

“BEYOND ORGANIC @ BEATY’S CAFÉ”

Meghan Berkyto, Saina Chiba, Linda Fietcher, Elizabeth Kuan, Sara Li, Rosalyn Mow

University of British Columbia

AGSC 450

April 11, 2008

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

UBC FOOD SYSTEM PROJECT 2008
SCENARIO 6

“BEYOND ORGANIC @
BEATY’S CAFÉ”

AGSC 450 GROUP 10

MEGHAN BERKYTO
SAINA CHIBA
LINDA FIETCHER
ELIZABETH KUAN
SARA LI
ROSALYN MOW

April 11, 2008

Abstract..... 3

Introduction 3

Problem Definition 4

 Problem Statement: 4

 Vision Statement: 5

 Measurement of Sustainability 6

METHODOLOGY 9

FINDINGS AND DISCUSSION 11

Promotion and Education 19

 Educational and Promotional Materials..... 19

 Waste Management..... 19

RECOMMENDATIONS 20

 Recommendations for UBC Food Services 20

 Recommendations for Next Year’s Class..... 21

 Recommendations for the Construction Company and Architect 21

CONCLUSION 21

REFERENCES 22

APPENDIX 23

Abstract

In the recent years it has become increasingly apparent that the food system is in crisis, with unsustainable practices running rampant. Not only are health related issues such as obesity a problem, but other sustainability issues such as food miles and disposal of waste products are a growing concern.

In our group, we were challenged to create a plan for developing a sustainable food service facility in the new Beaty Biodiversity Centre. Although, it is unlikely for any one facility to become 100% sustainable we researched and developed a plan for it to reach its maximum potential. Aspects that are discussed in this paper include building supplies for constructing the outlet, proposed food items and recipes, serving-ware and waste disposal. Also included are recommendations for future AgSc450 students, as well as UBC Food Services to ensure the creation of this sustainable food outlet.

Introduction

Over the last seven years, the AGSC 450 class has conducted an ongoing research, the UBC Food Systems Project (UBCFSP), that aims to assess the sustainability of UBC Food Systems. This project has been established on the essential principles of Community Based Action Research (CBAR), which strives to institute a solution that incorporates all needs of the involved stakeholders (Rojas, et al). Through this process, our primary objective was to identify and address any challenges that UBC faced, and to construct specific recommendations to the appropriate stakeholders that will enable UBC Food Services to improve the sustainability of their system.

Our group's focus was on starting up a brand new sustainable food outlet, Beauty's Cafe, in the new Beauty Biodiversity Building. We were asked to encompass the concept of sustainability in every aspect of running this cafe. This includes developing a set of menu items that correlated with our sustainability criteria, to recommend a set of suppliers that provided sustainable lighting, furniture, and cutlery, and to propose a sustainable waste management system for the cafe. When developing these recommendations, we concentrated on the concept of locality as our guiding principle. By purchasing food from the UBC Farm and alternative local food suppliers, and obtaining service from other local suppliers to assist with the establishment of our cafe, we are able to support the local economy, as well as to help advance a sense of community into our project goals.

In our paper, we are going to address our objective on how we are going to make Beauty's Cafe a holistically sustainable unit. This will detail our Methodology - the different approaches our group has taken in order to gather information, our findings and discussion of our results, and recommendations to the appropriate stakeholders in pursuing UBC's vision of sustainability.

Problem Definition

Problem Statement:

Our assignment urges us to re-examine not just where and how food service outlets obtain their food but how to build and manage it sustainably. Not only would purchasing regionally grown fruits and vegetables reduce the amount of carbon emission caused through transportation, it also improves both social and economic sustainability within the community. Bonds are created between suppliers and retailers and at the same time the flow of capital stays within the district, rather than having it sent to foreign communities through imports.

Though food is one of the most important areas of our business proposal for Beaty Biodiversity Café, building material, serving ware and lighting deserve equal consideration. Just as healthier, eco-friendly organic farming methods can be cancelled out by its food miles, food served at our location can only be as sustainable as our facility and management practices. Thus our goal is to not only provide students with quality meals and snacks but to do it as energy efficiently as possible.

One of the biggest challenges of this proposed outlet is its small size. This limits the degree of on-site food preparation and menu selection. Furthermore, the higher expenses of currently available sustainable options challenge the financial viability of Beaty's café.

Vision Statement:

Our guiding principle of designing a sustainable food outlet at UBC is to draw from local resources. This principle applies not only to food procurement but also to construction materials and serving ware. To enhance ecological sustainability, resources should be recyclable and compostable to reduce the waste stream and energy consumption. In order to achieve sustainability, collaboration of all stakeholders is required to enhance a sense of community. As will be mentioned in the following section, sustainability is a highly controversial topic but we have developed a set of sustainability criteria according to the best of our knowledge. We hope that Beaty Biodiversity Café will set an example for other outlets at UBC to strive towards greener goals.

