

University of British Columbia

Social Ecological Economic Development Studies (SEEDS) Sustainability Program

Student Research Report

Assessing Opportunities Within UBC Campus Food Systems

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Prepared for:

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University of British Columbia

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Disclaimer: "UBC SEEDS Sustainability Program provides students with the opportunity to share the findings of their studies, as well as their opinions, conclusions and recommendations with the UBC community. The reader should bear in mind that this is a student research project and is not an official document of UBC. Furthermore, readers should bear in mind that these reports may not reflect the current status of activities at UBC. We urge you to contact the research persons mentioned in a report or the SEEDS Sustainability Program representative about the current status of the subject matter of a report".



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Assessing Opportunities Within UBC Campus Food Systems

Jaya Kailley

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Tuum Est Experiential Award Recipient

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Contents

- 1.0 Executive Summary 3
- 2.0 Introduction 4
- 3.0 Methods..... 5
 - 3.1 Literature Review of Food Systems Terminology..... 5
 - 3.2 Stakeholder Scan..... 7
 - 3.3 Environmental Policy Scan 7
- 4.0 Results..... 8
 - 4.1 Literature Review of Food Systems Terminology..... 8
 - 4.2 Stakeholder Scan..... 9
 - 4.3 Environmental Policy Scan 11
 - 4.3.1 Sourcing of Food & Procurement..... 11
 - 4.3.2 Provision..... 11
 - 4.3.3 Learning, Education & Research..... 12
 - 4.3.4 Leadership, Culture, Social Environment 12
 - 4.3.5 Waste 12
 - 4.3.6 Energy and Water..... 12
 - 4.4 Emerging Food Justice Gaps in Food Committees 13
 - 4.4.1 Representation of Marginalized Populations in Food Committees..... 13
 - 4.4.2 Representation of Various Cultures in Food Committees 13
- 5.0 Recommendations 14
 - 5.1 Addressing Gaps in Food Committees 14
 - 5.1.1 Representation of Marginalized Populations in Food Committees..... 14
 - 5.1.2 Representation of Various Cultures in Food Committees 14
 - 5.2 Additions to the UBC Food Asset Map 14
 - 5.3 Continued Research on Food Systems Terminology 15
 - 5.4 Possible Stakeholder Framework..... 15
 - 5.5 Continued Research on Food Policies 16
- 6.0 Conclusion..... 16
- References 17
- Appendices 18
 - Appendix A: Table of Terms and Definitions..... 18
 - Appendix B: Environmental Policy Scan..... 25
 - Appendix C: Mapping UBC Food Asset Report..... 26

1.0 Executive Summary

At UBC, there exist various initiatives, approaches, and policies related to food and food systems. There also exist various food-related initiatives such as the Food and Nutrition Committee, the Food Systems Project, and the Food Security Initiative, which have expressed interest in strategic alignment to strengthen existing work on campus. This includes the potential for a wider food policy at UBC, as well as a campus-wide food coalition. In order to provide the foundation for future advocacy work and strategic planning around food, this project includes a review of key terms and definitions in food systems discourse, key stakeholders and themes in food work at UBC, and an environmental scan of policies at university levels.

The findings from the literature review revealed that key themes in food systems discourse at UBC and beyond include food, health, justice, climate, biodiversity, energy, waste, and sustainability. Descriptions of key food-related stakeholders were also provided. The university-level policy scan revealed 6 key themes: (1) sourcing of food & procurement, (2) provision, (3) learning, education & research, (4) waste, and (5) energy & water.

This analysis led to the emergence of two gaps around food justice: (1) representation of marginalized populations in food committees, and (2) representation of various cultures in food committees. Recommendations to fill the identified gaps were provided. In this project, the author chose to focus on food justice; however, there is a high probability that gaps in food committees exist in many themes identified in the literature review. Future research should explore gaps in other themes identified through the literature review and policy scan.

Other recommendations for future research included the following:

1. Addition of the following stakeholders to the Food Systems Project (FSP) Food Asset Map:
 - (1) Liu Institute for Global Issues (research centre in the School of Public Policy and Global Affairs)
 - (2) PPGA (course category in the School of Public Policy and Global Affairs)
 - (3) ASIA (course category in the Department of Asian Studies)
2. Producing a visual (i.e. Venn diagram) that shows the relationships between various terms, themes, and stakeholders on campus.
3. Using a stakeholder framework to further analyze the composition of food committees and see if there are any more gaps
4. Review of other key policies at university levels, as well as policies at regional, national, and international levels.

The author hopes that this research contributes some knowledge that may be used to:

1. Increase inclusivity in future food committees at UBC, and
2. Create a unified campus food policy that considers all groups in the campus ecosystem.

2.0 Introduction

The UBC food system is incredibly complex, with many different departments, committees, and initiatives working to advance food system sustainability on campus. Food systems encompass the “entire range of actors and their interlinked value-adding activities involved in the production, aggregation, processing, distribution, consumption and disposal of food products that originate from agriculture, forestry or fisheries, and parts of the broader economic, societal and natural environments in which they are embedded.”(Nguyen, 2018) Food systems are influenced by a diverse set of historical, religious, social, cultural and economic factors around the world (Food and Agriculture Organization of the United Nations & World Health Organization, 2019). A sustainable food system “delivers food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition for future generations are not compromised.”(Nguyen, 2018) A sustainable food system is economically, socially, and environmentally sustainable, meaning it is “profitable throughout”, beneficial to society, and has net positive or neutral effects on the natural environment (Nguyen, 2018).

At UBC, there exist various initiatives, approaches, and policies related to food and food systems. There are also various food-related initiatives on campus such as the Food and Nutrition Committee, the Food Systems Project, and the Food Security Initiative, which have expressed interest in strategic alignment to strengthen existing work on campus. This includes the potential for a wider food policy at UBC, as well as a campus-wide food coalition.

This project was meant to provide an introduction to the terms used in food discourse, a list of certain key stakeholders involved in food work at UBC, and food policy work that has been done at other universities. Another goal was to identify if any groups are underrepresented in current food committees on campus. Although many gaps likely exist, this report focused on gaps in food justice.

