

UBC Social, Ecological Economic Development Studies (SEEDS) Student Reports

Creating Sustainable Food Procurement Guidelines with UBC's Main Food Providers – AMS Food and Beverage Department (AMSFBD) and UBC Food Services (UBCFS)

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UBC FOOD SYSTEM PROJECT 2010  
SCENARIO 4

**Creating Sustainable Food Procurement Guidelines with UBC's Main  
Food Providers – AMS Food and Beverage Department  
(AMSFBD) and UBC Food Services (UBCFS)**

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## Table of Contents

I. ABSTRACT.....	3
II. INTRODUCTION.....	4
i) Problem Definition.....	4
ii) Vision Statements and Value Assumptions.....	5-6
III. METHODOLOGY.....	7-8
i) Information Sources.....	8
ii) Preliminary Research.....	9
iii) Interviews.....	10
IV. RESULTS/FINDINGS.....	10
i) Fresh Produce.....	11
ii) Dry Goods.....	12
iii) Frozen Foods.....	14
iv) Dairy.....	15
v) Seafood.....	16
vi) Meat.....	17
V. DISCUSSION.....	18
i) Food Purchasing Guidelines and Practices at Other Institutions.....	21
ii) Tomato Lifecycle Analysis.....	22
VI. RECOMMENDATIONS.....	24
i) General.....	24
ii) Fresh Produce.....	25
iii) Seafood.....	25
iv) Dairy.....	25
v) Frozen Foods.....	26
vi) Meats.....	26
vii) Dried Goods.....	27
VII. CONCLUSION.....	27
VIII. REFERENCES.....	28
VIII. APPENDIX.....	29

## **I. ABSTRACT**

The UBC Food System Project (UBCFSP) is a community-based action research project. Each year, different project scenarios are assigned to different LFS 450 groups. Each group is expected to collaborate with the LFS faculty members and stakeholders to build a more sustainable UBC Food System. This year, we were one of the four groups that was assigned to develop sustainable food procurement guidelines with the AMS and UBC food service.

The main challenge that the AMS Food and Beverage Department (AMSFBD) and the UBC Food Service (UBCFS) face is the lack of information on which foods contribute to lower ecological footprints; hence, more specific and easy to understand purchasing guidelines are needed.

In general, plant-based foods are lower in ecological footprints than animal-based products, and so are processed than unprocessed foods. However, the information is not adequate enough in creating sustainable food procurement guidelines for both the AMSFBD and UBCFS.

In this paper, you can find a number of useful information regarding our group's research and findings in creating sustainable procurement guidelines with the AMSFB and UBCFS. Hours of literature review were put into finding the most feasible indicators for different food categories to measure their sustainable level. You will also find our group recommendations and discussions in this paper as to improving the AMSFB and UBCFS food procurement guidelines.

Lastly, this paper will not be here today if it wasn't for the help of the LFS faculty members, AMS and UBCFS stakeholders, as well as all group 1 members.

## II. INTRODUCTION

Our plan is to review the existing procurement guidelines of both UBC Food Service and AMS Food and Beverages Department. Using online researches and sources as our main input, we are hoping to contribute to both major food providers at our campus in implementing purchasing policies that support sustainable food system locally as well as globally.

### i) **Problem Definition**

Which tomato generates the lowest greenhouse gas emissions? The hot-house one or the imported one? Is this supplier better than the others?

As mentioned in the abstract, the main problem in this scenario is to create an informative, yet, easy to understand purchasing guidelines for the AMSFBD as well as the UBCFS. We are sure that UBC is not the only educational institution that has been dealing with this challenge. Many other institutions around the globe have also started to demand more sustainable food items to be served in their cafeteria and food outlets.

At John Hopkins University, for example, only dolphin-safe tuna and only seafood that are recommended by the Monterey Bay Aquarium Seafood Watch Program are served in the main food outlet (<http://www.jhu.edu/>, 2009). Back in 1999, the government of Italy passed a law on providing organic foods in public institutions that operate school and hospital canteens. This law helped to facilitate public procurement of local, organic foods in Italy ((Finance Law, December 1999, Chapter 1, Measures to Facilitate the development of employment and the economy, Section 4 cited in Soil Association, 2003: 65)

## ii) **Vision Statements and Value Assumptions**

As a group of fourth year LFS students, we have been exposed to the two most preferred paradigms for a sustainable food system: the life-science integrated and the ecologically integrated paradigms introduced by Lang & Heasman (2004). While each group member is situated at a different point on the spectrum between the two paradigms, our group recognizes the importance of conservation of local economy, local agriculture, and natural ecosystem to have a sustainable food system.

