UBC Social Ecological Economic Development Studies (SEEDS) Student Report	UBC Social	Ecological	Economic Devel	opment Studies	(SEEDS) Student Re	port
---	-------------------	-------------------	-----------------------	----------------	--------	--------------	------

Increasing Education, Awareness, and Participation in Sustainable Food Systems

Amy Bellamy, Carol Hsaio, Ricky Lin, Angel Sin, Felix Wang, Tony Yung

University of British Columbia

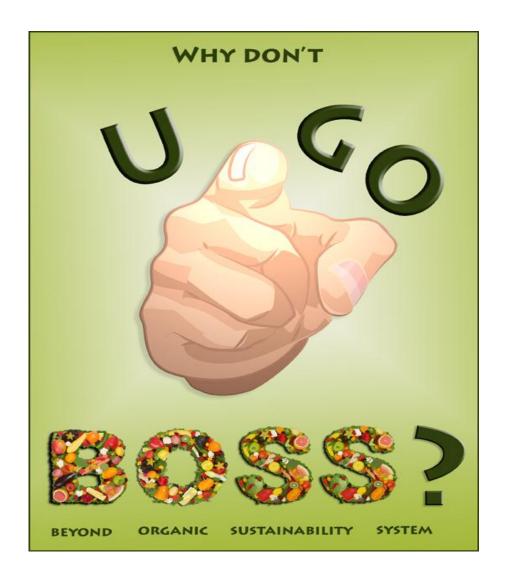
AGSC 450

April 13, 2007

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".

AGSC 450 UBC Food System Project Scenario 6

Increasing Education, Awareness, and Participation in Sustainable Food Systems



Group 13: Amy Bellamy, Carol Hsaio, Ricky Lin, Angel Sin, Felix Wang, Tony Yung

Table of Contents

ABSTRACT	
INTRODUCTION	3
PROBLEM DEFINITION	
REFLECTIONS on the VISION STATEMENT	6
METHODOLOGY	8
FINDINGS and DISCUSSION	
I. Literature Review	
II. Definition of a Sustainable Food System	
III. Educational Campaign	I.
IV. Feature Menu Items - SUB Food Outlets	
V. Promotional material developmentVI. Timelines	
VII. Budget	
, 11. 2 mgc	
RECOMMENDATIONS	17
CONCLUSION	19
DEFENENCES	20
REFERENCES	20
APPENDIX 1: BOSS Graphics (t-shirts, posters, etc.)	21
APPENDIX 2: UBC Food Outlet Survey	25
APPENDIX 3: Sustainable Food Feature Items	26
APPENDIX 4: BOSS Pamphlet	29

ABSTRACT

Globalization of the food industry over the past 70 years has produced a system that is heavily dependent on fossil fuels, is damaging to the environment and is adversely affecting local economies and human health. In it's present form, this is unsustainable. A growing body of opinion indicates the need to return to a local-based food system to ensure true sustainability. The UBC Faculty of Land and Food Systems has initiated a food system project to facilitate change in this matter. Consumer education and awareness about a sustainable food system is recognized as a key component of this process. This paper explores the development of methodology, using literature review, a survey tool and recognized marketing strategies, to heighten consumer awareness in this area, to be used at the 2007 UBC Sustainability Fair. A model of a sustainable food system, defined by the acronym 'BOSS', is used as a foundation to involve selected UBC food outlets in serving sustainable food items and develop promotional materials for the 2007 Fair. Recommendations to aid in the future development of the UBC Food System Project are outlined.

INTRODUCTION

Within North American universities, there is a growing awareness of the need to provide leadership and direction on the subject of food system sustainability. This need has been born out of a realization that the globalization of the food industry is fraught with serious problems for the environment, local economies and our health (Leopold 1948, Berry 1995). These ideas are not new, having been promoted by well-respected agrarian activists such as Aldo Leopold and Wendell Berry for a good number of years. What is new, however, is the notion that universities, charged with the responsibility of educating the intellectual elite, are in a prime position to facilitate change by stimulating debate and awareness about food sustainability amongst successive generations of students. To this end, the Faculty of Land and Food Systems at the University of British Columbia established a UBC Food System Project in 2001. The main goal of this project is to secure a sustainable food system for UBC and has become an integral part of the Agricultural Sciences 450 curriculum. A major challenge has been to increase awareness about food system sustainability outside of the Faculty. This is important for a number of reasons, one of which is have students buy in to

the idea of seeking out food derived from sustainable sources for their own consumption, thereby helping to support local food services. October 2006 saw the launching of the UBC Sustainability Fair. It became apparent from the fair that food sustainability was underrepresented. Our group, Group 13, has been given the task of exploring ways in which education, awareness and participation in a sustainable food system can be increased in anticipation of the October 2007 UBC Sustainability Fair.

