hunters in Yukon, a license is required under the Wildlife Act to hunt any animal, however there are certain circumstances where an individual may hunt game without a license (Wildlife Act, 2014). For example, if a wild animal is killed out of an absolute necessity for survival under Section 85, or under Section 200 which covers the general rights that an Inuvialuk possesses to harvest wildlife in the Yukon North Slope (Wildlife Act, 2014).

When comparing Ontario to the territories, treaty lands and lands under a Comprehensive Land Claim Agreement are very similar. Comprehensive Land Claims are treaties that have been institutionalized into contemporary governance structures. For example, hunting rights can be limited by the Inuvialuit Regional Corporation imposing harvesting restrictions for a specific species for conservation purposes (Wildlife Act, 2014). In the NWT, the roles for both territorial and Indigenous wildlife governing actors are included within the Wildlife Act. When comparing to Ontario and Yukon, the NWT also has licensing requirements for certain tags depending on what lands a harvester is planning to hunt on. An Indigenous hunter does not need to hold a license to exercise their hunting rights on their band’s treaty or land claim agreements lands. However, if an Indigenous hunter would like to hunt on lands which they are not a benefactor, they can apply for a general hunting license (Wildlife Act, 2017). This type of license is subject to restrictions within the respective Comprehensive Land Claim Agreement. Within the NWT, the majority of wildlife management is managed by Renewable Resource Boards (RRB) and Local Harvesting Committees (LHC), which are both management branches under Land Claim agreements (Wildlife Act, 2017). This is an oversimplification of the relation between management boards and the territorial government in the NWT. However, since this study has an urban focus, the nuances of the relationship outside the scope of this paper.

Harvest Quota

Harvest quotas are a conservation tool used to ensure that certain species are not over harvested. These quotas are established in the context of each individual Comprehensive Land Claim Agreement in the territories and by the provincial government in Ontario. Within the Sahtú Dene and Métis Comprehensive Land Claim Agreement, the needs of the people on the land

for sustenance, the previous year's harvest of the species, and the requirements for conservation are all taken into calculation (Dene and Métis Comprehensive Land Claim Agreement, 1993). This harvest quota "shall be equal to one half of the sum of the average annual harvest by participants over the first 5 years of the study and the greatest amount taken in any one of those 5 years (Dene and Métis Comprehensive Land Claim Agreement, 1993).

In the NWT, The Wildlife Act is the over-seeing policy which details the process of allocation of harvests in the territory. First is the allocation of Indigenous subsistence usages for those with land claim or treaty rights to harvest (Wildlife Act, 2017). Second, the allocation for holders of general licenses who do not have Indigenous treaty rights and those with special harvester licenses and resident hunting licenses (Wildlife Act, 2017). Third, the remaining allocation goes to non-resident license holders and for territorial commercial purposes (Wildlife Act, 2017). In the Yukon, subsistence quotas exist with very similar guidelines as a harvest quota. An example of this can be found within the Wildlife Act, where the subsistence quotas apply only to the beneficiaries of the Inuvialuit Final Agreement (Wildlife Act, 2017). In Ontario, quotas are calculated through a comprehensive reporting system, wildlife population monitoring, and actively managing the 95 different wildlife management units in the province (Ministry of Natural Resources and Forestry, 2020a,b).

Meat Inspection and Processing

On the scale of the individual, no regulations dictate how the processing of wild game can be performed. This would be in direct violation of Section 35 of the Constitution, as traditional processing has cultural relevance to Indigenous Peoples (Constitution Acts, 1867–1892). Beyond the individual, there are two general routes that can be taken to get meat processed, a provincial/territorial abattoir or a custom-cut and wrap shop. The notable difference between these two routes can be found within the definition section of each respective territory or province. In the NWT, there is no difference between the two, as a food establishment includes a premise where food is manufactured, stored, offered for sale, and served (Public Health Act, 2007). This is a stark difference from Ontario and Yukon, which have semantically differentiated the two in legislation. In Ontario and Yukon, the provincial/territorial meat processing facilities are referred to as abattoirs, while custom-cut and wrap shops are classified either as a food premise or food serving premise if they serve meals for immediate consumption (Meat Inspection and Abattoir Regulations, 1998; Food Premises Regulations, 2017; Health Protection and Promotion Act, 2019). There is not a need to distinguish the two in the NWT, as there are no territorial licensed meat processing facilities or meat processing regulations in the territory (Judge, 2021).

In Ontario, there are two main consolidated policies that oversee meat inspection or processing. The Food Safety and Quality Act covers licensing, quality assurance, safety, and the powers of inspectors (Food Safety and Quality Act, 2001). The specific protocols and rules for meat processing can be found in the Meat Regulations. All food animals must receive an ante-mortem inspection and post-mortem inspection before being

further processed into food (Meat Regulations, 2018). In the Yukon, policies around meat processing and inspection stem from one regulation: Meat Inspection and Abattoir Regulations. Section 6 states that no person shall bring a dead animal into an abattoir unless it has been inspected by a veterinarian (Meat Inspection and Abattoir Regulations, 1998). This essentially prevents any hunted game carcasses from entering a meat processing facility, as it is impossible to conduct an ante-mortem inspection on wildlife. In addition to this, the definition of meat under the regulation explicitly states that meat is only from farm slaughtered carcasses (Meat Regulations, 2018). This renders every part of the act that refers to meat to be from food animals that are raised on a farm. However, in Yukon there are game animals that can enter these facilities. Under Section 26 subsection (2) of the Game Farm Regulations are the restrictions and guidelines for how game farm animals can legally enter a territorial abattoir (Game Farm Regulations, 1995). Game farm animals may only be slaughtered at a game farm, a territorial licensed abattoir, or a federally licensed abattoir (Game Farm Regulations, 1995). However, the process of accessing game farm animals like elk or bison raised do not have the same cultural significance as going onto the land to hunt for wild animals, as being on the land is an opportunity to facilitate their well-being (Halseth, 2015).

In Ontario, the only exception that allows hunted game animals into a provincial facility is if the operator has an established hunted game carcass protocol (Meat Regulations, 2018). An operator must apply for approval under Section 48.48 of the regulation to have a hunting game carcass protocol (Meat Regulations, 2018). The restrictions for this protocol are stringent, as a facility must ensure that the utensils, equipment, and premises are not contaminated by any processed hunted game carcasses (Meat Regulations, 2018). This ultimately results in two possible approaches for meat processing facilities. The first is that the facility processes hunted game carcasses after all the scheduled farmed meat carcass have been processed. The facility would have to be sanitized twice, once to ensure that the farm carcasses do not contaminate the hunted game carcass, then once again to prepare for the next day of farm animal carcasses (Meat Regulations, 2018). The second option is having a separate section of the facility with separate utensils, equipment, and frozen storage areas. Both options are costly, as the first option entails deviation from the main revenue-generating animals and the second involves building an entirely different facility. Due to the reality that finding a game animal while hunting is not guaranteed, hunting is seasonal, and the quantity of hunted carcass is often in single digits, establishing a hunted game protocol is not worth the investment for these provincial or territorial facilities.

At this current point in time in the NWT, there are no territorial meat processing facilities nor is there any meat processing legislation. The Meat Inspection and Processing Act was repealed in 2009, as it was deemed to be obsolete as no territorial meat processing facilities exist in the territory. In an interview with a GNWT employee, we learned that the territory was planning on building the new meat regulations from the food class licensing system in British Columbia (Judge, 2021).

Specifically, the NWT is interested in the Class D licensing system, where small facilities can receive uninspected meat to be sold at local farm gate and food establishments (Judge, 2021; Ministry of Agriculture Food and Fisheries). At this point in time, there was no plan for the NWT to allow the sale of wild game meat within this system.

Food Establishments

For food establishments, jurisdiction over selling or serving traditional/country food is similar to hunting on lands in the sense it depends what type of establishment you are purchasing from. In Ontario's Food Premises Regulations, there is a difference between an establishment that sells food and an establishment that prepares food for immediate consumption (Food Premises Regulations, 2017). The former is in reference to a butcher shop that would custom cut, wrap and freeze wild game meat for an individual, while the latter is a restaurant or similar style business (Food Premises Regulations, 2017). The regulations in Ontario explicitly state that wild game meat cannot be for sale, as all wrapped cuts must have a label with "Consumer Owned, Not for Sale" clearly visible. (Food Premises Regulations, 2017). The specific guidelines to process wild game at a butcher shop are included within the Food Premise Regulations, while the Yukon has its guidelines are within a one-page document that can be found on the Ministry of Health and Social Services website (Yukon Department of Health and Social Services, 2014). For a butcher shop in Yukon to process wild game meat, it must follow these guidelines: have an established sanitation procedure, only allow wholesome meat to be processed, keep uninspected meat clearly identified and kept separate from inspected meat, and have dedicated work hours to process uninspected meat (Yukon Department of Health and Social Services, 2014).

This is very similar to Ontario, as under the Food Premises Regulations, the following is required to admit wild game, or uninspected meat into an establishment: if the owner has received approval from the ministry, has a protocol to ensure the uninspected meat will not come into contact with inspected product, that each quarter or large section of meat has its own tag, the tag reads "Consumer Owned, Not for Sale," that the meat is not kept in areas where product is sold, and the meat is not offered for sale (Food Premises Regulations, 2017). An interesting discrepancy is that this one-page document does not have any reference to any of the licensing required to process wild game in Yukon. This is interesting, as Section 76 of the Wildlife Regulations states that no individual or business shall engage in the process of cutting or storing meat unless they are the holder of a wildlife meat processing license, which is issued by the Minister (Wildlife Regulations, 2012). As mentioned previously, there is only one type of food establishment in the NWT, however there are no specific details on guidelines for a custom-cut and wrap establishments to process wild game meat. Jurisdiction on this matter would fall under the repealed meat regulations in the territory.

Commercial Sale of Wild Game Meat

Between the three jurisdictions, there is a shared narrative on the restriction of sale of wildlife or paying an individual

to hunt for wild game. In the definition section of the Fish and Wildlife Conservation Act in Ontario, "buy or sell" is defined to include trading, bartering, buying or selling (Fish Wildlife Conservation Act, 1997). This is similar to the CFIA's definition under the SFCA "includes agree to sell, offer for sale, expose for sale or have in possession for sale—or distribute to one or more persons whether or not the distribution is made for consideration" (CFIA, 2019a). In addition, a sale is considered to have taken place whether money (or other compensation) is exchanged (CFIA, 2019a). Under Section 48 (1) of the Fish and Wildlife Conservation Act, an individual is not permitted to buy or sell wildlife, unless the individual themselves, or the person who is selling, has the appropriate license or authority from the Minister (Fish Wildlife Conservation Act, 1997). There are several different types of licenses that allow an individual to commercially sell wild game meat, such as a trapping license, a farming license, or a commercial permit assigned by the Minister (Fish Wildlife Conservation Act, 1997; Trapping Regulations, 1997). The restrictions on selling wild food are covered between two Ontario Regulations: Possession and Buying and Selling of Wildlife and Hunting Regulations, where there are two different scenarios where wild food can be sold. The first is under Section 20 of Possession, Buying and Selling of Wildlife, where an individual who purchases wild game meat from a licensed seller can only offer it for consumption to the buyer themselves and their immediate family (Possession, Buying and Selling of Wildlife, 1997). In addition, the seller must provide written notice that the wild game meat for sale has not been inspected by an inspector under the Food Safety and Quality Act (Possession, Buying and Selling of Wildlife, 1997). The second scenario is covered under Section 135.1 of the Hunting Regulations is covered in more detail in the following section.

In order for a piece of meat to be sold in the Yukon, it must undergo inspection, as outlined in the Meat Inspection and Abattoir Regulations. Specifically, under Section 7, no person shall sell meat to any person unless it was slaughtered in a licensed abattoir, there was a post-mortem inspection, and it received a stamp of approval from an inspector (Meat Inspection and Abattoir Regulations, 1998). There is an exemption to these restrictions with game farm animals, as a game farm owner with a permit from the Minister can sell game meat through a direct sale to the consumer at their farm (Game Farm Regulations, 1995). In the NWT, the consolidated acts and regulations that establish the restrictions on selling or serving food are the Wildlife Act, Sale of Wildlife Regulations and Food Establishment Safety Regulations and Wildlife General Regulations. Under Section 75 of the Wildlife Act, no person shall engage in commercial harvests or sell the meat of wildlife unless they hold a commercial license (Wildlife Act, 2017). The criteria for obtaining a commercial license, or commercial tag, is covered under Section 2 of the Sale of Wildlife Regulations. It states that LHC can authorize the holder of a license to only sell the meat of barren-ground caribou, muskox, and polar bear if the harvest quota for the region has not been met (Sale of Wildlife Regulations, 2019).

Community Events

Despite harvesting being the main activity to access traditional/country food, sharing traditional/country food through kinship relations is a significant source of access for Indigenous Peoples. In Ontario, there are two different policies that permit wildlife to be sold and served on a menu, The Hunting Regulations and the Food Premise Regulations. Under Section 135.1 of the Hunting Regulations a person is exempt from the restrictions on selling wildlife covered in the Fish and Wildlife Conservation Act if all the following conditions are met: the meat is lawfully obtained under the act, the game or fish has been donated to a charitable event where all proceeds are toward the charitable purpose, written notice is given to local health units at least 5 days in advance of the event, that the record of who attended the event, the expenditures and revenue, and how the profits were used for profit are kept for 1 year after the event (Fish Wildlife Conservation Act, 1997; Hunting Regulations, 1997). The two policies are almost identical, but a notable addition within the Food Premise Regulations is the required signage that must be placed in high traffic areas as well as written notice explaining that the meat has not been inspected under the Ontario Meat regulations (Food Premises Regulations, 2017). The guidelines for serving wild game are also further expanded by the wild game serving protocols established by each local public health unit (Government of Ontario, 2019). The Yukon is very similar to Ontario when it comes to strenuous guidelines that must be followed to serve wild game meat at a community event. The Yukon Environmental Health Services offers a form on their website that includes the criteria for an event to be able to sell wild game and the form to apply to do so (Yukon Environmental Health Services, 2014). Within this form, there are two scenarios to which wild game can be served.

The first is an event where wild game meat is being sold for profit. In this scenario, the event planners must obtain a wildlife permit to sell wild game meat and a permit to operate a temporary food premise, must be a registered society or charity, and the wild game meat must be donated to event (Yukon Environmental Health Services, 2014). The details for the wildlife permit to sell game are listed under Section 5 of the Wildlife Regulations (Wildlife Regulations, 2012). The Minister may issue a permit to serve wild food for remuneration if: the permit is given to a non-for profit or charitable organization, the food is served in conjunction with other meals, and the hunted game was harvested legally under the Wildlife Act (Wildlife Regulations, 2012). The second type of event that serves wild game meat sold not for a profit, which the guidelines under this type of event are not as strict as the previous. An event operator must only ensure that written permission is received from conservation officer services, the wild game meat is donated, and that a permit to operate a temporary food premise is obtained (Yukon Environmental Health Services, 2014). In comparison to Ontario and Yukon, the NWT has very little guidance on serving or sharing wild game meat. Under Section 30 of the Food Establishment and Safety Regulations, a food establishment operator is allowed to serve uninspected wild game within their establishment, as long as it is obtained legally through an individual or organization with a commercial

tag (Food Establishment Safety Regulations, 2018). However, individuals or organizations do need to apply for a food establishment permit if food will be sold in a setting without an existing permit. There are two types of food establishment permits under the Food Establishment and Safety regulations, for profit permits and non-for-profit permits. For profit food permits have a sliding scale cost depending on the length of permit, while all non-for-profit permits are free (Food Establishment Safety Regulations, 2018). In addition, no permit is required by the Department of Health and Social Services as if the event is a traditional community feast (Food Establishment Safety Regulations, 2018).

While the sale of wildlife in the NWT is limited to only commercial tags or establishments that buy from hunters with commercial tags, there is nothing that prevents Indigenous Peoples from sharing their traditional/country food (Food Establishment Safety Regulations, 2018). However, here are still policies that apply to the sharing of wild food in an urban center. For example, under Section 13 of the Wildlife General Regulations, if a gift of more than 5 kg of lawfully harvested game meat is to be given, it must have the following information with it: name of harvester, license number or name of Indigenous organization to which the person is donating, the date of the transaction, the species, and the exact weight of meat (Wildlife General Regulations, 2017).

DISCUSSION

In discussing these findings, we look to incorporate case study examples from other countries and populations that have similar colonial histories that have impacted policy for Indigenous populations. However, within Canadian and international literature, there is a knowledge gap on the policy barriers which impact Indigenous Peoples access to traditional/country food in urban centers. The minimal literature available in this area of research pertains to Indigenous Peoples in remote and rural areas across the globe. Nonetheless, this literature was included to situate the results of this paper into the broader international context of Indigenous Peoples and the impacts policy has on accessing traditionally consumed foods. Furthermore, the countries included in this discussion are all supporters of the United Nations Declaration on the Rights of Indigenous Peoples (United Nations, 2007).

Wildlife and Hunting Lands

The results of this analysis show the significance that geographical boundaries of land established within policy can have when accessing traditional/country food. Within the literature, there appears to be no studies on the experience of other international Indigenous populations in urban settings. Most of the literature has focused on remote geographies. For example, in Cameroon the state owns the forests and is the institution responsible for enforcing the 1994 Forest Law, the piece of legislation which establishes the rules for hunting (Pemunta, 2019b). Traditional hunting is prohibited in protected areas, national parks, reserves, hunting areas

and wildlife sanctuaries. In Mexico, hunting and land use for the Chinantla Peoples of Santiago Tlapeusco is managed by the National Forestry Commission of Mexico. The Chinantla Peoples of Santiago Tlapeusco have submitted two payments for hydrological environmental services areas as 47% of the community resides in the third largest tropical humid forest in the country (Ibarra et al., 2011). This resulted in an agreement with the community which entails restrictions on what activities can be practiced by community members in order to receive their annual payment (Ibarra et al., 2011). For the Sami in Norway, pastoral lands are co-managed by local district boards comprised of elected municipal and Sami representatives (Risvoll et al., 2014). In Norway, access to traditionally consumed food is more a matter of agriculture than wildlife. Reindeer husbandry is a significant economic and subsistence activity for Sami pastoralists. Within the Reindeer Husbandry Act, local district boards are responsible for establishing work plans to manage the reindeer populations of pastoralists within each board (Melkevik, 2002; Ulvevadet and Hausner, 2011). What is significant between the international cases and the result of this study is where an individual resides geographically has policy implications. However, the degree to which these place-based implications effect traditional/country food access for Indigenous Peoples in urban geographies was only apparent in the results of this analysis.

