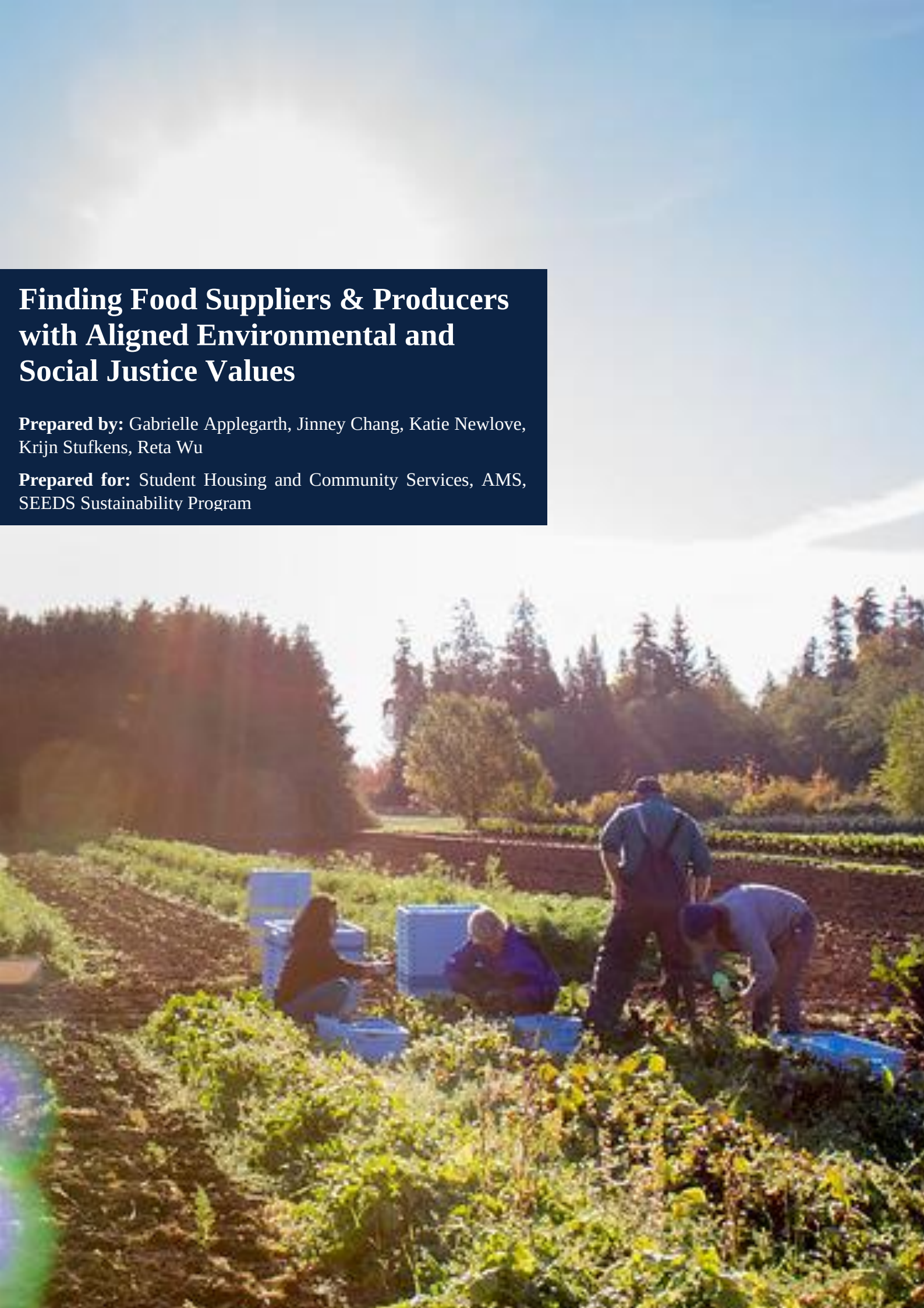
Finding Food Suppliers & Producers with Aligned Environmental and Social Justice Values

Prepared by: Gabrielle Applegarth, Jinney Chang, Katie Newlove, Krijn Stufkens, Reta Wu

Prepared for: Student Housing and Community Services, AMS, SEEDS Sustainability Program



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Practitioner Summary:

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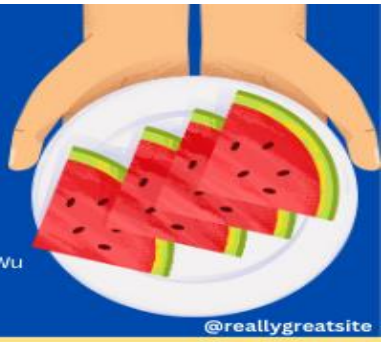


Background

- Global food system contributes to land degradation, deforestation biodiversity loss (1)
- UBC food system second greatest contributor to campus emissions (2)

Objectives

1. Improved sustainability of UBC food procurement
2. Methodology for continuous sustainable food procurement at institutions

Methods

- Community-Based Action Research (CBAR)
- Primary data collection ⟶ surveys
- Secondary data collection ⟶ supplier reports
- Analysis ⟶ SWOT, evaluation matrix

Key Findings

- Recommended current suppliers: Snow Cap, Inter City Packers
- Recommended potential suppliers: Easterbrook Farm

Future needs:

1. Policy development, adjusted supplier regulations
2. Evaluation matrix application

Pay off diagram representing the overall environmental sustainability and social justice performances of suppliers

1. Rochefort, G., Lapointe, A., Mercier, A.P., Parent, G., Provencher, V., and Lamarche, B. (2021). A rapid review of territorialized food systems and their impacts on human health, food security, and the environment. Nutrients. Retrieved from https://pubmed.ncbi.nlm.nih.gov/34684346/
2. The University of British Columbia. (2021). UBC Vancouver Campus Climate Action Plan 2030. https://planning.ubc.ca/sites/default/files/2021-12/UBCV_CAP2030_FINAL.pdf

Executive Summary

Global warming is likely to reach 1.5℃ warmer than pre-industrial levels between 2030 and 2052, with anthropogenic emissions contributing up to 1.0℃ (IPCC, 2019). The effects of climate change stemming from unsustainable energy use, land-use change, and production and consumption patterns are likely to cause global long-term challenges, particularly in agricultural production and food systems (IPCC, 2019). Research shows that 34% of global greenhouse gas (GHG) emissions are from food systems, and immediate action is required to mitigate and adapt to the effects of accelerated global warming (Crippa et al., 2021). Large institutions such as the University of British Columbia (UBC) have significant purchasing power in their food procurement processes, offering the opportunity to exemplify how institutions can play a vital role in mitigating GHG emissions, ultimately fostering more ethical and environmentally conscious food systems.

This project is in alignment with UBC's strategic commitment to creating a Climate-Friendly Food System (CFFS), which aims to reduce the GHG emissions of the campus' food system by 50% by 2030 (UBC, 2021). One of the short-term actions to be executed by UBC in 2024 is the development and implementation of campus-wide sustainable food procurement guidelines to align with the goals of both CFFS and other international climate change agreements (IPCC, 2019 UBC, 2021). Overall, this research aims to contribute to the development of said guidelines.