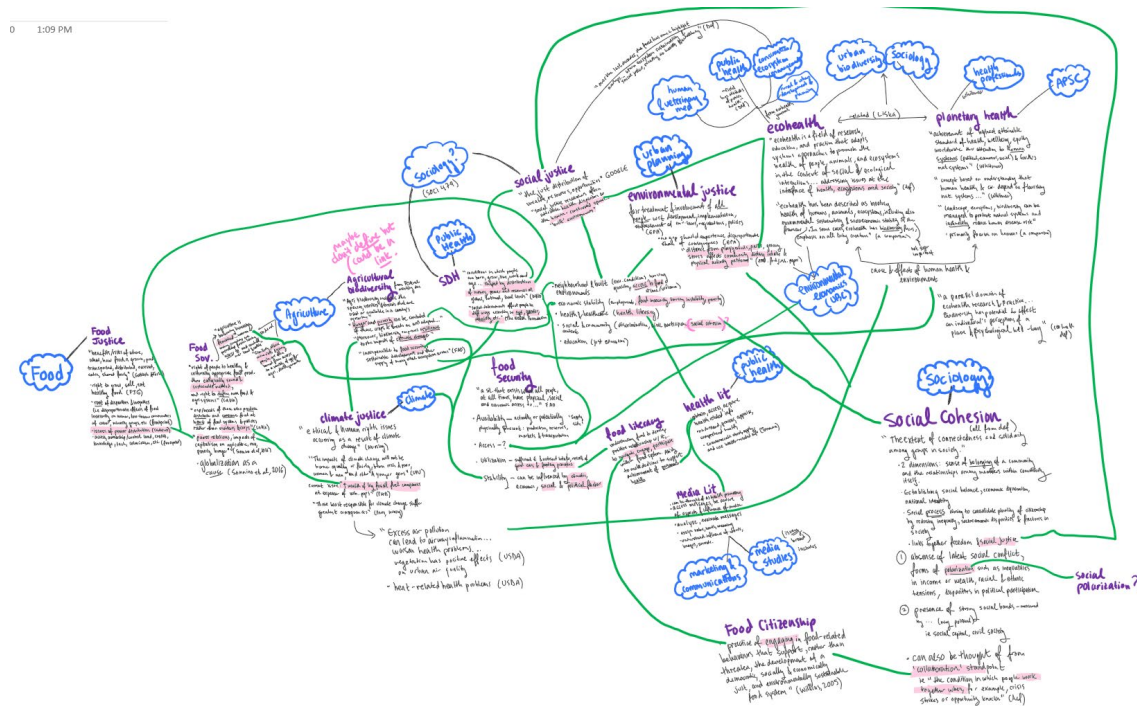
3.0 Methods

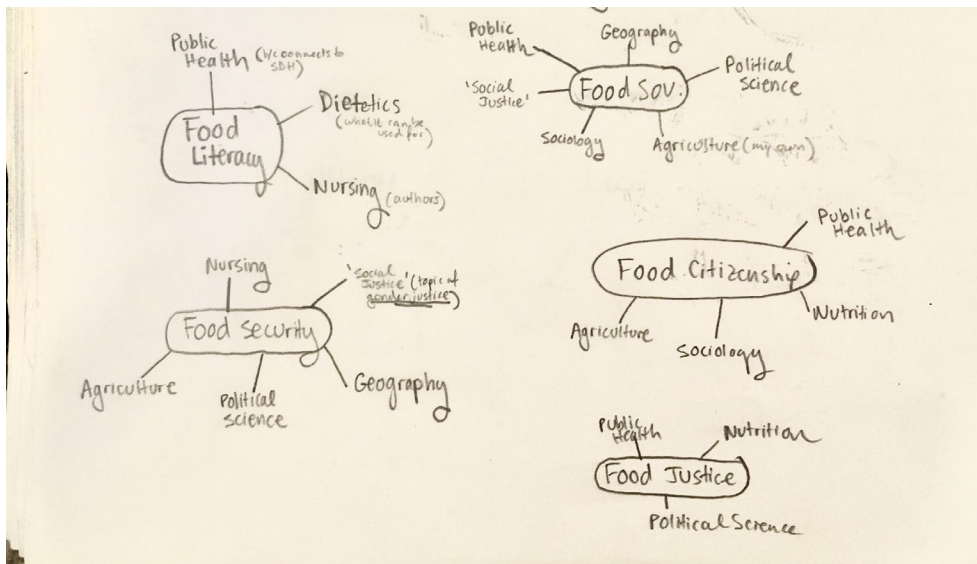
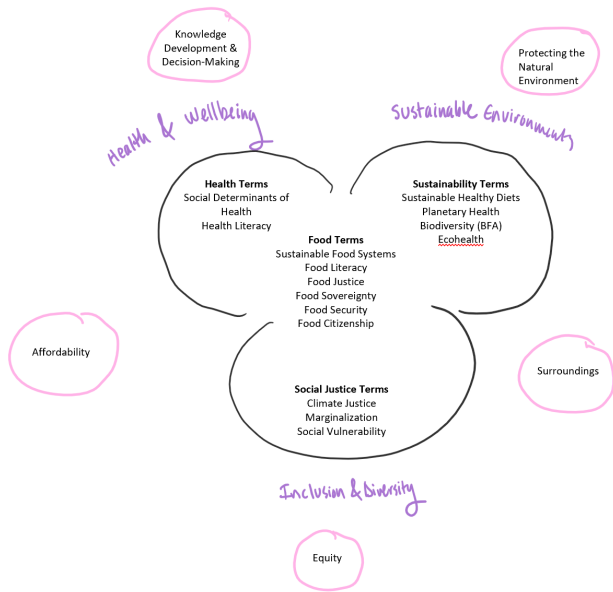
3.1 Literature Review of Food Systems Terminology