Animal Protection and Conservation

We can learn from international examples of how wildlife as food is governed. In Cameroon, the law has divided animals into three different categories, which allows the Indigenous Pygmy Peoples to only hunt animals under the third class, as the other two classes are protected for conservation (Pemunta, 2019b). This classification scheme has a direct impact on the ritual practices of the Pygmy Peoples. Hunting an elephant is part of a rite of passage ceremony. However, partaking in this ceremony is considered poaching which is illegal and has safety risks due to armed forest protection forces (Pemunta, 2019b). In Mexico, the Chinantla Peoples face a similar reality, where the establishment of PEH-S areas created restricted activities, such as hunting or agriculture. In Norway, the resurgence of predators has resulted in contemporary predator conservation measures which is negatively impacting Sami reindeer husbandry practices (Risvoll et al., 2016). The protection of animals from hunting through policy is also seen in Canada, with the establishment of Endangered Species Acts at the national and territorial/provincial level. Furthermore, there are instances of harvesting restriction policies for significant traditional/country foods like caribou being implemented at the community level for some remote communities (Spring, 2018; Judge, 2021).

The harvest quotas identified in results are another policy tool used in Canada to manage wildlife populations. For Norway, harvest quotas are used as a pasture conservation policy tool, where mandatory slaughters regulate reindeer populations to maintain seasonal pastures (Ulvevadet and Hausner, 2011). It is an interesting nuance that harvest quotas exist as a conservation policy tool in both Norway and Canada. However, the former pertains to managing overpopulation while the latter

refers to managing over harvesting. These complex calculations that are supposed to ensure a sustainable number of animals can be harvested, while also accounting for the sustenance needs of Indigenous Peoples, do not account for the extrinsic, environmental, and economic factors that arguably have a greater impact on animal population health. For example, Parlee et al. found that subsistence harvesting has a minimal impact on caribou populations relative to the impacts of natural resource exploration (and exploitation) (Parlee et al., 2018). Logging and other resources development projects in Cameroon in tandem with animal conservation policies have left Indigenous Pygmy Peoples with only a small number of animal species to harvest, often not enough to meet their sustenance needs (Pemunta, 2019a). It is apparent that across the world, Indigenous Peoples and their ability to engage with the land and its resources are being controlled and manipulated by conservation policy.

Meat Inspection and Processing

Within the international literature we have brought into this discussion, there was no mention of meat inspection and processing policies. For this reason, this section will situate the results from the three jurisdictions in a broader Canadian context. Prior to the establishment of the Safe Food for Canadians Act and Regulations (SFCR, 2019), federal operators had the flexibility to prepare game meat under the existing meat inspection regulations (CFIA, 2015). The meat processing regulations mainly focused on meat from farms rather than wild game, with all the additional protocols required to process the latter in a government facility (CFIA, 2015). The Canadian Food Inspection Agency on their website cite that the new food safety regulations will encourage the industry to innovate and increase food export capacity (CFIA, 2019b). This intended design for the food system can also be seen in British Columbia, with the introduction of provincial meat inspection regulations greatly impacted small-scale farmers (Miewald et al., 2015). The new meat regulations were designed for more centralized facilities with a more industrialist and export-oriented approach to food processing (Miewald et al., 2015).

This approach to meat processing creates challenges for small scale and local processing initiatives, as these requirements require upfront capital investments which was also identified in the results of this analysis. The impacts of these policies are a loss of coherence between local food producers and the local community, which are expected results of a meat processing system rooted in neo-liberal agricultural values (Desmarais and Wittman, 2014; Miewald et al., 2015). A study within Alaska by Jenkins (2015) regarding traditional fishing economies echoes these sentiments. Neo-liberal policies on wildlife ignore the cultural significance of sharing food and the benefits to kin in their immediate and extended communities (Jenkins, 2015).

For Indigenous Peoples, food sovereignty is rooted in the disengagement from colonial food practices to reintroduce cultural traditions pertaining to food (Grey and Patel, 2015; Martens et al., 2016). Restrictions from meat progressing regulations as well as repealed policies for wild game meat identified in the three jurisdictions of this paper indicate there is still work to be done. The right to engage in

cultural practices was established in several of the articles established in the United Nations Declaration on the Rights of Indigenous Peoples (United Nations, 2007). With the close relation between food and Indigenous culture and spirituality, the Canadian governments needs to focus on empowering Indigenous communities to work toward establishing and managing their own food systems.

Food Establishments

Reindeer have historically played a similar role to wild game (and moose and caribou in particular) in North America, where it has been used for clothing, food, and tools for Indigenous Peoples. This changed when policies were used to limit the number of reindeer pastoralists to conserve pastures and to increase reindeer meat profits (Bostedt et al., 2003; Ulvevadet and Hausner, 2011). This resulted in a shift that has made reindeers an important economic resource for Sami (Indigenous population in the circumpolar Scandinavian and Russian north) pastoralists and their families. In Cameroon, wild food can be sold if the harvester has obtained permission or a hunting license from the administration and has paid taxes (Pemunta, 2019b).

Country food markets have been a successful initiative to increase traditional/country food access in Greenland (Loukes et al., 2021). In Canada, there are also instances where country food markets have been briefly piloted. The sale of traditional food is not only affected by policy, there are also cultural norms for certain Indigenous groups across Canada that encourage sharing traditional/country food over selling it (McMillan and Parlee, 2013; Loukes et al., 2021). Within Canada, sharing traditional/country food is seen as a mediator for food insecurity (McMillan and Parlee, 2013; Spring, 2018). However, lack of access to the resources required to harvest due to poverty and other socioeconomic causes creates limits to sharing capacity (Ready, 2018). In the literature, the language of “stingy” has been associated with those who sell (or store) traditional food over sharing it (Martens et al., 2016; Searles, 2016; Judge, 2021). Within the policy barriers identified in this analysis, along with the nuances identified within the literature (Loukes et al., 2021), the complexities of selling and sharing traditional foods needs to be investigated further.

Barriers Beyond the Scope of Policy

Indigenous communities, especially those in the remote north often operate within a mixed economy, which is characterized by a blend of traditional activities like hunting and fishing, cash generating activities such as job contracts, and income from social transfers (Abele, 2009). This mixed economy is often complemented by kin networks, where one member will work for a wage, to provide the upfront capital required for other kin members to engage in traditional activities (Abele, 2009). For example, the cost of gasoline, ammunition, snow machine repairs, and guns are all costs have to be taken into consideration before engaging in traditional activities like hunting or fishing (Pal et al., 2013;

Leibovitch Randazzo and Robidoux, 2018). This means that an Indigenous harvester needs to have a certain threshold of income in order to engage in traditional activities to access traditional/country foods. Without this upfront capital, harvesters are limited in the amount of traditional food that can be accessed, directing these families to rely on market foods. Furthermore, the pressure to participate in the market economy in order to sustain participation in traditional harvesting activities paradoxically results less time to engage in harvesting activities (Wilson et al., 2020).

The findings of this paper illustrate that there are policies in multiple jurisdictions across Canada that impact Indigenous Peoples access to traditional/country foods in urban centers. Not only do policies exist that have jurisdiction on how wild game can be accessed, but where it can be processed, where it can be sold, and how it can be shared. In addition, the findings from this paper contrasted with the international case studies identified in the discussion highlight that Indigenous Peoples globally, despite their international recognition to self-determine, are still being controlled by governments through policy.

CONCLUSION

The purpose of this paper was to identify barriers within policy for Indigenous Peoples to access their traditional food within an urban center. Barriers were identified in all three provinces/territories, Ontario, Yukon and the NWT, included in the analysis. In this paper, we began to unravel the complex web of government jurisdictions on traditional/country foods, such as hunting, processing, selling, and serving across Canada. Within our analysis, policies fell under three themes, which closely align with the different mechanisms to acquire traditional/country food: hunting, sharing, or selling. We found sections within policies pertaining to hunting and wildlife, meat processing, and food establishments that would result in barriers for Indigenous harvesters trying to access traditional/country food in each of the jurisdiction profiles within this analysis.

Due to the scope of this paper, we were limited in understanding all of the contextual factors specific to Indigenous communities that impact their food access, such as access in remote settings and access to other traditional/country foods such as fish. The results of this paper highlight the need for a more comprehensive analysis of the policies involved with access, processing, and serving traditional/country foods. It is a reality that Canada has many actions to take as it still moves toward reconciliation. As a nation, we must continue to hold the Canadian government accountable, and for provincial/territorial policy makers, for ensuring that action is taken and that the Truth and Reconciliation Calls to Action are implemented and enacted.

AUTHOR CONTRIBUTIONS

CJ and KS: conceptualization and writing—original draft preparation. CJ: methodology, formal analysis, and investigation. CJ, KS, and AS: writing—review and editing. KS and AS: supervision. KS: project administration and funding acquisition. All authors have read and agreed to the published version of the manuscript.

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COVID-19 School Re-opening Plans: Rolling Back School Food Programming in Canada?

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At the beginning of 2020 national school food programs reached more children than any time in history making school food programs the most extensive form of social safety nets in the world. Looking to Canada, school food programs across the country serve more than 1 million students and provide multifaceted benefits including access to healthy fresh food choices, improving learning capacities, promoting nutritional awareness, assisting food-insecure households, and promoting local food procurement. However, since the beginning of the SARS-Cov 2 (COVID-19) pandemic these programs have faced operational challenges resulting in many rolling back their operations while food insecurity rates in Canada have increased dramatically. Framed as a Canadian case study analysis, this paper considers the discursive effects of provincial and territorial school reopening plans and the material consequences felt by SFPs. Specifically, this paper considers the reach, effectiveness, adoption, implementation, and maintenance of provincial and territorial school food programs within the broader conceptualization of ecological public health to consider if these programs were enabled or constrained by school reopening plans. The authors conducted a policy analysis of 57 primary and 164 supportive school reopening documents developed between April 2020 and September 2021. It was found that provincial and territorial school reopening plans primarily focused on measures to limit infectious disease transmission while food discussed in broad terms demonstrated policy makers' limited awareness of the important role of school food programs and support required to maintain them. In turn, two key observations were made: 1) government school reopening plans have overlooked the benefits of school food programs in Canada, and 2) school reopening plan designers missed opportunities to improve school food programs. This paper argues a thorough understanding of the impacts to school food programs by provincial and territorial COVID-19 public health guidelines is needed for politicians, policymakers, and school food practitioners to support the short- and long-term capacity of these programs and to ensure food insecurity and nutritional health issues in Canada continue to be on the political agenda.

Keywords: schools, coronavirus, student health, food security, school food program, mandates, implementation, monitoring

INTRODUCTION

Pre-pandemic, “690 million people... were already undernourished, 135 million in 55 countries were food insecure or worse, and 2 billion people did not have regular access to safe nutrition and sufficient food” (FAO et al., 2020; Food Security Information Network, 2020; Borkowski et al., 2021, p. 6). In response, countries that have adopted school food programs (SFPs) see these programs as providing some level of mitigation (short- and long-term results varying) in response to rising food insecurity rates (Roustit et al., 2010; Heflin et al., 2015; Bauer et al., 2021) in addition to a host of other benefits including: increased student access to and consumption of healthy foods, reduced risk of chronic diseases, enhanced school attendance (Bundy et al., 2012), improved behavior and cognitive mental well-being (Hoyland et al., 2009), improved food literacy and food skills, and strengthened local food systems (Powell and Wittman, 2018). At the beginning of 2020, SFPs reached more children than any time in history making SFPs the most extensive form of social safety nets in the world (World Food Programme, 2020). However, by the end of 2020 the World Food Programme (2020) predicted that in the wake of the coronavirus SARS-CoV 2 (COVID-19) 121 million more people faced acute food insecurity.¹

Despite the many benefits of national SFPs experienced elsewhere, Canada remains one of the only member organizations of the Organization for Economic Cooperation and Development (OECD) and of the G7 countries without a national school food program². Historically, SFPs in Canada have been relatively informal, largely run by volunteers with significant portions of community-raised funds. Prior to the pandemic, a minimum of 1,018,323 JK-12 Canadian students³ participated in free breakfast, snack and to a lesser degree lunch programs. These SFPs have multifaceted, but varying mandates (Ruetz and McKenna, 2021), with benefits including access to healthy fresh food choices, improving learning capacities, promoting nutritional awareness, assisting food-insecure households, and promoting local food procurement (Oostindjer et al., 2017). Together, provincial and territorial governments contributed over \$93 million to partially fund a minimum of 6,408 programs in 5,371 or at least 35%⁴ elementary and secondary schools (Ruetz and McKenna, 2021). The majority of provinces and territories partner with one or more non-governmental organizations (NGOs) and rely heavily on NGO staff and volunteers to operate. SFPs are distinct from school board-controlled cafeteria services which are not connected to or funded by provincial and territorial governments.

While provincial and territorial SFP implementation guidelines exist, in practice, the structure, function, and operation of individual SFPs vary. In turn, prior to the pandemic, SFPs were not provided the necessary support to meet the program demand and address underlying program tensions (Russell et al., 2008; Winson, 2008; de Wit, 2012; Ismail et al., 2021; Ruetz and McKenna, 2021). Specifically, Canada’s patchwork nature of SFPs precludes universal access resulting in SFPs often being framed as short-term solutions for the food insecure. Further, nutritional guidelines and “healthy food” have not been prioritized across all Canadian SFPs—a reflection of outdated evidence and practices. In 2019, however, the federal government announced its intention to “work with provinces and territories toward the creation of a National School Food Program” within the country’s first national Food Policy (Government of Canada, 2019), presenting an opportunity to expansion and formalization.

Framed as a Canadian case study analysis, this paper considers the discursive effects of provincial and territorial school reopening plans (i.e., government documents guiding the reopening and operation of schools) and the material consequences felt by SFPs. Specifically, the authors asked: to what extent were SFPs’ multi-faceted mandates enabled or constrained by provincial and territorial school reopening plans between April 1, 2020, and September 30, 2021, and what might be the repercussions? The authors conducted a policy analysis of 57 primary and 164 supportive school reopening documents developed between April 2020 and September 2021 and evaluated the reach, effectiveness, adoption, implementation, and maintenance of SFPs within the broader conceptualization of ecological public health. It was found that provincial and territorial school reopening plans primarily focused on measures to limit infectious disease transmission while food discussed in broad terms demonstrated policy makers’ limited awareness of the important role(s) of SFPs and how the plans inadvertently constrained SFP’s ability to achieve a range of positive outcomes. In turn, two key observations stand out: (1) school reopening plans overlooked the health-related benefits of school food programs in Canada, and (2) school reopening plan designers missed opportunities to improve school food programs. This paper argues a thorough understanding of the impacts to SFPs by provincial and territorial COVID-19 public health guidelines is needed for politicians, policymakers, and school food practitioners to support the short- and long-term capacity of these programs and to ensure food insecurity and nutritional health issues in Canada continue to be on the political agenda.

This paper is organized into five sections. First, a literature review contextualizes the modern tensions that constrain the contours of SFPs in Canada. Second, we introduce the RE-AIM framework (Glasgow et al., 1999; Glasgow and Estabrooks, 2018) within the broader conceptualization of ecological public health situating our research on SFPs in Canada. Third, we present our findings: how food in schools has been impacted by COVID-19 health and safety protocols. Fourth, we critically examine the effects these protocols have on the various objectives of SFPs in Canada as demonstrated within provincial and territorial school reopening plans. Finally, we conclude with recommendations.

¹Food insecurity is understood as “the inadequate or insecure access to food because of financial constraints” (Tarasuk and Mitchell, 2020: p.3).

²The growing health promotion mandate of SFPs is supported by calls from the Coalition for Healthy School Food, a group of over 145 school food organizations, advocating for a universal, health-based National School Food Program in Canada (Coalition for Healthy School Food, 2018).

³A conservative figure as student participation data was unavailable from Saskatchewan, British Columbia, Northwest Territories and was only partial data from Québec and Ontario.

⁴A conservative figure as schools participation data was unavailable from BC and only partial data was from Saskatchewan.

CONTEXT AND LITERATURE REVIEW

COVID-19 in Canada

The World Health Organization declared the COVID-19 outbreak a public health emergency of international concern on January 30, 2020, and a pandemic on March 11, 2020 (Canadian Institute for Health Information, 2021a). During 2020 and 2021 COVID-19 vaccinations were anticipated to help curb severe illness and death caused by the COVID-19 virus, as well as the impacts the pandemic placed on Canadian health care systems (Science et al., 2021). Prior to and during vaccination roll out, the Canadian government focused on surface sanitization, physical-distancing recommendations, capacity restrictions, and mask mandates to reduce transmission (Canadian Institute for Health Information, 2021b). In the spring and summer of 2020, the Government of Canada published the *Government of Canada's List of Hard Surface Disinfectants and Sanitizers* (Health Canada, 2020b) and *List of Hand Sanitizers* (Health Canada, 2020a) and by September 2020 all provinces and territories adopted these guidelines into their regional reopening plans. Regarding physical distancing, Canada followed the World Health Organization's (2020, 2021) guidance that "people standing <1 m away from an infected person were much more likely to catch the virus than those standing more than 1 m away." Taking further precaution, Canada instilled physical recommendations of 2-m in all public and private spaces. Compared to the World Health Organization (2020, 2021) and other countries' requirements like Italy and Germany (1.5 m) and the United States (1.8 m), Canada's physical distancing recommendation was the largest (D'Amore, 2020). Provinces and territories followed suit adopting 2-metre physical distancing requirements in all public spaces (e.g., schools, government buildings, public transit) and private entities (e.g., grocery stores, restaurants, factories).

