**University of British Columbia**

**Social Ecological Economic Development Studies (SEEDS) Sustainability Program**

**Student Research Report**

# Envisioning UBC Food System Asset Map 2.0

## Group 7

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## EXECUTIVE SUMMARY

One of the indicators of food insecurity is food price volatility (FAO, 2011). For example, in Barbados an apple crumble goes for Can$8.05 per pie (La Baguette Barbados, n.d.). In Cuba, one goes for Can$9.12 (Cafeteria El Biky, 2018), while in Haiti, the same pie can cost up to Can$10.50! (Epi D'or, 2013). One might describe these as the pie rates of the Caribbean. But how does one find the best place to grab a tasty slice of pie? Or monitor supply chain threats to said pie's availability? In this report, we invite you to join our swashbuckling crew of eager students and future food systems professionals as we set sail in (re)search of an answer to this question by investigating one possible solution: a Food Asset Map.

Food Asset Mapping is an approach to addressing food security which employs an asset-based model to community food infrastructure and gaps, primarily in urban settings (Soma et al., 2021). This report showcases our research directed at advancing a just, secure and sustainable food system on the UBC Vancouver Campus by exploring the UBC Food Asset Map (FAM), a virtual tool which displays a multiplicity of food-related organizations, businesses, and initiatives at UBC Vancouver. Our two client groups UBC Wellbeing and the Social Ecological Economic Development Studies (SEEDS) Sustainability Program who currently oversee the UBC FAM determined that it needed clarification on its direction, scope, and management. Our team was recruited to assess the UBC FAM's current uses and effectiveness in reaching its goals, as well as to provide guidance on its future direction. This work was conducted by a group of undergraduate student researchers within the course LFS 450: Land, Food, and Community III: Leadership in Campus Food System Sustainability.

We believe strongly in the importance of community involvement being integrated into our work. Community-Based Action Research (CBAR) methodology provided a framework by which we coordinated our work, by highlighting the importance of localizing and contextualizing research within a community (Nasrollahi, 2015). We applied CBAR principles of collaboration among stakeholder, researchers, and community members; the implementation of different research methods as a means of knowledge collection; and analyzing data and knowledge holistically. Our research data were collected from peer reviewed literature and an environmental scan, in addition to primary data from a survey, focus groups, and one interview with the student-run initiative Campus Nutrition.

With support from our teaching team, client groups, and a treasure chest of UBC resources at our disposal, we set about our work, the whole UBC Campus our oyster. Our survey (n = 108 )was administered via Qualtrics to a target sample of UBC Vancouver undergraduate students with the aim of drawing insight into the UBC student community's opinions, knowledge, and possible uses for the UBC FAM. The focus groups and interview occurred over zoom with the participation of six UBC food systems stakeholders to collect data on their professional applications and perceptions of the UBC FAM. The data were then coded manually to identify recurring themes and ideas including: sustainability, equity, and food security; community collaboration; possible overlap between resources, and more.

Through gathering these data, our team assembled an itinerary of adjustments that could be made to enhance the UBC Food Asset Map's current aims and possible future direction changes. This included using the Food Asset Map as a way for students to locate meals on campus and mapping non-physical assets and relationships among food systems stakeholders. Our ultimate conclusion, however, is that these scope changes hold high potential to be addressed rather by nurturing initiatives and collaborations on the UBC Campus. Finally, our report outlines recommendations of ways to leverage and expand upon these collaborations. We also highlight the areas needing further research where our own investigation was constrained by scope or data limitation, which includes past and future user analytics, applications in campus planning, and relationship mapping.

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## LIST OF ABBREVIATIONS & DEFINITIONS

| Abbreviation(s) | Full Form |
|---|---|
| FAM | Food Asset Map |
| SEEDS | Social Ecological Economic Development Studies |
| UBC | University of British Columbia |
| UI/UX | User Interface/User Experience |
| FSI | Food Security Initiative |
| FSP | Food Systems Project |
| CN | Campus Nutrition |
| UBC W | UBC Wellbeing |

| Term(s) | Definition(s) |
|---|---|
| User Interface | The way in which a user may interact with the design of a website/application. |
| User Experience | How a user may perceive the website/application's efficiency, ease of use, and utility. |

# 1. INTRODUCTION

## 1.1 RESEARCH TOPIC

Food Asset Maps (FAMs) are an emerging tool in food systems work that aim to promote food security and food resilience (Baker, 2018). Food asset mapping is derived from community asset mapping, an approach that involves identifying tangible and intangible resources of a community or city, listing them and representing them visually on a physical or digital map (Kerka, 2003). Although the definition of a food asset varies, Vancouver Coastal Health defines food assets as "places where people can grow, prepare, share, buy, receive or learn about food" (VCH, 2018). In light of varying definitions, assets must be identified relative to local context and the identified purpose and audience set for each asset map. Furthermore, a cornerstone of community asset mapping is that it is typically led by communities themselves, and aims to unite a diverse array of participants who understand how specific assets might be mobilized in their communities, as well as how particular assets might be connected through social and physical networks (De Master et al., 2019).

In 2013 UBC launched its first Food Asset Map as part of the Food Systems Project under the Social Ecological Economic Development Studies (SEEDs) program and the Faculty of Land and Food Systems (LFS). This project originally aimed to visualize and baseline what the University does and does not have and reveal potential spaces for action within the campus food system to better support the health, justice and sustainability goals of the University (Lang, 2018). Fast forward to 2022, our LFS 450 student research group has been gathered to review current uses of the UBC Vancouver Campus' Food Asset Map, and gather key stakeholder information input to inform next steps in its development, including recommendations for future actions and enhanced accessibility for target users, in alignment with UBC's broader food security commitments to advance sustainable, secure and just food systems.

## 1.2 RESEARCH RELEVANCE

The prevalence of Food Asset Maps (FAM) is growing, as noted by their recent utilization in regions and cities across Canada (Baker, 2018; NFSN, 2021; VCH, 2018; CFSEA, 2018; CNCC, 2021). This increase in food asset mapping aligns with the increasingly pressing need to consider food systems in urban planning (Soma, et al., 2021). In light of one of the most defining issues of our time, climate change, communities must rely on robust and resilient food systems processes, such as production, distribution, and disposal, to cope with disruptions to the food supply change (Zeuli et al., 2018). Extreme weather events like heat waves and extreme flooding have monumental impacts on biodiversity and global and local food systems (Zeuli et al., 2018). Therefore, an increased awareness of a community's food system infrastructure, food networks, and food resources is urgently needed.

The University of British Columbia (UBC) prides itself in being a leader in food and nutrition, striving to implement even more innovative, effective, and resilient food systems. The complexity of the UBC food system is reflected in the many intersecting institutional policies, initiatives and strategies that focus on food systems and climate, food security, nutrition and our food environment, food skills, food culture and social connection, food procurement, food sovereignty, and food justice. The UBC FAM intersects with many of these facets of the complex campus food system and contributes to upholding priorities listed in key institutional policies and initiatives including the UBC Climate Action Plan 2030, Zero Waste Action Plan, Food Services Food Vision and Values, 20 Year Sustainability Strategy and the emerging UBC Food Hub. The map aligns with the UBC Wellbeing Strategic Framework goal of reducing food insecurity for UBC community members by 2025 and aims to uphold key values such as accountability and equity as demonstrated in the Okanagan Charter, Inclusion Action Plan, Indigenous Strategic Plan and UBC Strategic plan. All this to say, the map ultimately aims to support and advance UBC's strategic priorities to support the health and wellbeing of the UBC community members through the provision of adequate, accessible, nutritionally, and culturally appropriate food in a just and ecologically sound manner.

By revisiting the UBC FAM project, reconnecting with key stakeholders and surveying the community, our project can provide insight on public engagement with the map and identify successes and challenges of the map from the community's perspective. Additionally, this project has the potential to promote awareness of the FAM and aid in increasing the accessibility and usage of the map, through giving need-based and community-based recommendations. These impacts and insights can benefit the UBC food system by sparking new collaborations and enhancing old collaborations, thereby building a more resilient UBC food network (Lang, 2018). Furthermore, benefits of building a relevant and engaging FAM include increased communal ability to support those facing food insecurity, increased knowledge of the local UBC food system and increased engagement with the local UBC food system (Soma et al., 2021). These mark the importance of this project, in pursuing UBC's greater goals, as outlined in the UBC Wellbeing Strategic Framework, of creating vibrant, sustainable environments that enhance wellbeing and excellence for people in their places at UBC and beyond.

## 1.3 PROJECT CONTEXT

In 2013, the University of British Columbia (UBC) Food Systems Project, in collaboration with the UBC Botanical Garden, UBC Food Services, and Social Ecological Economic Development Studies (SEEDS) Sustainability Program and with funding through UBC Wellbeing as a Wellbeing Scholars project, created the UBC Food Asset Map. The UBC FAM at its inception included direct and indirect feedback from more than 40 individuals and identified 318 assets across 10 thematic areas (Lang, 2018). In 2018, the SEEDS Scholars Student Project in collaboration with multiple stakeholders revised the UBC Food Asset Map (FAM), resulting in its current version.

It is also important to contextualize the UBC FAM alongside two emerging initiatives in the UBC campus food system, the UBC Food Hub and Campus Nutrition. Campus Nutrition is a registered non-profit organization founded in 2019, led by a team of student volunteers who aim to create a web-based food guide for UBC students. The UBC Food Hub is asserting its presence in the UBC food systems world, through creating "a shared community-based platform that serves as a one-stop shop for all UBC community members to increase

awareness and centralize resources for food security and community resilience" (UBC Food Hub, 2021).

At conception, the UBC FAM was unique in that it aimed to inform a broader audience including students, faculty, staff and residents interested in supporting UBC's food system sustainability and health goals, compared to other FAMs in Vancouver (e.g. Vancouver Coastal Health, North Shore, and Squamish-Lillooet food asset maps) who focused on a food security audience (Lang, 2018). It's uniqueness further extended to the incorporation of research libraries, teaching centers, and courses related to food security and wellbeing as assets, not commonly available in other local or educational FAMs such as the Vancouver Food Asset Map (VCH, 2020) and the University of California Berkeley map (UCB, 2021).

The UBC FAM was created to help advance a just and sustainable food system at UBC. The map aimed to do this by providing a centralized platform with information on food systems sustainability and food security initiatives, programming, research, collaborations, and resources (from food gardens to food outlets). As well, the map sought to promote awareness and increase the accessibility of campus food assets and visually depict the capacities and gaps of UBC's campus food system. According to Lang (2018), issues with the map included barriers with the website platform, inconsistent maintenance leading to decreased relevancy, and inability to widen the scope of the map beyond what is currently offered (Lang, 2018). Areas of further research included further defining the target audience and investigating the map's frequency of usage.

## 1.4 PROJECT PURPOSE, GOALS AND OBJECTIVES

### RESEARCH PURPOSE

The purpose of this research is to advance a just, secure, and sustainable food system at the UBC Vancouver Campus.

### RESEARCH GOALS

The primary goals of this research are as follows:
1) Assess the current uses of the UBC FAM.
2) Evaluate the efficacy and success to date in meeting its intended goals.

3) Develop recommendations and strategies to enhance the FAM's capacity to promote cross-campus multidisciplinary collaboration that can advance just, secure and sustainable campus food systems.

RESEARCH OBJECTIVES

- Conduct an environmental scan of local and Canadian FAMs to identify promising practices that can inform the development of the UBC FAM.

- Conduct a literature review to define, gain a conceptual understanding of, and assess community perspectives on "food assets" and the practice of "food asset mapping" to evaluate how FAMs have been historically used and perceived.

- Identify current users and uses of the UBC FAM, as well as target populations that would benefit from a food asset map or similar tool.

- Investigate whether the defined goals of the map are consistent with the needs of the current primary audience.

- Survey UBC student attitudes toward the UBC FAM to determine if they are a viable target audience.

- Assess opportunities for enhancing the usability of the UBC FAM for campus organizations involved in promoting campus food security.

- Identify the best ways to enhance the equity, accessibility, and usability of the FAM.

## 2. METHODOLOGY AND METHODS

### 2.1 RESEARCH METHODOLOGY

Community-Based Action Research (CBAR) is a systematic qualitative research process that involves the collection and analysis of data relating to the improvement of some aspect of professional practice and highlights the importance of localizing and contextualizing research (Nasrollahi, 2015). The goal of CBAR is to simultaneously research and address the practical concerns of people in a given social situation or community (Burns et al., 2011). In this project we operated under the context of the UBC Vancouver campus food system and implemented CBAR by seeking input on the formation of research questions, gaining insight on the context, priority values and goals of the project, and gaining feedback on findings and recommendations with our project clients throughout the research process. Through collecting qualitative data from students (survey) and food systems (focus groups and interviews) professionals in the UBC community we grounded our recommendations on the needs and knowledge of the community. The specific CBAR principles applied in this project include: collaboration between stakeholder, researchers, and community members; the implementation of different research methods as a means of knowledge collection; analyzing data and knowledge holistically and allowing emergent properties to be assessed (Differences Between Community-Based Research, n.d.).

### 2.2 RESEARCH METHODS

Secondary data were collected through a comprehensive literature review of five key themes related to food asset mapping and an environmental scan of current food asset maps in Canada and relevant digital UBC food resources. Primary data were collected through the delivery of a survey targeted at undergraduate students at UBC Vancouver campus, an interview with Campus Nutrition and two focus groups with a variety of UBC campus food systems stakeholders.

### 2.2.1 SECONDARY DATA COLLECTION RESEARCH METHODS

LITERATURE REVIEW

Our research team conducted a comprehensive literature review of peer reviewed research articles, systematic reviews, empirical studies and published academic research projects in order to understand the scope and context of food asset mapping. Our approach included individually researching five topics related to food asset mapping including university food insecurity and academic performance, the right to dignified food access, food desert mapping and food insecurity, community engagement in food asset mapping, and maps as food system tools. Keywords included: food asset map, community asset map, food (in)security, campus food systems, food access and food desert mapping. With this comprehensive overview, we identified key strengths and weaknesses of food asset maps as they are currently being used and research gaps pertaining to impact on community engagement.

## ENVIRONMENTAL SCAN

We conducted an environmental scan of 20 food asset maps in Canada, sourcing from the 11 Food Asset Maps (FAM) described in Lang (2018) and sourcing the other 9 from general web search engines. Search criteria included explicit use of the phrase "food asset map" in the search term and "food asset map" within the title or within the landing page. For example, the Grey County Agri-Food Asset Map landing page includes maps with titles such as "food security" and "agricultural business map" and they were included due to the larger heading of "Agri-Food Asset Map". We kept a limited criteria to include as many possible iterations of food asset maps as possible. Although our criteria did not include that FAMs be located in Canada, almost all FAM analyzed were located in Canada except for one located in the United States. Once maps were identified as a FAM we collected the following information (if available): geographical location, organization affiliation, software used, latest update, number of views, number of categories and subcategories, number of assets, presence of landing page, project partners, maintenance procedures, and names of categories. The names of primary categories, as opposed to subcategories, within FAMs who used Google My Maps as their software, were further analyzed to determine the frequency of titles. Category names were compiled into Microsoft Excel, coded based on FAM association, and then counted to identify repetition. The purpose of the environmental scan was to assess promising

practices of FAMs in other jurisdictions such as design elements, maintenance processes, and to identify alternative approaches to FAM organization to inform future changes.