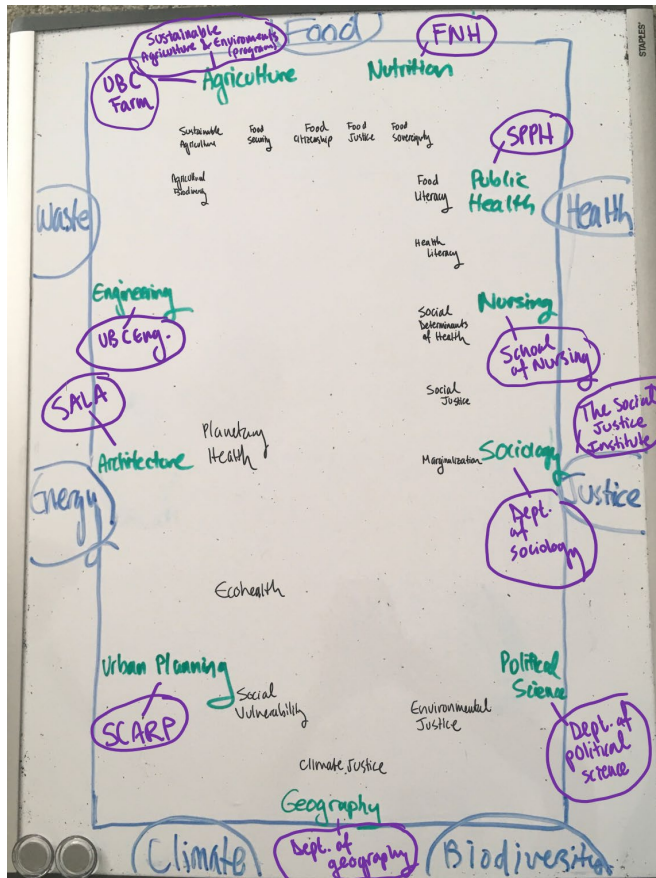
The author started by sourcing key food terms from introductory land and food systems courses (LFS250 and LFS350) at UBC. These key food terms were food security, food justice, food sovereignty, food literacy, and food citizenship. These key food terms were then searched in Google Scholar, PubMed, and UBC Library Summon Search. The author selected scholarly and grey literature from different stakeholders to learn how the key food terms were framed in different disciplines. The scholarly and grey literature review also led to the inclusion of new terms which were intertwined with the original five LFS terms. For example, a search for 'food justice' led to articles which also used the terms 'social justice' and 'environmental justice.' Scholarly and grey literature that did not make significant reference to the five key LFS food terms mentioned previously were not reviewed.

From the review of terms, the author extracted eight key themes in the broader food systems discourse: food, health, justice, climate, biodiversity, energy, waste, and sustainability.

Throughout this process, the author completed various mapping exercises to condense terms to key themes in food systems discourse. Several of these mapping exercises are included below:







3.2 Stakeholder Scan

There are various stakeholders on campus using the terms and themes identified in the above literature review. The author used the UBC Food Asset Map internal document and the Food Security Initiative Stakeholder Assessment + Engagement + Communications internal document and Terms of Reference documents as resources to identify stakeholders. Inclusion criteria for stakeholders was specific relation to food (core course, research area, main priority, etc.) and prevalence in discussions with the Food Insecurity Project Manager and the Food Insecurity Applied Research Coordinator. This is not a comprehensive list of stakeholders. In the recommendations section, the author used Terms of Reference documents for the Food Security Initiative, the Food Systems Project, and the Food and Nutrition Committee to attempt to categorize stakeholders based on their function in the campus food system. Furthermore, information about stakeholders and their function in the campus food systems can help fill the gaps identified in the results section.

3.3 Environmental Policy Scan

The author completed a google search using the term 'university food strategy' to find university-wide food policies outside of UBC. The search was not specific to a particular region or university. Ten policies were identified, and three were chosen randomly to review in this report for common themes.

4.0 Results

4.1 Literature Review of Food Systems Terminology

The broader food system faces many complex, interdisciplinary challenges. For example, food systems are affected by overlapping issues of climate change, pollution and biodiversity loss, injustice and inequity, energy consumption, and increased levels of waste (Nguyen, 2018). From sustainable production of food, to healthy eating, to minimizing food waste, interdisciplinary action is required to overcome the challenges the wider food system faces (Nguyen, 2018). Figure 1 below outlines some of the interdisciplinary key themes in food system discussions.

Figure 1: Key Themes in Food Systems Discourse

Food	Health	Justice	Climate
Biodiversity	Energy	Waste	Sustainability

Food-related stakeholders in different fields use different terminology to discuss the various topics relating to food systems. To help aid in understanding the interdisciplinary lenses and points of view used by various food-related stakeholders to discuss common themes in food systems discourse, a collection of interdisciplinary terms is provided below in Figure 2. A comprehensive list of definitions for these terms is provided in the Appendix A of this report.

Figure 2: Key Terms in Food Systems Discourse

Agricultural Biodiversity	Agroecology	Climate Justice	Climate Smart Agriculture	Ecohealth
Environmental Health	Environmental Justice	Food Citizenship	Food Justice	Food Literacy
Food Safety	Food Security	Food Sovereignty	Health Literacy	Marginalization
Planetary Health	Social Cohesion	Social Determinants of Health	Social Justice	Social Vulnerability
Sustainable Agriculture	Sustainable Food System	Food System Sustainability	Sustainable Healthy Diets	Food Sustainability

Many relationships exist between these terms and related disciplines. In addition, there are many different ‘framings’ through which these terms are discussed. To give a key example, ‘food security’ is defined by the Food and Agriculture Organization of the United Nations (FAO) as “a situation that exists

when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.”(FAO, 2019). Food security is discussed in disciplines not only directly related to food, but also fields such as nursing using a health-based approach (Schroeder & Smaldone, 2015) and geography using a political and space-based approach (Sonnino et al., 2016). Food security is inherently a transdisciplinary concept, relating to many different facets of the food system and beyond.

