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TRANSITION, COHERENCE, RESILIENCE, JOY

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IN THIS ISSUE

The four nouns of this issue's title are taken from articles on offer in this issue. Uncover within the systemic transitions taking place, the coherence required, the resilience that has emerged, and the joy that may be found in food production, distribution, and consumption. With this issue comes the inaugural installment of a new series called the *Canadian Food Studies* Choux Questionnaire. A riff on the Proust Questionnaire, we skirt the obvious food-related point of entry, the madeleine. We are interested in more than just the remembrance of things past. The lighter, more versatile choux bun is the receptacle for everything from crème pâtissière to tuna, from food fears to greatest edible achievements. Food philosopher Lisa Heldke is our first respondent. And because we have been feeling particularly inquisitive of late, we have asked our contributing authors to tell us about themselves. It's biography by way of lunch menus and food literature.

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Editorial

With this issue comes the inaugural installment of a new series called the *Canadian Food Studies* Choux Questionnaire. A riff on the Proust Questionnaire, we skirt the obvious food-related point of entry, the madeleine. We are interested in more than just the remembrance of things past. The lighter, more versatile choux bun is the receptacle for everything from crème pâtissière to tuna, from food fears to greatest edible achievements. Food philosopher Lisa Heldke is our first respondent.

And because we have been feeling particularly inquisitive of late, we have asked our contributing authors to tell us about themselves. It's biography by way of lunch menus and food literature.

Angus Naylor

I recently had kimchi for the first time so me and my boyfriend have been cooking with that quite a bit. One of the recipes we have been using has been to make kimchi udon with gochujang bacon.

I have recently read *EALLU—Food, Knowledge and How We Have Thrived on the Margins*, a cookbook produced by Indigenous reindeer herders of Fennoscandia and Northern Russia that includes recipes, food preparation methods, and their cultural context.

Matilda Dipieri

I have been eating lots of grain salads (rainbow chard with barley is a current favourite) and reading up on wholesale and public markets.

I am currently reading Helen Tangires' *Movable Markets: Food Wholesaling in the Twentieth-Century City*.

Marie-Eve Gaboury-Bonhomme

My family opts for a variety of foods, including as many vegetables as possible and as unprocessed as possible, economical and in line with our family budget. When available, we give priority to Quebec

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products. All the family cook with recipes that are easy and accessible.

My reading is linked to my research work on agri-food policies.

Laurence Bastien

When I am in a hurry, my lunchbox is mostly composed of fresh vegetables from a bio-local farm, hummus or boiled eggs, local bread, yoghurt, fruits and pieces of chocolate!

I am currently reading up on food system governance to build inclusive, fair and transparent networks.

Janette Haase

Lots of fresh greens, lettuce, endive (which I love) and spinach, asparagus, early strawberries, spring garlic, green onions and anything else that my garden grows. I rarely buy vegetables. My lunch—a big salad with a hard-boiled egg, some strawberries and some blue cheese!

I just finished *The Hard Road Out: One Woman's Escape From North Korea: Park, Jihyun; Chai, Seh-lynn; Baldwin, Sarah*. It's not food literature per se but North Korea is an example of a completely mismanaged country where millions starved to death after losing access to Russian oil and agricultural chemicals and the famine plays heavily in her decision to escape. For food literature I am reading *The Food Wars* by Walden Bello.

Kelli Weinkauf

I am currently packing fresh summer salads for lunch and love to incorporate locally grown produce as I live near several large greenhouses. One of my all-time favourite reads has been *Take Back the Tray* by Joshna Maharaj; it's such a powerful perspective!

Tracy Everitt

I am currently enjoying a regular feed of fresh eggs as my chickens have started laying again! Did you know three chickens can give you up to 18 eggs a week? It is enough to feed me and to share with neighbours and friends! They love it when I give them weeds from my garden!

Janet Music

My lunch consists of a beautiful black bean vegan chili with mango for dessert.

Right now I am reading, Harris, D. A., & Giuffre, P. (2015). *Taking the heat: Women chefs and gender inequality in the professional kitchen*. Rutgers University Press.

Jennifer Sumner

At this wonderful time of year, I'm indulging in the local asparagus and strawberries from the Guelph Farmers' Market.

I'm going through the articles in Volume 10, Number 1 of the CAFS journal—Confronting Anti-Black, Anti-Indigenous, and Anti-Asian Racisms in Food Systems in Canada—to gather readings for the Pedagogy of Food course that I'll be teaching in the fall.

Richard Bloomfield

I am revisiting Jennifer Clapp and S. Ryan Isakson's work on financialization in food and agriculture in

their helpful book *Speculative Harvests*, and while I patiently await the first spinach harvest from my garden, I have been enjoying locally sourced cheese curds, and pickles.

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Commentary

"Moving from understanding to action on food security in Inuit Nunangat": ArcticNet, 5th December 2022, Toronto, ON

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Abstract

This Commentary details key challenges and opportunities relating to the promotion of food security in Inuit Nunangat, discussed as part of the event "Moving from understanding to action on food security in Inuit Nunangat", convened at the ArcticNet Annual Scientific Meeting on 5th December 2022 in Toronto. The purpose of the event was to explore opportunities for action on food security in northern communities, and to mobilize knowledge on current and future food security programming. A range of stakeholders from across Inuit Nunangat and Canada were involved, including representatives from Inuit Tapiriit Kanatami and Nutrition North Canada, territorial, regional, and community food security co-ordinators and government delegates, academics, and community members. Points of discussion across the day included the integration of culturally appropriate country foods into food programming; the importance of human and financial resources to program success; interactions between COVID-19, climate change, and food security; challenges relating to the classification of "households" in food security surveys; and the crucial importance of school food programs for reducing food and income stress on families.

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Résumé

Cette analyse présente les principaux défis et opportunités liés à la promotion de la sécurité alimentaire dans l'Inuit Nunangat qui ont été discutés dans le cadre de l'évènement « Passer de la compréhension à l'action en matière de sécurité alimentaire dans l'Inuit Nunangat », à l'occasion de la rencontre scientifique annuelle d'ArcticNet, le 5 décembre 2022, à Toronto. L'objectif de cet évènement était d'explorer les possibilités d'action en matière de sécurité alimentaire dans les communautés nordiques et de mobiliser les connaissances autour des programmes de sécurité alimentaire actuels et futurs. De nombreuses parties prenantes de l'Inuit Nunangat et du Canada y ont participé, notamment des représentants de l'organisation Inuit Tapiriit Kanatami et du programme Nutrition Nord Canada, des coordonnateurs territoriaux, régionaux et communautaires de la sécurité alimentaire, des représentants gouvernementaux, des universitaires et des membres de la communauté. Parmi les sujets de discussion abordés, citons l'intégration d'aliments traditionnels culturellement appropriés dans les programmes alimentaires, l'importance des ressources humaines et financières dans le succès des programmes, les interactions entre COVID-19, changements climatiques et sécurité alimentaire, les défis liés à la classification des « ménages » dans les enquêtes sur la sécurité alimentaire et le rôle crucial des programmes alimentaires scolaires pour réduire le stress lié à l'alimentation et au revenu des familles.

Introduction

According to the most recent 2017 Aboriginal Peoples Survey, 76 percent of Inuit over the age of fifteen living in Inuit Nunangat (the Inuit homeland in Canada) are experiencing either "marginal," "low," or "very low" food security (Inuit Tapiriit Kanatami [ITK], 2021). Although a wide range of food initiatives exist, both in the form of community-based programming and federally funded subsidies, ensuring adequate access to culturally and nutritionally appropriate food in the region remains a considerable challenge.

This Commentary summarizes the key discussion points from a day long side event, 'Moving from understanding to action on food security in Inuit Nunangat,' convened on 5th December 2022 as part of the ArcticNet Annual Scientific Meeting in Toronto, Canada (Naylor et al., 2023a). The purpose of the event was to mobilize knowledge on current and future food security programming, and to explore opportunities for action on food security in northern communities. There were fifty-one attendees in total (thirty-six in person, fifteen online), comprising stakeholders from across Inuit Nunangat and Canada, including community, regional, and territorial organizations and government representatives, academics, and regional food security coordinators. Activities included presentations on program updates by Inuit Tapiriit Kanatami (ITK) and Nutrition North Canada (NNC), regional updates from food champions working within community programs and initiatives, and breakout discussion groups. This timely event followed the recent publication of ITK's

Inuit Nunangat Food Security Strategy and its forthcoming Implementation Plan, recent enhancements to the NNC subsidy program, and the renewal of federal pandemic funding for food programming and subsidies. The meeting proceedings and agenda can be found in Naylor et al. (2023a). This Commentary specifically highlights the challenges and opportunities for promoting food security in Inuit Nunangat discussed throughout the day. While attendees recognized poverty, low income, and high food prices as crucial drivers of food insecurity in Inuit Nunangat and advocated for income-based solutions (Arrigada, 2017), discussants primarily focussed their contributions on community-based approaches to measuring and addressing food insecurity. Specific themes from the day included the incorporation of culturally appropriate country foods into food programming; the importance of human and financial resources to program success; interactions between COVID-19, climate change, and food security; challenges relating to the classification of "households" in food security surveys; and the crucial importance of school food programs. These and other points are explicated below.

Measuring the prevalence of food insecurity in a manner appropriate to northern communities remains a challenge, particularly when attempting to represent the importance of country foods

Accurate data that reflect the complex realities of northern food systems are crucial for effective food policy and program development. Discussants recognized the limitations of Health Canada's Household Food Security Survey Module (HFSSM), which is the most common tool for measuring food security in Inuit Nunangat (Health Canada, 2007). Of particular concern was the survey's designation of a "household" as all people living within the same dwelling. It was noted that classifying households as a socioeconomic unit in this manner does not reflect norms relating to food or resource distribution in many communities, whereby food is often shared between multiple homes and across generations according to kinship ties and cultural expectations (Harder & Wenzel, 2012; Collings et al., 2016). Secondly, as the HFSSM has remained largely unchanged since its initial inclusion as part of the 2005 annual Canadian Community Health Survey (CCHS), several participants questioned whether it had kept pace with new conceptual developments and understandings of what it means to be food secure in northern food environments (Inuit Circumpolar Council Alaska [ICC-Alaska], 2015, 2020; Naylor et al., 2023b; Zimmerman et al., 2023). For example, the module's focus on "money" when asking about the procurement of foods may occlude other key factors or resources that can affect food access in Inuit Nunangat, such as time available for engaging in harvesting, the availability of hunting equipment (e.g., ATVs, ammunition), social relationships, and Indigenous knowledge (Ready, 2016; Naylor et al., 2021a; Ford, 2009). Participants felt that this biased the survey away from the country food aspect of northern food systems, which remains nutritionally and culturally significant in many communities (Wenzel, 2019; Aker et al., 2022). Based on these limitations, discussants raised concerns over how metrics derived from the HFSSM subsequently inform policy approaches and program evaluation in Inuit Nunangat. Participants welcomed the

development of the more nuanced and culturally appropriate tool within the 2017 *Qanuilirpitaa?* Nunavik Inuit Health Survey, which makes reference to "resources" instead of "money" when asking about food access, specifying that these might include "equipment to go hunting/fishing/gathering with, or relations/connections you have that you can get food from when you need" (Furgal et al., 2021; Hamel, et al., 2020, p.248). Aspects of the survey are set to form the basis of the Inuit Nunangat-wide *Qanuippitaa?* National Inuit Health Survey (QNIHS), which is currently under way.

Human resources (both paid and volunteer) and infrastructure capacity are some of the greatest limiting factors when facilitating food security programs

Discussants voiced concern that a lack of long-term, sustainable funding sources limits investment in infrastructure (e.g., kitchens and appliances) and leads to an overreliance on poorly paid, part-time, and volunteer roles when developing and facilitating community food programming. High staff turnovers lead to a loss of institutional knowledge around funding applications, creating challenges when securing extensions, finding alternate sources of funding, or producing annual reports. Limited financing was further seen to reduce the ability of programs to involve key stakeholders at certain stages of project development; as a consequence, it was felt that this could curtail the integration of diverse perspectives into food security programs (e.g., those who have different experiences based on age, gender, or multiple dimensions of intersectionality), constraining their scope and breadth and their ability to maximize their impact for all members of communities. For these reasons, flexible project funding and community autonomy around budgeting, development, reporting, and deployment were viewed as essential to the success of food programs.

A complex regulatory landscape is creating obstacles to the provision of country foods in institutions and for the formalized distribution (sharing or selling) of country foods within communities, although this varies considerably by region

Attendees discussed the importance of providing culturally appropriate and healthy country foods (received through purchase or donations) in institutional settings (such as hospitals, schools, and long-term care facilities) and through community food programming. However, regional representatives noted that federal and provincial food safety regulations and legal obstacles preventing the sale of country foods create barriers to serving or distributing country foods in these environments. Regulatory barriers can have knock-on health effects, particularly when considering the importance of eating country foods for socioemotional wellbeing and their nutrient density compared to retail foods (Ford et al., 2016; Pufall et al., 2011). A positive example of institutionalizing country foods was given as the Inuvialuit Country Food Processing Plant (ICFPP), an Inuvialuit Community Economic Development Organization (ICEDO) initiative. Having sought the correct permits and inspections, ICEDO was recently able to donate country foods processed by the ICFPP for the first time to The Children's First Society, a daycare and child support centre in Inuvik, in addition to several elders' homes across the community.

Breakfast and lunch programs are operating in many schools across Inuit Nunangat; they are considered essential for ensuring student wellbeing and may reduce food and income stress on families

The prevalence of child food insecurity continues to be a concern for Inuit Nunangat, making the provision of breakfast and lunch programs in schools particularly important (ITK, 2021; Huet et al., 2012, 2017). Discussants—several of whom were involved in school food initiatives—pointed out that programs prioritize nutrition when deciding which foods to provide, aiming to integrate country foods into their provision or purchase healthy foods from community stores. Past research has suggested that adults in food-insecure households may forego meals to prioritize feeding children or other family members (Beaumier & Ford, 2010; Egeland et al., 2011). Several participants considered whether school food programs in Inuit Nunangat might therefore reduce food or income stress for some households with children more generally by increasing the number of meals available to families each day. There is a nascent body of research highlighting the importance of school food and snack programs for nutrient intake among children in First Nations communities (Gates et al., 2013, 2016; Skinner et al., 2012; Browne et al., 2020), yet there appears to be limited data or monitoring of the impacts of school food programs on child or household food security in in Inuit Nunangat (Kenny et al., 2018), representing an area for possible future research. Funding for programs is often channeled through each region's respective school or health and social services board. However, it was pointed out that budgets are often overstretched and since the pandemic there has been an increase in demand for programming. Despite its inclusion as an "action point" in the Federal Food Policy for Canada white paper, Canada remains the only country in the G7 without a nationally harmonized school food program. Representatives from Inuit Tapiriit Kanatami highlighted that the organization's 2023 pre-budget submission included an ask of $1.66 billion over fifteen years to develop an Inuit Nunangat School Food Program, which aims to create Inuit Nunangat-wide school food programming, covering the costs of "food, labour and training, operations and maintenance, and infrastructure." (ITK, 2022).

Complex factors in Inuit Nunangat continue to intersect with and affect food insecurity prevalence

The COVID-19 pandemic created additional obstacles to improving food security in Inuit Nunangat by disrupting food programs and food transportation, exacerbating cost inflation, and increasing unemployment rates (ITK, 2020). While some programs (e.g., Nutrition North Canada) received additional funding to assist communities in dealing with the immediate and knock-on effects of the pandemic and have seen some success in combatting food access issues, attendees raised concerns that additional funding may not be extended long-term despite the continued impacts of the pandemic.

Climate change was also cited as a concern. This included its effects on country food systems and animal populations, such as altering species migration patterns and health (and therefore availability), its impacts on the safety of traditional means of food preservation and storage (e.g., smoking, drying, traditional cellars), and its potential to affect the safety of hunters when they are out on the land due to changing and less predictable land, ice, ocean, and weather conditions (Yoshikawa et al., 2022; Harper et al., 2015; Naylor et al., 2021b; Bunce et al., 2016; Clark et al., 2016). Discussants also noted the compounding effects of climate change on socioeconomic and political factors engendered by historic and contemporary colonization. For example, it was suggested that changing species availabilities in the future might mean the further supplantation of country foods by nutrient-poor and culturally insignificant market foods, contributing to the socioeconomically and politically driven context of the dietary transition for northern communities (Little et al., 2020; Damman et al., 2008)

Paths forward and concluding remarks

This Commentary presents highlights from the side event 'Moving from understanding to action on food security in Inuit Nunangat', funded by an ArcticNet Project (grant no.P74) of the same name. The topics discussed above illustrate the salience of current policy directions and actions taken by the federal government and Inuit organizations, including plans for a National School Food Program in the Federal Food Policy for Canada (Agriculture and Agri-food Canada, 2019), ICEDOs creation of the ICFPP, or the Inuit Nunangat School Food Program, for which ITK requested funding in their 2023 pre-budget submission to the government of Canada. However, wider issues relating to limited funding for infrastructural and human resources, the measurement and conception of what it means to be food secure in Inuit Nunangat, and the complex regulatory landscape that exists for integrating country foods into programming in institutional settings, remain obstacles that require further exploration and attention by both funders and policy makers.

Acknowledgements: This work would not have been possible without the assistance from the facilitators of the event, the presenters and attendees, or the dedication and actions of key representatives and stakeholders from communities across Inuit Nunangat who continue to sustain the region's food system. We would also like to thank ArcticNet for their continued funding and support of this project.

Angus Naylor is a Postdoctoral Fellow in the School of Public Health and Social Policy at the University of Victoria, having previously completed their doctorate at the University of Leeds. They are also a subject editor for the journal Regional Environmental Change. Their research explores the political ecology of food and foodways, conceptualisations of climate change vulnerability and adaptation, and determinants of hunting group productivity in Inuit Nunangat.

Tiff-Annie Kenny is an assistant professor in the Department of Social and Preventive Medicine at the Laval University Faculty of Medicine. Her research focuses on environmental and social determinants of health, with a particular focus among Indigenous communities in the Arctic and other coastal regions of Canada. As a visitor in these spaces, she remains dedicated to approaches which affirm local knowledge, governance, and leadership in research.

Chris Furgal is an Associate Professor and Co-Director of the Indigenous Environmental Studies & Sciences Program at Trent University in Peterborough, Ontario. He has a multidisciplinary background in natural, social and health sciences and studies and

holds a cross-appointment to the Chanie Wenjack School of Indigenous Studies and the Trent School for the Environment. His research and teaching focus on environmental determinants of Indigenous health. He has had the privilege of learning from and with Inuit and other Arctic communities through his research on food security and safety, environmental change and health, among other topics, for more than 30 years.

Dorothy Beale is a graduate student at the University of Victoria, she holds a BA in Global/International Studies and is currently studying for a Master of Arts in the Social Dimensions of Health. Dorothy has previously been a Junior Policy Analyst at Indigenous Services Canada. Her current research interests include women's changing roles in Inuit society and Indigenous Peoples' food security.

Duncan William Warltier is a food systems researcher with the Centre for Indigenous Peoples' Nutrition and Environment. His work focuses on financial metrics used in the study of food systems, as well as legally protected rates of harvest.

Marie-Hélène Carignan holds a master's degree in marine biology and is currently a master's student in epidemiology at Université Laval, her work focuses on diet modelling and food security in Nunavik. Her experience in environmental research projects with the Cree communities in Eeyou Istchee (James Bay) and long-term interest in northern research brought her attention to the complexity and importance of traditional food systems and shaped her evolving definition of Health beyond the boundaries of the human body.

Lynn Blackwood is a Nunatsiavut Beneficiary born and raised in Happy Valley-Goose Bay, NL. Lynn completed her Bachelor of Science in Human Nutrition at St. Francis Xavier University and her Dietetic Internship with the Health Care Corporation of St John's, now Eastern Health in St. John's NL. Lynn works with the Nunatsiavut Government as the Food Security Programs manager focusing on the Food Security file and is one of few Indigenous Dietitians in Canada. They have worked over 20 years as a Dietitian in the Northwest Territories, British Columbia, and Newfoundland and Labrador. Lynn is a jury member of the Canadian Space Agency's Deep Space Food Challenge as well as a director of the Dietitians of Canada and Canadian Foundation of Dietetic Research board. In her spare time, Lynn enjoys cooking, reading and exercise as well as spending time with her husband, daughter and two dogs.

Brian Wade is an Inuvialuit beneficiary, a hunter and fisherman, and Director of the Inuvialuit Economic Development Organisation (ICEDO) with the Inuvialuit Regional Corporation. He lives in Inuvik and loves living off the land. Making sure that our land is taken care of is important to him as he lives a subsistence lifestyle. He enjoys fishing, hunting and being out at his cabin with his family. He is passionate about the Inuvialuit people and Inuvialuit culture.

Gabriela Goodman is the Territorial Director of Population Health for the Government of Nunavut and holds a Master of Science degree with a focus on Population and Public Health from McGill University. In their role they are responsible for ensuring that territorial health promotion programs and services are mandated and delivered in accordance with the Public Health Act, and works to support the implementation of the Nunavut Public Health Strategy and the Nunavut Wellness Agreement.

Jordyn Stafford is the Food Security Manager for the Nunavik Regional Health Board, where she works alongside community food projects to strengthen food security through an Inuit-lead approach. She completed her studies on sustainable food systems and environmental science at Dalhousie University. Jordyn's passion both in work and life, sits at the intersection of food and the environment.

Matthew Little is an Assistant Professor in the School of Public Health and Social Policy at the University of Victoria. His research examines food security and nutrition-related health inequities in Canadian and global contexts. He is a settler of Irish and English heritage currently living in the ancestral and unceded territory of the Skwxwú7mesh (Squamish) Nation.

References

Agriculture and Agri-food Canada. (2019). The federal food policy for Canada. *Minister of Agriculture and Agri-Food.* https://agriculture.canada.ca/sites/default/files/legacy/pack/pdf/fpc_20190614-en.pdf

Aker, A., Ayotte, P., Furgal, C., Kenny, T. A., Little, M., Gauthier, M-J., Bouchard, A., & Lemire, M. (2022). Sociodemographic patterning of dietary profiles among Inuit youth and adults in Nunavik, Canada: a cross-sectional study. *Canadian Journal of Public Health, Dec 8.* doi: 10.17269/s41997-022-00724-7.

Arrigada, P. (2017). Food insecurity among Inuit living in Inuit Nunangat. *Statistics Canada.* https://www.nunivaat.org/doc/publication/Food-insecurity-among-Inuit.pdf.

Beaumier, M. C., & Ford, J. D. (2010). Food insecurity among Inuit women exacerbated by socio-economic stresses and climate change. *Canadian Journal of Public Health*, *101*(3), 196-201. doi: 10.1007/BF03404373.

Browne, J., Lock, M., Walker, T., Egan, M., & Backholer, K. (2020). Effects of food policy actions on Indigenous Peoples' nutrition- related outcomes: A systematic review. *BMJ Global Health*, *5*(8), e002442. doi: 10.1136/bmjgh-2020-002442.

Bunce, A., Ford, J., Harper, S., Edge, V., & IHACC Research Team. (2016). Vulnerability and adaptive capacity of Inuit women to climate change: a case study from Iqaluit, Nunavut. *Natural Hazards*, *83*, 1419-1441. https://doi.org/10.1007/s11069-016-2398-6

Clark, D. G., Ford, J. D., Berrang-Ford, L., Pearce, T., Kowal, S., & Gough, W. A. (2016). The role of environmental factors in search and rescue incidents in Nunavut, Canada. *Public Health*, *137*, 44-49. https://doi.org/10.1016/j.puhe.2016.06.003

Collings, P., Marten, M. G., Pearce, T., & Young, A. G. (2016). Country food sharing networks, household structure, and implications for understanding food insecurity in Arctic Canada. *Ecology of Food and Nutrition*, *55*(1), 30-49. doi: 10.1080/03670244.2015.1072812.

Damman, S., Barth Eide, W., & Kuhnlein, H. V. (2008). Indigenous peoples' nutrition transition in a right to food perspective. *Food Policy*, *32*(2), 135-155. https://doi.org/10.1016/j.foodpol.2007.08.002

Egeland, G. M., Pacey, A., Cao, Z., & Sobol, I. (2010). Food insecurity among Inuit preschoolers: Nunavut Inuit Child Health Survey, 2007-2008. *Canadian Medical Association Journal (CMAJ)*, *182*(3), 243-248. doi: 10.1503/cmaj.091297.

Ford, J. (2009). Vulnerability of Inuit food systems to food insecurity as a consequence of climate change: a case study from Igloolik, Nunavut. *Regional Environmental Change*, *9*, 83–100. https://doi.org/10.1007/s10113-008-0060-x

Ford, J. D., Macdonald, J. P., Huet, C., Statham, S., & MacRury, A. (2016). Food policy in the Canadian North: Is there a role for country food markets? *Social Science & Medicine*, *152*, 35-40. https://doi.org/10.1016/j.socscimed.2016.01.034

Furgal, C., Pirkle C., Lemire, M., Lucas, M., & Martin R. (2021). *Food Security: Qanuilirpitaa? 2017 Nunavik Inuit Health Survey.* Nunavik Regional Board of Health and Social Services (NRBHSS) & Institut national de santé publique du Québec (INSPQ). https://numerique.banq.qc.ca/patrimoine/details/52327/4502739

Gates, M., Hanning, R. M., Gates, A., McCarthy, D. D., & Tsuji, L. J. S. (2013). Assessing the impact of pilot school snack programs on milk and alternatives intake in two remote First Nation communities in Northern Ontario, Canada.

Journal of School Health, 83(2), 69–76. doi: 10.1111/josh.12000.

Gates, A., Hanning, R. M., Gates, M., Stephen, J., & Tsuji, L. J. S. (2016). Four-year evaluation of a healthy school snack program in a remote First Nations community. *Health Behavior and Policy Review*, *3*(3), 226–237. https://doi.org/10.14485/HBPR.3.3.4

Hamel, D., Hamel, G., & Gagnon, S. (2020). *Methodological Report. Nunavik Inuit Health Survey 2017 Qanuilirpitaa? Nunavik Inuit Health Survey.* Nunavik Regional Board of Health and Social Services (NRBHSS) & Institut national de santé publique du Québec (INSPQ). https://nrbhss.ca/sites/default/files/health_surveys/A11991_RESI_Rapport_methodologique_EP4.pdf

Harder, M. T., & Wenzel, G. (2012). Inuit subsistence, social economy and food security in Clyde River, Nunavut. *Arctic*, *65*(3), 245-366.

Harper, S. L., Edge, V. L., Ford, J., Willox, A. C., Wood, M., IHACC Research Team, RICG, & McEwen, S. A. (2015). Climate-sensitive health priorities in Nunatsiavut, Canada. *BMC Public Health*, *15*(605). https://doi.org/10.1186/s12889-015-1874-3

Health Canada. (2007). *Canadian Community Health Survey, Cycle 2.2, Nutrition (2004): Income-Related Household Food Security in Canada.* Government of Canada. https://www.canada.ca/en/health-canada/services/food-nutrition/food-nutrition-surveillance/health-nutrition-surveys/canadian-community-health-survey-cchs/canadian-community-health-survey-cycle-2-2-nutrition-2004-income-related-household-food-security-canada-health-canada-2007.html#appa.

Huet, C., Rosol, R., & Egeland, G. M. (2012). The prevalence of food insecurity in high and the diet quality poor in Inuit communities. *The Journal of Nutrition*, *142*(3), 541-547. doi: 10.3945/jn.111.149278.

Huet, C., Ford, J. D., Edge, V. L., Shirley, J., King, N., IHACC Research Team, & Harper, S. L. (2017). Food insecurity and food consumption by season in households with children in an Arctic city: a cross-sectional study. *BMC Health*, *17*(578). https://doi.org/10.1186/s12889-017-4393-6

Inuit Circumpolar Council Alaska (ICC-Alaska). (2015). *Alaskan Inuit food security conceptual framework: How to assess the arctic from an Inuit perspective—Summary and recommendations Report*. Inuit Circumpolar Conference Alaska. *https://iccalaska.org/wp-icc/wp-content/uploads/2016/05/Food-Security-Full-Technical-Report.pdf*

Inuit Tapiriit Kanatami (ITK). (2021). *Inuit Nunangat Food Security Strategy.* https://www.itk.ca/wp-content/uploads/2021/07/ITK_Inuit-Nunangat-Food-Security-Strategy_English.pdf

Inuit Tapiriit Kanatami (ITK). (2022). *Inuit Tapiriit Kanatami Pre-budget Submission, 2023*. https://www.itk.ca/wp-content/uploads/2022/09/ITK-pre-budget-submission-2023.pdf

Kenny, T-A., Wesche, S., Fillion, M., MacLean, J. K., & Man Chan, H. (2018). Supporting Inuit food security: A synthesis of initiatives in the Inuvialuit Settlement Region, Northwest Territories. *Canadian Food Studies*, 5(2), 73-110. https://doi.org/10.15353/cfs-rcea.v5i2.213

Little, M., Hagar, H., Zivot, C., Dodd, W., Skinner, K., Kenny, T-A., Caughey, A., Gaupholm, J., & Lemire, M. (2021). Drivers and health implications of the dietary transition among Inuit in the Canadian Arctic: A scoping review. *Public Health Nutrition*, *24*(9), 2650-2668. doi: 10.1017/S1368980020002402.

Naylor, A. W., Pearce, T., Ford, J. D., Fawcett, D., Collings, P., & Harper, S. L. (2021a). Understanding determinants of hunting trip productivity in an Arctic community. *Frontiers*

in Sustainable Food Systems, 5(688350). https://doi.org/10.3389/fsufs.2021.688350

Naylor, A. W., Ford, J., Pearce, T., Fawcett, D., Clark, D., & van Alstine, J. (2021b). Monitoring the dynamic vulnerability of an Arctic subsistence food system to climate change: The case of Ulukhaktok, NT. *PLOS One*, *16*(9), 0258048. https://doi.org/10.1371/journal.pone.0258048

Naylor, A. W., Kenny, T. A., Beale, D., Carignan, M. H., Warltier, D., & Little, M. (2023a). *Proceedings from ArcticNet workshop: Moving from understanding to action on food security in Inuit Nunangat.* University of Victoria. https://dspace.library.uvic.ca/handle/1828/15043.

Naylor, A. W., Kenny, T. A., Harper, S. L., Beale, D., Premji, Z., Furgal, C., Ford, J., & Little, M. (2023b). Inuit-defined determinants of food security in academic research focusing on Inuit Nunangat and Alaska: A scoping review protocol. *Nutrition and Health, 29*(2), 175-183. doi: 10.1177/02601060221151091.

Pufall, E. L., Jones, A. Q., McEwen, S. A., Lyall, C., Peregrine, A. S., & Edge, V. L. (2011). Perception of the importance of traditional country foods to the physical, mental, and spiritual health of Labrador Inuit. *Arctic*, *64*(2), 242-250. https://doi.org/10.14430/arctic4103

Ready, E. (2016). Challenges in the assessment of Inuit food security. *Arctic*, *69*(3), 266-280.

Skinner, K., Hanning, R. M., Metatawabin, J., Martin, I. D, & Tsuji, L. J. S. (2012). Impact of a school snack program on the dietary intake of grade six to ten First Nation students living in a remote community in northern Ontario, Canada. *Rural and Remote Health*, *12*(2122).

Wenzel, G. (2019). Canadian Inuit subsistence: antinomies of the mixed economy. *Hunter Gatherer Research*, *3*(4), 567-581. http://dx.doi.org/10.3828/hgr.2017.29

Yoshikawa, K., Maslakov, A. A., Kraev, G. N., Ikuta, H., Romanovsky, V. E., Craig, J. G., Klene, A. E., & Nyland, K. E. (2022). Food Storage in Permafrost and Seasonally Frozen Ground in Chukotka/Alaska communities. *Arctic*, *75*(2), 225-241. https://doi.org/10.14430/arctic75259

Zimmerman, S., Dermody, B. J., Wassen, M. J., Theunissen, B., Divine, L. M., Paluda, V. M., von Wehrden, H., & Dorresteijn, I. (2023). A leverage points perspective on Arctic Indigenous food systems research: a systematic review. *Sustainability Science, 18*, 1481-1500. ttps://doi.org/10.1007/s11625-022-01280

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Perspective

Transitioning to a public-minded food system: The role of public food infrastructure

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Abstract

A vision for a more sustainable, just, and health-promoting food system can come from scholars, activist organizations, and communities alike. However, widespread inequities that result from the endless pursuit of profit remind us that ensuring all people are fed is not treated as an issue of public interest in Canada. In this piece, I detail how issues of food access can begin to be addressed by embedding public interest in supportive physical infrastructure and policy, putting forth the notion of *public food infrastructure*. To illustrate this concept and its applicability, this paper draws on two examples: the ScarbTO Mrkt Bucks initiative, a civil society group creating a system of subsidized vouchers for wider access to farmers' markets at the community level, and the Coalition for Healthy School Food, a network of organizations advocating for federal investment in a universal cost-shared healthy school food program. Common to both examples is an acknowledgement of the central role that food infrastructure plays in both supporting and sustaining their initiatives, as well as an assertion of the value of food in the public realm. Building and strengthening public food infrastructure is thus a pathway to widespread food access and a means with which to conceive of food as a public good—both central to the wider transition to a healthier, more just food system.

Keywords: Local food systems; food access; social infrastructure; school food; farmers' markets

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Résumé

Les visions d'un système alimentaire plus durable, juste et favorable à la santé peuvent émaner autant des chercheurs et chercheuses que des activistes et des communautés. Cependant, devant les nombreuses iniquités qui résultent de la poursuite infinie du profit, il apparaît que nourrir tout le monde n'est pas considéré comme un enjeu d'intérêt public au Canada. Dans cet article, je présente comment l'on peut commencer à prendre en charge les problèmes d'accès à la nourriture en mettant l'intérêt public au cœur des infrastructures physiques et des politiques; je mets ainsi en avant la notion d'*infrastructure alimentaire publique*. Pour illustrer ce concept et ses applications, cet article s'appuie sur deux exemples : le projet ScarbTO Mrkt Bucks, un groupe de la société civile qui met sur pied un système de bons d'achat subventionnés pour offrir un plus vaste accès aux marchés fermiers à l'échelle de la communauté, et la Coalition pour une saine alimentation scolaire, un réseau d'organisations qui promeut les investissements fédéraux dans un programme scolaire universel d'alimentation saine à financement partagé. Dans ces deux exemples, on retrouve une reconnaissance du rôle central que jouent les infrastructures alimentaires dans le soutien et la pérennité de ces projets, ainsi qu'une affirmation de la valeur de l'alimentation dans le domaine public. Construire des infrastructures alimentaires publiques et les renforcer s'avère donc à la fois un moyen d'élargir l'accès aux aliments et de concevoir la nourriture comme un bien public – deux éléments cruciaux dans la grande transition vers un système alimentaire plus sain et plus juste.

Introduction

In Canada, and globally, inequities built into the very fabric of the food system through socially constructed intersections of racism, patriarchy, colonialism, and capitalism exacerbate unequal health outcomes (Anderson et al., 2019; McInnes, 2019). Widespread inequities that result from the endless pursuit of profit remind us that food rarely lies within the public sphere, it instead operates almost entirely within the private realm. The only antidote is a vision for a more sustainable, just, and health-promoting food system co-produced by scholars, activist organizations, and communities (Anderson et al., 2019; Dale & Sharma, 2021; Fan et al., 2021; Levkoe & Sheedy, 2019; MacRae, 2011; Valgenti, 2021). The question is, how do we build infrastructure to support "public-minded" food systems in light of neoliberal capitalism? Creating infrastructure and implementing policies that allow for a more public-minded alternative are faced by significant opposition, including from neoliberal ideologies shaping policy and vested interests that centre greed as having the power to shift consumer behaviour towards healthier, more accessible outcomes (Feeding City, 2020, September 16; Friedmann, 2007; Maharaj, 2020).

In this piece, I detail how issues of access that plague the food system can begin to be addressed by embedding public interest in supportive physical infrastructure and policy. I begin with a discussion of public interests as they related to food, insisting that food should be governed as a public good. Then, I define food infrastructure in this context, arguing for its transformational potential. To illustrate the role public food infrastructure could and does play, I draw from two

examples, first ScarbTO Mrkt Bucks, an initiative[1] created by a civil society group building a system of subsidized vouchers for more equitable access to farmers' markets at the municipal level (Feeding City, 2020, October 20), and second the Coalition for Healthy School Food[2], a network of over 220 organizations advocating for federal investment in a universal cost-shared healthy school food program (Coalition for Healthy School Food, 2018).[3] Creating pathways to food in public settings, I argue, is central to the wider, global transition to a healthier, more just food system.

Defining the "public" in a "public-minded food system"

The current push towards privatization and private service delivery and the general disinvestment in social safety and security nets are direct consequences of the power imbalances present in our economic and political systems, shaping what we see in society today (Baker et al., 2020; Holt-Giménez, 2019). When it comes to the inaccessibility of healthy foods, or of food altogether, it becomes essential to recognize the roles these dynamics play. In 2021, 15.9% of Canadian households experienced food insecurity within the previous year, pointing to the implications of a lack of widespread food access (Tarasuk et al., 2022). The Covid-19 pandemic has highlighted the inherent vulnerability of Canada's food system, challenging food access in its disruptions to processing, production, distribution, and consumption (Lowitt et al., 2022). How issues of the public good are framed, and by whom, meaningfully intersects with food access. Scholars have directly and indirectly raised questions about public good as it relates to food in their discussions of food access,

[1] At the time of writing, the ScarbTO Mrkt Bucks initiative has implemented its project as an initial prototype. The founding partners, including Marina Queirolo, Jennifer Forde, Suman Roy, and Maria Londono, trialled the project in select farmers' markets in the summer of 2022. In the summer of 2023, Toronto will be hosting the International Public Markets Conference (IPMC), where the Mrkt Bucks Program and the concept of a "market city" will be revisited at an international scale. Further information on the initiative, its founders, and the important gaps in food access being addressed are discussed in Feeding City (2020, October 28, 2021, 2022) The initiative is also discussed on the Market City TO website (https://marketcityto.org/).

[2] More information on the ongoing work and research of the Coalition for Healthy School Food can be found on their website (https://www.healthyschoolfood.ca/). The research used to develop this case study represents a small fraction of the growing body of knowledge and experience of those involved in the Coalition. Further analysis of the Coalition for Healthy School Food can be found in publications by Field & Webb (2022), Feeding City (2020, September 16), Goodridge (2020), and Stutz & Gagliardi (2020).

[3] The interviews and data gathering process informing this piece is covered by the Research Ethics Board (REB) number 38578, under the project, "Feeding Cities and Resilient Urban Communities" led by Principal Investigator (PI) Dr. Jayeeta (Jo) Sharma. Interviews with Marina Queirolo were conducted over Zoom on December 2, 2021, December 8, 2021, and January 21, 2022. Email correspondence with Marina Queirolo also built upon discussions found here. Additionally, webinars organized by Feeding City and attended by Suman Roy, Marina Queirolo, Jennifer Forde, and Debbie Field are referenced to highlight these stakeholders' unique perspectives and interests. It is important to acknowledge the ways in which the key stakeholders of both case studies contributed to this process of knowledge co-creation, particularly outside the context of formal, scholarly publications.

positioning health and equity considerations as important lenses with which to make sense of public interest.

Klassen and Murphy (2020) distinguish "access to food [as]...an important marker of how well a society distributes its wealth, reflects the state of political accountability, economic redistribution, and a society's level of commitment to uphold the right to food" (p. 1). Similarly, food equity moves beyond the constraints of current economic interests and means of production, which shape food insecurity discourse, in attempts to create meaningful structural-level changes to reduce persistent inequities in food access due to poverty, health outcomes, decent work, and overall wellbeing (Sage, 2014).

Taking how the right to food is upheld as an example helps to illustrate that food rarely exists within the public domain, with the notable exception of food in publicly operated special care homes, hospitals, and other such settings. Despite Canada being a signatory to several national and international agreements insisting that food is a basic right (Rideout et al., 2007), food is not governed as a universally, publicly accessible good. Instead, it is overwhelmingly treated as a commodity at the whims of the market (Koberinski et al., 2022). However, with systems of public food provisioning, like those already observable in lunch programs in public schools, we are reminded that institutional-level support could be possible (Gaddis & Jeon, 2020). Yet, as McInnes (2019) shows, these very programs have been consistently underfunded and undervalued, relying instead on community initiatives and individual organizers. Issues of food access and inequity remain deeply individual responsibilities, yet are still framed as threats to public health and state security.