Measurement of Sustainability

Yes, the goal is to make this food outlet sustainable, but the question is what exactly is sustainability? In the literature, the concept of three pillars is commonly reoccurring. Sometimes they are referred to as the Three P's or the Three E's or also Economy, Environment and Society (Kemp and Martnes, 2007; Brand and Karvonene, 2007; International Institute for Sustainable Development (IISD)). "Economy" is the term used for wealth, business and jobs. Economic sustainability is nonetheless very dichotomous. This is due to the different viewpoints represented within an entire economy. For the consumers it is most sustainable if prices are low and for producers it is the opposite (IISD). "Environment" encompasses the ecological interactions in the natural world, biodiversity and natural resources. "Society" entails aspects of human life such as health, culture and tradition, religion, freedom, education and opportunity for personal development (Kemp and Martnes, 2007).

In a report by the World Commission on Environment and Development, sustainable development is defined as "development that meets the needs of current generations without compromising the ability of future generation to meet their own needs" (WCED, 1987). With respect to the three pillars, this would mean that a system is sustainable when all aspects of the pillars are in balance, now as well as in the future. In other words, all people would earn enough money for an optimal lifestyle and resource consumption rate would be so as to not exceed the natural regeneration rate of those resources.

To complicate things, it must be pointed out that the economy, the environment and society are by no means static but still tightly linked and dependent on each other. Changing one affects the other. Therefore, having a concrete definition for sustainability would be unsustainable in itself. In his article, Robinson (2004) points out that "any attempt to define the

concept precisely, even if it were possible, would have the effect of excluding those whose views were not expressed in that definition.” Sustainability is ambiguous, uncertain, complex and multidimensional, thus steps towards sustainability must be equally multifaceted (Kemp and Martnes, 2007; Brand and Karvonene, 2007). In view of the complications of defining sustainability, we have developed a relatively open-ended definition of a sustainable café at the UBC Vancouver campus.

Economic Sustainability

Menu items should be affordable for UBC students and staff. A fair wage should be paid to the people working at the café and fair trade products should be sold at the café to contribute to the sustainability of the entire food system. This also reflects a commitment and understanding of the far-reaching, global aspect of sustainability. When constructing the café, materials used must have low maintenance costs and low energy consumption.

Environmental Sustainability

At Beaty’s Café, the rate of direct or indirect consumption of ecological resources (fertile soil, clean air, water, fibre, food materials, biodiversity, etc.) should not exceed the rate of the natural regeneration of these resources. If these resources are farmed or managed in any way, the management practices and inputs used may not degrade, pollute or erode the environment. The use of fossil fuel in the making and transportation of materials and products used at the café should be kept at a minimum. Therefore, firstly local and secondly organic options should be given priority. Furthermore, Beaty’s Café has to minimize waste production and maximize the proportion of its waste that can be composted and recycled. The use of pre and post consumer products and biodegradable containers is sought-after.

Social Sustainability

The café should have an inviting atmosphere that does not discriminate against any culture, race or religion. The food provided has to be nutritiously balanced in order to contribute to the personal health of the customers. The café should display educational material that informs and encourages to make more sustainable decisions such as composting and opting for more locally produced food.

Sustainability and Food

We prefer local food over organically produced food for one main reason. In Bentley and Barker's paper "Fighting Global Warming at the Farmer's Market", data from the Government of Canada shows that currently transportation comprises 25% of Canada's entire energy consumption while contributing to 25% of Canada's greenhouse gas emissions (Bentley and Barker, 2005). This makes transportation the economic sector with the highest energy consumption and highest CO₂ emissions. The globalization trend of our food system is becoming less sustainable since many food products are imported by air freight from distant locations. Just in comparison, air transport emits 40, 29 and 6 times more CO₂ than boat, rail and truck transportation, respectively (Bentley and Barker, 2005). Therefore, in our opinion an overall sustainable food is one that:

- Is affordable for everyone.
- Enables the farmer to earn enough to make a decent living.
- Was produced and transported with no negative effects on the environment, biodiversity and natural resources.

- Is nutritious so as to promote the health and wellbeing of its consumer.
- Is prepared with the least amount of energy consumption and waste production.

It is unlikely that all these criteria will be met by all the foods sold at Beaty's Café, at least not initially. It is nonetheless important to have a set of criteria to work towards.

METHODOLOGY

Our group utilized a variety of methods to conduct our research, which includes literature reviews of past papers, academic journals and websites, interviews done by phone calls and e-mails, site visits, and a market response survey. In order for our group to begin developing a business proposal for the development of the new UBCFS outlet, we decided to begin with a literature review of the findings from previous AGSC 450 students. Past scenarios have looked extensively into the concept of local foods and the development of local menu items for UBCFS outlets. We reviewed last year's scenarios 2, 4, and 5 which focused on local, sustainable food at UBC.