Capacity restrictions for public and private spaces varied between jurisdictions and fluctuated between 50% and higher depending on active cases and vaccination rates (Pass-Lang, 2021). Mask mandates were not consistently adopted across provinces and territories. Early in the pandemic the Government of Canada did not take a clear stance on mask use arguing not enough data was available at the time (Canadian Press, 2021); however, by June 2020, (Public Health Agency of Canada, 2021) recommended the wearing of either medical or non-medical masks to slow the spread of COVID-19 based on evidence that masks reduce the spread of respiratory droplets (Chung, 2020). Some provinces and territories, such as Ontario, quickly adopted mask mandates and kept them in place throughout the pandemic while others, such as Saskatchewan, fluctuated between implementing and rolling back mask mandates over time and in response to rising/declining case numbers (Chung, 2020).

Additionally, early in the pandemic, it was unclear if people could contract the virus from food and food packaging. Following the lead of the World Health Organization (2020), the Government of Canada (2021a) acknowledged that it was highly unlikely for COVID-19 to be contracted from food or food packaging because, as a respiratory illness, the primary transmission was through person-to-person contact and direct

contact with respiratory droplets generated when an infected person coughed or sneezed; the virus required an animal or human host to multiply. In turn, the Government of Canada (2021a) took the stance that continuing to follow safe food handling and cooking practices was important for lowering the risk of infection and killing the virus that caused COVID-19 during the pandemic. This included: washing hands with soap and warm water for 20 s before and after handling food and food packaging or sanitizing hands with a federally approved hand sanitizer when water was not available, using common cleaning and disinfecting methods of food preparation and serving surfaces, washing fruits and vegetables with running water, cooking food to the recommended safe internal temperatures, and avoiding and cross-contamination with raw food or contaminated surfaces (Government of Canada, 2021a,b).⁵

Collectively, safe food handling measures were incorporated alongside sanitization, physical-distancing, capacity restrictions, and mask mandates in provincial and territorial school reopening plans to help curb the spread of the virus among children and young adults who were unable to be vaccinated as the country reopened following lock downs and the lifting of restrictions.

The Development of School Reopening Plans in Canada

In March 2020 provinces and territories closed schools. Initially the intent was an extended spring break; however, virtual at-home learning was instilled for the remainder of the school year (March–June 2020) with the aim of returning to in-class learning in September 2020.⁶ In June and July 2020 most provinces and territories released their school reopening plans. School reopening plans in Canada are documents generated by the provincial and territorial governments to guide the reopening process and operation of schools in their jurisdiction under COVID-19 restrictions. Each provincial and territorial reopening framework is available through a central document or provided across a slew of information outlets that are open access for the public, health professionals, and other governments to consider. Most provinces and territories developed these guiding documents within a broader framework for re-opening their communities and economy following the March 2020 nationwide lockdown.

Summer 2020 saw protests from parents and school staff across provinces and territories seeking more detailed guidance for a safe return. In response, some provinces revised and updated their plans while others did not. Provinces and territories also requested and were pledged \$2 billion in financial assistance from the federal government. By late September 2020 most schools across Canada had reopened. By November

⁵For further description and explanation of these practices see the Government of Canada's (2021c) General Food Safety Tips.

⁶Notably, Quebec reopened elementary schools on May 11, 2020 (Montreal area delayed until May 25, 2020) situating the return of students as optional for families. However, high school and junior college students did not have the option to return until the fall (MacLeod, 2020). Many observed this move as risking youth's health and safety for parents to return to work and restimulate the economy (Monpetit and Loewen, 2020).

2020, however, the second wave⁷ of COVID-19 cases rose quickly across the country. Interestingly, political decision-makers focused on keeping schools open, and extended the winter break into mid-January for most provinces and territories. The third⁸ wave in Spring 2021 saw another sharp increase in cases. However, school closures were inconsistent across the country resulting in some reopening plans being further revised while others were not. Collectively, between April 2020 and September 2021 reopening plans predominantly focused on disease prevention health but did not provide clear direction for existing program operations, particularly SFPs. The rationale points to unaddressed tensions (McSheffrey, 2020).

Unaddressed Tensions: The Fork in the Road for Canadian SFPs

The patchwork of SFPs that exist in Canada are perceived, among other things, to curb food insecurity, and from this perspective, SFPs are viewed as essential programs (Bhattacharya et al., 2006; Public Health Agency of Canada, 2008; Coalition for Healthy School Food, 2020). Food insecurity in Canada is a serious problem linked to poor physical and mental health, premature death, and general material deprivation and particularly affects households with low incomes, lone-parent families, households who rent their housing, and those who identify as Indigenous or Black (Tarasuk and Mitchell, 2020). During the first wave⁹ of the pandemic, Canadian households with children were more likely to be food insecure than those without children, and households with unemployed persons were three times as likely to be food insecure than those with no employment status change (Statistics Canada, 2020). This period of the crisis resulted in federal, provincial, and territorial governments responding with the rapid funding of community food programs focused on emergency food, including alternatives to in-person SFPs. Canada's patchwork nature of SFPs precludes universal access and prior to the pandemic, SFPs were not provided the necessary support to meet the program demand and address underlying program tensions (Russell et al., 2008; Winson, 2008; de Wit, 2012; Ismail et al., 2021; Ruetz and McKenna, 2021). In 2020, Debbie Field of the Coalition for Healthy School Food explained the underlying tensions for both individual SFPs and a federally funded and mandated SFP were threefold.

First, "healthy food" is not prioritized across Canadian provinces and territories because nutrition guidelines are inconsistently written and applied to reflect outdated evidence and practices. Hernandez et al. (2018) note that New Brunswick

and British Columbia were the first provinces to introduce mandated standards for food served in schools (McKenna, 2003; Government of British Columbia, 2005), later followed by Nova Scotia in 2006 (Government of Nova Scotia, 2006), and Ontario in 2010 (Government of Ontario, 2010). Although it has been found that mandated health and nutrition standards have improved students' dietary intake (i.e., Ontario: Gates et al., 2011; Alberta: Fung et al., 2012; Nova Scotia: Fung et al., 2013; Manitoba: Child Nutrition Council of Manitoba, 2017), the breadth and depth of data is lacking. For instance, Everitt et al. (2020), note there are few research articles representing comprehensive data on SFPs. Further, the majority of provincial and territorial SFP nutritional guidelines are outdated because they do not reflect the 2019 Canada Food Guide (Health Canada, 2019b) or Canada's Dietary Guidelines (Health Canada, 2019a). Although some provinces and intra-provincial regional officials have proactively incorporated healthy eating updates since 2007, including acknowledgement of distinct cultural and traditional dietary requirements most provincial and territorial guidelines continue to reinforce outdated practices based on evidence informing the 2007 Canada Food Guide.

Second, the divisions between federal and provincial jurisdiction underpin inaction. Canada is a federation that includes a national government, ten provinces, and three territories.¹⁰ Under the Constitution Act, 1982, Canada (2021) the provinces have the exclusive authority to govern in certain areas, such as health, natural resources, and education, while the federal government has authority over other areas, for example, commerce and defense. These two levels of government also share jurisdiction in certain domains, such as agriculture. However, since 1867, courts have added complexity to questions of jurisdiction related to many areas of food system governance, simultaneously broadening provincial power and federal power (e.g., international trade) ultimately leading to jurisdictional confusion and impasse (Berger Richardson and Lambek, 2018; Andr  e et al., 2019, 2021). In turn, departments within each of the various levels of government have developed their own distinct laws, policies, and regulations governing different aspects of Canada's food system(s). The result is a patchwork of food-related law and policy that lacks coherence or a common vision of a healthy, just, and sustainable food system. Collectively, this history makes it challenging for policymakers to collaborate, develop, and implement food policy and programs, such as a federally funded and mandated SFP, that could attend to multiple long-standing issues (e.g., food insecurity, health and nutrition, local food system development) across Canada.

Third, robust SFPs are assumed expensive resulting in school administrators and government policymakers reluctant to develop school meal and education programs where they are not compensated for (Oostindjer et al., 2017). Individual schools and school boards are provided limited budgets by provinces and territories; in turn, improving kitchen facilities, managing unfavorable bids from healthy food suppliers, meeting the requirement of extra staff, integrating teaching in the classroom

⁷The second wave (Beta Variant) began July 18, 2020, reaching its peak on January 10, 2021, with 85,595 active cases and ended 53 days after the peak on March 4, 2021, with 29,907 active cases (CTV News, 2021; Government of Canada, 2021d; Tahirali, 2021).

⁸The third wave (Gamma Variant) began March 5, 2021, reaching its peak on April 19, 2021, with 89,884 active cases and ended 95 days after the peak on July 22, 2021, with 4,513 active cases (CTV News, 2021; Government of Canada, 2021d, 2022; Tahirali, 2021).

⁹The first COVID-19 case was identified in Canada on January 25, 2020, initiating Canada's first wave (Alpha Variant). The first wave peaked on May 30, 2020, with 35,040 active cases and ended 48 days after the peak on July 17, 2020, with 4,143 active cases (CTV News, 2021; Government of Canada, 2021d, 2022; Tahirali, 2021).

¹⁰Municipalities and Indigenous systems of governance are not constitutionally recognized as forms of government under Canada's Constitution Act 1982.

and involving parents (Story et al., 2009; Belansky et al., 2010) are perceived as too expensive (Harris et al., 2012). However, some researchers (Kirk and Ruetz, 2018) and groups like Coalition for Healthy School Food (2016; 2019; 2021) argue, the burden that chronic, diet-related diseases already place on the Canadian health care system—a cost estimated at \$190 billion each year (Kaczorowski et al., 2016)—can be mitigated by adopting a national SFP which has the potential to reduce future health care expenditures. Based on the full operation¹¹ of Finland's free school meal service that serves 95% of students in the country, Ruetz and McKenna (2021) calculated that it would cost approximately \$5 per student or \$4.3 billion (\$4,288,497,588) per annum to provide a similar program in Canada.

In Canada, SFP advocates argue COVID-19 has further complicated the tensions noted above and restrained the delivery of existing SFPs due to increased program demand (Neustaeter, 2020). In May 2020, Statistics Canada identified a country-wide 14.6% increase in food insecurity as well as an increase in the severity of child food insecurity since the beginning of the pandemic in Canada (Statistics Canada, 2020). For example, Breakfast Club of Canada (BCC) approximated that one in three children would likely go to school hungry (Breakfast Club of Canada, 2020a). As SFP actors identified the need for increased state intervention to better support SFPs long before COVID-19, during the pandemic, many now see SFPs sitting at a fork in the road where either further support will be provided or SFPs may revert to lower standards of operation, or close.

CONCEPTUAL FRAMEWORK AND METHODS

While the focus of this paper is narrowed to the discursive effects found in provincial and territorial school reopening plans and the material consequences felt by SFPs, the authors bring expertise from a range of disciplines and perspectives. This includes theoretical and practical insight from working with school food programs in Canada, local food system sustainability and environmental assessment, human nutrition and health policy, and intergovernmental food policy development. In turn, this allows for a critical assessment of power imbalances and different types of marginalization taking place within food policy development, implementation, and assessment. Policy analysis is therefore a central component of this research. As a methodological tool it is first and foremost an information collecting activity; however, it holds the potential to also be a political activity, aiding policy actors in shaping the contours of future policy. That is, identifying “how problems are represented in policy and how policy subjects are constituted through problem representation” (Goodwin, 2011, p. 167). This is an important approach for understanding the different ways governments in Canada have (or have not) considered SFPs during the pandemic and how they might change their approaches in the future.

Advocates of an integrated approach to addressing food and nutrition-related issues argue for food policies at multiple and interrelated levels of governance based on the fundamental principles of ecological public health (Lang et al., 2009). Ecological public health developed from the public health projects of disease prevention, sanitation, and controlling communicable diseases during the 18th and 19th centuries. Carried into the 21st century, ecological public health brings insights from complexity theory and systems dynamics, to encourage open debate and pursuit of social values and embraces interdisciplinarity and multi-actor approaches to address health challenges (Lang and Raynor, 2012).

To date, there has been an increase in published research on theoretical frameworks driving program evaluation of public health interventions (e.g., Baranowski and Stables, 2000; Carroll et al., 2007; Durlak and DuPre, 2008) intended to determine areas of growth. For this paper, we did not aim to present a comprehensive review of the theoretical framework, but rather integrate the theoretical bases that underpin the research field of program evaluation. For example, one commonly used framework developed by Baranowski and Stables (2000) and refined by Steckler and Linnan (2002) and Saunders et al. (2005) outlines important aspects to assess including recruitment, context, and reach. Other frameworks have conceptualized the impact of an intervention as a function of factors including fidelity, dosage, quality, participant responsiveness, program differentiation, monitoring of control conditions, program reach, and adaptation (Durlak and DuPre, 2008). This is reflected by the lack of uniformity or “one size fits all approach” framework in implementation literature. Yet despite heterogeneity they are all intended to determine aspects that are not working in the program and that need to be further improved.

An ecological public health approach within the scope of SFPs means considering multilayered and interconnected sociocultural determinants and political economic factors from which provincial and territorial SFPs and school reopening plans are built. The RE-AIM framework, a multi-dimensional health program evaluation tool developed by Glasgow et al. (1999), was selected to guide the analysis because it aligns with ecological public health's intersectional (or systems) approach to health. The framework assess public health interventions across five dimensions: Adoption (identifying the representativeness of the contexts where policy and programs are administered), Reach (considers the participation and demographics of individuals using the program), Implementation (evaluating the extent to which policy and programs are delivered as intended), Maintenance (considering the short and long-term enforcement and how this affects cultural and normative practices for administering the policy or program) and Efficacy (considers the positive and negative consequences of delivery for individuals executing and participating in the program) (Glasgow et al., 1999). The RE-AIM Framework is appropriate because: (a) it uses systems-based and social-ecological thinking as well as community-based and public health interventions, (b) it helps determine what programs are worth investment and make decisions about resource redistribution, and (c) it encourages planning strategies to improve existing program operation in

¹¹Full operation including ingredients, labor costs, kitchen equipment maintenance, and other fixed expenses.

the long- and short-term. Theoretically, the ecological public health and RE-AIM frameworks are linked to conceptualize the various levels of influence occurring in government decision-making and in segments of society that play an active role in health promotion.

Following Ruetz and McKenna (2021) who utilized the RE-AIM framework to analyze SFPs operations and characteristics in Canada, our research adopts the RE-AIM Framework and similarly reorders the sequence as ARIME to reflect the structure of program evaluation which started with adoption. Akin to Ruetz and McKenna (2021), this paper uses the RE-AIM Framework to ask similar, but distinct, “who, what, where, how, when, and why” questions (Glasgow and Estabrooks, 2018, 5) to identify and examine challenges faced by SFPs during the pandemic and how this compared to pre-pandemic operations. These questions include:

- **Adoption:** how and to what extent are SFPs addressed within provincial and territorial school reopening plans?
- **Reach:** has SFP participation increased or decreased since the 2018/19 school year (pre-pandemic)¹²?
- **Implementation:** what new funding was made available to support SFPs to adapt to the new COVID-19 protocols?
- **Maintenance:** how have the new COVID-19 protocols impacted the delivery of SFPs?
- **Efficacy:** what are the positive and negative implications of the COVID-19 protocols for the long-term trajectory of SFP operations in Canada?

Data collection and analysis including an extensive policy scan and analysis of 57 primary and 164 supportive documents related to provincial and territorial school reopening plans was conducted. Primary documents and resources are defined as the central guiding document(s) and web platforms generated by the government(s)’ departments and agencies where school reopening plans are housed. These documents were intended to inform and direct the public (students, parents, communities) and public institutions (schools, school boards, other ministries) in the operation protocols for reopening school facilities. These documents include accumulation of both earlier versions as well as the versions of the document which came to supersede (see **Table 1** primary documents and resource and reference list in **Supplementary Materials**). Supportive documents are defined as those generated by government departments, agencies, as well as national and provincial community partner organizations directly involved in supporting the design and execution of the school reopening plans.¹³ Eligibility of primary and supportive documents rested on publicly available resources (media releases, plans, policies, strategies) published between April 1, 2020, and September 30, 2021, generated by federal, provincial, and territorial governments in Canada. In addition, a review of

academic and grey literature on SFP operation during the COVID-19 pandemic was conducted.

Content and policy analysis were the driving methodologies of this research. Qualitative data were analyzed using NVIVO 12¹⁴ software program using a combination of deductive and inductive thematic analysis (Braun and Clarke, 2006). During the assessment of the data the researchers familiarized themselves with the data and sorted data by inductive (defining, naming, and categorizing codes and themes that arose from the data) and deductive (sorted data into preconceived codes and themes following the REAIME framework) analysis. This occurred by reading each primary and supportive document closely as well as through specific text searches (e.g., school food, lunch, nutrition). Adopting both inductive and deductive assessment allowed for researchers to identify, critique, and understand how and why Canadian governments enacted specific policy approaches from different perspectives. In turn, this allowed for the researchers to consider deeper complexities of the resulting effects for SFPs (Browne et al., 2019). The findings illustrate inductive themes and codes that arose organically while our discussion reflects themes and codes derived from the RE-AIME framework. For quality assurance, analysis was conducted by one author and validated and verified by continuous discussions with co-authors. Discrepancies were amended following discussions to clarify coding and emergent these (e.g., investigator triangulation) (Merriam, 2009). Altogether there was three rounds of data assessment and author discussion (December 2020, May 2021, and September 2021).