To challenge this tendency, embedding public interest into how food is governed is crucial. Drawing on civil commons literature, Sumner (2011) proposes that this may be achieved by asserting that the food system is "a public system in public hands for the public good" (p. 69). In Canada, we can draw parallels from how we make sense of health as being in the public domain. Health framings often leverage significant action when it comes to policy, observable in the responses to the Covid-19 pandemic (Shanks et al., 2020). While increasing food access has undeniable positive health impacts, protecting food access for the public good merits support on its own (Sumner, 2011). Thus, for the purposes of this paper's argument, protecting food access and ensuring that all people are fed lie directly in the public interest, with public good as integral to the food system.

The role of food infrastructure

Food infrastructure is often thought of as built structures directly producing, processing, or delivering foods (Donofrio, 2007). However, food infrastructure can exist at the community level as a diversity of physical structures, as well as networks of people and knowledge. As presented by Pilcher (2016), the current dynamics of how food is valued, distributed, produced, and consumed are products of a winding history of physical food infrastructure. Physical food infrastructure as we know it today, whether it be supermarket chains or cold food distribution systems, is a legacy of public and private investments in the food sector, as well as of shifting welfare policies (Marsden et al., 2018; Pilcher, 2016). The way infrastructure is reflective of these historical dynamics and capable of perpetuating histories of discrimination and corporate

control has been a central consideration for urban geographers and is increasingly relevant for urban and regional planners (Pilcher, 2016). Infrastructure that uplifts communities requires an acknowledgement of its own power and its capacity to contribute to legacies of inequality (Clark et al., 2021; Friedmann, 2007). Therefore, intentional infrastructure planning is crucial.

The assertion that food exists in the public interest is then critical to food infrastructure planning. It is through the creation of infrastructure and adaptation of existing structures that change can be appropriately embedded and realized. Whether taken on at the community level or embedded in public policy, food infrastructure presents transformational potential for food systems (Marsden et al., 2018).

Examples: Examining public food infrastructure at different scales

For the purposes of this article, I will draw from two community-grounded initiatives, whose different scales and approaches to increasing food access help illustrate what is meant by public food infrastructure and its transformative potential. Details about each initiative draw from semi-structured interviews with their stakeholders, as well as secondary public sources, including published reports, presentations, and websites.

First, the Scarb TO Mrkt Bucks initiative is a program operating at municipal and community levels, where the scale of impact and change is first and foremost targeting community needs. The program creates food infrastructure through a farmers' market currency program while also strengthening existing farmers' market infrastructure in the Scarborough region in Toronto. It looks to build social and knowledge structures, ensuring that physical farmers' market infrastructure is protected and promoted by its operators and the community it serves. The program ultimately looks to scale this neighbourhood-level pilot across the city with a standardized currency program.

Second, the Coalition for Healthy School Food, a longstanding advocacy group, is working to create infrastructural change at the federal level, where changes to infrastructure are protected by and embedded in policy. Its efforts are aimed at strengthening existing school food infrastructure, such as cafeterias and school kitchens, as well as allowing for further development of physical and social structures. These initiatives' differences demonstrate the wide applicability of the public food infrastructure concept, while simultaneously providing insight into the challenges each faces at their different levels of establishment.

The ScarbTO Mrkt Bucks Initiative

The ScarbTO Mrkt Bucks initiative provides a local manifestation of public food infrastructure through its work to make farmers' markets more affordable and inclusive spaces, especially where these may be limited or inaccessible. The initiative consists of a voucher program to connect residents facing food insecurity with neighbourhood farmers' markets in Scarborough in the Greater Toronto Area. The COVID-19 pandemic highlighted the vulnerabilities, inequities, and racism embedded in the city's food system, which fails to provide equitable access to fresh food and limits economic opportunities. Frustrated by years of disinvestment in Toronto's east end, the ScarbTO Mrkt Bucks partners and collaborators decided to develop a

program that connects residents to farmers' markets and builds publicly accessible food infrastructure.

Equity issues can compromise farmers' markets' ability to address food access (Caron-Roy et al., 2021; Klassen & Murphy, 2020; Queirolo, 2019). The high cost associated with organic produce or fruits and vegetables grown by small, family-owned farms is a barrier to low-income families. Additionally, farmers' markets' dependence on community volunteers, private sponsorships, and donations can make them more difficult to organize and sustain in low-income communities (Sadler, 2016; Sage et al., 2013). The voucher program model proposed by the ScarbTO Mrkt Bucks initiative draws from broader North American experiences implementing similar programming at individual markets (as in British Columbia), as well as through municipal partnerships (observed in the United States). While sustained economic support for low-income households is at the centre of mitigating access and equity issues relating to food insecurity, voucher programs look to address the immediate needs of different communities, recognizing just how dire the consequences of food inequity can be (Bowling et al., 2016; Oberholtzer et al., 2012; Winch, 2008).

This initiative positions farmers' markets as immediate, locally grounded solutions to food insecurity in low-income neighbourhoods. By targeting one of the main barriers to farmers' markets' access—its cost—the ScarbTO Mrkt Bucks initiative helps position market infrastructure as a viable option for moving food into the public sphere. While this initiative has struggled to find sustained financial support, the potential it demonstrates can be drawn upon by municipal policymakers looking to create vibrant, healthy communities (Markow et al., 2016). Creating infrastructure from the ground up will require support to show results beyond how it is received by the community it serves. However, as examples from British Columbia make clear, a government-backed farmers' market voucher program can create a positive feedback loop by strengthening market infrastructure and increasing food access—moving food closer to the public sphere (Caron-Roy et al., 2021).

The Coalition for Healthy School Food

The Coalition for Healthy School Food is a Canadian network of non-profit organizations from each province and territory that is made up of community-based school food practitioners, national health volunteers and staff, Indigenous leaders, and philanthropic organizations in the realms of health and education (Coalition for Healthy School Food, 2016). The Coalition was formed in response to the lack of a universal, Canada-wide school food program in the country, highlighting how Canada is the only OECD country without national food programming (Hernandez et al., 2018). While the Coalition and its members recognize the work of individual and community organizers in filling this gap and creating small-scale, local initiatives, its members call for federal investment in this program to protect children's and youths' health across the country (Food Secure Canada, n.d.). In its call for public investment, the Coalition looks to bring appropriate value to healthy food within the public realm, emphasizing how food insecurity and malnutrition continue to threaten public health. The Coalition for Healthy School Food's efforts underscore the potential for a Canadian public food program's promotion of health and public food infrastructure. The Coalition has created a network of knowledge and practice to transition towards a specific, common vision for a universal, healthy school food program.

With federal support and recognition coming as an important first step in the movement towards increased

food access through universal school food programs, inter-agency cooperation and wider recognition of access to healthy food as public interest are crucial to addressing these wider issues (Hernandez et al., 2018; Ruetz & McKenna, 2021). The creation of a cost-shared, universal school food program is a mission grounded in increasing food access, but it also presents an opportunity to change the discourse around how food is valued in Canada (Coalition for Healthy School Food, 2016). International examples of comprehensive school food programs presented by the Coalition for Healthy School Food, including programs in Brazil and Japan, demonstrate the potential and impact of such programs in increasing food literacy, strengthening local food economies, and promoting food sovereignty through urban agriculture (Engler-Stringer et al., 2021; Hernandez et al., 2018; Ruetz & Fraser, 2019). Creating greater demand for healthy food, in school settings and beyond, can serve as a positive feedback loop to support local food production and contribute to food system change (Everitt et al., 2020). However, this must be supported by food infrastructure.

Envisioning a public-minded food system

With studies of the Canadian food environment indicating a lack of commitment to and prioritization of healthy food, it is not surprising to see how efforts to build food infrastructure overwhelmingly remain at the community level (Levkoe & Sheedy, 2019; McInnes, 2019). However, community-grounded initiatives, including those described above, hold transformational potential, particularly in their ability to foster social infrastructure and networks of knowledge sharing. As scholars have echoed in the literature, mechanisms of this kind are required to move food into the public interest, ultimately achieving embeddedness in policy and physical infrastructure (Friedmann, 2007; Galli et al., 2020; Marsden et al., 2018).

A health lens represents an important means to drive action towards building a food system that actively engages with issues of public good and public interest. Concerns for population- and community-level health have been instrumental in shaping the "food security" agenda and bringing issues of food inequity into the public sphere (Dimitri et al., 2015). Additionally, the Canadian government has shown increased interest and commitment to building healthier communities in recent years (Government of Canada, 2021). Nevertheless, the food and health nexus could benefit from greater institutional support.

So far, community organizers have acknowledged these gaps and the common needs that their communities face around accessing plentiful, diverse, and nutritious foods. Community initiatives often connect local experiences with systemic and structural sources of inequity, leading to more comprehensive means of change (Feeding City, 2021; Pitter, 2021). Food inequities represent a dire need to reverse the current paradigm that places the marketplace's needs above the population's needs (Domingo et al., 2021; Mendly-Zambo & Raphael, 2019). Proponents of transformative social policy, like Schrecker and Bambra (2015), require states to be "more willing to challenge the values of the unfettered marketplace in order to increase and equalize opportunities for everyone to lead a healthy life" (p. 120). Public services that protect people's livelihoods must be both embedded in policy and physical infrastructure and supported by strong networks of social connection and knowledge sharing.

It is with this consideration in mind that the notion of *public* food infrastructure is crucial to ensure a balance between private and public interests. Asserting food issues as lying within the public interest allows for the democratization of food, empowering individuals and communities to access diverse food options and make informed decisions about food that impact their health (Feeding City, 2021; MacRae, 2011; Marsden et al., 2018). Institutional and political support are necessary to create steady streams of funding for physical infrastructure, as well as a socio-political valuation of food as a tenant of public interest. Transformation of these systems towards more supportive means of building healthy communities must be prioritized at all levels of government. The protection of public interests and assertion of food as a public good are therefore central to the creation of healthy public food infrastructure.

Conclusion

Transitioning to a public-minded food system does not come without obstacles and competing public and private interests. The examples discussed here highlight the experiences of those trying to build publicly-minded infrastructure and programming that can achieve more equitable access to food. The Scarb TO Mrkt Bucks initiative, even in its founding stages, outlines several of the obstacles faced by community members in their efforts to address systemic food injustices at the local level. The Coalition for Healthy School Food illustrates the time and support required to build a network of advocacy that puts communities and public interests first. Common between both initiatives is an acknowledgement of the central role that infrastructure plays in both supporting and sustaining them, as well as in asserting the value of food in the public realm.

To garner support and meaningfully contribute to the transformation of the food system, public interest must be embedded in supportive, physical infrastructure as well as in policy (Blay-Palmer et al., 2020; Feeding City, 2021; Marsden et al., 2018). To build a food system with more public infrastructure, there must be movement towards protecting and upholding public interests. Infrastructure presents an important pathway for change in its ability to provide longstanding and sustained service delivery (Friedmann, 2007; Pilcher, 2016). By acknowledging the nexus of food and health and its relevance to policymakers and the public, designing and transforming food systems can be done intentionally, ultimately creating healthier spaces and protecting social networks. Harnessing the transformative power of communities will play a key role in creating a healthy public-minded food system, as reflected in healthy food infrastructure and embedded in healthy public policy.

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References

Anderson, C. R., Bruil, J., Chappell, M. J., Kiss, C., & Pimbert, M. P. (2019). From transition to domains of transformation: Getting to sustainable and just food systems through agroecology. *Sustainability*, *11*(19), 5272. https://doi.org/10.3390/su11195272

Baker, P., Machado, P., Santos, T., Sievert, K., Backholer, K., Hadjikakou, M., Russell, C., Huse, O., Bell, C., Scrinis, G., Worsley, A., Friel, S., & Lawrence, M. (2020). Ultra-processed foods and the nutrition transition: Global, regional and national trends, food systems transformations and political economy drivers. *Obesity Reviews*, *21*(12), e13126. http://dx.doi.org.myaccess.library.utoronto.ca/10.1111/obr.13126

Blay-Palmer, A., Carey, R., Valette, E., & Sanderson, M. R. (2020). Post COVID 19 and food pathways to sustainable transformation. *Agriculture and Human Values*, *37*(3), 517–519. https://doi.org/10.1007/s10460-020-10051-7

Bowling, A. B., Moretti, M., Ringelheim, K., Tran, A., & Davison, K. (2016). Healthy foods, healthy families: Combining incentives and exposure interventions at urban farmers' markets to improve nutrition among recipients of US federal food assistance. *Health Promotion Perspectives*, *6*(1), 10–16. https://doi.org/10.15171/hpp.2016.02

Caron-Roy, S., Sayed, S. A., Milaney, K., Lashewicz, B., Dunn, S., O'Hara, H., Leblanc, P., Fournier, B., Raine, K. D., Elliott, C., Prowse, R. J., & Olstad, D. L. (2021). 'My coupons are like gold': Experiences and perceived outcomes of low-income adults participating in the British Columbia Farmers' Market Nutrition Coupon Program. *Public Health Nutrition*, *25*(2), 1–12. https://doi.org/10.1017/S1368980021001567

Clark, J. K., Conley, B., & Raja, S. (2021). Essential, fragile, and invisible community food infrastructure: The role of urban governments in the United States. *Food Policy*, *103*, 102014. https://doi.org/10.1016/j.foodpol.2020.102014

Coalition for Healthy School Food. (2016). *For a universal healthy school food program*. Coalition for Healthy School Food. https://2edb03c8-6d8c-411f-88a8-2708d30ad344.filesusr.com/ugd/e7a651_a4a5669fc9d843e5854f1ed157df1d81.pdf

Coalition for Healthy School Food. (2018). *About us.* The Coalition for Healthy School Food. https://www.healthyschoolfood.ca/who-we-are

Dale, B., & Sharma, J. (2021). Feeding the city, pandemic and beyond: A research brief. *Gastronomica*, *21*(1), 86–91. https://doi.org/10.1525/gfc.2021.21.1.86

Dimitri, C., Oberholtzer, L., Zive, M., & Sandolo, C. (2015). Enhancing food security of low-income consumers: An investigation of financial incentives for use at farmers markets. *Food Policy*, *52*, 64–70. https://doi.org/10.1016/j.foodpol.2014.06.002

Domingo, A., Charles, K.-A., Jacobs, M., Brooker, D., & Hanning, R. M. (2021). Indigenous community perspectives of food security, sustainable food systems and strategies to enhance access to local and traditional healthy food for partnering Williams Treaties First Nations (Ontario, Canada). *International Journal of Environmental Research and Public Health*, *18*(9), 4404. https://doi.org/10.3390/ijerph18094404

Donofrio, G. A. (2007). Feeding the city. *Gastronomica*, *7*(4), 30–41. https://doi.org/10.1525/gfc.2007.7.4.30

Engler-Stringer, R., Black, J., Muhajarine, N., Martin, W., Gilliland, J., McVittie, J., Kirk, S., Wittman, H., Mousavi, A., Elliott, S., Tu, S., Hills, B., Androsoff, G., Field, D., Macdonald, B., Belt, C., & Vatanparast, H. (2021). The Good Food for Learning universal curriculum-integrated healthy school lunch intervention: Protocol for a two-year matched control pre-post and case study. *JMIR Research Protocols*, *10*(9), e30899. https://doi.org/10.2196/30899

Everitt, T., Engler-Stringer, R., & Martin, W. (2020). Determining promising practices for Canadian school food programs: A scoping review. *Journal of Hunger & Environmental Nutrition*, *17*(6), 743-762. https://doi.org/10.1080/19320248.2020.1823925

Fan, S., Headey, D., Rue, C., & Thomas, T. (2021). Food systems for human and planetary health: Economic perspectives and challenges. *Annual Review of Resource Economics, 13*, 131-156. https://doi.org/10.1146/annurev-resource-101520-081337

Feeding City. (2020, September 16). *Urban agriculture, school and community food programs* [Webinar] YouTube. https://www.youtube.com/watch?v=es7_wuGurWc

Feeding City. (2020, October 20). *Voices from local grocery stores and public markets in a diverse city* [Webinar]. YouTube. https://www.youtube.com/watch?v=30iRz3qYBKE

Feeding City. (2021, February 24). *Leading on food security: Emergency responses in a diverse city* [Webinar]. YouTube. https://www.youtube.com/watch?v=tbfOoWoBYRk

Feeding City. (2022, February 23). *Food access and food equity: Healthy food policy and community collaborations toward nutritional security.* [Webinar]. YouTube. https://www.youtube.com/watch?v=mVDM7kxyWaw

Field, D., & Webb, C. (2022). Momentum is building for a school food program for Canada. *Canadian Food Studies / La Revue Canadienne Des études Sur l'alimentation*, *9*(3), 1–3. https://doi.org/10.15353/cfs-rcea.v9i3.618

Food Secure Canada. (n.d.). *Coalition for healthy school food*. Food Secure Canada. https://foodsecurecanada.org/coalitionforhealthyschoolfood

Friedmann, H. (2007). Scaling up: Bringing public institutions and food service corporations into the project for a local, sustainable food system in Ontario. *Agriculture and Human Values*, *24*(3), 389–398. https://doi.org/10.1007/s10460-006-9040-2

Gaddis, J. E., & Jeon, J. (2020). Sustainability transitions in agri-food systems: Insights from South Korea's universal free, eco-friendly school lunch program. *Agriculture and Human Values*, *37*(4), 1055–1071. https://doi.org/10.1007/s10460-020-10137-2

Galli, F., Prosperi, P., Favilli, E., D'Amico, S., Bartolini, F., & Brunori, G. (2020). How can policy processes remove barriers to sustainable food systems in Europe? Contributing to a policy framework for agri-food transitions. *Food Policy*, *96*, 101871. https://doi.org/10.1016/j.foodpol.2020.101871

Goodridge, L. (2020). *Standing strong in the face of adversity: How coalition members continue to adapt in the face of Covid-19* [Blog post]. Feeding City Lab. https://www.utsc.utoronto.ca/projects/feedingcity/2020/11/02/standing-strong-in-the-face-of-adversity-how-coalition-members-continue-to-adapt-in-the-face-of-covid-19-by-lindsay-goodridge/

Government of Canada. (2021). *Canada Healthy Communities Initiative*. Infrastructure Canada. https://www.infrastructure.gc.ca/chci-iccs/index-eng.html#1

Hernandez, K., Engler-Stringer, R., Kirk, S., Wittman, H., & McNicholl, S. (2018). The case for a Canadian national school food program. *Canadian Food Studies / La Revue Canadienne Des Études Sur l'alimentation*, *5*(3), 208–229. https://doi.org/10.15353/cfs-rcea.v5i3.260

Holt-Giménez, E. (2019, August 1). Capitalism, food, and social movements: The political economy of food system transformation. *Journal of Agriculture, Food Systems, and Community Development, 9*(A), 23-35. https://doi.org/10.5304/jafscd.2019.091.043

Klassen, S., & Murphy, S. (2020). Equity as both a means and an end: Lessons for resilient food systems from COVID-19. *World Development*, *136*, 105104. https://doi.org/10.1016/j.worlddev.2020.105104

Koberinski, J., Vivero-Pol, J. L., & LeBlanc, J. (2022). Reframing food as a commons in Canada: Learning from customary and contemporary Indigenous food initiatives that reflect a normative shift. *Canadian Food Studies / La Revue Canadienne Des Études Sur l'alimentation*, *9*(1). https://doi.org/10.15353/cfs-rcea.v9i1.504

Levkoe, C. Z., & Sheedy, A. (2019). A people-centred approach to food policy making: Lessons from Canada's People's Food Policy project. *Journal of Hunger & Environmental Nutrition*, *14*(3), 318–338. https://doi.org/10.1080/19320248.2017.1407724

Lowitt, K., Slater, J., Davidson, Z., & Manitoba, F. M. (2022). COVID-19, a changing Canadian food-security landscape, and food movements: Findings from a literature scan. *Journal of Agriculture, Food Systems, and Community Development*, *11*(3), 1-13. https://doi.org/10.5304/jafscd.2022.113.012

MacRae, R. (2011). A joined-up food policy for Canada. *Journal of Hunger & Environmental Nutrition*, *6*(4), 424–457. https://doi.org/10.1080/19320248.2011.627297

Maharaj, J. (2020). *Take back the tray: Revolutionizing food in hospitals, schools, and other institutions*. Jaguar Book Group.

Markow, K., Booth, S., Savio, S., & Coveney, J. (2016). Improving access to community-based food systems: Comparing perspectives of low socioeconomic individuals and food system representatives. *Nutrition & Dietetics*, *73*(1), 19–27. https://doi.org/10.1111/1747-0080.12153

Marsden, T., Hebinck, P., & Mathijs, E. (2018). Re-building food systems: Embedding assemblages, infrastructures and reflexive governance for food systems transformations in Europe. *Food Security*, *10*, 1301-1309. https://doi.org/10.1007/s12571-018-0870-8

McInnes, A. (2019). Integrating sustainability transitions and food systems research to examine consultation failures in Canadian food policymaking. *Journal of Environmental Policy & Planning*, *21*(4), 407–426. https://doi.org/10.1080/1523908X.2019.1623656

Mendly-Zambo, Z., & Raphael, D. (2019). Competing discourses of household food insecurity in Canada. *Social Policy and Society*, *18*(4), 535–554. https://doi.org/10.1017/S1474746418000428

Oberholtzer, L., Dimitri, C., & Schumacher, G. (2012). Linking farmers, healthy foods, and underserved consumers: Exploring the impact of nutrition incentive programs on farmers and farmers' markets. *Journal of Agriculture, Food Systems, and Community Development*, *2*(4), 63–77. https://doi.org/10.5304/jafscd.2012.024.002

Pilcher, J. M. (2016). Culinary infrastructure: How facilities and technologies create value and meaning around food. *Global Food History*, *2*(2), 105–131. https://doi.org/10.1080/20549547.2016.1214896

Pitter, J. (2021). *Equitable infrastructure: A resource framing infrastructure types using an equitable placemaking lens*. Community Foundations of Canada. https://communityfoundations.ca/wp-content/uploads/2019/04/Equitable-Infrastructure-National-Infrastructure-Assessment-Final-English-Ver.-August-10-2021.pdf

Queirolo, M. (2019, July 30). *Market cities: Insights from our trip to London*. Evergreen. https://www.evergreen.ca/blog/entry/market-cities-what-we-learned-travelling-to-london/

Rideout, K., Riches, G., Ostry, A., Buckingham, D., & MacRae, R. (2007). Bringing home the right to food in Canada: Challenges and possibilities for achieving food security. *Public Health Nutrition*, *10*(6), 566–573. https://doi.org/10.1017/S1368980007246622

Ruetz, A. T., & Fraser, E. D. G. (2019, March 26). *National school food program a short-term opportunity for jobs creation and economic growth*. Canadian Science Policy Centre. https://sciencepolicy.ca/posts/national-school-food-program-a-short-term-opportunity-for-jobs-creation-and-economic-growth-2/

Ruetz, A. T., & McKenna, M. L. (2021). Characteristics of Canadian school food programs funded by provinces and territories. *Canadian Food Studies / La Revue Canadienne Des Études Sur l'alimentation*, *8*(3). https://doi.org/10.15353/cfs-rcea.v8i3.483

Sadler, R. C. (2016). Strengthening the core, improving access: Bringing healthy food downtown via a farmers' market move. *Applied Geography*, *67*, 119–128. https://doi.org/10.1016/j.apgeog.2015.12.010

Sage, J. L., McCracken, V. A., & Sage, R. A. (2013). Bridging the gap: Do farmers' markets help alleviate impacts of food deserts? *American Journal of Agricultural Economics*, *95*(5), 1273–1279. https://doi.org/10.1093/ajae/aat031

Sage, C. (2014). The transition movement and food sovereignty: From local resilience to global engagement in food system transformation. *Journal of Consumer Culture*, *14*(2), 254–275. https://doi.org/10.1177/1469540514526281

Schrecker, T., & Bambra, C. (2015). *How politics makes us sick*. Palgrave Macmillan UK. https://doi.org/10.1057/9781137463074

Shanks, C. B., Hingle, M. D., Parks, C. A., & Yaroch, A. L. (2020). The COVID-19 pandemic: A watershed moment to strengthen food security across the US food system. *American Journal of Public Health*, *110*(8), 1133–1134. https://doi.org/10.2105/AJPH.2020.305760

Stutz, S., & Gagliardi, E. (2020, July 15). *Lessons from COVID-19: The importance of a national school food program* [Blog post]. Feeding City Lab. https://www.utsc.utoronto.ca/projects/feedingcity/2020/07/15/lessons-from-covid-19-the-importance-of-a-national-school-food-program-by-sterling-stutz-eleonora-gagliardi/

Sumner, J. (2011). Serving social justice: The role of the commons in sustainable food systems. *Studies in Social Justice*, *5*(1), 63-75. https://doi.org/10.26522/ssj.v5i1.992

Tarasuk, V., Li, T., & Fafard St-Germain, A. A. (2022). *Household food insecurity in Canada, 2021*. PROOF. https://proof.utoronto.ca/

Valgenti, B. (2021, January 25). *Podcast dispatches from issue 21.1: Jayeeta Sharma and Bryan Dale* [Audio podcast]. Gastronomica. https://gastronomica.org/2021/01/25/podcast-dispatches-from-issue-21-1-jayeeta-sharma-and-bryan-dale/

Winch, R. (2008). *Nutrition incentives at farmers' markets: Bringing fresh, healthy, local foods within reach*. Farmers Market Coalition. https://farmersmarketcoalition.org/resource/nutrition-incentives-at-farmers-markets-bringing-fresh-healthy-local-foods-within-reach/

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Original Research Article

Coherence of public policies to prevent household food insecurity: The case of Québec

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Résumé

Au Québec, l'insécurité alimentaire est un enjeu de santé publique. Malgré le soutien de plusieurs ministères aux organisations communautaires et privées qui luttent contre l'insécurité alimentaire, elle perdure et s'est aggravée avec la pandémie de COVID-19. Cet article analyse la cohérence des politiques et interventions gouvernementales de lutte contre l'insécurité alimentaire au Québec et interroge leur capacité à la prévenir. Un cadre théorique basé sur les déterminants de la sécurité alimentaire et sur le concept de cohérence des politiques publiques est mobilisé. La plupart des interventions de lutte contre l'insécurité alimentaire en 2021 étaient réparties dans trois politiques gouvernementales, le Plan d'action gouvernemental pour l'inclusion économique et la participation sociale 2017-2023; la Politique gouvernementale de prévention en santé 2017-2021 et la Politique bioalimentaire 2018-2023, auxquelles s'ajoutent d'autres interventions provinciales et fédérales. En revanche, aucune stratégie d'ensemble officielle ne vise directement la lutte contre l'insécurité alimentaire, ce qui favoriserait une meilleure coordination des interventions gouvernementales et de la société civile (milieux communautaires et privés) et la création de ponts entre les politiques sociales, de santé publique et bioalimentaires. La mise en place d'une telle stratégie permettrait de mieux agir sur l'ensemble des déterminants (individuels ou collectifs) et de mieux prévenir l'insécurité alimentaire. Cela faciliterait le développement de parcours intégrant plusieurs types d'interventions, adaptés aux différentes populations vulnérables. Une vision commune, des cibles à atteindre ainsi que des mécanismes de suivi et d'évaluation des

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effets réels des interventions, individuels et croisés, pourraient être mis en place, en collaboration avec les acteurs concernés.

Abstract

In Québec, food insecurity is a public health issue. Despite support from several ministries to community and private organizations fighting against food insecurity, it persists and has worsened with the pandemic of COVID-19. This article analyzes the coherence of government policies and interventions to fight food insecurity in Québec and questions their capacity to prevent it. A theoretical framework based on the determinants of food security and the concept of coherence in public policies is used. Most of the interventions to fight food insecurity in 2021 were spread across three government policies: Plan d'action gouvernemental pour l'inclusion économique et la participation sociale 2017-2023, Politique gouvernementale de prévention en santé 2017-2021 and Politique bioalimentaire 2018-2023, along with other provincial and federal interventions. However, there is no formal overall strategy to fight food insecurity, which would make possible a better coordination of government and civil society (community and private sector) interventions, and create bridges between social, public health and agri-food policies. The implementation of such a strategy would make it possible to better address all the determinants of food security, individual and collective, and to better prevent food insecurity. This would facilitate the development of pathways integrating several types of interventions, adapted to different vulnerable populations. A common vision, targets and mechanisms for monitoring and evaluating the real effects of individual and cross-cutting interventions could be established, in collaboration with the actors concerned.

Keywords: Food insecurity; public policies; consistency; Québec

Introduction

L'insécurité alimentaire des ménages est associée à un apport nutritionnel insuffisant (Kirkpatrick et Tarasuk, 2008), à des maladies comme le diabète (Gucciardi et al., 2014), à l'obésité (Lyons et al., 2008) et à des problèmes de santé mentale (Men et al., 2021). Au Québec, en 2017-2018, 11,1 % des ménages souffraient d'insécurité alimentaire (Tarasuk et Mitchell, 2020). Certains groupes sont plus touchés que d'autres, notamment les ménages à faible revenu, les familles monoparentales, les femmes, les personnes appartenant à des minorités, les Autochtones et les familles avec de jeunes enfants. La pandémie de COVID-19 a exacerbé les demandes en dépannage alimentaire (Banques alimentaires Canada, 2021). Le pourcentage de la population souffrant d'insécurité alimentaire a augmenté; elle a atteint 25 %[1] au début de la pandémie (Institut national de santé publique du Québec [INSPQ], 2022). Après une baisse durant plusieurs mois, ce chiffre a ensuite à nouveau remonté et s'élevait à 24 % en mai 2022. Ainsi, l'insécurité alimentaire est un enjeu de santé publique qui touche une part importante de la population, qui perdure et s'amplifie en temps de crise.

Au Québec, plusieurs ministères, notamment ceux responsables de la santé, de l'inclusion économique et de l'alimentation, viennent en appui aux organisations communautaires et privées qui travaillent à réduire l'insécurité alimentaire. Les interventions gouvernementales touchent à plusieurs dimensions de ce problème, mais elles apparaissent fragmentées. Martorell (2017) s'inquiétait du peu de liens entre les actions visant la sécurité alimentaire et celles visant le secteur agroalimentaire au Canada et insistait sur la nécessité d'accroître la cohérence entre elles. Ce constat rejoint les besoins exprimés par les acteurs de la société civile québécoise (milieux communautaires et privés) engagés dans la lutte contre l'insécurité alimentaire. Dans un sondage réalisé au Québec durant la pandémie de COVID-19[2] par le *Groupe de travail sur l'accès universel à une offre alimentaire de qualité*, les besoins exprimés par ces acteurs montrent la pertinence d'élaborer un outil politique intégrateur. En effet, les acteurs interrogés insistent sur la nécessité d'un « appui politique pour la mise en place d'actions structurantes » ainsi que sur celle de « développer des partenariats et des collaborations » (Gamache et al., 2021, p. 24). Un besoin similaire a été relevé par l'Observatoire des tout-petits (2021, p.108).

Ce besoin exprimé de politiques publiques structurantes et l'apparente fragmentation des interventions gouvernementales posent la question de leur cohérence. Comme l'indique la littérature, la lutte contre l'insécurité alimentaire demande à être réfléchie à travers une vision holistique (Pollard et Booth, 2019). Il est nécessaire d'agir sur l'ensemble de ses déterminants de façon cohérente, et d'intervenir d'abord et avant tout en amont du problème en assurant la disponibilité des aliments, l'accès à ceux-ci et leur bonne utilisation et en améliorant l'environnement dans lequel vivent les ménages (Ministère de la Santé et des Services sociaux [MSSS], 2008; Organisation des Nations Unies pour l'alimentation et l'agriculture [FAO], 2008; Turner et

[1] Comme l'indique l'INSPQ, les résultats des sondages qu'il a menés pendant la pandémie doivent être interprétés avec prudence, car ils reposent sur un échantillonnage non probabiliste. Par ailleurs, « seuls quatre éléments du module de 18 questions ont été sélectionnés pour mesurer l'insécurité alimentaire » par l'INSPQ, contrairement à l'étude de Tarasuk et Mitchell (2020), précédemment citée, qui en utilisait 18.
[2] Le sondage a été réalisé auprès de 138 répondants provenant majoritairement du milieu communautaire (45 %), de la santé et des services sociaux (14 %) et bioalimentaire (12 %).

al., 2018; Parent et Martorell, 2019; Tarasuk et al., 2020).

Le présent article s'intéresse aux interventions des gouvernements provincial et fédéral sur le territoire du Québec pour réduire l'insécurité alimentaire. Son objectif est de recenser ces interventions, de les catégoriser et d'analyser leur cohérence. Cet article explore également des pistes de solution pour améliorer cette cohérence et, ainsi, augmenter la capacité des interventions gouvernementales à prévenir l'insécurité alimentaire. Ces pistes s'adressent à la fois au milieu de la recherche et aux acteurs gouvernementaux.

Dans un premier temps, les concepts d'insécurité alimentaire et de cohérence sont examinés à partir de la littérature scientifique. Cela mène à la proposition d'un cadre conceptuel sur la cohérence des interventions gouvernementales pour appréhender les multiples déterminants, dimensions et niveaux de l'insécurité alimentaire. Dans un deuxième temps, à partir d'un examen de la littérature institutionnelle, les différentes politiques et interventions gouvernementales en place au Québec sont identifiées et catégorisées. Elles sont ensuite analysées et discutées à l'aide d'une méthodologie s'appuyant sur le cadre conceptuel proposé, puis mises en parallèle avec des modèles d'interventions existant au Canada et ailleurs dans le monde. En réponse aux constats faits à la suite de cette analyse, des pistes de solutions sont discutées.

Cohérence, interventions gouvernementales et insécurité alimentaire : un cadre conceptuel

L'insécurité alimentaire est une problématique multidimensionnelle, influencée par plusieurs déterminants agissant à plusieurs niveaux. Pour faire face à un tel enjeu public complexe, des interventions gouvernementales cohérentes s'imposent. Cette section revient d'abord sur la complexité de l'insécurité alimentaire, puis propose un cadre conceptuel tenant compte de ces différents éléments.

Sécurité et insécurité alimentaire : de pôles opposés d'un continuum

Le gouvernement du Québec opte pour une définition de la sécurité alimentaire à l'échelle populationnelle (Chénier et al., 2021; MSSS, 2008). Celle-ci, largement utilisée dans la communauté internationale et, en premier lieu, par la FAO (2008), implique qu'il y a sécurité alimentaire lorsque « tous les êtres humains ont, à tout moment, un accès physique et économique à une nourriture suffisante, saine et nutritive leur permettant de satisfaire leurs besoins énergétiques et leurs préférences alimentaires pour mener une vie saine et active » (p. 1). L'insécurité alimentaire, quant à elle, est définie par Valerie Tarasuk, chercheuse canadienne reconnue dans le domaine de l'insécurité alimentaire, comme « l'accès restreint, inadéquat ou incertain des personnes et des ménages à des aliments sains, nutritifs et personnellement acceptables, tant sur le plan de la quantité que de la qualité, pour leur permettre de combler leurs besoins énergétiques et de mener une vie saine et productive » (Tarasuk, 2001, p. 2,). En somme, les définitions de sécurité et d'insécurité alimentaires s'articulent autour de trois principales notions : l'accès, les aliments (p. ex. nutritifs, acceptables socialement) et les besoins/préférences (des êtres humains/personnes/ménages).

Les notions de sécurité et d'insécurité alimentaires sont le plus souvent abordées comme les pôles opposés d'une échelle ou d'un continuum qui rend compte de l'augmentation graduelle de la sévérité de la problématique d'accès aux aliments. Par exemple, à partir d'une synthèse des travaux existants, Hendriks (2015) propose un continuum qui va de la famine à l'accès adéquat à des aliments dans le présent et dans l'avenir, en passant par des stades comme la faim chronique et la faim cachée, qui recoupe l'accès inadéquat, semi-inadéquat et obésogénique aux aliments, ainsi que l'accès adéquat aux aliments dans le présent, mais avec des inquiétudes concernant l'avenir.

Puisque l'insécurité et la sécurité alimentaires sont des pôles opposés d'un même continuum, leurs dimensions, leurs déterminants et les niveaux auxquels ils agissent, expliqués dans les prochaines sections, sont les mêmes.

Sécurité et insécurité alimentaire : des phénomènes multidimensionnels

La FAO (2008) propose quatre dimensions de la sécurité alimentaire : 1) l'accès aux aliments; 2) la disponibilité des aliments; 3) l'utilisation des aliments; 4) la stabilité de ces trois premières dimensions dans le temps.

L'*accès* aux aliments dépend des facteurs liés à l'environnement économique : prix (niveau, stabilité) des produits, caractéristiques des détaillants (p. ex. heures d'ouverture, services offerts) et des produits (p. ex. composition, emballage, salubrité), marchés (fonctionnement, régulation) et commercialisation (p. ex. promotion, étiquetage) (Chénier et al., 2021; FAO, 2008; Turner et al., 2018). Le pouvoir d'achat des ménages (revenu disponible pour acheter des aliments) est également central; les ménages à faible revenu et à dépenses fixes élevées, comme le logement et le transport, sont plus susceptibles d'être en situation d'insécurité alimentaire. L'accès aux aliments est également influencé par les caractéristiques des ménages, par exemple leur situation géographique. En effet, l'accès physique à la nourriture repose sur la qualité et la diversité des aliments disponibles dans l'environnement plus ou moins immédiat des ménages (p. ex. épiceries, marchés) ainsi que des moyens de transport dont ils disposent (p. ex. voiture, transport en commun ou actif) pour y accéder.

La *disponibilité* des aliments est déterminée par le niveau de production alimentaire (mondial, national, régional, local) et le commerce net d'un pays (importations vs exportations) (FAO, 2008; Pérez-Escamilla et Segall-Corrêa, 2008). Comme le mentionnent Turner et al. (2018), « la disponibilité précède l'accessibilité, en ce sens qu'un aliment ne peut être accessible à un individu s'il n'est pas disponible » (p. 95, traduction libre). En revanche, « de bons approvisionnements alimentaires au niveau national ou international ne garantissent pas en soi la sécurité alimentaire des ménages » (FAO, 2008, p. 1). Ainsi, la disponibilité des aliments doit être prise en compte de pair avec les autres dimensions de l'insécurité alimentaire, et vice-versa.

L'utilisation des aliments renvoie à la manière dont le corps absorbe les nutriments contenus dans les aliments pour satisfaire ses besoins énergétiques (FAO, 2008; Turner et al., 2018; Parent et Martorell, 2019). La diversité des aliments consommés, le temps disponible pour préparer les aliments, les capacités d'entreposage d'aliments par les ménages, les préférences et les cultures culinaires, les compétences en alimentation et en planification budgétaire, le niveau de socialisation, sont tous des paramètres qui influencent les choix et l'utilisation des aliments et conséquemment, l'état nutritionnel des individus.

Même si la sécurité alimentaire des ménages est assurée à un moment donné, la situation peut changer. Un événement peut jouer sur la disponibilité (p. ex. sécheresse, rupture de la chaîne d'approvisionnement), l'accès économique (p. ex. perte d'emploi) ou l'utilisation et les pratiques alimentaires (p. ex. manque de temps pour cuisiner) et nuire à la sécurité alimentaire à long terme. Pour cette raison, la FAO (2008) propose une quatrième dimension à la sécurité alimentaire, soit la *stabilité* des trois premières dimensions dans le temps.

Ces quatre dimensions (accès aux aliments, disponibilité, utilisation, stabilité de ces dimensions dans le temps) peuvent être associées aux déterminants de l'insécurité alimentaire.

Déterminants multiples de la sécurité alimentaire agissant à plusieurs niveaux

La sécurité alimentaire est un déterminant de la santé des populations, mais elle est aussi elle-même influencée par les déterminants de la santé (Alla, 2016; Anctil et al., 2012; Chénier, 2019; Parent et Martorell, 2019). L'INSPQ explique ainsi ce que sont les déterminants de la santé :

> [Ils]désignent tous les facteurs qui influencent l'état de santé de la population, sans nécessairement être des causes directes de problèmes particuliers ou de maladies. Les déterminants de la santé sont associés aux comportements individuels et collectifs, aux conditions de vie et aux environnements. Il existe des disparités de répartition de ces déterminants entre les différents échelons de la société, engendrant ainsi des inégalités de santé. Ce gradient social de santé est relié à une distribution inégale du pouvoir, des ressources, des biens et des services. (INSPQ, 2022, section Les déterminants de la santé)

Dans un cadre de référence construit à l'intention d'organisations gouvernementales et paragouvernementales impliquées dans la réponse à l'insécurité alimentaire au Québec, Chénier (2019) précise les déterminants de la sécurité alimentaire. Les déterminants individuels sont les caractéristiques des personnes et des ménages qui influencent leur alimentation, comme le revenu et les compétences culinaires. Les déterminants collectifs correspondent à l'environnement dans lequel vivent les personnes et les ménages, à la société en général et au système agroalimentaire. Les interventions visant à contrer l'insécurité alimentaire ciblent le plus souvent les déterminants individuels, mais négligent ses causes structurelles et ses déterminants collectifs (Parent, 2015; Parent et Martorell, 2019). Les gouvernements « disposent d'instruments d'intervention variés (réglementaires, législatives, financières, etc.), mais qui peinent à viser les macrodéterminants de la sécurité alimentaire » (Parent et Martorell, 2019, p. 57).