The next approach to help gather community input included all of this year's groups working on the Beaty Biodiversity Café scenario. Identified key contacts to be interviewed were divided amongst the groups for the purpose of avoiding redundant meetings. Each group contributed towards a list of questions for the meeting with the following contact persons: Andrew Parr, Director of UBC Food Services; Dorothy Yip, General Manager of Retail Operation, Purchasing and Project Coordination, UBCFS. Information from each meeting was shared through discussion boards on Webct.

To aid in developing a menu plan, a number of restaurants or food service outlets in Vancouver that are known to characterize sustainable menus were divided amongst the four groups who then had the task to investigate these food outlets. These food places were also reviewed for other sustainability initiatives alongside information regarding their suppliers. Menu items were first searched on the internet, and if inadequate information was provided regarding other sustainable practices, phone calls and meetings were arranged. Contacted restaurants are as follows: Aphrodite's Café and Terra Breads. Our group also visited food outlets at UBC that revolve around the concept of sustainability, to better understand what menu items are being provided to students and staff. We concentrated mostly on Café Perugia but we also took some ideas from AGORA Eats, Sprouts and the Pendulum. Once a general idea for the types of items that could be provided was obtained, alongside findings from past surveys from 2007 projects, a list of potential menu items was brainstormed. Market response to selected food items being proposed for the menu was done by administering a questionnaire to random students regarding likes/dislikes and the willingness to pay for a meal on campus. To help generate ideas, our group contacted potential suppliers for the Beaty café such as Horizon Distributing, Discovery Organics, Neptune, Sysco, Allied and the UBC Farm to determine what types of locally grown produce could be accessible to support our proposed menu items. Price and product lists were received from UBC Farm, Neptune, Discovery Organics and Horizon Distributors providing us with a general idea about the costs involved with each menu item. The information of the potential suppliers was obtained through meetings, phone calls and e-mails. Internet research was done for sustainable waste management, serving-ware, lighting and interior material.

FINDINGS AND DISCUSSION

Survey and Meeting Results

During our interview with Andrew Parr and Dorothy Yip (personal communication, February 11, 2008), Director of UBC Food Services and General Manager of Retail Operation respectively, we found their priorities lay with local produces. While they still value organically produced foods, they put strong emphasis on becoming more local.

Looking at UBCFSP Group 10 Scenario 3 2007's survey results, we were able to find that 49% of the sample population found buying locally grown food "somewhat important." 100% of the survey takers found that incorporating UBC Farm produce into food menu item at on-campus food outlet important, and 98% of these people were willing to pay higher prices for UBC Farm products. A majority of the sample population found an increase of prices up to a \$1.00 to be an acceptable price increase. In our surveys we found that 82% of people surveyed would be willing to pay more for a meal if ingredients were local/organic and sustainable. We also found that the majority of people were willing to pay \$1-2 more for their meal if it fit that criteria. Lastly, we found that the five most popular items people want to buy are sandwiches, pasta, salads, paninis, and smoothies.

These statistics support the practicality of our menu items, and it also shows that there is an undersupplied market here on UBC campus for local, as well as UBC Farm produce. This corresponds with our vision to incorporate as much UBC Farm produce as possible into our menu items, and focusing on locality as one of the major facets of our definition of sustainability at Beaty's Cafe. In addition, because UBC Food Services would like Beaty's Cafe to sell differentiated, high-end quality food items, prices will be at a premium level (A. Parr, personal

communication, Feb. 11, 2008).

Containers and Utensils

Eco-Products and Biodegradable Solutions are two companies that supply environmental friendly containers and utensils. Eco-Products have 100% compostable containers and utensils that are made from renewable resources, and the company uses carbon neutral shipping to supply the products (Eco-Products, 2007). They are an excellent example of sustainability by following many environmentally friendly practices. To achieve zero emissions (carbon neutral shipping) Eco-Products invests in projects which prevent the same levels of greenhouse gases from entering the atmosphere as their shipping contributes to. To minimize these levels, they only use trucks which run on clean-burning natural gas (which has minimal emissions), or bio-diesel. Another environmentally friendly practice Eco-Products follow is the use of solar panels to provide > 85% of their electricity (Eco-Products, 2007). Lastly they believe in creating zero waste. They do this by creating compostable products that can be returned to nature, as well as recycling or composting all waste created at their facility. They even allow customers to bring their recyclable and compostable waste to the facility if they do not have access to any other means of recycling.

Most of the products they make are heat resistant (up to ~220°F) and made from non-GMO vegetable starches, such as corn or sugarcane fibers, which are biodegradable. Eco-Products sell a large variety of these products in different sizes for cups, containers, utensils, plates and trays which make them likely to have all serving-ware that the café desires. It should also be noted that they carry miscellaneous supplies that cafés require such as bags, napkins, sugar, carrying trays, and cleaning supplies.

Biodegradable Solutions is a Vancouver-based company promoting sustainability in the food services industry. Their FibreWare products are similar to the ones already used by UBC Food services in that they are made of sugarcane fibre. The material is heat resistant (up to 230°C) and the selection includes various sizes and types of bowls, clam shells, cups, plates and trays lunch boxes. They also provide compostable, corn-based cutlery (BSI Biodegradable Solutions, 2008). Compared to Eco-Products, Biodegradable Solutions appears to be the more economical choice.