PROBLEM DEFINITION

The vast majority of food in the developed world is currently supplied through a global food system. This globalization of the food supply is a relatively recent phenomenon in our culture's history, having progressively evolved over the last 70 years. The present situation is that, for most consumers, the food they eat comes from all over the globe – in other words, from everywhere but from nowhere in particular (Kloppenburg et al, 1996). In the US, it is estimated that the average distance traveled by food is some 1500 miles (Norberg-Hodge et al, 2002, Leopold Centre for Sustainable Agriculture, July 2003). The system is controlled by a relatively few, highly profitable mega corporations who have been successful in forcing local producers out of business as they strive to supply 'cheap' food to a largely uninformed public. This paradigm shift from a local based food economy has, however, come at a terrible price. Globalization of the food system is heavily dependent on fossil fuels for fertilizers, transportation and processing. It is estimated that as much fossil fuel is expended in supplying US food as is consumed by all automobiles in that country (Pollan, 2006). Fossil fuels are major contributors to environmental pollution and global warming. Food provision is the human activity with the single largest environmental impact (Smil, 2000). An overwhelming emphasis on monoculture is destroying biological diversity

and soil integrity while contributing to unsafe food, polluted water and declining rural communities and farm incomes (Effland *et al*, 2005). The financial burden of this globalization has been cleverly hidden, externalized and disconnected from the food price tag through indirect costs such as government farm subsidies, third world aid, rising healthcare costs and the funding of pesticide, herbicide and biotech research, to name but a few (Norberg-Hodge, 2002). As it turns out, global food is not so 'cheap' after all.

As it currently exists, this food system is economically, environmentally and socially unsustainable. The preferred solution is to return to a local based food economy. The benefits of such a system are legion. Reduced distance from farm to food plate ('food miles') decreases fossil fuels and increases food freshness. Local producers have stewardship in the land and the environment, decreasing soil degradation and environmental pollution, maintaining biological diversity and using ethical agricultural practices. The more direct linkage between producer and consumer eliminates hidden costs and promotes an economically strong, self - supporting community.

The crux of the problem is how to achieve this goal. Consumers, while aiding and abetting the current food system through food choices, are ultimately able to change the system with their food dollars. However, as Kloppenburg *et al* point out, 'If we do not know, we do not act' (Kloppenburg *et al*, 1996). This statement underlies the pivotal role of consumer education in effecting change. The starting point for such education is a clear vision of what a sustainable food system looks like. While 'local' is the anchor point for such a system, it is important to realize that not all local food is sustainable. Likewise, 'organic', a word which conjures up images of endless, lush verdant pastures filled with nutritious goodies and singing larks, is now owned by the government and is far from synonymous with

'sustainable'. Our vision of a sustainable food system is a 'beyond organic' system, to which we have applied the acronym **BOSS** (**B**eyond **O**rganic **S**ustainability **S**ystem). Beyond Organic is a term used by farmer Joel Salatin of PolyFace Farms in Virginia and described in detail by Michael Pollan in The Omnivore's Dilemma. The farm uses practices which mimic nature, exceeds government set organic standards, is culturally diverse with a strong emphasis on grass feeding, and only supplies locally. While many local BC farms cannot duplicate this exactly, we believe that the underlying principles form the basis for a model that delineates a sustainable food system and can be used as a tool for consumer education.

REFLECTIONS ON THE VISION STATEMENT

An increasing number of North American universities have undertaken Sustainable Food Projects, all with similar overarching goals. The University of British Columbia Food System Project (UBCFSP) was initiated in 2001 as a collaborative, community-based action research project involving multiple partners and collaborators. UBCFSP, through the "Vision Statement for a Sustainable UBC Food System: *Plain Language* Version" (VSPLV) has articulated seven guiding principles for food sustainability at UBC. The Statement is as follows:

The overarching goal of a sustainable food system is to protect and enhance the diversity and quality of the ecosystem and to improve social equity, whereby:

- 1. Food is locally grown, produced and processed.
- 2. Waste must be recycled or composted locally.
- 3. Food is ethnically diverse, affordable, safe and nutritious.
- 4. Providers and educators promote awareness among consumers about cultivation, processing, ingredients and nutrition.

- 5. Food brings people together and enhances community.
- 6. Is produced by socially, ecologically conscious producers.
- 7. Providers pay and receive fair prices.

In general terms, the principles form an excellent foundation for guiding a sustainable food system. Previous groups have emphasized the need for consistent language throughout the statement, and therefore, we agree that in statement 2, the word 'must' should be replaced by 'is', to ensure uniformity with statements 1,3 and 5. Statement 7 appears to ignore the role of the consumer as a stakeholder in a sustainable food system and we would therefore recommend that it should read 'Fair pricing practices for all stakeholders should be in effect'. The word 'affordable' in statement 3, while attempting to address consumer food pricing, is too vague and subjective and should be deleted, the issue of food pricing having been addressed by the recommended modification of statement 7. We feel that an additional statement is required to address the issue of humane animal practices and Concentrated Animal Feeding Operations (CAFOs). This issue is attracting a large amount of recent interest because of Avian Influenza but is of concern for all domestically raised animals used for food purposes. As an important ethical principle, we feel that it is only tangentially addressed in statement 6 and therefore warrants an additional statement 8 'Humane animal husbandry practices are utilized'.