In addition, we reviewed complimentary digital campus food resources where potential overlap in project goals were identified including the UBC Food Hub, Campus Nutrition and UBC Feed Me resources. The purpose of this environmental scan was to further identify the purposes and goals of these resources in order to determine the degree of potential overlap with the UBC FAM.

## 2.2.2 PRIMARY DATA COLLECTION RESEARCH METHODS

### SURVEY

Survey data collection occurred over Qualtrics and random sampling was employed. Questions and layouts can be seen in Appendix A. Our target sample was UBC Vancouver undergraduate students across all faculties. Our objective was to gain insight into the general community perception of the UBC Food Asset Map and its visibility and accessibility, as well as understanding the efficacy of the map in serving one of its possible target audiences (e.g., UBC Vancouver Undergraduate Students). Our sample size was n = 111, with a completion sample of n = 108, giving us a response rate of 97.3%.

### FOCUS GROUPS & INTERVIEW

Two semi-structured focus groups and one interview occurred over Zoom. Focus group and interview participants were recruited via snowball and convenience sampling. Questions and a general script were prepared electronically, see Appendix B for the focus group script, and Appendix C for the interview questions. Focus groups Zoom discussions were supplemented with a Jamboard where participants could record their responses, see Appendix D**.** Our sample consisted of UBC food systems decision makers, or people who could represent organizations on the UBC Vancouver campus that in some way relate to the campus food system. Our samples included members of UBC Wellbeing, UBC Center for Community Engaged Learning, SEEDS, FSI, AMS Sustainability, and Campus Nutrition. Our primary objective was to elicit participant feedback and insight on the UBC FAM in regards to its professional application, accessibility, and ongoing management. We chose to hold focus groups with these organization members

to gain a more professionally geared input on the UBC FAM. Through using CBAR methodology, we included our clients in the focus groups, which allowed them to be a part of the conversation with other UBC food systems decision makers. Our sample size was n = 6 and consent was gained through the signing of a consent form which can be seen in Appendix D.

## 2.3 METHODS OF ADMINISTRATION

Two types of data collection methods were chosen: one that was more accessible to a general audience (survey) and one that allowed for a more in-depth collection of qualitative data from stakeholders (semi-structured focus groups and an interview). Surveying allowed us to gather a large data pool and target students through social media and physical postering in student hubs on campus. Focus groups and interviewing allowed for free-form discussions between different stakeholders and generated opinions from UBC food systems decision makers. The survey was conducted over Qualtrics and the focus groups and interviews were conducted over Zoom. Live notetaking occurred during the focus groups and interviews, and transcripts were created digitally using otter.ai.

### SURVEY

Survey participants were recruited through postering in various spaces across the UBC Vancouver campus and digitally on Instagram. Designs developed by our team can be found in Appendix E. Posters included a QR code directing viewers to a Qualtrics survey. Postering locations were chosen based on foot traffic volume and where permission could be granted. An Instagram account @ubc.fam.project was created and used to reach out to various accounts catering to groups of undergraduate students who could re-share a survey link. Appendix F shows locations where the survey was postered and accounts that shared the digital link. Requesting permission for postering and instagram re-sharing was done March 7-11. The survey was made active, posters were put up, and Instagram accounts began resharing on March 11. The survey was active for thirteen days and was closed on March 24. One $50 gift card incentive was provided by UBC Wellbeing and delivered to a randomly selected participant who completed the survey. We chose a joint method of online marketing and using physical posters as we believed it would reach the

greatest number of students. Of our sample size n = 111, 100 joined from social media links and eleven from the poster QR code.

## FOCUS GROUPS & INTERVIEWS

Participants for our focus groups were initially identified through communications with our UBC Wellbeing client. The UBC Food Security Initiative (FSI), a subsidiary of UBC Wellbeing, is a group of diverse food-systems stakeholders who meet once a month and was identified as a space to begin focus group recruitment based on the background and experience of the FSI members. On February 17 we conducted a brief presentation of our proposed research topics to fifteen FSI members in attendance to gauge general group interest. On March 16, 2022, our instructor Liska Richer connected us with Campus Nutrition, a group interested in joining the conversation about the UBC FAM. Campus Nutrition agreed to join the focus group held on March 18, 2022. On March 17th & 18, 2022, the two focus groups were held over Zoom, and during the second focus group it was decided that an interview would be held with Campus Nutrition. On March 21, 2022, we conversed with Campus Nutrition about holding the interview and it was held on March 23, 2022.

## 3. RESULTS

### 3.1 SECONDARY DATA RESULTS

#### LITERATURE REVIEW

Our project used a number of sources drawn from our individual practitioner literature reviews,

along with supplementary research to shape our understanding of the context surrounding food asset

mapping. *Table 1* below displays the key themes and questions addressed in our literature review.

| Research Inquiry | Relevant Answer | Source(s) |
|---|---|---|
| How do we define food security? | It is defined as "when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life". <br><br> It can also be reduced to five essential components: availability of food, access to food by households, effective utilization of food (a function of food safety, nutritional status, and health), the sustainability of the food system that delivers these components, and the stability of the food system. <br><br> 750 thousand people residing in British Columbia (15.5% of the BC population) live in food insecure households and 38.5% of UBC undergraduates reported low to very low food security. | Food and Agriculture Organization, 1996 <br><br> Timmer & Project Muse, 2015 <br> Caron & Plunkett-Latimer, 2022 <br><br> Carry et al., 2019 |
| How do we define food assets? Who defines food assets? | There is a lack of consensus on what a "food asset" is, and insufficient peer reviewed literature on the subject. <br><br> Public health organization Vancouver Coastal Health: "places where people can grow, prepare, share, buy, receive or learn about food". <br><br> Baker: "local food infrastructure that maintains food-secure communities and regions''. For example: farms & gardens, community kitchens & food organizations, and nutrition programs (p. 266). <br><br> Baker proposes investment opportunities and services could be considered non-physical food assets. <br><br> Currie & Springer states that there's specific criteria that must be met (resources, technical skills, and time) before something can be added to a map despite how valuable it is. <br><br> Participants in Soma's study argue that there's inequity in the terminology and who has the power to decide what a "food asset" is. The act of defining what meets the criteria to be considered an asset is a "form of valuation that is tied to power".  There are resources that marginalized community members value that would not be considered assets to those in power. | Vancouver Coastal Health, 2020 <br><br> Baker, 2018 <br><br> Currie & Springer, 2021 <br><br> Soma et al., 2021 |
| What are the benefits of food asset mapping? | Its participatory nature is a key strength. There's potential for food asset mapping to bring community members together to increase engagement and awareness of local food systems. <br><br> Facilitating food asset mapping workshops with community stakeholders has proven successful in improving food accessibility and highlighting community-informed food assets. | Soma et al., 2021 <br><br><br> Jakes et al., 2015 |
| What are the challenges | Because the content of food asset maps is determined by the perspective of its creators, there | Soma et al., 2021 |

| of food asset mapping? | is potential for the maps to neglect important food assets. | |
|---|---|---|
| | Assets that are commonly neglected include racialized and informal food spaces and culturally and ecologically important food infrastructures. | Miewald & McCann, 2014 |
| | Soma et al. describe this gap as showcasing the limitations of food asset maps in promoting food justice, as it pertains to ensuring diversity in the representation of voices, perspectives, and leadership in food movements. | Lepofsky et al., 2017 |
| | Other challenges with food asset maps include their static nature and inability to track changes in organizations and businesses without frequent monitorization. | |
| What resources/tools are used to create digital community maps? | OpenStreetMap, Google Earth, Google My Maps API, ArcGIS online, Mapbox, Mangomap, SimpleMappr, CartoDB, Tableau and Click2Map | Currie & Springer, 2021 |
| How can we visualize networks and relationships in the food system? | In assessing the Food Asset Map's goals of identifying synergies and promoting collaborations among stakeholders, an area of study known as 'Social Network Analysis' (SNA) emerged as a theme relevant to our scope assessment. Growing in use among managers to help "identify and understand the interactive patterns and networks within and across their business" (p.33), SNA includes tools which seek to visualize networks and relationships. | Monaghan et al., 2017 |
| | While there are practical considerations to implementing this kind of visualization such as data reliability, system boundaries, and context, a tool like this is supported in its efficacy as an interactive and self-directed way of gathering insights on the relational elements of a team, organization or community. | UBC Sustainability, 2022 |
| | Knowledge network maps were identified as a visual tool capable of highlighting relationships. Developed under SEEDS through the Campus Biodiversity Initiative: Research and Demonstration (CBIRD), the Biodiversity Knowledge Network Map serves as a platform to provide centralized information about people, networks and initiatives connected to urban biodiversity conservation and stewardship. There's a similar map for the SEEDS UBC Food Systems Project. | |

Table 1. Summary of questions that guided our research with their relevant answers and the sources.

ENVIRONMENTAL SCAN

Data collected from various Food Asset Maps (FAMs) included the following information (if available): geographical location, organization affiliation, software used, latest update, number of views, number of categories and subcategories, number of assets, presence of landing page, project partners, maintenance procedures, and names of categories. The most relevant data for our recommendations are provided in Table 2.

| Food Asset Map | Number of views (as of April 16, 2022) | Latest Update |
|---|---|---|
| VCH Vancouver Food Asset Map | 268,580 | 3/10/22 |
| Richmond Food Asset Map | 49,515 | 5/25/20 |
| UBC Food Asset Map | 25,123 | 9/28/21 |

| | | |
|---|---|---|
| Sunshine Coast Food Asset Map | 20,125 | 3/19/22 |
| Squamish-Lillooet Food Asset Map | 8,604 | 2/17/22 |
| Regina Food Asset Map | 5,657 | 6/21/19 |
| Cape Breton Food Asset Map | 5,387 | 5/19/20 |
| Greater Fredericton Food Asset Map | 766 | N/A |
| North Shore Food Asset Map | 91 | 2/10/22 |

*Table 2. Number of views and latest update for reviewed food asset maps.*
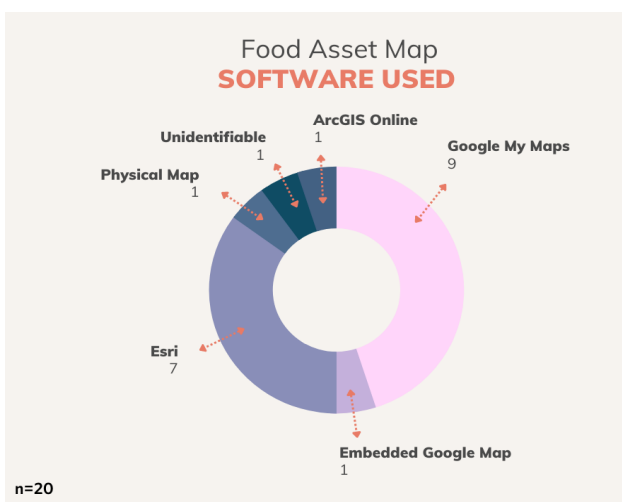


*Figure 1. Food Asset Map software used.*

| Google My Map Categories | Frequency |
|---|---|
| Free Low Cost Meals | 4 |
| Grow Food | 4 |
| Community Gardens | 3 |
| Community Organizations | 3 |
| Free or Low Cost Groceries | 3 |
| Kitchen or Food Programs | 3 |
| Farmers Markets | 2 |
| Retail Food Stores or Markets | 2 |
| Schools | 2 |

*Table 1. Most popular Google MyMaps asset categories by occurrence frequency categories.*

Figure 2 displays the number of views for only the Google MyMaps FAMs, as platforms such as Esri and GIS do not display this information publicly. The most common software used for FAMs was Google MyMaps, followed by Esri (Figure 1). Other software and formats included ArcGIS Online, embedding a Google Map, using physical printable maps. One map was unidentifiable because the map itself was not available to be seen by the public. Titles that showed up more than once appear in Table 3. Titles with similar names, for example "Free or Low Cost Meals and Grocery" and "Free or Low Cost Groceries", were considered as different to account for the nuance of different local contexts.

Other features commonly associated with FAMs included landing pages, providing a Google Form or email for users to offer updates, user instructions, and purpose statements on the map. Vancouver

Coastal Health provided user instructions for its FAMs in English, Arabic, Mandarin, Cantonese, and Vietnamese. Less common features included the separation of neighborhoods on the FAM and not publicly displaying FAM to restrict the audience to project partners and contributors. 19 maps were located in Canada and one map was located in the United States. The United States map was created as part of a university student project, however a link to the digital map itself could not be located.

An additional map that came up in our environmental scan is the "UBC Lunch Hubs" map, which has accumulated over 169k views since it was developed and published by students in 2017. It's currently outdated, but it's a very simple map that uses the Google My Maps software to identify 16 buildings on campus that have been deemed "lunch hubs" and provide info on the number of tables, microwaves, fridges, kettles, sinks, and cutlery available, in addition to observed peak hours. Further research is needed to determine if this resource is necessary.

### 3.2 PRIMARY DATA RESULTS - FOCUS GROUPS & INTERVIEW

We conducted two semi-structured focus groups on March 17 and March 18, 2022, with six UBC food systems decision makers. The transcripts from both focus groups were coded separately and manually to identify key themes. Each focus group transcript went through two passes of coding. Quotes derived from the two focus groups which relate to themes can be seen in Appendix G. Table 4 shows our identified themes from the first focus group, Table 5 shows identified themes from the second focus group.

| Code | Theme(s) |
|---|---|
| Campus Resources | When looking at other campus resources we must consider possible overlaps with the FAM. When creating resources, the back end must also be considered.<br><br>Campus resources can be essential for building connections in the food system |
| Communication and Collaboration | The importance of communication and collaboration lies in building trust and also being aware of community needs and building connections |
| The UBC System | Potential for the UBC system to expand and consider what is occurring externally.<br><br>UBC as a system in general is decentralized which creates separations between networks, which also creates difficulties with people newly entering spaces. At a smaller scale, this is mirrored in the UBC food systems network. |
| Sustainability, equity, & food security | When considering the UBC food system: sustainability, equity, & food security must be considered. Food systems-related projects should aim to improve these facets of the food system |

| | The community plays an essential role in the food system. Projects must consider their needs and serve to empower them. |
|---|---|
| Map use | Maps can have many different applications and can help streamline information if done correctly and with UI/UX considered. |
| Future of the UBC FAM | Reassessing the intended uses of the FAM and the intended users. Making sure there is no overlap between goals of other resources and the FAM. Considering how the FAM can be unique and provide its own insights into the UBC food system.<br><br>Framework creation may be necessary to figure out these aspects of the FAM |

*Table 4. Themes Identified from March 17, 2022 Focus Group.*

| Code | Theme(s) |
|---|---|
| The UBC System | Stakeholders/decision-makers operate within pre-existing networks, which may perpetuate existing biases within the system. |
| Student Involvement and accessibility | Currently some longer-standing organizations have a harder time including and involving students. With this, there is a possible need for reassessment of the FAM and how it could be used by students. |
| Campus Resources | Campus resources have the potential to work in tandem with the FAM and increase student access as well as involvement in the UBC system. However, there may be complications for students when looking for these resources. |
| Information dissemination channels | Word of mouth as a common dissemination channel. Who does the word reach? Potentials for expanding channels through social media. |
| Power of visualization | Visual portrayal of information is powerful, but should be done thoughtfully, creatively, and in an organized way. There is a potential for catering to different types of learners. |
| UI/UX | Current layout of FAM may not be the most understandable. A good layout needs to be intuitive and engaging. |
| Future of the UBC FAM | There is potential for the FAM to be integrated in the Interactive Sustainability Center. Goals and intended users of the FAM may need to be reassessed. |

*Table 5. Themes Identified from March 18, 2022 Focus Group.*

On March 23, 2022, one semi-structured interview was held with Campus Nutrition. The interview transcript was coded manually, with themes being identified and connected through two passes. Quotes derived from the interview which relate to themes can be seen in Appendix H. Table 6 shows our identified themes from the interview.