Table 1. Price comparison between a small sample of Eco-Products and Biodegradable Solutions (Eco-Products; BSI Biodegradable Solutions Pricing Guide – April 2008, Susanna Carson, personal communication, April 8th, 2008).

	<u>Eco-Products</u>	<u>Biodegradable Solutions</u>
Utensils (price per utensil)	\$0.068 (corn based)	\$0.088 (corn based) \$0.044 (potato based)
Clamshells (price per container)	\$0.26 (insulated 8"x8"x3", sugarcane)	\$0.18 (8.4"x6.2"x2.5", sugarcane)
Clamshells	\$ 0.45 (clear 8"x8"x3", corn)	\$0.39 (9"x5", 25 oz, vegetable starch)
Soup bowl (price per bowl)	\$0.08 (7 oz, sugarcane)	\$0.07 (10 oz, fibre)
Soup bowl lids (price per lid)	\$0.08 (7 oz, sugarcane)	\$0.05-0.10 (depends on bowl)
Plate (price per plate)	\$0.14 (10 inch, sugarcane)	\$0.12 (10 inch, fibre)

Interior Materials

Another way that the café can promote sustainability is to use environmentally friendly materials to build its interior. This includes materials for the floors, cabinets and drawers, and countertops. Reclaimed wood is the ideal option for construction of the floor. By using reclaimed wood, one avoids cutting down living trees from increasingly shrinking forests. Instead this wood comes from timber structures such as old buildings, bridges and logs that are recovered from the bottom of rivers, and trees which are removed in urban and suburban settings.

So using reclaimed wood flooring not only saves trees from deforestation, it also makes use of timbers that would otherwise need to be disposed of as waste. PC Flooring, a Richmond company, is an example of a local supplier of reclaimed wood.

For cabinets, drawers and countertops in the new café PaperStone products could be purchased. PaperStone is an ideal material because it is made from a combination of recycled paper, post-consumer waste, and petroleum-free resins (PaperStone). PaperStone is a composite material that is made when specially produced paper sheets saturated with phenolic resins, such as cashew nut shell liquid, are pressed together under heat and pressure which causes cross-linking of the resins. The result of this process is a hardwood-like, non-porous product with no detectable formaldehyde in it. PaperStone's Certified product series is the only surface currently on the market that is certified by the Forest Stewardship Council (FSC), Smartwood *and* the Rainforest Alliance. Due to this it is referred to as "the 'greenest' architectural surface on the market today".

For the last few years, BC Hydro has been promoting the use of energy efficient lighting as an environmentally friendly option for consumers as well as giving consumers rebates for upgrading to energy efficient options. One such lighting option that would for the café would be Brite-Pro LED MR-16 lighting. It is a low watt, high efficiency light which would not only be environmentally sustainable but would cost less in electricity. The average lifespan of this bulb is approximately 50,000 hours, and it could be used for track or recessed fixtures, and flood or spot lights. This versatility would ensure that this option could work for the lighting needs of the café.

Exterior Materials

Furthermore, Wishbone Products is a company located in Langley, BC, and they custom manufacture benches, garbage receptacles, bike racks, tables etc. from recycled plastics and

metals such as milk jugs and pop cans (Wishbone Industries). According to their product list, they seem to produce mainly products for the outdoors, however, this does not mean that they could produce tables and benches for a more indoor setting. On the other hand, the sustainable initiatives of Beaty's Café should not be restricted to the 39 m² space of the café. According to the current floor plan, there is a seating area in front of the café that could potentially make use of Wishbone Products. Whether the Beaty's Biodiversity building will have a, outdoor patio seating area is not yet sure but that is also a potential area for Wishbone Products.

Toilets

Sustainable Solutions International, located in Burnaby, BC, distributes unique, water smart toilets from Australia. Profile Toilet has an integrated hand wash basin above the toilet's water tank. This allows water used for hand washing to fill up the tank and can then be used to flush the toilet (Caroma, 2007). Compared to a regular one-flush 11L toilet with a separate hand basin, the Profile Toilet can save more than 70% of the water consumption and 10% savings compared to the best water-smart toilets with a separate hand basin (Green Table: the Sustainable Restaurant, 2008).

Food Suppliers

Allied Foods already has a contract with UBC Food Services. Since it is not feasible for UBC Food Services to order from numerous suppliers, they should just request Allied Foods to provide them with seasonal, local ingredients. Discovery Organics has a wide selection of local produce that they could provide to UBC. This option could be promoted based on the fact that Discovery Organics already supplies to Sprouts. Therefore, this offers the opportunity to develop a partnership between Sprouts and Beaty's Café.

The UBC Farm is very interested in being one of the suppliers for Beauty's Café. Product availability is limited and yields are highly weather dependent so the UBC Farm could only supply a few seasonal products. Below is a list of produce that the farm is almost guaranteed to have available in larger quantities during the given months.