Dans une synthèse des différents indicateurs et méthodes de mesure de l'insécurité alimentaire à l'échelle mondiale, Pérez-Escamilla et Segall-Corrêa (2008) précisent les niveaux auxquels agissent les déterminants. Tout comme Chénier (2019), Pérez-Escamilla et Segall-Corrêa (2008) proposent le niveau individuel et des ménages (tableau 2, ligne C). Ce niveau s'apparente à ce que Turner et al. (2018) nomment « domaine du personnel » dans leur proposition d'un cadre d'analyse sur les environnements alimentaires. Pérez-Escamilla et Segall-Corrêa (2008) proposent également le niveau global (ou international) et le niveau national,pouvant être subdivisé en quatre dans le contexte géopolitique québécois : fédéral, national, régional et local. Ces niveaux (tableau 2, lignes A et B) peuvent être associés aux déterminants collectifs proposés par Chénier (2019) et au « domaine externe » de Turner et al. (2018).

Cohérence des interventions gouvernementales face à un phénomène multidimensionnel

Face à une problématique publique comme l'insécurité alimentaire, influencée par des déterminants multiples, multidimensionnels et agissant sur plusieurs niveaux, la cohérence des interventions gouvernementales apparaît être une condition primordiale pour y répondre adéquatement.

La notion d'intervention gouvernementale désigne ici l'action d'une autorité gouvernementale, ou ce que Howlett (2005) nomme instrument politique. Les interventions gouvernementales peuvent prendre plusieurs formes, par exemple des programmes d'aide financière, la fiscalité, des réglementations, des stratégies d'information visant la population. Quant au terme « politique publique », il est associé dans le présent article à son sens strict de politique gouvernementale, qui est un « document rédigé par des acteurs gouvernementaux présentant leur vision d'un enjeu susceptible d'une action publique et, accessoirement, les aspects légaux, techniques, pratiques et opérationnels de cette action » (Turgeon et Savard, 2012). Ainsi, une politique gouvernementale peut regrouper plusieurs interventions (instruments) pour faire face à un enjeu public. Finalement, bien que cet article s'intéresse avant tout aux interventions gouvernementales, il est nécessaire de préciser que les gouvernements ne sont pas les seuls à agir pour lutter contre l'insécurité alimentaire : la société civile (milieux communautaires, privés, etc.) y joue un rôle central. D'ailleurs, les actions de la société civile sont souvent soutenues par les gouvernements.

La cohérence peut être définie comme « [...] la promotion d'un renforcement mutuel entre les politiques publiques [interventions gouvernementales] à travers divers ministères ou organismes, créant ainsi une synergie permettant d'atteindre les objectifs visés par ces politiques » (Duraiappah et Bhardwaj, 2007, cité dans Savard, 2015, p. 8). Créer une cohérence entre différentes interventions gouvernementales est un exercice complexe. Leurs objectifs et leurs moyens peuvent différer, de sorte que des interventions peuvent être contradictoires, ou alors être complémentaires sans pour autant être traitées comme telles. Le manque d'uniformité peut être contre-productif et entraîner des chevauchements d'interventions ou encore laisser des enjeux mal couverts. Analyser les interventions gouvernementales sous l'angle de la cohérence permet de s'assurer qu'elles ne s'opposent pas les unes aux autres, que leurs objectifs sont cohérents entre eux, et que les moyens mis en œuvre sont adaptés pour atteindre ces objectifs (Savard, 2011).

Par ailleurs, on peut élargir la portée de la réflexion sur la cohérence des interventions gouvernementales en considérant à la fois la coordination des acteurs gouvernementaux et de ceux issus de la société civile, qui partagent des orientations et une responsabilité face à un problème sociétal (Le Galès, 2014). Cela étant dit, le présent article s'intéresse plus particulièrement à la cohérence des interventions gouvernementales de lutte contre l'insécurité alimentaire sous la responsabilité des acteurs gouvernementaux.

La cohérence est un concept utile pour analyser les interventions gouvernementales et peut se traduire par de bonnes pratiques dans la conception des politiques pour agir sur un enjeu public complexe comme l'insécurité alimentaire. Savard (2022) propose des critères pour analyser cette cohérence (tableau 1). Il les a établis à partir de la littérature et les a utilisés pour analyser la cohérence des interventions gouvernementales au Québec face à la pandémie de COVID-19.

Tableau 1 : Critères de cohérence des interventions gouvernementales

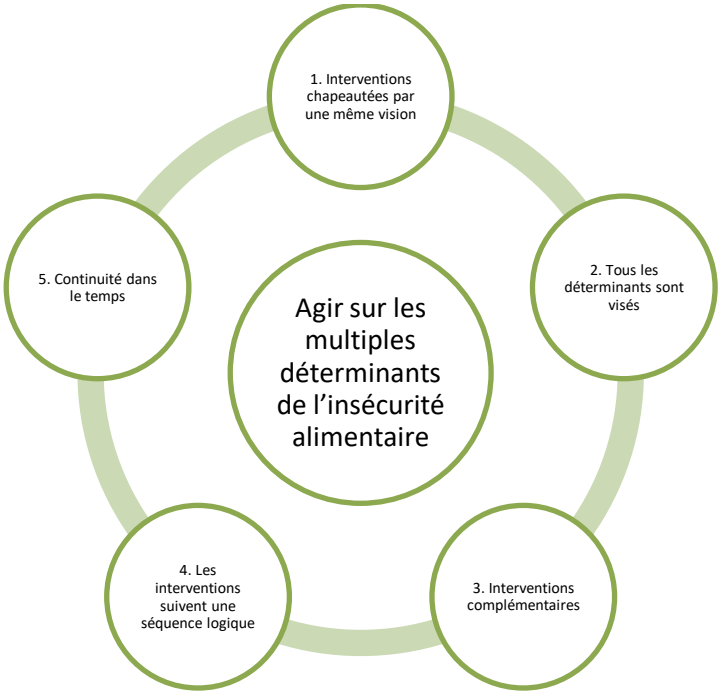
1	Les interventions s'accordent bien les unes aux autres et reposent toutes sur un sens inféré commun.
2	Les interventions font partie de sous-ensembles d'éléments tous relatifs au même grand ensemble.
3	Les interventions se complètent et ne se contredisent pas.
4	Il y a un enchaînement, une séquence logique entre les interventions.
5	Il y a une continuité des interventions dans le temps, car les coupures temporelles fréquentes peuvent créer de l'incohérence, « c'est un peu comme sauter du coq à l'âne » (Savard, 2022, par. 28).

Source : Savard (2022).

Cadre conceptuel : cohérence des interventions gouvernementales pour agir sur les multiples déterminants de l'insécurité alimentaire

Face à la complexité de l'enjeu, le niveau de cohérence des interventions gouvernementales doit être particulièrement élevé. Celui-ci doit répondre au fait que la lutte contre l'insécurité alimentaire dépend d'une multitude d'interventions, sous l'égide de ministères et organisations différents. Une approche cohérente est nécessaire pour s'assurer que globalement, ces interventions couvrent l'ensemble des déterminants et des dimensions de l'insécurité alimentaire et agissent à tous les niveaux. La figure 1 résume ce cadre conceptuel; les éléments qui le composent sont ensuite expliqués avec plus de détails dans les tableaux 2 et 3.

Figure 1 : Cadre conceptuel : cohérence des interventions gouvernementales pour agir sur les multiples déterminants de l'insécurité alimentaire



Source : Inspiré de Savard (2022).

Le centre du cadre conceptuel (figure 1) représente l'enjeu public de l'insécurité alimentaire. Il prend pour point de départ le constat que la sécurité alimentaire et, par conséquent, l'insécurité alimentaire, sont des réalités multidimensionnelles qui dépendent d'une grande variété de déterminants et qui se manifestent à différents niveaux (tableau 2). Comme l'indiquent Parent et Martorell (2019, p. 55), pour lutter contre l'insécurité alimentaire, il est nécessaire « d'opter pour une perspective intégrée, qui combine des interventions à plusieurs niveaux, et ce, sur l'ensemble des déterminants de la sécurité alimentaire ».

Tableau 2 : Multiples déterminants, dimensions et niveaux de l'insécurité alimentaire

	Dimensions	Déterminants	Niveaux
A	Disponibilité des aliments	Production et transformation d'aliments	International National
	Accès aux aliments	Importation, commerce, distribution et transport des aliments Prix des aliments, organisation et régulation des marchés	
B	Disponibilité des aliments	Production et transformation d'aliments	Régional Local
	Accès aux aliments	Distribution et transport des aliments Proximité de détaillants et autres sources d'aliments Prix, commercialisation, promotion des aliments	
C	Accès aux aliments	Revenus, pouvoir d'achat, part allouée à l'alimentation Distance à parcourir pour s'alimenter, accès au transport Présence et accès à un réseau social	Ménages Individus
	Utilisation des aliments	Temps disponible pour s'alimenter Capacité de produire et de ranger des aliments Compétences en alimentation et en planification budgétaire Préférences et cultures culinaires	
Stabilité des trois dimensions dans le temps			

Sources : Adapté de Chénier (2019); Chénier et al. (2021); FAO (2008); McSween (2019); Parent et Martorell (2019); Pérez-Escamilla et Segall-Corrêa (2008); Turner et al. (2018).

Dans le cadre conceptuel (figure 1), le grand cercle représente la cohérence des interventions gouvernementales. Sur le cercle sont positionnés les critères pour analyser cette cohérence. Ces critères, inspirés de Savard (2022), ont été adaptés à la lutte contre l'insécurité alimentaire qui fait l'objet du présent article (tableau 3).

Tableau 3 : Critères de cohérence des interventions gouvernementales appliqués à la lutte contre l'insécurité alimentaire

1	Les interventions gouvernementales sont chapeautées par une seule vision de la lutte contre l'insécurité alimentaire (sens inféré commun) : elles s'accordent les unes aux autres.
2	Les interventions peuvent être regroupées selon les déterminants de l'insécurité alimentaire qu'elles visent afin de s'assurer que tous les déterminants de l'insécurité alimentaire sont couverts adéquatement.
3	Les interventions sont complémentaires. Chacune des interventions contribue à lutter contre l'insécurité alimentaire et ne réduit pas l'effet d'une autre intervention visant à lutter contre l'insécurité alimentaire.
4	Les interventions d'une même catégorie (p. ex. visant un déterminant de l'insécurité alimentaire ou une population cible) suivent une séquence logique. Les catégories d'interventions suivent également une séquence logique entre elles.
5	Les coupures temporelles des interventions de lutte contre l'insécurité alimentaire sont limitées, il y a une continuité dans ces interventions.

Source : Adapté de Savard (2022).

Méthodologie

Pour atteindre l'objectif de cette étude, soit analyser la cohérence des politiques et interventions gouvernementales contre l'insécurité alimentaire au Québec et s'interroger sur leur capacité à prévenir celle-ci, un examen de la littérature institutionnelle québécoise a été réalisé. Les données récoltées proviennent de documents gouvernementaux (politiques gouvernementales, documents ou sites officiels décrivant des interventions).

L'objectif était d'identifier les interventions gouvernementales qui s'inscrivent explicitement dans la réponse à l'insécurité alimentaire. Pour ce faire, des politiques gouvernementales regroupant plusieurs interventions ont été sélectionnées. Elles devaient être actives en 2021 et mentionner explicitement la *sécurité* ou *l'insécurité alimentaire*, l'*accès physique et économique aux aliments sains*, l'*accès à une saine alimentation* ou l'*accès à une offre d'aliments de qualité favorables à la santé* dans leurs documents officiels. Trois politiques gouvernementales québécoises ont été retenues, à savoir le Plan d'action gouvernemental pour l'inclusion économique et la participation sociale (PAGIEPS 2017-2023), la Politique gouvernementale de prévention en santé (PGPS 2017-2021) et la Politique bioalimentaire (PB 2018-2023). Par la suite, les mots-clés « sécurité alimentaire », « aliment » et « alimentation » ont été utilisés pour chercher dans les documents de ces politiques plus de précisions sur les interventions en vigueur dans ce domaine. Un processus boule de neige a permis d'élargir la recherche à d'autres documents gouvernementaux et interventions. Au total, treize interventions sous l'égide du gouvernement du Québec ont été identifiées; elles sont résumées dans le tableau 4. Suivant la même méthodologie, huit interventions fédérales ont été ajoutées au corpus, dont des interventions incluses dans la Politique alimentaire du Canada lancée en 2019, et d'autres interventions également identifiées dans le tableau 4.

Les interventions d'organismes de la société civile (comme les Banques alimentaires du Québec, la Tablée des Chefs, Deuxième Récolte, le Club des petits déjeuners, le Dispensaire diététique de Montréal et le Conseil du Système alimentaire montréalais) ont également été recensées, mais n'ont pas été intégrées dans le tableau 4 ni directement dans l'analyse, puisque cette dernière se concentre sur la cohérence des interventions directes des gouvernements provincial et

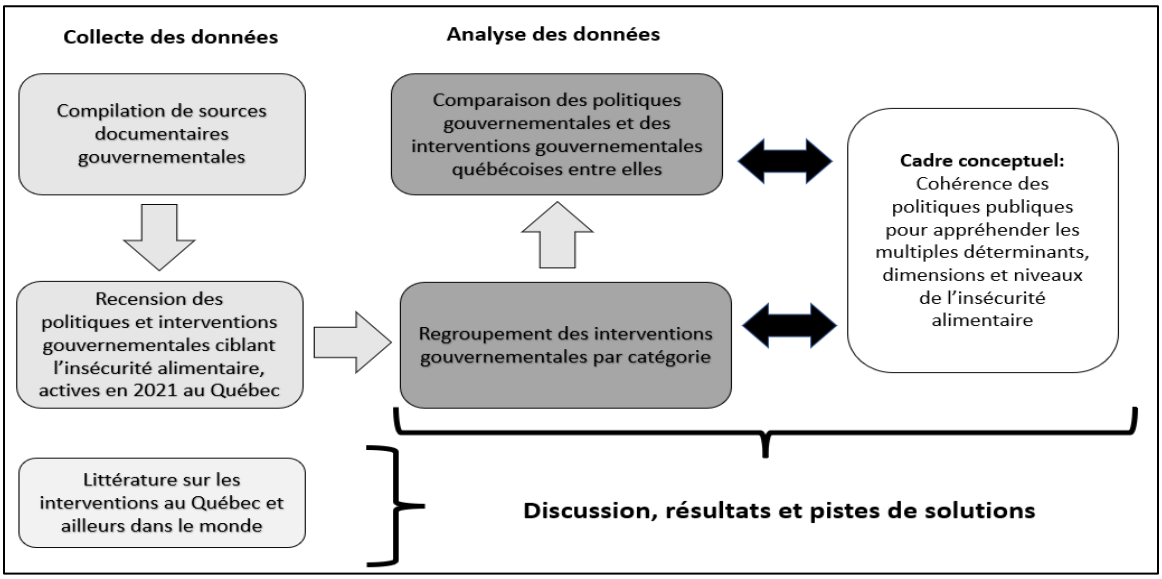
fédéral. Il en est de même pour les interventions municipales et les projets locaux et régionaux. Il s'agit d'une limite de notre analyse, bien que ces deux derniers types d'interventions soient indirectement pris en compte, puisque les programmes provinciaux et fédéraux qui les financent y sont inclus. De même, le travail de grandes fondations publiques ou privées, comme Centraide et la Fondation Lucie et André Chagnon, n'a pas été considéré même si elles jouent un rôle dans le financement des organismes communautaires et, ce faisant, sur la définition des priorités dans la réponse à l'insécurité alimentaire et à la pauvreté plus généralement.

Notre stratégie d'analyse qualitative du contenu des sources documentaires récoltées a été inspirée du processus à trois étapes de Gaudet et Robert (2018). Premièrement, chaque intervention a été décrite suivant les caractéristiques suivantes : type d'intervention (p. ex. subventions, mesures fiscales), objectif, clientèle visée, niveau d'intervention (provincial, fédéral), organisation responsable, durée (années). Cela a permis de les regrouper par catégorie. Deuxièmement, les interventions recensées ont été comparées et mises en parallèle avec les orientations et objectifs généraux des trois grandes politiques du gouvernement québécois (PAGIEPS 2017-2023, PGPS 2017-2021 et PB 2018-2023).

Troisièmement, une itération et un va-et-vient constant entre les constats découlant des deux premières étapes de l'analyse, le cadre conceptuel (figure 1), les déterminants de l'insécurité alimentaire (tableau 2) et les facteurs de cohérence (tableau 3) ont permis d'analyser la cohérence des interventions gouvernementales en matière de lutte contre l'insécurité alimentaire au Québec et de la discuter. Les résultats des analyses ont été mis en parallèle avec une littérature sur la lutte contre l'insécurité alimentaire au Québec, au Canada et ailleurs dans le monde. Finalement, à partir de ces résultats, des pistes de recommandation ont été formulées.

La figure 1 résume la démarche d'analyse de cette étude.

Figure 2 : Collecte et analyse des données



Source : Les auteur.e.s.

Résultats

Les politiques et interventions gouvernementales au Québec sont présentées dans un premier temps sous l'angle de leur diversité (type, clientèle, objectif) puis, dans un deuxième temps, sous l'angle de la couverture des déterminants de l'insécurité alimentaire. Ces deux caractérisations permettent, dans un troisième temps, d'examiner la cohérence de ces interventions en mobilisant les critères du cadre proposé précédemment.

Diversité des interventions contre l'insécurité alimentaire au Québec

Les politiques et interventions relevant des gouvernements du Québec et du Canada actives en 2021 sur le territoire du Québec et visant explicitement à lutter contre l'insécurité alimentaire sont recensées dans le tableau 4.

La plupart des interventions recensées ciblent des populations vulnérables : personnes à faible revenu, personnes socialement isolées, communautés défavorisées, nordiques ou isolées, Autochtones, femmes enceintes et personnes particulièrement affectées par la pandémie de COVID-19. Le soutien gouvernemental prend le plus souvent la forme d'une aide financière pour réaliser des projets mis en œuvre par des acteurs locaux ou encore des études, des formations, des ateliers ou des systèmes permettant de réduire le coût des aliments (coupons, contribution sur le prix). Les deux paliers de gouvernement sont impliqués dans cette catégorie d'initiatives, mais l'appui aux populations autochtones relève surtout du gouvernement fédéral. Cette catégorie inclut également les soutiens aux banques et au dépannage alimentaires, et les mesures fiscales favorisant les dons d'aliments.

Une autre catégorie rassemble les appuis à des projets locaux qui visent, dans certains cas, une clientèle plus large que les populations vulnérables (p. ex. marché ambulant).

Finalement, des interventions qui ciblent les milieux scolaires et les jeunes sont inscrites dans plusieurs politiques provinciales et fédérales. Elles prennent la forme de soutien financier aux écoles et aux organismes, notamment pour offrir des repas ou des collations aux enfants. Il faut noter que des études et projets pilotes sont en cours aux niveaux fédéral et provincial. Par ailleurs, bien que les objectifs et les orientations de ces interventions soient établis aux niveaux provincial et fédéral, leur mise en œuvre a lieu au niveau local, principalement dans les établissements scolaires. Ces objectifs dépassent généralement la lutte contre l'insécurité alimentaire et concernent des enjeux plus larges, comme la réussite scolaire des enfants.

Tableau 4 : Principales politiques et interventions gouvernementales en matière de lutte contre l'insécurité alimentaire, Québec, 2021

Politiques*	Interventions	Objectif	Clientèle visée	Type d'instrument	Exemples
Interventions ciblant des populations vulnérables					
Plan d'action gouvernemental pour l'inclusion économique et la participation sociale ou PAGIEPS 2017-2023 (QC)	13.1 Augmenter le soutien aux activités en matière de sécurité alimentaire visant les personnes à faible revenu		Personnes à faible revenu	Appui financier à des organismes communautaires	Groupes d'achats, kiosques fermiers, conseil de politique alimentaire
	13.2 Augmenter la quantité de fruits et légumes frais distribués aux personnes en situation de pauvreté et d'exclusion sociale		Personnes à faible revenu et exclues socialement	Appui financier à des organismes communautaires	Programme Jardins de solidarité
	13.3 Soutenir les femmes enceintes et les familles à faible revenu ayant un enfant de moins de deux ans en réduisant leur insécurité alimentaire au moyen de l'approche OLO		Femmes enceintes et familles à faible revenu	Appui financier à la Fondation OLO (fondation publique et privée en promotion de la santé)	Coupons d'aliments pour œufs, lait, légumes, multivitamines
Politique gouvernementale de prévention en santé ou PGPS 2017-2021 (QC)	3.1 Favoriser l'accès physique et économique à une saine alimentation, particulièrement dans les communautés défavorisées ou isolées géographiquement		Communautés défavorisées ou isolées	Appui financier au TIR-SHV (collectif de tables intersectorielles)	Jardins communautaires, agriculture urbaine, marchés ambulants
Plan d'action gouv. pour le développement social et culturel des Premières Nations et des Inuits 2017-2022 (QC)	1.2.34 Implanter une nouvelle politique sur la sécurité alimentaire pour la région du Nunavik		Région du Nunavik	Étude et projet pilote	
Politique alimentaire du Canada 2019 (CA)	Fonds des initiatives pour les communautés nordiques isolées	Sécurité alimentaire et système alimentaire durable	Communautés nordiques isolées	Appui financier	Serres, congélateurs communautaires
Nutrition Nord Canada (CA)		Accès économique aux aliments nutritifs	Communautés nordiques isolées	Appui financier	Contribution sur le prix total d'une liste d'aliments sélectionnés

Politiques*	Interventions	Objectif	Clientèle visée	Type d'instrument	Exemples
Initiatives sur les systèmes agricoles et alimentaires autochtones (CA) -		Réduire l'insécurité alimentaire	Communautés autochtones	Appui financier	Ateliers, formations, recherche participative
Programme canadien de nutrition prénatale (CA) -		Améliorer la santé des femmes et des bébés	Femmes enceintes vulnérables	Services	Conseils en nutrition, bons d'aliments
Fonds d'urgence pour la sécurité alimentaire oct. 2020-déc. 2021 (CA)	Mesure spéciale COVID-19	Sécurité alimentaire, accès aux aliments	Personnes en situation d'insécurité alimentaire à cause de la pandémie	Appui financier aux organismes	Banques alimentaires du Canada, Deuxième récolte, Club des petits déjeuners
Programme de récupération d'aliments excédentaires août 2020 (CA)	Mesure spéciale COVID-19	Faciliter l'accès aux aliments, réduire le gaspillage alimentaire	Populations vulnérables	Appui financier aux organismes	Deuxième récolte, Les fermes Dani, La Tablée des Chefs
Interventions en milieu scolaire ou visant les jeunes					
Plan d'action gouvernemental pour l'inclusion économique et la participation sociale ou PAGIEPS 2017-2023 (QC)	13.5 Valoriser les surplus alimentaires et améliorer les connaissances et les compétences culinaires des jeunes de 12 à 17 ans		Jeunes de 12 à 17 ans	Appui financier à La Tablée des chefs (organisme)	Brigade culinaire
Politique gouvernementale de prévention en santé ou PGPS 2017-2021 (QC)	Chantier 4 Évaluer la pertinence et la faisabilité de soutenir l'offre de repas et de collations de bonne valeur nutritive dans les écoles des milieux défavorisés sur le plan socioéconomique		Écoles de milieux défavorisés	Étude et projet pilote	Écollation
Allocations en milieu scolaire (QC)	15012 Aide alimentaire 30011 Aide alimentaire		Élèves (notamment des milieux défavorisés)	Appui financier aux écoles	Achats de déjeuners, dîners, collations
Politique alimentaire du Canada 2019	Consultations pour un programme national d'alimentation scolaire		Enfants d'âge scolaire	Étude et projet pilote	

Politiques*	Interventions	Objectif	Clientèle visée	Type d'instrument	Exemples
(CA)					
Appui à des projets locaux					
Politique bioalimentaire ou PB 2018-2025/Plan d'action 2018-2023 (QC)	1.4.5 Améliorer l'accès et l'identification des aliments favorables à la santé (p. ex. dans les déserts alimentaires, les commerces et les services alimentaires, le commerce en ligne)		Population ciblée selon le projet (p. ex. enfants, clientèle défavorisée)	Appui financier à des projets	*Boîtes fraîcheur* de Moisson Kamouraska
Politique alimentaire du Canada 2019 (CA)	Fonds des infrastructures alimentaires locales	Accès aux aliments sains et culturellement adéquats	Organisations communautaires sans but lucratif	Appui financier aux projets communautaires	Cuisines communautaires, banques alimentaires, marchés publics
Soutien aux banques et dépannages alimentaires					
Plan d'action gouvernemental pour l'inclusion économique et la participation sociale ou PAGIEPS 2017-2023 (QC)	13.4 Améliorer les connaissances et les pratiques des gestionnaires, du personnel et des bénévoles des organismes communautaires d'aide alimentaire (entre autres, connaissances et pratiques d'hygiène)		Personnel et bénévoles des organismes d'aide alimentaire	Formations	
Politique bioalimentaire ou PB 2018-2025/Plan d'action 2018-2023 (QC)	3.4.6 Réduire le gaspillage et les pertes alimentaires et favoriser les dons alimentaires		Organismes de dépannage alimentaire	Appui financier	Soutien aux banques alimentaires ou prog. récup. Tablée des Chefs
Politiques fiscales québécoises (QC)	Crédits d'impôt pour les dons alimentaires	Favoriser les dons d'aliments et réduire l'insécurité alimentaire	Donateurs d'aliments	Mesure fiscale visant les donateurs d'aliments	Crédits d'impôt lors d'un don à Les Banques alimentaires du Québec

*QC : initiative du gouvernement québécois; CA : initiative du gouvernement canadien
Source : Examen de la littérature institutionnelle réalisé par les auteur.e.s.

Prise en compte des déterminants de l'insécurité alimentaire par les politiques québécoises

Lorsqu'on regarde les interventions associées explicitement à l'insécurité alimentaire (tableau 4), plus particulièrement celles relevant du gouvernement du Québec, on constate qu'elles sont intégrées dans trois grandes politiques gouvernementales : le Plan d'action gouvernemental pour l'inclusion économique et la participation sociale (PAGIEPS 2017-2023); la Politique gouvernementale de prévention en santé (PGPS 2017-2021) et la Politique bioalimentaire (PB 2018-2023) (MAPAQ, 2021; Ministère du Travail, de l'Emploi et de la Solidarité sociale [MTESS], 2017; MSSS, 2018).

Ces trois politiques gouvernementales intègrent également des interventions qui ne sont pas associées officiellement à la lutte contre l'insécurité alimentaire (et qui ne sont donc pas recensées dans le tableau 4), mais qui peuvent jouer sur ses déterminants. Le PAGIEPS 2017-2023 comprend des politiques sociales (logement social, prestations sociales, aides de dernier recours et revenus de base pour les personnes ayant des contraintes sévères à l'emploi, etc.). De telles interventions, notamment le logement social, augmentent la part des revenus que les ménages vivant dans la pauvreté peuvent consacrer à leur alimentation. La PGPS 2017-2021, dont l'orientation générale vise la santé de la population québécoise, la prévention dans ce domaine et la prise en compte des inégalités sociales en santé, cible également l'accroissement de l'offre de logements abordables. Cependant, dans ces deux politiques, les effets du logement social sur l'augmentation des revenus disponibles pour l'alimentation des ménages à faible revenu et sur la prévalence de l'insécurité alimentaire sont peu évalués et analysés.

Quant à la PB 2018-2023, elle soutient le développement du secteur agroalimentaire dans une perspective de prospérité, de durabilité et de santé de la population québécoise. Elle encourage la disponibilité des aliments en appuyant le développement de la production agricole et la transformation alimentaire au Québec (p. ex. soutien des revenus agricoles, appui à l'investissement). Elle s'intéresse également au commerce (importations et exportations d'aliments), à la régulation des marchés (p. ex. mise en marché collective, gestion de l'offre) ainsi qu'à l'accès aux aliments en région, en y favorisant la production et la commercialisation (p. ex. agriculture de proximité). Ainsi, cette politique agit sur les enjeux de disponibilité, de prix et de commercialisation des aliments. En revanche, les effets de ces enjeux sur l'insécurité alimentaire y sont peu considérés, évalués et analysés.

Cohérence entre les interventions gouvernementales québécoises

La littérature institutionnelle sur les interventions gouvernementales de lutte contre l'insécurité alimentaire est ici analysée sous l'angle des critères énoncés dans le tableau 3 afin d'examiner leur niveau de cohérence[3].

Critère 1 : Les interventions gouvernementales s'accordent les unes aux autres et visent toutes la lutte contre l'insécurité alimentaire.

3 Les interventions alimentaires en milieu scolaire ont été exclues de l'analyse, car elles visent des objectifs plus larges que la lutte contre l'insécurité alimentaire, soit le bien-être et la réussite des jeunes. Pour cette raison, la cohérence de ces interventions mérite d'être analysée de façon distincte, c'est un sujet de recherche en soi, qui dépasse les objectifs de cet article. Ce sont néanmoins des interventions incontournables dont la cohérence mérite aussi d'être améliorée.

Selon ce premier critère, la cohérence entre les interventions de lutte contre l'insécurité alimentaire est faible. En effet, au Québec, bien qu'il y ait des actions conjointes entre les ministères qui participent aux trois politiques gouvernementales présentées dans la section précédente (PAGIEPS 2017-2023, PGPS 2017-2021 et PB 2018-2023), il n'y a pas de politique intégrée visant spécifiquement la lutte contre l'insécurité alimentaire. Cela empêche de développer une vision d'ensemble des interventions visant directement ou indirectement la lutte contre l'insécurité alimentaire, et empêche de bien accorder ces interventions les unes aux autres.

Prises dans leur ensemble, les trois politiques du gouvernement du Québec couvrent une large gamme d'enjeux liés aux déterminants de l'insécurité alimentaire. En revanche, le rôle qu'elles peuvent jouer dans la lutte contre l'insécurité alimentaire n'est pas toujours pris en compte et évalué. Les interventions associées directement à la lutte contre l'insécurité alimentaire dans les politiques sociales et de santé publique (PAGIEPS et PGPS) soutiennent principalement des organisations locales dans leurs efforts pour améliorer l'accès aux aliments et leur utilisation au sein de populations vulnérables, plus susceptibles de vivre de l'insécurité alimentaire. Pour sa part, la Politique bioalimentaire (PB) s'intéresse à des enjeux de disponibilité (p. ex. volumes, qualité) et d'accès aux aliments (p. ex. prix, distribution); elle considère la consommation alimentaire en termes de demande de la population en général, mais intègre peu les besoins spécifiques des populations vulnérables.

Critère 2 : Les interventions peuvent être regroupées selon les déterminants de l'insécurité alimentaire qu'elles visent afin de s'assurer que tous les déterminants sont couverts adéquatement.

Selon ce deuxième critère, la cohérence entre les interventions de lutte contre l'insécurité alimentaire est faible. En effet, la mise en parallèle des interventions visant explicitement la lutte contre l'insécurité alimentaire (tableau 4) et ses déterminants (tableau 2) montre que ces interventions visent, dans les faits, seulement certains d'entre eux, ce qui empêche de confirmer que tous les déterminants sont bien couverts.

La couverture des déterminants jouant sur la disponibilité des aliments et l'accessibilité à ceux-ci aux niveaux national et international (production, importation, commerce, transport, détermination des prix sur les marchés) est incertaine. Bien que ces enjeux fassent l'objet d'interventions gouvernementales sous l'angle, par exemple, du développement économique ou de l'autonomie alimentaire du Québec, ces interventions ne sont pas conçues ni mises en œuvre sous l'angle de la lutte contre l'insécurité alimentaire.

Ce sont surtout les déterminants visant l'accès aux aliments et leur utilisation au niveau des individus, des ménages et des communautés qui sont visés par les interventions associées à la lutte contre l'insécurité alimentaire.

Premièrement, l'appui à des projets favorisant l'accès géographique aux aliments fait l'objet d'interventions dans la PAGIEPS 2017-2023, la PGPS 2017-2021, la PB 2018-2025 ainsi que dans des initiatives fédérales. Par ces différentes interventions, un appui est donné pour améliorer la production locale (p. ex. agriculture urbaine, serres dans les communautés nordiques isolées) de même que la distribution et la vente d'aliments de proximité (p. ex. groupes d'achats, marchés ambulants ou publics, kiosques fermiers).

Deuxièmement, l'appui à des projets favorisant l'accès économique aux aliments fait l'objet d'interventions dans la PAGIEPS 2017-2023, de fonds d'urgence durant la pandémie de COVID-19 et d'initiatives fédérales. Ces interventions, visant les ménages et individus défavorisés, prennent deux formes. D'une part, il y a des systèmes de coupons/bons d'aliments pour femmes enceintes et enfants

défavorisées, qui s'apparentent à certains égards aux programmes de coupons alimentaires (encadré 1). D'autre part, un appui aux organisations d'aide alimentaire (p. ex. banques alimentaires, Club des petits déjeuners, crédits d'impôt pour les dons d'aliments) est offert. Les communautés défavorisées sont également visées, par exemple par des contributions sur le prix d'aliments en milieu nordique isolé.

Troisièmement, le soutien de projets favorisant l'interaction sociale et une bonne utilisation des aliments fait l'objet d'interventions dans la PAGIEPS 2017-2023 et dans certaines politiques fédérales. Un appui est ainsi donné pour organiser des ateliers, brigades, formations culinaires ainsi que des cuisines et des jardins communautaires.

Enfin, d'autres interventions visent spécifiquement l'aide alimentaire dans les écoles et les compétences culinaires des jeunes.

Encadré 1 : Programmes de coupons ou cartes alimentaires

Aux États-Unis, une part importante du budget agricole est réservée au programme d'accès à l'alimentation pour les citoyens américains les plus démunis, historiquement appelé *Food Stamps* et, depuis 2008, *Supplemental Nutrition Assistance Program* (SNAP). Il s'agit de cartes de paiement (coupons) qui peuvent être échangées dans les magasins d'alimentation contre une large gamme d'aliments (Département de l'Agriculture des États-Unis, 2019; Monke, 2019). La littérature est ambivalente sur les effets réels de tels programmes sur l'insécurité alimentaire (Mabli et Ohls, 2015; Ratcliffe et al., 2011; Wilde, 2007).

Power et al. (2015) ont analysé la pertinence d'un programme similaire au SNAP dans le contexte canadien. Malgré ses avantages potentiels pour réduire l'insécurité alimentaire des plus démunis, les auteurs ne plaident pas en sa faveur, considérant que ce type de programme ne favorise pas l'autonomie des personnes et peut les stigmatiser. Pour leur part, Blouin et al. (2019) ont testé, dans l'optique de favoriser une saine alimentation, la faisabilité et l'acceptabilité d'une subvention (cartes, coupons) pour l'achat de fruits et légumes auprès de ménages défavorisés au Québec. Les auteurs arrivent à la conclusion qu'une telle subvention est bien acceptée auprès des populations ciblées et que ces dernières jugent le risque de stigmatisation moindre que les bénéfices de la subvention pour s'approvisionner en fruits et en légumes. Les auteurs soulignent cependant que les systèmes de coupons/cartes doivent être simples et que la visibilité de la transaction doit être diminuée afin de réduire le risque de stigmatisation et les coûts du système.

Ainsi, les systèmes de coupons/cartes ne paraissent pas être une panacée pour influencer les déterminants structurels de l'insécurité alimentaire. Ils peuvent néanmoins faire partie du panier d'interventions pour améliorer l'accès à des aliments sains, comme les fruits et légumes, s'ils sont mis en œuvre de façon adéquate.

En somme, l'analyse des textes officiels des interventions gouvernementales a montré que leur cohérence sous l'angle de la couverture des déterminants reste à améliorer. Un examen de l'efficacité de ces interventions permettrait d'approfondir cette analyse, de vérifier si, au-delà des objectifs (ex ante), leurs effets réels (ex post) couvrent l'ensemble des déterminants de l'insécurité alimentaire. Il y a cependant peu d'évaluations des effets des interventions gouvernementales, ce qui empêche de déterminer dans quelle mesure elles préviennent réellement l'insécurité alimentaire.

Critère 3 : Les interventions se complètent et ne se contredisent pas.

La méthodologie utilisée n'a pas permis une analyse en profondeur de la complémentarité des interventions

à partir de leurs objectifs et des actions qu'elles appuient. En outre, ici encore, le manque d'évaluations des interventions rend difficile l'analyse du critère 3 sous l'angle de leurs effets réels. Bien que des suivis réguliers de l'insécurité alimentaire dans la population québécoise soient réalisés, ces suivis ne permettent pas de vérifier les effets croisés des interventions gouvernementales.

Au Canada et au Québec, les données sur l'insécurité alimentaire sont principalement récoltées dans le cadre de l'Enquête sur la santé dans les collectivités canadiennes menée par Statistique Canada (Santé Canada, 2007; 2020) et par l'Institut national de santé publique du Québec (2022). Cependant, ces enquêtes se concentrent prioritairement sur la dimension de l'accès économique aux aliments, plus particulièrement « sur l'expérience d'un ménage en matière d'insécurité alimentaire ou sur l'accès insuffisant ou incertain à une alimentation adéquate en raison de contraintes financières » (Tarasuk et al., 2016, p. 6, traduction libre).

Ces suivis ne tiennent pas compte des autres dimensions (accès géographique, disponibilité et utilisation des aliments) de la sécurité alimentaire. En outre, il n'y a pas de lien direct entre ces suivis et la mesure des effets des interventions gouvernementales et de la société civile contre l'insécurité alimentaire. Les évaluations des effets réels des interventions gouvernementales pour réduire l'insécurité alimentaire sont rares au Québec. Un rapport du Vérificateur général du Québec (2015) portant sur les interventions en matière d'accès à une saine alimentation soulignait d'ailleurs le manque de suivi de leurs effets.

Parmi les rares évaluations existantes, mentionnons celles des programmes « périnataux » comme celui de la Fondation OLO au Québec et du Programme canadien de nutrition prénatale (PCNP) au Canada, qui fournissent un accompagnement aux femmes enceintes dans le besoin avant et après l'accouchement pour permettre une alimentation saine et assurer la santé des bébés à la naissance. Haeck et Lefebvre (2016) soutiennent qu'OLO contribue notamment à réduire la probabilité de faible poids à la naissance. L'étude démontre que les coûts du programme sont inférieurs aux économies en frais d'hospitalisation dus à des problèmes de santé liés au faible poids du nouveau-né. À cela s'ajoutent les bienfaits sur la santé globale de l'enfant à moyen et à long terme, dont les effets positifs sur la réussite éducative. L'évaluation du programme PCNP montre également que de tels programmes sont « rentables » pour les contribuables : leurs coûts sont inférieurs aux économies en services sociaux et de santé générées à long terme, lorsque les enfants deviennent adultes (Agence de la santé publique du Canada, 2011).

Ces exemples démontrent l'importance d'évaluer les interventions gouvernementales et de vérifier leurs effets pour, entre autres, justifier leur importance. Évaluer les interventions et les politiques de lutte contre l'insécurité alimentaire permettrait également de les ajuster aux besoins des clientèles, de les renforcer pour s'assurer qu'elles couvrent adéquatement tous les déterminants de l'insécurité alimentaire, de développer une compréhension de leurs effets individuels, mais aussi de leurs effets croisés, ce qui permettrait de mieux analyser leur réelle cohérence.

Critère 4 : Les interventions suivent une séquence logique.

Le quatrième critère amène à réfléchir sur la séquence des interventions au sein d'une catégorie, par exemple les interventions visant à agir sur une catégorie de déterminants en particulier ou encore visant une population ciblée. La réflexion peut également être plus globale et porter sur les liens et l'enchaînement entre les catégories d'interventions.