METHODOLOGY

The assigned scenario for our group was Scenario 6, 'Increasing Education, Awareness, and Participation in Sustainable Food Systems. Method development for this project started with a literature review of UBC Food System Project papers from 2006. Following this, a more general literature review of materials from Agricultural Sciences 450 relevant to this

topic took place. From this, we were able to define the strengths and weaknesses of previous presentations. A review of marketing strategy took place by analyzing the 4 steps promoted by psychologist McKenzie-Mohr in his paper 'Fostering sustainable behaviour through Community-Based Marketing' (McKenzie-Mohr, 2000). We were then able to identify existing barriers to changing behaviour in food sustainability and define our target audience. Development of a model of a sustainable food system took place, incorporating 5 key elements, to which we applied the acronym 'BOSS', standing for Beyond Organic Sustainability System. A meeting then took place with teaching assistant, Yona Sipos, to discuss the BOSS concept and ensure that the ideas complied with the faculty's vision of this particular scenario. We then went on to the second of McKenzie-Mohr's steps to construct a program to overcome existing behavioural barriers. This consisted of multiple initiatives:

- Selecting UBC food outlets that may be suitable for participation in the 2007 UBC
 Sustainability Fair by serving sustainable food items as defined by BOSS.
- 2. Developing a survey to be used for UBC food outlets, to assess knowledge of food sustainability and interest in participating in the serving of sustainable food items at the 2007 Fair (Appendix 2).
- 3. Development of promotional materials including logo designs to be used on posters, pamphlets and T-Shirts.

Results of the survey were analysed and 3 UBC food outlets identified who were interested and willing to participate in this project. Following this, a cost analysis was performed to assess whether the initiative was economically viable. Using McKenzie-Mohr's third step, we developed a timeline for implementation. Lastly, recommendations were developed to assess the effectiveness of the marketing.

FINDINGS AND DISCUSSION

I. Literature Review

Our group reviewed the 2006 UBC Sustainability Fair Review Document (SWOT Analysis). A component of last year's Fair that we felt was an ineffective way to promote sustainability was the band performance. The band may prove an initial attraction for many people to come to the fair with loud music but those that are attracted may not be ones that are interested in learning about food and sustainability. On the contrary, the students, staff and residents interested about food and sustainability may have negative feelings towards a loud band. The pure volume of the sound would certainly detract from conversation, which is a major focus of the Fair. The people interested in the band would only focus on the band and may neglect all the other promotional booths and material present. According to last year's budget, the band was a large part of the cost of the 2006 Sustainability Fair. The band does not promote sustainability directly and the money could be better used in other aspects of the Fair.

A review of UBC Food System Project (UBCFSP) papers from 2006 showed that the emphasis was on promoting the buying of local foods. A 'Buy BC' program had been established in 1993 as a collaborative venture between the provincial government and the food industry to promote local buying. Funding cuts by the BC Liberal government made it difficult to maintain the program and required the introduction of user fees, paid for by producers, to sustain it. Part of the UBCFSP initiative in 2006 was to stimulate the buying of BC foods. For 2007, this concept is to be broadened to encompass a sustainable food system that is locally based but also incorporates other elements of food sustainability.

Marketing ideas were developed using the 4 steps of altering behaviour as outlined by McKenzie-Mohr (McKenzie-Mohr, 2000). These 4 steps are:

- 1. Identify barriers to altering behaviour in a particular area.
- 2. Construct a program to overcome these barriers.
- 3. Implement the program
- 4. Evaluate the effectiveness of the program.

It was concluded that the target audience for this presentation was attendees at the 2007 UBC Sustainability Fair, most of who would be UBC students. Identifiable barriers to altering behaviour with respect to food buying choices in this population included an ignorance of what constituted a sustainable food system and the importance of altering purchasing habits, how to identify food from a sustainable source, availability of sustainable foods, where to purchase this food and the additional costs that may be associated with this food choice.

II. Definition of a Sustainable Food System

There are numerous definitions of sustainable food systems, all with similar underlying principles but differing in emphasis of specifics (Aiking et al, 2004). For the purposes of this project, we based our definition on one used by the Agricultural Institute of Canada (Maynard *el al*, 2005). The definition is as follows:

The application of husbandry experience and scientific knowledge of natural processes to create agriculture and agri-food systems that are economically viable and meet society's need for safe and nutritious food and vibrant rural communities, while conserving or enhancing natural resources and the environment.