Guided by Community-Based Action Research (CBAR) principles, the methodology employed in this research included community engagement, shared decision-making, ethical considerations, cultural sensitivity, and transparent communication (Gullion & Tilton, 2020). Methodological tools included literature reviews to identify the sustainability practices of current and potential food suppliers at UBC, a review of UBC's policies related to climate action and food systems, stakeholder meetings with UBC Student Housing and Community Services (SHCS), UBC Alma Mater Society (AMS), and UBC Social Ecological Environmental Development (SEEDS) representatives. Primary data was collected through surveys and interviews with current and potential suppliers, and an evaluation of this primary data through a sustainability matrix scoring system.

The objectives of the research were to evaluate the sustainability and social practices of potential and current food suppliers of UBC SHCS and UBC AMS, identify potential food suppliers whose values align with UBC's existing sustainability policies and commitments to create a more sustainable campus food system, and to propose a methodology for continuous improvement in the food procurement process for both UBC and other large educational institutions.

Through our sustainability evaluation matrix, we were able to identify three potential suppliers in the categories of meat, grocery, and eggs that demonstrated exemplary performance in sustainable and just business practices. These food suppliers align with the university's multiple strategic commitments to environmental sustainability and social justice and may serve as new food suppliers for UBC SHCS and UBC AMS. The project's main deliverable was to utilize the analyzed primary and secondary data to conduct a "Strengths, Weaknesses, Opportunities, and Threats" (SWOT) analysis for UBC's current and potential food vendors. This analysis may serve as a methodology for improving the food procurement processes at UBC and beyond. Through this analysis, it was revealed that a key strength of many suppliers was their efforts reduce their carbon footprint throughout the supply chain, as well as supporting local economies through local food sourcing. Conversely, a main challenge for many suppliers was their limited ability to scale production or supply to meet the demands of large institutions like UBC.

Overall, our short-term recommendations for UBC SHCS and UBC AMS include maintaining and exploring new relationships with the identified ideal suppliers. In the long term, we recommend continued research into the role of educational institutions in supporting Climate Food System Action (CFSA), for example by supporting local food systems and economies, as well as collaborating with cross-sector organizations.

Table of Contents

List of Figures

List of Abbreviations

AMS: Alma Mater Society
ASAP: AMS Sustainability Action Plan
CBAR: Community-Based Action Research
CFFS: Climate Friendly Food System
CFSA: Climate Food System Action
CFSE: Critical Food Systems Education
EDI: Equity, Diversity, Inclusion
ESG: Environmental, Social, Governance
GHG: Greenhouse gas
ICP: Inter City Packers
IPCC: Intergovernmental Panel on Climate Change
LFS: Land and Food Systems
SEEDS: Social Ecological Environmental Development
SHCS: Student Housing and Community Services
SWOT: Strengths, Weaknesses, Opportunities, Threats
UBC: University of British Columbia

Introduction

Research Topic

Large educational institutions, with their massive purchasing power, have a unique opportunity to become leaders in sustainable food procurement. This means consciously choosing food sources that minimize environmental impact throughout the supply chain. By prioritizing practices that reduce greenhouse gas (GHG) emissions, these institutions can make a significant contribution to mitigating anthropogenic climate change. As a global leader in sustainability, the University of British Columbia (UBC) has strong commitments to increasing the sustainability of the UBC Vancouver campus food system, including the current development of a campus-wide sustainable food procurement guideline. However, the shift towards sustainable food procurement at UBC isn't without challenges. Local and climate-friendly options may not always be readily available at a scale to support the campus population or may not be cost-effective. Overcoming these challenges requires innovative solutions and a collaborative approach. Identified as a need by UBC Social Ecological Environmental Development (SEEDS), UBC Student Housing and Community Services (SHCS), and UBC Alma Mater Society (AMS), this LFS 450 project aims to assess and enhance the sustainability of food procurement processes within the University of British Columbia (UBC) Vancouver campus, thereby exemplifying how institutions can play a vital role in fostering a more ethical and environmentally conscious food supply chain.

Research Relevance

Global Food Systems

Globally, food systems are responsible for 34% of all anthropogenic greenhouse gas emissions, driven by a wide range of factors such as food transportation and distribution, upstream waste, consumer and industrial food waste, packaging manufacturing and recycling, dietary choices, and energy use in the agricultural sector (Crippa et al., 2021). These emissions contribute significantly to climate change, a global crisis with far-reaching consequences for ecosystems, human health, and societal stability.

The issue of food system sustainability also goes beyond environmental concerns. Industrial agriculture can often rely on unfair labour practices, with migrant workers and smallholder farmers bearing the brunt of

negative environmental and health impacts (Horrigan et al., 2002). Building a more sustainable food system requires ensuring equitable access to healthy food for all and promoting fair treatment of workers throughout the food supply chain.

UBC Vancouver Campus Food System

UBC is often recognized as a global leader in sustainability and climate action amongst universities (Times Higher Education 2023). However, the campus food system accounts for 21% of GHG emissions at the University of British Columbia Vancouver campus (UBC, 2021). As with many universities, a significant portion of food served on campus comes from conventional, non-local sources. This disconnect between UBC's sustainability goals and the environmental impact of the campus food system highlights the need for a comprehensive evaluation of current food procurement practices. This project directly addresses this need by providing a data-driven approach to identify more sustainable food suppliers, paving the way for UBC to significantly reduce its GHG emissions and become a true leader in sustainable food procurement amongst educational institutions.

Community Benefits

The most immediate beneficiaries of our project are UBC Alma Mater Society (AMS) and UBC Student Housing and Community Services (SHCS) who oversee a large portion of campus food procurement. These clients will gain valuable insights for future decision-making. We hope that our sustainability evaluation system can help contribute to the development of sustainable procurement guidelines for these entities, ensuring efficient resource allocation and a measurable reduction in UBC's environmental footprint. Additionally, the project can help AMS and UBC SHCS forge stronger relationships with local, sustainable food suppliers, potentially creating long-term partnerships that benefit both parties.

Secondly, UBC student body and staff will benefit by gaining access to more climate-friendly and ethically sourced food. This project prioritizes suppliers with strong environmental and social practices, ensuring food production minimizes environmental impact and respects worker rights. This translates to a more responsible and healthy dining experience, potentially improving overall well-being and fostering a sense of community responsibility amongst students and staff.

By rigorously evaluating food suppliers through a holistic sustainability lens, UBC can set a powerful example for institutions seeking a more ethical and environmentally conscious food supply chain. This project benefits not only UBC's community but demonstrates that large institutions can leverage their purchasing power to drive positive change within the food system.