Many concepts lie at the intersection between disciplines. Such an example is ‘ecohealth’, a field that “adopts systems approaches to promote the health of people, animals, and ecosystems in the context of social and ecological interactions” and draws upon knowledge from the natural, health, and social sciences (Parkes et al., 2014). Other examples include ‘climate justice’, which frames climate change as an ethical and human rights issue (Nicholas & Breakey, 2017) and ‘agroecology’, the science of relationships between organisms in the context of agricultural production systems (Krall, 2015).

Concepts may also be broadly grouped based on underlying principles. Social justice, environmental justice, food justice, and climate justice are all based on issues of justice. Likewise, sustainable agriculture, sustainable food systems, food system sustainability, sustainable healthy diets, and food sustainability are all based on the principles of sustainability. Key themes found in this research are provided in Figure 1.

These key terms and themes in the broader food systems discourse can help identify if any stakeholders on campus are missing from existing conversations around food at UBC. Ultimately, this review aims to bring these various terms together in conversation, to facilitate discussion between different disciplines with connections to food work, thereby harmonizing existing food work and bringing about new thoughts and ideas in future advocacy work on campus.

4.2 Stakeholder Scan

There has been interest expressed from various members of food committees to have a comprehensive map outlining current representation in food committees to help with identifying gaps. A list of the included stakeholders in this project with a proposed grouping can be found in the recommendations section of this report.

General Information about Chosen Stakeholders

The Faculty of Land and Food Systems is at the heart of food-related academics at UBC. With various degree programs such as Food, Nutrition and Health, Applied Biology, Global Resource Systems, and Food & Resource Economics, LFS provides a multitude of opportunities to learn about the function and application of food systems at UBC and beyond (adapted from LFS website). Currently, there are various LFS faculty members involved in UBC food committees.

Aside from the faculty of Land of Food Systems, there is work being done on food system sustainability and food security across many departments and faculties at UBC. For example, there are various food system-related courses associated with the Sauder School of Business, the Department of Curriculum

and Pedagogy in the Faculty of Education, the Department of Botany in the Faculty of Science, the Department of Earth, Ocean, and Atmospheric Sciences in the Faculty of Science, the Department of Anthropology in the Faculty of Arts, the School of Community and Regional Planning in the Faculty of Applied Science, and the School of Public Policy and Global Affairs (adapted from UBC Food Asset Map).

UBC Wellbeing uses a systems-wide approach to wellbeing to guide daily interactions, decisions, policy planning, and program development. The organization has 6 main priority areas, one of which is Food and Nutrition. UBC Wellbeing supports the movement towards becoming a nutritionally sound campus (adapted from UBC Wellbeing website). Another area of teaching and research and a component of Campus & Community Planning, the SEEDS Sustainability Program provides opportunities for students, staff, community partners and faculty to collaborate in research to advance sustainability on campus (adapted from SEEDS website). Research at SEEDS is highly interdisciplinary, including but not limited to work around food systems.

The Faculty of LFS contains various research centres such as the CSFS, Dairy Education & Research Centre, the Wine Research Centre, and the Centre for Food, Resource and Environmental Economics. The Centre for Sustainable Food Systems (CSFS) at UBC Farm is committed to finding ways to overcome challenges in the path to a sustainable, food-secure future through teaching and research (adapted from UBC Farm website).

Another research centre with significant relevance to food systems is The Institute for Resources, Environment, and Sustainability (IRES). This institute focuses on a wide range of topics under the realm of environment and sustainability (from IRES website). Experts at this institute are well-versed in food systems topics such as resource management, sustainable agriculture, and food security (from Food Asset Map).

Another opportunity for research collaboration is The Liu Institute for Global Issues in the School of Public Policy and Global Affairs, an interdisciplinary research hub working to advance sustainability, security, and social justice. This institute has various research networks including the 'Food Systems Network' (FSN), which has the overall goal of increasing collaboration and interdisciplinary conversations about local and global challenges our food system faces (adapted from Liu website).

UBC Food Services, a self-funded, ancillary department of UBC, has various food outlets across campus that use 60% locally sourced food and provide discounts to customers using reusable containers. They also abide by Ocean Wise standards and support Fair Trade (adapted from Food Asset Map). There are various UBC Food Service Outlets on campus, including residence dining halls, food trucks, fine dining, and casual eateries.

The First Nations House of Learning is an indigenous organization on campus that provides various services to support our Aboriginal community, including a weekly lunch for Aboriginal students (adapted from Food Asset Map).

The AMS has various food outlets across campus, and profits from these outlets go to clubs, services, and programs to create a better UBC experience for students (adapted from the AMS Eat page). The AMS food bank provides various services for UBC students in need (adapted from the AMS Food Bank page). There also exist independent student-run outlets on campus such as Agora Cafe and Sprouts (adapted from Food Asset Map).

Wellness Peers are trained students who work at the Wellness Centre at UBC, providing health-related advice and resources for students, including nutritional advice (adapted from Food Asset Map). Another student-run club, Roots on the Roof manages the garden space on the roof of the AMS Nest, promoting the sustainable production of food and interactions around food, culture, health, and sustainability through events and workshops (adapted from Food Asset Map). The Land and Food Systems Undergraduate Society works to strengthen the LFS student community by organizing events to promote well-being, including low cost Wednesday Night Dinners (adapted from LFSUS website).

4.3 Environmental Policy Scan

Ten policies were identified from an environmental scan of policies at various universities. Three food policies were chosen randomly and reviewed in this report: (1) the Good Food Policy at the University of Edinburgh, (2) the Sustainable Food Policy at the University of St. Andrews, and (3) the Sustainable Food Action Plan at the University of Virginia. Six common key themes in these policies were identified and are outlined below. For a chart of the policies identified in the scan, please see Appendix B.

Wider food policies were not found at Canadian universities outside of UBC. For a review of existing UBC food-related policies, please see the Mapping UBC Food Assets Final Report by Wendee Lang (Appendix C).