## ABOUT CAMPUS NUTRITION

Campus Nutrition is a student-run organization, based in Vancouver, which aims to "increase awareness about food and nutrition" and empower students to make healthy and informed eating decisions (Campus Nutrition, 2022). In addition to connecting local food businesses with customers, Campus Nutrition is working on creating a web-based UBC campus food guide that allows students to easily access information about where and what to eat (Campus Nutrition, 2022). This student-run initiative has been successful thus far in student engagement and creating a centralized platform that helps students locate nutritious and affordable food on campus (Table 3.24).

| Code | Theme(s) |
|---|---|
| Student perception of UBC food system | Students seem to be most interested in low-cost food/are most are of price |
| Campus Nutrition's roles and goals | Food security is not a goal, filling the gap of having information reach students is a goal. (FAM may be the resource more focused on addressing food security). Importance of intuitive design for information dissemination |
| UI/UX | Building UI/UX off of existing websites (inspiration). Importance of intuitive design |
| Community Outreach | Social media as a powerful outreach and research tool. Important to get the community aware and involved. Importance of trust. |
| UBC FAM Difficulties | FAM has issues with the amount of information and useability. Must consider how to keep the FAM updated as well (outsourcing vs. students) |
| Campus Nutrition Engagement | Since launch, Campus Nutrition has been effective in maintaining engagement with the student body, while meeting their goals. |

*Table 6. Themes identified from March 23, 2022 interview with Campus Nutrition.*

## 3.3 PRIMARY DATA RESULTS - SURVEY

### QUANTITATIVE ANALYSIS

This section presents select qualitative data from our student survey that was relevant to our findings.

## MAP AWARENESS:
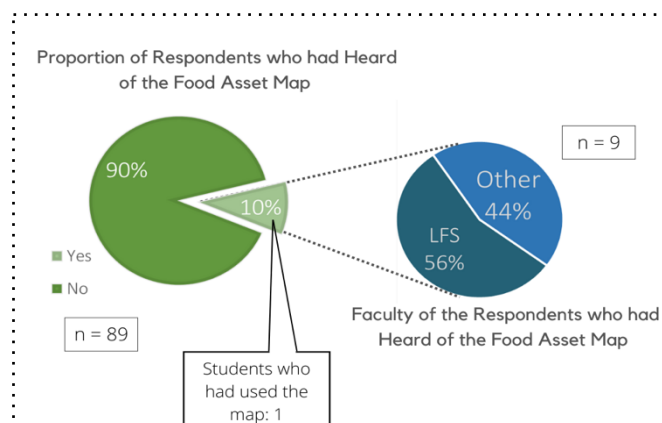


Figure 2. Proportion of students who have heard of the UBC FAM, as well as the ratio of LFS to non-LFS students who had heard of the UBC FAM.
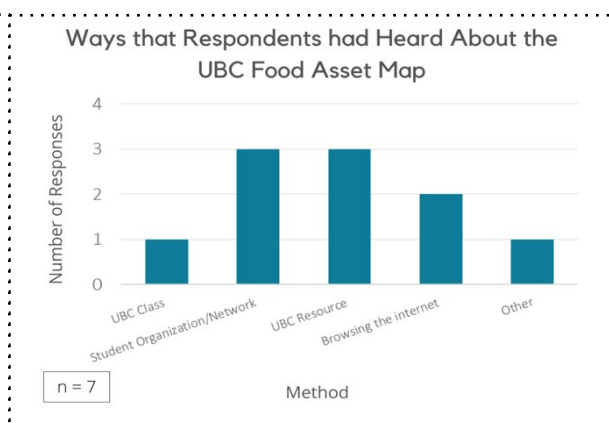


Figure 3. Count of the methods in which survey heard about the UBC FAM.

Figure 2 demonstrates that 90% of the students surveyed had not heard about the UBC FAM prior to taking our survey and 10%, a statistically insignificant number, had used it before. Of those who had heard about the map, 56% were enrolled in the Faculty of Land and Food Systems. The avenue through which respondents heard about the map varied and are displayed in Figure 3.

## OTHER UBC FOOD RESOURCES:

Our team identified four additional campus food resources whose purpose showed alignment with the UBC Food Asset Map (FAM). A description of each resource can be found in Appendix I. FeedMe UBC was the most-used resource of the four provided (Figure 4). With respect to motivation when using these resources, the top three reasons were related to finding food and meals on campus (Figure 5).
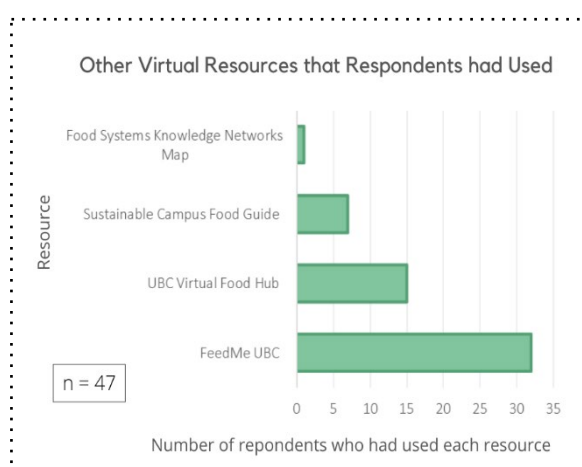


Figure 4. Count of alternate campus food resources as described by survey participants.
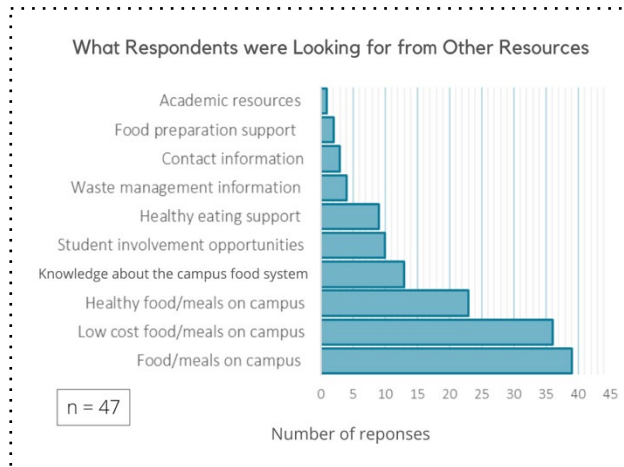


Figure 5. Count of reasons why survey respondents searched for alternate campus food resources.

## TIMED TRIAL:

### Proportion of Respondents who could find the Food Asset Map Online



Yes 55%

No 45%

Average time taken: 67 seconds
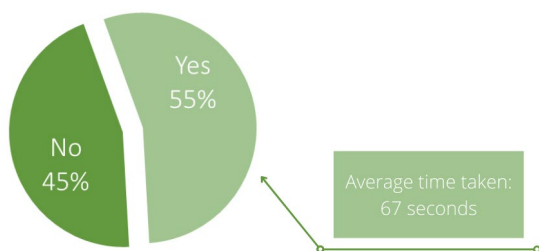
n = 75

*Figure 6. % Ratio of students who were able to find the UBC FAM and the average search time.*

In this section, survey respondents were asked to find the UBC FAM using web keywords of their choice. We provided a limit of two-minutes to respect our participants' time. 45% of students were unable to find the map within the timeframe (Figure 6). The average time to find the map was 67 seconds (Figure 6).

## FUTURE USES:

The bar graph in Figure 7 displays respondents' indication of future ways they would use the UBC FAM, based on a selection of options provided in the survey. The top four motivations for using the UBC FAM in the future include: finding free/discounted meals (34%); finding food for a meal (32%); finding low-cost groceries (29%); and finding food that fits their specific cultural or dietary needs (18%) (Figure 7). When asked the likelihood of using the UBC FAM again in the future 14% of survey participants indicated a "very likely" likelihood (Figure 8). More survey data can be found in Appendix J.



### Ways Respondents would use the Food Asset Map in the Future

Future Use

Find academic resources
Find a specific club initiative
Access garden space
Access kitchen space
Browsing
Interested in campus food systems
Find food to fit cultural or dietary needs
Find low-cost groceries
Find food for a meal
Find free/discounted meals

Number of Responses

n = 41
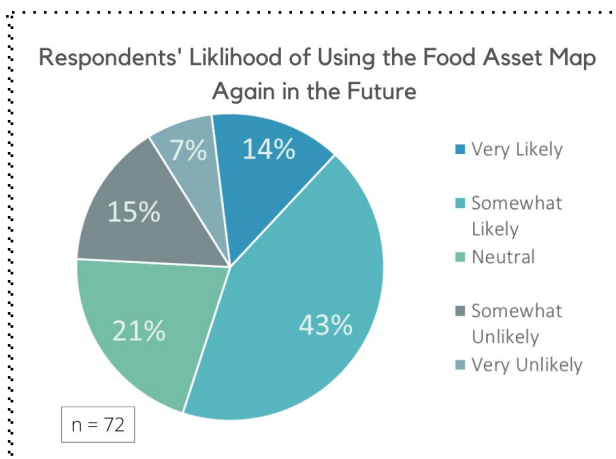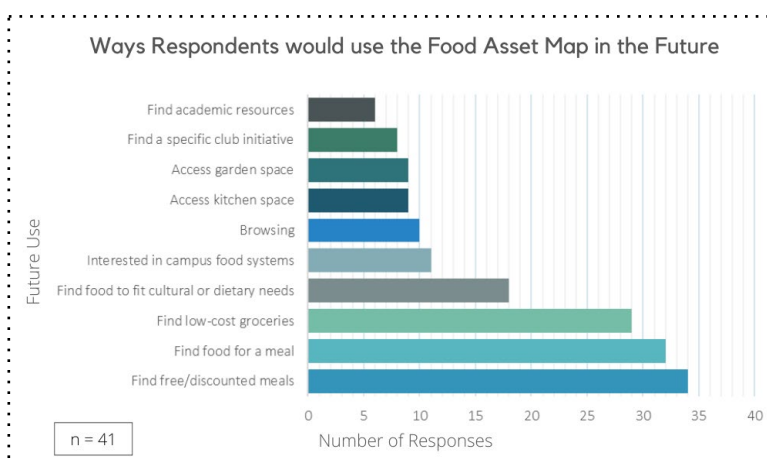
*Figure 7. Count of methods in which respondents would use the UBC FAM in the future.*



### Respondents' Liklihood of Using the Food Asset Map Again in the Future

14%
7%
15%
21%
43%

- Very Likely
- Somewhat Likely
- Neutral
- Somewhat Unlikely
- Very Unlikely

n = 72

*Figure 8. % Ratio of respondents likelihood of using the UBC FAM in the future*

Qualitative data were gathered from the survey by giving participants the option to make comments on the overall design of the FAM. Comments were coded and allocated into the following themes: accessibility, current state of the FAM, usability, and other recommendations and opinions on the FAM. The full list of comments can be seen in Appendix K.

| Code | Key Summarized Comment(s) |
|---|---|
| Issues with the current accessibility of the FAM | "The map can be challenging to find", "It takes an excessive amount of time to find the FAM", "No direct link as a top web search for easier accessibility" |
| Issues with the current state of the FAM (outdated) | "Many locations/places on the map have closed or completely shut down", "The FAM is outdated and some locations on the map are in the wrong location (misleading)" |
| Issues with the current usability of the FAM | "The FAM is hard to read, and overly complicated to use", "Becomes crowded when saving certain locations on the map, and difficult to find places on the map", "Tedious when using the FAM on a mobile phone and distinguishing between different icons is also difficult", "No price ranges to see the costs of food at each food asset" |
| Other Recommendations and Opinions of the FAM | "The color choices of the FAM are very engaging which makes it easier to use", "Have pins in different colors to represent different categories of food as similar colors of food assets can draw away from other food assets" |

*Table 7. Coded and Key Summarized Comments Identified from Design Survey Question*

Table 8 below includes students' responses when asked to comment on additional information to include on the UBC FAM. Comments were coded into the following themes: individuals looking for food assets; organizations that should be included on the FAM; and increasing accessibility of the UBC FAM to students on campus. The full list of comments can be seen in Appendix L.

| Code | Key Summarized Comment(s) |
|---|---|
| Individuals looking for food assets | "People looking to find sustainable food choices", "People looking for energy food sources and resources from AMS", "Students looking for low cost foods and groceries", "People looking for new food assets", "Good tool for plant based eaters to find food", "Good tool for international students to find food that meets their cultural needs" |
| Organizations that could be included on | "Campus Nutrition", "Sprouts", "UBC run food security initiatives", "Agora Cafe", "Food Banks", "AMS Food Bank" |

| the FAM | |
|---|---|
| Create greater accessibility of the FAM to students on campus | "Have posters in residences with QR codes, to create a larger captive audience for those eating on campus", "Less focus on graduate students who stay late on campus and don't have 'real time' information to find food on campus", "First year and transfer students don't have knowledge of different food assets on campus" |
| Other | "Display easily accessible assets for students with disabilities", "People would spread the word about the FAM if it had easier accessibility" |

*Table 8. Coded and Key Summarized Comments Identified from Additional Information Survey Question.*

## 4. DISCUSSION

Throughout the course of our research, our team investigated the ways in which the UBC FAM fulfills its purpose of advancing a secure, just, and sustainable food system at UBC. Our project goals included identifying opportunities to improve the map and distilling key challenges regarding the map's effectiveness in order to recommend future investments. Although data suggest that there are a multitude of ways to improve the UBC FAM's user friendliness, technical features, and scope, a greater question emerged: *to what extent are these changes worth making?* To address this question, our discussion will identify key possible changes to the scope and functionality of the map, followed by an analysis of strengths, weaknesses, opportunities, and threats (also known as a 'SWOT' analysis).