Project Context

We established this project as part of UBC's strategic commitment to create a Climate Friendly Food System (CFFS), which was made as a result of UBC's Climate Action Plan (UBC, 2021). One goal of UBC's Climate Action Plan is to realize a reduction of 50% in GHG emissions from the campus food system by 2030 to avoid surpassing the global target maximum increase in temperature (1.5°C) set forth by international agreements (IPCC, 2019; UBC, 2021). One critical accomplishment made to date by UBC Social Ecological Economic Development (SEEDS) and LFS 450 students is the development of a CFFS Procurement Strategy Draft to guide sustainable procurement decisions on campus. Overall, our project is to inform the further development of this guideline, to ultimately contribute to a more Climate Friendly Food System on campus.

One partner of this project is UBC SHCS. UBC SHCS makes food procurement decisions informed by the SHCS Food Services Vision, Mission & Values (UBC, 2022). The responsibility of SHCS goes beyond solely providing nutrition to students and staff, because their food procurement plan encourages meaningful contributions to the university's strategic commitments to sustainability, such as the Climate Action Plan (UBC, 2021). Overall, the Food Services Vision, Mission & Values recognizes the critical importance of a CFFS, prioritizing food vendors with certifications such as Fair Trade™ and Ocean Wise™.

The second partner of this project is UBC AMS. To promote sustainability on campus, UBC AMS follows the AMS Sustainable Action Plan (ASAP), which aims to promote climate-friendly diets, offer menus with at least 30% plant-based options, reduce food and material waste, and practice sustainable procurement (AMS, 2023). Ultimately, both UBC SHCS and AMS have identified this project as a need to further advance sustainable food procurement in line with UBC's commitments to a CFFS.

While previous research has identified the importance of increasing locality in campus food procurement (Duffield et al., 2014), there is a lack of research evaluating food procurement at educational institutions through both an ecological sustainability and social justice lens. This gap restricts a holistic understanding of

how universities can leverage their purchasing power to create a more sustainable and equitable food system. This project ultimately aims to fill this gap by analysing current and potential food suppliers of UBC through a comprehensive evaluation matrix that considers not only the environmental impact of food suppliers, but also their social practices.

Project Purpose, Goals and Objectives

Project Purpose

The purpose of our project is to assess and enhance the sustainability of food procurement processes within the University of British Columbia (UBC) Vancouver campus, thereby exemplifying how institutions can play a vital role in fostering a more ethical and environmentally conscious food supply chain.

Project Goals

There are two main goals of our project— first is to develop an inventory of food suppliers and producers that align with UBC's commitments to sustainable, ethical, and just procurement. Second is to identify opportunities with UBC's main food providers to align their purchasing in ways that can serve as a blueprint for other larger institutions, influencing a collective shift towards sustainable food procurement practices in the educational sector.

Project Objectives

The objectives of our study are as follows:

(1) Evaluate the sustainability of potential and current food vendors of UBC Student Housing and Community Services (SHCS) and UBC Alma Mater Society (AMS)

(2) Identify potential food vendors whose values align with UBC's existing sustainability policies and commitments to create a more sustainable campus food system

(3) Propose a methodology for continuous improvement in the food procurement process for both UBC and other large educational institutions

Research Methodology and Methods

This section covers the project's research methodology and methods. The research methodology served as the guiding framework that shaped the project's overall strategy, while the research methods encompassed the specific techniques to gather, analyse, and interpret the data. This project adopted Community-Based Action Research (CBAR) as the central of methodology— a collaborative approach that prioritizes community engagement, empowerment, and co-creation of knowledge (Gullion & Tilton, 2020). CBAR facilitates meaningful dialogue and partnership with key stakeholders, aligning with our commitment to inclusivity and participatory decision-making. This project's methods included both primary and secondary data collection techniques, including interviews, surveys, literature reviews, policy reviews, and a review of publicly available sustainability reports available from supplier's websites. These methods helped assess the landscape of current and potential suppliers, sustainability certifications, fair trade practices, and other pertinent factors shaping sustainable and just food procurement practices. Through the application of these methodologies and methods, this project aimed to provide a foundation for understanding, evaluating, and advancing sustainable food procurement initiatives within educational institutions.

Research Methodology

The following five principles encompass the methodology used for our research with the UBC community, guided by the ethics of Community-Based Action Research (CBAR):

1. **Community Engagement:** The team conducted stakeholder meetings to understand the project's context, priorities, and goals, which involved active community engagement, ensuring that the perspectives of all stakeholders were considered. The project engaged key stakeholders, such as potential vendors in the Lower Mainland and beyond, UBC SHCS, UBC AMS, and SEEDS in a meaningful dialogue that ensured a participatory approach.
2. **Shared Decision-Making:** The team sought input from various stakeholders to aid in shared decision-making. For instance, this project involved UBC SHCS and UBC AMS to identify current suppliers to ensure that decisions were agreeable between all stakeholders.
3. **Ethical Considerations:** This project had many ethical considerations, such as fair wages and just sourcing practices, aligning with CBAR principles.

4. **Cultural Sensitivity:** This project considered the cultural context of food systems and acknowledged the impact on local communities, reflecting cultural sensitivity.
5. **Transparent Communication:** We regularly shared draft report sections with UBC SHCS, UBC AMS, and SEEDS representatives for feedback. promoting transparent communication. This iterative process ensures that stakeholders were informed and could provide insights, aligning with CBAR's emphasis on open dialogue.

Research Methods

Within the context of this project on sustainable food procurement within educational institutions, these research methods served as the practical tools through which the project operationalized its chosen research methodology. This section provides an overview of the methods utilized to gather both primary and secondary data, including interviews, surveys, and literature reviews.

Primary Data Collection Research Methods

For primary data collection in this project, we utilized a combination of surveys, interviews, and meetings. These methods gathered insights from the project's key stakeholders.

Survey Distribution and Sampling Techniques

A UBC Qualtrics survey was distributed by email to gather quantitative and qualitative data on the preferences, challenges, and potential opportunities for improvement for both potential and current food suppliers of UBC SHCS and UBC AMS The survey instrument was designed specifically for this research project and was tailored to capture relevant information. The survey questionnaire used in this study is included in Appendix A.

This project selected research participants using a combination of purposeful sampling and snowball sampling techniques. Purposeful sampling helped identified potential vendors, suppliers, and producers who aligned with UBC's sustainability and justice values. This method ensured the inclusion of participants likely to provide valuable insights relevant to the project objectives. To do so, this project identified potential suppliers via secondary research and reviews. Snowball sampling identified suppliers and producers with existing relationships with UBC SHCS and UBC AMS. Through this method, additional participants were then referred to the researchers by the initial contacts.

Meetings

In-person or online meetings were conducted with UBC SHCS, UBC AMS and SEEDS representatives. Meeting plans were developed to guide the conversations and ensure consistency across meetings.

Sample Size

This project determined the sample size for the interviews and surveys based on the total completed survey responses. A completed response must answer all survey questions. The survey was distributed to 53 suppliers (8 current suppliers + 45 potential suppliers), receiving a total of 20 responses and 12 completed responses. The response rate for the surveys was 37.7%; the completion rate for the survey was 22.6%.