Table 2. Produce and Price list for the UBC Farm (A. Frye, pers. comm.).

Produce	Price	Availability
Blackberries	(\$3/pint)	Aug.
Broccoli	(\$3 /lb)	Aug-Sept.
Cabbage	(\$1.50/lb)	July-Sept.
Carrots bulk	(\$2 /lb)	Aug-Sept.
Cucumbers	(\$1.50 each)	Aug-Sept.
Flowers (individual stalks for drying)	(\$0.31 each)	July-Aug.
Herbs various	(\$1/bunch)	July-Oct.
Kale	(\$1.50/bunch)	July-Oct.
Purple sprouting broccoli	(\$3 /lb)	March
Radishes	(\$1.45/bunch)	June-October
Sorrel	(\$1.75/bunch)	Aug-Oct
Salad mix	(\$6 /lb)	July-Sept.
Winter Squash	(\$1.75/lb)	Sept-Oct (Nov)

Ideal Menu Items and Nutritional Analysis

At Beauty's Cafe we want to offer foods that are sustainably grown, fresh and seasonal but also high in nutritional value. Ideally, we would love the majority of the food to come from the UBC farm or any farms in close proximity, just enough to supply local (UBC campus) needs.

VerryBerry Smoothie

Even though berries are a seasonal product, they can easily be preserved by freezing. Therefore this menu item is ideal all year round. We chose this menu item because one of the ingredients, the black berries, could be supplied by the UBC Farm, not only making the smoothie

more local but also more organic. Even though the blueberries and raspberries cannot be supplied by the UBC Farm they will be from BC, thus reducing our food miles. In addition, smoothies is a distinct menu item, for currently, there is only one other venture in the UBC Sub that is licensed to sell smoothies. It is an item that differentiates our menu selection from the other food outlets on campus. To combat with the hotter months of the year, we expect smoothies to be a big hit at Beauty's Cafe.

Nutrients per Serving for VerryBerry Smoothie	
Calories (kcal)	187.9
Fat (g)	3
Protein (g)	6.9
Carbohydrate (g)	35.2
Sugar (g)	23
Fibre (g)	6.9
Vitamin A (µg)	31.1
Vitamin C (mg)	13.2
Vitamin D (µg)	1.1
Vitamin E (mg)	2.9
Thiamin (mg)	0.1
Riboflavin (mg)	0.3

Niacin (ne)	2.5
Folate (µg)	54.3
Vitamin B6 (mg)	0.2
Vitamin B12 (µg)	0.5
Calcium (mg)	184.5
Iron (mg)	2.2
Sodium (mg)	72.9
Potassium (mg)	316.9
Food Guide Servings	
Vegetables and Fruit	1.5
Grain Products	0
Milk and Alternatives	0.5
Meat and Alternatives	0

Roasted Vegetable Salad

This salad is ideally served throughout summer and autumn; the long seasonal availability of these items makes it easy to develop versatile recipes containing these ingredients, this is only one of many. Common ingredients can be found in a Ratatouille dish or a Chicken Cacciatore which can be served as a main course. Summer squashes like zucchini can be grown in abundance and at ease at the UBC farm, as well as tomatoes and bell peppers as they are popular vegetable produces.

We have chosen to put this salad on the menu because the recipe is very flexible, we can substitute any ingredients in the recipe with asparagus, carrots, or onions. Again, there is a higher demand for popular vegetables, perhaps we can request for the UBC farm to allot a certain area for these items, if not, purchasing in high quantities can also lower the cost per unit. What happens when winter comes is the seasonality change? The UBC farm offers an excessive amount of winter squash, butternut squash being the most common, and even acorn squash, another variety of the winter squash is available all year round. The item on the menu can now be changed to roasted root vegetables: winter squash, parsnips, carrots, sweet potatoes, and Jerusalem artichokes. The most positive thing coming out from this is that we are being as local as possible, not only is products from the UBC farm local, but it is also organic, both these factors contribute vastly to environmental sustainability.

There is a mutual understanding between us and the UBC farm that the establishment is not capable of producing enough to sustain our business fully. This is where the industry food suppliers come into play. It is acknowledged that these companies are able to source whatever we need that is in season for us. To be consistent with pricing and at the same time compensate for the weekly change in prices of produce linked to supply and demand, we propose the menu price to be higher, around \$6-\$8. At this cost, we are giving in to the high demand of local food that students are asking for and have the preference for, but also taking into the consideration of the quality, seasonality, and freshness of the food that is going to be served on the plate at the new Beatty's Café. See appendix for the nutritional analysis of this menu item.

Promotion and Education

Educational and Promotional Materials

To encourage sustainability, the café should have informative posters, brochures and table signs like the ones found at Café Perugia. See appendix for a sample poster. Posters with pie charts and bar graphs about food miles and sustainability ratings of different foods could be effective ways to educate the customers. Bar graphs can outline the reduction energy (in courtesy of more sustainable lighting methods) and waste and pie charts can show the economics and social aspects of how the money is divided between local farmers, processors, and on-site staff as well as how much of what Beaty café is local / organic. Other means of spreading awareness of sustainability, Beaty's Café could distribute buttons and stickers to customers. Facts about sustainability and composting could be printed on napkins.