Une étude menée par Roncarolo et al. (2015) dans la région de Montréal permet d'analyser la séquence au

sein d'une catégorie d'interventions, celles visant à améliorer l'accès aux aliments et leur utilisation chez les ménages et les individus. Ces auteurs et auteures séparent ces interventions en deux approches : traditionnelles et alternatives. Celles dites traditionnelles renvoient aux dépannages et banques alimentaires, qui soulagent l'insécurité alimentaire. Les approches dites alternatives sont, quant à elle, axées sur l'intégration sociale, comme les jardins, les cuisines et les boutiques communautaires. Roncarolo et al. (2015), sur la base d'une étude empirique, arrivent à la conclusion que les clientèles desservies par les approches traditionnelles sont plus vulnérables (moins de ressources, de revenus, d'éducation, moins bonne perception de leur santé physique et mentale, moins d'engagements civiques). Plusieurs raisons l'expliquent : l'insécurité alimentaire est plus grave chez ces personnes, les services de dépannage sont plus connus de cette clientèle et y participer est plus simple pour elles (moins de démarches, moins de temps). Ainsi, les services de dépannage et les banques alimentaires rejoignent une clientèle particulièrement vulnérable. En revanche, ce sont des mesures d'urgence qui ne constituent pas une solution durable aux problèmes d'insécurité alimentaire dans les pays développés (Husbands, 1999; Pollard et Booth, 2019). En outre, la qualité de la nourriture fournie par les banques alimentaires ne semble pas être adéquate ni soutenir une alimentation saine (Simmet et al., 2017). Pour mieux répondre aux besoins des personnes vulnérables, Roncarolo et al. (2015) recommandent d'analyser la faisabilité et la pertinence de combiner différentes approches, d'élaborer un parcours d'intervention combinant dépannage alimentaire et méthodes axées sur la socialisation. Ainsi, la séquence des interventions visant les individus et ménages vulnérables n'est pas optimale et mérite d'être améliorée.

Sur un plan plus global, l'analyse des trois politiques gouvernementales présentées précédemment (PAGIEPS 2017-2023, PGPS 2017-2021, PB 2018-2025) montre qu'il y a également une faiblesse dans la séquence des interventions gouvernementales. En effet, ces politiques gouvernementales insistent peu sur les liens entre insécurité alimentaire et, d'une part, les enjeux sociaux comme la pauvreté et les ménages à faible revenu ou, d'autre part, des enjeux agroéconomiques comme la production nationale, l'importation, le transport, la distribution, les prix et la commercialisation des aliments, qui sont pourtant tous des déterminants de l'insécurité alimentaire. Bien que ces enjeux fassent partie des objectifs de politiques gouvernementales, leur rôle dans la prévention de l'insécurité alimentaire est peu considéré et évalué, ce qui empêche d'organiser une séquence logique entre elles.

Critère 5 : Il y a une continuité temporelle dans les interventions de lutte contre l'insécurité alimentaire.

Les interventions gouvernementales peuvent être continues dans le temps, pour prévenir l'insécurité alimentaire, ou être ponctuelles, pour soulager l'insécurité alimentaire en temps de crise. Dans ce dernier cas, cela peut nuire à leur cohérence.
La lutte contre l'insécurité alimentaire au Québec passe beaucoup par l'aide alimentaire et des systèmes de dépannage et les banques alimentaires ainsi que par les dons d'aliments ou de repas aux plus démunis. Ces systèmes reçoivent un certain appui gouvernemental, notamment pour développer ses infrastructures d'entreposage d'aliments. L'aide alimentaire peut être qualifiée de corrective, c'est-à-dire qu'elle agit en aval du problème d'insécurité alimentaire; elle vise à le soulager et non à le prévenir. Par sa nature même, l'aide alimentaire est déployée particulièrement en temps de crise, durant certaines périodes de l'année, et dépend de la générosité et de la capacité des donateurs. En

conséquence, le risque de cassure temporelle est grand puisque l'aide alimentaire dépend de la conjoncture. La prévention de l'insécurité alimentaire, au contraire, agit en amont et devrait être organisée dans une plus grande continuité.

Discussion et recommandations pour plus de cohérence des interventions gouvernementales dans la lutte contre l'insécurité alimentaire

La cohérence des interventions gouvernementales pour lutter contre l'insécurité alimentaire reste à parfaire au Québec, et cela pour l'ensemble des cinq critères d'analyse considérés. Sur la base de ces constats, des pistes de solutions sont discutées pour améliorer la cohérence des interventions et pour établir une stratégie d'ensemble.

Pour lutter de façon cohérente contre l'insécurité alimentaire, des ponts formels sont nécessaires entre les politiques sociales, de santé publique et bioalimentaires. *Une première piste de solution est de renforcer les liens entre ces champs de politiques et de développer, au Québec, une politique gouvernementale intégrée, agissant de façon cohérente et coordonnée sur l'ensemble des déterminants structurels de l'insécurité alimentaire, soit ceux en lien avec l'accès économique (à la fois sous l'angle des prix des aliments et sous l'angle des revenus du ménage) et géographique aux aliments, avec leur utilisation et avec leur disponibilité.* Une telle politique intégrée ne sera pas optimale si les effets individuels et croisés des interventions qui en font partie ne sont pas évalués et suivis sous l'angle de la lutte contre l'insécurité alimentaire.

Plusieurs raisons militent pour la mise en place d'une politique gouvernementale visant spécifiquement l'insécurité alimentaire. D'abord, une telle politique d'ensemble peut favoriser la cohérence et la coordination de l'action publique, tant du point de vue des idées que partagent les acteurs que de l'arrimage des interventions choisies. En effet, une politique gouvernementale répond à un enjeu considéré majeur et mobilise les acteurs et les ressources autour de cet enjeu (Gouvernement du Québec, 2019). Elle permet d'établir, en concertation avec les acteurs concernés, une vision, des cibles et des objectifs à atteindre, ainsi que les interventions gouvernementales, les moyens, les ressources et les échéances pour y arriver, et de les rendre publics dans un document gouvernemental officiel (Turgeon et Savard, 2012). Pour mobiliser les acteurs et les ressources autour de la lutte contre l'insécurité alimentaire, il est nécessaire de jouer sur plusieurs fronts (McSween, 2019). Premièrement, il faut s'assurer de la cohérence des idées portées par les acteurs, ce qui met en relief l'importance de développer une vision commune. Deuxièmement, une synergie dans les objectifs des interventions gouvernementales et dans les moyens choisis pour les atteindre (*policy mix*) est incontournable.

Ensuite, la nécessité de combiner plusieurs types d'interventions provenant de nombreux secteurs, tels que l'agroalimentaire, la santé et l'éducation, est largement reconnue, aussi bien dans la communauté de la recherche (Chénier, 2019; Loopstra, 2018; Murthy, 2016; Parent et Martorell, 2019; Pollard et Booth, 2019; Ratcliffe et al., 2011) que dans les institutions telles que la FAO. La littérature insiste également sur le lien étroit

entre politiques sociales et lutte contre l'insécurité alimentaire : les politiques sociales permettent de réduire les dépenses fixes des ménages à faible revenu (p. ex. logement, transport) et d'augmenter la part de revenu pouvant être consacrée à l'alimentation. La sécurité financière des ménages est identifiée comme un déterminant majeur de la sécurité alimentaire. L'abordabilité est le principal obstacle à l'accès aux aliments : les inégalités sociales et en particulier la pauvreté conduisent à l'insécurité alimentaire dans les pays développés (Bartfeld et Dunifon, 2006; Men et Tarasuk, 2021). Selon Pollard et Booth (2019), les politiques sociales encadrant les conditions de travail et l'accès à l'éducation font partie intégrante de la lutte contre l'insécurité alimentaire. Ces auteurs rappellent que les politiques de protection sociale devraient être calibrées pour prendre en compte le coût réel de la vie afin de permettre une nutrition adéquate pour tous sans compromettre d'autres besoins fondamentaux. Cette complémentarité entre politiques sociales et lutte contre l'insécurité alimentaire est illustrée par le cas brésilien (encadré 2).

Encadré 2 : Insécurité alimentaire et politiques sociales : l'exemple brésilien

Au Brésil, le programme Bolsa Familia était un exemple de programme intégrant lutte contre l'insécurité alimentaire et politiques sociales, en contexte de pays émergents et visant des populations très vulnérables. Il permettait un transfert d'argent conditionnel à un « contrat social » exigeant, entre autres, la fréquentation scolaire des enfants et des adolescents et l'utilisation de certains services de santé, comme la vaccination, le suivi des femmes enceintes et un suivi médical des jeunes enfants (Bolsa Familia, 2022; Graziano da Silva et al., 2012; Janin et de Suremain, 2012; Lindert, 2005). Ce programme a connu un important succès en ce qui concerne le nombre de bénéficiaires (Martins et Monteiro, 2016). Il a eu comme effet d'augmenter la diversité et les dépenses alimentaires des ménages en faveur des enfants (De Bem Lignani et al., 2011; Martins et Monteiro, 2016), ainsi que la fréquentation scolaire et le recours aux services de santé (Lindert, 2005). Cependant, selon Sperandio et Priore (2015), la prévalence de l'insécurité alimentaire demeurait élevée parmi les ménages bénéficiaires, en particulier au sein de ceux dont les mères étaient peu scolarisées.
Bien que le programme Bolsa Familia ait été conçu dans un contexte socioéconomique différent de celui du Québec, il montre combien la recherche de cohérence dans les politiques de lutte contre l'insécurité alimentaire et les politiques sociales peut avoir des résultats structurants et améliorer le bien-être général de populations vulnérables, incluant des enfants.

Une deuxième piste de solution est d'élaborer des parcours, intégrant différentes interventions pour soulager et prévenir l'insécurité alimentaire, adaptés aux différentes populations vulnérables.

L'intégration d'approches que Roncarolo et al. (2015) qualifient d'alternatives (p. ex. jardins, cuisines et boutiques communautaires) à ce parcours doit être faite en sachant que, bien qu'elles contribuent à l'apprentissage et à la socialisation des participants, leur effet réel sur l'insécurité alimentaire est mis en doute par plusieurs études (Boulianne et al., 2010; Engler-Stringer et Berenbaum, 2005; Kirkpatrick et Tarasuk, 2009; Loopstra et Tarasuk, 2013). Cela met en évidence le fait que lutter contre l'insécurité alimentaire passe également par d'autres moyens et types d'interventions, dans une stratégie d'ensemble. Ces autres moyens doivent s'attaquer aux causes structurelles et aux déterminants collectifs de l'insécurité alimentaire. Parent et Martorell (2019,

p. 56) mettent de l'avant des propositions d'interventions gouvernementales, comme la révision des zonages et des règles d'urbanisme en faveur des commerces alimentaires de proximité ou encore la mise en place de politiques qui limiteraient le prix de certains aliments de base. Ces auteurs suggèrent également d'analyser l'effet des systèmes de régulation des marchés alimentaires sur l'insécurité alimentaire et de développer des partenariats avec les acteurs du secteur agroalimentaire afin d'influencer l'accès aux aliments et leur disponibilité.

Une troisième piste de solution, complémentaire aux précédentes, est de fixer et de suivre des cibles précisant les objectifs à atteindre en matière de lutte contre l'insécurité alimentaire (accès aux aliments, disponibilité et utilisation) et d'évaluer les effets individuels et croisés, à court et long terme, des interventions des milieux gouvernemental, communautaire et privé contribuant à ces cibles. Des démarches de provinces canadiennes mériteraient d'être analysées, car elles montrent le potentiel des cibles et des politiques/stratégies gouvernementales pour lutter contre l'insécurité alimentaire. Par exemple, le *Poverty Elimination Strategy Act* de 2021 de l'Île-du-Prince-Édouard précise des cibles pour réduire la pauvreté, dont celle d'éliminer complètement l'insécurité alimentaire d'ici 2030 (RSPEI, c. 14.1, art. 3). Bien que cette loi soit récente et qu'il soit encore tôt pour évaluer ses réels effets, il est intéressant de constater qu'elle exige du gouvernement de la province de mettre en place une stratégie de lutte contre la pauvreté, de la renouveler tous les cinq ans, de créer un conseil et des budgets pour assurer sa mise en œuvre et de publier les avancées dans un rapport annuel. Une loi similaire existe au Québec, à savoir la *Loi visant à lutter contre la pauvreté et l'exclusion sociale*. Bien qu'elle mentionne parmi les actions nécessaires au renforcement du filet de sécurité sociale un « approvisionnement alimentaire suffisant et nutritif, à un coût raisonnable » (RLRQ, c. L-7, art. 9), elle ne précise pas de cibles mesurables et n'inclut pas de mécanisme de suivi.

Pour sa part, la Colombie-Britannique se distingue par son approche axée sur la prévention et faisant intervenir plusieurs secteurs (Parent et Martorell, 2019). Ainsi, dans cette province, la lutte contre l'insécurité alimentaire n'est pas cantonnée au secteur de la santé publique, mais fait intervenir, par exemple, les secteurs agricole et de l'emploi. La Colombie-Britannique a conçu, au milieu de la décennie 2010, un programme pour la sécurité alimentaire qui s'insère dans sa politique globale de santé publique (Ministère de la Santé de la Colombie-Britannique, 2013; 2014). Ce programme visait à promouvoir la sécurité alimentaire au sens de la définition de la FAO, en tenant compte de la disponibilité des aliments, de l'accès économique et physique à ceux-ci, de leur bonne utilisation et de la stabilité de ces dimensions dans le temps. Le programme répondait à cinq grands objectifs : améliorer la compréhension de la sécurité alimentaire, élaborer des politiques en sa faveur, établir des partenariats avec différents secteurs et acteurs, soutenir les capacités communautaires, et faciliter les processus de recherche et d'évaluation en rapport avec la sécurité alimentaire. Un ensemble d'indicateurs (identiques dans les différentes régions pour faciliter les comparaisons) et de cibles de performance (déterminées localement pour refléter des améliorations réalistes et atteignables) étaient par ailleurs mobilisés dans le cadre du système de suivi mis en place par le ministère de la Santé. De plus, les liens avec d'autres programmes publics (p. ex.

modes de vie sains, communautés saines, salubrité des aliments, qualité de l'eau, prévention des maladies chroniques) étaient pris en compte afin de coordonner leurs mécanismes de planification et de mise en œuvre.

Conclusion

Bien qu'il existe au Québec une diversité d'interventions gouvernementales visant la lutte contre l'insécurité alimentaire, le manque de cohérence entre celles-ci et le faible niveau d'évaluation de leurs effets réels affaiblissent leur capacité à offrir un cadre suffisamment structurant pour agir sur l'ensemble des déterminants et prévenir l'insécurité alimentaire.

Trois politiques gouvernementales québécoises, le Plan d'action gouvernemental pour l'inclusion économique et la participation sociale 2017-2023, la Politique gouvernementale de prévention en santé 2017-2021 et la Politique bioalimentaire 2018-2023, intègrent des interventions pour lutter contre l'insécurité alimentaire, auxquelles s'ajoutent d'autres, provinciales et fédérales. La plupart de ces dernières prennent la forme de soutien financier à des initiatives de la société civile (milieux communautaires et privés).

En revanche, aucune stratégie d'ensemble (loi, politique gouvernementale) ne coordonne les interventions gouvernementales et de la société civile en matière de lutte contre l'insécurité alimentaire. Cette cohérence apparaît d'autant plus nécessaire que l'insécurité alimentaire est un enjeu public complexe et que plusieurs ministères, organismes publics et communautaires et entreprises privées sont impliqués, et ce, à différents niveaux (local, provincial et fédéral).

La faisabilité et la mise en œuvre d'un cadre politique structurant méritent d'être analysées en profondeur, car il présenterait plusieurs avantages. Il renforcerait la cohérence entre les interventions des milieux de la santé, de l'inclusion sociale et du développement bioalimentaire afin de mieux prévenir l'insécurité alimentaire, de bien couvrir l'ensemble des déterminants et des dimensions (accès aux aliments, disponibilité et utilisation) et d'élaborer une approche de prévention à long terme (stabilité des dimensions dans le temps). Il favoriserait le développement d'une vision commune entre tous les acteurs concernés par la lutte contre l'insécurité alimentaire. Il serait utile pour définir et suivre des cibles et objectifs précis, spécifiques à la lutte contre l'insécurité alimentaire, ainsi que des mécanismes de suivi et d'évaluation. Une meilleure coordination, cohérence et évaluation des interventions publiques permettraient également de pallier certaines faiblesses du modèle québécois ciblées par la littérature, de mieux évaluer les effets individuels et croisés, sociaux et économiques, à court et long terme, de différentes interventions. Ces dernières pourraient être ajustées en continu, dans leurs objectifs, mais aussi dans leur mise en œuvre et leur design, pour réduire leurs effets non prévus, comme la stigmatisation de populations vulnérables. Des parcours d'intervention pourraient être définis en concertation avec les acteurs concernés et faire le pont entre les différents types d'interventions (p. ex. dépannage alimentaire, jardins, cuisines et boutiques communautaires,

formation et conseil alimentaire, appui à la production, etc.) pour bien couvrir les besoins des différentes clientèles, et ne pas laisser certains groupes vulnérables sans soutien adapté.

Les perspectives de recherche dans le domaine des politiques et des interventions pour lutter contre l'insécurité alimentaire restent nombreuses. Il y a encore peu d'évaluations sur les effets des différentes interventions et sur la cohérence de l'action publique en matière de lutte contre l'insécurité alimentaire. De telles recherches permettraient notamment de renforcer l'analyse de la couverture des déterminants de l'insécurité alimentaire par l'action publique et des liens entre insécurité alimentaire, politiques sociales et politiques de développement bioalimentaire, de mieux comprendre l'effet de ces politiques sur certaines populations, notamment les enfants et les populations isolées socialement, ou encore la pertinence de formes d'interventions encore peu utilisées au Québec (p. ex. coupons alimentaires) et d'approfondir ces connaissances dans le contexte québécois.

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Références

Agence de la santé publique du Canada. (2011, janvier). *Évaluation du Programme canadien de nutrition prénatale (PCNP)*. Gouvernement du Canada. https://www.canada.ca/fr/sante-publique/services/promotion-sante/enfance-adolescence/programmes-initiatives/programme-canadien-nutrition-prenatale-pcnp/evaluation-programme-canadien-nutrition-prenatale-pcnp.html

Agriculture et Agroalimentaire Canada. (2021, décembre). *Tout le monde à table! Investir dans la Politique alimentaire pour le Canada.* Gouvernement du Canada. https://agriculture.canada.ca/fr/propos-notre-ministere/initiatives-ministerielles-importantes/politique-alimentaire/monde-table-investir-politique-alimentaire-canada

Alla, F. (2016). Les déterminants de la santé. Dans F. Bourdillon, G. Brücker et D. Tabuteau (dir.), *Traité de santé publique* (3e éd., p.15-18). Lavoisier Médecine Sciences.

Anctil, H., Bédard, L., Bergeron, K. M., Druet, C., Dunnigan, L., Gosselin, J.-C., Lambert, R., Leclerc, P., Morissette, C., Sénéchal, M.-R., Simpson, A., Cadorette, M., Gagnon, F. et Régimbald, S. (2012). *La santé et ses déterminants : mieux comprendre pour mieux agir*. Ministère de la Santé et des Services sociaux. https://publications.msss.gouv.qc.ca/msss/fichiers/2011/11-202-06.pdf

Banques alimentaires Canada. (2021). *Bilan-Faim 2021*. https://hungercount.foodbankscanada.ca/index-fr.php

Bartfeld, J. et Dunifon, R. (2006). State-level predictors of food insecurity among households with children. *Journal of Policy Analysis and Management, 25*(4), 921-942. http://dx.doi.org/10.1002/pam.20214

Bartfeld, J. et Hong-Min, A. (2011). The school breakfast program strengthens household food security among low-income households with elementary school children. *The Journal of Nutrition, 141*(3), 470-475. https://doi.org/10.3945/jn.110.130823

Bartfeld, J., Berger, L., Men, F. et Chen, Y. (2019). Access to the school breakfast program is associated with higher attendance and test scores among elementary school students. *The Journal of Nutrition*, *149*(2), 336-343. https://doi.org/10.1093/jn/nxy267

Blouin, C., Ouédraogo, S., Gélineau, M.-C., Lepage, C., Lo, E., Paquette, M.-C., Paradis, G. et Perron, S. (2019, janvier). *Intervention économique pour augmenter la consommation de fruits et légumes : étude sur la faisabilité et l'acceptabilité de l'intervention*. Institut national de santé publique du Québec. https://www.inspq.qc.ca/sites/default/files/publications/2498_intervention_economique_consommation_fruits_legumes.pdf

Bolsa Familia. (2022). *Bolsa Familia 2022: Calendario de Pagamento, Valor e Consulta.* https://calendariobolsafamilia2022.pro.br/bolsa-familia-2022/#requisitos-para-receber-o-bolsa-familia-2022

Boulianne, M., Olivier-d'Avignon, G. et Galarneau, V. (2010). Les retombées sociales du jardinage communautaire et collectif dans la conurbation de Québec. *VertigO, 10*(2). https://doi.org/10.4000/vertigo.9930

Chénier, G. (2019). *Accroître l'impact populationnel des actions en sécurité alimentaire : agir là où ça compte!* Centre intégré de santé et de services sociaux de la Montérégie-Centre, Direction de santé publique. http://extranet.santemonteregie.qc.ca/userfiles/file/sante-publique/promotion-prevention/Pyramide-SA-et-types-pratiques.pdf

Chénier, G., Dumas, M.-M. et Martel, D. (2021). *Allocation sur les déterminants collectifs de la sécurité alimentaire : cadre de référence 2020-2021*. Centre intégré de santé et de services sociaux de la Montérégie-Centre, Direction de santé publique. http://extranet.santemonteregie.qc.ca/userfiles/file/sante-publique/promotion-prevention/Cadre-de-reference-Securite-alimentaire.pdf

Club des petits déjeuners. (s. d.). *Un petit déjeuner à l'école?* https://www.breakfastclubcanada.org/fr/programme-dejeuner

De Bem Lignani, J., Sichieri, R., Burlandy, L. et Salles-Costa, R. (2011). Changes in food consumption among the Programa Bolsa Familia participant families in Brazil. *Public Health Nutrition, 14*(5), 785-792. https://doi.org/10.1017/S136898001000279X

Département de l'Agriculture des États-Unis. (2019, août). *Supplemental Nutrition Assistance Program (SNAP): Facts about SNAP.* Gouvernement des États-Unis. https://www.fns.usda.gov/snap/facts

Direction régionale de santé publique de Montréal. (2020, août). *Portrait des initiatives de soutien alimentaire dans les écoles primaires publiques montréalaises pour l'année scolaire 2016-2017.* Centre intégré universitaire de santé et de services sociaux du Centre-Sud-de-l'Île-de-Montréal. https://santemontreal.qc.ca/fileadmin/fichiers/professionnels/DRSP/sujets-a-z/Saine_alimentation/Feuillet_ISA_eushv_cjb.pdf

Écollation. (s. d.). *Le projet*. https://ecollation.gardescolaire.com/le-projet/

Engler-Stringer, R. et Berenbaum, S. (2005). Collective kitchens in Canada: A review of the literature. *Canadian Journal of Dietetic Practice and Research, 66*(4), 246-251. https://doi.org/10.3148/66.4.2005.246

Fletcher, J. M. et Frisvold, D. E. (2017). The relationship between the school breakfast program and food insecurity. *The Journal of Consumer Affairs*, *51*(3), 481-500. https://doi.org/10.1111/joca.12163

Gamache, S., Boonefaes, E. et Perron, J. (2021, juin). *Accès universel à une offre alimentaire de qualité au Québec : actions, besoins et collaborations intersectorielles.* Table québécoise sur la saine alimentation. https://tqsa.ca/attachments/b8f05288-27b7-49a1-81c6-8ecb9e92eb74/Rapport_AccesOffreQualite_TQSA_17juin2021.pdf?h=bf0de2c07bd1d54934082e15b97aaea9

Gaudet S. et Robert, D. (2018). *L'aventure de la recherche qualitative : du questionnement à la rédaction scientifique.* Les Presses de l'Université d'Ottawa.

Gouvernement du Québec. (2019, juin). *Guide d'élaboration des politiques publiques.* Secrétariat du Conseil du trésor. https://www.tresor.gouv.qc.ca/fileadmin/PDF/cadre_gestion/guide_elaboration_politiques_publiques.pdf

Graziano da Silva, J., Del Grossi, M. E. et Galvao de França, C. (2012). *Fome Zero (Programme Faim Zéro) : l'expérience brésilienne.* Organisation des Nations Unies pour l'alimentation et l'agriculture. http://www.fao.org/3/i3023f/i3023f.pdf

Gucciardi, E., Vahabi, M., Norris, N., Del Monte, J. P. et Farnum, C. (2014). The intersection between food insecurity and diabetes: A review. *Current Nutrition Reports, 3*(4), 324-332. https://doi.org/10.1007/s13668-014-0104-4

Haeck, C. et Lefebvre, P. (2016). A simple recipe: The effect of a prenatal nutrition program on child health at birth. *Labour Economics, 41*, 77-89. https://doi.org/10.1016/j.labeco.2016.05.003

Hendriks, S. L. (2015). The food security continuum: A novel tool for understanding food insecurity as a range of experiences. *Food Security, 7*, 609-619. https://doi.org/10.1007/s12571-015-0457-6

Howlett (2005). What is a Policy Instrument? Policy Tools, Policy Mixes, and Policy Implementation Styles. Dans P. Eliadis, M. M. Hill et M. Howlett (dir.),

Designing Government: From Instruments to Governance (p. 31-50). McGill-Queen's University Press.

Husbands, W. (1999). Food banks as antihunger organizations. Dans M. Koc, R. MacRae, L. J. A. Mougeot et J. Welsh (dir.), For hunger-proof cities: Sustainable urban food systems (p. 103-109). IDRC.
Institut de tourisme et d'hôtellerie du Québec. (s. d.). Service d'accompagnement pour une alimentation locale dans les institutions publiques. https://www.ithq.qc.ca/expertise-et-recherche/service-conseil/service-daccompagnement-pour-une-alimentation-locale-dans-les-institutions-publiques/
Institut national de santé publique du Québec. (2022, 29 août). Déterminants de la santé. https://www.inspq.qc.ca/exercer-la-responsabilite-populationnelle/determinants-de-la-sante

Institut national de santé publique du Québec. (2022, mai). *Pandémie et insécurité alimentaire.* https://www.inspq.qc.ca/covid-19/sondages-attitudes-comportements-quebecois/insecurite-alimentaire-mai-2022

Janin, P. et de Suremain, C.-É. (2012). L'insécurité alimentaire : dimensions, contextes et enjeux. Dans L. Cambrézy et V. Petit (dir.), *Population, mondialisation et développement : quelles dynamiques?* (p. 147-167). La Documentation française.

Kirkpatrick, S. I. et Tarasuk, V. (2008). Food insecurity is associated with nutrient inadequacies among Canadian adults and adolescents. *The Journal of Nutrition, 138*(3), 604-612. https://doi.org/10.1093/jn/138.3.604

Kirkpatrick, S. I. et Tarasuk, V. (2009). Food insecurity and participation in community food programs among low-income Toronto families. *Canadian Journal of Public Health, 100*(2), 135-139. https://doi.org/10.1007/BF03405523

Le Galès, P. (2014). Gouvernance. Dans L. Boussaguet, S. Jacquot et P. Ravinet (dir.), *Dictionnaire des politiques publiques* (p. 299-308). Presses de Sciences Po.

Lindert, K. (2005). Brazil: Bolsa Familia Program – Scaling-up cash transfers for the poor. Dans *MfDR Principles in action: Sourcebook on emerging good practices* (p. 67-74). World Bank. https://documents1.worldbank.org/curated/en/194881566828011696/pdf/Principles-in-Action-Sourcebook-on-Emerging-Good-Practices.pdf

Loi visant à lutter contre la pauvreté et l'exclusion sociale (RLRQ), c. L-7 : à jour le 1er avril 2022. [Québec], Éditeur officiel du Québec, 2022. https://www.legisquebec.gouv.qc.ca/fr/pdf/lc/L-7.pdf

Loopstra, R. (2018). Interventions to address household food insecurity in high-income countries. *Proceedings of the Nutrition Society, 77*(3), 270-281. https://doi.org/10.1017/S002966511800006X

Loopstra, R. et Tarasuk, V. (2013). Perspectives on community gardens, community kitchens and the Good Food Box program in a community-based sample of low-income families. *Canadian Journal of Public Health, 104*(1), 55-59. https://doi.org/10.1007/BF03405655

Lyons, A.-A., Park, J. et Nelson, C. H. (2008). Food insecurity and obesity: A comparison of self-reported and measured height and weight. *American Journal of Public Health, 98*(4), 751-757. https://doi.org/10.2105/AJPH.2006.093211

Mabli, J. et Ohls, J. (2015). Supplemental Nutrition Assistance Program participation is associated with an increase in household food security in a national evaluation. *The Journal of Nutrition, 145*(2), 344-351. https://doi.org/10.3945/jn.114.198697

Martins, A. P. et Monteiro, C. A. (2016). Impact of the Bolsa Familia program on food availability of low-income Brazilian families: A quasi experimental study. *BMC Public Health, 16*(1), 1-11. https://doi.org/10.1186/s12889-016-3486-y

Martorell, H. (2017). *Canadian policy interventions supporting healthy eating in schools.* Food Secure Canada et FLEdGE. https://fledgeresearch.ca/wp-content/uploads/2022/03/discussion_paper_canadian_policy_interventions_towards_healthy_eating_for_children_2017_Accessibility-Scan-Completed.pdf

McSween, R.-A. (2019). *Les conditions propices à la cohérence de l'action publique en sécurité alimentaire au Québec* [mémoire de maîtrise, École nationale d'administration publique]. Espace ENAP. http://espace.enap.ca/id/eprint/179/

Men, F. et Tarasuk, V. (2021). Food insecurity amid the COVID-19 pandemic: Food charity, government assistance, and employment. *Canadian Public Policy*, *47*(2), 202-230. https://doi.org/10.3138/cpp.2021-001

Men, F., Elgar, F. J. et Tarasuk, V. (2021). Food insecurity is associated with mental health problems among Canadian youth. *Journal of Epidemiology and Community Health, 75*(8), 741-748. https://doi.org/10.1136/jech-2020-216149

Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec. (2021). *Plan d'action 2018-2023 : pour la réussite de la Politique bioalimentaire.* Gouvernement du Québec. https://cdn-contenu.quebec.ca/cdn-contenu/adm/min/agriculture-pecheries-alimentation/publications-adm/dossier/politique-bioalimentaire/PO_politiquebioalimentaire-planaction2021_MAPAQ.pdf?1632325139

Ministère de la Santé de la Colombie-Britannique. (2013). *Promote, protect, prevent: Our health begins here: BC's guiding framework for public health.* https://www.health.gov.bc.ca/library/publications/year/2013/BC-guiding-framework-for-public-health.pdf

Ministère de la Santé de la Colombie-Britannique. (2014). *Core public health functions for BC: Model core program paper food security.* https://www2.gov.bc.ca/assets/gov/health/about-bc-s-health-care-system/public-health/healthy-living-and-healthy-communities/food_security_-_model_core_program_paper_2014.pdf

Ministère de la Santé et des Services sociaux. (2008). *Cadre de référence en matière de sécurité alimentaire* (publication nº 08-208-01). Gouvernement du Québec. https://publications.msss.gouv.qc.ca/msss/fichiers/2008/08-208-01.pdf

Ministère de la Santé et des Services sociaux. (2018). *Plan d'action interministériel 2017-2021 de la Politique gouvernementale de prévention en santé.* Gouvernement du Québec. https://publications.msss.gouv.qc.ca/msss/fichiers/2017/17-297-02W.pdf

Ministère de l'Éducation. (2021). *Mesure 15012 : aide alimentaire.* Gouvernement du Québec. http://www.education.gouv.qc.ca/fileadmin/site_web/documents/PSG/ress_financieres/rb/mesure-15012.pdf

Ministère de l'Éducation et de l'Enseignement supérieur. (s. d.). *Pour un virage santé à l'école.* http://www.education.gouv.qc.ca/index.php?id=10496

Ministère du Travail, de l'Emploi et de la Solidarité sociale (2017). *Plan d'action gouvernemental pour l'inclusion économique et la participation sociale 2017-2023 : un revenu de base pour une société plus juste.* Gouvernement du Québec. https://www.mtess.gouv.qc.ca/publications/pdf/ADMIN_plan_action_2017-2023.pdf

Ministère du Travail, de l'Emploi et de la Solidarité sociale. (2019). *Stratégie nationale de lutte contre la pauvreté et l'exclusion sociale.* Gouvernement du Québec. https://www.mtess.gouv.qc.ca/grands-dossiers/lutte-contre-la-pauvrete/#:~:text=au%20progr%C3%A8s%20collectif.-,La%20Strat%C3%A9gie%20nationale%20de%20lutte%20contre%20la%20pauvret%C3%A9%20et%20l,de%20l'ensemble%20du%20Qu%C3%A9bec

Monke, J. (2019). *Budget issues that shaped the 2018 farm bill.* Congressional Research Service. https://fas.org/sgp/crs/misc/R45425.pdf

Murthy, V. H. (2016). Food insecurity: A public health issue. *Public Health Reports, 131*(5), 655-657. https://doi.org/10.1177/0033354916664154

Observatoire des tout-petits. (2021). *Que faisons-nous au Québec pour nos tout-petits et leur famille? Portrait des politiques publiques – 2021.* https://tout-petits.org/fichiers/portraitpp2021/Portrait-politiques-publiques_2021.pdf?v=1

Organisation des Nations Unies pour l'alimentation et l'agriculture ou FAO. (s. d.). *Échelle de mesure de l'insécurité alimentaire vécue*. https://www.fao.org/in-action/voices-of-the-hungry/fies/fr/

Organisation des Nations Unies pour l'alimentation et l'agriculture ou FAO. (2008). *Introduction aux concepts de sécurité alimentaire*. https://www.fao.org/3/al936f/al936f00.pdf

Parent, A.-A. (2015, 20 mai). *Portrait de la contribution de la santé publique à la sécurité alimentaire du Québec*, Centre intégré universitaire de santé et de services sociaux de la Capitale-Nationale.

Parent, A.-A. et Martorell, H. (2019). Pour revoir l'action des travailleuses sociales et des travailleurs sociaux dans le domaine de la sécurité alimentaire. *Revue canadienne de service social, 36*(2), 49-70. https://www.jstor.org/stable/26913672

Pérez-Escamilla, R. et Segall-Corrêa, A. M. (2008). Food insecurity measurement and indicators. *Revista de Nutrição, 21*(Suplemento), 15-26. https://www.scielo.br/j/rn/a/mfgJyKLc9HP7nXLRX5fH3Fh/?format=pdf&lang=en

Pollard, C. M. et Booth, S. (2019). Food insecurity and hunger in rich countries: It is time for action against inequality. *International Journal of Environmental Research and Public Health, 16*(10). https://doi.org/10.3390/ijerph16101804

Poverty Elimination Strategy Act (RSPEI), c. P-14.1 : à jour le 11 juillet 2022. [Île-du-Prince-Édouard], Lois et règlements de l'Île-du-Prince-Édouard, 2022. https://www.princeedwardisland.ca/fr/legislation/all/all/a

Power, E. M., Little, M. H. et Collins, P. A. (2015). Should Canadian health promoters support a food stamp-style program to address food insecurity? *Health Promotion International, 30*(1), 184-193. https://doi.org/10.1093/heapro/dau080

Ratcliffe, C., McKernan, S. M. et Zhang, S. (2011). How much does the Supplemental Nutrition Assistance Program reduce food insecurity? *American Journal of Agricultural Economics, 93*(4), 1082-1098. https://doi.org/10.1093/ajae/aar026

Roncarolo, F., Adam, C., Bisset, S. et Potvin, L. (2015). Traditional and alternative community food security interventions in Montréal, Québec: Different practices, different people. *Journal of Community Health, 40*(2), 199-207. https://doi.org/10.1007/s10900-014-9917-8

Santé Canada. (2007) *Enquête sur la santé dans les collectivités canadiennes cycle 2.2, Nutrition (2004) : sécurité alimentaire liée au revenu dans les ménages canadiens.* Gouvernement du Canada. https://www.canada.ca/content/dam/hc-sc/migration/hc-sc/fn-an/alt_formats/hpfb-dgpsa/pdf/surveill/income_food_sec-sec_alim-fra.pdf

Santé Canada. (2020). *Monitoring household food insecurity over time.* Gouvernement du Canada. https://www.canada.ca/en/health-canada/services/food-nutrition/food-nutrition-surveillance/health-nutrition-surveys/canadian-community-health-survey-cchs/household-food-insecurity-canada-overview/monitoring-household-food-insecurity-over-time-household-food-insecurity-canada-overview-health-canada.html

Savard, J.-F. (2011). La cohérence des politiques publiques. Dans L. Bernier, S. Paquin et G. Lachapelle (dir.), *L'analyse des politiques publiques* (p. 309-335). Les Presses de l'Université de Montréal.

Savard, J.-F. (2015, novembre). *La mesure de la cohérence des politiques publiques : fondements et proposition d'une méthode.* Institut de hautes études en administration publique, Université de Lausanne. https://espace.enap.ca/id/eprint/169/1/BIB_A6FD91798771.P001.pdf

Savard J.-F. (2022). L'usage du couvre-feu dans la lutte contre la Covid-19 : peut-on parler de cohérence? *Éthique publique, Revue internationale d'éthique sociétale et gouvernementale*, *24*(1), 1-13.

Simmet, A., Depa, J., Tinnemann, P. et Stroebele-Benschop, N. (2017). The nutritional quality of food provided from food pantries: A systematic review of existing literature. *Journal of the Academy of Nutrition and Dietetics, 117*(4), 577-588. https://doi.org/10.1016/j.jand.2016.08.015

Sperandio, N. et Priore, S. E. (2015). Prevalence of household food insecurity and associated factors among Bolsa Familia Program families with preschool children in Viçosa, Minas Gerais State, Brazil. *Epidemiologia e Serviços de Saúde, 24*(4), 739-748. http://scielo.iec.gov.br/scielo.php?script=sci_arttext&pid=S1679-49742015000400016&lng=en&tlng=en.

Tarasuk, V. (2001). *Document de travail sur l'insécurité alimentaire des personnes et des ménages.* Santé Canada. https://www.canada.ca/content/dam/hc-sc/migration/hc-sc/fn-an/alt_formats/hpfb-dgpsa/pdf/nutrition/food_sec_entire-sec_aliments_entier-fra.pdf

Tarasuk, V., Mitchell, A. et Dachner N. (2016). *Household food insecurity in Canada, 2014.* Food Insecurity Policy Research. https://proof.utoronto.ca/wp-content/uploads/2016/04/Household-Food-Insecurity-in-Canada-2014.pdf

Tarasuk, V. et Mitchell, A. (2020). *Insécurité alimentaire des ménages au Canada, 2017-18.* Food Insecurity Policy Research. https://proof.utoronto.ca/wp-content/uploads/2020/04/REPORT-1_FR.pdf

Tarasuk, V., Fafard St-Germain, A. A. et Loopstra, R. (2020). The relationship between food banks and food insecurity: Insights from Canada. *International Journal of Voluntary and Nonprofit Organizations*, *31*(5), 841-852. https://doi.org/10.1007/s11266-019-00092-w

Turgeon, J. et Savard, J.-F. (2012). Politique publique (Public Policy). Dans Le Dictionnaire encyclopédique de l'administration publique. L'Observatoire de l'administration publique. https://dictionnaire.enap.ca/Dictionnaire/19/Index_par_thematique.enap?by=them&id=14

Turner, C., Aggarwal, A., Walls, H., Herforth, A., Drewnowski, A., Coates, J., Kalamatianou, S. et Kadiyala, S. (2018). Concepts and critical perspectives for food environment research: A global framework with implications for action in low- and middle-income countries. *Global Food Security, 18*, 93-101. https://doi.org/10.1016/j.gfs.2018.08.003

Van Zeijl-Rozema, A., Cörvers, R., Kemp, R. et Martens, P. (2008). Governance for sustainable development: A framework. *Sustainable Development, 16*(6), 410-421. https://doi.org/10.1002/sd.367

Vérificateur général du Québec. (2015). *Rapport du Vérificateur général du Québec à l'Assemblée nationale pour l'année 2015-2016 : rapport du commissaire au développement durable*. https://www.vgq.qc.ca/Fichiers/Publications/rapport-cdd/2015-2016-CDD/fr_Rapport2015-2016-CDD.pdf

Wilde, P. E. (2007). Measuring the effect of food stamps on food insecurity and hunger: Research and policy considerations. *The Journal of Nutrition, 137*(2), 307-310. https://doi.org/10.1093/jn/137.2.307

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Original Research Article

"This brings meaning and purpose to the lessons:" Teachers' and facilitators' perspectives on the joys and challenges of school garden programs in south-eastern Ontario

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Abstract

School garden programs (SGPs) offer students opportunities to experience and participate in the processes of nature and agriculture through hands-on learning in a wide variety of outdoor settings. Although the value of school gardens has been well documented, there is little-to-no concrete support for these programs within the public-school system itself, either at the local or the provincial level. Most programs operate through the vision and dedication of community members and organizations and/or the efforts of individual educators.