### ACCESSING THE FOOD ASSET MAP:

From our data it is evident that student usage is low, which may be due to the relatively low student awareness of the map indicated in the survey. Students cannot use a tool that they do not know exists. Given that our client groups reported no active public campaign or promotion of the UBC FAM this is not a surprising finding. What is surprising is that even after learning about the map's existence, 45% of students were still unable to find the map online within two minutes, indicating an immense barrier to accessibility. Moreover, survey comments describe challenges such as the lack of a direct link to the map and low search engine site ranking. Additionally, although most stakeholders used the map previous to our focus group, the majority expressed they did not use the map consistently. In relation to our goal of evaluating the map's efficacy in meeting its objectives, we assert that poor web accessibility is a barrier to the map's objective of promoting and raising awareness of campus food assets.

Data from both the student survey and focus groups offers a myriad of possible avenues for promoting the map, including collaboration with student residences and existing online food resources, and establishing a designated public display space. However, deciphering which approach is most appropriate depends on the still unclear target audience. Although a general sense of uncertainty amongst stakeholders

regarding the map's audience remains, it was voiced that this is important to clarify before moving forward with recommendations. This sentiment is consistent with the literature review, which highlights the importance of involving the community served by an asset map in the development process to ensure assets valued by the target audience are not neglected (Soma et al., 2021).

SCOPE OPPORTUNITY: FINDING FOOD ON CAMPUS;

While researching ways to promote the map for the student audience, data across both our survey and focus groups indicate a high potential to continue building out the UBC Food Asset Map (FAM) as a tool which students can use to find food on campus. In its current form, the UBC FAM is intended to raise awareness of and provide information about the location of all campus food outlets (Lang, 2018). Considering students' desire to find food related to specific criteria (e.g. cost, location, type), this target audience may benefit from improvements to the map targeted at better presenting and filtering information to find food for immediate consumption and groceries. Similarly, some stakeholders acknowledged that referring students to resources to help them locate food is within their organization's scope.

We looked closely at the student survey data to identify which features could be added to make finding food easier. Upon looking at this map for the first time, many students were under the impression that meal-location was a UBC Food Asset Map (FAM) primary objective. One survey comment in particular noted that the UBC FAM "is similar to the initiative 'campus nutrition'". From our interview with Campus Nutrition (CN), we found significant overlap with their work on campus and a vision of the UBC FAM focused on helping students find meals. There were many similarities between the features that our survey respondents reported wanting and the features that CN already had or indicated wanting to add to their current platform, such as listing prices, displaying photos of food, and providing food outlet operating hours.

This is particularly relevant to mention in tandem with our focus group data which highlight the need to reduce overlap of services within the UBC campus food system. Between the work of CN and the UBC FeedMe resource, used by 30% of students as indicated in our survey, the groundwork of meal-finding at UBC has been laid. Optimizing the map for student meal finding is a potential route for future investment, however other

resources appear to have similar goals, drawing into question whether the UBC FAM is the most efficient tool for this function.

## SCOPE OPPORTUNITY: RELATIONSHIP MAPPING;

Fulfilling the need to connect food systems and related stakeholders within UBC is another area of possible scope reassessment. Recall one of the original objectives of the UBC Food Asset Map: to create a tool that "[builds] connections and networks between asset managers and stakeholders, who may use the map as a tool of collaboration" (Lang, 2018). Focus group data did not indicate this as a prominent use of the map, but instead pointed as to reasons why this might not be the case. As one participant acknowledged, the UBC FAM was not well-designed to display non-physical assets, such as relationships or collaborations. When discussing how collaboration is currently formed between stakeholders, stakeholders highlighted the importance of word-of-mouth and utilizing existing personal connections. These personal networks, however, have limitations. Multiple focus group participants underlined that UBC food-system networks mimic the broader UBC network in that they are highly decentralized and therefore difficult to make inclusive and exhaustive. Piecing this together, there may be a need for the UBC Campus to better map out the relationships of food systems stakeholders in order to meet the map's goals of increasing collaborations. A visual tool may be effective in this respect. During our focus groups, an existing tool at UBC came to light as an example: the Campus Biodiversity Knowledge Networks Map (Figure 9).
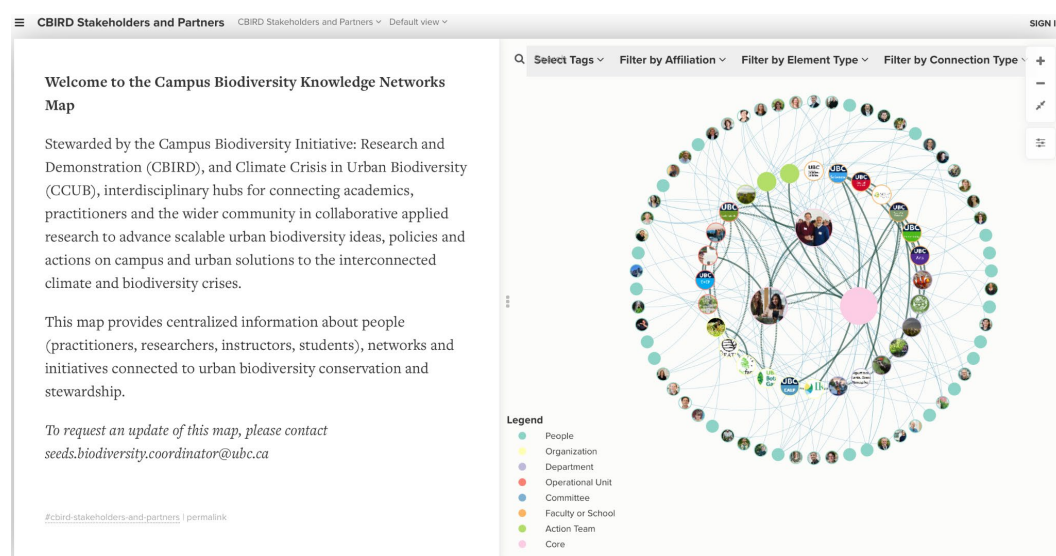


Figure 9. The Campus Biodiversity Knowledge Network Map (CFSKNM, 2020).

Pictured above is an interactive display of the people and resources connected to the Campus Biodiversity Initiative Research and Demonstration (CBIRD) steering committee and affiliated stakeholders. This type of visualization is described in literature as a part of a 'Social Network Analysis', which is growing in use among managers to help "identify and understand the interactive patterns and networks within and across their business (Monaghan et al., 2017, para. 33)." While there are practicalities to consider when implementing this kind of mapping tool such as data reliability, boundaries, and visualization, literature supports that it can be effective as an interactive and self-directed way of gathering insights on the relational elements of a team, organization or community (Monaghan et al., 2017). We also note that a much simpler and less extensive version of this tool exists as the Campus Food System Knowledge Networks Map. This tool employs a basic hub and spoke model to display information about the members of UBC's Food System Steering Committee (CFSKNM, 2020).

Drawing once again on the theme of preventing overlap between resources, relationship mapping should be situated within the context of the work of the UBC Food Hub. The Food Hub's platform is well-aligned with the work of centralizing UBC's food resources and initiatives, making a strong support for the Food Hub to be responsible for the maintenance of a network mapping tool. The question which then remains is whether a relationship mapping tool would actually service the Food Hub's work.

### USABILITY, TECH, AND GOOGLE MYMAPS:

Many of the technological features identified to improve the map are limited by the scope of the UBC Food Asset Map's (FAM's) current platform, Google MyMaps. Advantages to this platform include that it is easy to create, simple to use, and free which may explain why it remains the top choice of software for FAMs across Canada. This platform offers basic map features (asset locations, filters, and information), however lacks the ability to implement more creative or customizable features, such as a search bar, customized icons, and the ability to filter assets by multiple factors. This would pose a barrier to implementing many of the features needed in order to explore the identified opportunities of relationship network mapping and meal-location. This ultimately echoes the findings of Lang (2018), who also suggests a more customizable platform would be preferred.

Through gathering and narrowing down the types of features most used and most requested for the UBC Food Asset Map (FAM), our team drafted an alternative version of the map using the platform '*Tableau' (Figure 10)*, a popular data visualization software. A thorough description of the capabilities offered by Tableau can be found in Appendix M. While this 'mock-up' map does not fully realize all potential updates, its ability to offer different design features helps show how an alternative platform could better support some of the UBC FAMs objectives.



*Figure 10. Screenshot showing a possible alternative UBC FAM design developed on the Tableau platform. Key differences shown above include a search bar, zooming and panning, category filters, and a tab for the UBC Okanagan FAM.*
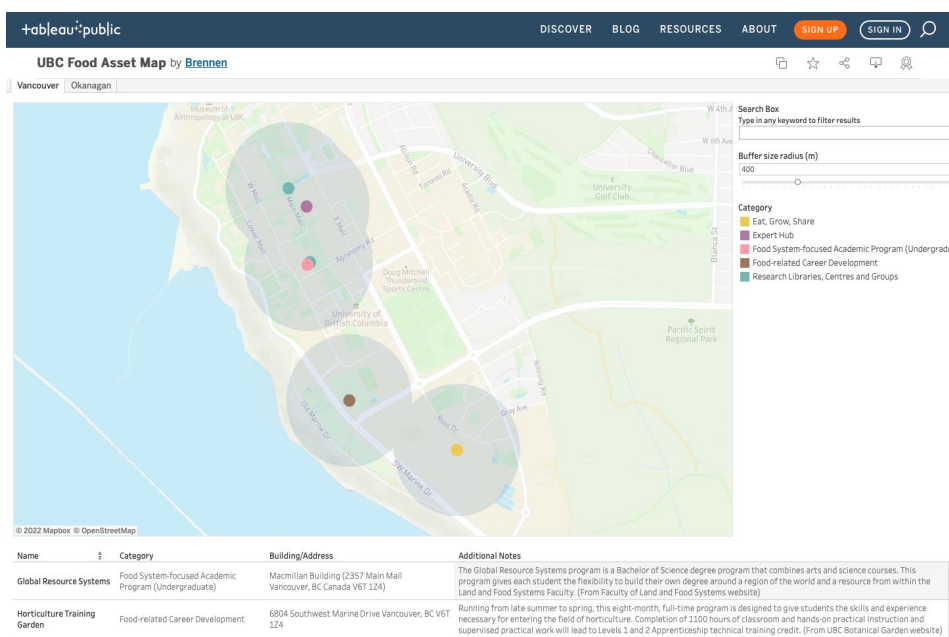
Although Tableau is relatively easy to learn, drawbacks include that it does require more knowledge and training to create and maintain a dynamic database, such as a food asset map, compared to Google MyMaps. However, this tradeoff between customizability and cost (money, labour, skills) is pertinent regardless of which software is being used.

### THE MISSING LINK: FURTHER DATA NEEDS;

Although our research illuminates several pathways for the UBC Food Asset Map's future usage, the question remains: who is accounting for the 26,000 views the map has received since its inception in 2018? Given our project was unable to confirm that the map was consistently and substantially used by our research target demographics (students and food systems stakeholders), further research is needed to fully assess who is using the map and how they are using the map in order to assess its efficacy in fulfilling its purposes.

We acknowledge the scope and methods of our research, namely the convenience sampling of our primary data, may not have captured a full range of voices who may be using the UBC Food Asset Map (FAM). Additionally, our survey did not allow for the participation of non-student community members, and focus groups emphasized food asset managers over those involved in Campus and Community Planning. Over the course of our research, we were also unable to ascertain the back-end user analytics which may point towards some answers, nor were we able to confirm whether this information has been monitored and tracked by SEEDS.

SWOT ANALYSIS: STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS

While our data invites a vast array of diverse and compelling visions for the future of the UBC FAM, it is important to ground those visions in the context of other UBC food systems projects with similar purposes, audiences, or goals, and to critically evaluate whether an alternative FAM would hold real unique impact in addressing the needs and desires of the UBC community. The SWOT (strengths, weaknesses, opportunities, threats) table below consolidates much of the previously discussed content and presents a framework for considering the value of maintaining and revitalizing the UBC FAM.

| Strengths | Weaknesses |
|---|---|
| ● Existing platform has base functions, and has accumulated a viewership;<br>● Extensive data and information were used to create the map;<br>● The map can display physical assets, including those not connected to an organization or initiative (e.g. places). | ● The map is difficult to find online, with no current strategy of advertisement and dissemination;<br>● There are limitations of Google MyMaps software. Implementing the identified changes and using a new platform would:<br>    ○ be costly (time, resources, skill);<br>    ○ need regular maintenance;<br>    ○ hold no guarantee of attracting a wider audience or being used.<br>● The FAM does not currently address student or asset manager needs;<br>● Difficulty in displaying non-physical assets. |
| **Opportunities** | **Threats** |
| ● Amplify the FAM's existence:<br>    ○ through the new UBC Food Hub;<br>    ○ through a variety of sources identified in survey and focus group data.<br>● Improve UX/UI: data suggest a spectrum of options from low resource requirements to high resource requirements. Opportunity to use different software/map tool;<br>● Change scope to be better suited to direct students and community members towards food;<br>● Change scope to be better suited to displaying non-physical campus food assets and stakeholder relationships. | ● Scope changes may be accompanied by a high potential of work duplication, through:<br>    ○ Campus Nutrition & the Food Hub, which could fill the role of the identified student meal-location;<br>    ○ the Food Hub, which aims to centralize campus food security resources and link intersecting areas.<br>● Data provide some reasons as to why the map may be underused by target groups, but do not guarantee its use if changes are made;<br>● Lack of analytic information on the FAM's past users creates the possibility that a drastic scope change or redesign may cease to address the current users' intended uses;<br>● Non-consensus of the term 'Food Asset' impacts the ability to identify a clear scope of the FAM. |

*Figure 9. SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis of maintaining and revitalizing the UBC FAM.*