Waste Management

Of the Three R's (Reduce, Reuse and Recycle), reducing waste is the first and most important step. Thus many coffee-serving locations on campus are encouraging their patrons to bring their own drinking containers and even have a "green" tax for those who don't and require disposable cups. Beaty café can follow in their footsteps, but instead of limiting themselves to only cups, Beaty should encourage customers to bring their own Tupperware containers and utensils, charging extra for any disposable item needed. Beaty can even start a mini campaign to further inspire the habit of bringing reusable containers. (BYOC [bring your own containers]).

However regardless of how many students BYOC, many will also forget and the new "Styrofoam-like" containers, moulded from wood fibers (and can therefore be composted), will

be needed. Unfortunately, because of the texture students will be unaware that their container is compostable and will place it into the trash. Perhaps a stamp can be placed on the container to remind students where to put their garbage when they're done with it. This idea fits nicely with the signs that are already in place at many waste bins; the visual pictures showing students where each type of waste product goes.

RECOMMENDATIONS

In order for the stakeholders to further developed this outlet we have outlined a set of recommendations for each party of stakeholders.

Recommendations for UBC Food Services

- Maintain close communication with the UBC Farm and try to get as much produce as possible.
- Continue offering discounts for people who bring their own take out containers and/or mugs.
- Set up a waste sorting station like the one found at Perugia's
- Encourage composting and recycling using educational materials. Clearly identify what waste can and cannot be composted and recycled.
- Use Eco-Products or Biodegradable Solutions compostable containers, utensils and bags.
- Place a stamp or sticker on the containers to remind students to compost or recycle them.
- Feature at least one ingredient from within 100miles at all times.

Recommendations for Next Year's Class

- Work with the UBC Farm to secure the availability of several items so that Beatty is guaranteed to offer at least one menu item that contains at least one ingredient from the farm at all times.
- Investigate the sustainability of the two container suppliers.
- Split up the scenario into different scenarios according to each relevant category in running the cafe so each aspect can be further investigated.

Recommendations for the Construction Company and Architect

- Make use of natural light by putting in large windows.
- Use environmentally friendly building supplies to construct the interior of the facility such as reclaimed wood and paper stone.
- Use high efficiency lighting to be energy smart and increase electrical power savings.
- Install a Profile Toilet in the café's washroom to reduce water consumption.

CONCLUSION

Our findings reveal that making Beatty's Cafe thoroughly sustainable could be challenging, yet it is feasible to a certain level. Surveys done by previous AGSC450 students, as well as our own survey illustrate the fact that there is a demand for local food products on campus, and that people are willing to support the idea of sustainability at UBC. Because our cafe is a new venture, it is difficult to predict the outcomes at this point in time. However, future

AGSC 450 students shall build on our proposal to develop more specific recommendations to further advance themselves with this establishment.

REFERENCES

- Arsenault, C. (2006). Inside Colombia's Coke problem: It's not what you think. *Canadian Dimension*. Retrieved March 26, 2008 from <http://canadiandimension.com/articles/2006/08/11/604/>
- Bentley, S. and Barker, R. (2005). Fighting Global Warming at the Farmer's Market: the Role of Local Food Systems in Reducing Greenhouse Gas Emissions. A FoodShare Research in Action Report. Toronto: FoodShare. Retrieved, January 31, 2008, from <http://www.foodshare.net/resource/files/foodmilesreport.pdf>.
- Branch Smith Publishing. (2008). *Biodegradable beauty*. Retrieved March 31, 2008, from <http://www.greenbeampro.com/content/view/403/44/>
- Brand R., Karvonen, A. (2007). The ecosystem of expertise: complementary knowledges for sustainable development. *Sustainability: Science, Practice & Policy* 3 (1):21-31.
- BSI Biodegradable Solutions. (2008). Retrieved March 19th, 2008 from www.biodegradablesolutions.com.
- BuildingGreen. (2008). Retrieved March 15th, 2008, from www.buildinggreen.com.
- Caroma. (2007). Profile 5 with Integrated Hand Basin. Retrieved March 19th, 2008, from <http://www.caroma.com.au/products/index.html>.
- Chee-Hing, J. (2006). Killer coke. *Five minutes to midnight*, 4(1). Retrieved March 26, 2008 from <http://www.i2r.org/fmm/issues/january2006/article3.html>
- Eco Products. (2007). Retrieved March 12th, 2008, from www.ecoproducts.com.
- Frye, A. UBC Farm Marketing Coordinator. Personal communication March 25th, 2008.
- Green Table Networks. (2007). *The Green Guide*. Retrieved February 27th, 2008 from [http://greentable.net/The GREEN GUIDE/](http://greentable.net/The_GREEN_GUIDE/).
- International Institute for Sustainable Development. *Measurement of Sustainability*. Retrieved March 31, 2008, from <http://www.iisd.org/agri/gpmeasure.htm>.
- Kemp, R., Martnes, P. (2007). Sustainable development: how to manage something that

is subjective and never can be achieved?. *Sustainability: Science, Practice, & Policy* 3(2):5-14.