4.3.1 Sourcing of Food & Procurement

The Good Food Policy by the University of Edinburgh aims to meet environmentally, socially, and economically sustainable standards by using ingredients that minimize harm to the environment, sourcing sustainable, seasonal fish and seafood, upholding their Fair Trade Policy, supporting local food enterprises and businesses, and emphasizing seasonal ingredients on their menus (University of Edinburgh, 2019). Likewise, the Sustainable Food Policy by The University of St. Andrews works to procure fresh, nutritious food, uphold their Fairtrade certification and certification requirements for specific foods, promotion and supply of seasonal foods, and encouragement of local food growth and use (University of St Andrews, 2019). The Sustainable Food Action Plan at the University of Virginia also includes strategies to increase sourcing of local foods and access to community-based producers (University of Virginia, 2018).

4.3.2 Provision

The Good Food Policy by the University of Edinburgh outlines the provision of nutritional, fresh, sustainable food, including higher quality meat and attractive vegan and vegetarian options (University of Edinburgh, 2019). The policy also aims to help people make informed decisions about eating by

highlighting sustainability and health aspects at the point of sale. In addition, the policy encourages sustainable water consumption and discourages the use of bottled water by increasing accessibility to tap water and charging higher prices for bottled water. Likewise, the Sustainable Food Policy by the University of St. Andrews aims to promote and increase awareness of sustainable food at the university, as well as availability of tap water at every catering outlet (University of St Andrews, 2019). The Sustainable Food Action Plan at the University of Virginia also aims to increase plant-based options in dining facilities (University of Virginia, 2018).

4.3.3 Learning, Education & Research

The Good Food Policy by the University of Edinburgh supports initiatives and opportunities (staff and student-led activities) to learn about sustainable food and practical skills, as well as research and teaching on sustainable food systems (University of Edinburgh, 2019). Likewise, the Sustainable Food Policy by the University of St. Andrews supports relevant research in food and aims to work with various University Units and academics to design Living Lab projects (University of St Andrews, 2019). The Sustainable Food Action Plan by the University of Virginia also aims to raise awareness of sustainable food systems through a food messaging campaign, strategic events, signage, food studies and research (University of Virginia, 2018).

4.3.4 Leadership, Culture, Social Environment

The Good Food Policy by the University of Edinburgh outlines opportunities for discussion between students, staff, and researchers, public advertisement of the policy itself, partnership within the community to promote Good Food, demonstrating leadership, and collaborating in efforts to procure good food and related services. It also recognizes that good food should be culturally diverse (University of Edinburgh, 2019). Likewise, the Sustainable Food Policy by the University of St. Andrews outlines support of culturally diverse meal choices and partnerships with various groups and agencies (University of St Andrews, 2019). The Sustainable Food Action Plan by the University of Virginia also outlines strategies to form institutional partnerships in the broader community, with goals of sharing best practices, growing local food, advancing food justice at the university and in the broader community, and increasing purchase of local foods (University of Virginia, 2018).

4.3.5 Waste

The Good Food Policy by the University of Edinburgh aims to minimize food and packaging waste, including the removal of single use disposables whenever possible (University of Edinburgh, 2019). The Sustainable Food Policy by the University of St. Andrews also contains reference to reduction of disposable items and food waste (University of St Andrews, 2019). The Sustainable Food Action Plan by the University of Virginia contains several targets to reduce food waste and single-use food serving items by minimizing food waste in food preparation, consumption, and catering services (University of Virginia, 2018).

4.3.6 Energy and Water

The Good Food Policy by the University of Edinburgh aims to reduce energy and water through proper management of facilities and events (University of Edinburgh, 2019). Likewise, The Sustainable Food

Action Plan by the University of Virginia outlines strategies for the reduction of water and energy in dining operations (University of Virginia, 2018).

4.4 Emerging Food Justice Gaps in Food Committees

Although there is a high probability that gaps in food committees exist in many themes identified in the literature review, I focused on gaps in food justice in current food committees.

The Sustainable Food Action Plan by the University of Virginia defines food justice as “a holistic understanding of the rights of communities to shape the production, distribution, preparation, and enjoyment of healthy, culturally reflective food” (University of Virginia, 2018). Allowing historically marginalized communities to take on leadership roles in food work is a necessity for advancing food justice (University of Virginia, 2018). The literature shows that marginalized groups are more susceptible to food insecurity (FAO, 2019). In addition, lack of access to culturally diverse meal choices can lead to food insecurity (Schroeder & Smaldone, 2015).

The criteria used to identify gaps was lack of certain stakeholders represented in the Terms of Reference documents for the following food committees: (1) Food Systems Project, (2) the Food and Nutrition Committee, and (3) the Food Security Initiative.

Filling the gaps outlined below in future food committees will help advance work in food justice and food security on campus.

4.4.1 Gap 1: Representation of Marginalized Populations in Food Committees

Marginalized populations are vulnerable to the problems of the food system (FAO, 2019). For example, it is known that marginalized groups are at a higher risk of food insecurity (FAO, 2019). Allowing historically marginalized communities to take on leadership roles in food work is a necessity for advancing food justice (University of Virginia, 2018). Considering the Terms of Reference documents for current food committees, there is a lack of representation from stakeholders working with marginalized groups.

In the future, when starting a food committee, UBC should make a concerted effort to ensure that marginalized groups are represented.

4.4.2 Gap 2: Representation of Various Cultures in Food Committees

A lack of access to culturally appropriate food is one of the many causes of food insecurity (Schroeder & Smaldone, 2015). Students at UBC come from various cultural backgrounds, and having “access to, sharing and celebrating traditional foods can be key to maintaining their cultural identity, managing culture shock, and staying healthy in a new environment” (Lang, 2018). Food policies from the University of Edinburgh, the University of St. Andrews, and the University of Virginia all outline the importance of having access to culturally diverse food on campus. (University of Edinburgh, 2019; University of St Andrews, 2019; University of Virginia, 2018)

Based on the Terms of Reference documents for current food committees, there is a lack of representation of stakeholders representing different cultural groups. In the future, when starting a food committee, UBC should make a concerted effort to ensure that various cultural groups are represented.