## 5. RECOMMENDATIONS

Our project set out to determine next steps for further developing the UBC Food Asset Map (FAM). However, based on our findings, further research should be conducted before significantly enhancing the UBC FAM. In this section we outline recommendations for further research needed to aid future investment decisions, alongside a series of actionable steps that contribute to the goal of advancing a just, secure, and sustainable food system at the UBC Vancouver Campus. A visual representation of future research and actionable recommendations can be seen in the figure below (Figure 11).
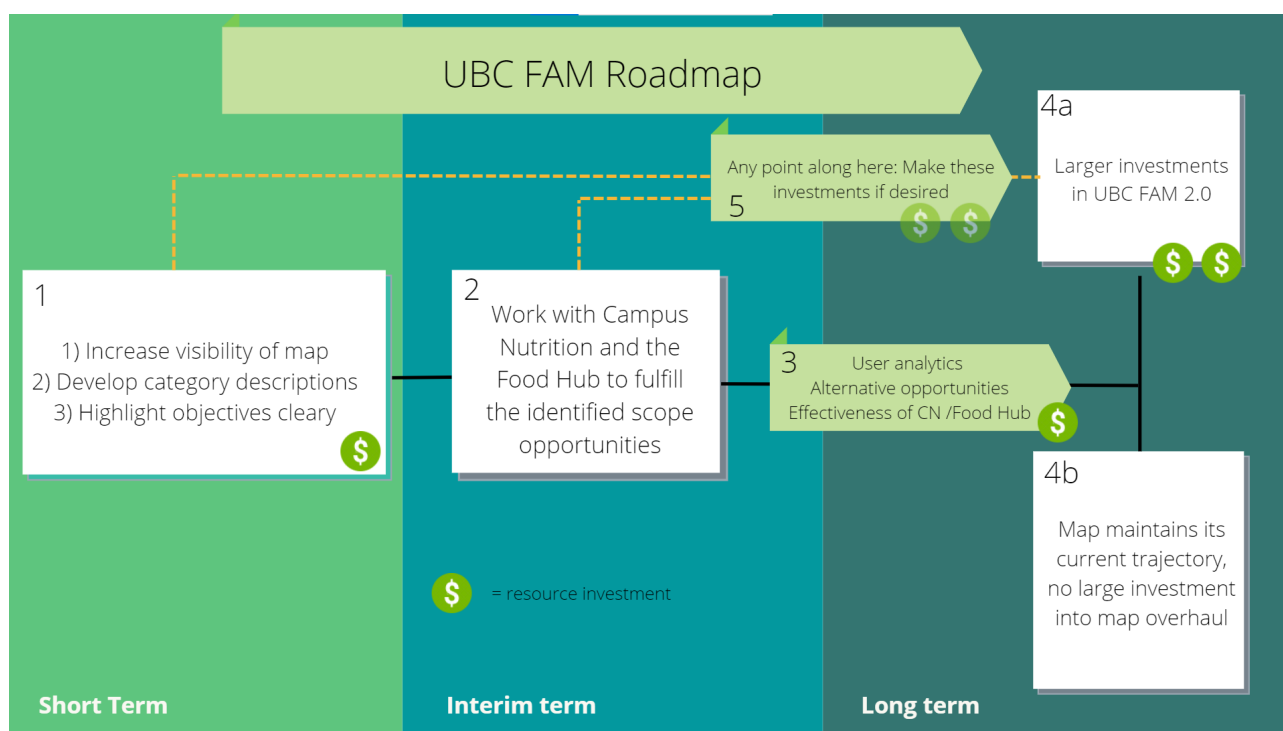


Figure 11. Roadmap of recommendations for further actions and research for the UBC FAM.

## 5. RECOMMENDATIONS FOR ACTION, IMPLEMENTATION AND RESEARCH

### SHORT TERM: WHAT SHOULD BE DONE WITH THE MAP?

1 Action: Avoid immediate **Major** Investments in the UBC Food Asset Map 2.0. Project

We could not identify a particular audience that would feel inclined to use the UBC FAM if it was further developed with extensive technological features with its current scope. Amongst students who

might use the UBC FAM, their primary need is to find food on campus and we acknowledge that there are different resources which may fulfill this function. However, while we could not justify a full overhaul of the UBC FAM yet, we do recommend making the following simple changes that can be made in the short term to enhance usability and accessibility:

Increase the visibility of the UBC FAM by promoting and embedding it on the Food Hub website;

I. Continue to make the map available through the SEEDs website as well, while working with UBC IT to ensure that a link to the page can be accessed directly from the main results page of a web search using relevant keywords; and

II. Create an "about" section on this new landing page that clearly states the objectives/purpose of the map and defines a food asset in the context of the UBC FAM.

Reasoning: Our research shows that these are the most universal issues which require both the lowest resource input and affect the greatest number of people. We predict these changes would take minimal effort and time to enact by a member of the SEEDS or UBC Wellbeing staff.

### INTERIM: BUILDING COLLABORATIONS & SETTING GROUNDWORK

2 Action: Develop Collaboration Between Campus Nutrition and UBC Wellbeing

Our talk with the Campus Nutrition (CN) co-founder gives us reason to believe that CN may continue to grow as a campus food-location service. Recently, CN and UBC Wellbeing (UBC W) collaborated on promoting the UBC Food Hub Market. Though CN values their independence from UBC organizations, we recommend developing a mutually beneficial relationship wherein CN and UBC W to promote each other's projects, collaborate on highlighting food resources on campus, and maintain the food and meal service data that students have identified as being valuable to their needs. Furthermore, as the CN team has research initiatives aimed at identifying and meeting the needs of students, collaboration could be beneficial to informing future student-focused food security initiatives for UBC Wellbeing.

## 3.1 Research: Access the current UBC FAM Google MyMaps user Analytics Data

It's important to know who has been using the Food Asset Map, what they may have been using it for, and when most of the views took place. The data could show a steady decline in usage over the years or reveal specific years in which views peaked. This data could also give insight into whether or not students have ever been a primary audience for the map.

## 3.2 Research: Test the Hypothesis: Is the Map not Being used Because it's Unusable?

Our data suggest that people don't use the UBC FAM because there are major issues that need improvement, but we can't prove that once the map is revamped people are guaranteed to use it. So, we recommend committing to small changes (outlined in action item 1) that can be accomplished within a month or less depending on the capacity of SEEDS and UBC Wellbeing. Following this we suggest equipping the map with Google Analytics and other tracking measures such as an embedded feedback form or pop-up button on the map to ask users who they are (e.g. a student, policy maker, campus stakeholder), which we believe can be done with minimal effort with the help of UBC Information Technology. After a year of collecting data, assess whether the changes improved usage of the map (compared to previously accessed user analytic data) and draw conclusions about the map's primary audience.

## 3.3 Research: Consider usage in Campus and Community Planning

A significant amount of information on the map could be useful to inform campus development and conduct needs assessments (Soma et al., 2021). We suggest further dialogue with those directly involved in the Campus and Community Planning department identifying possible changes or adapted versions based on their work habits and structures in conversation with the recommendations of Lang (2018).

3.4 Research: Developing the Food Systems Knowledge Networking into a Relationship-Mapping Tool

Our literature review and conversations with stakeholders revealed the importance of acknowledging non-physical food assets in a community, such as highlighting relationships and specific people who contribute to the food system. The Food Systems Knowledge Networking tool is another visual tool that has potential to disseminate valuable information and contribute to collaborative action to enhance food security. Given the UBC Food Hub's goals of linking and centralizing information about the UBC food system, we suggest that the Food Hub be given time and space to blossom to pursue its objectives, meanwhile monitoring the systems and governance it develops related to relationship networking. Further research will then be needed to determine if a relationship mapping tool aligns with the goals of the Food Hub and would be impactful if further developed.

3.5 Research: Account Foreating, Growing spaces, and Other Physical Spaces

There may be a need for a maintained register of physical assets that aren't associated with any particular organization on campus. These include places to sit down and eat, campus microwaves, and garden spaces to grow food. The UBC Lunch Hubs map identified in our environmental scan is evidence that this need exists, but further research is necessary to determine how prominent that need is and whether it's worth addressing.

LONG TERM: REVISITING THE CONCEPT OF FOOD ASSET MAPPING.

4.a Action: Invest in Developing the UBC Food Asset Map 2.0.

If further research reveals that it's worth investing in the UBC FAM in the future, our project includes actionable steps for the map's redevelopment. We have developed a draft map in Tableau that applies identified best practices for an improved UBC FAM (Appendix M). We predict fully implementing this tool would require investing in a work-learn student for up to one academic term. Qualifications for the

job include familiarity with technology and ability to learn quickly, however extensive experience with similar tools would not be required.

Reasoning: We delayed this action to further in the future, because we believe there are other active community initiatives such as the Food Hub and Campus Nutrition that need more time to develop and find their footing before a decision is made on whether or not the UBC FAM has a gap to fill in the fight against food insecurity. When investments in the map are made, they may hinge on undergoing a platform change, such as, but not limited to, Tableau. Table 10 below includes recommendations for redevelopment.

| Design UI/UX development | |
|---|---|
| Language translations | Comprehensive user instructions |
| Detailed food asset information (operating hours, dietary preferences, cultural needs) | Search bar |
| 2-layered mapping design: food systems relationship network and physical assets | Optimize platform for mobile use |
| Landing page: can help users navigate by filtering with questions "who are you?", "where are you looking to go?" | Redesign icons to be more distinguishable |
| Feedback form: ask "what did you come here for?" | Ability to assign multiple tags/categories to assets |
| **Management recommendations** | |
| Greater dissemination and publicization of the FAM: interactive mall navigation-kiosk style screens in the physical food hub or AMS sustainability | Clearly defined management responsibilities within the UBC Food Hub |
| Consider scope expansion to greater community areas (University Endowment Lands Neighbourhood Association, Point Grey, City of Vancouver, etc.) | Incorporate UBC Okanagan |

Table 10. Recommendations for redevelopment of the UBC Food Asset Map.

4.b: Preserve the map as it is and use it to track changes in the campus food system

The campus food system has gone through multiple changes pre- vs post-pandemic, which may contribute as to why the map is outdated. As places, people and resources continue to shift, the Food Asset Map in its current state could act as a meaningful document that highlights how the food landscape has

transformed since its last update and could allow for an analysis into how the COVID-19 pandemic

impacted the UBC campus food system.

5. Iterate as needed:

Many of the changes offered in Table 10 have varying implementation timelines. Therefore, we

recommend that the UBC FAM's primary manager conduct an ongoing assessment to institute

modifications when relevant and as resources become available.

## 6. CONCLUSION

If this research were a treasure map, the big red X would lead us to a future of a food secure campus with a Food Asset Map whose design is perfectly suited to visualize what needs to be visualized, and leaves space for what is best provided elsewhere. While this future may require some more work to fully realize, our crew has come to recognize that some of the real treasure lies within the journey. Over the course of our research, we assessed the ways food asset mapping can contribute to a just, secure, and sustainable campus food system. Similar to the teachings ingrained into the core of the Faculty of Land and Food Systems, we found that this is a wicked problem far easier said than done. Through assessing the Food Asset Map's current use and evaluating its success to date in meeting its goals, our team has gathered valuable context and proposed guiding recommendations moving forward.

We affirm that Food Asset Mapping can be a valuable tool in addressing food security at multiple levels (e.g. individual, communal and institutional), however we emphasize that the Food Asset Map's audience must be firmly established before its functions can be optimized. In our research process, we identified and interacted with two possible audiences- students and food systems decision makers- but ultimately concluded that their identified uses of the FAM may be best manifested through a collaboration between the UBC FAM and other campus initiatives. Our research scope was limited in that we did not focus on the perspective of Campus and Community Planning and non-student community members. With the promising growth of the UBC Food Hub, we anticipate thrilling developments for the future of the Food Asset Map and the broader campus food system.

On the behalf of group 7, Envisioning the Food Asset Map 2.0, we would like to give a huge thank you and acknowledgment to the teaching team, Liska Richer and Jennifer Lipka, our client organizations, UBC Wellbeing and the SEEDS Sustainability Program, and our client contacts, Sara Kozicky and Georgia Stanley. We acknowledge that the work on this project would not have been possible without their time, talent, and expertise by guiding us in our project throughout this term to better the food asset map and address UBC campus's food insecurity for the future years to come.

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## APPENDICES

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### APPENDIX A: QUALTRICS SURVEY FORMAT & QUESTIONS

**Consent Form**

UBC Food Systems Asset Map Student Survey
*Your voice matters!*

**The following is to inform your consent in participating in this survey:**

**STUDY TEAM: Student Research Group - UBC Food Asset Map**
**Principal Investigator: Liska Richer, Instructor, Land and Food Systems 450 class, Faculty of Land and Food Systems. E-mail: liska.richer@ubc.ca ;Tel: 604.822.3270**

**INVITATION AND STUDY PURPOSE: You are being invited to take part in this research study because you are affiliated with the UBC food system. We want to learn more about the sustainability of the campus of the food system. This study will help us advance our knowledge and learn more about ways to**

advancement of a more ecological, economic and social sustainable food system.

**CONFIDENTIALITY: You answers will remain anonymous unless you give written consent (below) to the UBC student conducting survey to disclose your name, working position or any other information revealing your identity, for future use. Documents will be identified by code number and kept in a locked filing cabinet or secure data storage system. Subjects will not be identified by name in any reports of the completed study.**

**PAYMENT: Participants are not paid to participate in this study. However, upon completion of the questionnaire you can choose to be entered for a chance to win a $50 participation gift card.**

**PARTICIPANT CONSENT AND SIGNATURE PAGE: Participants have full autonomy to choose to partake in this study or not. You have the right to refuse to participate in this study. If you decide to take part, you may choose to pull out of the study at any time without giving a reason and without any negative impact on your employment, or class standing. If the questionnaire is completed, it will be**

enhance the sustainability of the campus food system.

**STUDY PROCEDURES: How is the study done? This study is being carried out by students within their course on "Land, Food and Community III" (LFS 450) in the Faculty of Land and Food Systems. If you agree to participate, you are being asked to participate in an electronic questionnaire . It is estimated that your time commitment will range from approximately, depending on what you are participating in. You will be given an electronic form to answer.**

**STUDY RESULTS: The results of this study will be reported in course based undergraduate reports and will be published in the SEEDS Sustainability Library and UBC cIRcle Digital repository.**

**POTENTIAL RISKS OF THE STUDY: Some questions may bring up an emotional response. Participants do not have to answer questions that feel personal or breaches a sensitive topic. Please let the study staff know if you have any concerns.**

**POTENTIAL BENEFITS OF THE STUDY: This study may benefit participants by contributing to the**

assumed that consent has been given to participate in this study.

**CONTACT FOR INFORMATION ABOUT THE STUDY: If you have any questions or concerns about what we are asking of you, please contact the Principal Investigator and Course Instructor. The names and telephone numbers are listed at the top of the first page of this form.**

**CONTACT FOR COMPLAINTS: Who can you contact if you have complaints or concerns about the study? If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, contact the Research Participant Complaint Line in the UBC Office of Research Ethics at 604-822-8598 or if long distance e-mail RSIL@ors.ubc.ca or call toll free 1-877-822-8598**

Do you consent? If not, please exit this survey now.

○ Yes, I consent

**Info.1**

**Background info:** The purpose of this survey is to find out how students think about and interact with the UBC Food Asset Map. The map is an interactive **online tool** created to show where different food 'assets' are on campus. On this map, a **'food asset'** can include low cost food sources, food sustainability initiatives, garden space, research centers, and food programming or workshops. We're looking to improve the map, and would love to hear your honest feedback. This survey will take approximately ten minutes to complete, and you will be entered for a chance to win a $50 gift card to your choice of Save-On-Foods or UBC Bookstore.

This information will be relevant for completing this survey

○ I have read this information

**Personal Information Questions**

What type of program are you enrolled in?

○ Undergraduate
○ Graduate
○ Other

What campus location are you affiliated with?

○ Vancouver
○ Okanagan

What year of study are you in?

○ First
○ Second
○ Third
○ Fourth
○ Fifth+

How old are you?