The purpose of this study is to investigate how school garden programs are implemented in a variety of educational settings, and to identify the challenges and opportunities that exist within them. Ten semi-structured, open-ended qualitative interviews were conducted in person or by video platform with teachers and community members who acted as school garden program facilitators in south eastern Ontario. Data analysis shows that SGP facilitators had 4 key motivations for implementing SGPs. These include promoting a connection to nature, fostering values of environmental awareness and stewardship, increasing food literacy skills, and introducing students to broader food system issues of inequity and social justice. The major challenges and opportunities included funding, administrative and operational supports (or lack of), partnerships, and long-term visions. The results point to the need for consistent policies, sustained and reliable funding, and other supports from the Ministry of Education.

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Résumé

Les programmes de jardinage scolaire offrent l'occasion aux élèves de prendre part aux processus de la nature et de l'agriculture à travers un apprentissage pratique dans une grande variété de milieux extérieurs. Bien que l'utilité du jardinage pédagogique ait été bien documentée, il y a peu ou pas de soutien concret à de tels programmes dans le système scolaire public, que ce soit au niveau local ou provincial. La plupart des programmes qui existent reposent sur la vision et le dévouement de membres de la communauté et d'organisations, et sur les efforts individuels de quelques éducateurs ou éducatrices.

L'objectif de cette étude est d'examiner la manière dont les programmes de jardinage scolaire sont mis en œuvre dans divers milieux éducatifs, et de repérer les défis et les possibilités qui s'y trouvent. Dix entrevues semi-structurées, ouvertes et qualitatives ont été menées en personne ou par visioconférence avec des personnes enseignantes et des membres de la communauté qui œuvrent en tant que facilitateurs et facilitatrices de programmes de jardinage scolaire dans le sud-est de l'Ontario. L'analyse des données fait ressortir que ces personnes ont quatre motivations clés pour mettre en place ces programmes : promouvoir la connexion avec la nature, mettre de l'avant l'importance de la sensibilisation environnementale et de la gestion de l'environnement, augmenter les compétences en littératie alimentaire, faire connaître aux élèves les grands enjeux d'iniquités et de justice sociale liés au système alimentaire. Les principaux défis et les principales possibilités observés incluent le financement, le soutien administratif et opérationnel (ou le manque de soutien), les partenariats et la vision à long terme. Les résultats mettent en évidence le besoin de politiques cohérentes, de financement durable et fiable et d'autres types de soutien de la part du ministère de l'Éducation.

Introduction

School gardens were very popular in Europe, Canada, and the United States during the late nineteenth and early twentieth centuries, following the introduction of compulsory schooling. At the time, science education was closely related to seventeenth- and eighteenth-century ideas of natural philosophy, emphasizing principles of interconnection and observation as integral parts of scientific practice (Buxton & Provenzo, 2011). Many early educators and philosophers of education, such as Maria Montessori, Fredrich Froebel, and John Dewey, were drawn to pedagogical values rooted in natural philosophy, arguing that experiential learning linked to the whole of nature and rooted in everyday life provided students with a sense of purpose as well as valuable understandings and skills (Buxton & Provenzo, 2011). Dewey was especially concerned that increased urbanization contributed to a feeling of remoteness from nature, as well as a lack of meaningful connection to the real world. To remedy this, he advocated for an education acquired by living among, and caring for,

plants and animals (Kohlstedt, 2008). School gardens were also aligned with the philosophy of the Progressive Reform Movement of the late nineteenth and early twentieth centuries, which understood the education system as essential to the development of a strong citizenry, especially for the urban and immigrant poor (Trelstad, 1997). Urban school gardens were used to help children develop both physically and mentally, to beautify bleak environments, and to expose children to nature.

There is little written about the history of school gardens in Canada; however, there is widespread evidence of gardens at early twentieth century schools. For example, in 1916, 1,900 schools in Nova Scotia had gardens, while 18,000 students participated in over 700 gardens in Quebec in 1915 (Spencer, 1916). Provincial directors of education understood that gardens served higher philosophical purposes beyond just food or flower production. The Director of Rural Science Schools for Nova Scotia saw the school garden as "the connecting link between the school and the real world" (Spencer, 1916, p. 20), while Ontario's Director of Elementary Agricultural Education thought that gardens created opportunities for rich instructional and character formation experiences (Spencer, 1916).

With the onset of each of the World Wars, school gardens took on a more patriotic tone. Gardens were already seen to build character and instill civic values; contributing to the war effort was a natural fit (Kohlstedt, 2008; Mosby, 2014). Children were encouraged to grow food for local consumption, thereby freeing up national food production and transportation systems to support the war effort. However, school gardens quickly declined in number after each war ended.

Interest in school gardens re-emerged in the early 1970s, driven by the environmental and back-to-the-land movements (Desmond et al., 2004) and a new appreciation of the value of experiential education. Garden-based education programs are seen to address a host of social, health, and environmental issues, including poor nutrition, lack of physical exercise, food system deskilling, anxiety, the climate crisis, social justice, and connection to nature (Cramer et al., 2019; Gruenewald, 2003; Strohl, 2015). At the same time, growing concerns over the environmental and social impacts of our industrial food systems have led to interest in the value of local and organic foods.

Many teachers, parents, and community members view school gardens as important tools to educate students about sustainable food systems while developing skill sets that promote healthy eating, food literacy, and environmental stewardship. The United Nations recognizes the key role that school gardens can play in the urgent need to educate young people for sustainability, and in galvanizing pedagogical innovation in education for sustainable development (Buckler & Creech, 2014). While some school districts, such as the Vancouver School Board (Black et al., 2015), have enthusiastically taken up school garden programs (SGPs), a national survey found that only fifteen percent of schools across the country offer gardening activities (Browning et al., 2013). The final report on the UN Decade for Education for Sustainable Development (2005-2014) cautions that much more work is needed to prepare teachers to take up the important task of teaching students using SGPs (Buckler & Creech, 2014).

While the many benefits of school gardens for students are well documented (Blair, 2009; Rae Christopher, 2019), there is much less research about the experiences of teachers and community members who make these programs happen. Canadian research around outdoor or environmental learning more generally has found that barriers to teachers' engagement in outdoor learning include teachers' lack of confidence in their skills and knowledge, as well as their understanding of

outdoor learning as an "add-on" or extra responsibility in an already crowded curriculum and work week (Dring et al., 2020; Dyment, 2005; Oberle et al., 2021; Zandvliet & Perera, 2022). Poorly designed outdoor space or lack of access to space, unsupportive school administration, lack of funding, resources, and support, and the weather were seen as additional barriers to engaging in outdoor learning (Dring et al., 2020; Dyment, 2005; Oberle et al., 2021).

This descriptive research aims to help fill this gap, notably in relation to schools in Ontario, the most populous province in Canada. This study set out to explore and describe the experiences of teachers and garden facilitators who implement school garden programs under current institutional and fiscal constraints in Ontario schools, and to assess the challenges and opportunities in setting up, maintaining, and sustaining school garden programs.

Background

The first author (JH) has many years of experience farming market vegetables, leading workshops on vegetable gardening and local eating, and developing and maintaining gardens for schools and community organizations in the Kingston area. She also wrote a book on growing, cooking, and eating organic food (Haase, 2009). In 2011, she was asked by South Frontenac Community Services Corporation (SFCSC) to develop a large garden and greenhouse to supply produce for their food bank in Sydenham, north of Kingston. Among the community volunteers was a local teacher, Alan MacDonald, who wanted his grade seven students in the Challenge Program (for academically gifted students) to participate. Under Alan's leadership, the students became an integral part of garden and greenhouse operations.

The SFCSC garden is a large project by school garden standards, requiring significant organization and labour. It also provides scope for student- and volunteer-driven initiatives, as well as valuable opportunities for community service and environmental stewardship. It challenges students to work hard physically and cooperatively to grow a significant amount of food. The first author observed that students eagerly took on tasks associated with planting, tending, and harvesting the garden. She has many memorable stories of student involvement in the garden. One of the best was walking by two boys who were harvesting carrots and overhearing one say to the other, "I'm so proud of the work that we do here."

The current study was inspired by these Challenge students, who were lucky enough to have a gifted, passionate, and dedicated teacher. Alan MacDonald is committed to the experiential learning that comes with gardening, food production, and environmental stewardship, and he continues to involve his students in this project. JH has since worked with two other schools to develop similar but smaller programs, and is constantly impressed by the enthusiasm and energy that students bring to learning in the garden.

The authors hope that, by illuminating the joys and challenges of school garden program coordination, this research can contribute to efforts to bring the benefits of school gardens to many more elementary and secondary students in Ontario.

Methods

Recruitment

Using personal contacts, contacts made at a 2019 *Farm to School* conference in Toronto, ON, and snowball sampling, the first author identified ten people who facilitated school garden programs in southern and south-eastern Ontario. After receiving approval from the University General Research Ethics Board (GREB), potential participants were contacted by email and invited to participate. They were sent a letter of information and consent, along with the semi-structured interview questions. No one refused to be interviewed.

Interviews

Semi-structured interviews took place in the Toronto, Ottawa, and Kingston areas in the summer and fall of 2019. Potential participants were all located within a three-hour drive of Kingston, with the goal of conducting interviews on-site and in person. Seeing the gardens associated with each program provided the opportunity to assess the size, physical layout, and logistical parameters of each SGP setting. It also allowed each SGP facilitator or teacher to show details of the garden that were relevant to the interview, and allowed the researcher to take photographs, with permission. Seven of the ten interviews were conducted in-person; for these participants, most of the interview took place in the garden. The remaining three interviews were conducted over video platform.

The interview guide was developed to be flexible and open-ended, to encourage participants to express their experiences and thoughts as fully as possible (Kvale & Brinkman, 2009). Participants were asked to describe their involvement in school gardens, supports and resources needed for success, obstacles and challenges for school gardens, and their hopes for school gardening programs. At the end of the interview, the researcher engaged participants in a discussion of the main themes and clarified any discrepancies, to facilitate the interpretation, trustworthiness, and credibility of the data. The researcher drew on her own experiences facilitating school garden programs to draw out responses from the participants, enhancing the specificity of responses and the richness of the data (Kvale & Brinkman, 2009). Interviews were audio recorded with permission and lasted from forty-five to sixty minutes. After each interview, the researcher took detailed field notes, recording observations of the setting and the interview as well as impressions of participants' emotions, including pride and frustration.

Transcription, coding, and analysis

The first author transcribed audio recordings verbatim, which promoted familiarity with the data (Lapadat, 2000). A digital copy of the transcript was sent to each participant for review and comment. No participants provided feedback.

Transcripts were analyzed using the QUAGOL system developed by Dierckx de Casterlé et al. (2012), which involves becoming familiar with the transcripts, developing an inductive coding scheme, and rigourously applying coding that considers outliers and apparent contradictions to the overall themes. Tracy's (2010) criteria for research quality were considered and taken up to enhance the overall quality, rigour, and trustworthiness of the data.

Results and discussion

Participants

All participants were facilitating school garden programs at the time of the study, either at the elementary or high school level. Six of them were directly employed in the public-school system, five as teachers and one as an educational assistant, at six different schools. All but one of the schools were urban. Two of the teachers worked at the high school level and four at the elementary school level. The high school programs were associated with Applied level programs, such as Culinary Arts and Green Industries. Culinary Arts programs offer courses that use commercial kitchen facilities to teach cooking and catering skills; however, some go further and integrate school gardens to supply fresh produce to their kitchens. The Green Industries program introduces students to agriculture, forestry, horticulture, floristry, and landscaping practices; SGPs fit well into the curriculum guidelines.

The elementary school teachers used their personal experience and knowledge as gardeners to actively incorporate garden-based learning into classroom activities and grade-specific curriculum guidelines. All the elementary school teachers who participated in this research received financial and logistical support from outside organizations for the initial development of their school gardens, but they have gone on to expand and integrate garden-based learning into many aspects of their day-to-day activities with students.

The remaining four participants were school garden program facilitators employed by a community organization or by individual schools as private contractors. One worked for Kingston-based *Loving Spoonful*[1] and another worked for Ottawa's *Growing Up Organic*[2], both community non-profit organizations that provide staff and resources to develop school gardens and offer garden-based workshops. At the time the research took place, *Loving Spoonful* served twenty-one elementary schools, mostly within city limits but also including some rural schools. *Growing Up Organic* served about thirty elementary and secondary schools within the Ottawa District School Board. A third facilitator worked through a small not-for-profit that served four urban schools, and the fourth had individual contracts with six urban schools. Both visited schools one day per week, offering instruction modules to teachers of all grades within each school.

[1] https://www.lovingspoonful.org/grow-project

[2] https://www.growinguporganic.org/en/

Image 1: Garden build facilitated by Loving Spoonful

Results

This section lays out the key themes of the research analysis, beginning with key motivations for implementing SGPs. These include promoting a connection to nature, fostering values of environmental awareness and stewardship, increasing food literacy skills, and introducing students to broader food system issues of inequity and social justice. We then consider the major challenges and opportunities encountered, including funding issues, administrative and operational supports (or lack thereof), partnership opportunities, and long-term visions for school garden programs.

Facilitator motivations for school garden programs

Most participants articulated their belief in the intrinsic value of school garden programs as a combination of values and learning outcomes that was not easily reduceable to a single theme or component. Other participants expressed their sense that growing food and being outside were good in and of themselves.

Four major philosophical motivations emerged from transcription analysis; these are a connection to nature, environmental awareness and stewardship, food literacy, and social justice. Many participants expressed this in terms of the inter-related nature of these motivations:

> "It was a combination of food, nature awareness, and environmental awareness." (Facilitator)
>
> "It's all of those things rolled into one." (Teacher)
>
> "There's so many intersections in all of those areas." (Teacher)

These quotes reflect the holistic nature of garden-based learning and its ability to inform so many different spaces.

Environmental awareness and stewardship

Research participants understood the value of local food production for environmental awareness and stewardship, as well as the empowering aspects of teaching their students how to grow their own food. While they emphasized the positive environmental aspects of the food grown in SGPs, they also noted other positive outcomes, including human health and the aesthetic pleasure of better tasting food. As one teacher expressed:

> "You're going to create food that hasn't travelled 3000 km like our average produce in Loblaws, and it'll taste better, it'll be better for you, and it's better for the environment.... This brings meaning and purpose to the lessons...working in the garden gives them a chance to actually walk the talk, as it were."

Participants hoped to empower students, giving them a sense that their individual actions in their everyday lives can make a difference and helping to overcome anxiety about climate chaos and environmental degradation:

> "It empowers students, so by empowering them, they don't feel anxiety [about climate change]. They feel more motivation and they've got the skills to make a change. And it also imbues to the kids the idea that one person's small actions, acting locally really can make a difference." (Teacher)

A few participants also saw the gardens as a way to integrate broader lessons about composting and the ecology of closed cycles in nature as well as waste in the food system overall:

> "Hopefully this year it will be more about trying to get away from the waste stream that we're generating. And so, in that it's also looking at it from the garden side of things, how can we start to make that into a process where waste that is coming from the kitchen...not just the food waste but then also the plates and anything that we are using that are disposable, so those are also compostable. So, kids are seeing that we are keeping it within the system here." (Teacher)

In line with ideas about meaningful environmental education (Clayton & Myers, 2009; Hungerford & Volk, 1990), research participants understood that the development of awareness and knowledge (the standard goal of classroom education) about environmental issues is not enough. They believed that students are better able to integrate knowledge into their lives when they are given opportunities for practical skills-based learning and the chance to see for themselves the results of their work. The opportunity for students to grow food can help to reverse the social and ecological harms that arise from our disconnection from the food system (Clapp, 2020). Food production can contribute to the

development of insights and ways of working that can be meaningful in addressing bigger issues, such as the climate crisis (Harvey et al., 2020).

Connection to nature

Many participants expressed concern that their students live in urban settings, spend too much time on screens, and have very little exposure to nature. Participants noted the positive aspects of re-connecting with nature through the school gardens, including relaxation, grounding, interacting with classmates differently, and interacting with the natural environment differently:

> "Our kids are removed from the outdoors. They go from school to home to screens and so just to spend a bit of time slowing down and connecting with nature.... I think that's the main thing, getting their hands dirty, wet, picking something they grew." (Teacher)

> "You see them interact with each other in a different way and they can relax, maybe be themselves a bit more, a little more grounded. They pay attention to the seasons more and they are connected to the land." (Teacher)

> "Some of the kids don't have a whole lot of access to nature. Getting them holding worms and getting them excited about bees and bugs and seeing those connections between the bugs and our food [gives them an experience of nature]." (Facilitator)

Another participant saw the integration of SGPs into the school day as adding the opportunity for more regular interaction with the natural environment:

> "Creating a space that's part of their school day that gives them that option [of exposure to nature] rather than just a field trip out to the country or their aunt's backyard that they only go to twice a year...." (Facilitator)

A growing body of evidence suggests that time in nature supports mental, physical, and spiritual health (Louv, 2008; Soga et al., 2016). Regular childhood nature experiences have been shown to have life-long impacts that lead to positive feelings about the natural world and a desire to protect it (Soga et al., 2016). Participants clearly understood that SGPs are one small but significant way that schools can support student health and education through positive experiences of nature.

Image 2: Students harvesting kale

Food literacy

Many of the school garden educators who participated in this research saw an important connection between growing food and food literacy, a proficiency in food related skills and both critical and functional knowledge that informs everyday personal behaviours, food and health choices, culture, and food systems (Truman et al., 2017). From their experiences within the SGPs, participants saw that growing food helps kids understand and relate to food in new ways. Growing food in the SGPs supported students in knowing that food comes from nature and is not just something that has been manufactured, packaged, and purchased at the grocery store. These school garden educators appreciated the growing of food as one aspect of a healthy foundation for food literacy knowledge and skills, providing students with greater options for feeding themselves within the dominant corporate food system:

> "To me, for students to understand where their food comes from, to understand how to grow food, to care about all that, is something that

> impacts us on so many different levels." (Teacher)
>
> "Everybody needs to understand more about their food and their food sources." (Teacher)
>
> "If we don't understand where our food comes from, what are we teaching these kids?" (Facilitator)
>
> "It's so fun working with them because they have no idea where a lot of these vegetables come from or any concept of gardening because they don't often do it at home." (Teacher)

With some exceptions, much of the published literature around food literacy does not include growing food as an element of food literacy. This is consistent with the observation of Truman et al. (2017) that the majority of food literacy definitions emphasize information and understanding, rather than the functional knowledge that comes with skills development. It is also consistent with the emphasis in food literacy on promoting nutrition and health through "good" food choices and preparation of healthy meals (Truman et al., 2017).

However, based on their research, Carlsson et al. (2016) conclude that school gardens can contribute to food literacy. Ontario's *Bill 216: Food Literacy for Students Act* (Kramp, 2020) identified food literacy as "experiential or hands-on skills learned in gardens and kitchens" (para. 2) and specified that Ontario students, from grade one to grade twelve, must be given opportunities to grow food. It also directed school boards to provide "training and support for teachers and other staff" (Kramp, 2020, para. 7) regarding food literacy. In its policy briefing note to support Bill 216, Sustain Ontario (2021) incorporated gardening as an important component of food literacy. A first of its kind in Canada (Martin & Ruetz, 2021), Bill 216 will stand as a potential model for future provincial governments in Ontario and elsewhere. While the bill died on the order paper without being passed after the 2022 Ontario provincial election was called (O'Neil & Martin, 2022), lessons on food literacy, mainly relating to food systems, were incorporated into the new Ontario science curriculum for grades one to eight released in March 2022 (Sustain Ontario, 2022). Perhaps this curricular change will add to momentum to integrate school gardens more fully into the Ontario elementary and secondary school systems.

Building on the perspectives of the participants in this research, we agree that school garden programs could be a vital component of developing food literacy among young people. This is especially true of the critical food literacy knowledge and skills that students need to navigate a capitalist food system that obfuscates nature as the source of food, manipulates consumers for profit-seeking, and hides the real purpose of food as *nourishment*, while contributing to the destruction of the planet and undermining the health of its human and non-human inhabitants (Clapp, 2020).

Image 3: This student definitely knows where her carrot came from!

Social justice

Some participants understood school garden programs as contributing to addressing broader social justice issues. Participants at both elementary and secondary schools identified food insecurity as the primary social justice issue that SGPs addressed. This is not surprising, given the daily contact that some educators have with students living in poverty. In 2018, approximately four million Canadians, including one and a half million children, lived in households that had inadequate or insecure access to food because of lack of income (Tarasuk & Mitchell, 2020). Households with children, especially those headed by single mothers, have higher rates of food insecurity than the general population (Tarasuk & Mitchell, 2020). SGP facilitators who regularly interacted with students living in poverty felt they could support students immediately, with food, and also provide the students with some useful, transferable food skills that held the potential to make a difference in their lives overall:

> "We have a lot of kids that live in poverty…and so, we've provided food almost without question, as many days of the year as we possibly can…and I think they can walk away feeling like these are skills [growing and cooking food] that are directly applicable to their lives." (Teacher)

> "There is a social justice piece just because of the student body we teach, a lot of them have come from subsidized housing, life has not been good for these guys.… It is trying to prepare them for the work world but it's also trying to break the

> cycle and give them some autonomy, like I can go home and grow tomatoes in my yard, kind of thing. And I can't tell you the number of kids in the last couple years that have said 'yeah I grew mint' or 'I grew whatever' at home." (Teacher)

Given the increasing attention in school curricula to the pervasiveness of systemic racism, particularly anti-Black racism (Chiasson, 2021), the ongoing impacts of settler colonialism, and the Truth and Reconciliation Commission's (2015) call to "build student capacity for intercultural understanding, empathy, and mutual respect" (p. 11), it is fruitful to consider how SGPs might also contribute to education around other social justice issues. SGPs have the potential to help implement anti-colonial pedagogies, pedagogies of radical relationality that attend to more-than-human relations, and pedagogies of reciprocal relationships (Nxumalo & Montes, 2021), as well as pedagogies that foster solidarity consciousness (Pieroni, 2021).
The potential contributions of SGPs to anti-racism and decolonization efforts in schools did not emerge in the interviews, perhaps because of timing, limitations of the sample, or white privilege (Alkon & Guthman, 2017; Elliott et al., 2022). However, since these data were collected, Black Lives Matter, COVID-related anti-Asian racism, anti-immigrant sentiments associated with the rise of the Alt-Right, and the ongoing horror of the discovery of Indigenous children's bodies at sites that purported to educate children, have lent new urgency to consider the ways in which education can promote social justice by fostering transformative learning—or, alternatively, how it perpetuates the status quo of white privilege, racism, sexism, and colonialism. SGPs could help to facilitate discussions of the central roles of land, immigration, and agriculture in the colonization of Canada (Martin & Ruetz, 2021). The inclusion of local Indigenous traditional foods in SGPs would provide opportunities to learn about local Indigenous peoples' cultures, traditions, and ways of knowing. There is also a rich variety of possibilities for teaching and learning by growing foods that immigrant groups have brought to Canada.

Image 4: Students bring their produce to the food bank

Key constraints and opportunities

Funding

Obtaining stable and adequate funding for school garden programs was a major concern and challenge for all participants, beginning with the need for initial funding to get the program started. Start-up funds were required to build raised beds or open up new ground, as well as to purchase soil, compost, tools, irrigation equipment, and, occasionally, a storage shed. Participants also described yearly expenses for items such as seeds and compost, as well as for occasional repairs or expansions. Unless gardening is part of the curriculum, as in the Green Industries stream in high school, these expenses had to be covered by various forms of fundraising.

There was a significant difference in programming costs between the programs run and delivered by teachers versus those delivered by garden facilitators. One facilitator estimated that it costs about $10,000 per year for her to deliver one full day of programming per week to each school that she works with. Individual schools are not allowed to hire someone who is not a certified teacher, so, in order to have access to an external garden facilitator, schools, community organizations, and/or garden facilitators must access a number of funding streams, such as external grants, school board grants or programs, and parent council support. Reliance on parent council support can be especially problematic because there is a wide range in fundraising capabilities among schools, depending on the socio-economic demographic of the school population (Winton, 2018).

Image 5: Plant sale fundraiser

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Many participants, both teachers and facilitators, expressed frustration with the grant writing process. A major concern was that granting agencies prefer "new projects," which are expected to become financially self-sustaining, as opposed to renewing funding for projects they have funded in the past. For example, the Ontario Trillium Foundation[3] has three main granting streams: one is for pilot projects, another to expand already existing programs, and the third is for capital projects. There are no options to simply fund the maintenance of an already existing and successful project. Some comments that reflect these concerns include:

> "It requires a lot of work, you know, applying for grants. And once it's not new anymore, then it's even harder." (Facilitator)

> "[We have to] cast the program in a new light rather than being funded for doing something that is good." (Facilitator)

Another concern was the lack of long-term vision within the school system, which meant that teachers sometimes had to take advantage of available school monies even if they did not fit with the current needs of the garden program. Teachers described this as "catch as catch can" and as "ass backwards," noting that they can't really budget because "when the money is there, we have to use it." Often, school funds must be used within a very limited time frame, which, in one instance, meant that materials such as lumber were purchased and put into storage with the hope that they could be used at another time. Several participants noted that a great deal of the monies raised by parent councils are put towards technology initiatives within the school system, but very little goes to garden programs:

> "There's a lot of support right now for coding and robotics and tech-based programs. Why is that? Because there's demand, it's popular, it's become a buzz thing right now. I think what you need is the same thing to happen around food literacy." (Teacher)

In summary, funding for SGPs came from a combination of outside granting agencies, school-based fundraising initiatives, and programs and grants that are available within individual school boards. This has led to a very haphazard and unreliable funding structure that does not allow for consistency, and often threatens the sustainability of school garden programs. This fits with a 2019 survey of food literacy programming in Ontario which concluded that "food literacy programs require stable funding and support in order to be sustainable" (Roblin et al., 2019, p. 11). Similarly, in their research in New York City, Burt and colleagues (2018) found that adequate funding was the most important factor in ensuring the success of school gardens.

Administrative supports and challenges

All participants talked about the importance of having supportive teachers, school administrators, caretakers, and staff. Participants felt that, for the most part, all members of the school community considered gardens to be an asset at schools:

[3] www.otf.ca

> "Yes, it is essential [administrative support] because in a school if you don't have your Principal on board…it's pretty much no." (Teacher)

> "I mean the biggest thing to make it work initially is just sort of support, like supporting the idea from the Principal and from the teachers." (Facilitator)

> "I think for a Principal to say they've got a garden is like a feather in their cap." (Teacher)

However, a common complaint was that a lack of clear direction from the Ministry of Education results in inconsistencies with regards to school policies and safety guidelines for the gardens. As one facilitator explained, "come 2018, the province changes all their rules, and everything has to be accessible. So now all of the garden beds have to be accessible to all of the children regardless of whether there is an accessibility need in the school or not." Notably, the change in regulation did not come with any additional funding.

Similarly, high turnover of both teachers and principals increases inconsistency and uncertainty for school garden program facilitators; this can necessitate constantly re-engaging with teachers and explaining programming and workshops:

> "They [Principals] change all the time and whether that's a priority for Principals or not…the school board supports school gardens but that's not the same thing as saying—hey teachers—this is important." (Facilitator)

> "My second Principal was anti-garden. She was worried about drug paraphernalia, what if someone taints a tomato and a kid eats it…and then [Growing Up Organic] came in and they pointed out that some food from school gardens were being used by this community organization. Well, she did a 180 and suddenly she was a huge champion." (Teacher)

SGP facilitators also noted that the heavy workload that teachers carry is a major challenge to the implementation of school garden programs. Many teachers simply don't have the time or energy to take on another project, whether by themselves or in partnership with a community-based organization. Facilitators heard repeatedly that teachers were just too busy, had too many special needs students, or had too many students to manage participation in a garden program:

> "The basic answer from teachers is that teachers feel overwhelmed and they don't want additional responsibility. They just don't want to take on something else." (Facilitator)

> "Some teachers are reluctant to work with *Growing Up Organic*; they already have too much to do." (Facilitator)

As food studies scholars and educators, it seems sad that teachers, and the school system overall, are so overwhelmed and burdened that they have such limited capacity to work with skilled and passionate SGP facilitators to incorporate growing plants and food into their curriculum. This systemic overwhelm is likely a result of many pressures and demands on the education system, including underfunding, reliance on the school

system to solve larger social problems, and unwillingness to embrace different educational philosophies within the public-school system.

Perhaps we could consider the philosophy of the Finnish education system, also known as "the Finnish Paradox," or *less is more.* This is a key component of Finland's educational success, as measured by its top scores in the OECD Programme for International Student Assessment (PISA) (Sahlberg, 2015). Finnish children spend far less time in class than their North American counterparts (an average of 600 versus more than 1,000 hours per year) and have little or no homework. Teachers spend an average of four hours per day in class and have significantly shorter work weeks (an average of thirty-two hours per week versus forty-eight in Canada). They also have the freedom to create their own curricula within broad municipal guidelines (Sahlberg, 2015). If Ontario adopted a similar approach, our education system could significantly relax its curriculum expectations and lessen teacher workloads, thereby opening up space to deliver a wider variety of programs and, at the same time, potentially improve the quality of its education.

Operational supports and challenges

Garden programs pose a number of unique problems in the school setting. The first is maintenance of the garden during the summer months, when teachers and children are not in school. Most teachers and facilitators employ a combination of strategies, including parent and community volunteers, student involvement, and their own volunteer work. Other operational challenges include the availability of water and the presence of a storage shed. Some schools have accessible outside water taps, while others rely on large storage tanks for water which can be filled a few times over the summer. Accessing hoses and tools is also an issue; if these items are stored inside the school, summer crews must coordinate with caretaking staff to open the school for them. An outside shed allows for greater flexibility and independence. However, inconsistent, nonexistent, or inadequate guidelines can create problems for SGP educators.

Many ordinary purchased sheds were visible during on-site interviews; however, one teacher remarked that her principal had ordered the removal of a purchased shed on the grounds that it was not safe enough. Finally, after many years of fundraising and advocating for a shed, the same Principal approved "a concrete bunker.... It's the only thing we could have that was fire retardant and strong enough if anybody were to climb on the roof." This is an example of how the lack of guidelines resulted in the imposition of arbitrary constraints.

The operational challenges faced by this teacher are reflective of a lack of specific Ministry policy and guidelines and the general invisibility of SGPs at the Ministry level. Administrative support is essential but also highly variable, depending upon the views of individual Principals and school boards. This impacts not only the long-term sustainability of SGPs but also the willingness of teachers and facilitators to create and maintain a garden.

Partnerships

Partnerships with outside organizations are an important part of many school garden programs. These partnerships include those with community volunteers and community

organizations, such as food charities, as well as those between individual schools and organizations, such as *Loving Spoonful* (Kingston) and *Growing Up Organic* (Ottawa):

> "Each year we have partnered with *Loving Spoonful* and we take part in three or four educational workshops—everything from food security and growing garlic and making salsa and understanding where our food comes from." (Teacher)

"I've been working with *Growing Up Organic* for a lot of years and if it weren't for them, I wouldn't be doing what I'm doing. It's hard. I mean as enticing as it is, as interested as the kids are in gardening, it's hard to run a garden with one teacher and twenty-five kids." (Teacher)

Image 6: Students participate in a Growing Up Organic workshop

Both teachers and facilitators expressed appreciation for community partners such as Master Gardeners, farmers, and beekeepers who either come to the school or host visits to their farms:

> "All of those connections [local farmers] are really important too because they are part of our community and they are supporting the larger community around us. But then you know they [students] are seeing these people year in and year out and kids are starting to get to know them and they are getting to know the kids and it seems like the farmers are having just as much fun being here with the kids and working with them." (Teacher)

Food security organizations are often important partners for school garden programs. In the case of the Sydenham initiative described in the introduction, there is extensive collaboration between students and the South Frontenac Food Bank. *Loving Spoonful* in Kingston is a food security organization that, at the time of this study, ran garden programs in twenty-one schools, and participating schools were encouraged to donate surplus produce. Several other teachers donate produce and make regular visits to nearby food charities, highlighting commitment to the social justice component of their garden programs.:

> "So when we harvested the Swiss chard, we took it over there [Parkdale Food Center, Ottawa] and we had a tour around the facility so we could see where it was going and then we returned yesterday for a follow up workshop and we took what little more we had from the garden. So, it's the relationships too, it's building relationships with places that have been, you know—somewhat marginalized." (Teacher)

Community and parent volunteers are also an important part of some school garden programs; they can help with managing the large number of students and are invaluable to perform all of the little tasks that teachers often don't have time for. They also afford students the opportunity for intergenerational mentoring. One facilitator promotes a wide variety of innovative partnerships and noted that partnerships within walking distance are much easier to maintain as there is no need for outside transportation. Currently, several Public Health nurses are joining her garden programs to teach healthy eating to students, while partnerships with municipal programs have allowed students to participate in tree planting programs:

> "Community partners are sort of the secret sauce and community agencies can bring in a multitude of resources, both HR and financial to make school gardens successful." (Facilitator)

Partnerships between teachers and garden facilitators and community organizations add a great deal to the quality and sustainability of garden programs through support for initial garden builds as well as through provision of comprehensive programming and workshop modules. Community volunteers, visits to farms or by farmers to the classroom, cooking opportunities, and connections with food security organizations all broadened the scope of garden programs and brought added richness to the learning.

Program sustainability

At the high school level, teachers who participated in this research centered their garden programs around Culinary Arts and Green Industries programs. This means both that teachers and students can and do work in the garden while in classes that are specifically linked to this work and that the teacher does not have to spend a significant amount of time outside of class working in the garden. It also means that, if a teacher were to stop teaching their respective courses, another teacher would be hired with the expectation that they have the interest and expertise to continue to maintain the garden.

At the elementary school level, school garden programs are integrated into the relevant grade curriculum. All of the teachers used their own professional discretion and creativity to connect experiential learning in the gardens to curriculum objectives such as science, biology, ecology, and healthy living. For all of these teachers, the garden is very much a personal passion, requiring varying degrees of personal expertise and volunteer time. The ability of another teacher to carry on their programs would depend on the interests of the teacher, the complexity of the program, and the support of the principal.

The position of garden facilitators varied considerably among participants. *Growing Up Organic* has a long-standing relationship with Ottawa-Carleton English and French language school boards, who, in 2019, were covering the costs of their programming for the first time. On the other hand, *Loving Spoonful's* school gardens were most recently funded by a three-year Trillium grant, and, as of the writing of this article, their website states that "a lack of funding coupled with the realities of the pandemic environment, has restricted our ability to deliver the program as we have in the past." Similarly, for smaller facilitator-led gardens, the future is not as secure:

> "A lot of school gardens come and go because they don't have a community partner. A community partner can add a sustainability component, but of course the downside of that is that the community partner has to keep going." (Facilitator)

The importance of partnerships and outside programming was well documented in this study; they can be valued not only for their immediate benefits in exposing students to diverse community members but also for their roles in reducing teachers' workloads and managing large numbers of students. This is important in ensuring the long-term sustainability of SGPs.

Long-term visions for improved delivery of school garden programs

Towards the end of each interview, participants were asked what kinds of supports would improve the delivery of school garden programs. All participants advocated for adequate and stable funding within the school system itself, including a paid facilitator. All participants thought that having a paid facilitator who is not directly teaching the class would provide much-needed support in terms of helping with the management of large class sizes, preparing and delivering materials, and generally caring for all of the odds and ends that don't get done within class time. This person could be an employee of a community organization or a Board employee, similar to those who provide school meal programs or librarians:

> "Breakfast coordinators—they get paid, so I could see a similar thing where you would have a school garden coordinator." (Teacher)

> "The garden as a facility and them as the facilitator. In the same way that the library is not something that is sometimes arbitrarily staffed and sometimes not." (Teacher)

Hiring garden coordinators, as these teachers propose, and integrating them into the work force, means that SGPs would have to be prioritized for funding and curriculum development by the community, the school board, or the provincial Ministry of Education. Several participants thought that school garden programs should be incorporated into the curriculum, potentially as part of healthy eating, food literacy, or environmental literacy curricula:

> "I think you have to go back to the curriculum because curriculum is policy essentially…so naming it, naming school gardens as part of food literacy, as part of environmental literacy." (Facilitator)

> To me food literacy should be coming from top down. I feel like that type of over-arching theme should be something that is not just for the schools that figured out how to cobble this together or even the board that kind of cobbled it together, it should be that everyone has access to that. (Teacher)

These participants understood the value of the SGP curriculum and supported policy development so that SGPs could be consistently integrated into the curriculum, rather than on an "ad hoc" basis. In an appendix to support *Bill 216: Food Literacy for Students Act, 2020,* Sustain Ontario (2021) has an extensive list of opportunities to link food literacy, including gardening, to the existing curriculum. Rae Christopher's (2019) book offers a comprehensive framework for developing and maintaining school gardens, with over 200 lesson plans that could be adapted to Canadian contexts. Perhaps the introduction of food literacy into the science and technology elementary school curriculum will further the development of SGPs at Ontario schools.

One teacher, who had a great deal of professional freedom and gardening experience, spoke of seeing the SGP not as an additional burden but as something that could be used to teach aspects of the curriculum that are considered more essential:

> I want to say that other teachers would do more if they felt they had creative license. Teachers should not feel like "oh, I am getting away with doing that special activity [gardening] but I have to get back to that literacy and numeracy." I think, in fact, they need to feel that as they are doing these other enrichment activities, they are doing their literacy, they are doing their numeracy.

This teacher espoused a more creative and integrative approach to curriculum, and understood that SGPs could be used to *support* the "basics" of literacy and numeracy, rather than being an extra that needs to be squeezed into the already overfull day, or simply a "fun" activity. Generally, only someone who already possessed gardening mastery and understood the pedagogical possibilities offered by gardening would be able to integrate curricular lessons from other subjects into the SGP without additional training or supports.

Conclusion

All participants in this research project valued school garden programs and the opportunities they provided for a different type of learning, one that is experiential and that balances knowledge and skills as well as teacher-led and student-driven learning. Participants understood gardens as facilitating student opportunities to engage with nature and to connect students to ideas about food security, food literacy, environmental stewardship, and social justice. In an era of increasing anxiety and concern about climate chaos, and BIPOC demands for justice, school gardens offer potential opportunities for experiential and transformative education that can speak to these issues. All participants also agreed that school gardens need more support, including more funding and more stable sources of funding, administrative support from school boards and the Ministry of Education for policy and curriculum development, and skilled, paid garden coordinators.

The results of this research project lend support for the inclusion of gardening in food literacy programs and education for environmental stewardship, sustainability, and social justice. The results are limited by a focus on school garden programs in southern and southeastern Ontario, and by the convenience-based sample. Future research could support integration of SGPs into the Ontario school curriculum by surveying Ontario school boards to provide a comprehensive picture of SGPs in the province and highlighting successes that could be emulated. Similarly, it would be useful to develop a more comprehensive and detailed national picture of how SGPs are being used to support food literacy, healthy school food environments, environmental education and sustainability, and social justice.

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References

Alkon, A. H., & Guthman, J. (2017). Introduction. In A. H. Alkon & J. Guthman (Eds.), *The new food activism: Opposition, cooperation, and collective action.* (pp. 1-27).University of California Press.

Black, J. L., Velazquez, C. E., Ahmadi, N., Chapman, G. E., Carten, S., Edward, J., Shulhan, S., Stephens, T., & Rojas, A. (2015). Sustainability and public health nutrition at school: Assessing the integration of healthy and environmentally sustainable food initiatives in Vancouver schools. *Public health nutrition, 18*(13), 2379-2391. doi:10.1017/S1368980015000531

Blair, D. (2009). The child in the garden: An evaluative review of the benefits of school gardening. *The Journal of Environmental Education, 40*(2), 15-38. doi:10.3200/JOEE.40.2.15-38

Browning, H. F., Laxer, R. E., & Janssen, I. (2013). Food and eating environments: In Canadian schools. *Canadian Journal of Dietetic Practice and Research, 74*(4), 160-166. doi:10.3148/74.4.2013.160

Buckler, C., & Creech, H. (2014). *Shaping the future we want: UN decade of education for sustainable development (2005-2014) final report*. UNESDOC Digital Library. https://unesdoc.unesco.org/ark:/48223/pf0000230171

Burt, K. G., Burgermaster, M., & Jacquez, R. (2018). Predictors of school garden integration: Factors critical to gardening success in New York City. *Health Education & Behavior, 45*(6), 849-854. doi:10.1177/1090198118760685

Buxton, C., & Provenzo, J. E. F. (2011). "Natural philosophy" as a foundation for science education in an age of high-stakes accountability. *School Science and Mathematics, 111*(2), 47-55. doi:10.1111/j.1949-8594.2010.00060.x

Carlsson, L., Williams, P. L., Hayes-Conroy, J. S., Lordly, D., & Callaghan, E. (2016). School gardens: Cultivating food security in Nova Scotia public schools? *Canadian Journal of Dietetic Practice and Research, 77*(3), 119-124. doi:10.3148/cjdpr-2015-051

Chiasson, A. (2021, February 2). *TDSB to offer anti-Black racism course for Grade 12 students at 7 schools next year*. CBC News. https://www.cbc.ca/news/canada/toronto/toronto-district-school-board-anti-black-racism-course-grade-12-secondary-schools-1.5898585

Clapp, J. (2020). *Food* (3rd Ed.). Polity Press.