5.0 Recommendations

5.1 Addressing Gaps in Food Committees

Opportunities for collaboration to address the gaps identified above are expanded upon below.

5.1.1 Representation of Marginalized Populations in Food Committees

Recommendations for stakeholders to contact in the future are (1) First Nations House of Learning, (2) the Liu Institute for Global Issues. The First Nations House of Learning works to make the University's resources more accessible to Indigenous people. The unit has various initiatives including a community lunch for Indigenous students (adapted from FNHL website). The Liu Institute for Global issues in the School of Public Policy and Global Affairs is a research centre working to advance sustainability, security, and social justice, with a focus on lower income communities. This institute has various global research networks including the 'Food Systems Network' (FSN), which has the overall goal of increasing collaboration and interdisciplinary conversations about local and global challenges our food system faces (adapted from Liu Institute Website).

5.1.2 Representation of Various Cultures in Food Committees

Examples of academic departments to contact in the future include (1) Department of Anthropology and (2) Department of Asian Studies. Experts in these departments could provide meaningful input in existing conversations around food security and culture. There are also various student cultural clubs on campus, including but not limited to the Turkish Student Association and the Association of Bangladeshi Students that could be contacted when forming future food committees.

5.2 Additions to the UBC Food Asset Map

A resource that greatly helped move this project forward, the UBC Food Asset Map was created to help others learn about various food-related resources on campus. From my research, I would recommend adding the following to the map:

- a. **Liu Institute for Global Issues (research centre in the School of Public Policy and Global Affairs).** This institute contains a Food Systems Network, which works to increase collaboration and interdisciplinary conversations about local and global challenges our food system faces.
- b. **PPGA (course category in the School of Public Policy and Global Affairs).** The course "PPGA 562" called "Resource Governance, Environment and Human Security" covers issues such as food security and sovereignty (adapted from PPGA562 course description on the UBC Student Service Centre website).

- c. **ASIA (course category in the Department of Asian Studies).** The course “ASIA 495” called “Folk Cultures in the Asian Diaspora” covers the mediation of folklore (including foodways) in the lives of Asian communities (adapted from ASIA 495 course description on the UBC Student Service Centre website)

5.3 Continued Research on Food Systems Terminology

This research provided a chart of key terms and themes in food systems discourse. There has been interest expressed in producing a visual (i.e. Venn diagram) that shows the relationships between these terms/themes and campus stakeholders.

5.4 Possible Stakeholder Framework

There has been interest expressed from various members of food committees to have a comprehensive map outlining current representation in food committees to help with identifying gaps. In order to complement work being done on the Campus Food System Knowledge Networks Map (a resource being developed to show current representation in UBC food committees), this section proposes a method of organization to further analyze the composition of current committees (Figure 3). It is important to note that this is by no means a comprehensive review of every food-related stakeholder at UBC; rather, it is a framework that can be used to diversify future food coalitions.

Figure 3: Proposed Method to Categorize Various Food-Related Stakeholders

ACADEMICS	UNITS AND RESEARCH CENTRES	FOOD-PROVISIONING SERVICES (NOT STUDENT RUN)	STUDENT FOOD-PROVISIONING SERVICES AND ORGANIZATIONS
Faculty of LFS	UBC Wellbeing	UBC Food Service Residence Dining	LFS Undergraduate Society
Sauder School of Business	LFS Research Centres (CSFS/UBC Farm, Dairy Education & Research Centre, etc.)	UBC Food Service Food Trucks	AMS (Food and Beverage Outlets, Food Bank, Clubs)
Department of Curriculum and Pedagogy	Campus + Community Planning	UBC Food Service Fine Dining Outlets	Independent Student-run Food Outlets (i.e. Agora Cafe, Sprouts)
Department of Botany	SEEDS Sustainability Program	UBC Food Service Casual Dining	Roots on the Roof
Department of Earth, Ocean and Atmospheric Sciences	Institute for Resources, Environment and Sustainability (IRES)	The First Nations House of Learning	Wellness Centre (Wellness Peers)
Department of	Liu Institute for Global		

Anthropology	Issues		
Department of Sociology			
School of Community and Regional Planning (SCARP)			
School of Public Policy and Global Affairs			

5.5 Continued Research on Food Policies

Due to time constraints, only a few key policies identified in the scan were reviewed in full in this project. To fully inform future policymaking, including the possibility for a wider food policy at UBC, future research should review other key policies at university levels, as well as policies at regional, national, and international levels.

6.0 Conclusion

The theme of food comes up in many different policies and initiatives at UBC; however, various food-related initiatives at UBC have expressed interest in strategic alignment to strengthen existing food work at UBC. An interdisciplinary review of key terms and definitions led to 6 key themes in food systems discourse: food, health, justice, climate, biodiversity, energy, waste, and sustainability. Through discussions with experts, certain key food-related stakeholders on campus were identified. Finally, a policy scan was conducted at university levels giving rise to 6 more key themes: (1) sourcing of food & procurement, (2) provision, (3) learning, education and research, (4) leadership, culture and social environment, (5) waste, and (6) energy & water. The analysis of terms, themes, stakeholders, and existing policies revealed gaps around food justice in current food committees. Recommendations were provided for bridging these gaps.

The author hopes that this research contributes some knowledge that may be used to:

3. Increase inclusivity in future food committees at UBC, and
4. Create a unified campus food policy that considers all groups in the campus ecosystem.