Paper Stone. Retrieved March 19th, 2008, from www.paperstoneproducts.com.

Robinson, J. 2004. Squaring the circle: on the very idea of sustainable development. *Ecological Economics* 48(4):369–384.

Srivastava, A. (2008). Coca-Cola's own report implicates company for abuses in India. *India Resource Centre*. Retrieved March 26, 2008 from <http://indiaresource.org/campaigns/coke/2008/cokeimplicatedteri.html>

UBC. (2006). *Composting*. Retrieved March 18, 2008, from <http://www.recycle.ubc.ca/compostmain.htm>

Wishbone Industries. *Reduce. Reuse. Recycle*. Retrieved March 12th, 2008 from www.wishboneltd.com.

World Commission on Environment and Development (WCED). 1987. *Our Common Future*. New York: Oxford University Press.

100 Mile Diet. (n.d.). *Local eating for global change*. Retrieved March 28, 2008 from <http://100milediet.org/category/about/>

Church, J. (2006). Locavores and 100 mile dieters. *Suite101*. Retrieved March 23, 2008 from http://gourmetfood.suite101.com/article.cfm/locavores_and_100_mile_dieters

Dautremont-Smith, J. (2006). *Association of the advancement of sustainability in higher education (AASHE) Digest: A review of campus sustainability 2005*. Retrieved January 30, 2008 from <http://www.webct.ubc.ca/>

MacRae, R. (1990). A history of sustainable agriculture. *McGill University Ecological Agriculture Projects*. Retrieved March 20, 2008 from http://eap.mcgill.ca/AASA_1.htm

Pollan, M. (2006). *The Omnivore's Dilemma*. Detroit: Thomson Gale.

US Green Building Council. (2008). *Leadership in energy and environmental design*. Retrieved March 25, 2008 from <http://www.usgbc.org/DisplayPage.aspx?CategoryID=19>

APPENDIX

Promotional Poster



1. ZERO WASTE FACILITY



- Most products are:
- Biodegradable
 - Heat resistant
 - Made from non-GMO vegetable starches

70% of UBC's waste stream can be composted or recycled



BYO Container and get a DISCOUNT!



Do you know where your food comes from?



Food from the UBC farm travels ONLY 1.92 miles

VerryBerry Smoothie (August - September)

- 1 cup Soy milk
- 1 tsp vanilla extract
- 1/2 cup blackberries
- 1/2 cup blueberries
- 1/2 cup raspberries
- 5 ice cubes

Roasted Vegetable Salad

- Zucchini
- Eggplant
- Tomato (plum)
- Red, green and yellow peppers
- Garlic, olive oil, balsamic vinegar, parsley, sugar

Nutritional Value for Roasted Vegetable Salada (per serving)

Calories (kcal)	333.8	Folate (µg)	13.8
Fat (g)	34.2	Vitamin B6 (mg)	0.1
Protein (g)	1	Vitamin B12 (µg)	0
Carbohydrate (g)	7.1	Calcium (mg)	20.1
Sugar (g)	1.5	Iron (mg)	0.8

Fibre (g)	1.2	Sodium (mg)	1177.8
Vitamin A (µg)	25.4	Potassium (mg)	202.2
Vitamin C (mg)	44.9		
Vitamin D (µg)	0		
Vitamin E (mg)	5.2		
Thiamin (mg)	0		
Riboflavin (mg)	0		
Niacin (ne)	0.7		