FINDINGS

With respect to SFP logistical operation within school environments, the findings first address standardized COVID-19 protocols before providing details regarding procurement of food, preparation of food, and dispensing of food. Collectively, our analysis revealed that an infectious disease prevention approach was dominant across data sources. The findings illustrate that in instances where students were in close proximity to or in physical contact with food, the more detail was provided for the prevention of infectious disease transmission, with food preparation and food dispensing described in greater detail compared to food procurement. Specifically, the terminology used, and direction provided within primary and supportive guiding documents was inconsistent across provinces and territories as well as within provinces and territories, illustrating a disconnect in important details between those planning for reopening and those actually carrying out SFPs. As will be discussed below, the school reopening plans did not consider the broader features of SFP operation (i.e., robust health and nutrition guidelines focused on whole foods, environmental consciousness regarding food procurement and waste), thus missing a key opportunity for SFPs to support health promotion and food security during the pandemic.

Noted previously, provincial and territorial school reopening plans adopted federal COVID-19 prevention protocols including

¹²The last pre-COVID time point from which we can draw data.

¹³Note: Some versions of primary and supplementary documents have been archived when new versions superseded previous or have been altogether removed and are no longer publicly available. In some instances, governments have update information and used the same weblink instead of archiving the webpage. If you are trying to access a specific version of a document and having trouble, please connect with the lead researcher to obtain a copy.

¹⁴Version 12, QSR International Pty Ltd, Melbourne, Australia.

TABLE 1 | Primary documents and resources.

Province/territory	Primary documents/resources	Publication and revisions
Newfoundland and Labrador	Return to school plan 2021. Together. Again. A safe return to school—nfesd september reopening plan 2020–2021	September 2021
		November 2, 2020
		September 3, 2020
		August 17, 2020
		July 6, 2020
	Newfoundland and Labrador k-12 education re-entry plan	September 3, 2020
		August 14, 2020
		July 6, 2020
	Newfoundland and Labrador public health guidance for k-12 schools.	April 7, 2021
		September 3, 2020
New Brunswick	Healthy and safe school guidelines Return to school: guide for parents and the public	August 2021
		August 13, 2020
	Return to school: direction for school districts and school September 2020	June 12, 2020
		November 29, 2020
		October 15, 2020
		September 16, 2020
Prince Edward Island	Return to school September 2020 executive summary Prince Edward island covid-19 back-to-school public health guidance 2021–2022 Public school branch: guidelines for return to school September 2020	September 2020
		August 2021
		September 28, 2020
		August 5, 2020
Nova Scotia	Returning to class for 2021–2022 Nova scotia's back to school plan	August 2021
		December 18, 2020
		September 17, 2020
		August 14, 2020
		July 22, 2020
Quebec	Orientation for back-to-school 2021 Covid-19-plan de la Rentrée Scolaire/covid-19 back to school plan Back to school 2020: reopening of all schools in Quebec	August 11, 2021
		June 16, 2020
		August 10, 2020
Ontario	Approach to reopening schools for the 2020–2021 school year Guide to reopening Ontario's schools	June 19, 2020
		August 28, 2020
		August 24, 2020
		August 13, 2020
	Covid-19: health, safety, and operational guidance for schools (2021–2022)	July 30, 2020
		August 13, 2021
		August 3, 2021
Manitoba	Welcoming our students back: restoring safe schools—a guide for parents, caregivers and students: what to expect when welcomed back to school	October 20, 2020
		September 2, 2020
		August 24, 2020
		August 13, 2020
		July 30, 2020
Saskatchewan	Restoring safe schools—a planning guide for 2021–2022 school year Restoring safe schools—a guide for parents, caregivers and students Safe schools plan 2021–22 Primary and secondary educational institution guidelines Saskatchewan safe schools plan	August 24, 2021
		August 24, 2021
		July 2021
		June 9, 2020
		August 27, 2020
		July 8, 2021
Alberta	2021–2022 school year plan Covid-19 information: guidance for school re-entry—scenario 1	August 2021
		June 2021
		November, 2020
		October 8, 2020
		August 27, 2020

(Continued)

TABLE 1 | Continued

Province/territory	Primary documents/resources	Publication and revisions
		August 20, 2020
		July 21, 2020
		June 10, 2020
	Covid-19 information: guidance for school re-entry—scenario 2	November, 2020
		October 8, 2020
		August 27, 2020
		August 20, 2020
		July 21, 2020
British Columbia	Covid-19 public health guidance for k-12 school settings	August 24, 2021
		June 17, 2021
		September 24, 2020
		September 11, 2020
		September 3, 2020
		August 26, 2020
Yukon	K-12 school guidelines for 2021–22: covid-19	August 19, 2021
	School during covid-19: guidelines for the 2021–22 school year	August 19, 2021
	School during covid-19	September 24, 2020
		August 12, 2020
	Guidelines for k-12 school settings	July 9, 2020
		July 23, 2020
		June 4, 2020
Northwest Territories	Back to school 2021–22 guidelines	August 11, 2021
	Reopening schools safely: planning for the 2020–2021 school year	July 3, 2020
Nunavut	2021–22 health and safety guidelines for nunavut schools	July 28, 2021
	2020–2021 opening plan for nunavut schools: health and safety	December 16, 2020
		July 24, 2020
	Health and safety guidelines for nunavut schools	August 2020

the *List of Hard Surface Disinfectants and Sanitizers* (Health Canada, 2020b) and *List of Hand Sanitizers* (Health Canada, 2020a) and *Guidance for Schools Kindergarten to Grade 12* (Government of Canada, 2020). Within schools, these protocols affected individuals' patterns of accessing and consuming food. Specifically, students were arranged into cohorts (grouping of students, usually by grade or class) to limit students' movement and interaction with others. This affected where and how students were physically arranged when eating. For example, lunch and recess times were staggered between cohorts, lining up to access food in cafeterias was limited by room capacity, and eating locations were expanded to the outdoors. Because of COVID-19 sanitization protocols, high touch areas in schools were to be disinfected more frequently meaning food areas required more time between when they were accessed by different cohorts. Finally, most reopening documents emphasized frequent hand washing and hand sanitizing before and after eating requiring added time and extended oversight by teachers and staff to ensure protocols were upheld.

Procurement of Food

Limited guidance was provided for the procurement of food by schools, with only a handful of provinces providing reference. Ontario's Department of Education and Training

(2021) *COVID-19: Health, Safety and Operational Guidance for Schools (2021–22)* (August 13 and 30, 2021 versions), Ontario's Department of Education and Training, Ontario (2020a) *Approach to Reopening Schools for the 2020–2021 School Year* (June 19, 2020, version), Ontario's Department of Education and Training, Ontario (2020b) *Guide to Reopening Ontario's Schools* (July 30, 2020, version) specified physical distancing was required when accepting deliveries from suppliers. Québec's Ministère de l'Éducation (2020) *COVID-19–Plan de la rentrée scolaire/COVID-19 Back to School Plan* (June 16, 2020, version) noted the ability for schools to enter contracts with catering companies or community organizations specializing in providing meal services. Department of Education and Lifelong Learning, Prince Edward Island (2020) *Public Schools Branch: Guidelines for Return to School September 2020* (August 28, 2020, and previous versions) and Prince Edward Island's Department of Health Wellness Prince Edward Island (2021) *Prince Edward Island COVID-19 Back to School Public Health Guidance 2021–22* (August 2021 version) specified that any vendors dropping off food do so in designated visitor zones. Collectively, the limited reference to procurement results in school reopening plans lacking attention to nutritional health and environmental consciousness (e.g., fresh and locally prepared meal options).

Preparation of Food

Protocols for food preparation present considerable detail and description with previously existing food safety protocols shaping the majority of this discourse. Across provinces and territories, food items prepared outside of schools were required to follow COVID-19 food preparation protocols for any establishment returning to operation. Within most provinces and territories, school food preparation areas were closed off to students, non-designated staff, and visitors to avoid contamination. Department of Education and Training, Ontario (2020a) *Approach to Reopening Schools for the 2020–2021 School Year* (June 19, 2020, version), Department of Education and Training, Ontario (2020b) *Guide to Reopening Ontario's Schools* (July 30, 2020, version), Québec's Ministère de l'Éducation, (2020) *COVID-19–Plan de la rentrée scolaire/COVID-19 Back to School Plan* (June 16, 2020, version), and British Columbia's Ministry of Advanced Education Skills Training (2021) *COVID-19 Public Health Guidance for K-12 School Settings* (September 2021 and previous versions) made this clear in their guidelines. Department of Education and Lifelong Learning, Prince Edward Island (2020) *Public Schools Branch: Guidelines for Return to School September 2020* (August 28, 2020, and previous versions, Prince Edward Island's Department of Health and Wellness' (2021) *Prince Edward Island COVID-19 Back to School Public Health Guidance 2021–22* (August 2021 version) and Alberta's Ministry of Education (2021) *2021–2022 School Year Plan* (June and August 2021 versions), the Government of Alberta's (2020a) *COVID-19 Information: Guidance for School Re-Entry – Scenario 1* (November 2020 and previous versions), and the Government of Alberta's (2020b) *COVID-19 Information: Guidance for School Re-Entry–Scenario 2* (November 2020 and previous versions) specified that food should be provided and prepared following food handling guidelines outlined and approved by the provincial Chief Public Health Officer.

When referencing food preparation and student contact points with food, several approaches were presented. All provinces and territories adopted a “no share policy” for all food and personal items. Interestingly, British Columbia's Ministry of Advanced Education Skills Training (2021) *COVID-19 Public Health Guidance for K-12 School Settings* (September 2021; and previous versions), Alberta's Ministry of Education (2021) *2021–2022 School Year Plan* (June and August 2021 versions), the Government of Alberta's (2020a) *COVID-19 Information: Guidance for School Re-Entry – Scenario 1* (November 2020 and previous versions), and the Government of Alberta's (2020b) *COVID-19 Information: Guidance for School Re-Entry–Scenario 2* (November 2020 and previous versions) allowed culinary courses to continue, but prepared food could only be consumed by the student that prepared it. Taking a more directive approach to reducing contact points, Alberta's Ministry of Education (2021) *2021–2022 School Year Plan* (June and August 2021 versions), the Government of Alberta's (2020a) *COVID-19 Information: Guidance for School Re-Entry – Scenario 1* (November 2020 and previous versions), and the Government of Alberta's (2020b) *COVID-19 Information: Guidance for School Re-Entry – Scenario 2* (November 2020 and previous versions), the Department

of Education Newfoundland Labrador (2021) *Return to School Plan. Together. Again.* (September 2020 version), Department of Education, Newfoundland and Labrador (2020a) *A Safe Return to School – NFESD September Reopening Plan 2020–2021* (November 2, 2020, September 3, 2020, versions), the Department of Education, Newfoundland and Labrador (2020b) *Newfoundland and Labrador K-12 Education Re-Entry Plan* (November 2, 2020), the Government of Newfoundland and Labrador (2021) *Newfoundland and Labrador Public Health Guidance for K-12 Schools* (April 7, 2021, and previous versions) specified switching to individual pre-packaged meals or meals only served by staff. Department of Education and Training, Ontario (2020a) *Approach to Reopening Schools for the 2020–2021 School Year* (June 19, 2020, version), Department of Education and Training, Ontario (2020b) *Guide to Reopening Ontario's Schools* (July 30, 2020, version), the Government of Nunavut's (2020) *2020–2021 Opening Plan for Nunavut School: Health & Safety Nunavut* (December 12, 2020, and July 24, 2020, versions), Department of Education Nunavut's (2020) *Health and Safety Guidelines for Nunavut Schools* (August 2020 version), 2021–22 Health and Safety Guidelines for Nunavut Schools (Department of Education Nunavut, 2021) aligned with this approach but expressed it as a recommendation rather than a requirement.

Dispensing of Food

Food dispensing was presented in an overall restrictive tone dictating what actions could or could not be practiced. Across provinces and territories self-serve, buffet, or family-style meal services were discouraged unless serving of food was done by a designated staff member with serving utensils. Pre-packaged foods were again referenced to reduce contact and transmission points where a designated server was not possible; how this was achieved varied across provinces and territories. The Government of Manitoba's (2020c) *Welcoming Our Students Back: Restoring Safe Schools—A Guide for Parents, Caregivers and Students: What to expect when welcomed back to school* (October 20th, 2020 and previous versions), the Government of Manitoba (2021a) *Restoring Safe Schools—A Guide for Parents, Caregivers and Students* (August 24, 2021 version), the Government of Manitoba (2021b) *Restoring Safe Schools—A Planning Guide for 2021–2022 School Year* (August 24, 2021 version), the Government of Saskatchewan (2020a) *Primary and Secondary Educational Institution Guidelines* (June 9, 2020, version), the Government of Saskatchewan (2020b) *Saskatchewan Safe Schools Plan* and the Government of Saskatchewan's (2021) *Government of Saskatchewan Safe Schools Plan 2021–22* (July 2021 version) referenced the option of individual meal portions served to students. Specific to SFPs, Department of Education and Training, Ontario (2020a) *Approach to Reopening Schools for the 2020–2021 School Year* (June 19, 2020, version), Department of Education and Training, Ontario (2020b) *Guide to Reopening Ontario's Schools* (August 28, 2020, and all previous versions), Department of Education Newfoundland Labrador (2021) *Return to School Plan. Together. Again.* (September 2020 version), Department of Education, Newfoundland and Labrador (2020a) *A Safe Return to School – NFESD September Reopening*

Plan 2020–2021 (November 2, 2020, and previous versions) emphasized grab-and-go where food items were presented in a way that minimized contact points. Staggered mealtimes and additional dining spaces were referenced within all plans except the Government of Northwest Territories (2021) *Back to School 2021–22 Guidelines* (August 11, 2021, version) and the Government of Northwest Territories (2020) *Reopening Schools Safely: Planning for the 2020–2021 School Year* (July 3, 2020, version). Prince Edward Island's Department of Education and Lifelong Learning, (2020) *Public Schools Branch: Guidelines for Return to School September 2020* (August 28, 2020, and previous versions) directed elementary-aged students to eat in their classrooms while older students had the option of leaving school premises. Finally, Department of Education and Lifelong Learning, Prince Edward Island (2020) *Public Schools Branch: Guidelines for Return to School September 2020* (August 28, 2020, and previous versions), Nova Scotia's Department of Education Early Childhood Development (2020) *Back to School Plan* (December 18, 2020, and all previous versions), Department of Education Early Childhood Development, New Brunswick's (2020) *Return to School: Direction for School Districts and Schools September 2020* (November 29, 2020, and previous versions) and New Brunswick's Department of Education Early Childhood Development (2020) *Return to School: Guide for Parents and the Public September 2020* (November 29, 2020, and previous versions) required SFP food orders to be taken ahead of time and for food to be delivered directly to student classrooms.

Acknowledgement of School Food Programs

All school reopening plans referenced continued operation of SFPs except the Government of Yukon's (2020a) *Guidelines for K-12 School Settings* (July 23, 2020, and June 4, 2020, versions), the Government of Yukon's (2020b) *School During COVID-19* (September 24, 2020, and previous versions), the Government of Yukon's (2021a) *K-12 School Guidelines for 2021–22: COVID-19* (August 19, 2021, version) the Government of Yukon's (2021b) *School During COVID-19: Guidelines for the 2021–22 School Year* (August 19, 2021, version) (see **Table 2**); however, direction for SFP operation under new COVID-19 protocols was limited across all plans. The Government of Manitoba's (2020c) *Welcoming Our Students Back: Restoring Safe Schools—A Guide for Parents, Caregivers and Students: What to expect when welcomed back to school* (October 20th, 2020 and previous versions), the Government of Manitoba (2021a) *Restoring Safe Schools—A Guide for Parents, Caregivers and Students* (August 24, 2021 version), the Government of Manitoba (2021b) *Restoring Safe Schools—A Planning Guide for 2021–2022 School Year* (August 24, 2021 version) inconsistently referenced SFPs and although British Columbia's Ministry of Advanced Education Skills Training (2021) *COVID-19 Public Health Guidance for K-12 School Settings* (September 2021; and previous versions, Ontario's Department of Education and Training (2020a) *Approach to Reopening Schools for the 2020–2021 School Year* (June 19, 2020, version), Ontario's Department of Education and Training (2020b) *Guide to Reopening Ontario's*

Schools (July 30, 2020, and previous versions), the Government of Northwest Territories (2021) *Back to School 2021–22 Guidelines* (August 11, 2021, version) and the Government of Northwest Territories (2020) *Reopening Schools Safely: Planning for the 2020–2021 School Year* (July 3, 2020, version), the Government of Nunavut's (2020) 2020–2021 Opening Plan for Nunavut School: Health & Safety Nunavut (December 12, 2020, and July 24, 2020, versions), Department of Education Nunavut's (2020) *Health and Safety Guidelines for Nunavut Schools* (August 2020 version) did provide the same guidance across updated documents, the guidance did not provide clear direction or details for SFP operation. Alberta's Ministry of Education (2021) *2021–2022 School Year Plan* (June and August 2021 versions), the Government of Alberta's (2020a) COVID-19 Information: Guidance for School Re-Entry—Scenario 1 (November 2020 and previous versions), and the Government of Alberta's (2020b) COVID-19 Information: Guidance for School Re-Entry—Scenario 2 (November 2020 and previous versions) referenced “food services” and “food meal programs” but it is unclear if this language pertained to SFPs or simply encompassed school-based cafeteria programs.

DISCUSSION

While the findings identified the discourse surrounding food found in Canadian provincial and territorial school reopening documents, the discussion is informed by the RE-AIM framework to consider the extent that SFPs' multi-faceted mandates were enabled or constrained by the school reopening plans. Accordingly, this section analyses the adoption, reach, implementation, maintenance, and effectiveness of SFP operations between April 2020 and September 2021. This section also compares the contours of SFPs across Canada pre-COVID and considers the long-term effects COVID-19 health and safety protocols might have on SFPs operation.