Methods of Administration

This section walks through the administration and recruitment process, which involved a combination of approaches to each specified method of data collection.

Surveys and Interviews

The recruitment process for surveys involved sending out electronic invitations via email to a list of current suppliers from UBC SHCS and UBC AMS. The team also identified potential suppliers that complied to UBC's sustainability goals through purposeful sampling and secondary research. The email included a brief overview of the study's objectives and a link to access the online survey. Reminder emails were sent a week later to encourage participation and improve response rates.

For the suppliers that did not respond to both emails, the team established phone calls in which participants had a chance to complete the survey over the phone via a verbal interview. Subsequent interviews were scheduled based on participant availability.

Meetings

Meetings were scheduled at mutually convenient times for both the project's stakeholders and the researchers, with weekday options available to accommodate varying schedules. The duration of each meeting varied but typically ranged from 30 to 60 minutes. Meetings were conducted either in-person at locations convenient for the participants or online using Zoom.

Rationale for Data Collection

The choice of administering electronic surveys over focus groups was primarily driven by considerations of feasibility, efficiency, and scalability. Electronic surveys offered a cost-effective and time-efficient means of reaching a larger number of potential participants across diverse geographic locations. Additionally, surveys allowed for standardized data collection, ensuring consistency in the information gathered and facilitating quantitative analysis of the data. This approach also minimized logistical challenges associated with coordinating focus group sessions and provided participants with flexibility in terms of when and where they could complete the survey.

Secondary Data Collection Research Methods

Secondary data collection research methods included a literature review, an analysis of the University of British Columbia's policies related to climate and food systems, a review of current suppliers' practices, and research into potential suppliers.

Literature Review

Data explaining the impact of food systems on the environment was the key area of research for the literature review. Results indicated that 34% of global greenhouse gas emissions come from food systems, through agriculture, land use, and supply chain activities (Crippa et al., 2021). Furthermore, the current globalized food system contributes to land degradation, deforestation, and biodiversity loss, all of which jeopardize the resilience of the food system (Rochefort et al., 2021). Land-use changes, and production and consumption patterns within agriculture and food systems, have been identified as problem areas by the Intergovernmental Panel on Climate Change (IPCC, 2019). Food miles— the measure of transport distances and commodity masses of the products moving throughout the global food supply chain— is also a major contributor to the environmental impacts of food systems, making up approximately 20% of total food systems emissions (Li et al., 2022). Thus, to achieve the IPCC's target of not exceeding 1.5 degrees Celsius of warming, it is necessary to address sustainability challenges within food systems.

To assess the state of the University of British Columbia's food system, various strategic commitments relating to the campus food system, greenhouse gas emissions from food practices on campus, and environmental commitments were reviewed. These reports include the UBC Climate Action Plan of 2030, the UBC Food

Services Vision, Mission, and Values, the AMS Sustainability Action Plan 2026, and the Zero Waste Action Plan. Notably, 21% of the campus' total greenhouse gas emissions come from its food system, second only to transportation (UBC, n.d.; UBC, 2021). In response, the university commits to reducing both greenhouse gas emissions of their food system and operational waste by 50% by 2030, as noted in the UBC Climate Action Plan 2030 and the Zero Waste Action Plan (UBC, 2021; UBC 2023).

UBC may find success in achieving these targets by adopting Critical Food Systems Education (CFSE), specifically through Campus Food Systems Alternatives (CFSA). This approach was adopted at McGill University in Montreal, Canada. Goals of such an approach include using regenerative practices to produce food, teaching students required skills to manage a small-scale farm, helping students understand injustices in the food system, enabling hands-on engagement in the food system, exposure to food waste throughout the greater food system, and gaining an understanding of food insecurity (Deskin, Z.Y and Harvey, 2023). Fostering this environment on campus enabled students to engage in and understand their institution's food system better, which enabled a movement towards food justice (Deskin, Z.Y and Harvey, 2023).

Review of Current Suppliers

Other data collected came from organizational records and commitments from suppliers, both current and potential. Research began with current suppliers— reviewing their annual reports, certifications, and mission statements. UBC's current suppliers are: Centennial Foodservice, J and K Poultry Limited, Sysco Food Services, Black Forest Meats & Sausage Ltd, Saputo Dairy Products, Intercity Packers Ltd, Freshpoint Foodservice, Snow Cap Enterprises Limited, Gordon Food Service, and Uncle Meat. Review of these companies revealed a variety of certifications that provided a reference point for what the expectations of potential suppliers should be. This also guided survey design for our primary data collection. With these certifications in place, UBC shows their commitment to sustainable initiatives, but now it is a matter of finding additional suppliers that have lower environmental impacts, promote locality and seasonality, and provide fair wages. With UBC being recognized as a leader in food system sustainability, the goal of this project was to further advance the UBC model as an ideal food system that other institutions can follow.

Analysis of Potential Suppliers

Once sufficient knowledge and understanding was gained, the search for potential suppliers began. Knowing the practices of current suppliers, the expectations of potential suppliers were to meet or exceed these standards. Standout suppliers were those located in Vancouver, the Lower Mainland, or Vancouver Island, those that limited their packaging and waste throughout their production process, and those with certifications comparable to current suppliers'. Based on this criteria, 45 potential suppliers were identified.

Results

This section is structured into subsections, each presenting specific sets of findings derived from a method of data collection. The results encompass both primary data, including survey response and gradings based on the evaluations of each supplier, as well as findings from secondary data sources, including literature review and supplier website review.

Primary Data Results

This section presents the findings of the UBC Qualtrics survey, including quantitative data on suppliers' sustainability efforts and qualitive results on suppliers' performance, certifications, and policies. This section also presents the grades we assigned to the 12 suppliers that responded completely to the survey, based on their alignment with sustainability and justice values. Each supplier's grade out of 100 is provided, reflecting their performance according to the predetermined criteria in the evaluation matrix.

As shown in Table 1, the 12 suppliers that completed the survey in entirety were graded according to the predetermined criteria out of 100 marks. The column to the furthest left shows the indicator, which is the general categories covering sustainability efforts, certification, social justice engagement, and other intentions. The second column outlines the matrices, which is a list of detailed criteria that help assess the companies' efforts regarding sustainability and social justice. The third column shows the weighting for each matric. Each mark was assigned based on its importance in general sustainability practices. The weighting system adds up to 100, which is the total mark. The final four columns are the suppliers and their marks.

Based on the evaluation matrix, Snow Cap Inc., Easterbrook Farm, and Intercity Packers (ICP) earned the highest mark among all 12 suppliers (92, 90, and 87 out of 100). Whereas Chicken Ranch scored the lowest out of the 12 suppliers (42 out of 100).

Through the assignment of grades based on alignment with sustainability and justice values, this project highlighted notable leaders and areas for improvement among the suppliers. The tables below identify the evaluation matrix and supplier profiles. Table 1 presents a detailed breakdown of the grading criteria and marks assigned to each supplier, setting the stage for a more in-depth examination of their individual profiles and contributions to UBC's ethical and just food procurement goals in Table 2.