In order to translate this into something more tangible, we examined the model of a sustainable food system practiced by Joel Salatin, owner of PolyFace Farms in Virginia. Details of his farm practices are well described by Michael Pollan in his book 'The Omnivore's Dilemma (Pollan, 2006) and are quite similar to those used at UBC Farm. Joel Salatin describes his farming practice as 'Beyond Organic', to emphasize the fact that the word 'Organic' is now very much owned by governments. Although 'Organic' goes part of the way towards creating sustainability in our food supply, it is by no means the whole answer for it's definitions and regulation are susceptible to political lobbying from powerful mega corporations. 'Beyond Organic' defines a practice of agriculture and food supply whose standards exceed those required by regulatory bodies and is truly sustainable. For instance, organic standards say nothing about the distance that organically produced food may travel to reach the consumer – are organic snow peas from China part of a sustainable food system when consumed in North America? We think not. Our vision of a sustainable food system is defined by an acronym that we have termed BOSS, standing for Beyond Organic Sustainability System. This system has 5 key elements which we chose, for marketing reasons, to all start with the letter C. The 5 elements are:

- Closer to home. This emphasizes the requirement for local produce, to cut down on fossil fuels, ensure food freshness, stimulate local economies and have stewardship in the environment.
- 2. Clean air and water. This emphasizes the need for beyond 'organic practices' with the elimination of pesticides and herbicides.
- 3. Careful husbandry of non-renewable resources. This stresses agricultural practices that preserve the soil, trees and grass by minimizing heavy machinery.

- 4. CAFO-less. Concentrated Animal Feeding Operations are still allowed under current organic standards and yet are inhumane and a threat to animal and human health. This practice has no place in a sustainable food system. Humane treatment of animals with much more emphasis on grass feeding and clean, spacious living conditions is required under BOSS.
- Cultural diversity. This stresses the importance of moving away from monoculture and genetically engineered products to a system that maintains and stimulates biological diversity.

We chose the acronym BOSS because we think it an attention grabber, which also lends itself to a number of catchy logos. Some of these include:

Have lunch with the BOSS

I'm with the BOSS

UBC BOSS

How to be BOSS

The BOSS rules!

III. Educational Campaign

The main focus of our project was on increasing education, awareness, and participation in sustainable food systems. Our group designed an educational campaign based on our vision of the ideal sustainable food system. As a group, we feel that the "BOSS" campaign, as described above, is an ideal platform for a campaign on food sustainability awareness. The campaign would take place at the 2nd Annual UBC Sustainability Fair, on October 3, 2007. The Fair is a suitable event for educating our target population, the UBC community, on sustainable food systems. Our group reviewed the UBC Sustainability Fair

2006 Review Document, the UBC Food System Project (UBCFSP) V Scenario 6 description and consulted with the UBCFSP coordinator, Liska Richer, and found that there was a need to improve the availability of sustainable foods served at the Fair. To educate the UBC community about "BOSS' and improve the food component of the Fair, we felt that the inclusion of food outlets in the Student Union Building (SUB) would be ideal. The sustainability of SUB food outlets directly affects the whole UBC campus because SUB caters to all of the students, staff and campus residents. The student union building, located in the center of the UBC campus, serves many functions in the UBC campus as a gathering place for sports events, fairs, markets, dining and public speakers. The food outlets in the SUB are ideal places for serving sustainable foods for the Fair, as they are familiar to the UBC community and convenient and already established locales for preparing and serving food. We can promote sustainability through the SUB food outlets during the fair through their participation in serving featured sustainable items produced from the most sustainable produce and ingredients possible.

Our group decided upon three food outlets that we felt would be suitable places for offering sustainable food items at the Fair. We based our decision on a number of factors; the involvement of the food outlets in previous UBCFSPs, the ability to substitute and/or incorporate sustainable food items into their menu, their current participation in supporting sustainable food systems, and if we were able to speak to the manager. The food establishments chosen by our group were: The Pendulum, Bernoulli's Bagels and Pie R Squared. We have chosen these outlets because they are most likely to be able to serve sustainable food items during the fair. Other outlets such as The Honor Roll serves sushi in which the ingredients include sticky rice, seaweed, and other ingredients that cannot be grown

or produced locally. Other outlets such as A&W, Subway, Koya, and Starbucks have a set menu and foods that they can serve and the ingredients are imported. The franchise outlets do no have the freedom to choose to serve sustainable foods. The Pendulum is chosen because they are willing to promote sustainability. Their efforts can be seen with the different sustainability postings on their walls.

We met with the managers of each of these places and gave them our survey. The purpose of the survey was to gain a better understanding of whether they were willing to participate in the Fair, their current menu items that are popular, and their interest in incorporating menu items featuring sustainable food after the Fair. The results from the survey indicated that these specific food outlets were all enthusiastic about participating in the Fair. However, the managers will not feature sustainable items for a long-term basis unless they see a major change in consumer preferences. AMS strictly regulates the pricing of the SUB food outlets. The prices of the food items have not increased in many years while inflation has occurred so the priority of the food outlets is to find the produce and ingredients at the lowest cost. Organic and sustainable produce and ingredients are more expensive than mass produced unsustainable ingredients. Featuring sustainable produced food items in the SUB food outlets during the fair marks the first step to creating a long-term goal of having more sustainable foods on the UBC campus.