To achieve a sustainable food system, UBCFS has taken an initial step by introducing the 7 Guiding Principles for a Sustainable UBC Food System (UBCFS website, 2010). Our group believed that the principles were concise and complete for addressing both the biological and socio-economical aspects of the UBC food system.

Our main concern with the vision statements was that we found some of the principles to be paradoxical. For example, principle #3 states the importance of ethnically diverse food, yet principle # 1 states the importance of locally grown food. Our point is in order to have variety in terms of ethnic food, UBC food providers must, to some extent, import food from abroad.

Along with diversity, affordability is also mentioned as one of the 7 guiding principles. However, we found that the food sold at the majority of UBC food outlets is way too expensive. A lunch that usually costs around \$5 to \$8 is a large sum of money for most students already.

In general, the 7 principles are great foundations for building a sustainable UBC food system. The development of procurement guidelines based on the principles is

important to emphasize each statement and to achieve a sound goal of being sustainable food providers on campus. Below is our group reflection on the 7 guiding principles:

**Table 1: Summary of Group 1 Reflection on UBCFS 7 Guiding Principles toward Sustainable Food system**

<p><b>1. Food is locally grown, produced and processed.</b>          PROS: supports local growers economy; reduced green house emission from transportation          CONS: higher food price; increased green house emission for Hot House Cultivation</p>
<p><b>2. Waste must be recycled or composted locally</b>          PROS: promote efficient local nutrient cycle          CONS: pest issues, lack of knowledge and motivation</p>
<p><b>3. Food is ethnically diverse, affordable, safe and nutritious</b>          PROS: more choice for consumers; conservation of tradition          CONS: heavy reliance on global trading and imports; food safety issues (different food regulations among different countries)</p>
<p><b>4. Providers and educators promote awareness among consumers about cultivation, processing, ingredients and nutrition</b>          PROS: increased knowledge and motivation among consumers for sustainable food system          CONS: time and investment; education often used for marketing purpose which lead to misleading advertisements</p>
<p><b>5. Food brings people together and enhances community</b>          PROS: conversation of traditional knowledge; vibrant community</p>
<p><b>6. Is produced by socially, ecologically conscious producers</b>          PROS: support ecological and social sustainability          CONS: how to determine who's more conscious?;</p>
<p><b>7. Providers and growers pay and receive fair prices</b>          PROS: encourage local economy and social equity          CONS: may drive the cost of food at outlets</p>

### **III. METHODOLOGY**

The ultimate goal of this project is to produce a clear and easy-to-understand set of food procurement guidelines to be used by the AMSFBD and UBCFS. Our group aimed to review and solve through a number of complicated issues surrounding the current food procurement guidelines and to come up with one that focuses more on environmental sustainability.

To do so, we started off with reviewing the work of many past LFS 450 students and did an extensive internet-based research pertaining to our scenario. In addition, we referred to food procurement guidelines from other institutions such as Simon Fraser University and Yale University. A combination of these resources was used for references where all the feasible ideas from the sources were integrated to create a more practical set of food procurement guidelines for the AMSFBD and UBCFS.

Furthermore, our additional information came from communication with Nancy Toogood (AMSFBD Manager), Dorothy Yip (UBCFS Retail Manager) and Caitlin Dorward(UBC Sprouts President). Our group believed that having the involvement of representatives of the AMSFBD and UBCFS was crucial, as their knowledge and experience have helped us in making their sustainable food procurement guidelines more effectively and efficiently.

#### **i) Preliminary Research**

Our first approach was to review and analyse all resources included in the Scenario 4 folder available on Vista. We also went over a few past UBCFS summary papers from year 2007-2009 in the General Resources folder to obtain information on the



recommendations made by our past LFS 450 groups in the previous years and on the challenges they faced in fulfilling their goals.

Finally, we conducted online research including frequent visiting on the UBCFS and AMS website to find out more details about the current AMSFBD and UBCFS food procurement guidelines and to gain more understanding on the scenario that we were supposed to do. All in all, our preliminary research has helped us in getting a good direction to creating a sustainable set of food procurement guidelines.