Table 1. Evaluation Matrix for Suppliers with Complete Responses

Indicator	Metric	Weight	Pasteur to Plate	Easterbrook Farm	Goldenears Cheese Crafters	BC Dairy
Sustainability Efforts	CO2e Measuring Tools (Yes/No)	10	0	5	0	0
	Water conservation plan (Yes/No)	5	0	5	0	0
	Strict mechanisms i.e. waste sorting	10	8	8	5	5
Compliance and Certification*	Environmental Certifications and/or Awards	15	10	15	10	10
	Livestock welfare	15	15	15	7	10
Community Engagement and Social Responsibility*	Funds allocated to social programs	3	3	3	3	3
	Fair wages & Equity, Diversion, and Inclusion (EDI) Policies in Workplace	2	2	2	2	2
	Fair Trade	15	12	12	12	12
Intention for applying more sustainability	ESG	15	7	15	10	10
	Renewable energies	10	5	10	0	0
Total Marks		**100**	**62**	**90**	**49**	**52**

Table 1 continued…

Indicator	Metric	Weight	Snow Cap Int	ICP	Legends Haul	Blueridge Produce Inc.
Sustainability Efforts	CO2e Measuring Tools (Yes/No)	10	10	10	0	0
	Water conservation plan (Yes/No)	5	5	5	0	0
	Strict mechanisms i.e. waste sorting	10	10	10	2	0
Compliance and Certification*	Environmental Certifications and/or Awards	15	15	15	5	5
	Livestock welfare	15	7	7	10	10
Community Engagement and Social Responsibility*	Funds allocated to social programs	3	3	3	3	3
	Fair wages & Equity, Diversion, and Inclusion (EDI) Policies in Workplace	2	2	2	2	2
	Fair Trade	15	15	12	12	12
Intention for applying more sustainability	ESG	15	15	15	10	10
	Renewable energies	10	10	8	5	5
Total Marks		**100**	**92**	**87**	**49**	**47**

Table 1 continued…

Indicator	Metric	Weight	Medowfresh Dairy Crop.	Western Dairy Council	John's Meat and Deli	Chicken Bacon Ranch
Sustainability Efforts	CO2e Measuring Tools (Yes/No)	10	0	0	5	0
	Water conservation plan (Yes/No)	5	0	0	5	0
	Strict mechanisms i.e. waste sorting	10	0	0	8	0
Compliance and Certification*	Environmental Certifications and/or Awards	15	5	5	10	5
	Livestock welfare	15	10	10	10	5
Community Engagement and Social Responsibility*	Funds allocated to social programs	3	3	3	3	3
	Fair wages & Equity, Diversion, and Inclusion (EDI) Policies in Workplace	2	2	2	2	2
	Fair Trade	15	12	12	5	12
Intention for applying more sustainability	ESG	15	10	10	15	10
	Renewable energies	10	5	5	5	5
Total Marks		**100**	**47**	**47**	**68**	**42**

Table 2. Supplier Profiles

Supplier	Category	Contact	Description
Pasteur to Plate	Meat, Deli, Sausage	Barbara Schellenberg (General manager) Barbara@pasturetoplate.ca	Pasteur to Plate demonstrated a basic level of sustainability, with room for improvement in several areas such as water conservation. While they show promise in environmental certifications, their overall performance could be strengthened through increased focus on social responsibility.
Easterbrook Farm	Eggs and Poultry	Steve Easterbrook petrioche@gmail.com	Easterbrook Farm has demonstrated a commitment to environmental stewardship. With investments in livestock welfare and social programs, Easterbrook Farm has a complete standard for ethical procurement practices and sustainable agriculture.
Golden Ears Cheesecrafters	Milk and Dairy	Jenna Bock (Owner) goldenearscheese@gmail.com	Golden Ears Cheesecrafters showed efforts in social programs and waste management but has limited commitment to other sustainable practices. Specifically, they are missing CO2e emission control and did not report any use of renewable energy.
BC Dairy	Milk and Dairy	Erica, Dietitian Ecahill@bcdairy.ca	BC Dairy demonstrated efforts on animal welfare and livestock management. However, they are lacking work on renewable energy and CO2e and water management.
Snow Cap Int	Baking Ingredients	Tony Llewellyn tony@snowcap.com	Snow Cap Int has efficient CO2e measuring tools and a comprehensive water conservation plan. They have implemented strict waste sorting mechanisms and have been recognized with several environmental certifications and awards. Additionally, their commitment to livestock welfare and investment in social programs further underscores their sustainability efforts.

Supplier	Category	Contact	Description
Inter City Packers (ICP)	Meat and Seafood	Joe Rae (Director of Sales) joe.rae@intercitypackers.ca	ICP demonstrated some sustainable practices such as waste management practices, obtaining environmental certifications, and investing in renewable energies. They can align more closely with ethical procurement to improve overall grading.
Legends Haul	Meat, Deli, Sausage	Raymond Reyes (Junior sales rep) raymond@legendshaul.com	Legends Haul showed some commitment in waste management but has limited effort in other sustainable practices such as control in overall CO2e emission and water footprint.
Blueridge Produce Inc.	Fresh and Prepared Produce	Rhonda Driediger rhonda@driedigerfarms.com	These suppliers show lack of investment in waste management, environmental certifications, and renewable energies, potentially reflecting a disregard for ethical procurement standards and sustainability principles. Improvement in these areas is imperative to align with industry best practices and to demonstrate a genuine commitment to sustainability.
Medowfresh Dairy Crop.	Milk and Dairy	Kim Simpson kim@meadowfresh.ca	
Western Dairy Council	Milk and Dairy	Sarah Cotton-Elliott sarah@sarahcotton.ca	
John's Meat and Deli	Meat, Deli, Sausage	John [no last name] John@gmail.com	John’s Meat and Deli demonstrated a few waste management and environmental certifications. While their efforts in water conservation and renewable energies are notable, there is room for improvement in social program allocation and fair wages policies.

Supplier	Category	Contact	Description
Chicken Bacon Ranch	Meat, Eggs and Poultry	Stormy Daniels stormy@chicken.com	Chicken Bacon Ranch demonstrated minimal commitment to sustainability, with opportunities for improvement across all metrics. Their performance in CO2e measuring tools and environmental certifications is particularly lacking, indicating the need for significant enhancements in sustainability practices.

Note. This table presents individual profiles of the 12 suppliers graded in the survey, offering an overview of their sustainability practices, product offerings, and alignment with UBC's commitments to ethical and just food procurement. Through detailed analysis and evaluation, each profile provides valuable insights into the sustainability efforts and performance of the suppliers within the context of UBC's procurement goals and objectives.

Secondary Data Results

The certifications of current suppliers were identified as:

- Canadian Roundtable for Sustainable Beef
- Oceanwise Seafood Sustainability Program
- FishChoice
- Marine Stewardship Council Traceability Program
- Seafood Watch Program
- Best Aquaculture Practices
- Rainforest Alliance
- Certified Angus Beef
- Sustainable Forestry Initiative
- Biodegradable Products Institute
- USDA Certified Organic
- Fairtrade

A total of 45 potential suppliers were identified, as represented in Table 3.