IV. Feature Menu Items - SUB Food Outlets

The managers of Bernoulli's Bagels, The Pendulum, and Pie R Squared informed us on the menu items that could be modified to substitute and/or incorporate foods from sustainable sources. Our group designed a feature menu item for each of the food outlets to be served on the day of the Fair (Appendix 3). We use the UBC Farm as an example provider

for the sustainable food ingredients for the feature menu items, as the farm meets our definition of a sustainable food producer. We understand, however, that the farm may not be able to provide certain food items and in the amounts required for each of the three food outlets (Frye, 2007). As suggested by Group 15 in 2005, Discovery Organics, a local food supplier, could be potential providers for required sustainable food items (Group 15, 2005). Group 15 stated that Discovery Organics strives to be sustainable and produce food in the local area in the most efficient way possible (Group 15, 2005).

V. Promotional material development

With the use of Adobe Photoshop CS2, Adobe Illustrator CS2 and an Apple Mac Pro computer, we were able to design 4 graphics based on the BOSS concept. The first of these uses the slogan 'Why don't U GO BOSS?' and will be used for the front of the T-Shirts. The second and third graphics use the slogan 'C' the difference?' and explains the 5 key elements of the BOSS concept, each with a slightly different layout. One is suitable for the back of a T-Shirt, the other for a poster. The fourth graphic is another poster design, using the slogan 'Take Charge, Be the BOSS' (Appendix 1). A pamphlet has been designed, illustrating the BOSS concept, and detailing participating food outlets serving the featured sustainable food items (Appendix 4).

VI. Timelines

The following are proposed timelines for the project:

- 1. Contact sustainable suppliers
 - Substitute sustainable ingredients into featured items
 - Propose and ask SUB Food outlets for approval
- 2. Trade contacts with sustainable suppliers and food outlet managers

- Purchase sustainable ingredients and produce
- Produce featured sustainable items on the day of the Fair

3. Pamphlets

- Update pamphlet with participating food outlets
- Print pamphlet
- Promote/hand-out pamphlet during the Fair

4. Posters

- Update poster with participating food outlets
- Update poster with distances of sustainable ingredients
- Print posters
- Post up posters

5. T-Shirts

- Print up T-shirts
- Sell T-Shirts on day of Fair

6. Tickets

- Update tickets with participating food outlets
- Print tickets
- Distribute tickets
- Sell tickets during the Fair

VII. Budget

We have performed a cost analysis for the project and have estimated the following costs:

Food ingredients \$400

Posters \$250

T-Shirts \$150

Pamphlets \$100

Tickets \$20

TOTAL \$920

RECOMMENDATIONS

Almost every food we eat everyday is from a highly industrial food chain. Because of high-yielding industrialized farms and extensive international trading of food, we can enjoy "fresh" vegetables and fruit all year long. However, in order to sustain this highly industrial food system, it requires a considerable amount of energy input, and generates a large amount of environmental pollutants. Thus, UBCFSP aims to promote the idea of a sustainable food system on UBC campus by increasing education, awareness, and participation in sustainable food systems amongst UBC students.

As one of the participant groups of UBCFSP, we, Group 13, Scenario 6, of the UBCFSP 2007 have made some recommendations for other participant groups and further AGSC 450 students.

UBC Sustainability office:

- To request more funding from the UBC Administration
- To get students from faculties other than the faculty of Land and Food System to be involved in promoting sustainability at UBC by implementing more events

UBC Food Service and AMS Food and Beverage Department:

To purchase more local and seasonal food

 To encourage the AMS food outlet to incorporate sustainable food products into their menus

UBCFSP:

- To organize fund raising events to acquire enough financial support
- To involve students other than Land and Food System students to provide different perspectives of sustainability from people from different disciplines.

UBC Sustainability Fair:

- To place the Fair inside the student union building
- To create more crowd-drawing activities such as cooking demonstrations and/or cooking competitions ("Iron Chef")
- To encourage students from AGSC 100, 250, and 350 to volunteer at the Fair by giving bonus marks
- To launch the Fair in September instead of October to avoid conflict with students' midterms.

2008 AGSC 450 colleagues:

- To investigate the effectiveness of the 2007 UBC Sustainability Fair by tracking and interviewing attended students
- To make further improvements to the Sustainability Fair based on the comments of attended students from previous year (2007).
- To be more realistic on creating the new ideas in their project by having a good understanding what are the difficulties that a participant group might encounter when actually implementing the idea

The recommendations listed above are just the short term goals to educate student in UBC about the sustainability. The long-term goal will be UBC students who realize the importance of sustainability so that they may educate the general public and increase their awareness of sustainable food systems.