Clayton, S., & Myers, G. (2009). *Conservation psychology: Understanding and promoting human care for nature*. Wiley-Blackwell.

Cramer, S. E., Ball, A. L., & Hendrickson, M. K. (2019). "Our school system is trying to be agrarian": Educating for reskilling and food system transformation in the rural school garden. *Agriculture and Human Values*, *36*(3), 507-519. doi:10.1007/s10460-019-09942-1

Desmond, D., Grieshop, J., & Subramaniam, A. (2004). *Revisiting garden-based learning in basic education*. Food and Agriculture Organization of the United Nations and the International Institute for Educational Planning. www.fao.org/3/aj462e/aj462e.pdf

Dierckx de Casterlé, B., Gastmans, C., Bryon, E., & Denier, Y. (2012). QUAGOL: A guide for qualitative data analysis. *International Journal of Nursing Studies, 49*(3), 360-371. doi:10.1016/j.ijnurstu.2011.09.012

Dring, C. C., Lee, S. Y. H., & Rideout, C. A. (2020). Public school teachers' perceptions of what promotes or hinders their use of outdoor learning spaces. *Learning Environments Research, 23*(3), 369-378. doi:10.1007/s10984-020-09310-5

Dyment, J. E. (2005). Green school grounds as sites for outdoor learning: Barriers and opportunities. *International Research in Geographical & Environmental Education, 14*(1), 28-45. doi:10.1080/09500790508668328

Elliott, H. L., Mulrennan, M. E., & Cuerrier, A. (2022). 'We have a lot of (un)learning to do': Whiteness and decolonial prefiguration in a food movement organization. *Settler Colonial Studies*, 1-25. doi:10.1080/2201473X.2022.2077900

Gruenewald, D. A. (2003). The best of both worlds: A critical pedagogy of place. *Educational Researcher, 32*(4), 3-12. doi:10.3102/0013189X032004003

Hasse, J. (2009). *From seed to table: A practical guide to eating and growing green.* Insomniac Press.

Harvey, B., Sprowls, E. D., & Huang, Y.-S. (2020). *School-community gardens plant the seeds of change to address global warming*. The Conversation. https://theconversation.com/school-community-gardens-plant-the-seeds-of-change-to-address-global-warming-134776

Hungerford, H. R., & Volk, T. L. (1990). Changing learner behavior through environmental education. *The Journal of Environmental Education, 21*(3), 8-21. doi:10.1080/00958964.1990.10753743

Kohlstedt, S. G. (2008). "A better crop of boys and girls": The school gardening movement, 1890–1920. *History of Education Quarterly, 48*(1), 58-93. doi:10.1111/j.1748-5959.2008.00126.x

Kramp, D. (2020). *Bill 216, Food literacy for students act, 2020.* Legislative Assembly of Ontario. https://www.ola.org/en/legislative-business/bills/parliament-42/session-1/bill-216

Kvale, S., & Brinkman, S. (2009). *InterViews: Learning the craft of qualitative research interviews* (2nd Ed.). Sage Publications.

Lapadat, J. C. (2000). Problematizing transcription: Purpose, paradigm and quality. *International Journal of Social Research Methodology, 3*(3), 203-219. doi:10.1080/13645570050083698

Louv, R. (2008). *Last child in the woods : Saving our children from nature-deficit disorder.* Algonquin Books of Chapel Hill.

Martin, A., & Ruetz, A. T. (2021). *School gardens and kitchens could grow with Ontario's proposed food literacy act*. The Conversation. https://theconversation.com/school-gardens-and-kitchens-could-grow-with-ontarios-proposed-food-literacy-act-156568

Mosby, I. (2014). *Food will win the war: The politics, culture and science of food on Canada's home front*. UBC Press.

Nxumalo, F., & Montes, P. (2021). Pedagogical commitments for climate justice education. *Connected Science Learning, 3*(5). www.nsta.org/connected-science-learning/connected-science-learning-september-october-2021/pedagogical

Oberle, E., Zeni, M., Munday, F., & Brussoni, M. (2021). Support factors and barriers for outdoor learning in elementary schools: A systemic perspective. *American Journal of Health Education, 52*(5), 251-265. doi:10.1080/19325037.2021.1955232

O'Neil, P., & Martin, A. (2022). The time has come for teaching 'food literacy' in schools. *The Toronto Star. www.thestar.com/opinion/contributors/2022/05/30/the-time-has-come-for-teaching-food-literacy-in-schools.html*

Pieroni, P. (2021). *Teaching for transformation: Developing agency and solidarity consciousness in a critical-transdisciplinary, garden-based urban environmental studies program* [Unpublished doctoral dissertation]. The City University of New York. https://academicworks.cuny.edu/cgi/viewcontent.cgi?article=5560&context=gc_etds

Rae Christopher, K. (2019). *The school garden curriculum: An integrated K-8 guide for discovering science, ecology, and whole-systems thinking*. New Society Publishers.

Roblin, L., Charlish, M., Gough, K., Phorson, J., Karbasy, K., & Black, S. (2019). *Food literacy programming in Ontario: A focus on programs offered to children, youth, parents and caregivers.* Nutrition Connections. https://nutritionconnections.ca/wp-content/uploads/2019/09/Food-Literacy-Programming-in-Ontario-Report-Final.pdf

Sahlberg, P. (2015). *Finnish lessons 2.0: What can the world learn from educational change in Finland?* U.K. Teachers College Press.

Soga, M., Gaston, K. J., Koyanagi, T. F., Kurisu, K., & Hanaki, K. (2016). Urban residents' perceptions of neighbourhood nature: Does the extinction of experience

matter? *Biological conservation, 203*, 143-150. doi:10.1016/j.biocon.2016.09.020

Spencer, J. B. (Ed.) (1916). *The school garden: As regarded and carried on in the different provinces*. Dominion of Canada Department of Agriculture Publications Branch. https://epe.lac-bac.gc.ca/100/201/301/weekly_acquisitions_list-ef/2016/16-22/publications.gc.ca/collections/collection_2016/aac-aafc/agrhist/A12-7-4-1916-eng.pdf

Strohl, C. A. (2015). *Scientific literacy in food education: Gardening and cooking in school* [Unpublished doctoral dissertation].University of California Davis.

Sustain Ontario (2021). *Policy briefing note: Summary*. Bill 216 - Food Literacy for Students Act, 2020. https://sustainontario.com/custom/uploads/2021/06/Bill-216-Briefing-Note-Summary.pdf

Sustain Ontario (2022, March 11). *Food literacy included in new Gr. 1-8 Ontario Science and Technology Curriculum*. Sustain Ontario. https://sustainontario.com/2022/03/11/food-literacy-included-in-new-gr-1-8-ontario-science-and-technology-curriculum/

Tarasuk, V., & Mitchell, A. (2020) *Household food insecurity in Canada, 2017-18*. Research to identify policy options to reduce food insecurity (PROOF). https://proof.utoronto.ca/

Tracy, S. J. (2010). Qualitative quality: Eight "big-tent" criteria for excellent qualitative research. *Qualitative Inquiry, 16*(10), 837-851.

Trelstad, B. (1997). Little machines in their gardens: A history of school gardens in America, 1891 to 1920. *Landscape Journal, 16*(2), 161-173. doi:10.3368/lj.16.2.161

Truman, E., Lane, D., & Elliott, C. (2017). Defining food literacy: A scoping review. *Appetite, 116*(Supplement C), 365-371. doi:https://doi.org/10.1016/j.appet.2017.05.007

Truth and Reconciliation Commission of Canada (2015). *Truth and Reconciliation Commission of Canada: Calls to action*. Truth and Reconciliation Commission of Canada. https://crc-canada.org/wp-content/uploads/2016/03/trc-calls-to-action-english.pdf

Winton, S. (2018). Challenging fundraising, challenging inequity: Contextual constraints on advocacy groups' policy influence. *Critical Studies in Education, 59*(1), 54-73. doi:10.1080/17508487.2016.1176062

Zandvliet, D., & Perera, V. (2022). Two stories of environmental learning and experience. *Educational Action Research, 30*(4), 569-584. doi:10.1080/09650792.2022.2084435

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Original Research Article

Food system resilience during COVID-19: The role of local producers in rural Canada

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Abstract

Over the last seventy years, Canadian agriculture has shifted from many small farms that supplied local residents, to fewer large farms designed to maximize production, reduce cost, and target international markets. At present, small local food chains exist as a tiny fraction of the Canadian food system. However, during the COVID-19 pandemic, Canadians valued local producers. The purpose of this study was to gain insight into the role local producers played in maintaining food system resilience during the early part of COVID-19, in the spring of 2020. We were particularly interested in identifying adaptation strategies that enabled or constrained local food system resilience (i.e., the perseverance of farms and farm production). We also examined the accessibility and sufficiency of current agricultural supports. Eight semi-structured interviews were conducted with producers from the Antigonish Farmers' Market (AFM), in Nova Scotia, Canada. Results demonstrated producer resilience in response to challenges such as system bottlenecks, increased costs, increased demand, changes in sales, and the need for online literacy, and were summarized as enablers and constrainers to food system resilience. Half of the study participants accessed agricultural support related to COVID-19 in the form of government financing while other participants expressed discontent with the suitability and accessibility of current support programs available. Opportunities to increase local food system resilience in Antigonish, Nova Scotia included promoting AFM collaboration, increasing local support, and tailoring agricultural support for small, diversified, local farmers.

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Résumé

Au cours des 70 dernières années, l'agriculture canadienne est passée d'un grand nombre de petites exploitations qui approvisionnaient les résidents des environs à un nombre réduit de grandes exploitations conçues pour maximiser la production, réduire les coûts et cibler les marchés internationaux. Aujourd'hui, les petits réseaux locaux d'alimentation ne représentent qu'une infime partie du système alimentaire canadien. Cependant, pendant la pandémie de COVID-19, la population canadienne s'est tournée vers les producteurs locaux. L'objectif de cette étude était de mieux comprendre le rôle des producteurs locaux dans le maintien de la résilience du système alimentaire au début de la pandémie, au printemps 2020. Nous avons spécialement porté notre attention sur l'identification des stratégies d'adaptation qui ont permis ou limité la résilience du système alimentaire local (c'est-à-dire la persévérance des fermes et de la production agricole). Nous avons aussi examiné l'accessibilité aux soutiens agricoles actuels et leur suffisance. Huit entretiens semi-structurés ont été menés avec des producteurs du marché fermier d'Antigonish, en Nouvelle-Écosse, au Canada. Les résultats ont démontré la résilience des producteurs face à des défis tels que les goulets d'étranglement du système, l'augmentation des coûts, l'augmentation de la demande, les changements dans les ventes et le besoin de connaissances sur le fonctionnement du Web, résultats qui ont été saisis en tant qu'éléments facilitateurs ou contraignants pour la résilience du système alimentaire. La moitié des participants à l'étude ont eu accès à un soutien agricole lié à la COVID-19 sous la forme d'un financement gouvernemental, tandis que d'autres participants ont exprimé leur mécontentement quant à la pertinence et à l'accessibilité des programmes de soutien actuels. Les possibilités qui en sont ressorties pour accroître la résilience du système alimentaire local à Antigonish comprennent la promotion de la collaboration avec le marché fermier, l'augmentation du soutien local et l'adaptation du soutien agricole aux petits agriculteurs locaux diversifiés.

Introduction

Beginning in March 2020, COVID-19 disrupted all parts of the food system, including production, distribution, transformation, access, and consumption (Food Secure Canada, 2020). Farmers were faced with international border closures, labour shortages, and changes in industry protocols such as physical distancing, limitations to indoor capacities, implementation of PPE, and increased sanitation requirements (Brand, 2020; Food and Agriculture Organization of the United Nations [FAO] & World Health Organization [WHO], 2020; Starratt, 2020). Food transformation, or the processing and packaging of food, was impacted by the closure or reduced capacity of processing facilities, transportation restrictions, and labour shortages (Emmanuel, 2020; Hobbs, 2020). These disruptions resulted in major bottlenecks in the food chain, which, in some cases, also resulted in significant food losses

(Emmanuel, 2020). Finally, limitations to production capacity and changes in consumer buying patterns impacted food consumption (Cotnam, 2020; Emmanuel, 2020). Panic buying, stockpiling, less frequent shopping trips, and the desire for high-commodity staple items, such as yeast and dried goods among consumers all influenced the demand for certain foods (Hobbs, 2020). These initial challenges overstressed the conventional food system and left many consumers questioning the dependability of Canada's major food supply (Donnelly, 2020; Hobbs, 2020).

At the same time, news reports and headlines conveyed an increase in demand for local food as well as an increase in local food production (Brown, 2020; Cotnam, 2020). Although local producers were faced with challenges similar to global producers, there was arguably faster adaptation observed at the local level (Hobbs, 2020). This suggested that in the most unprecedented of times, local food systems may have been more resilient than Canada's conventional one. The focus of this research was to assess COVID-19 related disruptions and adaptations among local producers and determine how this contributed to their resilience. Was there something to be learned from local producers? The secondary aim of this research was to determine how agricultural support may have contributed to the overall resilience of the local food system. More specifically, we were interested in understanding if new or established government support and programs were available, accessible, and sufficient among local producers.

Background

Local food systems

Short-chain, local food systems offer characteristics that may better support a resilient Canadian food system (Blay-Palmer, Haine-Bennett, et al., 2020; Food Secure Canada, 2020). Though there is no consensus on a definition, it is generally accepted that local food systems include food production, distribution, and consumption rooted in a particular place, whether a community, metropolitan area, or region (Hendrickson et al., 2018). Because of their smaller size and reach, if and when disruptions in the chain occur, the impact would be less widespread (Albrecht, 2020). Additionally, local food systems provide other advantages such as socioeconomic and environmental benefits (Feldmann & Hamm, 2015; Irshad, 2010). Supporting local strengthens the regional economy, increases local job opportunities, strengthens community partnership, preserves local landscapes if farmers are environmentally conscious, and may help reduce food production's carbon footprint (Beingessner & Fletcher, 2020; Irshad, 2010). As such, choosing to support local food systems helps to establish resilience and community autonomy, as opposed to dependence on conventional systems.

Canada, at least to some degree, is dependent on the conventional system via the global market for some commodities such as the export of Canadian grains and pulses or the import of goods such as coffee, tea, or citrus. For this reason, local versus conventional food systems cannot be absolute, and both will continue to exist within the larger Canadian food system. However,

studies suggest that there is a significant opportunity for local food system growth within Canada that would help lessen the impact of pandemic related or other system stressors (Blay-Palmer, Carey, et al., 2020; Blay-Palmer, Haine-Bennett, et al., 2020; Food Secure Canada, 2020). The overreliance on import/export markets, the concentration of food chain ownership, the centralization of food processing, and the use of high-input, high-emission farming, are major points of weakness within Canada's conventional food system (Food Secure Canada, 2020). Conversely, local food systems offer characteristics such as diversity, flexibility, social-economic gain, and environmental welfare that help to revitalize communities, increase access to safe, healthy food, support a sustainable environment, and reduce food waste (Albrect, 2020; Food Secure Canada, 2020).

Agricultural support

Prior to COVID-19 there were several programs already in place with the federal and provincial governments designed to assist farmers in times of uncertainty, as the nature of agriculture production is highly unpredictable. These programs fall under the Canadian Agricultural Partnership: Nova Scotia Cost-Shared Programs and Business Risk Management Programs (Government of Nova Scotia, 2020). Additionally, several Business Risk Management Programs exist and are designed to help farmers manage risks that threaten the viability of their farms, such as the Nova Scotia Crop and Livestock Insurance Commission (Government of Nova Scotia, 2020). Although these existing programs may be adequate risk management resources against typical variabilities Nova Scotian farmers face (i.e., weather damage), COVID-19 presented farmers with many new challenges that these programs may not have accounted for.

As such, following the arrival of COVID-19 in Canada in the spring of 2020, several new agriculture support programs were introduced to support farmers in the unique challenges they were facing. On May 5, 2020, the Government of Canada announced an initial fund of $252 million in response to the Canadian Federation of Agriculture's request for $2.6 billion in aid (Tunney & McGregor, 2020). Several months later, on October 23, 2020, the Nova Scotia Federation of Agriculture announced an agreement with the federal government to help cover some of the increased costs associated with COVID-19 in trying to protect the health and safety of workers and prevent the spread of the virus (Campbell, 2020). This agreement resulted in a fund of $1,229,375 available to Nova Scotian farmers under the COVID-19: Emergency On-Farm Support Fund (Campbell, 2020). Additionally, the COVID-19: Agriculture Response Program was also developed. This program has four streams of funding designed to help Nova Scotia's Agriculture Industry mitigate the effects of the pandemic and did not have to be repaid (Government of Nova Scotia, 2020).

Food system resilience

The concept of resilience was born in the field of ecology and is used to depict the persistence of an ecological system while experiencing external disturbances (Holling, 1973). A system is considered resilient when it has the capacity to withstand shocks and external pressures while maintaining its basic structure, process, and function (Schipanski et al., 2016). In the food system context, resilience may refer to the perseverance of farms and farm production, or to maintaining food security (Kuhmonen, 2020). A resilient food system would provide food to people while respecting the production and carrying capacity of the ecosystems that produced it (Kuhmonen, 2020). In addition to the persistence of structure and function,

resilience expands to include capacities such as self-organization, adaptation, and learning (Davidson et al., 2016; Schipanski et al., 2016; Tendall et al., 2015; Walker et al., 2004). The ability of a system to grow and adapt indicates that resilience is not a state to be achieved, but rather a continuously developing capacity (Tendall et al., 2015).

Social-ecological systems

A food system is best conceptualized as a social-ecological system, or the integration of humans and the environment, where people and nature are interdependent systems (Ericksen, 2008; Folke et al., 2010; Tendall et al., 2015). The social-ecological framework emphasizes the dynamics between the social structures that surround a farm system (i.e., market, politics) and the biophysical structures of a farm and its agro-ecosystem (Darnhoffer et al., 2016; Kuhomenen, 2020; Schipanski et al., 2016; Tendall et al., 2015). This framework is frequently used to analyze food system resilience (Darnhoffer et al., 2016; Kuhomenen, 2020; Schipanski et al., 2016; Tendall et al., 2015). In the wider literature, there have been several attempts to distinguish specific indicators of resilience (Anderies et al., 2006; Biggs et al., 2012; Cabell & Oelofse, 2012; Folke et al., 2003; Walker et al., 2006). However, while there is some agreement on broad strategies of resilience (i.e., diversity, redundancy, connectivity, self-regulation), system complexity prevents the development of universal recommendations to enhance resilience (Darnhoffer et al., 2016). As such, understanding food system resilience from this perspective is limited.

The social-ecological perspective has been challenged for its superficial analysis of the "social" domain (Kuhmonen, 2020). This criticism calls for the social domain to include the consideration of agency more explicitly, where one must consider how individuals perceive the viable choices within his/her operational environment (Darnhoffer et al., 2016; Kuhomenen, 2020). In other words, producers are enabled or constrained, but not determined, by their surrounding social and ecological structures (Darnhoffer et al., 2016; Kuhmonen, 2020). Farmers are active agents in the process of change, as they generate activity, create opportunities, adapt, and transform their farms (Darnhoffer et al., 2016). This approach highlights the important role a farmer plays in maintaining the operations of their farms and contributing to food system resilience. Additionally, this perspective highlights the role of the unique values and perceptions of farmers and how these individual differences determine what strategies are viable in the face of disruption.

Social-ecological systems are complex and multi-levelled; therefore, it is important to distinguish that resilience does not exist in isolation (Kuhmonen, 2020). An individual farmer/farm system is embedded within a greater local community, which is embedded within a larger social, political, institutional, economic, or environmental paradigm. What happens at one level of this system will influence the others, as all levels are interconnected (Kuhmonen, 2020). This distinction is important when considering resilience interventions.

Resilient systems are relevant to this study as they relate to our food system's response to COVID-19. Resilience is essential to preserve food provisioning and food security (Hodbod & Eakin, 2015; Kuhmonen, 2020). A highly resilient food system is one that would be able to adapt and transform in response to the shocks and stressors associated with COVID-19, while maintaining its basic structure, process, and function. Considering the challenges presented by COVID-19 and the current state of Canada's food system, the purpose of this study was to gain an understanding of how COVID-19 impacted local food system producers

at the Antigonish Farmers' Market (AFM) in Nova Scotia, Canada. We were particularly interested in identifying adaptation strategies that enabled or constrained producer resilience. We also examined the accessibility and sufficiency of agriculture support available to AFM producers during this time, with an interest in how they, among other structures, may contribute to local food system resilience.

Research setting

This research project took place in Antigonish, Nova Scotia, Canada, a rural community with a population of approximately 5000 community members (Statistics Canada, 2017). In this region, farming is diversified and occurs at a smaller scale when compared to Western Canada. For example, Saskatchewan farmers typically produce cereal grains or legumes and farm livestock (mainly beef) with an average farm size of 1766 acres (Statistics Canada, 2021a). Comparatively, Nova Scotian producers farm a variety of produce and/or raise several different herds, and the provincial average farm size is 263 acres (Statistics Canada, 2021a). The financial picture of Nova Scotia farms is also quite different than large farms out west, as the average net farm income in 2020 in Nova Scotia was -$58 328 compared to a +$3 million average net farm income in Saskatchewan (Statistics Canada, 2021b).

Antigonish producers can market their products at the AFM, directly to consumers, or through various local retail businesses. The AFM is open once a week on Saturday mornings and closes for only two weeks over Christmas (Antigonish Farmers' Market, 2021). Additionally, direct-to-consumer sales may include online platforms, roadside stands, or farmgate sales. There are also two large chain grocery stores in the town; however, these grocery stores are primarily supplied by the conventional food system.

Applied research methods

A cross-sectional, qualitative methodology was employed using semi-structured, online interviews that were audio/video recorded, transcribed verbatim, and thematically analyzed using an inductive grounded theory approach. Ethics approval was granted by the Human Nutrition Student Research Ethics Committee and the StFX Research Ethics Board on September 21, 2020 [Romeo file #: 24880].

Recruitment

Participants were recruited via maximum variation purposive sampling by selecting from a total of twenty-two food producers that sell products within four different categories (i.e., dairy, produce, meat, and pantry) at the AFM. The inclusion criteria required that participants: were over the age of eighteen, current members of the AFM, and identified as local Nova Scotian producers. Purposeful selection was used to select and invite approximately thirteen vendors, ensuring the inclusion of participants from different sectors of farming (i.e., produce, livestock, other) and diverse perspectives. These vendors were approached in person at the AFM and informed of the study. If interested in participating, they received a follow-up email containing the Invitation to Participate and the Consent Form. Once these forms were completed, an interview was scheduled based on participant convenience. A total of eight vendors completed these forms and took part in the project.

Data collection and analysis

A researcher (KW) developed a semi-structured interview guide, informed by expert opinion via the Nova Scotia Department of Agriculture and reviewed by the AFM community partner (MW). The guide consisted of thirteen open-ended questions, focussed on how local farmers managed their businesses during COVID-19, the challenges they faced, and how they adapted.

A total of eight interviews were completed with food producers from the AFM. Of the eight participants, three were primarily fruit or vegetable farmers, three were primarily meat, poultry, or egg farmers, and two were in the other category, as shown in Table 1. The other category captures farmers who do not fall into the fruits/vegetables or meat, eggs, or poultry sectors, such as dairy, honey, or maple syrup producers.

A single round of interviews was conducted online via Microsoft Teams or over the phone based on participant preference. These formats were selected to ensure that the study upheld COVID-19 protocols and maintained participant privacy and confidentiality. Interviews varied in length from approximately twenty to fifty minutes.

Data were thematically analyzed following six stages, as suggested by Braun & Clarke (2006): familiarizing oneself with the data, generation of initial codes, collation of codes into potential themes, review of themes, ongoing analysis to refine each theme's definition and name, and finally, completion of a written report.

Quality and rigor

To ensure the accuracy of transcription, hard copy transcripts were hand-delivered to each participant after interviews to check for correctness. One participant provided minor clarification upon the return of their transcript, while the other seven had no concerns. Strategies such as peer debriefing, member checking, and external auditing were utilized to increase the validity of the results. Additionally, intercoder agreement was reached between the researchers to establish qualitative reliability.

Results

COVID-19 impact on local AFM food systems

This research was primarily designed to investigate local food system resilience at the production stage of the system. However, as the research was conducted, it became clear that local food producers are intimately involved with all stages of the food system. This differs significantly from conventional producers where stages of the food system are siloed (Mosby et al., 2020). As such, the results presented here detail local AFM producers' experience with food system production, transformation, distribution, access, and consumption.

The production stage of the food system involves the growth and cultivation of food. During this phase, the most notable challenges resulting from COVID-19 were the concern about input and service access due to

border closures, increased production, and the use of additional help on the farm.

Transformation is the processing and packaging of raw food to products that are ready for sale, and the biggest concern at this stage of the food system was disrupted input or service access. Among the meat/poultry/egg producers, several participants expressed major concern regarding access to processing facilities. Producers seemed to be worried that they would not be able to get their product processed in time or at all due to the major bottleneck at these facilities. The cause of such bottlenecks was not made clear during interviews, though several news reports express a limited work capacity due to COVID-19 outbreaks (Canadian Press, 2020). One producer stated, "the worry was definitely processing facilities, be it for butchering or for preparing feeds or fertilizers or any of our silage wrap or any inputs that [we] would have on farm to make sure that everything was booked well enough in advance and that we were going to actually receive them…it is limited here, especially in this end of the province." [Participant 06] Another participant worried about their access to bottles required for product packaging. This input concern reflected shipment delays across international borders that were slowed or halted completely because of the pandemic.

Distribution involves the transportation of products to either intermediates (i.e., wholesalers, retailers) or directly to the consumer, and access refers to the channels through which consumers can acquire products. During these stages of the food system, COVID-19-related repercussions included market channel closures, increased transportation and marketing costs from pursuing new distribution channels, increased product prices, and increased marketing efforts.

Increased marketing and distribution costs resulted from producers exploring new business avenues. One example was the AFM online market, which opened in 2019 and replaced the physical market during the COVID-19 shutdowns in the spring. Though the online market served as a new distribution channel for many of our participants, two participants expressed challenge with the subsequent "online fee" that had to be paid by either the producer or the consumer. One producer expressed, "when we were going online to the farmers market and selling online, the farmers market charged the producer and also the consumer a total of 25 percent" [Participant 07] Users had to absorb increased marketing costs or increase their sales prices.

In addition to the online market, many participants began offering delivery services. These distribution costs were also a concern, again to be borne by either the producer or the consumer. Participants seemed torn between maintaining a fair price for their customers while making profitable margins. Another producer concurred, "we had to make sure that whatever price we put on would be satisfactory not only to our consumer but as producers as well." [Participant 05]

It is also important to note that increased reliance on online markets required a high technological literacy among producers. If producers did not have this skill, they had to be willing to learn, or they would lose out on potential sales.

Finally, consumption refers to the final piece of the food system: the sale of products. Changes in sales and a lack of local support were the most common themes mentioned by participants at this stage of the food system. Five of eight participants described their changes in sales as dynamic. These producers experienced an initial increase in sales during the immediate panic of COVID-19, then a drop in demand as the public was encouraged to stay home and limit public outings. Two of these participants estimated that their overall sales were slightly decreased from previous years, opposite to the experience of another participant

who projected an overall increase in sales compared to previous years. Decreased sales were attributed to the closure of market channels (i.e., restaurants), public fear, and the absence of tourism and/or travel, while increased sales were attributed to an increasing consumer desire for locally sourced products. The other two participants with dynamic changes described their experience as "off the charts" [Participant 04] at the beginning of the pandemic but levelling off to normal as time went on. Of the remaining participants, two producers shared no sales changes compared to previous years, and one participant was in their first year of business. In general, participants had varied experiences that were seemingly unpredictable and required adaptation.

Across all stages of the food system, participants who had independent operations and financial security expressed fewer challenges/concerns than participants who relied on external structures (i.e., processing facilities, market channels, etc.). For example, Participant 01 shared that they felt secure as a business operation because they were self-sufficient, stating, "as long as we don't lose power, we're good." This producer felt like their operation differed from the experience and risk of other producers, namely livestock, who utilize external operations such as slaughterhouses in various parts of the province or across domestic borders.

Producer response

In response to their significant challenges, AFM producers demonstrated a wide range of adaptation strategies that allowed their businesses to persevere. At the production stage of the system, local AFM producers modified their production capacity in response to changing demands. For example, two participants observed an increased demand and expressed plans to increase their production to meet this need moving forward. For one producer, this meant adding another greenhouse and purchasing more land, and for another, purchasing more breeding hogs and a new investment in meat rabbits.

At the distribution and consumption stages, local AFM producers adapted by increasing their marketing and media efforts and transitioning and/or expanding their marketing and distribution channels. For many participants, online marketing and sales platforms became an essential distribution stream during the COVID-19 disruptions. Typically, this involved business social media pages, websites, or the AFM online website. Seven of the eight participants spoke extensively about how their use of online platforms had increased due to the pandemic. One producer identified, "I did a lot of orders online on my own website, and then the farmers market online website." [Participant 02] In addition to the boom in online sales, five of the eight participants also mentioned the pursuit of contactless distribution channels, which in many cases referred to doorstep deliveries, curbside pickup, or farmgate sales. These new avenues were a major source of survival for many farmers' businesses. One producer explained, "allowing people to get deliveries and curbside pickup was huge." [Participant 02] A second producer agreed, "we ended up with a huge influx of farm gate sales during that time." [Participant 06]

Agriculture support

The availability and suitability of agricultural supports was another important consideration of producers' response to COVID-19. This included both ongoing programs and those specifically designed to address challenges resulting from the pandemic. Several participants expressed that they were generally uninformed of what programs were available to producers during COVID-19: two producers stated that they had never been made aware of any supports

available and two producers shared that they had to "dig" to find programs that were suitable to them. Conversely, the remaining participants expressed that knowledge of these programs was readily available through various sources such as the AFM Association, other producers, the Federation of Agriculture, and local agriculture representatives. Table 1 displays the participants' production sector, approximate size, whether farming provided a sole or partial income, and if participants accessed government support during COVID-19. Of note, when asked to self-identify the size of their farm, six of eight participants claimed to have a small, or small-medium, size operation. Land ownership among producers in the fruits/vegetable sector ranged from a quarter of an acre to two acres, while producers in the meat/poultry/eggs and other sectors self-proclaimed as small or small-medium based on their livestock count. Producers were not explicitly asked about their annual eligible gross commodity income.

Table 1: Participant characteristics and access of government support programs

Sector	Size	Income	Support	Source of Support
Fruits/vegetables	Small	Sole	Yes	EI
Fruits/vegetables	Small	Partial	No	-
Fruits/vegetables	Small	Partial	No	-
Meat/poultry/eggs	Small	Partial	No	-
Meat/poultry/eggs	Small-medium	Partial	Yes	loans, relief of loan
Meat/poultry/eggs	Small	Sole	Yes	CERB
Other	not specified	Partial	No	-
Other	not specified	Sole	Yes	loan

Half of the participants (n = 4) claimed to have accessed government support since the pandemic began. Those who did access support utilized financial assistance programs such as loans, relief of loans, Employment Insurance (EI), or the Canada Emergency Response Benefit (CERB). In our sample, EI was collected from seasonal work done prior to the farming season.

Participants who accessed support utilized their financial assistance in various ways. Some producers accepted the money as reparation for the loss of sales, while others used it to expand their business. For example, Participant 02 invested in a new cooler to distribute their product, "just for distribution of my product creating a cooler, a portable cooler trailer that I can use to haul product from the abattoir and also to the market and that would make my life a lot easier and make it more efficient for me to do things."

Among the three participants whose sole income came from farming, all accessed government support programs. Conversely, for participants in which farming supplies only a partial income, only one participant of five accessed governmental support.

There were various reasons the partial income producers did not access government support. For one producer, farming was viewed as more of a hobby. When asked if they had accessed any support during COVID-19, Participant 05 replied, "No, I was aware of it, there were other people getting it, but I said 'oh, we won't worry about that.' The vegetables that we're doing now is just a partial income.... Just more for the joy, we really enjoy working with soil and we enjoy

doing this type of work and it's a nice way to keep busy." [Participant 05]

In other cases, producers did look for support but were too intimidated to apply, ineligible, or turned down. One producer explained "I may have been intimidated by what I may have thought [the] process to be.... I just assumed I didn't have the time or whatever to do it." [Participant 04] Another producer did not find an appropriate program, "there's a massive list, [of supports].... But, you know, most of them are not specific to my type of farm because we're not large.... That's the biggest problem we have is like, all these programs are set up for wages and stuff, and we don't make wages. [The] more general programs that came out for businesses, not necessarily for farms but for businesses could [apply, but I didn't qualify] because our sales and revenue didn't decrease." [Participant 02] Yet another producer had no luck, "We've applied for a list [of supports], but we've been turned down." [Participant 07]

Finally, there was an additional subset of producers who did not feel the need to access to supports at all. Despite the challenges from COVID-19 their sales were not down, and financial relief was not necessary. Participants in this subset were exclusively partial-income farmers.

Opportunities to increase local food system resilience

Analysis of food system challenges and AFM producer response offered insight into opportunities to enhance local food system resilience. Three key themes became apparent: producer collaboration, increasing local community support, and tailoring agriculture support.

Producer collaboration

Many participants expressed interest in creating local partnerships within the AFM Association. Several ideas were explored, some involving collaboration at the food system's production, distribution, or consumption stage. During production, one farmer proposed the idea of an "aggregate garden supply" to create a network where producers could share tools and resources. At the distribution stage, the idea for a "market store" was explored—a store that would function like a grocery store, but local AFM vendors would supply the products. The hope is that this store would make the farmers' products more available to consumers by extending the days and hours of operation. One producer explained, "tying in with other farmers like it'd be beneficial...sales and marketing co-ops with other farmers to allow for customers to get your one-stop-shop." [Participant 01]

Another idea for collaboration was to develop programs that would allow local farmers to partner and expand their distribution channels to surrounding communities. One example shared was splitting the cost of transporting products to surrounding community markets (i.e., Truro, Halifax). This would allow local farmers to increase their customer base and sell more products, without the burden, cost, or environmental impact of transporting their products to surrounding regions on their own.

Enhancing local support

Establishing relationships with local consumers in response to their rising interest in local food was imperative for producer success throughout the pandemic. In fact, all eight study participants spoke extensively about the importance of their relationship with the local public at both the individual and community levels. For some, this meant establishing

relationships, and for others, continuing them. The foundation of a strong local consumer network seemed to be a predictor for resilience during the pandemic. One producer identified, "the biggest resilience was just having, you know, strong customer base, right…personal relationships with a lot of my big customers helped a lot." [Participant 02]

Local support could also be shown in forms other than the individual level. For example, several producers have established or are looking to partner with local restaurants, businesses, or institutions to sell their products through. These relationships benefit the local community and the producer; thus, the opportunity to increase the development of local partnerships is a win-win. One producer explained, "I used to sell to [local restaurant]…and they've asked me again whether that's a possibility…so we'll see if there's enough product there next year to spread our wings a bit." [Participant 06]

Finally, extending outside the immediate community, many participants expressed interest in establishing a more robust provincial food system. This means that a food system (i.e., production, transformation, distribution, access, and consumption) would be fully functional within Nova Scotia. Participants expressed a desire for these developments, as they believed it would increase their individual resilience as a farmer and contribute to the resilience of the larger food system. Developing a more robust provincial food system had high desirability among participants but was acknowledged to be a significant challenge to achieve on their own.

Agriculture support

Our data suggest that the government support programs available for local producers at the time of study may not have been sufficient. Although various agriculture support programs were available, not all producers could access them due to ineligibility or intimidating and lengthy application processes. Participants made several recommendations when asked to hypothesize what types of programs or supports may be beneficial.

Participant 02 expressed a desire for assistance with developing marketing channels. If producers do not (or cannot) utilize in-person or online farmers' markets, they must generate, develop, and implement distribution channels on their own. Participant 02 describes this task as "significant for a small farm."

Participant 07 wanted more support with pandemic-related costs, "If the government really wanted to help in COVID, they could've helped those costs that the farmers' markets were having to field to go online, which were passed on to the consumer and the producer. The government could've come in and given a 20 percent grant to the Farmers' Markets so that the producer and the consumer didn't have to pay those costs."

Other participants were interested in the development of supportive programming and further education. Courses were needed to teach participants how to move a business online or to market through social media. Some of these programs exist; however, one participant expressed concern about their ability to attend, as most of the classes were scheduled during the workday.

Discussion

Producers demonstrated agency in adapting their businesses to various uncertainties caused by the COVID-19 pandemic. They contributed to local food system resilience through many responses to pandemic challenges, including being active agents of change, creating opportunities, adapting, and learning. Although these reactions allowed producers to persist, opportunities still exist to further enhance local food system resilience as a whole. Producers are embedded within larger social, environmental, and economic systems. Other opportunities to enhance local food system resilience from larger spatial and temporal domains include increasing local support and fostering producer collaboration. Additionally, data suggest that the suitability and accessibility of agriculture support can be improved upon to better support small-scale, diversified Nova Scotian producers. The following discussion explores our study findings from a social-ecological lens, drawing conclusions about the resilience of the local AFM food system during the COVID-19 global pandemic.

Food system resilience from a social-ecological relational perspective

The social-ecological framework depicts people and their environment as interdependent systems. Through the lens of COVID-19, this framework can be used to understand how producers have been enabled or constrained by social, environmental, or economic factors outside of themselves (Kuhmonen, 2020). In 2016, Darnhoffer and colleagues evolved this framework from its original dyad to a relational perspective. Instead of viewing resilience as an interaction between social and ecological domains, or between structure and agency, resilience from a relational perspective develops from interactions across a variety of domains. By considering farmers as intimately entangled with various spatial and temporal domains, Darnhoffer and colleagues' progressive approach addresses many of the previously criticized features of the social-ecological perspective (2016).

A relational approach to the social-ecological framework offers insight to how farming modifies and is modified by a range of social, environmental, and economic processes over space and time (Darnhoffer et al., 2016). Resilience is not a steady state to be achieved, nor can it be achieved through a prescriptive format (Darnhoffer et al., 2016; Tendall et al., 2015), it evolves continuously over time (Darnhoffer et al., 2016; Tendall et al., 2015). Expanding on this perspective, we depicted local AFM food systems across three interrelated domains: intrapersonal (the farmer), interpersonal (the farm system), and systems-level factors (the agri-food system) (Kuhmonen, 2020) [see Figure 1]. Intrapersonal factors refer to a farmer's individual agency in the food system, operating within their knowledge, expertise, and skill. At the interpersonal level, food system actors rely on relationships (i.e., organizational or community) to produce and sell food in a social setting. Finally, at the systems level, political contexts, economic climates, institutional supports, and environmental constraints influence the food system more broadly.

Resilience

In response to the variety of challenges reported during COVID-19, producers maintained their business operations by modifying their production capacity, increasing distribution channels, and expanding their marketing strategies [Figure 1]. This demonstrates resilience capacities such as self-organization, diversity,

adaptation, and learning (Darnhoffer et al., 2016; Tendall et al., 2015). The persistence and perseverance of producers' businesses enabled the local food system to maintain structure and function, contributing to local food system resilience (Holling, 1973; Kuhmonen, 2020; Shipanski, 2016).

This research aimed to determine how local producers achieved resilience during COVID-19. However, considering the larger social-ecological perspective of food systems, further analysis sought to discover how producers contributed to overall food system resilience from greater spatial or temporal domains. This is conceptualized by enabling and constraining factors that helped the local food system maintain process, structure, and function. As defined above, these factors can be grouped into intrapersonal, interpersonal, or systems-level factors.