Table 3. Potential Suppliers

Eggs	**Meat**	**Frozen Foods**	**Dairy & Milk**
Aldor Acres Family Farm	Meadow Valley Meat	ID Food Corporation	Island Farms-Agropur
Springford Farm	Windsor Quality Meat	Just Quality International Foods	Agropur Cooperative
Emma's Acres	Legends Haul		Harmony Organic
Goat's Pride Dairy at McLennan Creek	Two Rivers Meats		Vital Green Farms
BC Egg	Pasture to Plate		Avalon Dairy
Central Park Farms	Inter City Packers		Meadowfresh Dairy

Eggs	Meat	Frozen Foods	Dairy & Milk
Easterbrook Farm	John’s Meat and Deli		BC Dairy Association
Rabbit River Farms	Chicken Ranch		Goldenears Cheese Crafters Inc.
			Western Dairy Council

Table 3 Continued.

Dairy/meat alternatives	Imported foods	Produce	Grocery
Bettermood(d)	Oragnto (avocados)	Canadawide Fruit Wholesalers Inc.	Snow Cap Int.
Daiya Foods Inc.	EcoFarms (avocados)	Blueridge Produce Inc.	
Modern Meat	Equifruit (bananas)		
	Discovery Organics (bananas, avocados)		

Discussion

Ideal Suppliers

In the intricate web of supply chain dynamics, the role of suppliers in advancing sustainability and social justice objectives cannot be overstated. This section focuses on Snow Cap Inc.— a supplier whose commitments to environmental sustainability and social justice have meritoriously stood out amidst other suppliers. This commendable dedication is seen in their performance metrics, as delineated in Table 1, which showcases high marks in sustainability indices, with a minor deduction of 8 points in livestock welfare.

Drawing upon the framework provided by the University of British Columbia (UBC), the criteria for an ideal supplier transcends mere transactional interactions— they encompass a holistic effort toward fulfilling sustainability and social justice responsibilities. In this sense, Snow Cap Inc.'s achievements are multifaceted. Their approach to social justice is evidenced by their commendable scores in animal welfare, underpinned by a robust sense of community engagement and social responsibility. This latter aspect manifests in their strategic allocation of funds towards social programs, adherence to fair wage practices, and the implementation of Diversity, Equity, and Inclusion (EDI) policies within the workplace, alongside a commitment to Fair Trade principles.

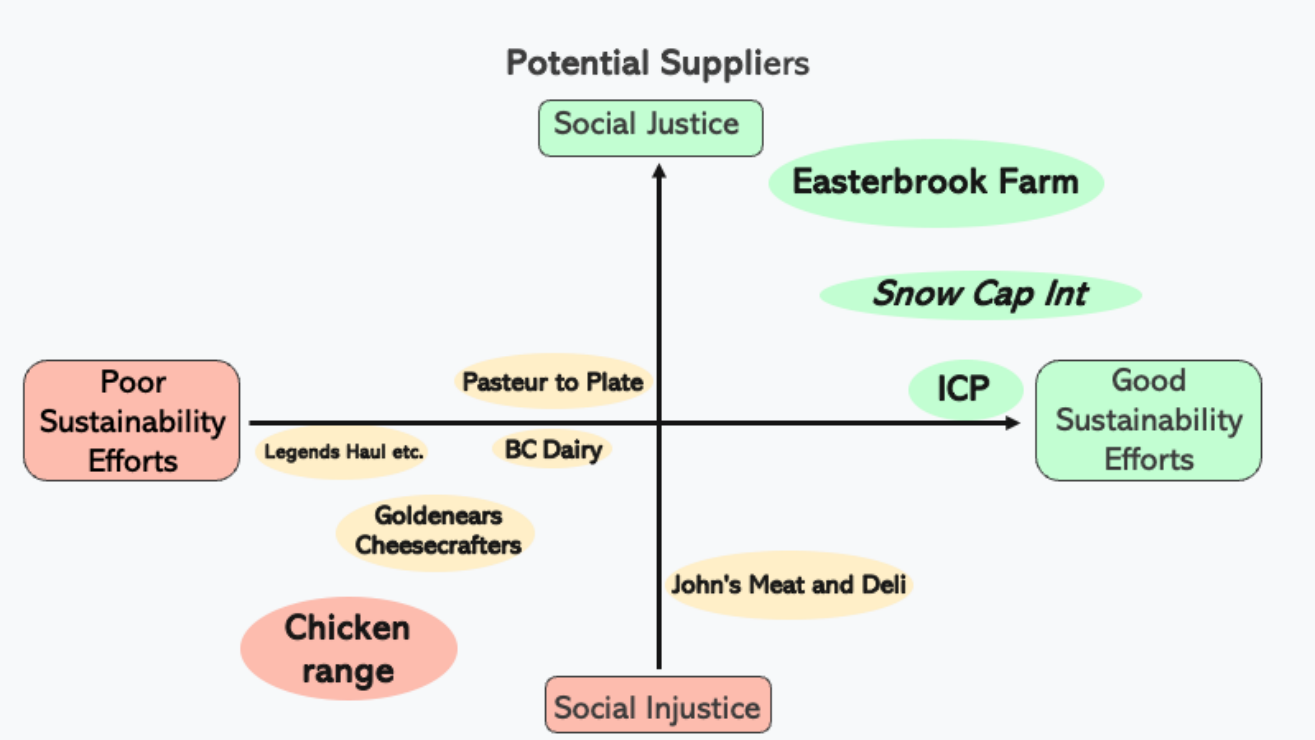
From a sustainability perspective, Snow Cap Inc. has demonstrated exemplary performance through its meticulous tracking of CO2 emissions and water usage, effective waste management strategies, and adherence to compliance and certification standards. Their application of Environmental, Social, and Governance (ESG) principles and investment in renewable energies further illustrate their comprehensive approach to sustainability. These efforts collectively underscore Snow Cap Inc.'s alignment with the dual objectives of environmental stewardship and social equity, setting a benchmark for other suppliers in the industry. Through their practices, Snow Cap Inc. exemplifies how suppliers can play a pivotal role in driving the sustainability and social justice agenda within the global supply chain.

Potential Suppliers

A comprehensive and multidimensional strategy is indispensable to thoroughly assess the performance of suppliers in the current landscape. This research employs a dual-axis framework to systematically classify suppliers according to their achievements in key areas, in Figure 1, where the vertical axis denotes social justice

contributions, and the horizontal axis reflects sustainability endeavours. This analytical strategy facilitates a detailed discernment of supplier performance, effectively separating the frontrunners from the underperformers. According to Figure 1, suppliers in the top-right quadrant of this schema, such as Easterbrook Farm and Inter City Packers (ICP), are identified as the top performers, showcasing outstanding commitment to sustainability and social justice. This quadrant symbolizes the pinnacle of commitment to environmental care and fair practices, with suppliers not just meeting but exceeding established standards in these areas. Their scores surpass the average in both dimensions, with the sustainability average standing at 34 and social justice at 38. In contrast, suppliers in the bottom-left quadrant represent the spectrum's lower performers. Despite their participation in sustainability efforts, these suppliers can improve with compliance and certifications, revealing a disconnect between their sustainable initiatives and the fulfilment of legal and ethical obligations.