## **ii) Communications with Stakeholders**

At the beginning of our research, we contacted Nancy Toogood (AMSFBD Manager) to obtain current indicators they use to measure the sustainability level of each food item they purchase and what type of food procurement challenges they are facing. This allowed us to understand their current needs and what we had to do to help them improve their current guidelines, if possible through surveys, researches or any project involvement.

We also had a chance to talk to Dorward, the President of Sprouts, to obtain their purchasing system, as we were trying to incorporate some of the practical things that Sprouts have done into the UBCFSP and AMSFBD purchasing guidelines (Dorward, Personal communication, 2010).

Moreover, we had our questions regarding the current UBCFS procurement guidelines answered through an email interview with Dorothy Yip (UBCFS Retail Manager). We chose to contact most of our stakeholders through emails as oppose to face-to-face interviews, because it was hard to set up a time when both the stakeholder and our communication officer were both available.

## **VI. RESULTS/FINDINGS**

Using a wide range of literature review, we decided to do six food procurement categories and identify indicators for every food category to determine the level of sustainability. Our categories include:

- ♥ Produce
- ♥ Dry goods
- ♥ Frozen foods
- ♥ Dairy
- ♥ Seafood
- ♥ Meat

### **i) Produce**

With regard to produce, indicators we thought were crucial in determining sustainable level are location of production, organic production methods, nutrition considerations, and degree of processing/packaging. Location of production is very important in determining the level of fresh produce sustainability. For example, a locally grown produce will have a lower ecological footprint (EF) since it requires less transportations and delivery time. In addition, from a social standpoint, buying local produce supports local farmers and the economy.

In terms of how the fruits and vegetables are grown, organic agriculture is believed to use less input such as energy, fertilizer and pesticides compared to its conventional counterpart. A study by Yale University found that hothouses require a lot of fuel and electricity, thus contributing to more EF (Sustainable Food Purchasing Guide First

Edition, 2010). However, hothouses can be used for production if a frame of metal or wood is covered with a thick layer of transparent greenhouse plastic.

Another indicator often used to measure sustainable level of produce is whether genetically modified organism (GMO) is used. Genetically modified (GM) food is known to be unsustainable as this method of production causes loss in biodiversity and land degradation. It is also known that GM food may cause potential negative health effects on people.

Lastly, the degree of processing/ packaging can also be used to indicate sustainability. The more processed and/or packaging materials used for a specific produce item usually means more environmental damage. For example, bagged spinach means the spinach needs to go through the cutting, washing, and packaging steps before it can be sold at the market.

## **ii) Dry Goods**

The indicators that we obtained for dry goods were focused on packaging and processing of the product. Examples of dry goods include flour, sugar, spices, oil and dried fruits and vegetables.

Since processed dried goods need to have a long shelf-life, it is crucial to have a good and sustainable packaging. Packaging contributes to maintaining freshness and quality of the product by keeping the food dry and by preventing the food from gaining moisture from the surrounding environment (Appropriate Food Packaging, 2010). Packaging also contributes to consumer convenience, oxygen exclusion, and protection from physical damage (FNH 309 notes, 2010). Indicators that are relevant pertaining to the level of sustainability of the packaging include material use, energy use, water use,

material health, clean production and transport, cost and performance, community impact, and worker impact ( Sustainable Packaging Indicators and Metrics Framework, 2009).

Material use includes the measuring of the amount used and whether the material is virgin or recycled. Material waste, such as surplus unwanted material that is contaminated or spoiled, is also measured.

Packaging is more sustainable if the energy used to produce the packaging comes from renewable sources. Energy used for assembling, filling up, transporting packages or anything directly associated with the packaging process should be included, whereas energy for lighting, heating, cooling and maintaining the facility space should be excluded.

Another measure is the amount of water consumed during extraction, processing of raw materials and final packaging, as well as during final assembling of packaging material into actual packaging components. With regard to material health, measurements include the amount of toxic components in the material used to produce the final packaging. One method is to measure the percentage by weight/unit of packaging.

With respect to cost and performance, the cost of energy, human resources, processing, production, assembly, and waste should be included in the equation. One possible indicator is the amount of money spent per kilogram of final packaging material.