Enablers

Individual qualities that lead to personal agency such as adaptability, flexibility, preparedness, and the willingness to learn were enablers and contributed to positive adaptation strategies. These qualities allowed participants to respond creatively to the changes brought about by COVID-19. Additionally, financial security among participants (i.e., personal savings, being retired or debt free, or other means of compensation) was considered an enabler of resilience. This meant that participants were not dependent on their farming related income for survival and had additional means to support themselves.

Strong interpersonal local relationships also enabled participants to successfully adapt to maintain their business, thereby supporting local food system resilience. Professional relationships with government, agricultural departments, and producer networks supported participants through information sharing, increasing self-sufficiency, and developing partnerships or camaraderie. Customer and community relationships were also strongly valued. Loyal customer bases were the foundation of survival during this unprecedented season, whereas community relations reflected participants and their business' reputation more broadly.

Finally, broader system enablers of resilience included food system independence and enhanced food system autonomy. Participants who had independent operations (meaning that they could carry out each stage of the food system themselves) appeared more resilient than those relying on external processing facilities or distributors. Production independence allowed farmers to have complete control over their operations and therefore were less susceptible to disturbance or disruptions related to COVID-19.

Structural agricultural support programs also had the ability to enable local food system resilience. Among those who utilized agriculture support, these programs enabled producers via financial compensation, allowing them to pursue adaptation strategies or to recover from the loss of sales due to the pandemic.

Constrainers

Constraining factors of local food system resilience included limited interpersonal and system-level support and the general unpredictability of COVID-19 on the food system. Some participants felt under-supported by local consumers, the broader local community, and government institutions. Although some producers experienced a temporary increase in their customer base, they felt this was unlikely permanent. More broadly, one producer spoke about the lack of local support from larger community institutions such as a local university. Finally, some producers expressed a desire for more formal agricultural support from government or non-governmental programs. Support could come in the form of financial assistance

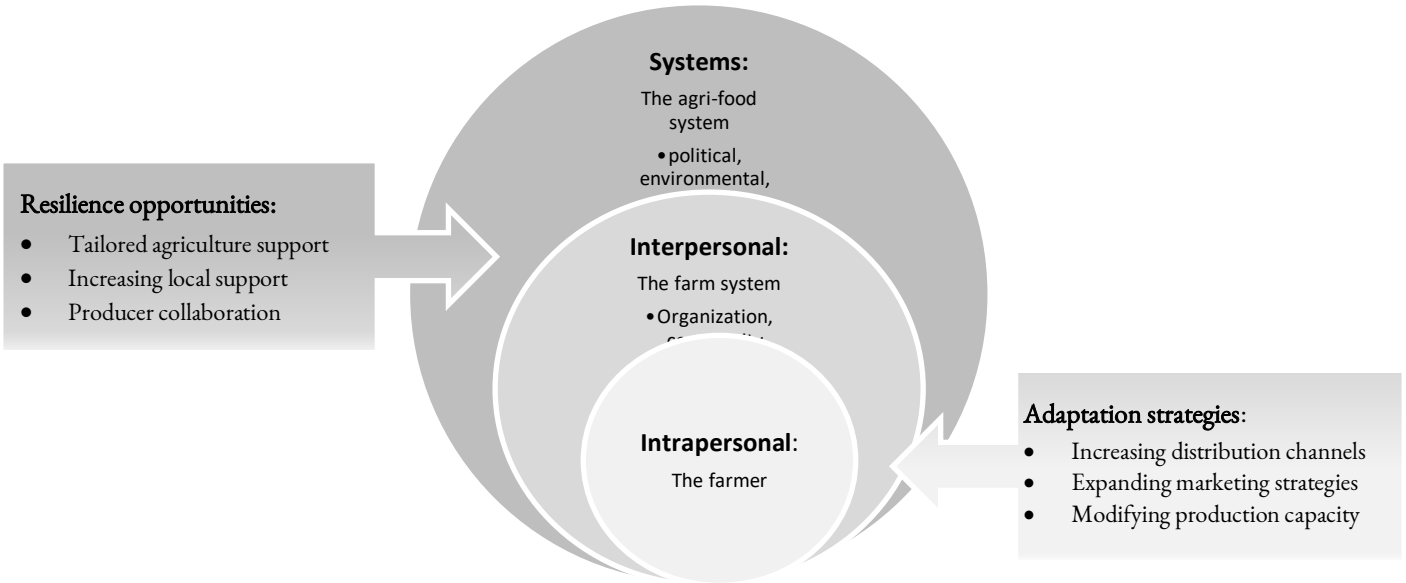
programs, business development programs, or skills programs (i.e., technology or social media courses). Not all producers were able to utilize the current agriculture support based on eligibility or accessibility. Generally, participants felt as though there weren't many programs designed for small, local farmers like themselves.

Finally, due to fluctuations in consumer demand and the general unpredictability of the virus, producers struggled to plan ahead for their season. Unpredictability affected other system inputs such as seeds, animal feed, and farming equipment. The main fears among producers were border closures, temporary market cessations, and temporary closures of processing facilities.

Resilience from a social-ecological relational perspective

The ability of local AFM producers to adjust to changing internal processes and external drivers resulting from COVID-19 demonstrates resilience as defined by Folke et al. (2010). In our study, most adaptation strategies occurred at the intrapersonal and interpersonal levels, and opportunities to increase local food system resilience at the AFM are rooted within the interpersonal and structural domains [Figure 1]. At the interpersonal level, producer collaboration and increasing local support are opportunities to increase the social network of AFM producers. These opportunities focus on enhancing producers' relationships in their organization or community. Additionally, optimizing agriculture support is rooted in systemic change, either political or institutional in nature. This opportunity is a systems-level factor and relies much more significantly on structural influences. Regardless of where opportunities lie within the social-ecological framework, a multilevel approach is necessary to bolster local food system resilience. For example, interpersonal relationships are enabled by intrapersonal qualities such as charisma or approachability as well as system structures such as political climate. In this example, the importance of interrelated thinking is evident.

Figure 1: Social-ecological relational framework of the local AFM food system



The social-ecological framework distinguishes different levels of the food system as intimately interconnected. Understanding the interrelatedness of the social-ecological domains is important when considering resilience interventions. As demonstrated by our findings, we have learned that local producers are innately involved with all stages of the food system and that opportunities for adaptation exist across all domains. Focussing on only one part of the system fails to account for the interconnectedness of the system. As such, when considering food system resilience interventions, all levels of the system and how these levels interact with one another must be considered.

Agriculture support

The secondary aim of this research project was to assess the accessibility, suitability, and sufficiency of agriculture support available during COVID-19. Our data demonstrated that although various government support programs were made available during the pandemic, they were not entirely suitable for our participant population (which included both sole and partial income small-scale farmers). Among those who wished to access government support but could not, there is a clear opportunity for improved access and suitability.

Tailoring agriculture support programs to small, diversified Nova Scotian farmers has been identified as an opportunity for enhancing local food system resilience. As such, this research project calls for closer consideration of developing agricultural support programs that suit our population of interest. Increased collaboration between local producers and policy makers could ensure that programs are more suitable to those they are designed to serve. Furthermore, the application process for these programs currently functions as a barrier to use, and as such, simplifying this process would increase accessibility.

Strengths and limitations

Strengths of this research include the quality and rigour prioritized throughout the study and good representation among our sample. From a total of twenty-two AFM producer vendors across three sectors, our sample included eight participants from all three divisions of production.

This study took place in the fall of 2020. The COVID-19 pandemic has been a dynamic situation, and as such, findings in this study are specific to the time of our research and may not apply to other time points in the pandemic. Additionally, this study was conducted in a rural Nova Scotian community, and the findings may not apply in other contexts.

Conclusion

The Canadian food system faced significant challenges during the COVID-19 global pandemic. This included barriers along each stage of the food system, such as reduced border access for production inputs or transformation services, bottlenecks in the system, the closure of marketing and distribution channels, and unpredictable consumer sales. Despite these challenges, AFM producers responded by modifying their production capacity, increasing distribution outlets,

and enhancing marketing strategies. Furthermore, we defined opportunities for strengthening local food system resilience such as increasing producer collaboration via the development of a market store or aggregate farm supply, increasing local support, establishing local partnerships, advocating for a more provincially robust food system, and tailoring agriculture supports to be more accessible and suitable to small, diversified Nova Scotian farmers.

Considering food system resilience from a social-ecological relational lens, the local AFM food system can be viewed across three interrelated domains: intrapersonal, interpersonal, and systems-level. In our study, most adaptation strategies occurred at the intrapersonal and interpersonal levels, whereas opportunities for increasing resilience were rooted within the interpersonal and structural domains.

At large, COVID-19 has exposed the fragilities of the conventional Canadian food system. Our project demonstrated that local food system producers in and around Antigonish, Nova Scotia showed high resilience throughout the pandemic. As such, this research provides an opportunity to recognize the resilience of local AFM producers and analyze their experiences, with the hope that our findings can inform opportunities to enhance food system resilience on a larger scale. Further research could be done on global/conventional food systems that also achieved resilience, comparing the enabling and constraining factors of each.

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References

Albrecht, A. (2020, December 9). *Study finds local food systems respond nimbly to COVID-19 supply chain impact.* Colorado State University. https://source.colostate.edu/study-finds-local-food-systems-respond-nimbly-to-covid-19-supply-chain-impacts/

Anderies, J. M., Janssen, M. A., & Ostrom, E. (2004). A framework to analyze the robustness of social-ecological systems from an institutional perspective. *Ecology and Society 9*(1): 18. https://www.researchgate.net/publication/42763622_A_Framework_to_Analyze_the_Robustness_of_Social-Ecological_Systems_from_an_Institutional_Perspective#:~:text=10.5751/ES%2D00610%2D090118

Antigonish Farmers' Market. (2021). *Market hours.* https://www.antigonishfarmersmarket.ca/schedule/

Beingessner, N., & Fletcher, A. J. (2020). "Going local": farmers' perspectives on local food systems in rural Canada. *Agriculture and Human Values, 37*(1), 129-145.

Biggs, R., Schlüter, M., Biggs, D., Bohensky, E. L., BurnSilver, S., Cundill, G., Dakos, V., Daw, T. M., Evans, L. S., Kotschy, K., Leitch, A. M., Meek, C., Quinlan A., Raudsepp-Hearne, C., Robards, M. D., Schoon, M. L., Shultz, L., & West, P. C. (2012). Toward Principles for Enhancing the Resilience of Ecosystem Services. *Annual Review of Environment and Resources, 37*, 421-448. https://doi.org/10.1146/annurev-environ-051211-123836

Blay-Palmer, A., Carey, R., Valette, E., & Sanderson, M. R. (2020). Post COVID 19 and food pathways to sustainable transformation. *Agriculture and Human Values 37*, 517–519. https://doi.org/10.1007/s10460-020-10051-7

Blay-Palmer, A., Haine-Bennett, E., Freidmann, H., Settee, P., Wilkes, J., Ballamingie, P., Di Battista, A., Reid, H., Mcleod-Kilmurray, H., & Mount, P. (2020). Now is the time to build sustainable food system resilience. *Canadian Commission for UNESCO and UNESCO Chair on Food, Biodiversity, and Sustainability Studies.* https://sustainontario.com/2020/07/17/now-is-the-time-to-build-sustainable-food-system-resilience/

Brand, M. (2020, June 4). *Nova Scotia short on workers to harvest food.* CityNewsEverywhere. https://www.halifaxtoday.ca/local-news/nova-scotia-short-on-workers-to-harvest-food-2410207

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101. 10.1191/1478088706qp063oa

Brown, D. (2020, September 6). *Will COVID change consumer interest in local?* Canadian Grocer. https://canadiangrocer.com/will-covid-change-consumer-interest-local

Cabell, J., & Oelofse, M. (2012). An indicator framework for assessing agroecosystem resilience. *Ecology and Society, 17*(1), 18. http://dx.doi.org/10.5751/ES-04666-170118

Campbell, F. (2020, October 23*). N.S. farmers can apply for relief to offset extra COVID-related costs.* Saltwire Network. https://www.saltwire.com/news/provincial/ns-farmers-can-apply-for-relief-to-offset-extra-covid-related-costs-512800/

Canadian Press. (2020, December 11). *Nova Scotia shuts down poultry plant hit by COVID-19; school break extended.* City News Everywhere. https://halifax.citynews.ca/nova-scotia-news/nova-scotia-shuts-down-poultry-plant-hit-by-covid-19-school-break-extended-3177657

Cotnam, H. (2020, April 18). *Local farmers seeing boom in business as pandemic drives up demand.* CBC News. https://www.cbc.ca/news/canada/ottawa/covid-19-farm-gate-sales-booming-customers-looking-for-fresh-local-safe-1.5535723

Darnhoffer, I., Lamine, C., Strauss, A., & Navarrete, M. (2016). The resilience of family farms: Towards a relational approach. *Journal of Rural Studies, 44*, 111-122. http://dx.doi.org/10.1016/j.jrurstud.2016.01.013

Davidson, J. L., Jacobson, C., Lyth, A., Dedekorkut-Howes, A., Baldwin, C. L., Ellison, J. C., Holbrook, N. J., Howes, M. J., Serrao-Neumann, S., Singh-Peterson, L., & Smith, T. F. (2016). Interrogating resilience: Toward a typology to improve its operationalization. *Ecology and Society, 21*(2), 27. http://dx.doi.org/10.5751/ES-08450-210227

Donnelly, A. (2020, March 13). *Coronavirus fears: Empty shelves as Canadians heed health minister's advice to stock up.* National Post. https://nationalpost.com/news/canada/coronavirus-canada-stockpiling

Emmanuel, R. (2020, May 15). *Opportunity to re-think food production in Canada amid COVID-19: report*. iPolitics. https://ipolitics.ca/2020/05/15/opportunity-to-re-think-food-production-in-canada-amid-covid-19-report/?fbclid=IwAR0PLVX2AQ7J9sCwXVqR51jZsxgjdV_HAKWTxCT2YEkh_vsxIYeZLJtwVjM

Ericksen, P. J. (2008). What is the vulnerability of a food system to global environmental change? *Ecology and Society, 13*(2), 14. http://www.ecologyandsociety.org/vol13/iss2/art14/

Feldmann, C., & Hamm, U. (2015) Consumers' perceptions and preferences for local food: A review. *Food Quality and Preference, 40*(A), 152–164. https://doi.org/10.1016/j.foodqual.2014.09.014

Folke, C., Carpenter, S. R., Walker, B., Scheffer, M., Chapin, T., & Rockström, J. (2010). Resilience thinking: Integrating resilience, adaptability and transformability. *Ecology and Society, 15*(4), 20. http://www.ecologyandsociety.org/vol15/iss4/art20/

Food and Agricultural Organization of the United Nations (FAO) & World Health Organization (WHO). (2020). *COVID-19 and food safety: guidance for food businesses: Interim guidance*. https://www.fao.org/documents/card/en/c/ca8660en

Food Secure Canada. (2020). *Growing resilience and equity: A food policy action plan in the context of Covid-19*. https://foodsecurecanada.org/sites/foodsecurecanada.org/files/fsc_-_growing_resilience_equity_10_june_2020.pdf

Government of Nova Scotia. (2020). *Programs*. https://novascotia.ca/programs/

Hendrickson, M., Massengale, S. H., & Weber, C. (2018). *Introduction to local food systems.* University of Missouri Extension. https://extension.missouri.edu/publications/dm271

Hobbs, J. E. (2020). Food supply chains during the COVID-19 pandemic. *Canadian Journal of Agricultural Economics, 68*(2), 171– 176. https://doi.org/10.1111/cjag.12237

Hodbod, J., & Eakin, H. (2015). Adapting a social-ecological resilience framework for food systems. *Journal of Environmental Studies and Sciences, 5*, 474–484. https://doi.org/10.1007/s13412-015-0280-6

Holling, C. S. (1973). Resilience and stability of ecological systems. *Annual Review of Ecology and Systematics, 4*, 1–23. https://doi.org/10.1146/annurev.es.04.110173.000245

Irshad, H. (2010). *Local food – A rural opportunity*. Government of Alberta: Agriculture and rural development. http://www1.agric.gov.ab.ca/$Department/deptdocs.nsf/all/csi13484/$FILE/Local-Food-A-Rural-Opp.pdf

Kuhmonen, I. (2020). The resilience of Finnish farms: Exploring the interplay between agency and structure. *Journal of Rural Studies, 80*, 360-371. https://doi.org/10.1016/j.jrurstud.2020.10.012

Mosby, I., Rotz, S., & Fraser, E. D. G. (2020). *Uncertain harvest: The future of food on a warming planet.* University of Regina Press.

Schipanski, M. E., MacDonald, G. K., Rosenzweig, S., Chappell, M. J., Bennett, E. M., Kerr, R. B., Blesh, J., Crews, T., Drinkwater, L., Lundgren, J. G., & Schnarr, C. (2016). Realizing resilient food systems. *BioScience*, *66*(7), 600–610. https://doi.org/10.1093/biosci/biw052

Statistics Canada. (2017). *Antigonish [Population centre], Nova Scotia and Nova Scotia [Province] (table). Census Profile.* Statistics Canada Catalogue No. 98-316-X2016001. https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E

Statistics Canada. (2021a). *Land use, census of agriculture historical data (Table 31-10-0153-01) [Data set].* Statistics Canada. https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3210015301&pickMembers%5B0%5D=1.4&cubeTimeFrame.startYear=2001&cubeTimeFrame.endYear=2021&referencePeriods=20010101%2C20210101

Statistics Canada. (2021b). *Net farm income (x1000) (Table: 32-10-0052-01)* [Data set]. Statistics Canada. https://doi.org/10.25318/3210005201-eng

Tendall, D. M., Joerin, J., Kopainsky, B., Edwards, P., Shreck, A., Le, Q. B., Kruetli, P., Grant, M., & Six, J. (2015). Food system resilience: Defining the concept. *Global Food Security*, *6*, 17–23. https://doi.org/10.1016/j.gfs.2015.08.001

Tunney, C., McGregor J. (2020, May 6). *$252M emergency aid package coming for farmers, food processors – but critics warn it's not enough*. CBC News. https://www.cbc.ca/news/politics/agri-food-covid-liberals-1.5555591

Walker, B. H., Anderies, J. M., Kinzig, A. P., & Ryan, P. (2006). Exploring resilience in social-ecological systems through comparative studies and theory development: introduction to the special issue. *Ecology and Society 11*(1), 12. https://www.researchgate.net/publication/258375527_Exploring_Resilience_in_Social-Ecological_Systems_Through_Comparative_Studies_and_T

heory_Development_Introduction_to_the_Special_Issue#:~:text=10.5751/ES%2D01573%2D110112

Walker, B., Hollings, C. S., Carpenter, S. R., & Kinzig, A. (2004). Resilience, adaptability and transformability in social-ecological systems. *Ecology and Society, 9*(2), 5. http://www.ecologyandsociety.org/vol9/iss2/art5/

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Original Research Article

Growing local: Gardening for community food security, preliminary results

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Abstract

Home food gardening has seen a resurgence since the start of the COVID-19 pandemic. This article presents preliminary findings from the first six months of a twenty-two month home food gardening study in Nova Scotia, Canada. Participant home food gardeners were asked to log their weekly gardening activities and their household food expenses. Diary entries show how their home food production fostered community connections, occasioned new social interactions, and fed households. Diaries show that participants enjoyed growing food and felt a sense of accomplishment in their gardening. Growing food from seed is not an easy endeavour, especially in Nova Scotia: it is time consuming and often involves manual labour in addition to having expertise. Home food gardening presents an opportunity to impact household and community food security, albeit in specific ways. This is timely research, as the COVID-19 pandemic has brought household food supply into renewed focus for many Canadians.

Keywords: Home food gardening; COVID-19; Canada; food security; local food; fresh food

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Résumé

Les potagers domestiques ont connu une résurgence depuis le début de la pandémie de COVID-19. Cet article présente les découvertes préliminaires faites au cours des 6 premiers mois d'une étude de 22 mois sur les jardins potagers domestiques en Nouvelle-Écosse, au Canada. Les jardinières et jardiniers participants ont dû tenir un registre de leurs activités hebdomadaires au potager et des dépenses de leur ménage dédiées à l'alimentation. Les entrées de leur registre montrent comment leur production alimentaire domestique a favorisé les liens communautaires, a donné lieu à de nouvelles interactions sociales et a nourri les ménages. Les journaux des participants montrent aussi qu'ils ont pris plaisir à faire croître leur nourriture et en ont retiré un sentiment d'accomplissement. Cultiver des aliments à partir des semences n'est pas une tâche facile, surtout en Nouvelle-Écosse : cela prend beaucoup de temps et implique souvent du travail manuel en plus de nécessiter une certaine expertise. Faire un potager à la maison a des effets sur la sécurité alimentaire des ménages et de la communauté, bien que ce soit de différentes manières. C'est une recherche d'actualité, alors que la pandémie de COVID-19 a mené à un renouvellement de la vision de l'approvisionnement alimentaire pour de nombreux ménages canadiens.

Introduction

Home food gardening holds many opportunities for individual households and communities. It can foster social empowerment, impact food security, and re-establish citizens' relationship to the land that may have been lost in our modern society, especially in urban areas. The COVID-19 pandemic has brought household food supply into focus for many Canadians. Overall, this has led to increased media attention on gardening (Goodwin, 2020), changes in the role of municipal policy toward gardening (Dionne, 2020), increased food prices (Boynton, 2021), and charitable food giving (Draaisma, 2021). Overall, more people turned to home food gardening as a form of leisure (Mullins et al., 2021) or out of concern for their food security (Music et al., 2021).

Nova Scotia has high rates of food insecurity (Tarasuk & Mitchell, 2020). Yet, there is virtually no information on how and by how much Nova Scotians are supplementing their intake of fruits and vegetables with those grown produced at home. As part of a larger study analyzing the scope and scale of home food production, this paper presents the first six months of data from a longitudinal, diary study. The overall goal of the project is to determine how citizens can be supported and empowered to impact household food security. This paper will outline the gaps in the literature on the topic, present the study's methodology and qualitative results that reveal common themes among Nova Scotia gardeners. A discussion of these themes will be followed by conclusions and recommendations for further study.

Household gardening

There could be a variety of motivations for growing food at home. Few studies on home food production have showed a consistent interest in their contribution to family food security. When asked why they grow food at home, gardeners may cite environmental concerns and a desire to participate in responsible food production, a desire to engage with their community, a need for food security, the physical and emotional advantages of being in the garden, or a combination of these factors (Mullins et al., 2021). Self-sufficiency gardening has also been cited as a driving motivator, particularly among low-income gardeners (Kortright & Wakefield, 2011). In general, however, low-income and poverty do not appear to be motivators for urban gardening. Gardeners with a higher income have broader motivations, such as food quality and environmental concerns, self-sufficiency, living in an environmentally responsible manner, and having fresh, healthy products (Mullins et al., 2021). Previous food gardening experience and knowledge are also predictors that a family will choose to grow its own food (Huisken et al., 2016). People who grew up in a rural area or on a farm, or in a community where home food production is engrained in the culture, are more likely to grow their own food (Born & Purcell, 2006). Even in areas where gardening is common, the poorest Canadian households are the ones least likely to grow their own food (Loopstra & Tarasuk, 2013). Food gardening is becoming more popular as a healthful hobby rather than a way to save money on groceries, despite the reality that more families than ever are facing food insecurity (Mullins et al., 2021). Many food insecure households do not have the necessary conditions to grow their own food, including adequate indoor/outdoor space and required light conditions (Kirkpatrick & Tarasuk, 2009). However, even with the right conditions, food insecure households are less likely to grow food at home, while home food gardening is unrelated to the likelihood of food poverty (Huisken et al., 2016; Kortright & Wakefield, 2011; Mullins et al., 2021).

COVID-19 effect on gardening

The COVID-19 pandemic has disrupted the food chain in a variety of ways. It has hampered people's capacity to obtain food by lowering their income and increasing their job insecurity (Statistics Canada, 2020, 2021; Wakefield, 2021). Urban gardening has developed into a viable concept with the goal of supplying cities with enough fresh and safe food to ensure long-term food security. During the COVID-19 pandemic, the Canadian food supply network proved to be resilient, although exceptional customer behaviour exposed various vulnerabilities in the current system (Brewster, 2020; Deaton & Deaton, 2020; Hobbs, 2020). The COVID-19 pandemic and its various lockdowns have benefited long-time urban food gardeners and presented opportunities for people to start growing fruit and vegetables at home, increasing overall participation in urban agriculture (Duchemin, 2020; Helmer, 2020; Mullins et al., 2021; Smith, 2021). People, planners, and governments are all reconsidering

strategies to exploit idle areas in cities for food production in this dynamic state—several municipal governments across Canada organized and/or funded free home food gardening programs for their residents in 2020 and 2021 (Music et al., 2022). Given the popularity of municipal gardening programs, several municipalities have committed to running them every year for the foreseeable future, even when the COVID-19 crisis is over (Music et al., 2022).

Food security in Nova Scotia

In 2016, Nova Scotia had a population of 923,598 people. It is the second-most densely populated and second-smallest province in area in the country. Nova Scotia's Gross Domestic Product (GDP) growth lags behind the Canadian average. In 2016, per capita GDP was $44,924, significantly lower than the national average of $57,574. In 2017, Nova Scotia's median household income was $85,970, which was lower than the national average of $92,990. However, in the Halifax Regional Municipality (HRM), the largest provincial municipality, median household income was $98,870 (Statistics Canada, 2019).

Nova Scotia has a high rate of household food insecurity. Roughly one in six (17.7 percent) of Nova Scotian households experience food insecurity multiple times a year (Tarasuk et al., 2021)—in HRM the number is one in five (HRM, 2023). Not surprisingly, Nova Scotia has the second-highest percentage of low-income individuals among the provinces, at 12.1 percent, after Saskatchewan at 12.4 percent (Statistics Canada, 2021). Food price inflation is greatly outpacing general inflation, more so in Nova Scotia than other provinces (Charlebois et al., 2022). Contributing to the high cost of food is the fact that close to 87 percent of all food consumed in Nova Scotia is imported (HRM 2020). Nova Scotians, and Haligonians especially, face low wages and a lack of affordable housing, with limited industry and employment (Egbe et al., 2020; FoodARC, 2017).

Compiling a demographic profile of individuals dealing with food insecurity is an extremely difficult task: there are food insecure individuals in every part of HRM, food insecurity can be a cause or an effect of their inclusion in marginalized communities. Food insecurity is not a condition that is obvious. Most food insecure adults are employed, have the same grocery shopping habits and same food literacy skills as food secure individuals (Egbe et al., 2021; Ramen & Hart, 2017a). Nearly all food insecure individuals—adults and children—attempt to hide their food insecurity from family and friends, and almost all feel ashamed and fearful because of their food situation (FoodARC, 2021; Godrich et al., 2019; PROOF, 2019; Ramen & Hart, 2017b).

Methods

This paper presents preliminary findings from the first six months of a larger twenty-two month project, "Home Food Gardening in Response to the COVID-19 Pandemic: Lessons for Food Security Considerations." The project's objective is to discover ways in which the government can encourage and support home food production, increase consumption of locally grown foods, and reduce food insecurity.

This diary study was inspired by home food gardeners in two neighbourhoods in Toronto. Kortright and Wakefield (2011) conducted twenty-three semi-structured in-depth interviews with gardeners in 2007 to explore the interviewees' motivations for and attitudes about growing food. Qualitative diaries are a form of participatory research (Harvey, 2011). Solicited diaries, as presented in this study, require specific information collected on the researchers' account (Harvey, 2011; Smit et al., 2020). Researchers are dependent on participants to give full information while remaining cognizant of the time and effort put forth by diarists (Unterhitzenberger & Lawrence, 2022). While researchers are reliant upon respondents' memory and compliance (Unterhitzenberger & Lawrence, 2022), online diary studies provide flexibility in the diversity of participants in terms of time and location (Braun et al., 2021). In this case the researchers were able to obtain rich qualitative data over the period of many months, in a vast regional area without having to disrupt participants' lives through constant interviewing or surveying. The diary study was appropriate for this research as the length and time required to grow food and to see the impact of food from the garden impacting household grocery budget is months. Using diaries as data collection method was the most practical option.

The project team sought 100 Nova Scotian home food gardeners to log their weekly gardening activities and their household food expenses. In the gardening diary, participants were asked to record the following: time spent tending to home food gardens; money spent on home food gardens (seeds, soil, tools, preserving jars, etc.); gardening activities (weeding, watering, etc.) and any activities done with garden products (like preserving and canning); harvest yields; and any information that provided context for their activities, like bad weather and pest infestations. In their food expenses diary, participants were asked to log their total weekly household food expenses, including grocery shops and restaurant meals. The project research design calls for representation from all geographic regions of Nova Scotia that reflect age and gender divisions in the province.

Recruitment took place through local gardening Facebook groups, local radio, a gardening centre's email list, and researchers' personal social media accounts. There was an element of self-selection for participants in the diary study, which was amplified by our recruitment methods. The study posted calls for participants on Facebook groups for Atlantic Canadian gardeners and on researchers' social media accounts. Lastly, a popular local garden centre sent the call for participants to all their email listserv subscribers. Participants had to be eighteen years of age or older and must have resided in Nova Scotia for the last twelve months or more.

Recruiting 100 participants proved to be untenable and the diary study was launched in late May 2021 with twenty participants. There were several barriers to recruitment—first and foremost, the time commitment and organizational skills needed to participate were beyond many potential respondents. Similarly,

respondents needed to be comfortable with technology and have access to reliable internet. Parts of rural Nova Scotia still do not have access to high speed, reliable internet. Finally, casual gardeners may have felt that they did not garden *enough* to be considered home food producers. However, from May to mid October 2021, only ten participants completed regular diary entries. Each participant had a shared Google Sheet document, with tabs for gardening and household food expenses.

Diary studies generate a large volume of qualitative data that may not be standardized across participants. Insights into activities may vary and themes are not present in all logs. In order to analyze the material, researchers organized responses. As these were logged online, answers were not anonymous, but were anonymized for the purposes of publication. As answers were already typed into an excel spreadsheet under specific headers, there was no need to transcribe or group responses.

A research assistant read through responses and assigned descriptive tags to themes that were both present in the text. Simultaneously, the researcher performed the same analyses on a copy of the texts. This is done as the replication of thematic analysis methods to ensure validity and reliability. This combination helps determine the trustworthiness of a project. The researcher will ensure consistency of both ideas and interpretation of the meanings from the data through comparison.

Themes were developed by combining data based on similar descriptions and interpretations across participants. The researcher ensured consistency of both ideas and interpretation of the meanings from the textual data through comparison. Once themes were established, specific categories that describe the experience of gardeners looking to use home food production to impact food security were established and are presented in the results and discussion sections of the paper.

Results

Participants in this diary study reflect some larger provincial population demographic trends but are atypical in others (see Table 1). The urban/suburban/rural divide does reflect the province's population distribution, with one-third of participants living in an urban centre, just under a quarter in small towns, and just over 40 percent living in rural areas. Four of our participants have children still living at home, and most are married or in a common-law relationship, which reflect provincial trends. All participants have an annual household income of over $75,000, while the provincial average household income is $77,000. However, our participants have higher levels of education than the provincial average: seven participants have at least one university graduate degree, while the other three have an undergraduate university degree; provincially, 45 percent of Nova Scotians have no postsecondary degrees or diplomas (Statistics Canada, 2019). All participants are homeowners who live in the Central or South Shore region on mainland Nova Scotia.

Table 1: Simple demographic portrait of diary study participants

how long food gardening	gender	marital status	year of birth range	# people in household	highest level of education	annual household income (thousands)	neighbourhood
10-15 years	female	single	1982-1996	2	graduate degree	$75-99	urban
5-10 years	female	married	1982-1996	3-6	graduate degree	$100-149	urban
10-15 years	female	widowed	1948-1969	1	graduate degree	$100-149	rural
5-10 years	female	married	1970-1981	3-6	graduate degree	more than $150	urban
since 2020	female	married	1948-1969	2	graduate degree	more than $150	rural
2-5 years	male	married	1948-1969	2	university	$100-149	small town
new this year	female	married	1982-1996	2	university	$75-99	suburban
2-5 years	male	married	1982-1996	2	university	more than $150	rural
10-15 years	female	married	1948-1969	3-6	graduate degree	more than $150	rural
2-5 years	female	married	1970-1981	3-6	graduate degree	$100-149	urban

From May to October, the growing season in Nova Scotia, participants spent an average of six hours a week gardening or on gardening-related activities like canning. This correlates with national data on food gardening, as 43 percent of gardeners spend less than ten hours a week on gardening activities (Mullins et al., 2021). One participant spent significantly more time at 14.5 hours a week on a larger garden that includes in-ground beds, containers, and a greenhouse; they also constructed a rainwater-catching system in the spring.

Harvests

Table 2: Prevalence of crops grown by diary study participants (prevalence=number of participants who grew crops in 2021)

vegetable	Prevalence	fruit	prevalence	Herb	prevalence
Peppers	7	Strawberry	3	Chives	3
Lettuce	4	Raspberry	3	Peppermint	2
Beans	8	Blueberry	1	Oregano	2
Tomato	10	Blackcurrant	1	Thyme	2
Cucumber	8	Redcurrant	1	Cilantro	3
Zucchini	7	Blackberries	2	Sage	2
Carrots	6	Cherry	1	Basil	3
Parsnips	2			Parsley	3
Peas	8			Dill	2
Beets	3			Rosemary	1
Spinach	7				
Brussels sprouts	3				
Pumpkin	1				
Squash	7				
Kale	3				
Leeks	4				
Arugula	1				
Lovage	2				
Radish	5				
Potato	5				
Turnip	3				
Celery	1				
Rutabaga	1				
Broccoli	4				
Onion	5				
Bok choi	2				
Rhubarb	3				
Garlic	8				
Eggplant	5				
Cauliflower	1				
Asparagus	3				
Swiss chard	3				
Mizuna	1				
Sweet potato	1				

Corn	1
Cabbage	3
Collard greens	1
Edamame	1
Melon	4
Loofah	1
Kohlrabi	2

Participants grew an average of eight different vegetables. Given the climate and length of growing season in the study area, only four participants grew fruit in their home gardens. All four of the fruit-growing gardeners had very little success with raspberries in 2021, showing the impact of weather across the province. Not surprisingly, all participants grew tomatoes, one of the easiest crops to grow and all reported that it was an excellent year for tomatoes. Most participants grew similar produce. This is likely a necessity of both climate and soil conditions, but also food produced is valued by the culture of the province in which the participants live. Only two participants cited the pandemic as the primary reason for starting to grow food at home. The other participants have been growing food for a longer period, suggesting that the degree of difficulty was not a deciding factor in choosing which produce to grow. In addition, wildfires in California in 2020 and 2021 caused a seed shortage in Canada, making it more difficult for gardening centres to carry a diverse array of seeds at retail. Interestingly, one participant enjoyed the challenge of successfully cultivating more exotic crops, including bitter melon and loofah.

For the love of gardening

It is clear from the first round of entries that participants enjoy working in their garden and harvesting food they have grown themselves. One participant expressed satisfaction that they were able to incorporate home-grown food into a major holiday meal, "Thanksgiving dinner had nine types of veg all from the garden, very satisfying" (Participant 3).

Other participants expressed a delayed gratification in future harvests, anticipating harvests in the future, suggesting that the emotional effects of gardening are not fleeting. Significantly, participants are more than financially engaged in growing food. This could offer opportunities to appeal to those with time to become involved in the practice. As the COVID-19 has led to dissatisfaction in many areas of modern working life, gardening could offer reprise as feelings of anxiety and despair that threaten to overwhelm sub segments of society (Chakraborty et al., 2021). Gardennig appeared to offer a distraction, "My tomatoes are coming along, and because of the weather are huge! I have to continue to prune them because last year they got a little wild. I have so much kale, and the spinach is looking great. I planted 'perpetual spinach' this year, so I can continually harvest it, and the leaves are really full and wonderful. Tastes great too!" (Participant 2). Another participant appeared undaunted by limited success, "Nothing is thriving in my veggie bed, but the

asparagus popped despite being planted late, too. Two years until harvesting, but still. Blueberries are full of green fruits; raspberries are starting to ripen. Plant more garlic next year! And peas!" (Participant 6) Even small garden dividends were celebrated among participants, "I saw my first tomato this week! The intense heat at the beginning of the week followed by the rain really made everything shoot up" (Participant 5).

There is evidence that participants are not only growing for food but using gardening to relieve stress. Here we see a participant taking the emotional rewards of growing food from the garden to the computer, "Harvesting peas, transplanting, cutting garlic scapes, and spraying watermelons for aphids. Also, some time spent just walking around checking on things (sometimes do this as stress relief). Probably spent one hour watching YouTube videos for fun or research" (Participant 8).

The so-called "great resignation" reveals the stress of working through the pandemic that has ultimately changed participants views towards their responsibilities or obligations towards their employers (Sheather & Slattery, 2021). Of course, stress from the pandemic is not solely the domain of office workers who were able to transition to work from home. Yet, the significance of people turning to growing food from the career obligations demonstrates that priorities, among at least some demographics, may be shifting.

Challenges of growing food on non-agricultural zoned land

Growing food on non-agricultural lands presents challenges to gardeners. Unlike farmers who have access to large-scale equipment and pest control, participants were forced to employ non-invasive methods to control pests. On participant had neighbourhood cats trespassing in their gardening, changing the pH balance of the soil. These problems offer insights into potential program support by governments looking to bolster urban agriculture. In addition, the data collected from this study suggests at least a base level of knowledge is required to be successful in growing food, beyond that of putting seeds in soil. While these issues were manageable for committed participants, it suggests that simply suppling seeds and rakes to citizens will not generate success. Further, more interventionist program mechanisms are required, "The cats are back. I put the bird netting down, but they managed to get in it. So, I'll have to do a better job, or possibly buy new bird netting" (Participant 2).

Another participant used dog hair to stop deer from eating their harvest, "Deer munched on first two feet of yellow beans; added a row of dog hair, about four" wide, continuous, may be two" thick. Problem solved" (Participant 8).

A participant questioned whether growing more popular crops that are attractive to pests was worth the effort, "EARWIGS, ugh. Shady too. Things are not robust. We'll see. Strawberries petering out. Not worth the effort, really. Do haskap [berries] or gooseberries instead" (Participant 1).

Other participants suspect the soil nutrient level is not at peak condition. Unlike farmers, who have access to sophisticated testing equipment, participants turned to home remedies and advice from local garden centres to address the problem. Interestingly, participants who

lacked a specific knowledge turned to private sector service providers, not local governments for advice. This suggests that community building in the gardening space centres around those that sell gardening equipment. Of course, this does not need to be case, it's simply a product of urban gardening not prioritized by governments to date, "I have worms on my kale again. They are such a pain, and I don't really know how to get rid of them.... I put crushed Tums tablets on the squash and pumpkins—as some of the fruit is dying on the vine. I might go to Halifax Seed to inquire about solutions, as this is a regular occurrence for me. I am fairly certain it's calcium deficiency but want to hear other ideas" (Participant 6). Another participant spoke about issues with their attempts, "Pests, fluctuating extremes of temps, weak sun in that spot and [soil] nutrition all seem to be a problem. Need to compost but need to move those bins somewhere better first.... Happy with established berries and garlic. Feel like nothing is happening with anything I put in. May pull stuff in a few weeks and try with a later crop. Want to get worm casings, but store was out. May try more things in pots on deck too" (Participant 7).

Environmental challenges

Growing conditions for farmers and gardeners alike were difficult in 2021. Adverse weather events brought on by climate change such as flooding, droughts, and wildfires are making fall harvests difficult across the globe. In the study area, there were several months of dry, hot weather followed by excessive rain. Participants adapted their strategies in dealing with weather to maximize their harvests. Climate change may be the most significant factor for the health of the food supply chain, whether it is local or global (Chakraborty & Newton, 2011). Food security will depend on optimal growing conditions for any size yield. Participants adapt to the changing conditions, but the scale of the impacts of climate change need to be assessed in further research, "DRY weather so daily watering was absolutely necessary. No obvious loss from the wet weather the week before" (Participant 3). Another participant revealed, "Increasingly worried about the lack of rain, I need more than one decent shower every two weeks for the garden" (Participant 4). In some cases, the effect of weather was different, "Worried that garlic may be rotting after heavy rains. We have 4000 litres of rainwater stored which is a positive" (Participant 6).

Impact on food security

Participants stopped buying fresh produce from grocery stores, aside from the occasional bunch of bananas. However, they are cognizant of both short-term impacts and saving harvests for the coming months. This is the key stumbling point for any program looking to foster home food production or urban agriculture. The perceived return on investment, in terms of time and financial resources may not make it a tenable approach to impacting community food security. Significantly, there is a type of gardener that would indeed spend time growing food for the community. These gardeners would need to be identified, engaged, and supported. To our knowledge, this work is not taking place in the Nova Scotia context,

"The garden is looking very full, and we are already having to cut down on our market shops to try and make sure we eat everything that is ready! I also now have flowers on my beans" (Participant 3).