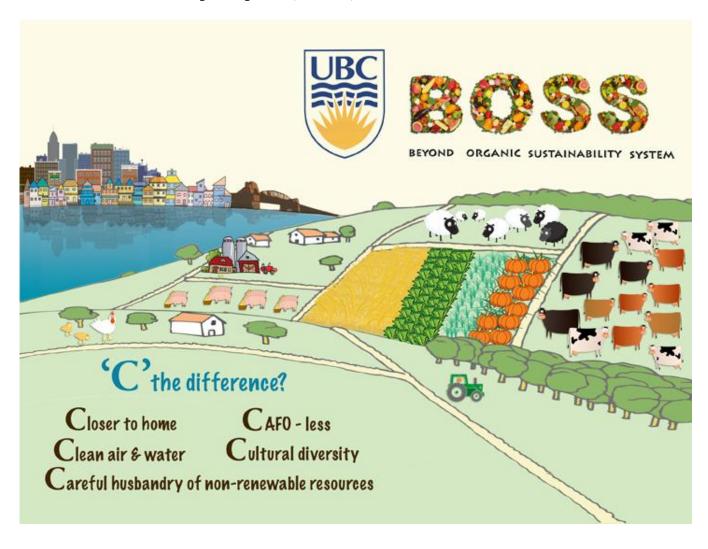
CONCLUSION

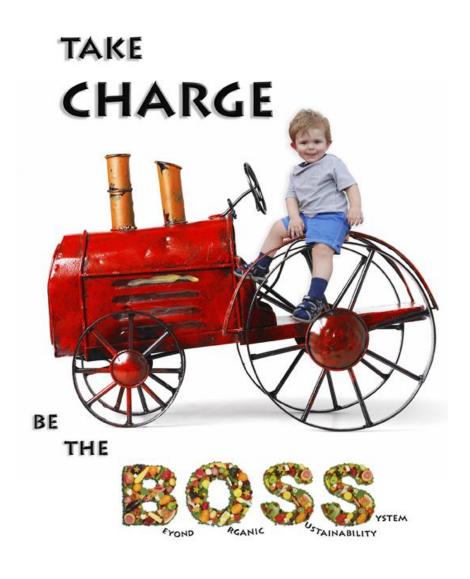
Sustainability is vital, not only to us but also our future generations. Being sustainable is more than just organic and requires a sense of being connected to the local food system. It was found that low participation, lack of awareness and limited resources and access to local foods were the main obstacles previous AGSC 450 colleagues had encountered while trying to promote the sustainability fair last year. Our group has developed methods to promote a sustainable food system based on the BOSS concept, using local suppliers and local UBC food outlets. Suggested menu items featuring local produce have been incorporated into the menus of popular SUB food outlets for the day of the sustainability fair; pamphlets and posters would be provided at each designated outlets providing knowledge regarding food sustainability. The incorporation of local produce into popular menu items would be done without compromising taste, nutritional quality and affordability to the public. A lack of knowledge regarding food sustainability was found through interviews with outlet managers; but a high willingness to participate in the sustainability fair was also found. Even with high willingness to participate, the decision to go forward with this still rests with the AMS. In order to raise awareness and increase participation a top to bottom and bottom to top coordination within the AMS system is absolutely crucial. Approval and support from the AMS office in conjunction with cooperation and implementation from outlet managers would allow our ideas to be executed to their fullest potential.