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Appendices

Appendix A: Table of Terms and Definitions

Terms	Definition	Source
Agricultural Biodiversity	“Agricultural biodiversity includes the species, varieties and breeds that are used or available in a country’s agriculture. It is essential for productive, efficient and sustainable farming.”	“What is sustainable agriculture?” (Krall, 2015) https://www.giz.de/en/downloads/giz2015-en-what-is-sustain-agric.pdf
Agroecology	“Agroecology is defined by Marin and Sauerborn in their 2013 book of the same name as the science of the relationships of organisms in an environment purposely transformed by man for crop or livestock production”	“What is sustainable agriculture?” (Krall, 2015) https://www.giz.de/en/downloads/giz2015-en-what-is-sustain-agric.pdf
Climate Justice	“Climate justice is a concept that refers to the ethical and human rights issues that occur as a result of climate change. The issues of justice - particularly social justice, environmental justice, and advocacy - are integrally linked to the movement to address climate change. Inherent in the concept of climate justice is the recognition that those least responsible for climate change experience the greatest negative impacts to their well-being.”	“Climate Change, Climate Justice, and Environmental Health: Implications for the Nursing Profession” (Nicholas & Breakey, 2017) https://sigmapubs.onlinelibrary.wiley.com/doi/full/10.1111/jnu.12326
Climate Smart Agriculture	“Climate smart agriculture is defined by the FAO as an approach to developing the technical, policy and investment	“What is sustainable agriculture?” (Krall, 2015) https://www.giz.de/en/downloads/giz2015-en-what-is-sustain-agric.pdf

	conditions to achieve sustainable agricultural development for food security under climate change”	
Ecohealth	<p>“Ecohealth is a field of research, education, and practice that adopts systems approaches to promote the health of people, animals, and ecosystems in the context of social and ecological interactions. Health is seen as encompassing social, mental, spiritual, and physical well-being and not merely the absence of disease. As a contraction of “ecosystem approaches to health,” ecohealth emphasizes human agency and systemic thinking to promote well-being and quality of life. As a field of scholarship, ecohealth research draws on the natural sciences, health sciences, social sciences, the humanities, and beyond, often working in collaboration with interested parties and community members to address issues at the interface of health, ecosystems, and society.”</p>	<p>“Ecohealth” in the Encyclopedia of Quality of Life and Well-Being Research (Parkes et al., 2014) https://link.springer.com/referenceworkentry/10.1007%2F978-94-007-0753-5_4172</p>
Environmental Health	<p>“Environmental health consists of preventing or controlling disease, injury, and disability related to the interactions between people and their environment”</p>	<p>“Environmental Health” (ODPHP) https://www.healthypeople.gov/2020/topics-objectives/topic/environmental-health</p>
Environmental Justice	<p>“Environmental justice (EJ) is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement</p>	<p>“Learn About Environmental Justice” (EPA) https://www.epa.gov/environmentaljustice/learn-about-environmental-justice</p>

	of environmental laws, regulations and policies.”	
Food Citizenship	“The term food citizenship is defined as the practice of engaging in food-related behaviors that support, rather than threaten, the development of a democratic, socially and economically just, and environmentally sustainable food system.”	“Eating Right Here: Moving from Consumer to Food Citizen” (Wilkins, 2005) https://link.springer.com/article/10.1007/s10460-005-6042-4
Food Justice	“Food justice seeks to ensure that the benefits and risks of where, what and how food is grown, produced, transported, distributed, accessed and eaten are shared fairly. Food justice represents a transformation of the current food system, including but not limited to eliminating disparities and inequities.”	“Food Justice” (Gottlieb & Joshi, 2010) https://foodsecurecanada.org/community-networks/food-justice
Food Literacy	“Food literacy is the ability of an individual to understand food in a way that they develop a positive relationship with it, including food skills and practices across the lifespan in order to navigate, engage, and participate within a complex food system. It’s the ability to make decisions to support the achievement of personal health and a sustainable food system considering environmental, social, economic, cultural, and political components.”	“Food Literacy: Definition and Framework for Action” (Cullen et al., 2015) https://doi.org/10.3148/cjdpr-2015-010
Food Safety	“Food safety is a scientific discipline describing handling, preparing, and storing food in ways that prevent food-borne	“Chapter 1 – Food Safety and Quality” (Jha, 2016). https://doi.org/10.1016/B978-0-12-420084-5.00001-9

	illness. Food safety is, therefore, an increasingly important public health issue.”	
Food Security	“A situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.”	“The State of Food Security and Nutrition in the World” (FAO, 2019) http://www.fao.org/3/ca5162en/ca5162en.pdf
Food Sovereignty	“The core principle of food sovereignty is that all peoples of the earth - food producers in association with other citizens - have the right to define and construct their own food system, from the local level to the global level”	“The United Nations Declaration on the Rights of Peasants: A Tool in the Struggle for our Common Future” (Hubert, 2019) https://viacampesina.org/en/wp-content/uploads/sites/2/2020/07/The-UN-Declaration-on-the-Rights-of-Peasants.pdf
Food Sustainability	“Food sustainability is about generating food at a productivity level that is enough to maintain the human population.”	“Food Sustainability in the Context of Human Behavior” (Morawicki & González, 2018) https://www.researchgate.net/publication/326089224_Food_Sustainability_in_the_Context_of_Human_Behavior
Food System Sustainability	“A sustainable food system (SFS) is a food system that delivers food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition for future generations are not compromised.”	“Sustainable food systems: Concept and framework - FAO” (Nguyen, 2018) http://www.fao.org/3/ca2079en/CA2079EN.pdf
Health Literacy	“Health literacy is the use of a wide range of skills that improve the ability of people to act on information in order to live healthier lives. These skills include reading, writing, listening, speaking, numeracy, and critical	“The Calgary Charter on Health Literacy: Rationale and Core Principles for the Development of Health Literacy Curricula” http://www.centreforliteracy.qc.ca/sites/default/files/CFL_Calgary_Charter_2011.pdf