Figure 1. Pay Off Diagram



Note. This pay off diagram represents the overall environmental sustainability and social justice performances. The green colour represents good performance, while the yellow and red colours label less ideal performance from suppliers. The Larger fonts emphasizes the best and worst scorings amongst the suppliers.

Furthermore, this bi-axial categorization underscores the complexity of achieving high standards in both sustainability and social justice. Suppliers in the lower left quadrant, despite their participation in sustainability initiatives, face challenges in compliance that could stem from various factors, including inadequate governance structures, lack of transparency, or insufficient investment in ethical practices. This highlights the need for a holistic approach to sustainability that encompasses both environmental and social and governance dimensions, as advocated by the Environmental, Social, and Governance (ESG) criteria (Sachs et al., 2019).

In summary, this study's biaxial framework provides a robust tool for evaluating supplier performances, offering straightforward insights that facilitate informed decision-making in the pursuit of sustainable and equitable supply chain management. Identifying compliance issues among suppliers in the lower left quadrant is a critical reminder of the ongoing challenges in achieving comprehensive sustainability; it underscores the importance of continuous improvement and rigorous adherence to ethical standards.

Comparison Between Potential Suppliers vs. Ideal Suppliers

Our analysis reveals that while potential suppliers have made commendable strides in enhancing their sustainability performances, significant gaps warrant attention. Positioned in the intermediate spectrum of our evaluation, most potential suppliers demonstrate a proactive engagement with sustainability initiatives, a positive indication of their evolving operational ethos. However, their journey towards comprehensive sustainability is hindered by notable deficiencies. A critical area of concern is the lack of sufficient compliance and certifications, which are fundamental to ensuring that sustainability practices are adopted, standardized, and recognized across the industry. Additionally, a glaring omission in their sustainability efforts is the inadequate tracking of their water and CO2 footprints. These metrics are pivotal for assessing environmental impact, guiding mitigation strategies, and fostering transparency. With robust mechanisms to monitor and report these environmental footprints, potential suppliers' sustainability claims are complete, underscoring the need for enhanced environmental accountability and regulatory adherence diligence.

Discussion: Limitations

<u>Difficulties in Monitoring Compliance within the System</u>

Throughout our project, we noticed a significant challenge within the current framework: the inherent difficulty in effectively monitoring compliance among suppliers. The predominant self-monitoring approach adopted by farmers introduces several issues. The reported measurements may be incomplete, professional, unscientific, unsystematic, and inconsistent (Smith & Marsden, 2014). This lack of reliability and validity in the data collection process undermines the integrity of compliance assessments. However, with more stringent regulations and oversight mechanisms, these challenges could be mitigated, enhancing the robustness of compliance monitoring.

The Organization of Suppliers

The configuration and arrangement of the supplier base, with its varied distribution and size disparities among farms, introduce significant challenges. In British Columbia's agricultural sector, a notable feature is the prevalence of numerous independent farmers, who are widely dispersed and seldom operate in a unified manner (Gertler et al., 2020). This lack of cohesion complicates the collective monitoring and enforcement of compliance standards, as the diverse nature of these farming operations demands tailored strategies. Such individualized approaches are not only resource-demanding but also tend to be less effective. Nevertheless, it's important to note that this challenge is unique across all food industry segments. For instance, the Dairy and Milk sector predominantly comprises larger, more organized farms. This variability across different food sectors indicates that more than one-size-fits-all approaches to compliance and organization is needed. Instead, tailored solutions are required to effectively address each food sector's unique circumstances.

Lack of Accuracy of Measurements & Primary Data Records

Meanwhile, the accuracy of measurements and the reliability of primary data records are compromised by the subjective nature of self-reporting by farmers. This subjectivity, coupled with incomplete participation in sustainability and compliance reporting initiatives, introduces biases and inaccuracies in the data (Garnett, 2014). The reliance on self-reported information with adequate verification processes leads to a cohesive understanding of the actual sustainability practices and compliance levels among suppliers.

Low Sample Size

Lastly, the scope of this study was constrained by limitations in time and resources, resulting in a smaller sample size than desired. This limitation restricts the generalizability of the findings and may not fully capture the diversity and complexity of farming practices and sustainability efforts across British Columbia's agricultural sector (Morris & Young, 2000). A more extensive study, encompassing a larger sample size, would provide a more accurate and comprehensive overview of the sustainability and compliance landscape among food suppliers in the region.

Recommendations

Recommendations for Short-Term Actions

We created our deliverable, a SWOT analysis on procurement strategies, based on primary and secondary research, to advance to a more sustainable and just campus food system. This SWOT analysis is presented in Table 4. The deliverable has also been used in conjunction with the evaluation matrix to assess sustainable and social commitments of suppliers, including important food procurement aspects. The SWOT analysis consists of four categories including strengths, weaknesses, opportunities, and threats in food procurement processes. Strengths and weaknesses are internal factors of suppliers, while opportunities and threats are related to external factors.

Table 4. SWOT Analysis

Strength	**Weakness**
1. Sustainable and Local Sourcing 2. Ethical Labor Practices 3. Diverse Menu Options 4. Transparent Supply Chain 5. Innovation in Food Technology	1. Limited Scalability 2. Higher Costs 3. Seasonal Variability
Opportunity	**Threats**
1. Market Differentiation 2. Collaborative Partnerships 3. Educational Initiatives	1. Competition 2. Regulatory Changes 3. Supply Chain Disruptions

With this SWOT analysis, industry reports, and agreements with our clients, UBC SHCS and UBC AMS, we designed an evaluation matrix for procurement processes to evaluate current and potential food suppliers on their sustainability and just practices. This new evaluation matrix, shown in Appendix B, is applicable to all our chosen food categories and includes two important indicator categories (Product price and quality, stability, and resilience) for our clients in their procurement processes. The weighing of the amended evaluation matrix has not been determined with agreement of the clients yet, so this should be reassessed from the perspectives of our clients in the procurement process.

Based on the scores in the evaluation matrix of the current and potential suppliers that responded to our survey, we can give clear and justified recommendations to the clients.