**What faculty are you enrolled in?**

**Do you live on campus (including the Wesbrook area)?**

○ Yes
○ No

**Are you affiliated with a food-based campus club or organization?**

○ Yes
○ No

**Which club/organization (optional)**

**What is your involvement with this club/organization (member, volunteer, executive council, paid employee, etc.)**

**How are you taking this survey?**

○ Computer
○ Mobile Phone
○ Tablet
○ [____] Other:

**Survey Questions 1**

**Prior to this survey, had you ever heard about the UBC Food Asset Map?**

○ Yes
○ No

**Where did you hear about it?**

☐ UBC class
☐ Student organization/network
☐ Workplace
☐ UBC resource
☐ Browsing the internet
☐ [                    ] Other

Have you used any of the following online campus resources in the past year? If unsure, you can click the below links to view the page.

Feed Me UBC
Sustainable Campus Food Guide
UBC Virtual Food Hub
Campus Food Systems Knowledge Networks Map

☐ Feed Me UBC
☐ Sustainable Campus Food Guide
☐ UBC Virtual Food Hub
☐ Campus Food Systems Knowledge Networks Map

FAM (reference photo below) return to this tab, stop the timer, and indicate how long it took to find the map. If you are unsuccessful after two minutes, you may stop and leave the entry box blank. **Continue to the next page once you are ready to begin.**

*Below: when you see something like this, you'll know you're on the right page.*

When using these resources, what were you looking for? Please select all that apply

☐ Food/meals on campus
☐ Low-cost food/meals on campus
☐ Healthy food/meals on campus
☐ Food preparation support
☐ Healthy eating support
☐ Knowledge about the campus food systems
☐ Student involvement opportunities
☐ Contact information
☐ Waste management information
☐ Academic resources
☐ [                    ] Other

**Information - Time TrialBlock 7**

The next activity will be a timed activity.

Instructions:

Please open a new tab on your current device, start a timer, and conduct a web search to find the UBC Food Asset Map (FAM), using keywords of your choice. After finding the UBC
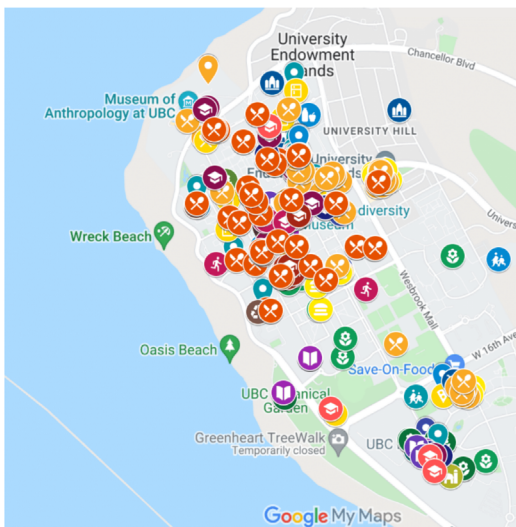


**Survey Questions 2**

Task: Find the UBC Food Asset Map online. Indicate the time taken below.

Minutes

Seconds

0 0 0 0 0 0

**Were you able to find the map?**

○ Yes
○ No

**Survey Questions 3**

**If you were not able to find the UBC Food Asset Map, click here to view the map.**

Have you ever used this resource before?

○ Yes
○ No
○ Do not remember

**Which of these categories most closely fits your reason for using the map?**

☐ Cultural and Community Food Groups and Programs
☐ Spaces to Cook, Eat, & Share
☐ Spaces to Grow Food
☐ Retail Stores, Markets
☐ Low Cost and Emergency Food Aid
☐ Campus Food Outlets
☐ Waste Reduction, Management, and Recovery
☐ Research Libraries, Centres, and Groups
☐ Academic Food System Expert Hubs
☐ Course, Program and Career Opportunities
☐ Emerging Food Assets
☐ [            ] Other:

Please take a minute to observe the map and use its various features. Rate your agreement with the following statements based on your experience. *Recall that 'asset' refers to the different food sources, initiatives, growing spaces and organizations, etc. marked by colourful icons on the map.*

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|---|---|---|---|---|
| The map clearly shows assets' locations in a way that is useful | ○ | ○ | ○ | ○ | ○ |
| The language used is clear and easy to understand | ○ | ○ | ○ | ○ | ○ |
| For this statement, please select 'strongly agree' | ○ | ○ | ○ | ○ | ○ |
| Overall, the map's visual design is engaging | ○ | ○ | ○ | ○ | ○ |
| Overall, the map is easy to use | ○ | ○ | ○ | ○ | ○ |

Please take a minute to observe the map and use its various features.

| | Too little | Just right | Too much |
|---|---|---|---|
| The amount of information/detail on the map is.... | ○ | ○ | ○ |

Were there other challenges you encountered while using the map? (optional)

Do you have any other comments on the design of the map? (accessibility, user experience, user interface, etc.) (optional)

Did you notice that there were any organizations, clubs, initiatives, or groups missing from the map? (optional)

**Did you see your club/organization/initiative represented on the map?**

○ Yes
○ [            ] No; please specify

With what you now know about the UBC Food Asset Map, rate the likelihood that you will use it in the future?

○ Very likely
○ Somewhat likely
○ Neutral
○ Somewhat unlikely
○ Very unlikely

**What would you be most likely to use this map for? Please select all that apply**

☐ Find food for a meal
☐ Find low-cost groceries
☐ Find free/discounted meals + food
☐ Find food that fits my cultural or dietary needs
☐ Find a specific club/initiative related to food on campus
☐ Find access to kitchen space
☐ Find access to garden space
☐ Interested in the campus food systems
☐ Find academic resources related to food systems
☐ Browsing
☐ [          ] Other

Are there any features that you think should be added to the map to make it more helpful? (optional)

[                                        ]

Are there students or groups you know on campus who might like to use the map? Please specify:

[                                        ]

Powered by Qualtrics

*The below was used as a loose 'script' which our focus group moderators used to guide the questions asked of each of the groups.*

**PART 1- INTRO (5 minutes)**

**Welcome, Introductions & Land Acknowledgement:**

**[Slide 1]**

**Moderator 1:** Hello everybody, welcome to our focus group. Thank you very much for taking the time to join us today. My name is _____ and I will be the main facilitator of today's focus group. I am joined today by my colleagues _____, _____, and _____ who will be assisting in facilitating and notetaking- (so don't be confused if some of them don't talk much, they're working hard behind the scenes). Before beginning today, we would like to acknowledge that our team is joining you from the traditional, ancestral, and unceded territory of the Musqueam First Nation. As we think today about the ways we are seeking to improve the food system of students, staff, and studiers on the land on which we are working, we believe that it is also critical to reflect on the ways that the traditional food systems of these lands were and are continually interrupted by the colonial project. While no action of ours can undo this, we acknowledge the land as a reminder of the responsibility that we have as researchers to hold ourselves accountable at all times to working in a way which does not perpetuate food systems that uphold and benefit the norms of white settler culture, but affirms equity for the First Peoples of this land.

**Overview of how the Focus Group will work:**

[Slide 2]

**Moderator 2:** Over the next hour, we are looking forward to hearing your opinions, thoughts, and experiences as decision-makers on campus to inform our research into the UBC Food Asset Map. We will begin this session by going over the guidelines of our focus group, then will give a brief overview of our project's objectives and jump right into the questions that we are seeking your feedback on today.

**Moderator 1:** Our questions will be presented in a hybrid model of both Google Jamboard and a prompted discussion. For those of you who are not familiar with Jamboard, it is a digital tool which allows participants to jot down their thoughts as sticky notes on a shared "whiteboard" space. With jamboard questions, the idea is that you have an opportunity to reflect on the questions, and not feel on the spot to provide thoughts.

**Moderator 2:** After some notes have been added to the jamboard, myself or one of my colleagues may prompt you on something that has been written on the jamboard, and ask you to expand further in a discussion. At this time, it is also appropriate for any members of the group who want to contribute to the discussion to do so. In other words, the jamboard questions are meant to be a prompt to get initial thoughts down, and which we then hope to expand upon in a verbal discussion. This might mean that there may be some moments of silence, and that's okay; we embrace silence as a fruitful space where thoughts are formed.

**Moderator 1:** We also will note at this time that this meeting will be recorded for the purposes of producing a transcript of what is said. This recording will be deleted after, and not shared with anyone outside of our student research team. As indicated in your informed consent, you may revise any comments you have made prior to the publication of our group's final report.

**Guidelines:**

**Moderator 2:** The following are guidelines to ensure we have a respectful discussion:

1. There are no right or wrong answers, only differing points of view. You don't need to agree with others, but ask that you listen respectfully as others share their views
2. There is no need to raise your hand in order to speak, just be mindful of not speaking over one another for the clarity of our recording.
3. We're all on a first name basis. Please make sure that your Zoom name reflects how you would like to be referred to over the course of our session.
4. We ask that you silence your phones. If you cannot and if you must respond to a call, please do so as quietly as possible and rejoin us when you can.
5. Our roles as moderator will be to guide the discussion. For the purposes of time we may need to move on to the next question before all thoughts have been expressed on the previous question, however, there will be an opportunity at the end of our focus group to voice any final thoughts. Please take the opportunity then to say anything which you feel you did not have time to express, or wish to emphasize.
6. Please feel free to talk to each other!

**Project Brief:**

**[Slide 3]**

**Moderator 1:** We are a student research team passionate about food systems in LFS 450: Land, Food, and Community III: Leadership in Campus Food Sustainability course. Food Asset Maps, or FAMs for short, are tools which can help visualize a food system for purposes of identifying gaps in the food system and furthering stakeholder collaboration. [Slide 4] In 2013, the SEEDS sustainability program, UBC Wellbeing, and UBC Botanical Garden developed a tool called the Food Asset Map with the aim of highlighting food systems stakeholders and gaps in the food system, as well as increasing public knowledge of various campus food resources and opportunities. However, literature from 2018 has called for a reevaluation of the map, and our group is conducting a research project to do just that. Our research, and the questions we will be posing today, fall under three goals:

[Slide 5]

1) To assess how the FAM is currently being used;
2) To evaluate the efficacy and success to date in meeting its goals; and
3) To develop guiding recommendations for changes moving forward.

You are here today in one of our two focus groups with food systems and campus decision-making stakeholders looking to gather information on these three goals. This will be combined with a survey currently collecting data on the student body's general recognition of the map and to gauge their interest

in a tool like this. We will then be producing a report showing our findings, with clear guiding recommendations and a mock-up map including these changes. You can receive a copy of our final report if you would like to- and we will confirm this in a follow-up email to this focus group.

Madison: **Data collection moment: Assessing current use:** [Poll] Have you ever used the FAM?

    a) (We will come back to this question later)

<u>PART 2: MAIN QUESTIONS (50 minutes)</u>

**Moderator 2:** *insert Jamboard link into the chat*
*https://jamboard.google.com/d/*&#9608;&#9608;&#9608;&#9608;&#9608;&#9608;&#9608;&#9608;&#9608;&#9608;&#9608;&#9608;&#9608;&#9608;

Before we begin we would like to define what a food asset is. I'll note that within asset-mapping circles, the definition can be debated, and there are politics behind what is included and what is not. Broadly speaking though, a food asset is a place, resource, or organization where people can **grow, prepare, share, buy, receive, or learn about food**. Community organizations and schools are included on the map because they are places where community members can get support with learning and health or connect with others in their community. Does anyone have any questions about the definition of a food asset map?

Our first question will be an "ice-breaker" question to help us get comfortable with talking to each other.

Q0: If you could only use one food asset on UBC campus for the rest of your life, which one would you pick and why?

Next we have some questions to explore the scope, information priority, role, use and future direction of the FAM.

**Moderator 1:** The first question is...

Q1: As a food systems stakeholder/campus decision-maker, how do you interact with food systems at, or beyond, UBC Vancouver ? We ask this because we would like to get a sense of what UBC's Food system looks like.

What this might look like is: You help inform what's on the menus in first year residences.

Question prompts
- Who are some of the people or groups you might need to work with?
- How often do you develop new connections with other food system members?
- What would the purpose of that connection be?

Thank you!

**Moderator 2:** The next question is about what information shown on the map is relevant to you as a decision maker. Consider some community partners you collaborate with at work, they can be food related or not.

Q2: How do you find out about resources on campus?

> Question prompts:
> - Where do you go to look or learn more? Is it online or in-person?
> - Do you use maps? How do you use maps?

Okay thank you for participating.

---

**Moderator 1:** Next, think of a situation in which your work requires the use of *a* map. This could be a map or visual tool of any kind, not specifically the UBC Food Asset Map.

Q3: In what way are you using a map? We ask this because we want to know How is, or could, the FAM be used by decision makers?

> Question Prompts:
- Are there others within your organization who might use it for something?
- How about others at UBC outside of your organization?

Thank you!

---

**Moderator 2:** The fourth question is targeted at understanding the use of the food asset map. If you said you use(d) the Food Asset Map, think back to this time. Maybe you were using it to inform a project, or situate yourself in your role.

Q4A: Whatever this reason was, please share what it was.

Q4B: AND for those of you who haven't used it, in what ways *could* the Food Asset Map be of value to your work? Consider the current features of the map, such as physical location of assets, contact information, and the descriptions of the assets.

> Question Prompts:
- 

Thank you!

---

**Moderator 1:** The fifth question refers to the future direction of the food asset map.

Q5: If you could make any changes to the map that would increase the likelihood of you using it, what would it be?

> Consider it specifically in regards to your work.
> Question prompts:
- Showing contextual information, such as population density or walkability
- Showing how the number or type of assets on the map have changed over time
- Increasing the geographical space of assets shown beyond UBC Vancouver

Thank you!

---

**Moderator 2:** Finally, before we end this meeting we have an exit ticket question.

Q6: Is there anything else you would like to say about the Food Asset Map that you haven't had the chance to do before?

PART 3: WRAP UP (5 min)

**Say:** We would like to thank you for participating in our focus group today and sharing your time and thoughts with us. As thank you for your time today, we will be providing each of you with a $5 giftcard to an AMS food service of your choice, which we will send to you in an email shortly following this meeting. If you have any questions please email us >>> INSERT EMAIL IN THE CHAT<<< (Madison's?)

**Say:** If anyone has not filled out the consent form that we sent out this is a reminder to do so after the meeting.

APPENDIX C: INTERVIEW QUESTIONS

Questions:

- Question about the process of developing your initiative in the format that it is?
  - "Identified a huge need - students on campus Information fragmented, UBC Food Service + AMS food Service, all have their own websites + information, no places to source information except google maps and yelp, but those things aren't' optimized for a local campus. Wanting to build something much more targeted. Strong brand.
  - Did you consider the map format? Why/why not?
- Where do you identify the most student need for your initiative?
- What sort of back end data do you get on how your website is used?
- What user experience points are most important to you?
- What is your connection to food security initiatives?
- Are there goals you think we should consider?
  - Related to the audience?
  - Related to uses?
- If the map were to become a collaboratively-owned and maintained tool, would it be within your organization's interest to maintain certain aspects?