Adoption

Here we consider the extent to which SFPs were acknowledged within provincial and territorial school reopening plans. Prior to the pandemic food insecurity was the impetus for establishing most SFPs (Raine et al., 2003; Ruetz and McKenna, 2021). The evidence is strong that school day nutrition among Canadian children across the socio-economic spectrum is poor (Coalition for Healthy School Food, 2018); in turn SFPs evolved with an increased emphasis on improving all children's nutrition (Tugault-Lafleur et al., 2017; Coalition for Healthy School Food, 2018). Reflecting this shift, most provincial/territorial SFP guidelines referenced the dual importance of universal access¹⁵ to reach more children and reduce stigma (Russell et al., 2008; Oostindjer et al., 2017). Nevertheless, the tension between SFPs' health promotion and food security mandates is palpable: the majority of provincial and territorial funders view food security as the primary objective of SFPs, closely followed by health (Ruetz and McKenna, 2021).

¹⁵When all students in a school have access to the meal or snack that is offered.

TABLE 2 | Acknowledgement of (and difference in terminology regarding) “food” in school reopening plans.

Province/Territory	General acknowledgement of food							Specification of school food programs						
	Cafeteria	Meal service	Lunch	Breakfast	Meal	Snack	Nutrition	School food program	Nutrition program	Breakfast program	Lunch program	Meal program	Snack program	Food assistance program
Newfoundland and Labrador	x	x	x			x		x		x		x		
New Brunswick	x		x		x	x				x			x	
Prince Edward Island	x		x					x		x			x	
Nova Scotia	x		x		x		x			x	x			
Quebec	x													x
Ontario	x	x	x		x	x			x			x		
Manitoba	x	x	x			x				x	x	x	x	
Saskatchewan		x	x		x	x			x					
Alberta	x	x	x		x	x		x				x		
British Columbia	x		x	x		x				x		x		
Yukon	x	x	x		x									
Northwest Territories			x					x						
Nunavut			x					x						

Although the findings highlight that school reopening plans referenced continued operation of SFPs, the inconsistent and limited directional details for SFP operation under new COVID-19 protocols demonstrated that SFPs were not adequately addressed by political and bureaucratic decision-makers in the design and revision process of school reopening plans. We attribute this oversight to the lack of collaboration and integrative policymaking during the design and consultation processes of provincial and territorial reopening plans. In an interview with CBC's Jessica Wong (2020), Debbie Field of the Coalition for Healthy School Food explains, "...where each jurisdiction, each Ministry of Education, each Ministry of Health, each Medical Officer of Health, each school is literally making decisions one by one... That means children are suffering." Most provincial and territorial school reopening plans referenced a lead department, and for plans that suggest a collaborative approach, there was limited evidence regarding the stake, role of partners, or resources provided to support SFPs. For example, Ontario's school reopening plans were led by the Ministry of Education; however, the Student Nutrition Program is housed within the Ministry of Children, Community and Social Services and this body was not a named partner in Ontario's school reopening plan. These observations mirror pre-COVID-19 patterns of reactive and siloed policymaking (Fawcett-Atkinson, 2020), suggesting SFPs face continued challenges in policy design and adoption in Canada.

Here we consider if SFP participation has increased or decreased since the 2018/19 school year. Globally, it is estimated 388 million children benefitted from school feeding programs in 161 countries pre-pandemic; however, by April 2020, an

estimated 39 billion in-school meals in 199 countries had been missed during school closures (World Food Programme, 2020; Borkowski et al., 2021). During closures, many programs had to shift operation towards take-home options (i.e., hampers, food boxes) or forms of income transfers (i.e., food vouchers, gift cards). Consequently, this shift effected the participation of food programs.

In Canada, prior to the pandemic in 2018/19, SFPs reached a minimum of 21% of students¹⁶ in at least 35% of schools¹⁷ at no cost to students¹⁸ (Ruetz and McKenna, 2021). However, inconsistent funding, funding mandates (i.e., health, food security), and types of programs offered (i.e., breakfast, lunch, snack) resulted in uneven access to SFPs, ranging from 5% of students participating in Alberta to 83% of student participating in the Yukon (Ruetz and McKenna, 2021). Overall, low funding, reliance on volunteer labour, and the lack of adequate school food infrastructure posed a challenge to maintaining SFPs in Canada already prior to the pandemic (Oostindjer et al., 2017; Ismail et al., 2021; Ruetz and McKenna, 2021).

As observed in many other countries, between April 2020 and September 2021, several Canadian SFPs transitioned to deliver food to students learning from home (Goodridge, 2020). Between March and July 2020, Breakfast Club of Canada calculated it

¹⁶A conservative figure as student participation data was unavailable from Saskatchewan, British Columbia, Northwest Territories and was only partial data from Québec and Ontario.

¹⁷A conservative figure as schools participation data was unavailable from BC and only partial data was from Saskatchewan.

¹⁸Overall conservative figures based on limited data in some jurisdictions, see footnotes 14 and 15.

assisted 78 new programs (an increase of 4%) with 257 743 participants per day (an increase of 6%) (2020a, p.11, 16). While a helpful window of insight, as Breakfast Club of Canada only funds a portion of Canadian SFPs; this is not a complete picture. To provide additional insight, provincial and territorial funding for jurisdiction-wide SFPs—and where available participation numbers¹⁹—were used as a proxy to assess increased demand. It was observed that Prince Edward Island, Québec, and Manitoba were the only provinces to expand SFP operation within schools after September 2020.

Prince Edward Island initiated its *Healthy School Lunch Program* in January 2020. The program was universally available to all students and provided a healthy meal while focusing on local food procurement, ensuring equitable access through a “pay what you can” model (Government of Prince Edward Island, 2021b). However, facing rising food insecurity concerns the *Healthy School Lunch Program* was expanded to all schools for the 2020/21 school year at a cost of \$1.6 million between September 2020 and March 31, 2021, with over 250, 000 meals served (Government of Prince Edward Island, 2021a). Prince Edward Island also established the COVID-19 Food Security Program from March 2020–August 2020 at an additional operational cost of \$620,000 jointly supported by the Departments of Education and Social Development) and the Summer Food Program allocated \$600, 000 for July and August 2021 (Government of Prince Edward Island, 2021a, p. 3; Government of Prince Edward Island, 2021c; Yarr, 2021). In Québec, the Ministère de l'Éducation revised their SFP funding eligibility criteria in August 2020, extending funding for student meals in low-income neighbourhoods to all preschool, elementary, and secondary institutions in the province (Montreal Gazette, 2020). Provincial funding increased in Quebec by \$11 million, jumping 60%; however, Education Minister Roberge requested that schools establish an emergency food distribution network to help support the expansion of the program (Montreal Gazette, 2020). However, even with provincial action, Breakfast Clubs of Canada has expanded operation providing breakfast to 250,000 school children - an increase of 30,000 meals from 2019 (Fawcett-Atkinson, 2020) enabled through support from the Federal government's *Emergency Food Security Fund* (Agriculture Agri-Food Canada, 2021). Manitoba's Home Nutrition and Learning \$5.1 million Pilot Program, budgeted pre-pandemic and launched in June 2020, saw community-based organizations²⁰ delivering nutritious food to 6000 children between June and September 2020 (Government of Manitoba, 2020a). However, by February 2021 the program was serving 6,400 students and 2,500 families leading to an additional \$2 million in government funding to continue running the program until September 2021 (Government of Manitoba, 2020b).

Comparatively, in 1991 New Brunswick was the first province with school nutritional guidelines, yet in 2020 it was the only province without a province wide school food program. In September 2020 this shifted as 10 schools began pilot SFPs; then nine additional schools were added to “ensure representation of all seven school districts in the province in both Anglophone and Francophone sectors,” and to include “a variety of food programs ranging from schools with no food programs to schools with comprehensive programs” (Balintec, 2021). Between September 2020 and December 2021 approximately 75% of New Brunswick Schools offered a breakfast program, 60% offered a lunch program, and collectively, 94% offered some form of SFP, including snacks (Balintec, 2021). However, like other provinces/territories the SFPs have been inconsistently operated meaning the reach of SFPs are not equal because access is not universal.

Collectively, not enough data is available to confirm an increase or decrease in SFP participation across provinces and territories. However, there is discrepancy between the public and widespread acknowledgment of increasing food insecurity rates before (Dachner and Tarasuk, 2018; Tarasuk and Mitchell, 2020) and during COVID-19 (Statistics Canada, 2020) and the fact that guiding documents inadequately make the link between these concerns and government support of SFPs (Mah et al., 2020). With few provinces and a handful of charities providing increased support to expand SFP operation during COVID-19, this demonstrates that neither fully addressing food insecurity through moving beyond targeted programs nor proactively considering the numerous benefits of SFPs for learning and population health in the long-term, are central to considerations. In turn, targeted programs continue to only reach a minority of the intended population while expanded or universal SFPs have the potential to reach all students (Ruetz and McKenna, 2021).

Implementation

Here we consider funding allocated for SFPs to adapt to COVID-19 protocols. Following the lead of Ruetz and McKenna (2021), funding was used as a proxy to assess program capacity and hence effectiveness. Pre-pandemic, provincial and territorial funders generally prioritized based on socio-economic need and partnered with non-government organizations, Indigenous communities, and/or schools to directly fund or partially fund SFPs. In 2018/19, provincial and territorial governments collectively contributed over \$93 million to SFPs (Ruetz and McKenna, 2021); however, this funding most often paid for one quarter or less of what was required to run programs. While programs were often cost-shared, it was commonly reported that there was insufficient funding to increase participation within existing programs or to establish new programs (Ruetz and McKenna, 2021).

Although food insecurity rates increased across Canada early in the pandemic (Statistics Canada, 2020) adequate funding to SFPs did not occur across all regions. For example, Ontario invested an additional \$1 million to improve access to healthy food for school-aged children and youth (Government of Ontario, 2020). Alberta increased provincial SFP funding in the 2019 Budget pre-pandemic (\$15.5 million), and subsequently

¹⁹Not all provinces and territories have made funding and participation numbers publicly available at time of writing.

²⁰Andrews Street Family Centre Inc. in Winnipeg, Ma Mawi Wi Chi Itata Centre Inc. in Winnipeg, Samaritan House in Brandon; Food Matters Manitoba in the community of Cross Lake, and Bayline Regional Round Table in Thicket Portage, Pikwitonei, Ilford/War Lake and Wabowden (Government of Manitoba, 2020a).

allocated \$3 million “to 9 non-profits²¹ in the 2019-20 school year to provide additional food assistance for students and families in response to the COVID-19 pandemic” (Government of Alberta, 2021). As demonstrated above, Prince Edward Island appears to be the most financially pro-active province allocating a total \$2,540,000 towards implementing and expanding SFP operation between January 2020 and September 2021 (Government of Prince Edward Island, 2021c: p. 3; Government of Prince Edward Island, 2021a; Yarr, 2021). Although New Brunswick SFPs also expanded quickly, only \$200,000 was allocated towards the design and implementation of a pilot province-wide school food program (Department of Finance Treasury Board Government of New Brunswick, 2020: p.13; Department of Education Early Childhood Development, New Brunswick, 2020). Further, the New Brunswick government had to partner with the New Brunswick Medical Association (who also allocated \$200,000) to establish the pilot program in September 2020 (Cave, 2020). Collectively, however, as schools reopened across Canada in September 2020, advocates noted an overall lack of food programs and breakfast clubs planned for students (Neustaeter, 2020).

Looking to federal supports, the Canadian government provided \$2 billion to provinces and territories in August 2020²² to support safe school reopening (Agriculture Agri-Food Canada, 2021). However, SFP operation was not defined as an eligible use of this one-time funding, suggesting limited consideration of SFPs by the federal government. In April 2020, the federal government allocated an additional \$100 million to the *Emergency Food Security Fund* which was distributed to select national and regional agencies with established distribution systems to address rising food insecurity.²³ Later in October 2020, August 2021, and December 2021 the federal government allocated an additional funding as food insecurity rates continued to rise (Office of the Prime Minister, 2020; Agriculture and Agri-Food Canada, 2021). Collectively, between April 2020 and December 2021, the Government of Canada allocated \$330 million to the Emergency Food Security Fund; however, only \$5 million of this amount was directly allocated to Breakfast Clubs of Canada to “support breakfast program enrollees and local community organizations that assist food-insecure families” (Breakfast Club of Canada, 2020b).

Finally, it should be noted that some national private entities donated financial and other resources. President's Choice Children's Charity²⁴ released \$10 million, an increase from previous annual funding to SFP partners across Canada to assist with new measures ensuring the safe delivery of nutritious food (President's Choice Children's Charity, 2020). The Maple Leaf Centre for Action on Food Security (2020)²⁵ donated “more than \$2 million to support emergency food access (beyond the Centre's ongoing commitments) and donated over \$2.5 million of product, a 67% increase from 2019.” This illustrated that some industry actors were actively supporting SFPs during the pandemic, providing resources where governments did not.

Overall, pre-pandemic inadequate government funding points to why SFP operation did not meet program objectives, why SFP practitioners face operational challenges, and why SFP across Canada cannot meet their full potential. Even with additional funding provided by some provincial/territorial governments, the federal government, and the private sector, evidence suggest these trends continue and may worsen as food insecurity rates increase. As students across Canada pivot between online and in-person learning funding allocation to SFP must be clearly articulated and align with existing SFP guiding documents and new COVID-19 protocols for SFP operations to be effective.

Maintenance

Here we consider how the new COVID-19 protocols impacted the delivery of SFPs. Prior to the pandemic, the maintenance of SFP operation was already challenging due to inconsistent nutrition guidelines, SFP monitoring protocols (Martorell, 2017; Ruetz and McKenna, 2021), the lack of coordination between provinces/territories and SFP actors, and volunteer driven orchestration (Fawcett-Atkinson, 2020; Ruetz and McKenna, 2021), and inadequate levels of government funding (Ruetz and McKenna, 2021).

When schools closed in spring 2020 SFPs faced distinct implementation challenges including changes to program mandate and accessibility as well as operating under new initiatives and renegotiating partnerships. In spring 2020 many SFP community-based food partnerships adapted by sending food boxes and grocery gift cards directly to students and their families (Wong, 2020). In Ontario, for example, it was found that 10 of the 11 lead agencies surveyed²⁶ overseeing SFPs shifted their mandate from universal access to “targeted emergency food

²¹e4c in Edmonton (\$375,000), Hope Mission in Edmonton and area (\$375,000), Calgary Meals on Wheels (\$375,000), Brown Bagging for Calgary (\$375,000), Breakfast Club of Canada in Fort McMurray (\$300,000), Salvation Army in Grande Prairie (\$300,000), Lethbridge Food Bank: (\$300,000), Medicine Hat and District Food Bank (\$300,000), The Mustard Seed in Red Deer and central Alberta (\$300,000) (Government of Alberta, 2021).

²²Alberta \$262.8 million, British Columbia \$242.4 million, Manitoba, \$85.4 million, Newfoundland and Labrador \$26.2 million, New Brunswick \$39.8 million, Nova Scotia \$47.9 million, Northwest Territories \$4.9 million, Nunavut \$5.8 million, Ontario \$763.3 million, Prince Edward \$10.4 million, Québec \$432.2 million, Saskatchewan \$74.9 million, Yukon \$4.2 million (Agriculture Agri-Food Canada, 2021).

²³Food Banks Canada received \$50 million and \$49.2 million was distributed across Second Harvest, Community Food Centres Canada, Breakfast Clubs of Canada, and the Salvation Army. La Table des Chefs also received \$800 000 for meal distribution in Québec (Montreal Gazette, 2020).

²⁴Taken from President's Choice Children's Charity (2021): “In 2018, Loblaw committed \$150 million of fundraising and corporate support for the charity's effort to address childhood hunger and nutrition skills. Since then, the company has activated its network of stores, customers, vendors and colleagues, raising more than \$48 million. This makes the charity Canada's largest private provider to school food programs – reaching approximately 400,000 students every day, in 2,500 schools”.

²⁵The Maple Leaf Centre for Action on Food Security is a registered charity committed to working collaboratively, across sectors, to reduce food insecurity in Canada by 50% by 2030. The organization advocates for critical public policies and works with innovative food-based programs that advance the capacity of people and communities to achieve sustainable food security (Maple Leaf Centre for Action on Food Security, 2020).

²⁶In Ontario, there are 14 lead agencies but for the research cited only 11 agencies provided data pertinent to this discussion point (Noyes and Lyle, 2021).

supply to vulnerable children and families” (Noyes and Lyle, 2021: p. 202). The consequence of this shift was felt differently across Ontario; in some instances, more funding was allocated to programs with a highly vulnerable population, while in others, SFPs stopped running but program funding was allocated to select students and families deemed in need.

While nutrition guidelines did exist pre-pandemic, accessibility to and availability of nutritious and fresh food options became overshadowed by COVID-19 disease prevention protocols which supported the use of processed and prepackaged foods in many provinces and territories. SFP providers like Breakfast Club of Canada had to adapt food delivery services to only distribute individually packaged items, limiting menu options to cold items only (Goodridge, 2020). Where SFPs were well established, SFP actors worked with health officials and local authorities to blend old and new practices to minimize operational impact. Department of Newfoundland and Labrador’s School Lunch Association worked with the Chief Medical Health Officer, the Department of Education and Early Childhood Development, and the Newfoundland and Labrador English School District to create a delivery plan that aligned with new protocols. However, the group had to convince officials that “the move to individually prepackaged takeaway meals” was not conducive “from the standpoints of cost, nutrition and environmental concerns” (Harding, 2020). Finally, reflecting partnership negotiations there have been shifts in procurement partnerships and purchasing options towards larger companies that can meet large orders in short timeframes thus undermining smaller, local businesses; these observations suggest environmental consciousness in SFP operation and local food partnerships are also threatened (Goodridge, 2020; Harding, 2020).