There are a few core indicators with regards to community impact, namely product safety (measured by number of products divided by number of products shipped per year), recycling of packaging (measured by the recycling rate multiplied by metric tons of packaging produced or used), Landfilling of packaging (measured by landfill rate multiplied by metric tons packaging produced or used), reuse of packaging (measured by

the amount of packaging that are reused for the same function), and packaging energy recovery rate (measured by % of packaging waste stream per year).

The main role for processing of dry goods is to remove water to stop microbial and enzyme activity (Appropriate Food Packaging, 2010). Some more commonly used processes that can extend shelf-life include food irradiation, dehydration, such as freeze drying, microwave drying, drum-drying, sun-drying, pasteurization, etc. Usually, most dry goods are processed with a combination of two or more of the above methods, and the duration and temperature are adjusted specifically to each food type. The main indicators for the sustainability of these methods include material/energy intensity, potential chemical risk, potential environmental risk, eco-efficiency and waste production (Fermeglia, Longo and Toma, 2010).

With respect to Canada, it would be more ecologically friendly if packaged dried goods manufactured in Canada have their own local packaging facilities.

### **iii) Frozen Foods**

Frozen products are food items to be stored and shipped at temperature below -18°C. They include raw ingredients such as meat, dairy, produce, eggs, seafood; as well as, processed foods such as ready-to-eat meal and bread/pastries. By nature, the manufacturing and storage of frozen products are not as sustainable as those of raw ingredients, in terms of packaging, ingredients, and energy consumption.

However, that is not to say that UBCSFS and AMSFBD must not buy frozen ingredients in order to reduce their ecological footprint. There are some useful indicators that can be used, when purchasing frozen food items, such as “Product of Canada” label and supplier profile. The “Product of Canada” label claim indicates that all of the

significant ingredients, components, processing and labour used in the food product must be Canadian (CFIA website, 8 April 2010). The UBCFS and AMSFBD can help reduce food miles as well as support the local economy.

Based on UBCFS YYY's purchasing data, most of the frozen products bought in a large quantity include McCain's hash browns, onion rings and fries, Gourmet Baker's (GB) Nanaimo bars, Campbell soups, GFS strawberries and Olivieri's pasta sauce. Our group decided to research on these suppliers and found that food miles as one of the main concerns. We found out that Gourmet Baker's Nanaimo bars are made in Winnipeg. We then asked Dorothy Yip, UBCFS Retail Manager, whether this would be considered delivering food from far away. However, according to Yip, GB's Nanaimo Bars are so far the most sustainable in terms of food miles.

Another major frozen food supplier at UBC is McCain Foods, and based on our research we found that the company has participated in fighting hunger and educating potato farmers together with the United Nations Food and Agriculture Organization (McCain website, 8 April 2010). In this sense, choosing McCain Foods as one of the UBCFS main suppliers is fairly sustainable.

The majority of the frozen food suppliers are located in Canada, which means food miles are not so much of a problem. However, we are hoping that both UBCFS and AMSFBD can be more proactive in terms of asking for details to their suppliers for things like where the crops are grown or whether GMOs are involved during the growth of the crops.

#### **iv) Dairy**

Dairy products are ranked second behind the red meat category for having a high ecological footprint, with both butter and eggs releasing 17.42 ha/tonne and 7.62 ha/tonne of emissions, respectively (Barrett, J. et al., 2002). Based on the information above, one indicator with regards to egg purchasing is where the eggs come from. Currently, all UBCFSP outlets are only serving eggs from free-range hens and all eggs come from local providers (<http://www.food.ubc.ca/about/initiatives.html>, 17 March 2010).

Since dairy industry is well-regulated in Canada, all dairy products including milk, cream cheese, cheese, etc that the UBCFS and AMSFBD are 100% Canadian. This information assures us that we are supporting the local economy. Another indicator that we thought would be useful was variety. We noticed that in all UBCFS and AMSFBD food outlets, we could easily find 1%, skim, and flavoured milk. By having this variety students are given options for healthier choices.

In addition to variety, nutrients are as equally important with regards to dairy products. Our nutritional sciences group members decided to take a look at Milk 2 Go nutrition fact at the Deli and agreed that the 500 ml size could be misunderstood, because the nutrient fact label gives the per serving % daily value (DV) information. If a student buys a 500 ml chocolate Milk 2 Go and finishes the whole 500 ml, he/she will have 16% DV of saturated fat and has her/his dairy serving requirement met (Canada Food Guide). Based on our analysis, this milk product is relatively healthy.