T H E U N I V E R S I T Y O F B R I T I S H C O L U M B I A
T H E U N I V E R S I T Y O F B R I T I SH COLUMBIA

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**LFS 450: Project 7, UBC Food Asset Map Focus Group**
**INFORMED CONSENT**

**STUDY TEAM:** *Lian Boltwood, Brennen Gilbert, Oliver Kodet, Madison Pinder, Charlotte White, Ekaterina Zhukova*

**Principal Investigator:**
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**INVITATION AND STUDY PURPOSE**
You are being invited to take part in this research study because you are affiliated with the UBC food system. We want to learn more about the sustainability of the campus of the food system. This study will help us evaluate the current goals and uses of the UBC food Asset Map to inform decisions on how this tool can be redeveloped to advance a just, secure, and sustainable food system at UBC.

**STUDY PROCEDURES:** How is the study done?
This study is being carried out by students within their course on "Land, Food and Community III" (LFS 450) in the Faculty of Land and Food Systems. If you agree to participate, you are being asked to participate in an online focus group. It is estimated that your time commitment will take 1 hour. You will be verbally asked a set of questions to facilitate discussion throughout the focus group. For the online focus groups, zoom links have been sent. The focus group will be recorded for transcription. Any recordings made will not be shared anywhere and will be destroyed after transcription is complete. Please log in using a nickname or a substitute name or research code which will be given ahead of time by the research team. You can participate with your camera on or off and can mute your microphone (if cases where it is not needed).

**STUDY RESULTS**
The results of this study will be reported in course based undergraduate reports and will be published in the SEEDS Sustainability Library and UBC cIRcle Digital repository.

**POTENTIAL RISKS OF THE STUDY**
We do not think there is anything in this study that could harm you or be bad for you. Some of the questions we ask might upset you or seem sensitive or personal. Please let one of the study staff know if you have any concerns. You do not have to answer any question if you do not want to.

THE UNIVERSITY OF BRITISH COLUMBIA

**POTENTIAL BENEFITS OF THE STUDY**
You may be helped in this study by findings contributing to the advancement of a more ecological, economic and social sustainable food system. In the future, others may benefit from what we learn in this study.

**CONFIDENTIALITY**
Your answers will remain anonymous unless you provide written permission (below) to the UBC students conducting the focus group, to disclose your name, working position or any other information revealing your identity in any possible future use of the information you provide. Due to the nature of focus groups, please note that only limited confidentiality can be offered, and we encourage participants not to discuss the content of the focus group to people outside the group; however, we can't control what participants do with the information discussed. All documents will be identified only by code number and kept in a locked filing cabinet. Subjects will not be identified by name in any reports of the completed study.

**PAYMENT**
A $5 honorarium gift card will be given to all participants.

**PARTICIPANT CONSENT AND SIGNATURE PAGE**
Taking part in this study is entirely up to you. You have the right to refuse to participate in this study. If you decide to take part, you may choose to pull out of the study at any time without giving a reason and without any negative impact on your employment, or class standing.

_____
SIGNATURE

*If the questionnaire is completed, it will be assumed that consent has been given to participate in this study.*

**CONTACT FOR INFORMATION ABOUT THE STUDY**
If you have any questions or concerns about what we are asking of you, please contact the Principal Investigator and Course Instructor. The names and telephone numbers are listed at the top of the first page of this form.

**CONTACT FOR COMPLAINTS:**
Who can you contact if you have complaints or concerns about the study?

If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, contact the Research Participant Complaint Line in the UBC Office of Research Ethics at 604-822-8598 or if long distance e-mail RSIL@ors.ubc.ca or call toll free 1-877-822-8598

APPENDIX E : PROMOTIONAL POSTER AND INSTAGRAM POST

APPENDIX E.A: PROMOTIONAL POSTER



APPENDIX E.B: PROMOTIONAL INSTAGRAM POST

APPENDIX F :LIST OF POSTERING LOCATIONS AND INSTAGRAM ACCOUNTS

| Poster locations | Instagram accounts |
|---|---|
| FNH Building | UBC Students for Partners in Health Canada |
| MacMillan Building | LFS Undergraduate Society |
| Bus Loop cork boards | Student Environment Center |
| Brock Hall | UBC Sustaingineering |
| Global Lounge | UBC Farm |
| Gage Commonsblock | Freedge for Fuel |
| AMS Nest cork boards | AMS |
| Sprouts | |
| AMS Food Bank | |

Focus Group 1: March 17, 2022

| Code | Theme | UBC Wellbeing | UBC Center for Community Engaged Learning |
|---|---|---|---|
| Campus Resources | *When looking at other campus resources we must consider possible overlaps with the FAM. When creating resources, the back end must also be considered.*<br><br>*Campus resources can be essential for building connections in the food system* | "And just one example is our Food Hub website. You know, we're aiming to have that to be a place where there can be a variety of different resources that people can find easily, but also thinking about being on the back end of how do you set that up?" | "When I think of the developing connections and food systems, I just want to kind of put out there because I'm not sure how much we all know about each other's work. But at the Center for Community Learning, we do a lot of work." |
| Communication and Collaboration | *The importance of communication and collaboration lies in building trust and also being aware of community needs and building connections* | "So having you're having many different layers of connection and ways that you're kind of both having connections be brought forward to you, but also like reaching out and seeking those out, and that's an important part of your goal?" | "what are the conscious kind of efforts I've made towards building connections or seeking them out that support either work in community with community partners"<br><br>"If Sarah came up to me in the hallways, and was like, Hey, there's this great new, low barrier accessible place that just opened downstairs, I'd be like, Oh, wow, I gotta check it out. Whereas if someone else who maybe I didn't have that connection with, or we didn't know each other on that level, said, there's this awesome new restaurant in the nest, I've kind of assumed like, well, it could be just, it could be another noodle place" |

| | | | |
|---|---|---|---|
| UBC System | *Potential for UBC system to expand and consider what is occurring externally.*<br><br>*The UBC is decentralized which creates separations between networks, which also creates difficulties with people newly entering spaces* | "Yes, and you know, that's within the UBC environment, but then it's also a little bit more external too, an off campus environment. It's also maybe they have attended to, but just thinking about, okay, what are other universities doing? What are some promising practices in terms of just scoping for development of new resources" | "it's in a university like this, so decentralized"<br><br>"when I think of like, the challenge of entering into a space like that, there's so much on your mind and so much you gotta get right just to do well, at a place like UBC like for what you might think you're here for right off the bat, which is courses and studying and what not."<br><br>The idea of concentric circles |
| Sustainability, equity, & food security | *When considering the UBC food system: sustainability, equity, & food security must be considered. Food systems-related projects should aim to improve these facets of the food system*<br><br>*The community plays an essential role in the food system. Projects must consider their needs and serve to empower them.* | "the resource world, and food is very intersectional, as we all know, as well" | "the notion of sustainability is it connects the food the understand that the notion of equity and access and culturally appropriate food, like, usually we could I assume everyone in this space can can probably, we don't have to define that for you for each other"<br><br>"When I think of resources. I'm thinking about, like, beyond the commercial kind of typical thing that you find anywhere, it's something that actually serves the community in a way that uplifts food security"<br><br>"We want to make sure that there's a mutual benefit to folks in the community and so that the prep work that goes into getting students and even partners to the place where it can all happen, is often can be pretty heavy"<br><br>"You put the power back in the hands of the community, when you say that there are things that you need, there are assets that can be mobilized." |

| | | | |
|---|---|---|---|
| Map use | *Maps can have many different applications and can help streamline information if done correctly and with UI/UX considered.* | "It's hard to think about it once you get that, I think because your picture, Google Maps, once I get that in my brain, it's really hard to think about any other maps. I hope this comment was helpful. Map building. So I wrote about stakeholder mapping, because it's technically using a map." | "have a little map attached to your website or on your promo material that you're sending out. It's it, it saves a lot of especially when we're organizing events that are anything beyond 50 students, like if you have hundreds of students, if you can even reduce 5% of the the kind of the the phone calls are the emails to your front desk looking for information, just by providing it ahead of time, it's, I think it's a benefit to everybody." |
| Future of the FAM | *Reassessing the intended uses of the FAM and the intended users. Making sure there is no overlap between goals of other resources and the FAM. Considering how the FAM can be unique and provide its own insights into the UBC food system.*<br><br>*Framework creation may be necessary to figure out these aspects of the FAM* | "of try not to duplicate other existing efforts and try to more be that hub to then triage to the other website, or that other resources that may better meet the need, which there's definitely pros and cons to that approach"<br><br>"That's not the point of the website. And also, just even in terms of keeping them updated as well. We didn't want to have that role of having too many and things change, resources and details change that wasn't necessarily our mandate"<br><br>"You can use an existing tool and kind of try to adapt it to your framework or if you're developing the framework and you're redesigning your food asset map, you can consider those things at the same time. Because even, for example, how you categorize something and your criteria for placing things within those categories. If you do that mental work that could probably save a good amount of time in terms of your ongoing assessment of those different indicators"<br><br>"what is the value add of the food asset? Map? And, you know, are we speculating? You know, researchers are using it, or staff members are using it? Or thinking they could use it, but in all practicality, are they using it? And will they use it" | " [The FAM] doesn't have a clear audience, unless it is trying to be something to researchers. It seems like it's trying to connect all the dots. But then, you know, if you're, if you're, if you're doing a connect by dot picture, like if the entire page has dots, it doesn't make sense after." |

Focus Group 2: March 18, 2022

| Code | Theme | Quotes | | | |
|------|-------|--------|--|--|--|
| | | SEEDS | AMS Sustainability | Campus Nutrition | FSI/FGSU |
| The UBC System | *Stakeholders/decision-makers operate within pre-existing networks, which may perpetuate existing biases within the system* | "I feel like because SEEDS is very embedded within the university, there's a little bit of like, reaching out using like your existing people networks" | "we don't necessarily seek out new connections. But I guess we meet new people through those pre-existing relationships" | "we work with a lot of local businesses and, and such that are on the UBC campus" | "we do a lot of collaborations on campus" |
| Student Involvement and accessibility | *Currently some longer-standing organizations have a harder time including and involving students. With this, there is a possible need for reassessment of the FAM and how it could be used by students.* | "students are like an important population that we're always trying to reach and engage with and kind of meet their needs, but because […] the nature of being a student, and you have a certain amount of limited time on campus, I think those relationships are kind of harder to establish and more fleeting, even though it's such an important group." <br><br> "it's challenging to share that information with possibly students or people who are like the intended users of the various kind of initiatives. | "from the perspective of being a student before, kind of, being in these roles, where resources were coming from, um, maybe one challenge is like this specific-ness of certain resources, that you either have to really know what you're looking for to find it" | | |

| | | | | | |
|---|---|---|---|---|---|
| Campus Resources | *Campus resources have the potential to work in tandem with the FAM and increasing student access as well as involvement in the UBC system. However, there may be complications for students when looking for these resources.* | | Interactive Sustainability Center "There's something that like, looks like a TV and our intention with that was for it to be, um, like a touch screen that displays sustainability statistics for the Nest"<br><br>"But I'm not sure how, if someone is just searching for food resources on campus? Like just doing a Google search, versus finding it by other means. Not sure how that might pop up? Like what they'd have to search to find that?"" | | |
| Information Dissemination Channels | *Word of mouth as a common dissemination channel. Who does the word reach? Potentials for expanding channels through social media* | | "word of mouth, through different, through the work that they do."<br><br>"when we do have like, bigger news, then we utilize social media"<br><br>"being in like the AMS now I'm paying more attention. Like I actually look at the emails or the newsletters" | "I mean, we, we talk with a lot of students and we've kind of explored this, this question ourselves and, yeah, I think social media is kind of the biggest one that we see." | |

| | | | | |
|---|---|---|---|---|
| Power of Visualization | *Visual portrayal of information is powerful, but should be done thoughtfully, creatively, and in an organized way. There is a potential for catering to different types of learners.* | "visualization can be a really helpful way of kind of like ███ was saying, communicating in a different way. But also kind of communicating like these big, messy challenges, like very efficiently. I think like, I think of like, the increasing popularity of like visual abstracts " | "I guess when it comes to a visual tool, it's just like, sometimes you can't fully see it in your head. So you have to like, see it with your eyes." | | "And you can't really put too much information on a visual map, for example, so you only include like, important uh resources or points you want people to know about. [...] I personally don't like reading big chunks of information." |
| UI/UX | *Current layout of FAM may not be the most understandable. A good layout needs to be intuitive and engaging* | | | "we view [the UBC Food Asset Map] as a treasure trove of information that is cluttered and in difficult to use"<br><br>"One is like, the restaurants and places to eat. And then and then it's also kind of thrown together with things that you know, maybe you're not-, wouldn't be visiting every day, but are cool to know about such as like, um, a library or a farm " | |

| Future of FAM | *There is potential for the FAM to be integrated in the Interactive Sustainability Center. Goals and intended users of the FAM may need to be reassessed* | | "I think having the map on there would be a fun, interactive element. Um, but if it can't be, can't have that touch element, I think there's still value in sharing it through there. Or even having like a printed version, or like the QR code to it in the Interactive Sustainability Center itself." | "[you should consider] what the main goal you want to be for the food asset map?"<br><br>"who are the users? Are they students? Are they faculty? Primarily? Is it everyone? What do you want them to take away from, from the, from using it? At the moment?"<br><br>"Is it more something for an academic user to be, um, studying the food systems at UBC? Or is it for a student who's looking for somewhere to eat? Or, you know, or is it? Or is it a jack-of-all-trades is really the goal for it?" | |

APPENDIX H: INTERVIEW CODES & QUOTES

| Codes | Themes | Quotes | |
|---|---|---|---|
| Student perception of UBC food system | *Students seem to be most interested in low-cost food/are most are of price* | "Noticing students always complain, everyone knows, students complain about food on campus. Price, quality, blah, blah. Students don't know the basics of nutrition." | "We have also done our research and asked students, if you're looking to eat on campus what do you care about the most? Price!" |
| Campus Nutrition's roles and goals | *Food security is not a goal, filling the gap of having information reach students is a goal. (FAM may be the resource more focused on addressing food security). Importance of intuitive design for information dissemination* | "Making it easier to search and filter. Easy to use, intuitive. Allows people to very quickly find what they want. Focused on that and photos. A lot of photos and realizing in our testing, the importance of that." | "Our initiative is not food security focused, however we do want to believe that providing access to this information helps the situation." |
| UI/UX | *Building UI/UX off of existing websites (inspiration). Importance of intuitive design* | "You can filter what are the cheapest places to eat on campus. Without marketing we have done quite a few things, blog articles, food market hub, where are affordable places to eat on campus." | "These are the types of things I really consider as fundamental product design and product design questions. There are people who do degrees in designing products and interfaces, and we actually have people from not even UBC, but Emily Carr helping with these kinds of things." |
| Community Outreach | *Social media as a powerful outreach and research tool. Important to get the community aware and involved. Importance of trust.* | "Socials are a big part of what we do too" "The website established us, so that people would trust us." | "For the development of the website, it was mostly us doing our own thing. Now there are a lot of other groups reaching out on the marketing side on social media. That has been our goal, we build the audience and then those who want to do food/nutrition stuff come to us to use our audience." |

| | | | |
|---|---|---|---|
| UBC FAM Difficulties | *FAM has issues with the amount of information and useability. Must consider how to keep the FAM updated as well (outsourcing? students?)* | "When you first open it, it's overwhelming. It's not clear what is being shown and what to do." "There is also the issue of keeping it updated. We have to update our website all the time. The FAM is quite outdated in that sense." | "But the actual updating it isn't a ton of work. It's more getting that information, which can require a few different people keeping their eyes and ears open. There is no one sharing that information." |
| Campus Nutrition Engageme nt | *Since launch, Campus Nutrition has been effective in maintaining engagement with the student body, while meeting their goals.* | "August, about 6 months ago. Has had pretty good success. Close to 10,000 users. Socials are a big part of what we do too. So we try to have value on our Instagram for people that might not ever use our website for example. Along the same lines. So it's been out for a bit, and kind of once we add more features, it will become much more, more people will find it useful and come back to it. " | "For the development of the website, it was mostly us doing our own thing. Now there are a lot of other groups reaching out on the marketing side on social media. That has been our goal, we build the audience and then those who want to do food/nutrition stuff come to us to use our audience. " |

APPENDIX I: UBC CAMPUS FOOD RESOURCES

## CAMPUS FOOD SYSTEM KNOWLEDGE NETWORKS MAP

"Stewarded by the Food Systems Project, UBC's collaborative, cross-campus initiative that brings together partners in academics, operations, and research to further advance UBC's food sustainability ideas, plans and practices. This map provides centralized information about people (practitioners, researchers, instructors, students) and initiatives connected to food system sustainability and food security on campus" (CFSKNM, 2020).