Our assessment is that maintenance of SFPs under new infection prevention protocols requires additional resources, particularly funding. The increasing costs for operating SFPs under the new protocols are not acknowledged in reopening plans or budgets yet SFPs are seeing an increase in operational costs due to rising food prices (Agri-Food Analytics Lab, 2020; Council of Ontario Directors of Education Council of Ontario Medical Health (CODE-COMOH), 2020), new requirements to purchase pre-packaged foods, and a decline in volunteers²⁷ (Brown, 2020). If the new protocols become a long-term mandate, SFPs already operating on shoe-string budgets (Oostindjer et al., 2017; Ruetz and McKenna, 2021) SFPs will face increasing implementation challenges.

Efficacy

Finally, we consider the positive and negative implications of COVID-19 prevention protocols on the long-term trajectory of SFP operation. One consequence of the pandemic and introduction of COVID-19 protocols adopted by schools is that food (in)security has been brought to the fore of some

governments’ policy agendas. Specifically, advocacy for SFP as a solution to rising rates of food insecurity is louder than ever forcing politicians and public servants to better understand how and why food policy is (or is not) practiced under their jurisdiction. This means increased awareness of the unique and placed-based circumstances in which SFP originate and operate, requiring governments to reconsider the effectiveness of their existing food policies. However, there continues to be limited coordination and collaboration across governments and departments who hold SFP within their portfolios. Further, the increase of attention suggests crisis management instead of risk management, that is, looking for solutions after negative consequences are felt instead of early and proactive mitigation. Finally, focusing on food (in)security has diverted attention away from other objectives outlined in SFP guidelines and fought for by advocates. As illustrated above, operational efforts of SFP that strive to enhance local food procurement and environmental sustainability were not considered in school reopening plans.

The federal government’s quick response to rising rates of food insecurity should be acknowledged. This includes the rapid and early research of Statistics Canada and the swift allocation of funding to provinces and territories, and repeated funding when food insecurity rates continued to rise. This allowed some NGOs and community-based partners to respond quickly and adapt to localized needs. Further, the federal government selecting Breakfast Club of Canada as a national distributor of funding to support SFPs was a quick means of allocating funding through a pan-Canadian SFP network. However, it raises the question why the funding was not distributed by provincial and territorial governments when they were the named partners in the 2019 for developing a national SFP (Government of Canada, 2019) and every province and territory were already funding SFPs (Ruetz and McKenna, 2021) and significantly more programs than Breakfast Club of Canada. Pre-pandemic, Club of Canada provided supplemental funds to 1,809 programs (Breakfast Club of Canada, 2019), compared the provinces and territories funding a conservative minimum of 6,408 programs²⁸ (Ruetz and McKenna, 2021); < 1/3rd of SFPs in Canada. Furthermore, the continued allocation of food security funds to a charitable organization (in this case Breakfast Club of Canada) instead of using a government-led approach has long been criticized as downloading the responsibility of food security to non-government sectors (Riches, 1997) and not a sufficient nor effective poverty reduction solution to food insecurity (Tarasuk and Mitchell, 2020).

When considering the short-term implications, the path taken by the federal government is shrouded with oversights and missed opportunities. The extent of cooperation between the federal government and provinces/territories, especially regarding monitoring and reporting of efforts to curb food insecurity rates is unclear (Tarasuk and Mitchell, 2020). While the Liberal Party of Canada (2021) promised a \$1 billion commitment towards developing a “National School Food Policy and work towards a national school nutritious meal program” in

²⁷The decline in volunteers is observed as a result of structural conditions of the pandemic (i.e., inconsistent direction of if SNP volunteers were allowed to enter the schools and how programs were to be run) as well as interest and will due to individual SFP volunteer health and safety concerns (Goodridge, 2020).

²⁸A conservative minimum of programs in 2018/19 as there was no data from British Columbia and there was only partial data from Saskatchewan.

their October 2021 election platform, the Liberal Government's lack of direct support for SFPs since the Budget 2019 promise demonstrates SFP development has not been a high priority. Additionally, the extent to which private entities such as the Maple Leaf Centre for Action on Food Security or President's Choice Children's Charity have collaborated with provincial and territorial governments' in their efforts to mitigate food insecurity during the pandemic; likely a missed opportunity as these organizations have distributed their own funding (Maple Leaf Centre for Action on Food Security, 2020; President's Choice Children's Charity, 2020) and other important resources (i.e., food products, distribution logistics) that could be helpful for short term solutions (i.e., getting food quickly to vulnerable populations). Collectively, the lack of coordination, cooperation, and collaboration is problematic.

When considering the long-term consequences COVID-19 prevention protocols have had on SFP operations, the overarching problem is that the approach taken by most governments in Canada reinforces a charity-driven model of support for those who are food insecure. Despite overwhelming evidence that income-based solutions are required to fully address food insecurity (Dachner and Tarasuk, 2018; Tarasuk and Mitchell, 2020), the reinforcement of SFPs targeting children, youth, and in some cases entire families perceived to be food insecure, undermines programs originally designed to provide universal access and reinforces negative stigma in the targeting processes (McIntyre et al., 1999; Raine et al., 2003). Finally, where provinces and territories increased SFP funding in response to the pandemic (the longevity and consistency of these resources unknown), insufficient levels of funding pre-pandemic made it difficult for SFPs to be prepared for and operate ineffectively in the short and long-term.

Collectively, even with increased supports for SFPs during the pandemic, limited government funding and ownership of SFPs pre-pandemic highlights how SFPs continue to be constrained, which is concerning given increased demand during the pandemic (Coalition for Healthy School Food, 2021). School reopening plans demonstrated a lack of collaboration and integrative governance via the continued downloading of services, responsibility, and liability onto NGOs and SFP volunteers without providing additional resources in most cases to integrate new pandemic protocols (e.g., training, increasing cost of food) to meet the growing clientele. These observations suggest SFPs are facing more challenging operation standards than before the pandemic and if these trends continue, it will be challenging to sustain SFPs, let alone, achieve a broader mandate beyond trying to address food insecurity.

CONCLUSION

Provincial and territorial reopening plans which focused primarily on measures intended to limit infectious disease transmission which did not consider the broader features of SFP operation (i.e., robust health and nutrition guidelines focused on whole foods, environmental consciousness regarding food procurement and waste), constrained the regular operation as well as the full potential of SFPs to deliver on a range of positive outcomes. The approach taken by decision-makers in designing

school reopening plans did not consider the broader features of SFP operation (i.e., robust health and nutrition guidelines focused on whole foods, environmental consciousness regarding food procurement and waste), thus undermined the hard-won evolution of SFPs in Canada. The design, and especially revisions, of school reopening plans could have better considered and aligned existing SFP operational and nutrition guidelines with new COVID-19 protocols to provide a more holistic and comprehensive set of directions for all actors involved in all levels SFP operation ability to deliver the range of positive mandates they normally do. Altogether, discursive efforts by Canadian policymakers have not been supportive of SFPs before or during the pandemic. If these trends continue the material consequences will be felt in the form of SFPs losing operational viability and mandates likely refocusing to food insecurity, undermining progress made in the areas of local food procurement, environmental sustainability, as well as health and nutrition standards.

The predominant focus on COVID-19 transmission emphasized in school re-opening plans across Canada could have the unintended consequence of institutionalizing school food practices and policies that emerged from the pandemic (i.e., use of processed, pre-packaged foods). Janet Poppendieck (1992), an American social historian and school food scholar, has noted while political opportunities are often generated by emergencies, we must make sure the programs that emerge are worth institutionalizing.

Moving forward the Canadian government should fulfil their 2021 election platform commitment (Liberal Party of Canada, 2021) and Budget 2019 commitment (Finance Canada, 2019) by working more closely with the provinces and territories to develop and implement comprehensive, integrated food and nutrition programs in Canadian schools (Haines and Ruetz, 2020). A federally-led SFP that is universally-available (welcoming to all students and avoids stigmatization), health promoting (provision of whole fresh foods), respectful (environmentally sustainable, culturally appropriate, and locally adapted), connected (elements connecting food and people are considered), and comprehensive (curricula incorporates food literacy, nutrition education and food skills) would promote the health and wellbeing of all children and youth in Canada (Coalition for Healthy School Food, 2020). Moreover, nationally harmonized nutrition standards based on Canada's newest Food Guide (Health Canada, 2019b, 2021) that are fully implemented, monitored, and regularly evaluated (Haines and Ruetz, 2020) and harmonized SFP metrics (Ruetz and McKenna, 2021) would increase program consistency across the country. Overall, the development of a federally funded and mandated SFP would likely force policymakers to recognize and attend to the three-fold tensions SFPs face: promoting health and nutrition as a multi-government commitment, requiring collaboration across governments and departments, and justifying budget allocation based on long- and short-term population benefits.

As new variants of COVID-19 arise and protocols change, it is important for research of the intersection between school reopening plans and SFPs to continue in Canada. First, we suggest future research continue to compare the discourse (or lack thereof) regarding SFPs found in provincial and

territorial school reopening policy documents. This is important for generating a historical timeline of how and when policy discourses among high level policymakers changed (or did not) and the repercussions. Second, we recognize the importance of Noyes and Lyle's (2021) work which highlights and compares SFPs operation across Ontario's 14 lead agencies. We recommend this research approach is conducted across all provinces and territories to identified localized trends and provide for further comparative study across, as well as within, provinces and territories. Finally, heading into the 2021/22 school year many provinces and territories have rolled out additional funding and supports for mental health and wellbeing of students and are allowing many school programs including music and sports to recommence. However, the connection between nutrition and wellbeing is overlooked and SFPs continue to be unacknowledged in school reopening documents. Research is needed to better understand why these trends are occurring when evidence in Canada (Fung et al., 2012, 2013; Powell and Wittman, 2018; Ruetz and McKenna, 2021) and beyond (Hoyland et al., 2009; Roustit et al., 2010; Bundy et al., 2012) demonstrate the multiple health and wellbeing benefits of SFPs.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

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AUTHOR CONTRIBUTIONS

MC, AR, LG, MI, and SS collected and analyzed data. MC organized the database and wrote the first draft of the manuscript. All authors wrote sections of the manuscript, contributed to the conception, design of the research, manuscript revision, read, and approved the submitted version.

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SUPPLEMENTARY MATERIAL

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Priorities, Narratives, and Collaboration: Insights From Evolving Federal Mandates on Food Systems in Canada

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Whether it is in a post-election period, a cabinet shuffle, or prorogation of parliament, the speech from the throne and mandate letters signal a government's priorities as they relate to emergent issues and long-standing public policy challenges. While the speech from the throne has been regularly available through parliamentary and government records, federal mandate letters have only been made publicly available more recently, and little research has been done on their role in shaping change. Using Critical Discourse Analysis (CDA), the authors explore how the overarching narratives presented by the current federal government have evolved across the period from 2015 to 2021. The authors then compare these narratives with the mandated commitments to the Minister of Agriculture and Agri-Food Canada (AAFC) during the same period. Through this comparative analysis, the authors highlight how the overarching narratives that emerged in later mandates, in particular the need to address systemic inequity, diverge with the commitments delivered to the Minister of AAFC. Part of the reason for identifying the divergence between central narratives and the current AAFC mandate is the hope that better alignment is possible. This includes making a new food policy environment in Canada; One that is equitable, prosperous for all, supports true reconciliation and Indigenous sovereignty, and ushers in a brighter future for the next generation and our planet. To conclude, the authors present alternative food systems frameworks that could help better achieve the more just and resilient world that the federal government narratives outlines.

Keywords: narratives, public policy, communication tools, agenda setting, food systems transformation, food sovereignty

FOOD SYSTEMS, PUBLIC POLICY, AND COMMUNICATION TOOLS: EVOLVING NARRATIVES IN THE TIME OF CRISES

Our policy environments are both a reflection of the past and a hope for the future, with the tension between the two pulling at decisions being made in the present. Communication tools, and discursive environments more generally, are a central way in which governments lay out their public policy priorities and future policy intentions. This intertwined reality of what is said, how its

framed, and what gets done contributes to the discursive environments in which policy is built. The question then is, to what extent the dissonance between reflection and aspiration can be overcome.

During the COVID-19 pandemic, much attention has been given to the performance and faults of food systems, both in Canada and globally (HLPE, 2020; Holland, 2020; Knezevic et al., 2020; OECD, 2020; Stark et al., 2020). While many of the authors point to underlying systemic issues in our food systems (e.g., environmental degradation, systemic racism, and economic inequality) as contributing factors to the faults, little consensus exists on how exactly to move forward. Pandemic programming, such as Canadian Emergency Response Benefit (CERB) or additional funding for food aid organizations, is meant to help with the acute challenges but lacks the structural shifts needed to address these systemic issues. To better reflect on how to create more equitable systems, public policy and discursive environments surrounding food must be better understood and evaluated. Since these underlying systemic issues will remain even as the pandemic becomes more controlled, it is important to consider the actions of governments and how their rootedness in discourses continue to impact public policy direction. Understanding this rootedness, the alignment between overarching narratives and food systems commitments presented by the federal government can be analyzed through the mandates provided to Agriculture and Agri-Food Canada (AAFC), the primary federal department responsible for food.

In this article the authors seek to investigate three cascading research questions:

1. How have the current federal administration's overarching narratives evolved since 2015?
2. Based on the evolving narratives identified, how have the mandates to the Minister of Agriculture and Agri-Food Canada changed?
3. How do the most recent narratives engage with critical food scholarship and alternative food movements, with an end goal of creating more equitable food futures?

The COVID-19 pandemic has prompted reflections on the potential of government and public policy to address injustice while laying bare the role they play in the ongoing pandemics of inequality and racism. Recognized by the United Nations as a central thread to achieving a more just society that “leaves no one behind” (United Nations, 2021), food systems both reinforce and are impacted by other core pillars of society (e.g., health, employment). By analyzing government documents, the authors glean how the narratives deployed by the federal government compare to the mandates provided to the Minister of AAFC. This analysis is done across the four different iterations of mandate letters from 2015 to 2021. By reviewing these different elements of communications comparatively, the authors explore the extent to which these mandates support or diverge from the evolving central narratives developed and deployed within the broader government discourse.

The authors' hope is that by identifying where divergence exists between the evolving overarching narratives used by the

current federal government and the mandates it has directed to AAFC, more can be done to treat food systems as a lever for change. In addition to the broader discussion on the discursive environments of food systems, this research seeks to draw on and contribute to the broader body of food systems transformations scholarship (Blay-Palmer et al., 2016; Knezevic et al., 2017) by highlighting possible pathways for change within public policy institutions.

ROLE OF AGENDA SETTING GOVERNMENT COMMUNICATIONS: DISCOURSE AND NARRATIVES

Discourse can be found anywhere and informs the narratives we tell and are told. In other words, “[a] discourse is a shared way of apprehending the world... each discourse rests on assumptions, judgements, and contentions that provide the basic terms for analysis, debates, agreements, and disagreements” (Dryzek, 2013, p. 9–10). Governments and other institutions communicate their objectives and worldviews through discourse, the politics of which are evident in policy and communications. Publicly available policy documents do more than inform stakeholders; they also communicate policymakers' prevailing values and frame the discussions around the policy issues that those documents focus on. They set the parameters of discourse in the policy community, or “the set of actors, public and private, that coalesces around an issue area and shares a common interest in shaping its development” (Skogstad, 2008, p. 208). Policy instruments then serve a secondary, discursive function of delimiting the scope of possibilities for future policy and thus influencing the stakeholders' understanding of issues as well as any future related policymaking. As Fairclough points out:

“The process of producing a policy paper is the process of moving ‘from conflict to consensus’... to a text where there is no intertextualizing of different voices” (Fairclough, 2003, p. 43).

The way in which policy documents frame an issue can set the agenda for current and future discussions around that specific policy issue. It is difficult to prove or disprove the arguments underlying a discourse (Dryzek, 2013), but Critical Discourse Analysis (CDA) enables comparison, which can identify conflicts within or between discourses and narratives. Put differently, “CDA helps deconstruct the policy texts to reveal assumptions, subject positions and social relations between and within institutional contexts” (Marston, 2004, p. 40).

A conversation, speech, policy document, advertisement, picket line, or a call for action all contain narratives which stem from discourses. Narratives are, in part, the way we frame the thoughts we share and what language we include. Discourse has a more aggregate and iterative effect, connecting our words from singular things into a web of meaning. Through a multitude of channels (e.g., social media, government documents, speeches), governments, like individuals or groups, develop and deploy narratives that reflect their intended position

or desired communication frame. When reviewed in aggregate, these narratives contribute to the governments both central and sectoral discourses. Within these channels lie formalized processes (e.g., delivering the speech from the throne at the opening of parliament) that act as the integral link between discursive environments and the boundaries of the possible within public policy. Situated in a Canadian context, these formalized processes include producing documents that help set the agenda for the coming parliamentary session. This includes the speech from the throne and the development of mandate letters for each cabinet minister. Similar to other parliamentary tools used in research (e.g., hansard records), these documents are steeped in contextualized narratives that represent a moment in time as well as the deep legacies of past public policies (McIntyre et al., 2018). Whenever released, the speech from the throne and mandate letters signal a government's priorities as they relate to both emergent issues and long-standing public policy challenges.

Scholarly work on agenda setting communications includes research on relationships between the public, press, and governments (Soroka, 2002; Green-Pedersen and Mortensen, 2010). Even though the strategic nature of how or when communication tools are deployed continues to be debated by scholars (Glenn, 2014; Marland, 2017), this work provides valuable insight into the way government communications are developed and used. In this article, we focus on the narratives and discourses developed by the federal government between 2015 and 2021, led by Prime Minister Justin Trudeau. In particular, we focus on how these narratives are embedded within the speech from the throne and preamble to the mandate letters to develop the governments discourse and how they evolve over time. The evolving narratives that are unearthed will then be compared to the specific mandated commitments provided to the Minister of AAFC from the Prime Minister over the same period. Displaying the connectivity between policy and these agenda setting documents, Summa Strategies (a public relations firm) notes that the speech from the throne “outlines the government's general priorities which are then divided up amongst Cabinet through mandate letters to add substance, specificity and accountability to these priorities” (Summa Strategies, 2020). This deep linkage between the different documents makes it important to understand how central government narratives evolve and whether—considering a lag between discourse and corresponding action—the subsequent iteration of mandates reflect these changes.