Thus, we conclude that variety and nutrition are useful indicators in determining dairy product purchase.

#### **v) Seafood**

With regard to seafood purchase such as shrimp, snapper and steel head, the UBCFS has been working with various organizations and individuals including SEEDS, students, faculty, Sustainability office and off-campus seafood supplier to develop procurement standards to support sustainable seafood program (UBCFS website, 2010).

Another solution to sustainable seafood purchasing is to determine which species are unsustainable and to not include those species on all UBCFS and AMSFBD food menus. Initially, we were wondering how to determine which seafood is unsustainable and which one is not, and Yip said that the UBCFS works with Ocean Wise in determining what seafood is sustainable and what is not (Yip, personal communication, 2010).

Up to this day, the UBCFS has successfully removed seven threatened species from its menus including snapper (rockfish), monkfish, long-line caught tuna, sevruga caviar, and swordfish, and in 2007 steelhead and rainbow trout.

In conclusion, our first and main indicator here is to determine which seafood is unsustainable. The second step would be to go over all seafood menus on campus and make sure there is none that serves any of the identified unsustainable seafood species.

#### **vi) Meat**

As a group, we came up with several indicators to assist the sustainability of meat purchasing. The origin of the meat is important. It is better to purchase meat that is domestically raised and slaughtered to lower transportation energy and food mileage.

The feeding method is also an essential indicator to determine whether the meat is sustainable. While most cattle are grass-fed at some point in their lives, it is the finishing



or the fattening during the last 60 - 140 days before processing that matters (ST, 2010). Most Canadian cows are grain-fed during their finishing time, which changes the body chemistry of the animal, as well as reduces the level of important nutrients like Omega 3, CLA, vitamin E, and beta carotene (ST, 2010). Some beef is advertised as grass-fed, but is actually finished on grain (ST, 2010).

Here is a tip: when purchasing beef, try to find cows that are grass-fed or at least grass-finished (YSFP, 2020). The best grass-finished beef is available only during the grazing season (late spring, summer, and early fall). During the rest of the year, animals are finished on grain (YSFP, 2020). If the grass-fed and grain-finished animals are the only choices, it is better to choose animals that have been grain-finished for as short a time as possible by small or mid-sized farmers (YSFP, 2020).

Even though organic generally means better, in the case of organic beef, the cows are not grass-fed but organic-grain-fed and are raised in confinement (ST, 2010). We thought of confinement as an equivalent of non-free-range, and thus not a very good indicator in choosing sustainable beef.

What the UBCFS and AMSFBD can look for when purchasing beef is to make sure no hormones or antibiotics are added to the meat (ST, 2010). Growth hormones are very common in cows that are raised in feed lots (ST, 2010). Hence, we suggest both major campus food providers to do their own research to find out where the meat suppliers get their meat from.

In the case of pork, including processed meat like ham, bacon and other pre-made pork product, added preservatives and other artificial ingredients may be added as an ingredient (YSFP, 2020). One good indicator is to make sure the meat is free of nitrates,

sodium benzoate, corn syrup and ‘natural flavours’ (YSFP, 2020). If buying pork from local providers, look for pigs that are raised on pasture where they can root, roam and forage and not confined in cages or barns (YSFP, 2020).

All of the indicators mentioned above are useful in developing sustainable meat purchasing; however, it will require both food providers to be more critical to its local meat suppliers. If buying from large supplier such as GFS, make sure the provider is willing to give out details of where the animals from and how they are raised.

## **V. DISCUSSION**

To create practical food procurement guidelines, we did not rely solely on internet-based researches and interviews with the stakeholders; however, we tried to integrate the knowledge we have accumulated so far from all of the LFC series we’ve been part of to create a more eco-friendly set of guidelines to reduce the ecological footprints (EF) on campus.

We also referred to various other educational institutions such as Yale University to help us obtain a firmer understanding of our project. Since our goal for this project was to develop a sustainable food system at UBC and to set an example for other institutions to follow our step in reducing the EF through their food systems, we hope that doing something at a local level will eventually lead up to our long-term goal, which is for our sustainable food procurement guidelines to have an impact at a global level.

Our group consisted of 6 LFS students with different majors such as Nutritional Sciences, Food Science, and Food and Resource Economics. Due to our different backgrounds, we viewed and handled this project using different lenses and paradigms.