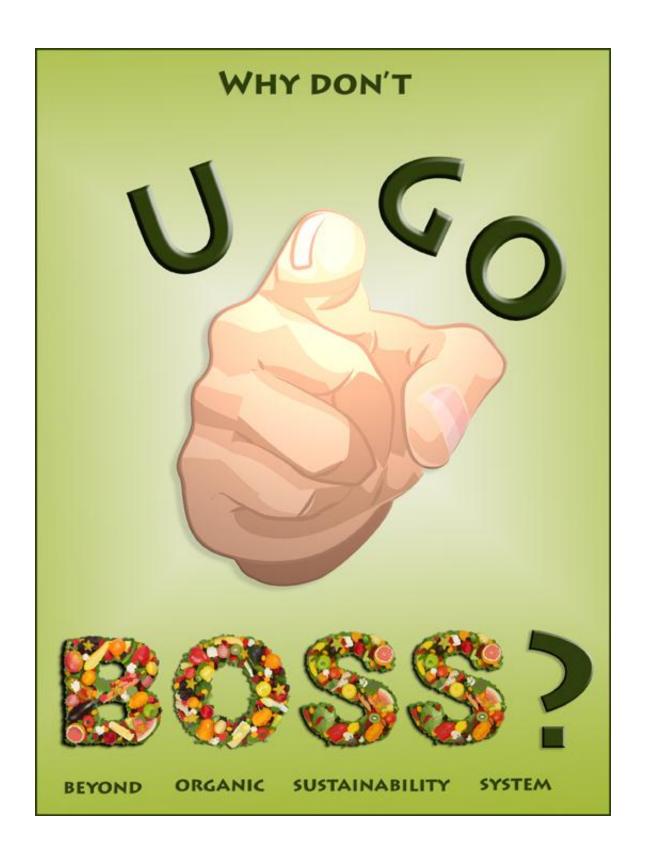
REFERENCES

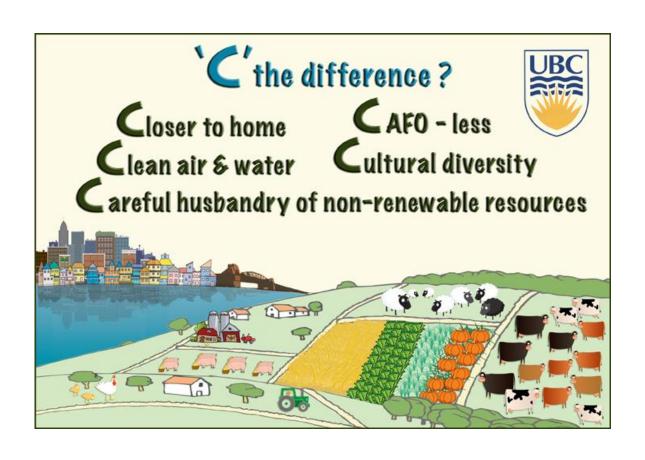
- Aiking, H., & de Boer, J. (2004). Food Sustainability: Diverging interpretations. *British Food Journal*, 106(5), 359-365.
- Amy Frye. (2007). UBC Farm Presentation. AGSC 450 LFC III.
- Berry, W. (1996). Conserving Communities. In *Another turn of the crank* (pp. 8-24). Washington DC: Counterpoint Press.
- Effland, A., & Dimitri, C. (2005, June). *The 20th Century Transformation of U.S. Agriculture and Farm Policy*. USDA: Economic Research Service.
- Group 3. UBC Food System Project V: Scenario 2. AGSC 450 LFC III. Winter 2006.
- Group 15. UBC Food System Project IV: Scenario 2c. AGSC 450 LFC III. Winter 2005.
- Kloppenburg, J., Jr., Hendrickson, J., & Stevenson, G. W. (1996). Coming in to the Foodshed. *Agriculture and Human Values*, *13*(3), 33-42.
- Leopold, A. (1949). The Land Ethic. In *A Sand County Almanac*. New York: Oxford University Press.
- Maynard, H., & Nault, J. (2005, September). *Big Farms, Small Farms: Strategies in Sustainable Agriculture to Fit All Sizes*. Agricultural Institute of Canada.
- McKenzie-Mohr, D. (2000, May). Fostering sustainable behaviour through Community Based Social Marketing. *Am. Psychol.*, 55(5), 531-537.
- Norberg-Hodge, H., Merrifield, T., & Gorelick, S. (2002). *Bringing the Food Economy Home: Local Alternatives to Global Agribusiness*. Zed Books.
- Pirog, R., & Benjamin, A. (2003, July). *Checking the food odometer: Comparing food miles for local versus conventional produce sales to Iowa institutions*. Iowa State University, Ames, Iowa: Leopold Center for Sustainable Agriculture.
- Pollan, M. (2006). *The Omnivore's Dilemma*. New York: The Penguin Press.
- Smil, V. (2000). Feeding the World: A Challenge for the Twenty-First Century. Cambridge, MA: MIT Press.
- Whole Foods Market. 2007. Recipes. Retreived April 7, 2007, from http://www.wholefoodsmarket.com/recipes/index.html

APPENDIX 1: BOSS Graphics (posters, t-shirts, etc.)









APPENDIX 2: UBC Food Outlet Survey

- 1. Does a sustainable food system relate to your food outlet?
- 2. Does your outlet support sustainable food systems by having a commitment; a purchasing policy or preference; raising awareness or doing educational outreach about sustainability?
- 3. Are any of your ingredients bought locally?
- 4. Do you know about UBC Farm?
- 5. Are you willing to use sustainably produced ingredients in your food even if it raises costs?
- 6. If there is a demand for organic and sustainable food from the campus community, what actions will you take?
- 7. Would you be willing to participate in the 2007 UBC Sustainability Fair by featuring a sustainable item during the day? If the item sells well, would you keep it?
- 8. Do you serve seasonal food?
- 9. What is your most popular item?

APPENDIX 3: Sustainable Food Feature Items

PENDULUM – Shrimp, Corn and Red Pepper Sandwich served with Grated Veggie Slaw

Shrimp, Corn and Red Pepper Sandwich (Serves 6)

Dairy-Free

11/2 cups cooked, peeled, tiny bay shrimp (about 10 oz)

1 large ear of corn, husked or 1 cup frozen

1 red bell pepper, diced

1/4 cup chopped green onion

2 TB mayonnaise

2 TB chopped fresh cilantro

1 TB freshly squeezed lime juice

1 jalapeno chili pepper, seeded and minced (more or less to taste)

6 large whole wheat rolls

2 ripe tomatoes, sliced

11/2 cups spring lettuce mix, rinsed and patted dry

Place the shrimp on a plate lined with paper towels. Add additional paper towels on top and lightly press out any excess moisture. Cut the corn kernels off the cob and place the corn in a medium nonmetallic bowl. Add the bell pepper, green onion, mayonnaise, cilantro, lime juice and jalapeno pepper to the bowl, and stir to blend. Gently fold in the shrimp meat until incorporated. Cover and refrigerate for 2 to 3 hours. Gently stir before serving.

To assemble the sandwiches, slice the rolls open and arrange them on a work surface. Pinch a small amount of bread out of the center bottom half of the roll to form a pocket. Divide the lettuce mixture equally among the rolls. Top each with the shrimp salad, a slice of tomato, and the other half of the roll. Serve.