Relying mostly on insights from the former Harper administration, Marland (2017) finds that while the Trudeau administration has provided more agency for Ministers—and departments more broadly—to control their communications on minor announcements, there remains an emphasis on central narratives and consistent themes (such as support for the middle class) found in the agenda setting documents for larger announcements. They note that:

“Looking deeper, internal PCO[1] guidelines encouraged departments to package their messages within themes used in the speech from the throne, including the middle class, economic

growth, environment, inclusive diversity, and collaborative approaches.” (P. 46)

The Federal mandate letters “outline the objectives that each minister will work to accomplish, as well as the pressing challenges they will address in their role” as set out by the Prime Minister (Office of the Prime Minister, 2020). Mandate letters provide one of the most granular reflections of what the government is hoping to tackle and insight into key investments or policy change on the horizon. While several scholars and practitioners have researched the influence of mandate letters (McRobert and Tennent-Riddell, 2016; Waubert de Puiseau, 2016; Lucyk, 2020) or different elements of the speech from the throne (Midzain-Gobin and Smith, 2020; Kalapurayil, 2021), there remains little work on Canadian federal government mandate letters as they relate to food and agriculture systems.

DATA AND METHODS

Selecting the time period from when federal mandate letters were first made public (2015) until the most current iteration (2021), the data included: four iterations of the speech from the throne, three mandate letters, and one supplementary mandate letter. **Table 1** provides a breakdown of the type of publication, year of release, and accessible links to each document.

For this article, we focus on the first two dimensions of Fairclough's Critical Discourse Analysis classifications: text analysis and processing analysis. However, the work is contextualized by the third dimension which relates to embedded norms and “the socio-historical conditions that govern these processes” (Janks, 1997). In focusing on the first two, the authors review the narratives and discourse used within the documents selected. The authors then compare the shifting larger narratives (dimension two) with the narratives included in food systems mandates. The divergence is identified by contextualizing food systems within dimension three (the norms and historical conditions that govern) and comparing mandated commitments with the overarching government narrative changes identified previously (dimension two). In part, the authors note the stickiness of the current agricultural productivism paradigm with its deep-rooted connection to colonization and industrialization. To that end, the authors recommend ways to shift policy processes that could address dimension three and result in better alignment with the shifting narratives of inclusion, systemic change. The process was both iterative and scoped, with a central emphasis on the agenda setting documents and the sub-set of food systems mandates that stemmed from them.

Once the documents were compiled, the authors read each of the mandate letters and speeches independently to identify themes before comparing notes. As most of the documents were analyzed in early—to mid- 2021, the data was revisited for the integration of the mandate letter released in December of 2021 to ensure the most current evaluation of narratives, discourses, and commitments were included. Based on the common themes identified, the authors tracked the main overarching government priorities—found in the speeches from the throne and preambles

TABLE 1 | Documents used for the analysis of federal narratives and food systems commitments from 2015 to 2021.

Type of document and title (if applicable)	Date released	Publicly accessible web link
Making real change happen; Canadian federal government speech from the Throne 2015	December 4th, 2015	https://www.canada.ca/en/privy-council/campaigns/speech-throne/speech-throne.html
Mandate letter to the minister of agriculture and agri-food Canada	November 15th, 2015	https://pm.gc.ca/en/mandate-letters/2015/11/12/archived-minister-agriculture-and-agri-food-mandate-letter
Moving forward together; Canadian federal government speech from the Throne 2019	December 5th, 2019	https://www.canada.ca/en/privy-council/campaigns/speech-throne/moving-forward-together.html
Mandate letter to the minister of agriculture and agri-food Canada	December 13th, 2019	https://pm.gc.ca/en/mandate-letters/2019/12/13/archived-minister-agriculture-and-agri-food-mandate-letter
A stronger and more resilient Canada; Canadian federal government speech from the Throne 2020	September 23rd, 2020	https://www.canada.ca/en/privy-council/campaigns/speech-throne/2020/speech-from-the-throne.html
Supplementary mandate letter to the minister of agriculture and agri-food Canada	January 15th, 2021	https://pm.gc.ca/en/mandate-letters/2021/01/15/archived-minister-agriculture-and-agri-food-supplementary-mandate-letter
Building a resilient economy; Canadian federal government speech from the Throne 2021	November 23rd, 2021	https://www.canada.ca/en/privy-council/campaigns/speech-throne/2021/speech-from-the-throne.html
Mandate letter to the minister of agriculture and agri-food Canada	December 16th, 2021	https://pm.gc.ca/en/mandate-letters/2021/12/16/minister-agriculture-and-agri-food-mandate-letter

to the mandate letters over the selected time period—to identify themes that: emerged, were strengthened, evolved, or maintained over time. Once the overarching narrative analysis was complete, the authors tracked the results against the mandates given to the Minister of AAFC. The authors then evaluate the findings against food systems literature to identify alternative conceptions of governance that could support better alignment between the overarching federal narratives and future food systems commitments to create inclusive and equitable food futures. CDA was used throughout the process to help the authors dissect and identify overarching narratives and how they were reflected—or not—within the food systems mandates provided to AAFC.

Well-suited for trans-disciplinary and inter-disciplinary work, CDA allows for the analysis of discourse within specific policy fields or areas of study while situating these narratives in broader social understandings (Fairclough, 2013). CDA has shown to be a helpful tool for moving past the surface of discourse and into the contextual and historical housing of these narratives. Concerned with inequity and power (van Dijk, 1993; Weiss and Wodak, 2007), CDA also highlights the opportunity for actions that offer more equitable futures, making it an apt choice for this research. Across Canada, CDA has been used by scholars to examine policy environments including: poverty reduction (Smith-Carrier and Lawlor, 2017), food security (Knezevic et al., 2014; Smith-Carrier, 2021), public health (Alexander and Coveney, 2013), and agricultural production methods (Anderson and Maughan, 2021; Duncan et al., 2021).

One of the limitations of this study is that because the mandate letters have only been available publicly since 2015, there are no counterfactuals to include from former administrations. Even with this limitation, the contents of four iterations of the AAFC mandate letters allow the authors to conduct a comparative study between the overarching narratives included in the preamble of each document and the evolving mandate commitments given to AAFC.

OVERARCHING NARRATIVES BY THE GOVERNMENT OF CANADA BETWEEN 2015 AND 2021

This section explores the overarching narratives shared with all Ministers across the four versions of the speech from the throne (2015, 2019, 2020, and 2021) and the preamble of the mandate letters (2015, 2019, and 2021a and b). The section is broken into the four periods: setting the tone in 2015, refining the priorities in 2019, reckoning with crises in January 2021 (a), and existing in crisis, searching for direction in December 2021(b). The January 2021 mandate letters were written to be supplementary, rather than replacement, to the 2019 versions. Following the election in 2021, and the subsequent return of a minority government under Trudeau, the mandate letters released in December 2021(b) replace the previous mandates presented in 2019 and the supplementary in earlier 2021(a).

Setting the Tone: 2015

After the 2015 election and a transition in administrations, the new majority government under Trudeau crafted a distinctive tone steeped in “change” language, emphasizing shifting electoral and governance priorities. Indicative of these narratives, the 2015 speech from the throne states:

“Let us not forget, however, that Canadians have been clear and unambiguous in their desire for real change. Canadians want their government to do different things, and to do things differently (Government of Canada, 2015a).”

The narratives used in the speech from the throne and the preamble to the mandate letters included a focus on creating a more productive relationship between the government and the public service, bolstering the middle class, embracing multiculturalism, opening a new chapter of reconciliation,

committing to transparency, electoral reform, and addressing climate change. It was an era of government that allowed for the inclusion of new discourses and aspirational promises.

Refining and Strengthening Narratives: 2019

Situated in the minority and pre-pandemic context, the 2019 documents introduced a renewed emphasis on working across party lines and challenges in the international liberal order. While the international liberal order's inclusion could be connected to Canada's bid for the open UN Security Council seat (Government of Canada, 2019a; Harris, 2020), other narratives were more deeply seeded in the broader policy environment. Encapsulated in a quote from the 2019 speech from the throne, Governor General Payette:

"In this election, Parliamentarians received a mandate from the people of Canada which Ministers will carry out. It is a mandate to fight climate change, strengthen the middle class, walk the road of reconciliation, keep Canadians safe and healthy, and position Canada for success in an uncertain world."

Narratives on gender-based violence, gun control, equity, environmental protection and supporting the middle class were maintained in the 2019 version compared to 2015. Reconciliation and diversity evolved, becoming unique narratives rather than their previously bundled presentation. A notable shift occurred in commitments around electoral reform in the 2017 letter to the Minister of Democratic Institutions (Government of Canada, 2017) and the overarching narratives began to dissolve with it.

Responding to Crises: The 2021 Supplementary

Delivered in the same minority government environment of 2019 and purportedly prompted by the COVID-19 pandemic, the supplementary speech from the throne notes that:

"the last six months have laid bare fundamental gaps in our society, and in societies around the world. This pandemic has been hard for everyone. But for those who were already struggling, the burden has been even heavier." (Government of Canada, 2020).

Within the speech is a section entitled 'building back better' for a post-pandemic recovery, specifically addressing recovery for the middle class. Presented as the final section, "the Canada we're fighting for" includes narratives of reconciliation, addressing systemic racism, protecting official languages, creating a welcoming Canada, and strengthening Canada's position in the world. It is noteworthy that these are separate sections; the siloing in discourse creates a narrative and policy wall between issues of systemic justice and growing the middle class, suggesting to the authors that the two may be treated—at times—as mutually exclusive narratives. The 2021 documents showed the emergence of a new narrative around systemic racism. Narratives focusing on reconciliation were strengthened and some of main narratives emerging in 2019 remained (e.g., growing the middle

class) or evolved (e.g., environment; collaboration, diversity, and inclusion).

Existing in Crises, Searching for Direction: 2021

In a historic moment, Canada's first Indigenous Governor General, Her Excellency the Right Honorable Mary Simon, delivered the speech from the throne in November of 2021. The ensuing mandate letter preamble called COVID-19 a "once in a century challenge" (Government of Canada, 2021a). While COVID-19 continued to put pressure on health care systems, other parts of Canadian society were also under scrutiny. Mass graves were found at residential school sites across the country in 2021, inciting a renewed emphasis on reconciliation. While present in earlier agenda setting documents, the mandate letters of 2021(b) more explicitly directed all ministers to implement the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) in their work. In addition, the preamble of the mandate letter maintains a call for a continued dedication to diversity in the public service, including a gender-based analysis (GBA Plus) and the use of quality-of-life indicators beyond economic measures, and highlights the integrity of journalism and the need for solid relationships between media and government. However, the emphasis on disaggregated data collection that emerged as so critical earlier in the year disappeared from the overarching narratives, rather remaining in the mandates provided to the Minister of the Treasury Board (Government of Canada, 2021e). In addition, language related to systemic racism broadened to "inequities and disparities" felt by communities across a spectrum of identities, including abilities, gender, race, faith, and sexuality recognizing, perhaps, the intersectionality of identity across individuals and communities.

Table 2 depicts those overarching narratives which emerge or persist across the four iterations. For the purposes of this table, diversity is collapsed into a common category with inclusion and collaboration.

Many of the themes identified by the authors were similar to those named by Marland (2017), however the narratives have evolved to represent more refined or broad versions compared to the 2015 agenda setting documents. At the same time, several commitments were abandoned which resulted in the shedding of specific narratives that connected to the discourse from the 2015 documents (e.g., electoral reform). The pandemic and converging crises of 2020/21 introduced new discourses and narratives to the agenda setting documents (e.g., systemic inequities).

Several notable shifts occurred across the iterations from 2015 to 2021. First, the speech from the throne becomes noticeably longer. The speech was delivered in just over 15 min in 2015, grew to nearly an hour in 2020, before reducing to just under 35 min in 2021. This expansion could indicate the increasing complexity of governing in a world fraught with converging crises (e.g., pandemic, climate, social) while still needing to deliver on pre-existing commitments. Secondly, while many of the narratives that emerged in 2015 remain across iterations, there are several important evolutions and later additions. Namely, the strengthening of reconciliation commitments from

TABLE 2 | Overarching government of Canada narratives from 2015 to 2021.

	2015	2019	2020/2021a	2021b
1. Reconciliation	Emerged	Evolved	Strengthened	Maintained
2. Growing the middle class	Emerged	Maintained	Maintained	Maintained
3. Protecting the environment	Emerged	Maintained	Evolved	Strengthened
4. Collaboration, diversity, and inclusion*	Emerged	Evolved	Evolved	Evolved
5. Tackling systemic racism and unconscious bias	–	–	Emerged	Evolved

*Collaboration, Diversity, and Inclusion are bundled under one category as originally found in 2015 iterations of the agenda setting documents.

2015 to 2021, which includes the more developed direction for the implementation of UNDRIP. Additionally, the introduced emphasis on collaboration narratives in the minority government of 2019 onward is important, as it contextualizes the need to work across parties differently than in a majority. There is also the 2020 emergence of a new narrative recognizing systemic racism and the 2021 evolution that indicates a broader understanding of intersectionality within marginalized identities (e.g., sexuality, gender, ability). Climate change narratives shift to more urgent and strengthened framings later in the iterations—shifting toward new reduction commitments and the enhanced commitment for adaptation. While not a shift. The consistent and dominant frames of international trade and middle class remain central, with the ever-reinforced tenet that growing the economy and protecting the environment are not mutually exclusive aspirations.

MANDATING FOOD SYSTEMS: EVOLVING COMMITMENTS FROM 2015 TO 2021

Promote, Protect, and Innovate Canadian Agri-Food Systems: 2015

The mandate of 2015 focuses largely on maintaining and enhancing the current agri-food system through investing in scientific research and innovation, renegotiating the national subsidy framework for agriculture, and promoting Canadian food producers by expanding global markets while protecting supply management at home. There is a large emphasis across mandates on the use and investment in science as well as the promotion of new markets. The mandate letter states that the Minister's "overarching goal will be to support the agricultural sector in a way that allows it to be a leader in job creation and innovation" (Government of Canada, 2015b).

Stay the Course: 2019

The mandated commitments of 2019 help reinforce those made in the earlier version. In fact, the 2019 letter calls on the Minister to continue to support the agri-food sector as a "leader in job creation and innovation" (Government of Canada, 2019b). This is included along with the emphasis on supporting the sector's "global export potential" (ibid). To that end, the mandated commitments focus on maintaining production capacity which is seen as the foundation for the broader supply chain, as well as the promotion and protection of Canadian farming in trade,

use of—and investment in—science, as well as a more developed mandate for a national food policy.

(Un)Safe Food Systems: 2021(a)

The impact of the pandemic on food systems and the workers on whom they depend make a clear entrance into the mandates in early 2021. Likely motivated by the high-risk environments of on-farm and processing facilities and the high rate of COVID-19 contraction comparative to the general Canadian population (Kelley et al., 2020), the supplementary letter included the need to protect vulnerable workers. There is also a new urgency around the threat of climate change and the implications of, and for, farming than in previous years. There is an absence of any narratives that would address tension between the underlying conditions for success in the priorities of the 2019 mandates (e.g., access to low wage labor) and the aspirations outlined in supplementary letter of 2021(a).

Change on the Margins and Climate-Urgency: 2021(b)

Narratives around the specific protection of workers fall out of the 2021(b) iteration, replaced with the need to regulate, inspect, and develop programs that would presumably facilitate a safer environment. Any opening for a more systemic change indicated by the narratives and commitments delivered in 2021(a) are mostly shifted back to the margins with the exception of the national school food program and the urgency of climate change. Notably, 2021(b) is the first mention within the publicly available mandates of AAFC which acknowledges and includes marginalized groups in the sector. In reference to the negotiations on the update to business risk management (BRM) programming, the mandate letter states:

"Ensure that producers, including Indigenous, young and women farmers, have the opportunity to contribute." (Government of Canada, 2021d).

While the language does not guarantee how these considerations will be taken into account, the recognition of these groups within food systems is significant.

In addition to the themes within each iteration, the following observations emerged from a review of the mandated commitments between 2015 and 2021.

1. Narratives supporting interdepartmental collaboration and local food emerges and retreats;

2. Some mandates continue to draw from a more historical framework for agricultural programming while other mandates emerge as new or even possibly competing priorities; and
3. The most significant shift happens between the 2019 and 2021(a) iterations of the documents, but the 2021(b) iteration showed signs of reversion back toward some of the priorities of earlier versions of the mandate letters versus strengthening the supplementary mandates (2021a) from earlier in the pandemic.

Inter-departmental collaboration is a key shift across the years. In 2015, only two of eight mandates required collaboration with other departments (climate change and infrastructure), and both were framed as “support the Minister of” rather than an explicit need to work toward a shared outcome. In 2019, there were six of 10 mandates that expected some form of inter-departmental work. While there were fewer-than-normal supplementary mandates provided in 2021(a), six of the seven mandates were inter-departmental. The shift to mandating more cross-government efforts on policy development is important to note as it implies a wider recognition of the interconnected nature of agricultural policy. However, the 2021(b) letter shows a reversion toward more siloed approaches to policy development with only half of the 14 mandates including “working with” or “supporting” other Ministers. While this is equal or greater to the total number of collaborative mandates of the previous iterations, it is not proportionally greater.