For instance, our Nutritional Sciences group members tend to focus more on the health aspect in the development of the procurement guidelines. They tend to think more on how to promote a healthier diet which includes the use of less preservatives and more nutritious foods. After all, promoting a healthier diet is often associated with a much lower ecological footprint than a conventional diet. On the other hand, our FRE group members seemed to focus more on improving cost-efficiency and developing promotional materials for sustainable eating on campus.

One subject that came up during one of our group of discussions was the dilemma to choose a lower EF between two different production methods. We talked about whether to purchase produce that are grown at a greenhouse or to import from other countries whose climate support the growth of that produce. We found it challenging to measure the level of greenhouse gas emissions of each case, and we were uncertain as to which indicator(s) would be the most effective in determining the lower EF level of the two cases. However, a technique called Life Cycle Analysis (LCA) can be used to assess the level of emissions from stage one to the final stage of the food as in when the food is ready to be enjoyed

(<http://www.atlanticsustainability.ca/downloads/procurement/LocalFoodProcurementPolicies.pdf>, retrieved March 2010).

We also had a discussion about how some producers are only willing to supply food in a large quantity to save costs, and how delivery can be an issue with local suppliers as they are used to smaller deliveries. On one hand, the suppliers that demand larger order are able to meet the amount of food that our main on-campus providers need.

However, the UBCFSP and AMSFBD also value the importance of local suppliers and growers that generally means more frequent deliveries and thus, more EF. Thus, the UBCFS and AMSFBD have to be selective in choosing distributors and suppliers to make sure these big suppliers are supportive of local and small producers.

## **Topic#1: Food Purchasing Guidelines and Practices at Other Institutions**

### **Yale University**

Yale University's Sustainable Food Purchasing Guidelines provided us with the most comprehensive and thorough assessment of different aspects of an on campus food system and useful recommendations to the food providers. Their guidelines emphasize the importance of sustainable agriculture, utilization of local and seasonal ingredients, family farms and fair-traded food items  
([http://www.yale.edu/sustainablefood/purchasing\\_guide\\_002.pdf](http://www.yale.edu/sustainablefood/purchasing_guide_002.pdf), retrieved Feb 2010).

The Yale University procurement guidelines categorize food into 8 groups: dairy, eggs, poultry, beef & lamb, pork, fish, dry goods, coffee, tea and chocolate. Each category has a unique set of indicators to measure the sustainability level. Recommendations are provided for each group based on production method, use of antibiotic and pesticides, farm size/type, location of production and labour practices. The guide also presents additional tips that can help keep food cost low  
([http://www.yale.edu/sustainablefood/purchasing\\_guide\\_002.pdf](http://www.yale.edu/sustainablefood/purchasing_guide_002.pdf), retrieved Feb 2010).

### **Syracuse University**

Many food service providers at the Syracuse University make the effort to buy organic ingredients directly from local producers/distributors. However, we found no written food procurement guidelines within this institution.

### **University of Saskatchewan**

The university purchases seafood, meat and fresh produce from local distributors and partnerships with horticulture students to incorporate organically grown vegetables at the student dining facility. No written food procurement guide is available at this institution's website.

### **Simon Fraser University**

Designed for both students/residents and on-campus food service providers, SFU's "Your Local Food Guide" provides links and information about food business partners who are engaged in building sustainable food system: farmer's markets, urban delivery programs, cooking and home canning websites, and grocers. In addition, the guide contains a list of seasonal produce for each month, so that consumers may enjoy locally grown seasonal ingredients at affordable pricing.

While many post-secondary institutions acknowledge the importance of sustainable and healthy food system, they often do not have written food procurement guidelines for sustainable food purchasing guidelines that can be easily accessed by other people.

After reviewing various food guides and purchasing practices, our group believed that Yale University's Sustainable Food Purchasing Guide and SFU's "Your Local Food Guide" were the most useful and practical. The two differ greatly. While the former provides rather general recommendations for each food category, the latter is more

specific, for example, providing the list of seasonal ingredients and local partners. We believe that the UBCFS and AMSFBD can make use of the procurement guidelines from both institutions for improvement of the current procurement guidelines.

### **Topic#2: Tomato Lifecycle Analysis**

Our group looked at the life cycle analysis (LCA) of two different tomato production methods. Below are the details of the two methods of tomato production. Our purpose in discussing the two different methods was to analyze which production contributes less to EF.