## UBC SUSTAINABLE CAMPUS FOOD GUIDE

"The UBC Campus Sustainable Food Guide aims to raise awareness of and facilitate participation in sustainable food system initiatives on campus among the UBC community (students, faculty, staff and residents)" (Baker-French & Richer, 2013)

The Sustainable Campus Food Guide advocates for the "healthy of ecosystems", humane treatment of animals, "food is locally grown, produced and processed", culturally appropriate food is accessible, consumers are more aware of their food systems, community bonds are strengthened, "zero waste", "emission and energy" neutrality, "food sovereignty and agency", a transition to wider scale sustainability, and "access to opportunities to learn" (UBC Sustainable System, 2013).

## VIRTUAL FOOD HUB

The Food Hub aims "to enhance community food security by providing easy access to relevant resources, supports, and opportunities for our community through the food hub" (UBC Food Hub, 2021). The virtual Food Hub is a "community-based platform" that centralizes access to UBC food resources digitally (UBC Food Hub, 2021).

## FEED ME NOW UBC

Feed Me Now is a web-based guide that includes information about meal plans, nutrition, catering, UBC Eats, Events, and Careers (Feed Me, n.d.). Feed Me Now follows a food revolution manifesto where they highlight the importance of "wholesome, nutritious food" for healthy, "locally sourced and minimally processed ingredients", "celebration of diversity" through the whole food system, reducing intake of ultra-processed foods, "creating and preparing healthy recipes", "lifelong health and wellbeing", and social eating (Food Revolution Manifesto, n.d.).

APPENDIX J: ADDITIONAL STUDENT SURVEY FIGURES AND DATA

| Count of #YEAR Liklihood of Using FAM | Year of Study First | Second | Third | Fourth | Fifth+ | Grand Total |
|---|---|---|---|---|---|---|
| Very Likely | 1 | 4 | 3 | 2 | | 10 |
| Somewhat Likely | 6 | 12 | 4 | 4 | 5 | 31 |
| Neutral | 5 | 3 | 4 | 2 | 1 | 15 |
| Somewhat Unlikley | 4 | 1 | 3 | 3 | | 11 |
| Very Unlikely | 1 | 1 | | 2 | 1 | 5 |
| Grand Total | 17 | 21 | 14 | 13 | 7 | 72 |

*Table (J.1) - Comparison of likelihood of map usage vs respondents' year of study*

| Count of #METHOD Able to find the FAM | Method Phone | Computer | Other | Grand Total |
|---|---|---|---|---|
| Yes | 8 | 32 | 1 | 41 |
| No | 7 | 26 | 1 | 34 |
| Grand Total | 15 | 58 | 2 | 75 |

*Table (J.2) - Comparison of respondents' method of taking survey vs. their ability to find the Food Asset Map*
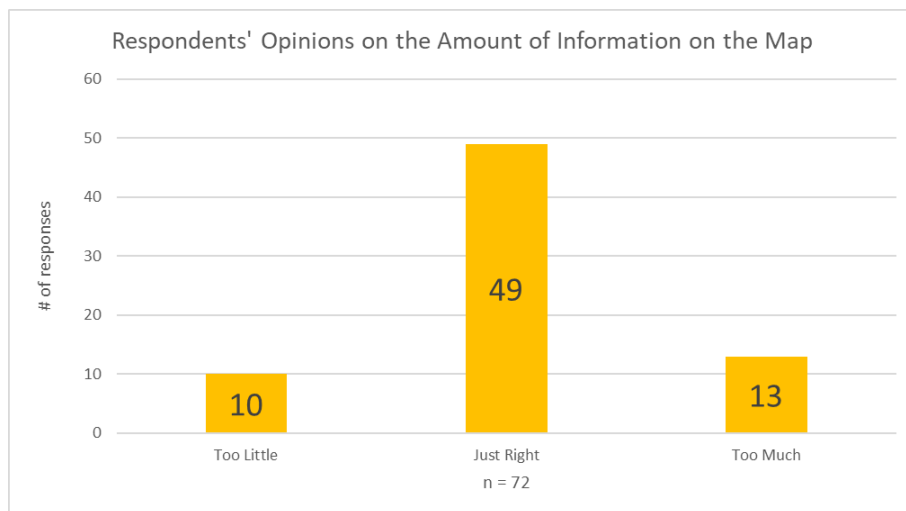


*Figure (J.1) - Respondents' opinions on the amount of information presented on the UBC Food Asset Map*
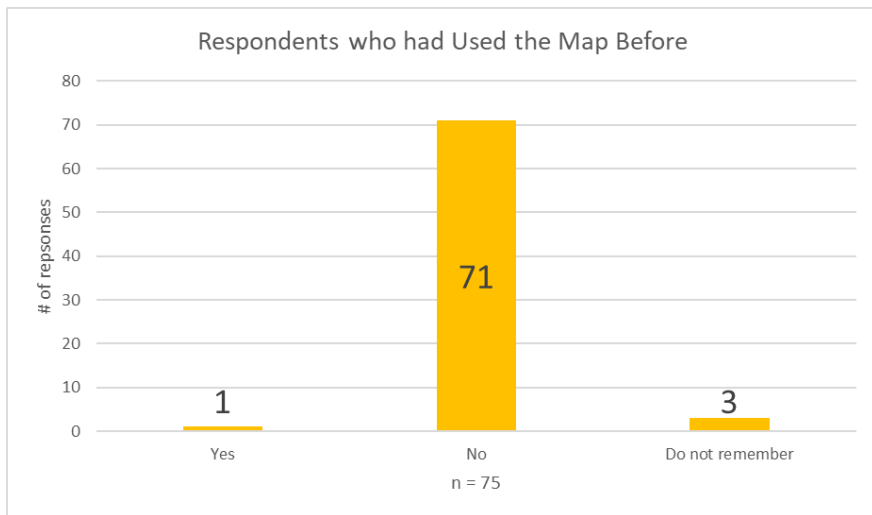
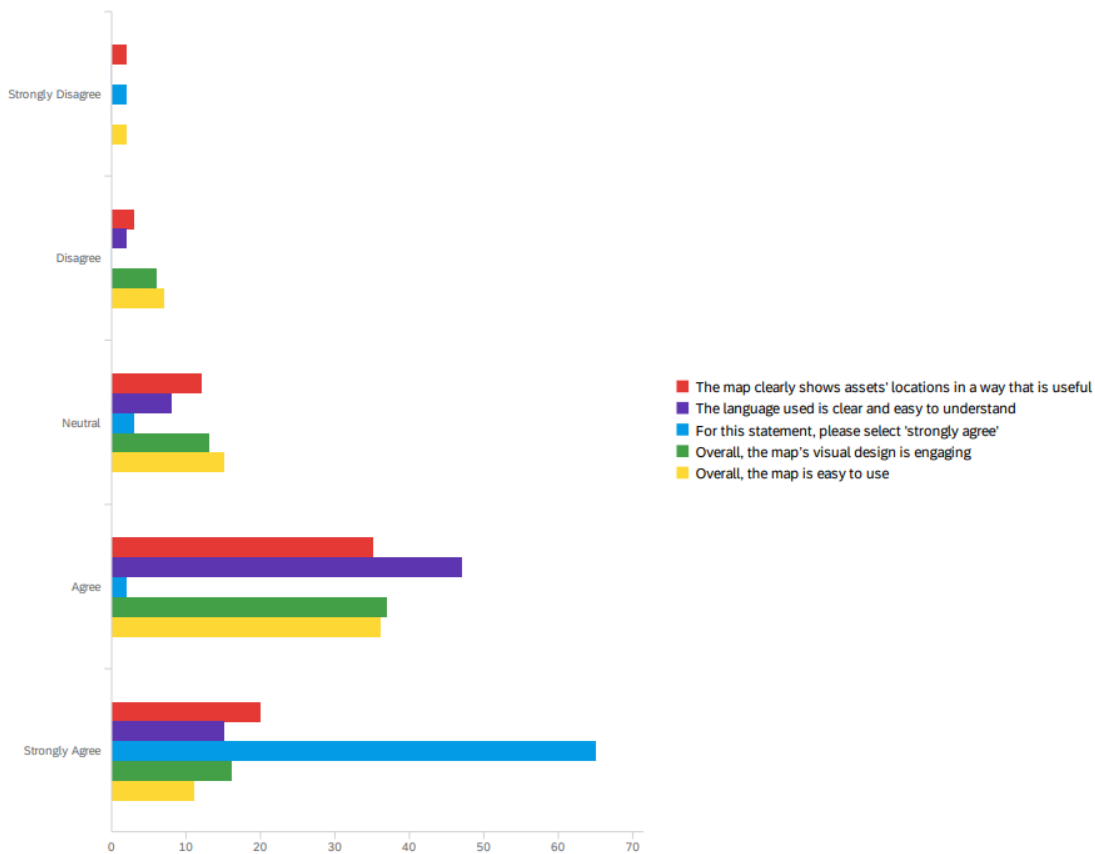*Figure (J.2) - Respondents who had used the map before*



*Figure (J.3): Survey usability likert scales*

APPENDIX K: QUALITATIVE SURVEY ANALYSIS COMMENTS

| **Original comments made by survey participants** |
|---|
| Should be able to add the map to all google map mobile devices. |
| I really enjoyed the color choices, they make the map much more enjoyable and easier to use |
| What does CSA stand for(on the legend)? Also includes some locations that are unaccessible for people who do not live there/pay for it ex/ collegia locations that require keycard access (maybe could mention you must be a member) |
| It can be a bit challenging to find |
| Can be a bit tedious on a mobile phone |
| Many places on the map are closed/shut down such as Loop/Magma Café, the Dog House, Hungry Nomad (outdated) |
| Hard to read, overly complicated |
| It's a bit hard to use on phone, the icons are a bit hard to distinguish |
| It's outdated, some of the locations on the map are in the wrong spot |
| A bit crowded looking if you already have saved locations on map / really hard to find and even when I did find it I didn't think I had |
| It took a while to find the website. |
| Needs a better website interface to make it more easy to navigate |
| Would be cool seeing the price range! could be just in terms of $ signs |
| Perhaps you could have pins that change color to represent their different categories because there are a lot of pins for one restaurant that I feel can be overwhelming and draws attention away from other food spots |
| Would be cool if there was a direct link as a top web search. I know that might not be up to you though. Just a bit of process going through the sustainability page (top hit) |
| I'm on mobile so this might be different on a computer but I am having a hard time applying filters to find different food options |

APPENDIX L: QUALITATIVE SURVEY ANALYSIS COMMENTS

| Original comments made by survey participants |
|---|
| Students on Residence |
| Could let people in residence know about it through posters etc as that is a very large captive audience mostly eating on ubc campus. |
| Graduate students. Most focus with such initiatives is on undergraduates. Graduates, especially research scholars who work in labs, stay late on campus and don't really have the information for or real time access to food. |
| People looking to find sustainable food choices |
| Sprouts |
| Campus Nutrition |
| People who need energy food sources or resources from the uni and ams |
| Students in need of low cost food |
| Those struggling with food insecurity |
| Possible foodies |
| People that are looking for low cost food options, sustainable food, or people looking to participate in UBC run food security initiatives |
| People looking for a new cheap place to eat |
| Classmates who live off campus |
| Yes. students that live on residence that need to buy groceries and want restaurants that accept their student card |
| First years looking for alternatives to caf food maybe |
| I would recommend it to most of my friends if it was easier to find! |
| Students living in residence |
| Students who have disabilities or with special needs. |
| First year students/transfer students |
| This might be a good tool for plant based eaters or international students who miss food from home |
| Agora |

| |
|---|
| Similar to the initiative "campus nutrition" |
| Food bank to provide users with affordable meal locations |
| Users of ams food bank |
| LFS students! |
| I think this would have been useful when I first came to campus and didn't know where to get food, so new students |

APPENDIX M: DESCRIPTION OF TABLEAU MOCK-UP FAM FEATURES

| Area | Feature |
|------|---------|
| UI/UX | Includes a search bar, zoom, and category filtering functionality.<br><br>Hovering over or clicking an asset will bring up further information, such as contact or website information, addresses, and descriptions.<br><br>Custom map backgrounds and asset icons can be developed to match UBC color schemes. |
| Maintenance | Allows any user to submit new assets or changes which will be automatically updated daily. This feature can be adapted to allow the FAM manager to approve any changes first if desired.<br><br>Changing asset information requires no specific skills, but editing map functionality or design requires an introductory working knowledge of Tableau. Additionally. it is free to use as currently drafted.<br><br>Converting data from the current MyMaps platform to Tableau would require minimal data cleaning and formatting. |
| Accessibility | The map can be embedded directly within most websites, and supports separate views for mobile, desktop, and tablet devices. Does not require users to create an account to view the FAM. |
| Scope | Includes a separate UBC Okanagan view, and the map has no inherent geographic constraints to a campus which permits future community assets to be shown.<br><br>Both point-assets and area-assets can be displayed to highlight larger buildings or neighborhoods. |
| Miscellaneous | Possible other uses include overlap radii to show walking distance times or density of assets. Sliders can be used to show how assets have changed over time.<br><br>Additional views can be created that show non-map data visualizations, such as histograms or a linked table concisely displaying asset information on a separate chart. |