In addition, mandates on international trade and export development are quite consistent across the iterations with a focus on protecting Canadian interests, growing export markets, and compensating supply management sectors for concessions made in trade negotiations. The one exception is within the interdepartmental work mentioned previously. In 2019, there is a clear commitment for Ministers to work together in the effort to grow and diversify markets for Canadian goods. While the mandate could have originated from a number of influences (such as the media or public sources mentioned by agenda setting scholars), it is important to note that 2019 was a very contentious period with Canada’s largest trading partner, the United States. The only reference in 2015 to domestic markets is in the commitment to develop a food policy for Canada, which is then reiterated and refined in 2019. By 2019, there is also a reference to developing domestic markets, but this too is bundled with international export language. It is not until the 2021(a) supplementary letter that there is a clear commitment for “government-wide efforts to” support local food and strengthen domestic supply chains (Government of Canada, 2021c). However, in the 2021(b) version local food has diminished, replaced by a more aggressive narrative of addressing climate change and growing Canada’s role as a global agri-food leader.

Recognition of local food and domestic capacity was not the only shift to occur between 2019 and 2021(a). The need to protect vulnerable workers, explicitly address food insecurity, reduce carbon emissions in food systems, and integrate nature-based solutions into farming systems were all included as mandated

commitments, running contrary to many of the negative indirect consequences from more industrial export models. Some of these new additions are reiterated in the December 2021(b) mandate letter. While these changes may seem small, squaring them with the frameworks upheld by commitments in 2015 and 2019 will be no small task. Canadian export strength relies, in part, on an abundant access to clean water, cheap natural gas, and low paid labor. To protect labor, including workers’ rights, would necessitate a fair wage and decent working conditions. While there are three mandates connected to labor in 2021(b), they are all either consultative, enforcement oriented, or narrowly scoped in nature.

In 2021(b), the Food Policy for Canada (FPC) began to take shape with the commitment to a national school food program and the fund to reduce food waste, both of which are related to reducing food insecurity. Other promising openings, such as nature-based solutions, were sidelined for investments in high-tech research. Implementing nature-based solutions and reducing emissions would also take a re-alignment of priorities toward the inclusion of costing negative externalities into the artificially low price of commodity-based food stuffs. The tension presented by these competing commitments, overarching narratives, and historical frames may need a far more nuanced approach to public policy than currently found within AAFC.

IMPLEMENTATION TOOLS OR DETOURS FOR CHANGE: COMPARING NARRATIVES WITH MANDATES

If, in fact, the mandate letters are meant to be the towlines of all future actions then it is conceivable that the commitments included should be in line with the overall discourse deployed by the government. The 2015 and 2019 versions of the agenda setting documents include narratives that can be tracked across to the specific mandates provided to the Minister of AAFC with some consistency. In particular, the focus on protecting and promoting international trade is a way of operationalizing the narratives of economic growth. In addition, the emphasis on clean tech in agriculture as response to the climate crisis is in near complete ideological alignment with the government’s environmental discourse. As the 2015 speech from the throne states,

“Protecting the environment and growing the economy are not incompatible goals; in fact, our future success demands that we do both.” (Government of Canada, 2015a).

However, there is a clear divergence from this narrative in the 2020 and 2021 versions of the agenda setting documents. Namely, the commitments provided to AAFC do little to address the most centralized narratives of the later iterations such as systemic inequity and reconciliation. While systemic change is central to the overarching narratives, the mandates focus on symptom-based solutions through technology or inclusion of additional voices without provision of agency within decision making or

recognizing the current political imbalance between these groups and more dominant industry-led voices.

Based on the comparative analysis between the overarching narratives and mandate commitments, we outline areas where the overarching narratives may be diverging from the actions mandated to the Minister. To do this, we take the position that no mandate is considered out of scope or irrelevant for the achievement of an overarching narrative since all public policy has an impact that is both interconnected and transformative with the possibility of embedding a social norm or reality. This position is supported by the research of government communications scholars whose participants observe the central role that mandate letters play in later policy products (Marland, 2017). The following section connects narratives from the throne speech and mandate preambles with the work mandated to AAFC between 2015 and 2021.

Charity Over Food Sovereignty Approaches

The redistribution of land away from Indigenous communities toward settlers was a concerted act of public policy [e.g., Dominion Lands Act (Yarhi and Regehr, 2006)]. These acts of seizure and redistribution maintain a deep connection to our current settler-colonial agricultural policies as well as who has access to lands under current conceptions of ownership and access. Despite this, there is little recognition of the need for AAFC to support sovereignty through self-determination of Indigenous food ways. In the implementation of mandates there have been instances of support to Indigenous-led activities, such as the Harvesters Support Grant (AAFC, 2020)¹, but this is only a fraction of the total support. There has been an overwhelming amount of criticism for the government's near sole focus on charity model interventions while ignoring more systemic and community efforts (Levi and Robin, 2020; Tarasuk and Mitchell, 2020). In a study with an Indigenous community in Ontario's subarctic region, Skinner et al. (2013) note that families continue to cope with food shortages through food sharing and traditional food ways. There remains a chasm between the overarching narratives of reconciliation presented by the government, the continued use of jurisdictional scapegoating to push problem solving to a different level of government, and the commitments prioritized and mandated to the AAFC.

Missing a Rights-Centered Approach to Production

Several AAFC mandates are targeting low-income or marginalized communities, notably commitments related to food security and migrant workers' rights. While these populations could be contained in "those who are working hard to join [the middle class]," their continued marginalization suggests that these mandates are in conflict with the narratives on systemic inequity and "Growing the Middle Class" imperative. Current BRM programs do little to reverse the trend or establish

further support for small growers who focus on community-based markets and food systems, aiming programs instead at a "medium" farm that no longer exists (Stevenson, 2021). There may be some possible alignment with the commitment to grow export markets, but the benefits of these transactions tend to concentrate on a small group of beneficiaries. Finally, pressure to compete at international prices is often included in the justification to delay or deny workers' rights and environmental protection, leaving tension between the different mandates, in particular the 2019 mandate letter and its supplementary companion in 2021(a). This tension remained unattended in the 2021(b) version.

Taking Nature Out of Nature-Based Solutions

Nature-based and comprehensive climate pricing solutions butt up against what we know has been implemented and mandated previously. For example, farm-level greenhouse gas reductions are not mentioned until 2021 even though carbon pricing and tackling climate change were outlined as early as 2015 in the overarching narratives. The focus in 2015 and 2019 was on adaptation and technological solutions rather than a more systemic path to reduction. While nature-based solutions are a step toward more integrated climate action, there remains no regulatory measures focused solely on reduction for on-farm emissions after three mandates. The 2021(b) version puts an emphasis on precision agriculture and clean tech and disaggregates the inclusion of alternative farming models in farm subsidy programs from the government's commitments around the environment. In addition, nature-based solutions do not appear in the latter 2021(b) version at all.

Systemic Inequity on the Margins of Mandates

Systemic racism is one of the most recent inclusions in the overarching narratives, but there is no connection with the mandates included in 2021(a). Even if related to the 2019 mandate letter, there is no acknowledgment of the need to diversify farming, land ownership, or to review the current imbalance across food systems but rather a mandate to make intergenerational transfer easier between members of a farm family. While this process is important for continuity, it fails to offer any commitment on how to integrate new farms/farmers into the growing void left by increased succession of aging Canadian farmers (Stevenson, 2021). The closest link between the mandates and systemic racism is a reference to disaggregated data in the preamble of 2021(a) which was sent to all Ministers. There was no inclusion of a specific mandate to work with the Minister of the Treasury Board on identifying the needs and areas for data within food systems in Canada. Rather than building out a plan for comprehensive disaggregated data collection, the earlier language from the preamble has been removed without any integration of specific commitments in 2021(b). This is in the face of knowing that Canadian agricultural organizations and farms are bereft of diversity (Igbavboa and Elliot, 2020). While AAFC has submitted the

¹As described by the Government of Canada, the Harvesters Support Grant "increases access to country foods by providing funding to support traditional hunting, harvesting and food sharing in isolated communities" (Government of Canada, 2022). The program is facilitated through the broader Nutrition North Canada program.

letter of implementation for the “Call to Action on Anti-Racism, Equity and Inclusion” (Government of Canada, 2021f), this work specifically focuses on systemic racism and inequity within the Ministry rather than those receiving government funding or the agri-food industry at large. Ensuring that data is collected, and used for the benefit of policy development, both within and outside of the Ministry is key to developing more equitable environments. The only insight into the linkages between the overarching narratives of diversity or systemic inequity and commitments provided to the Minister of AAFC is the mandate, mentioned earlier, relating to consultation for updating business risk management where the Prime Minister asks that “that producers, including Indigenous, young and women farmers, have the opportunity to contribute” (Government of Canada, 2021d). How the government plans to achieve this without any measures to build capacity, address historic land injustice, or collect data to support better decision making is left unanswered.

DISCUSSION: ALTERNATIVE FRAMEWORKS FOR CHANGE

While there is a growing chasm between the government’s overarching narratives on systemic inequity with the mandates provided to the Minister of AAFC, the supplementary letter in 2021(a) created a window in which more transformative change could be achieved. Part of the reason for identifying divergence between central narratives and food systems frameworks is the hope that better alignment is possible. This includes making a new policy environment for food; One that is equitable, prosperous for all (including the middle class), supports true reconciliation and Indigenous sovereignty, and a brighter future for the next generation and our planet. In areas where divergence is identified, we offer alternative models that better align food systems’ aspirations with overarching narratives. These include but are not limited to: the introduction of a Ministry of Food to support inclusive structures; addressing multi-scale governance by strengthening regional and local food systems through a nested approach; and supporting sovereignty by reconceptualizing achieving the right to food rather than reductionist forms of food security.

Inclusive Structures: Developing a Ministry of Food

Globally, there are many examples of countries working to bridge food as commodity and food as necessity in their government ministries. In some cases (Uganda, Guinea), nutrition outcomes have been added to ministry of agriculture’s purview (Fan et al., 2020). In other cases, such as the government of the United Kingdom, the Ministry of food has been tethered to Environment and Rural Affairs (Government of the United Kingdom, 2022). In the European Union, however, there are few implemented examples of a full integrated approach to food systems within government institutions. One of the closest

is the emergence of food policy groups which can be structured as a part of, parallel too, or apart from government decision making bodies.

Our research notes that as part of the recent Canadian policy landscape, interdepartmental collaborations emerging in the 2019 and 2021(a) mandate letters are a starting point for the level of cohesion required to ensure food access and sustainable food systems. However, a ministry that incorporates these different facets of food- as it pertains to income, inequality, and health to name a few- might be better equipped than any of these individual ministries, even when collaborating. A Ministry of Food on its own would not solve the challenges outline within the overarching narratives of the government but it would provide a more critical space to discuss food issues and consider confounding factors than the present agricultural model of governance, such as the AAFC. By creating a more inclusive Ministry of Food, the complex landscape of systems actors would be part of the policy process (MacRae, 1999a). This would include consumers, producers, processors, communities, Indigenous partners, and many government departments across scales. With more voices at the table, and a transparent rebalance of power to those most affected by food systems, a Ministry of Food could center decision making on systemic changes that support equitable outcomes. For example, if nutritional value and environmental outcomes were included within food systems production programming directly, the sole emphasis on efficiency may yield to a more diverse and complex set of success measures. Alternatively, if succession was thought of in terms of land equity and not just intergenerational transfer or asset management, government programming may significantly change (Perttula and Wilkes, 2021). MacRae (1999b) outlines both an advantageous schedule for implementation and the benefits of this more inclusive model for institutional governance of food public policy. In addition, MacRae (1999a,b) shows that how food systems are governed is just as important to an outcome as what policy commitments are made. MacRae (2011) builds on integrated governance structures through the joined-up principles for frameworks in food policy. In fact, the author weaves together elements of governance in an inextricable way for readers. The recent announcement of the Canadian Food Policy Council may be one step in this direction but there is far more work to be done. While the membership appointed to the Council represents several different perspectives and positions, the current structure of reporting only to the Minister of AAFC limits cross-department reform and leaves the narrative squarely within agriculture and agri-food vs. food systems more broadly. While argued using a provincial lens, the concepts and structures proposed by MacRae (1999a) are also positioned well to support federal transitions. This may include taking a more territorial approach to food systems that links local food policy groups with their federal counterpart as well as place-based planning for food systems programming. A Ministry of Food leaves space for nuance and allows for many voices to join the development process, rather than the more technocratic or exclusionary practice.

Nested Food Systems

The nested food system supports all of AAFC's mandates while also supporting the overarching narratives of government. All food systems are nested already, but there must be a concentrated effort on synergy and support between varying levels. The two sides of Canadian agriculture now— the export-oriented side and the farmers' market side— are lacking the intention and clear, targeted, multi-scalar support that would fill the growing gap left by the decline in middle-sized farms in Canada (Stevenson, 2021). The national or internal prong of a nested system is also not a single system but rather a collection of interrelated localized systems. These can be divided according to several geographic, ecological, or socioeconomic factors like provincial boundaries, watersheds, and demographics of place. Each of these systems will be nested within another or several others. Not only are our global and local food systems nested, but they are part of a system of systems (SoS), interconnecting many other sectors, such as oil and gas and international trade (Hipel et al., 2010). The strength of an SoS or nested systems approach is that it embraces the complexity that these interconnections bring and uses that to solve problems, as opposed to siloing solutions according to a single industry. According to Hipel et al. (2010), the conflict between local and international food systems "is an inescapable condition due to the immense diversity of values and opinions" (Hipel et al., 2010, p. 4). The SoS policy strategy works this diversity of values and opinions into its outcomes, making systems of systems more risk-aware, reliable, and resilient. Research is already underway to help provide insight into the impacts and opportunities for data-driven decisions on regional food systems, such as the Okanagan Bioregion Food System Project by Kwantlen Polytechnic University (Mullinix et al., 2021).

Shifting the Goalposts From Food Security to Sovereignty

Food insecurity, "as a result of poverty, inadequate infrastructure, and trade policy" (Krejci and Beamon, 2010), has increased across Canada during COVID-19. COVID-related acute food insecurity and pandemic-exacerbated chronic food insecurity are stark illustrations of the extent to which the current internationally recognized definition of food insecurity falls short on understanding the reality of communities in our current market-based systems. Food insecurity is highly racialized in Canada (Igbavboa and Elliot, 2020; Tarasuk and Mitchell, 2020; Yellowhead Institute, 2021). Despite decades of data on the causes of food insecurity and calls for proactive policy responses, food security responses from the Canadian government remain focused on a crisis charity-led response, funding food banks and other emergency services (Government of Canada, 2021b) which only acutely address the issue (Loopstra and Tarasuk, 2012) rather than exploring the drivers of food insecurity as a symptom of a more systemic problem (Riches, 2020). While a national school food program would be a significant and important step toward food security for children across the country (Coalition for Healthy School Food, 2018), there is still

much left to be tackled in order to truly achieve a food secure future for all. As defined by La Via Campesina, food sovereignty is the ability of all people at all times to access safe, healthy, and culturally appropriate food which is produced in ecologically sustainable methods in a system over which the people have control (La Via Campesina, 2003). In summary, achieving food sovereignty must ensure food security, while achieving food security does not ensure food sovereignty. Centered in a human-rights framework, food sovereignty demands of governments systemic and transformative actions, centering food systems on human-rights vs. market economies (La Via Campesina, 2003). It also requires a decent income and better distributed profits within the food system, exploring circular economies and other community benefits to more regionalized and resilient approaches. In addition, Canada could advocate for a new interpretation for food security that better reflects its current shortcomings. Introduced by the High-Level Panel of Experts for the Committee on World Food Security in 2020 to include agency, this new definition would allow food security and food sovereignty to live in complement to one another, mutually reinforcing the need for a new transformative approach to food systems (HLPE, 2020). The definition proposed by the HLPE also addresses the intimate connection between achieving food security and the need for sustainability (HLPE, 2020).

Nested systems and inclusive governance structures could give space for the many sovereignties being called for within Canada, including Indigenous food sovereignty. Where 50 percent of First Nations families are food insecure (Levi and Robin, 2020), COVID-19 notwithstanding, food sovereignty is a pressing concern. Self-determination and Indigenous foodway revitalization are intertwining to ensure long term, sustainable food access with dignity and agency for Indigenous communities currently in crisis (Levi and Robin, 2020). Indigenous nations have many different traditional foodways and food practices which are not currently bounded by private property regimes in the same way that other nations' are, highlighting again the need for interplay between different food systems. Since reconciliation is highlighted in the preamble of the mandate letters, and now that the ministry is mandated to implement UNDRIP, Indigenous relationships to land and foodways—as well as its deep connectivity to achieving food security in Canada—cannot be ignored.

CONCLUSION: FUTURE POLICY LEVERS AND FOOD SYSTEMS FOR JUST, RESILIENT SOCIETIES

While overarching narratives have evolved over time, agricultural policy (the main conception of food policy) has stayed relatively stagnant. There are deep, path dependent forces of agricultural decision making that are unspoken and implied through policy preferences. While not mentioned, the pull of industrial agriculture and colonization is strong and has been ongoing for decades and centuries, respectively. However, the

growing chasm between the government's overarching narratives and food systems mandates does not need to be permanent, rather there are leverage points within policy that can begin to create a shift toward these more aligned frameworks. By incorporating alternative food systems frameworks, such as the three outlined in the previous section, in upcoming policy development processes (e.g., review of the Canadian Agricultural Partnership; future mandates), real change can occur. Additional research on food systems narratives in Canada could support a better understanding of specific evolving mandates (e.g., climate change) and strengthened narratives (e.g., reconciliation). As the 2021(b) speech from the throne states: "We know that reconciliation cannot come without truth." The work of many scholars and communities have advanced the call for—and research in—Indigenous food sovereignty as being pivotal to addressing food security (Martens et al., 2016; Robin, 2019). These efforts have shown that the change is possible but it must come with the recognition of rights and respect towards communities and the land.

The 2020 speech from the throne states:

"This is our generation's crossroads. Do we move Canada forward, or let people be left behind? Do we come out of this stronger, or paper over the cracks that the crisis has exposed? This is the time to remember who we are as Canadians. This is the opportunity to contain the global crisis and build back better, together."

Food system approaches can be a part of achieving the government of Canada's discourse of change but to do so mandate commitments must actively contribute to the just outcomes that the administration says that it hopes to achieve.

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The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author/s.

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication.

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