#### **Production Method I: Tomatoes Produced by a Multinational Corporation**

These tomatoes are grown in Mexico. They are sprayed with large amount of pesticides to control weeds and insects. Fertilizer is used to reduce growing time and ensure uniform size and appearance of the tomatoes. The tomatoes are picked green, so that they can last longer during shipping (<http://www.eathealthyfoods.ca/>, retrieved March 2010). Then these tomatoes are sorted, boxed, and stored in a warehouse. From the warehouse, the tomatoes are then shipped to USA and Canada and distributed to various grocery stores, restaurants, and other food services.

#### **Production Method II: Tomatoes Produced Regionally, Organically, and under a Fair Trade Agreement**

By definition, these tomatoes are grown regionally under a fair trade agreement. Thus, transportation and environmental costs are lower than the first production method mentioned above. In addition, organically grown tomatoes provide better taste and higher nutritional content due to a better soil condition. The soil used in organic agriculture is treated with green manure and undergoes crop rotation as opposed to monoculture

practice in conventional agriculture (<http://www.eathealthyfoods.ca/>, retrieved March 2010).

As a result, these tomatoes generate lower ecological footprint. During harvest season, the tomato growers will allow the fruits to ripen before the fruits are ready to be picked. After harvest, these tomatoes will be distributed to local grocery stores with an average of 50 kilometres per trip (<http://www.eathealthyfoods.ca/>, retrieved March 2010). In comparison with the tomatoes grown in Mexico, 50 kilometres of distance between farm and market is much less than distance required during shipping from Mexico to Canada. As a result, carbon emission due to transportation is reduced dramatically. Consumers can purchase locally grown tomatoes in the market.

With respect to our group limitations, when we just started the work, we were having a hard time sorting out relevant information to be used in our report as the folders on the LFS 450 Vista website were a bit unorganized. Most of us felt that the amount of resources available on Vista for this project was overwhelming.

Another limitation we encountered was time. Initially we were very excited to schedule a meeting with the stakeholders and another group that were doing the same scenario. Unfortunately, we did not manage to have a face-to-face meeting and decided to email our questions to the stakeholders.

## **VI. RECOMMENDATIONS**

### **i) General:**

1) UBC Food Services Waste Management sector should design a visual poster to be placed in front of rubbish and recycling bins in the SUB and other food outlets in UBC,

such that students categorize used cutleries into recyclable or compostable bins, rather than discarding them as waste items. (This recommendation adds on the previous group's research suggestion of having a guide or poster near each compost, recycle, and garbage station in the student union building with bright colours and clear instructions.)

2) UBC Food Services and AMS Food and Beverage Department should avoid purchase of heavily packaged fresh produce, dried goods, frozen goods, dairy products, meat and seafood.

3) If possible, try to encourage bulk purchasing between UBC Food Services and AMS Food and Beverage Department, such that packaging and transportation will be reduced.

4) UBC Food Services and AMS Food and Beverage Department should maximize the purchase of locally produced foods, such as choosing products that are labelled as “Product of Canada”, or “Made in Canada”.

**ii) Fresh Produce:**

1) AMS sustainability coordinator should locate a local and reliable supplier for the purchase of fresh produce that is of GMO-free origin.

2) AMS sustainability coordinator should avoid the purchase of hothouse produces (eg. tomatoes) and opt for local purchases.

**iii) Seafood:**

1) AMS sustainability coordinator should inform UBC students through the distribution of pamphlets, posters, booths at the SUB regarding sustainable fish



consumption; preferably an easy- to-understand guideline, from SeaChoice, when consuming seafood at a Sushi restaurant (eg. Honour Roll), should be one of the approaches to supporting sustainable fishing.

2) To determine whether or not a type of seafood is sustainable, UBC Food Services and AMS Food and Beverage Department can follow guidelines from credible sources such as SeaChoice, Ocean Wise, and other institutions that support sustainable fishing. Consultation with experts, research on sustainable fisheries as well as working with the institutions mentioned before, would be another approach to ensure sustainable procurement.

**iv) Dairy:**

1) UBC Food Services and AMS Food and Beverage Department should purchase dairy products from local farmers who grow their own grass or corn crop for silage locally. Cows should be grass-fed, since they have 3-6 times more nutrient in their dairy products (Gort's Gouda Cheese Farm, 2010).