Food Guide Servings

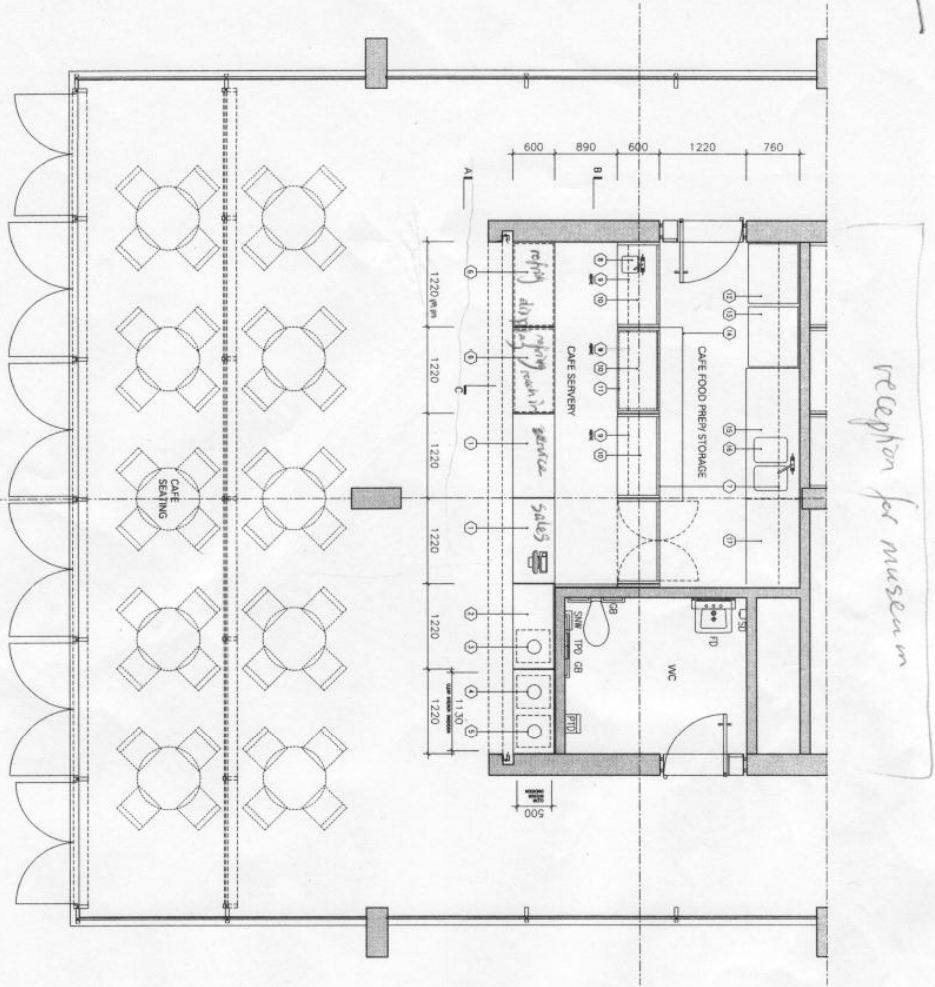
Vegetables and Fruit	0.75
Grain Products	0
Milk and Alternatives	0
Meat and Alternatives	0

AGSC 450 – Scenario 6 Survey

1. How much do you usually spend for a meal on campus?
2. Would you be willing to spend more if the ingredients were local and/or organic and sustainable?
3. How much more would you be willing to pay?
4. What aspect of food is most important for you?
Taste, price, local, organic, nutrition, (rank in order of importance)
5. What products would you like to see at the new café?
(sandwiches, salads, pasta, paninis, soup, smoothies, coffee, juice, other)

Figure A1. Beaty Biodiversity Café floor plan.

main Mall



reception for museum

2

Notes

- 1) GROUND COULTERS
- 2) COULTERS COULTERS
- 3) STAIRCASE FOR SERVICE W/ COULTERS BELUM
- 4) STAIRCASE FOR SERVICE W/ COULTERS BELUM
- 5) STAIRCASE FOR SERVICE W/ COULTERS BELUM
- 6) STAIRCASE FOR SERVICE W/ COULTERS BELUM
- 7) STAIRCASE BELUM
- 8) STAIRCASE BELUM
- 9) STAIRCASE BELUM
- 10) STAIRCASE BELUM
- 11) STAIRCASE BELUM
- 12) STAIRCASE BELUM
- 13) STAIRCASE BELUM
- 14) STAIRCASE BELUM
- 15) STAIRCASE BELUM
- 16) STAIRCASE BELUM
- 17) STAIRCASE BELUM
- 18) STAIRCASE BELUM
- 19) STAIRCASE BELUM
- 20) STAIRCASE BELUM
- 21) STAIRCASE BELUM
- 22) STAIRCASE BELUM
- 23) STAIRCASE BELUM
- 24) STAIRCASE BELUM
- 25) STAIRCASE BELUM
- 26) STAIRCASE BELUM
- 27) STAIRCASE BELUM
- 28) STAIRCASE BELUM
- 29) STAIRCASE BELUM
- 30) STAIRCASE BELUM
- 31) STAIRCASE BELUM
- 32) STAIRCASE BELUM
- 33) STAIRCASE BELUM
- 34) STAIRCASE BELUM
- 35) STAIRCASE BELUM
- 36) STAIRCASE BELUM
- 37) STAIRCASE BELUM
- 38) STAIRCASE BELUM
- 39) STAIRCASE BELUM
- 40) STAIRCASE BELUM
- 41) STAIRCASE BELUM
- 42) STAIRCASE BELUM
- 43) STAIRCASE BELUM
- 44) STAIRCASE BELUM
- 45) STAIRCASE BELUM
- 46) STAIRCASE BELUM
- 47) STAIRCASE BELUM
- 48) STAIRCASE BELUM
- 49) STAIRCASE BELUM
- 50) STAIRCASE BELUM

BEATTY BIODIVERSITY RESEARCH CENTRE | Cafe
Plan
Palisau Architects Inc

Scale: 1:50
Date: May 20, 2007
M.C.