One participant is feeding her baby fresh vegetables from the garden, cutting back on buying processed baby food. In addition, the participant is saving the harvest of one vegetable for winter use, "I cleaned and cooked down beet greens and kale to feed to our baby.... I cooked the beet greens down for baby food and pickled three jars of beet stems. Hopefully they turn out! My zucchini are finally starting to grow, so I am making zucchini relish. I usually make one batch each year and it lasts until the next year (I am just about out from last year)" (Participation 10).

A later entry, "I harvested the two pumpkins that grew (I am so disappointed in my gourds this year—I think it just got too wet for them to really flourish), roasted them and saving a bunch for my baby, and will freeze the rest for the winter" (Participant 10).

A participant with a larger garden is also saving harvest for the coming months, "Fifteen meals for winter in the freezer now plus the peas and carrots. We also made a batch of zucchini fritters and eggplant chips which were awesome. The majority of what we eat now comes from the garden including a rather fine Gazpacho soup" (participant 2).

Interestingly, participants are not just gardening, but stretching their harvests by processing them in some way, by pickling, canning, or freezing, "Freezer continues to fill up and [wife's name] also made pickles from our first growth of cucumbers. Thirty-two meals done along with veg" (Participant 3). Another participant revealed, "I picked more tomatoes and canned them. I now have about nine litres canned for winter.... I froze some more spinach and picked beans and canned three jars of Dilly beans" (participant 1). Tomatoes appeared to be a popular item for canning, "I picked the rest of the tomatoes and canned my final batch. I made tomato cucumber salad with the final cucumbers. That's three meals this week where everything came from the garden! I spent some time pulling weeds and dead beans and cucumbers this week" (participant 6).

Community

Participants used their gardens to connect with neighbours and family in sharing both food and information. Participants shared harvests with neighbours, family, friends, strangers, and in some cases, people with whom they shared a quasi-professional connection. Significantly, gardening does allow people to form communal bonds around food. Indeed, in the early days of the pandemic there was a virtual call-to-arms as citizens turned to social media to promote pandemic victory gardening (Music et al., 2021). Having pride in the gardens' yield may overcome the frustration of post pandemic life and connect participants in a perceived meaningful manner, "I made kale chips for my in-laws who are visiting from the kale I picked Saturday" (Participant 3). Another participant also shared their harvest, "I harvested kale, spinach, and lettuce to give away to friends" (Participant 2).

Participants were rewarded emotionally for sharing harvest with neighbours. Interestingly, at least two

participants were growing produce they did not intend to consumer themselves; rather, these harvests were intended for donation or waste, "My neighbour took some squash blossoms out of my garden, it's nice to be able to give her something she likes so much, especially since they would be wasted otherwise" (Participant 7). Squash blossoms appeared to be a popuar sharing item, "I picked and bound beet greens, spinach, squash blossoms and kale to give away to neighbours and friends. I love sharing the goodies in my garden!.... I had a conversation with my neighbour about recipes for dal bhat (lentils with rice). She shared some of her tips with me. I also told her to take as many squash and pumpkin blossoms as she wants, as I don't like them" (Participant 1).

Another participant had a family member tend the garden while they were away. Here we see two separate third parties in contact with the garden, a family member, and a neighbour, "My cousin checked on garden every couple of days, watered it and picked produce in our absence. Planted all remaining transplants (tomatoes, peppers, cucumbers, and basil) and shared tomato transplants with neighbours" (Participant 10).

Another participant experienced a reciprocal exchange with a neighbour, "I was able to get out into the garden to give it some love Monday night. I ended up chatting with my neighbour and giving him some beets. He gave me a jar of his pickled beets in return!" (Participant 2).

Interestingly, one participant donated to a point of contact that was emotionally farther away than family, friends, and neighbours. The participant learned of interest in her harvest and shared accordingly, "I picked some carrots for hummus, picked beets, tomatoes, kale, mint, parsnips, and chives for my massage therapist because we chat about gardening each time I go for a massage" (Participant 5).

One of the main objectives of this research is to understand how citizen driven food production can impact community food security. Participants were donating surplus harvest to their local food banks. They donated a variety of produce and felt that the donations were substantial. Food bank donations have declined as the rise inflation has stretched grocery bills in Canada and around the globe, while visits to food banks have increased since 2019 (Food Banks Canada, 2021). Therefore, the impact of fresh, local produce on the impact of community food security, though for only a brief timeframe, is important, "Gave carrots, onions, lettuce, kale, beans, and zucchini to local food bank. Foodbank collected enough lettuce and kale for all. Hope to supply excess tomatoes as well next week" (Participant 2).

Participants appeared to take pride in the garden donations to their local food bank, "Food bank was able to take 200 tomatoes as well as lettuce, kale, beans, peppers, chilis, eggplant, and cucumber" (Participant 3). Later in the season, "Bumper donation to the food bank, it has been a spectacular year for produce" (Participant 3). Another participant wrote, "Good donation to food bank, added garlic this time" (Participant 6). The variety of produce that made up the food bank donation was worth noting for participants, "We also gave the foodbank a dozen butternut squash as well as five kgs of tomatoes, peppers, chillis, lettuce, kale, celery, carrots, fresh herbs" (Participant 1).

Discussion & conclusion

Many participants opened their private spaces to extended family and neighbours, if they needed the garden tended to while they were away. Gardens that neighbours tend together can bring them closer (Glover et al., 2005). Gardens have been shown to help older persons integrate into social networks in the inner city (Kweon, 1998; Robbins & Seibel, 2020). Intuitively, community gardens bring members together in a more direct way than perhaps individual gardens (Glover, 2004). Yet both have the potential to reduce isolation through information sharing and sharing of seeds, tools, and harvest as demonstrated by the study participants.

Most participants did not grow food at home to donate to food banks or food programs. Yet many did share their harvest with unfamiliar neighbours and food banks. Most donated produce is considered excess harvest, not grown specifically with donation in mind. However, one participant in the diary study decided to grow excess produce specifically for charitable donation. At the end of 2020, they planned a garden extension for the 2021 growing season, including renovations to their greenhouse—all to help alleviate their community's food insecurity caused by the COVID-19 pandemic. They started growing excess produce without a clear idea of what organization to donate to and were fortunate to discover that their neighbour volunteered at the local food bank, which would be more than happy to accept donations of fresh produce. Over the course of the summer and fall, this participant's garden produced more than 315.5 kg of fresh produce for the food bank, in addition to providing hundreds of pounds of food for household consumption and preserving. This suggests that some home food gardeners would be able to contribute directly to community food security. However, this is not a province wide situation: food banks that that are not within a reasonable distance of gardeners make donations difficult, and those that do not advertise the need for excess locally grown produce are not benefitting from household food production. In addition, because producers tend to be socio-economically advantaged, and recipients are often not, there is no real long-term impact on food distribution patterns.

While these data are only preliminary, six months into a twenty-two month study, some interesting patterns are emerging. There is an opportunity to maximize community potential to positively impact food security at least some months of the year, as we can see through donation patterns. More support was provided to citizens with time and inclination, programs, and mechanisms in place to streamline donations, especially in urban spaces, to allow for easy donations. For participants of this study, word of mouth appears to have the biggest influence on donations. For example, the City of Brampton established a home gardening initiative to help citizens become more food-secure (City of Brampton, 2021; Dionne, 2020; Music et al., 2022). This program promotes residential gardening as a pandemic response. The municipality provides program participants with free seeds, seedlings, and soil, as well as information on how to grow produce and social media channels to share successes and challenges. In just two years, 9,000 households have participated in the program, with over 4536 kg of fresh produce donated to local food banks in 2020 alone (City of Brampton, 2020).

The data shows that committed gardeners who already have personal and social advantages that enable them to build a sense of community through gardening, will work to overcome barriers to growing food. The research objective, to understand gardeners' behaviors,

activities, and experiences as citizens who grow food to supplement their household food budget demonstrates that very committed gardeners are impacting both their own household yields, but also donating to local food banks. For instance, gardeners with resources such as time and growing skills benefitted with more yields than those with less accommodating resources. While the small sample size in this study requires further investigation into the typology of gardeners that would yield the best results for urban agriculture programs that would impact community food security, the data indicates that committed gardeners could assist in developing communities around food security, facilitating municipal policy makers and urban planners to advantage citizen food production through implementation and practice.

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References

Born, B., & Purcell, M. (2006). Avoiding the local trap: Scale and food systems in planning research. *Journal of Planning Education and Research*, *26*(2), 195–207. https://doi.org/10.1177/0739456X06291389

Boynton, S. (2021, October 2). *Rising food prices are forcing grocery shoppers to change habits: 'It's been hard.'* Global News. https://globalnews.ca/news/8234995/COVID-inflation-food-prices-shoppers/

Braun, V., Clarke, V., Boulton, E., Davey, L., & McEvoy, C. (2021). The online survey as a qualitative research tool. *International Journal of Social Research Methodology*, *24*(6), 641–654. https://doi.org/10.1080/13645579.2020.1805550

Brewster, M. (2020, March 19). *Canadians are being asked to stop panic-shopping. Are they listening?* CBC. https://www.cbc.ca/news/politics/COVID-19-pandemic-coronavirus-border-panic-1.5502058

Chakraborty, S., & Newton, A.C. (2011). Climate change, plant diseases and food security: an overview. *Plant Pathology 60*(1), 2-14. https://doi.org/10.1111/j.1365-3059.2010.02411.x

Chakraborty, D., Biswas, W., & Dash, G. (2021). Marching toward "heart work": Connecting in new ways to thrive amidst COVID-19 crisis. *Conflict Resolution Quarterly*, *39*(1), 7–27. https://doi.org/10.1002/crq.21313

Charlebois, S., Somogyi, S., Smyth, S., Wiseman, K., Colombo, S., Music, J., Taylor, S., & Rankin, A. (2022). Canada's Food Price Report 2023. Agri-food Analytics Lab, Dalhousie. https://www.dal.ca/sites/agri-food/research/canada-s-food-price-report-2023.html

City of Brampton. (2020, October 20). *Brampton's Backyard Garden Program provides more than 10,000 lbs of produce for residents in need*. https://www.brampton.ca/EN/City-Hall/News/Pages/Media-Release.aspx/812

City of Brampton. (2021). *Backyard Garden Program*. https://www.brampton.ca/EN/residents/parks/Pages/Backyard-Gardens.aspx#ad-image-0

Deaton, B. J., & Deaton, B. J. (2020). Food security and Canada's agricultural system challenged by COVID-19. *Canadian Journal of Agricultural Economics/Revue Canadienne d'agroeconomie*, *68*(2), 143–149. https://doi.org/10.1111/cjag.12227

Dionne, M. (2020, April 16). *Brampton launching citywide gardening program in response to pandemic.* InBrampton. https://www.insauga.com/brampton-launching-citywide-gardening-program-in-response-to-pandemic/

Draaisma, M. (2021, October 21). *Toronto answers call for food donations as part of Thanksgiving drive, food bank says.* CBC. https://www.cbc.ca/news/canada/toronto/thanksgiving-daily-bread-food-bank-drive-through-event-food-insecurity-1.6206926#:~:text=CBC%20News%20Loaded-,Toronto%20answers%20call%20for%20food%20donations%20as%20part%20of%20Thanksgiving,answering%20the%20call%20for%20help.

Duchemin, E. (2020, June 23). *43% des familles québécoises ont un potager [Billet].* AgriUrbain. https://agriurbain.hypotheses.org/4864

Egbe, M., Grant, A., Waddington, M., Terashima, M., MacAulay, R., Johnson, C., Kholina, K., & Williams, P. L. (2021). Availability and affordability of healthy and less healthy food in Nova Scotia: Where you shop may affect the availability and price of healthy food. *Public Health Nutrition*, *24*(8), 2345–2353. https://doi.org/DOI: 10.1017/S1368980020000841

FoodArc.(2017). *Can Nova Scotians afford to eat healthy? Report on 2015 Participatory Food Costing. https://foodarc.ca/wp-content/uploads/2017/03/2016_Food_Costing_Report_LR_SPREADS.pdf*

FoodARC. (2021). *Dismantling stigma*. https://foodarc.ca/projects/current-projects/dismantling-stigma

Food Banks Canada. (2021). *Hunger count 2021 report*. https://hungercount.foodbankscanada.ca/assets/docs/FoodBanks_HungerCount_EN_2021.pdf

Glover, T. D. (2004). Social Capital in the lived experiences of community gardeners. *Leisure Sciences*, *26*(2), 143–162. https://doi.org/10.1080/01490400490432064

Glover, T. D., Shinew, K. J., & Parry, D. C. (2005). Association, sociability, and civic culture: The democratic effect of community gardening. *Leisure Sciences*, *27*(1), 75–92. https://doi.org/10.1080/01490400590886060

Godrich, S. L., Loewen, O. K., Blanchet, R., Willows, N., & Veugelers, P. (2019). Canadian children from food insecure households experience low self-esteem and self-efficacy for healthy lifestyle choices. *Nutrients*, *11*(3), 675. https://doi.org/10.3390/nu11030675

Goodwin, D. (2020, April 17). *One way to fight COVID-19? Plant a victory garden*. The Globe and Mail. https://www.theglobeandmail.com/opinion/article-one-way-to-fight-COVID-19-plant-a-victory-garden/

Halifax Regional Municipality (HRM). (2020). *Step 1 - Learning about Community Food Security.* https://www.halifax.ca/about-halifax/regional-community-planning/halifax-food-action/community-food-assessment-toolkit-0

Halifax Regional Municipality (HRM). (2023). *Part A of JustFOOD: Action Plan for the Halifax Region. https://www.halifax.ca/media/81344*

Harvey, L. (2011). Intimate reflections: Private diaries in qualitative research. *Qualitative Research*, *11*(6), 664–682. https://doi.org/10.1177/1468794111415959

Helmer, J. (2020, April 3). *How the Coronavirus pandemic has led to a boom in crisis gardening.* HuffPost. https://www.huffpost.com/entry/seeds-crisis-gardening-coronavirus-food_n_5e85eca0c5b6f55ebf492212

Hobbs, J. E. (2020). Food supply chains during the COVID-19 pandemic. *Canadian Journal of Agricultural Economics/Revue Canadienne d'agroeconomie*, *68*(2), 171–176. https://doi.org/10.1111/cjag.12237

Huisken, A., Orr, S. K., & Tarasuk, V. (2016). Adults' food skills and use of gardens are not associated with household food insecurity in Canada. *Canadian Journal of Public Health*, *107*(6), E526–E532. http://dx.doi.org.ezproxy.library.dal.ca/10.17269/CJPH.107.5692

Kirkpatrick, S. I., & Tarasuk, V. (2009). Food insecurity and participation in community food programs among low-income Toronto families. *Canadian Journal of Public Health*, *100*(2), 135–139. https://doi.org/10.1007/BF03405523

Kortright, R., & Wakefield, S. (2011). Edible backyards: A qualitative study of household food growing and its contributions to food security. *Agriculture and Human Values*, *28*(1), 39–53. https://doi.org/10.1007/s10460-009-9254-1

Kweon, B-S. (1998). *Nature and older adults: Green common spaces, social integration, and important aspects of older adults' well-being in the inner-city* (Publication No. 9921708) [Doctoral Dissertation, University of Illinois at Urbana-Champaign]. ProQuest Dissertations Publishing.

Loopstra, R., & Tarasuk, V. (2013). Perspectives on community gardens, community kitchens and the good food box program in a community-based sample of low-income families. *Canadian Journal of Public Health*, *104*(1), e55–e59. https://doi.org/10.1007/BF03405655

Mullins, L., Charlebois, S., Finch, E., & Music, J. (2021). Home food gardening in Canada in response to the COVID-19 pandemic. *Sustainability, 13*(6),3056. https://doi.org/10.3390/su13063056

Music, J., Finch, E., Gone, P., Toze, S., Charlebois, S., & Mullins, L. (2021). Pandemic victory gardens: Potential for local land use policies. *Land Use Policy*, *109*, 105600. https://doi.org/10.1016/j.landusepol.2021.105600

PROOF. (2019). *Relationship between food banks and food insecurity in Canada*. https://proof.utoronto.ca/wp-content/uploads/2019/11/PROOF_FACTSHEET_Foodbanks-112019.pdf

Ramen, S., & Hart, C. (2017a). *DIG IN! Some Common Food Terms*. https://foodarc.ca/wp-content/uploads/2018/06/Dig-In-Some-Common-Food-Terms_2018.pdf

Ramen, S., & Hart, C. (2017b). *Food action and understanding: The roots of household food insecurity and ways to grow community food security* [PowerPoint Presentation]. Provincial Community Health Board Coordinators Meeting, Nova Scotia. https://foodarc.ca/blog/9143

Robbins, J. C., & Seibel, K. A. (2020). Temporal aspects of wellbeing in later life: Gardening among older African Americans in Detroit. *Ageing & Society*, *40*(12), 2614–2634. https://doi.org/10.1017/S0144686X19000813

Sheather, D., & Slattery, J. (2021). The great resignation: How do we support and retain staff already stretched to their limit. *British Medical Journal*, *375*, 2533-2534. https://doi.org/10.1136/bmj.n2533

Smit, A., Swartz, L., Bantjes, J., Roomaney, R., & Coetzee, B. (2020). Moving beyond text-and-talk in qualitative health research: Methodological considerations of using multiple media for data collection. *Qualitative Health Research*, *31*(3), 600–614. https://doi.org/10.1177/1049732320976556

Smith, J. (2021, May 27). *Gardening centres see uptick in interest as Cape Bretoners look for lockdown hobbies*. Saltwire. https://www.saltwire.com/newfoundland-labrador/lifestyles/regional-lifestyles/gardening-centres-see-uptick-in-interest-as-cape-bretoners-look-for-lockdown-hobbies-100593258/

Statistics Canada. (2019, June 18). *Census profile, 2016 census*. https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E

Statistics Canada. (2020, June 24). *Food insecurity during the COVID-19 pandemic*. https://www150.statcan.gc.ca/n1/pub/45-28-0001/2020001/article/00039-eng.htm

Statistics Canada. (2021, March 11). *COVID-19 in Canada: A one-year update on social and economic impacts*.

https://www150.statcan.gc.ca/n1/pub/11-631-x/11-631-x2021001-eng.htm

Tarasuk, V., Li, T., & Fafard St-Germaine, A-A. (2021) *Household food insecurity in Canada 2021*. PROOF. https://proof.utoronto.ca/wp-content/uploads/2022/08/Household-Food-Insecurity-in-Canada-2021-PROOF.pdf

Tarasuk V, & Mitchell A. (2020) Household food insecurity in Canada, 2017-18. Toronto: Research to identify policy options to reduce food insecurity (PROOF). https://www.homelesshub.ca/sites/default/files/attachments/FOOD_INSECURITY_2020_EXEC_EN.pdf

Unterhitzenberger, C., & Lawrence, K. (2022). Diary method in project studies. *Project Leadership and Society*, *3*, 100054. https://doi.org/10.1016/j.plas.2022.100054

Wakefield, S. (2021). *Eating in the age of COVID-19: Food security in Canada during and after the pandemic*. University College, University of Toronto. https://www.uc.utoronto.ca/eating-age-COVID-19-food-security-canada-during-and-after-pandemic

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Canadian Food Studies La Revue canadienne des études sur l'alimentation

Book Review

Slow cooked: An unexpected life in food politics

By Marion Nestle

University of California Press, 2022. 278 pages

Reviewed by Jennifer Sumner*

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Marion Nestle single-handedly invented the interdiscipline of food studies. Against siloed odds, she pulled together the foundations of what has become one of the most exciting fields in academia and kept it politically acute. For this reason, I was looking forward to reading her recent autobiography.

The book went well beyond my expectations. Overall, it is a first-person look at a life lived at the interface of academia, the market and the state. The stories of her early years in academia during the 1960s and 1970s are gut-wrenching. Gender discrimination was systemic – she was constantly ridiculed, harassed, overlooked, dismissed, ignored and penalized. Frequently in tears and worn down, she nevertheless persisted.

A stint working for the federal government in the mid-1980s gave Nestle two advantages: it introduced her to the effects of corporate lobby groups on government policy and it gave her the credentials to move into the kind of academic employment that created the space for her to develop food studies.

In 1988, she secured a tenured position as a full professor at New York University (NYU) as Chair of the Department of Home Economics and Nutrition. She inherited a dysfunctional department with run-down facilities and a hostile faculty. While rearranging the courses and degree programs, she was asked to let go of an out-of-date but lucrative program in hotel management. Under pressure from the Dean, Nestle asked what she would get in return. When the Dean asked her what she wanted, she had a flash of inspiration: food studies. As she explained to the Dean, food studies was the academic study of food in history, culture and society. And she wanted a fully-fledged program: undergraduate, masters and doctoral degree programs, with a full-time, tenure-track faculty member

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and a state-of-the-art professional teaching facility. The Dean got her everything she asked for and food studies was born, backed by an advisory committee of leading food producers, restaurateurs, chefs, food writers and editors, and culinary professionals. The committee advised her that "they wanted their employees and colleagues to know not only what foods are, how they taste, where they come from and how to prepare them, but also their history and role in culture" (p. 146). Food studies was on its way.

In the beginning, the program was not without its detractors, in spite of support from people like Julia Child. Some sceptics included Alice Waters, chef and owner of Chez Panisse, who lamented the lack of emphasis on the agricultural side of food, and Joan Dye Gussow, one of the leaders of the organic movement, who worried about job opportunities. But after an article in the *New York Times* about the new program, prospective students appeared saying "I've waited all my life for this program. Sign me up" (p. 147). The program began in the fall of 1996 with 15 Masters students and two prospective doctoral students.

Although another detractor opined that interdisciplinarity was a buzzword and graduates of interdisciplinary programs were trained to do nothing, Nestle championed the interdisciplinarity of food studies. She had degrees in molecular biology and public health, and the growing faculty of the food studies program had degrees in history, literature, political science, sociology, agricultural science and economics. That said, she worried about the academic job prospects for the earliest graduates, given that no other food studies programs existed at the time. But she had no need to worry. Food studies programs began opening up at other institutions and traditional humanities and social-science departments also hired NYU's food studies graduates. As Nestle notes: "We knew we were breaking new ground with food studies, but we had no idea we would be starting a movement" (p. 155). Food studies spread across the United States and into other countries, including Canada. Our own Canadian Association for Food Studies is a leading example of the strength of this movement.

Nestle reports that she still gets asked what food studies is. As she sees it:

> food studies promotes the rigorous examination of major societal problems through the lens of food. In prioritizing healthy and sustainable diets, this field of study is engaged in an overt critique of the industrial food system. Defenders of the status quo cannot be expected to be enthusiastic supporters of food system change. If food studies elicits this kind of criticism, it must be doing something right (pp. 155-56).

Nestle went on to write her seminal book, *Food politics: How the food industry influences nutrition and health* and continued to lead the food studies program until 2003. Since that time, she has written or edited 12 more books. She also runs a blog – FoodPolitics.com – an education all in itself.

Slow Cooked is an engaging and even fascinating read for those involved in food studies. The first half of the book deals with her early life and her attempts to find her place in academia, juggling family and work in the face of gender discrimination and society's limited expectations for women. The second half of the book deals with the watershed moment of being hired at NYU, the formation of the food studies program and her prodigious writing career. Writing is her passion and this is evident in her brisk and engaging style, her deep knowledge of the field and her ability to bring to life what could be understood as the tedium of academia. Try as I might, I could not find anything to criticize about this book. It is an autobiography, not an academic treatise, and provides crucial background to our understanding of the field and its future.

The interdiscipline of food studies owes a great deal to Marion Nestle. One way to repay that debt is to continue to build the field that she envisioned close to thirty years ago.

Jennifer Sumner is the co-editor of *Critical perspectives in food studies* (with Mustafa Koç and Anthony Winson).

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Book Review

A world without soil: The past, present, and precarious future of the earth beneath our feet

By Jo Handelsman

2021 Yale University Press: 201 pages

Reviewed by Richard S. Bloomfield*

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Scholars have made a case that the study of food systems must be viewed through an interdisciplinary lens to avoid narrowly focussed solutionism. Jo Handelsman's text *A World Without Soil: The Past Present and Precarious Future of the Earth Beneath Our Feet* outlines the threats to global soil health from a scientific perspective and provides an empirical foundation for many in the social sciences or humanities who advocate for more just and sustainable food systems. While soil is often cited as important in these circles, why that is, and how exactly it functions is not as widely understood. Handelsman's effort to provide an accessible book to non-soil science specialists is admirable. Throughout the book Handelsman draws attention to a silent crisis: we are losing topsoil between up to 100 times the rate it is replenished—and if current loss rates continue, topsoil could be gone entirely within a century.

The book is arranged in ten chapters which can be grouped into three sections. In the prologue and first three chapters Handelsman outlines her personal backstory and an extensive natural history of how soil is created. In chapters four through seven she explains the types of soil challenges we face. In the final three chapters of the book, she charts tentative pathways forward relying on both ancient and modern practices alike.

In the prologue, Handelsman shares her former naiveté about the importance of soil, despite professional proximity to soil health as the Associate Director of the Office of Science and Technology Policy, in the White House. She cites the 1985 National Food Security Act,

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which included the implementation of the U.S. Department of Agriculture's (USDA) Natural Resources Conservation Services (NRCS) as a solution to the soil erosion crisis at the time. However, the policy itself was subsequently eroded as soon as the early 1990s. Handelsman did not recognize how dire this situation was until late in her term, ultimately missing her most direct opportunity to influence soil protection policy.

Handelsman's summary of soils past and present is full of dense scientific terminology. As someone who is not used to engaging with polymers, geosmin (a chemical released by soil bacteria) or nitrogen-fixing bacteria rhizobia, I found myself re-reading passages of this book to gain full understanding of some of the concepts. Thankfully, many illustrations are provided throughout scientifically heavy chapters, which readers unfamiliar with soil science will find useful. Handelsman sketches the complex biodiversity of soil and highlights a societal agriculture paradox: the heightened awareness of soil which subsequently fostered its abuse. This paradox culminates in the more well-known invention, and adoption into agriculture, of the Haber-Bosch method for nitrogen fertilizer in the form of ammonium nitrate requiring fossil fuels to reach 200 degrees Celsius and intense pressure to do what micro bacteria do naturally. Although this invention created higher yielding crops, its application on lower yielding land has led to a dependence on energy intensive synthetic inputs, far beyond the natural cycles of healthy soil.

Several themes in the second section of the book will be familiar to readers advocating for food systems change, but the different soil classifications and erosion variance by region will be illuminating. Although erosion is generally well-understood as a risk to food production, Handelsman provides a corrective to the common belief that this erosion predominately takes the form of dust storms, showing instead that 80 percent of erosion is water based. In either form, however, the expansion of tillage, and the loss of plant roots to hold soil in place is the primary culprit for the loss of over one-third of American topsoil. In other regions where topsoil is thinner, like much of Africa, the threat of erosion coupled with yield plateaus should be a concern for all—particularly those who advocate for smallholder (often women) farmers who will be disproportionately affected. Interestingly, after highlighting the threats from climate change to food production—including extreme weather risks, volatilization (loss of Nitrogen), and pest control—the author invokes the COP 21 Paris Accord as a reason for hope. Sadly, many scholars have pointed to a widely acknowledged failure to seriously address the loss of biodiversity in the 2015 United Nations agreement. Perhaps the more recent COP 15 in Montreal could provide the readers with a greater sense of optimism for change at this policy-level.

In the final chapters Handelsman offers a broad set of suggestions to help abate the soil crisis. It was here that I hoped for a more adequate acknowledgment of the social, political, and cultural conditions for achieving healthier soil. While the book is a rich resource for scientific information, it makes only passing engagement with the prevailing systems which have prevented better soil stewardship to date. A good complement to Handelsman's work, therefore, might be *Thinking With Soils: Material Politics and Social Theory* by Salazar et al. Despite this shortcoming, Handelsman highlights numerous ancient Indigenous stewardship models that successfully improved and maintained the structure of soil for millennia by managing the forces that move it. The acknowledgement of Indigenous practices is a welcome inclusion; however, some of the recommendations Handelsman offers—such as carbon credit schemes supported by multinational agri-businesses like Cargill, or the defense of RoundUp Ready modified seed production—have been criticized for their role in displacing precisely the Indigenous practices she

celebrates. Handelsman rightly calls for more national policies to reverse antiquated farm insurance policies that disincentivize practices such as cover-cropping, permaculture, crop rotation, and Farmer Managed Natural Regeneration (FMNR). But she also suggests a certification scheme—"Produced by Carbon Heroes"—which is unlikely to break from the industrial food system's control since many smallholder farmers who have already done the work of so-called "Carbon Heroes" would be excluded from such a program.

This book mobilizes all to better understand what soil is, its importance, and why we must act as soon as possible to correct its decline. With the upcoming U.S. Farm Bill in 2024, and the ongoing Canadian Federal government's consultations with the agriculture sector on climate change, it is timely to think seriously about soil stewardship. This book would have been enriched by engaging more deeply with works on the social, political, and cultural milieu of soil. However, *A World Without Soil* is an accessible and useful book to any non-soil specialist who is interested in expanding their grasp of the intricacies of soil as the foundation for life and issues a compelling rallying cry for us to protect what we stand on.

Richard Bloomfield is an assistant professor in Management and Organizational Studies at Huron University College, an affiliate of Western University. His research is currently focussed on consolidation within agri-food systems, and the practises and experiences of first-generation farmers. Outside of his academic work, Richard is the co-founder of Urban Roots London, a non-profit community farm that strives to make the choice of fresh, healthy, and culturally appropriate food affordable for all.

References

Salazar, J. F., Granjou, C., Kearnes, M., Krzywoszynska, A., & Tironi, M. (Eds.). (2020). *Thinking with soils: Material politics and social theory*. Bloomsbury Publishing.

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Canadian Food Studies La Revue canadienne des études sur l'alimentation

The CFS Choux Questionnaire: Lisa Heldke, food philosopher

A riff on the well-riffed Proust Questionnaire, the *Canadian Food Studies* Choux Questionnaire is meant to elicit a tasty and perhaps surprising experience, framed within a seemingly humble exterior. (And yes, some questions have a bit more *craquelin* than others.) Straightforward on their own, the queries combined start to form a celebratory pyramid of extravagance. How that composite croquembouche is assembled and taken apart, however, is up to the respondents and readers to determine. Respondents are invited to answer as many questions as they choose. The final question posed—*What question would you add to this questionnaire?*—prompts each respondent to incorporate their own inquisitive biome into the mix, feeding a forever renewed starter culture for future participants.

Our inaugural Choux Questionnaire respondent is Lisa Heldke, food philosopher and professor at Gustavus Adolphus College.

What is your idea of a perfect food?

Albert Brooks and Meryl Streep were in a wonderful movie called "Defending Your Life," which is about this way station to which you go when you die to sort out some of the details about the rest of forever. One feature of the place is that you can eat whatever you want, and it will be good for you. Meryl Streep's character continues to eat whatever the heck is good for you on Earth. (I don't even remember what she ate, but it was probably salad). When she runs into Albert Brooks, he is carrying a stack of like ten pie boxes. I am Albert Brooks. My idea of a perfect food would be something that had all the features of a potato chip or a warm chocolate chip cookie, but that provided me with pretty much all the nutrients I'd need on an average day. I wouldn't want to eat all and only chips and cookies, mind you, but it would be lovely if I could do that and know I still had myself covered.

Of what food or food context are you afraid?

I've been thinking about this a lot, for a couple reasons. One is that I've been working on disgust: What's the relationship between disgust and fear when we encounter a food that discomfits us? The other reason is that I'm organizing a scientific conference on insects, in which insect eating will be involved. It's been fascinating to see how much fear is generated by the idea of putting an insect in your mouth on purpose. Just mentioning it can make us Northern (non-insect-eating) people extremely uncomfortable. Have I stalled long enough?

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Theorized enough? Okay, now I'll answer your question. I'm afraid of the parts of animals that really remind me that I'm eating an animal: gristle, fat, parts near bones, organs. I'm also really, really scared to put an insect pupa in my mouth. Or a mealworm. Anything squishy. Now, having said that, I'll report, oddly, that, during the pandemic, I ate a lobster with considerable relish and quite surprised myself with the ease with which I tore it apart.

What word or concept describes an admirable food system?

Could we imagine an entire food and agriculture system—the whole system—that embodies the principles embodied in closed-loop agriculture?

What word or concept prevents many food systems from becoming admirable?

vertical integration

Which food innovation do you try to ignore?

Single-use plastic containers with single-serve foods inside of them.

What is your greatest gastronomic extravagance?

I don't know if this is my greatest, but every year I buy several two-pound bags of dried Wisconsin tart cherries, for baking and granola and like that. But sometimes I just go in the pantry and eat a handful of them.

What is your current state of hunger?

At this very moment, I'm pretty hungry. It's an extremely cold, rainy, early Saturday evening here in my yurt in Maine, and the last thing I ate was French toast at about 9:00 a.m. My "kitchen" (such as it is) is in a shed about 15 feet from the yurt, and the thought of getting on my rain gear to go across that chasm to rustle up something on my ratty little two-burner stove or in my cheap toaster-oven is just too much.

On what occasion do you feign satiety?

I don't have many situations in life where I have to feign satiety. But thinking about, say, international travel when I find myself in someone else's house encountering unfamiliar food, I suppose I'd be most likely to say "couldn't hold another bite" in the presence of meat, especially unusual meat or meat-in-something-where-I-can't-suss-it-out. That and bad baked goods.

What do you most dislike about dinner tables?

What I dislike about *mine* is that it's too narrow to have placemats on both sides *and* have food in the center of it. On the other hand, it's incredibly long and has about eleventeen chairs so it holds lots of people—AND I got it third-hand, so I can feel less guilty about the fact that it's teak. This next story isn't directly related to what the question asks, but it's not the sort of story I normally have a chance to tell, so I'm going to take the opportunity. My *last* dining room table belonged to my parents (now dead). They'd gotten it when they got married in 1950 and didn't have much money so it was nothing special, but, well, it was theirs. Anyway, one year, during the (mostly) annual Feast of St. Cholestera party I hold at Christmastime (butter cookies), the upstairs toilet overflowed, and in the morning, we came down to find water dripping out of the ceiling light fixture onto the table. Big scare. We asked an electrician friend to assess the situation and repair it. The morning he was at the house fixing it, I got a call from him at school. I answered the phone and said, "Hi, Tim, how are you?" "Well, I'm okay, I guess." Turns out that he

stood on the table to do the repair job and ALL SIX OF ITS LEGS BROKE OUT FROM UNDER HIM. That is how I came to own a long narrow third-hand teak table with a million chairs.

What is the quality you most like in a fruit?

Tartness. Absolutely. And the raspberry is the most perfect berry.

What is the quality you most like in a cut of meat?

That it is still attached to the animal, functioning as a muscle.

Which condiments do you most overuse?

This prompts another story that you didn't ask about. One time in a food class, when I sent students the requisite questionnaire about the foods they can't or don't eat, one student reported that he doesn't eat condiments. It was such an odd category of foods to write off. I mean, mayonnaise, ketchup, mustard: what do these things have in common? But which do I overuse? Well, if it's French fries you're talking about, I slather each one in mustard and mayo. If you tell me butter is a condiment, then I overuse butter.

What kinds of gardens make you happiest?

Profuse vegetable gardens that are clearly being well harvested.

Which culinary skill would you most like to have?

The whole set possessed by Kate Goodpaster, my former philosophy student, and member of Team USA at the 2020 Coupe du Monde! Kate was the Viennoiserie member of the team. I wish I could do what she can do with laminated pastry. I'd also love to be a really skillful baguette shaper. Okay, I'd love to be a brilliant bread maker. Okay, I want to be a skilled gluten worker.

If you could change one thing about nutrition, what would it be?

Everyone would have access to adequate forms of it as a matter of course, just because they are alive.

What do you consider your greatest edible achievement?

I go dogsled camping every winter with a different group of total strangers, and I always bring partially baked pizza crusts from my own sourdough and pre-mixed pizza toppings. I can tell you that I never feel so much like a television chef as when I make pizzas in a cast iron skillet over an open fire at -30°F. People bow down and worship me, so grateful are they for melted cheese and hot bread.

If you were to die and come back as an (edible) animal, vegetable, or mineral, what would you like it to be?

I'm pretty committed to "coming back" as compost. I just learned this week that there is a cemetery in my town that allows you to be buried in a shroud. I honestly can't think of anything better.

Where (and/or when) would you most like to dine?

Thinking about that question tonight, I'd say I can't wait to dine at the home of my friends Amy and Andy. In the summertime, we live about 12 minutes apart from each other, and Amy is a tremendous cook. She says, "come for dinner" A LOT. We usually drink beer or

wine and eat cheese and crackers on their deck, which overlooks the Deer Isle bridge over Eggemoggin Reach. Then we go inside for some delicious dish she's found in the *NY Times* or *Cook's Illustrated* or somewhere else. They're basically a vegetarian household, so I don't feel like that pain in the neck dinner guest who doesn't eat meat. During the pandemic, I was in their "pod." I turned 60 the first summer of the pandemic, and Amy made me the most deluxe macaroni and cheese of my life.

When do you have no appetite?

When I'm afraid or extremely sad. It's happened to me a couple of times, for periods of a couple months each. It's scary. I turned to protein power, and switched to thinking of food as medicine I was required to take.

What is your most treasured kitchen implement?

I'm really attached to having a mixer. I don't "treasure" the one I have right now, but I sure love having it. I use it more than most normal people, I think; it sits on my counter, ready to be put to use at the drop of a hat. This year, after years of longing, I got a tabletop convection oven, which I'd wanted for a long time. It has changed my life. I now eat baked potatoes a couple times a week. And make three chocolate chip cookies. And have a Dutch baby for breakfast every Saturday morning.

What do you consider to be the most processed kind of food?

It's an easy mark, I suppose, but something like the Lunchable, that extruded plastic tray filled with extruded food chopped into bite-size bits. Uncrustables are up there, too. I guess anything that has "able" in its name is kind of telling you all you need to know.

What is your favorite aroma?

So many to choose from, but I guess I'd say bread baking. I will say, however, that I spent quite a bit of time wandering around the town of Alba, Italy, looking for the bakery that I was sure must be responsible for that delicious smell, before someone informed me that it was the smell of Nutella being made. I suppose one could get sick of the smell of chocolate and hazelnuts roasting together, but it would take me a while.

What spice, kitchen implement, or cookbook do you use most rarely?

The krumkake iron I inherited from Elsie Mlejnek. I last made krumkake in about 2003.

What do you most value in your friends?

Their willingness to be honest with me about myself. I know someone loves me when they are willing to tell me I'm full of beans.

Who are your favourite food scholars?

I'm grateful for the work of so many people I've gotten to know through the societies of which I am a member: the Agriculture, Food, and Human Values Society, and the Association for the Study of Food and Society. Having said that, the work I keep recommending to people (because it has influenced me so much in my recent work) is Anna Tsing's *The Mushroom at the End of the World*.

With which cuisine do you most identify?

A bunch of years ago, I attended a week-long silent meditation retreat at the Insight Meditation Society. It was an intense experience in a million ways, but one tremendous source of comfort was the food, which was

all vegetarian, abundant and delicious. I decided then that my home cuisine was "meditation retreat." Beyond that, I would say that my kitchen always contains butter, flour, sugar, lemons, olive oil, cheese, capers, onions, garlic, and toasted sesame oil.

What is your most powerful sense?

It is hearing. I have terrible vision, and my senses of smell and taste are just *meh*. On the other hand, I can hear a pin drop in the next county.

What are your favorite agricultural, culinary, or gastronomic words?

Cream. The noun and the verb.

What is it about composting that you most dislike?

Other people's judgment about the fact that I don't care about what the inside of my compost bucket looks like. Oh, and I suppose the fact that I have to walk out to the pile and I usually remember at ten at night.

What would be your best last meal?

Either perfectly toasted bread slathered with butter or a cheese course. (My most recent best meal, however, was a week ago at a Mexican-inspired takeout place here in Maine called El El Frijoles. Halibut with some seared tomatoes, served in a bowl with rice and black beans, and a side salad and homemade tortillas. I would never have put those things together… and it was perfect. I certainly wish someone would hand me such a thing right this minute as I sit here in the rain.)

What foodish epitaph would you assign to yourself?

"She thought about food. A lot. And she made a decent loaf of bread."

What question would you add to this questionnaire?

Something like, "What now-gone historical food would you most like to be able to taste?" Or maybe, "If you had to cook a meal for a stranger using the contents of your refrigerator and cupboard right now, what would you make?

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