	analysis, as well as communication and interaction skills.”	
Marginalization	“It refers to the process of pushing particular groups of people - usually minorities such as indigenous people or rural women - to the edge of society by not allowing them to have an active participation, identity or place in society.”	“The State of Food Security and Nutrition in the World” (FAO, 2019) http://www.fao.org/3/ca5162en/ca5162en.pdf
Planetary Health	“Our definition of planetary health is the achievement of the highest attainable standard of health, wellbeing, and equity worldwide through judicious attention to the human systems - political, economic, and social - that shape the future of humanity and the Earth’s natural systems that define the safe environmental limits within which humanity can flourish.”	“Safeguarding human health in the Anthropocene epoch: report of The Rockefeller Foundation- <i>Lancet</i> Commission on planetary health” (Whitmee et al., 2015) https://www.thelancet.com/journals/lan/article/PIIS0140-6736(15)60901-1/fulltext
Social Cohesion	“Social cohesion refers to the extent of connectedness and solidarity among groups in society. It identifies two main dimensions: the sense of belonging of a community and the relationships among members within the community itself. It stems from a democratic effort to establish social balance, economic dynamism, and national identity, with the goals of founding a system of equity, sustaining the impulses of uncontrolled economic growth, and avoiding social fractures.”	“Social Cohesion” in the Encyclopedia of Quality of Life and Well-Being Research (Manca, 2014) https://doi.org/10.1007/978-94-007-0753-5_2739
Social Determinants of	“The social determinants of	“Health in all Policies - Training Manual.”

Health	health are the conditions in which people are born, grow, live, work and age. These circumstances are shaped by the distribution of money, power and resources at global, national and local levels.”	(WHO, 2015) https://apps.who.int/iris/bitstream/handle/10665/151788/9789241507981_eng.pdf?sequence=1
Social Justice	“By ‘social justice’ we mean an equitable distribution of fundamental resources and respect for human dignity and diversity, such that no minority group’s life interests and struggles are undermined and that forms of political interaction enable all groups to voice their concerns for change.”	“Citizenship, Human Rights, and Social Justice” (Basok et al., 2006) https://doi-org.ezproxy.library.ubc.ca/10.1080/13621020600772040
Social Vulnerability	“Social vulnerability is the likelihood that people and the way they live will be harmed by a natural hazard because of the influence of economic, political, and social factors. It requires that there be a defined entity that is vulnerable (people and human systems), a hazard that can potentially cause harm to them, and an explanation of the causes of that vulnerability that is rooted in society.”	“Social Vulnerability and Environmental Hazards (Cannon, 2017) - abstract only. https://onlinelibrary.wiley.com/doi/abs/10.1002/9781118786352.wbieg0845
Sustainable Agriculture	“Sustainable agriculture puts the emphasis on methods and processes that improve soil productivity while minimising harmful effects on the climate, soil, water, air, biodiversity and human health; aims to minimise the use of inputs from non-renewable sources and petroleum-based products and replace them with those from	“What is sustainable agriculture?” (Krall, 2015) https://www.giz.de/en/downloads/giz2015-en-what-is-sustain-agric.pdf

	<p>renewable resources; focuses on local people and their needs, knowledge, skills, socio-cultural values and institutional structures; ensures that the basic nutritional requirements of current and future generations are met in both quantity and quality terms; provides long-term employment, an adequate income and dignified and equal working and living conditions for everybody involved in agricultural value chains; reduces the agricultural sector’s vulnerability to adverse natural conditions (e.g. climate), socio-economic factors (e.g. strong price fluctuations) and other risks; fosters sustainable rural institutions that encourage the participation of all shareholders and promote the reconciliation of interests.”</p>	
Sustainable Food System	<p>“A sustainable food system (SFS) is a food system that delivers food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition for future generations are not compromised.”</p>	<p>“Sustainable food systems: Concept and framework - FAO” (Nguyen, 2018) http://www.fao.org/3/ca2079en/CA2079EN.pdf</p>
Sustainable Healthy Diets	<p>“Sustainable Healthy Diets are dietary patterns that promote all dimensions of individuals’ health and wellbeing; have low environmental pressure and impact; are accessible, affordable, safe and equitable; and are culturally acceptable.”</p>	<p>“Sustainable Healthy Diets – Guiding Principles. Rome.” (FAO and WHO. 2019). http://www.fao.org/3/ca6640en/ca6640en.pdf</p>

Appendix B: Environmental Policy Scan

Name	University	Country	Link
Good Food Policy	Edinburgh	Scotland	https://www.ed.ac.uk/sustainability/governance-publications-reports/good-food-policy
Sustainable Food Policy	St. Andrews	Scotland	https://www.st-andrews.ac.uk/policy/estate-environmental-sustainability-food-sourcing/sustainable-food-policy.pdf
Sustainable Food Policy	Glasgow	Scotland	https://www.gla.ac.uk/media/Media_694442_smxx.pdf and https://www.gla.ac.uk/myglasgow/sustainability/sustainablefood/
Sustainable Food Strategy	Kent	England	https://www.kent.ac.uk/news/kentlife/19539/kent-outlines-sustainable-food-strategy
Sustainable Food Policy	Cambridge	England	https://www.environment.admin.cam.ac.uk/sustainable-food
Healthy & Sustainable Food	Newcastle	England	https://www.ncl.ac.uk/media/wwwnclacuk/catering/files/sustainable-food-policy.pdf
Sustainable Food Policy	Exeter	England	https://www.exeter.ac.uk/media/universityofexeter/campuservices/sustainability/pdf/Sustainable_Food_Policy.pdf and https://www.exeter.ac.uk/sustainability/policy/
Sustainable Food Policy	Reading	England	http://www.reading.ac.uk/web/files/catering/Sustaina

			ble Food Policy 2015.pdf
Sustainable Food	New Brunswick	Canada	https://www.unb.ca/initiatives/sustainability/programs/food.html
Sustainable Food Action Plan	Virginia	US	https://www.arch.virginia.edu/ien/projects-services/sustainable-food-strategy-task-force and https://sustainability.virginia.edu/sites/sustainability/files/2019-08/Sustainable-Food-Action-Plan-18.pdf

Appendix C: Mapping UBC Food Asset Report

https://sustain.ubc.ca/sites/sustain.ubc.ca/files/Sustainability%20Scholars/2018_Sustainability_Scholars/Reports/2018-33%20Mapping%20UBC%20food%20assets_Lang.pdf

Table 3-2 Reviewed UBC Policies