2) If financially feasible, UBC Food Services and AMS Food and Beverage Department should purchase transitional milk (milk that is the switch from the conventional milk to organic milk), since buying transitional milk helps in saving money and supporting organic farming practices at the same time.

3) UBC Food Services and AMS Food and Beverage Department should try to purchase cheese products that are 'Certified Organic' as certified organic means that the products does not contain preservatives or additives.

**v) Frozen Goods:**

- 1) Avoid purchase of frozen produce when fresh produce is available; eg carrots, cauliflowers, broccolis and vegetable mixes.

**vi) Meat:**

- 1) UBC Food Services and AMS Food and Beverage Department should try to purchase meat that is domestically raised and slaughtered to lower transportation energy and food mileage.
- 2) When purchasing beef, try to find cows that are grass-fed or at least grass-finished. If the grass-fed and grain-finished animals are the only choices, it is better to choose animals that have been grain-finished for as short a time as possible by small or mid-sized farmers.
- 3) In the case of pork, including processed meat like ham, bacon and other pre-made pork product, added preservatives and other artificial ingredients may be added as an ingredient. UBC Food Services and AMS Food and Beverage Department should try to purchase deli meat that is free of nitrates, sodium benzoate, corn syrup and 'natural flavours'.

**vii) Dried Goods:**

- 1) UBC Food Services and AMS Food and Beverage Department should avoid the purchase of goods that have the radura symbol on the packaging of dried foods.

2) UBC Food Services and AMS Food and Beverage Department should minimize the purchase of hydrogenated oils, partially hydrogenated oils, or interesterified oils; and use non-hydrogenated oil instead.

## **VII. CONCLUSIONS**

Our group research found that both UBC and AMS current food procurement guidelines are focused on the same goal of reducing their ecological footprints. Having a 100 % sustainable food system on campus is a challenge as both the AMSFBD and UBCFS are still working on towards having better ways to integrate their purchasing system. There are still a lot of grey areas in terms of obtaining information of the sustainability level for each food item and food ingredients.

Working with the AMSFBD and UBCFS stakeholders allowed us to be more familiar with the situation they are facing. Our main approach was to do six categories of food procurement and defined indicators for each category. We are hoping that these indicators could be useful in helping the AMSFBD and UBCFS in making more sustainable purchasing.

We were happy of the number of information we have found and made us of it to help create sustainable procurement guidelines for UBC. However, we felt that this project was too broad. We would suggest for next year's LFS groups to be assigned more hands-on and specific projects. For example, they can be assigned to volunteer on/off campus depending on their interests.

Lastly, we'd like to thank all of the LFS teaching teams for the opportunity to participate in this project and fellow LFS students for the support and good time this year.

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## VIII. APPENDIX: (Interviews Q & A)

### i) Dorothy's Email Interview Questions and Answers:

- Contacted stakeholder Dorothy Yip from UBCFS regarding specific topics that we caught our attention during the process of researching and reviewing past reports

Some of the questions are attached below with Yip's responds in CAPS:

1. With regard to procurement changes on seafood purchase, what would be considered unsustainable species (ones that have been removed from UBC catering menus? What kind of measurement or indicator did you use to distinguish the sustainable from the unsustainable?

WE WORK WITH OCEANWISE ON DETERMINING WHAT SEAFOOD IS SUSTAINABLE OR NOT.

2. THINKFOOD Grab and Go Sandwiches- I know this a healthy option, but I find this selection very pricy. Are there healthier options with lower cost?

THE PRICE FOR THE THINKFOOD LINE IS MARKET PRICING.  
THERE IS A SALAD BAR AT PACIFIC SPIRIT PLACE IN THE S.U.B.

3. According to the available purchasing data, UBC FS purchased quite an amount of Nanaimo bars from Gourmet Baker and according to the company's website, the Nanaimo bars are made in Winnipeg. Would this be considered delivering food from far away, i.e. food miles?

NO. WE HAVE NOT FOUND A COMPARIBLE PRODUCT THAT HAS FEWER FOOD MILES.

Lastly, is there anything we can help either through online research, create surveys, etc to help improve the UBCFS guidelines? Or maybe participate in one of the on-going projects that are happening now?

CURRENTLY, WE DO NOT HAVE ANY ON-GOING PROJECTS BUT THANK YOU FOR OFFERING YOUR ASSISTANCE.