BC/UBC Farm products: corn, red bell pepper, green onion, cilantro, tomatoes, spring lettuce mix

Grated Veggie Slaw (Serves 4)

Vegan, Dairy-Free, Gluten-Free

Vinaigrette
4 TB olive oil
11/2 TB lemon juice (1 lemon)
1/2 tsp Dijon mustard
sea salt, to taste
ground pepper, to taste

Veggies

3 carrots, grated or peeled

1 small zucchini, grated or peeled

3 green onions, chopped

1 cup green cabbage, shredded

1 cup red cabbage, shredded

3 radishes, thinly sliced (optional)

Whisk together ingredients for vinaigrette. Mix together vegetables and add vinaigrette, stirring to coat all vegetables. Serve immediately.

BC/UBC Farm products: carrots, zucchini, red & green cabbage, radishes, green onions

PIE R SQUARED – Rustic Tofu Pizza

Rustic Tofu Pizza (4 servings)

8 potatoes, shredded

2 medium onions, grated

4 eggs, beaten

½ cup all-purpose flour

1/4 cup olive oil

2 zucchini, thinly sliced

2 yellow squash, thinly sliced

2 green bell peppers, chopped

2 onions, thinly sliced

4 cloves garlic, minced

3/4 pound firm tofu, crumbled

4 tomatoes, sliced

1/4 cup chopped fresh basil

1 cup tomato sauce

2 cups shredded fat-free mozzarella cheese

- 1. Preheat oven to 425 degrees F (220 degrees C). Coat a 12 inch pizza or baking dish with nonstick cooking spray.
- 2. In a large bowl, combine the potatoes, shredded onion, eggs and flour. Mix well and press into the prepared pan.
- 3. Bake for 15 minutes. Spray top of shell with cooking oil and bake for 10 more minutes. Place under broil and broil for 3 minutes, until golden and crisp. Remove crust from oven but leave oven on.
- 4. In a large bowl combine the zucchini, yellow squash, green pepper, thinly sliced onion, garlic and tofu. Toss to combine.
- 5. In a large nonstick skillet, saute vegetable/tofu mixture until vegetables are just tender crisp.
- 6. Combine the tomato sauce and basil. Spread half of the sauce over the top to the potato crust. Top with the sautéed vegetables and sliced tomatoes. Pour the remaining sauce evenly over all. Top with the cheese.

Bake at 425 degrees F (220 degrees C) for 7 minutes or until cheese is melted. Slice into wedges to serve.

BC/UBC Farm products: potatoes, tomatoes, garlic, onions, green bell peppers, yellow squash, zucchini, eggs, basil

<u>Bernoulli's Bagels</u>- UBC Farm Veggie Bagel Sandwich & Toasted Bagel with UBC Farm Pumpkin Cream Cheese

Fresh UBC Farm Veggie Bagel Sandwich

1 bagel, sliced in half

1 tablespoon coarse-grain brown mustard

1 leaf romaine lettuce

2 (1/4 inch thick) rings green bell pepper

4 slices cucumber sliced

2 slices tomato

salt and freshly ground black pepper to taste

2 slices red onion

1/2 cup alfalfa sprouts

Spread mustard onto the cut sides of the bagel. Layer the lettuce, green pepper, cucumber, and tomato on one half. Season the tomato with salt and pepper. Top with onion and alfalfa sprouts, then cover with the other half of the bagel.

BC/UBC Farm products: lettuce, green bell pepper, cucumber, tomato, red onion,

Toasted Bagel with UBC Farm Pumpkin Cream Cheese

1oz cream cheese
1/4 cup cooked, mashed pumpkin
1 tsp cup sugar
1/4 tsp vanilla
1 cinnamon raisin bagel, halved and toasted

Mix all ingredients in a small bowl. Spread on bagel halves.

BC/UBC Farm products: pumpkin

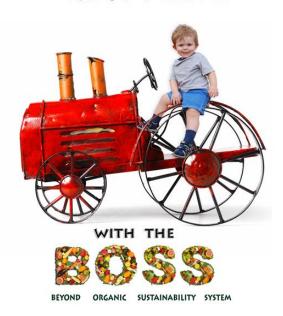
APPENDIX 4: BOSS Pamphlet

2nd Annual

2007



Have Lunch



We are proud to feature the following SUB outlets as participants in a sustainable food project.

The Pendulum
Bernoulli's Bagels
Pie R Squared

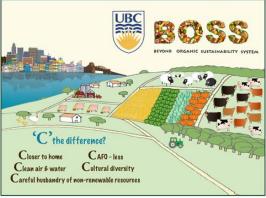
What is BOSS?

Beyond

Organic

Sustainability

System



Did you know?

- The average food item travels 2500 - 4000 km to reach your plate
 - As much fossil fuel is used transporting food as by all automobiles in North America
- Concentrated Animal Feeding Operations (CAFOs) are allowed under existing 'Organic" standards

SUPPORT SUSTAINABLE FOOD

Beyond Organic 'C' the difference?



Present your ticket for featured food items