AMS and SHCS recommendations

For all the following food categories, we received complete surveys that resulted in the following recommendations:

Supplier categories

1. **Meat and seafoods:** Current supplier Intercity Packer Ltd (ICP) is supporting UBC in the transition to a more sustainable food system through good efforts in sustainability and just practices. Another suggestion for a meat supplier is John's Meat and Deli because of the relatively high score obtained on sustainability. However, the overall score of the supplier was below ICP. We do not suggest working with The Chicken Bacon Ranch and Legends Haul.
2. **Eggs:** Easterbrook Farm for egg supply was outstanding in our scores for sustainability and social justice efforts.
3. **Grocery**: The relation with current supplier Snow Cap Int should be maintained.
4. **Dairy & Milk:** No identified potential suppliers because Golden Ears Cheesecrafters Inc., Meadowfresh Dairy, and Western Dairy Council all scored below the desirable level.
5. **Produce:** No recommendations acquired.

Evaluate current and potential suppliers:

1. Use evaluation matrix to assess suppliers on sustainability and social practices.
2. Use own weighing system to apply the evaluation matrix to all suppliers.
3. SWOT analysis use to guide evaluation in evaluation matrix.

Recommendations for Future Research

The research recommendations mentioned in this subsection are divided in two subheadings:

1. Role of institutions to positively affect local food systems

2. Collaboration with cross sector organizations

Long-Term Actions

<u>Role of institution on local food system</u>

SEEDS:

1. Expand interdisciplinary UBC research initiatives to advance climate-friendly food systems.
2. Enhance measurement and reporting of environmental footprint of campus food system
3. Refer to Deskin and Harvey's 2023 study on Climate Food System Education (CFSE) and Climate Food System Action (CFSA) among students for long-term action:
    - Expand community-university partnerships to cause transformative food systems change
    - Develop students' willingness for CFSA by addressing systemic issues on community-wide level.
    - Provide hands-on learning in an informal environment, like student-led initiatives to address food system related challenges.
    - Build op social connection and engagement between students to share positive experiences with environmental and food system activities that increase the act for change.

- Engagement with the beyond campus community to help critical reflection of food system issues by observing food injustice and negative effects on marginalized people.

Collaborations with cross sector organizations

We have listed suggestions to increase climate food system action by community-based learning:

1. Promote local food sourcing by supporting contact between community members.
2. Involve social justice organizations to raise awareness about social just and ethical right food sourcing.
3. Community supported agricultural programme (CSA): affecting two learning dynamics:
    (a) Community building by reconnecting urban and rural places and people with their food (Mert-Cakal & Miele., 2021).
    (b) Teach consumers about cultural food differences and justice awareness in food processes by organizing cultural food events.
        - Examples of CFA narrow to UBC Vancouver Campus: Cropthorne Farm in Delta (organic produced vegetables) and Sharing Farm in Richmond (fresh produce to community members).

Conclusion

In conclusion, this projected aimed to assess and enhance the sustainability of food procurement at UBC Vancouver. This was achieved through the identification of sustainable suppliers, as well as developing a blueprint for other large institutions seeking to make their food procurement practices more sustainable.

This research adopted a comprehensive approach for gathering and analysing data on sustainable sourcing in large food service providers. The process began with a systematic literature review to pinpoint existing challenges, supplemented by stakeholder meetings with UBC SHCS, UBC AMS, and others to understand project aims. We collected data through surveys and interviews with current and potential suppliers in the Lower Mainland and beyond. A SWOT analysis evaluated the sustainability of purchasing practices. Sampling techniques included convenience sampling of existing suppliers, purposeful sampling of vendors with a sustainability focus, and snowball sampling for broadening the participant base. The recruitment strategy targeted suppliers, potential vendors, and key stakeholders through direct outreach and industry networks, aiming for a diverse sample reflective of the sector's complexity.

Our primary data collection involved surveys that assessed suppliers' sustainability and social justice efforts through quantitative and qualitative analyses. Based on the alignment with sustainability and justice values and tailored to our client's interests and requests, we assigned grades from 100 to 12 suppliers to reflect their performance. Snow Cap Inc., Easterbrook Farm, and Intercity Packers emerged as the top performers. Consequently, we confidently recommend these suppliers to our clients to work with. The evaluation matrix and supplier profiles, which we present, spotlight the leaders and pinpoint areas for improvement.

In our secondary data analysis, we thoroughly examined the certifications obtained by current and potential suppliers. This involved assessing how these certifications align with our client's requirements and represent the suppliers' commitment to advancing toward a more sustainable business model.

Overall, through the comprehensive analysis of both primary and secondary data, we examined current and potential suppliers in-depth. Despite research and resource constraints limiting our ability to confidently endorse most potential suppliers involved in the study, we outlined a detailed analysis process. Additionally, we thoroughly evaluated each supplier, uncovering their specific strengths and weaknesses. This information is crucial in offering our clients the insights needed to make informed decisions within UBC in the future.

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Appendices

Appendix A. Sustainability Action Assessment Form for Companies

Company Information:			
Company Name:		Contact Person:	
Industry Sector:		Email:	
Address:		Phone Number:	

Environmental Policy and Commitment:	
Does your company have a documented environmental policy?	☐Yes ☐No
Does this policy outline the company's commitment to sustainable practices and environmental responsibility? (Briefly Describe) _____ _____ _____	
Are there any certifications or awards received for sustainability efforts?	☐Yes ☐No
example?	
Are there specific targets or goals set to reduce emissions?	☐Yes ☐No

Sustainable Operations:	
Energy Usage:	Describe efforts to reduce energy consumption, use of renewable energy, or energy-efficient practices. Provide data related if available. _____ _____

	_____ _____ _____
Waste Management:	Outline strategies to reduce waste generation, recycle materials, or implement circular economy practices. Provide data related if available. _____ _____ _____ _____ _____
Water Conservation:	Describe initiatives to conserve water or reduce water usage in operations. Provide data related if available. _____ _____ _____ _____ _____
Do you have sustainability criteria for selecting suppliers and partners?	☐Yes ☐No
Do you have animal welfare criteria for selecting suppliers and partners? Or are you following any animal welfare-related practices?	☐Yes ☐No
If yes, briefly explain what and how.	

_____

_____

_____

Future Sustainability Goals:

How does the company plan to improve or expand its sustainability efforts?

I.e. ESG inclusion?	☐Yes ☐No

_____

_____

_____

Additional Information or Comments:

Provide any additional information, comments, or achievements related to sustainability efforts.

_____

_____

_____

_____

_____

Appendix B. New Evaluation Matrix

Indicator	Metric	Weight
Sustainability Efforts	CO2e Measuring Tools (Yes/No)	10
	Water conservation plan (Yes/No)	5
	Strict mechanisms i.e. waste sorting	10
Compliance and Certification*	Environmental Certifications and/or Awards	15
	Livestock welfare	15
Community Engagement and Social Responsibility*	Funds allocated to social programs	3
	Fair wages & Equity, Diversion, and Inclusion (EDI) Policies in Workplace	2
	Fair Trade	15
Intention for applying more sustainability	ESG	15
	Renewable energies	10
Product Price and Quality	Diversified dietary offerings	5
	Production level	15
	Product price	20
Stability and Resilience	Seasonal dependency	5
	Resilience to competitiveness	3
	Adaptability to regulatory changes	2
	Responsiveness to supply chain disruptions	10
Total Marks		**160**