

UBC Social Ecological Economic Development Studies (SEEDS) Student Report

Food System Sustainability in University Boulevard Neighbourhood

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Scenario 6

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Group 26

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Abstract

A strategy for food system sustainability in University Boulevard Neighbourhood (UBN) in UBC's University Town is presented. Lack of consideration for food system sustainability in UBC planning documents is recognized. The extent of this problem is defined using findings from AGSC 450 colleagues in 2005 (groups 5 & 12), Richer's UBC Food Systems Project (UBCFSP) 2005 summary, peer-reviewed articles, and campus planning documents. The 7 Guiding Principles of the UBCFSP are discussed. Constructive criticism is given to better integrate the three elements of sustainability into these principles. Christopher Mare's paper is used as a foundation to develop a framework for an eco-village. Ithaca and Los Angeles eco-villages are presented as case study models for UBN. A vision for a sustainable food system in UBN must incorporate ecological, social, and spiritual balance. As food systems are dynamic, this vision must be adaptable to allow for modification. Based on this vision, four key recommendations are proposed to achieve food system sustainability in UBN. These include: expose all UBCFSP stakeholders to the rationale for inclusion of food system sustainability at the policy level; create a UBC Food Policy Council using UBN as a pilot project to prove its efficacy; incorporate food system sustainability at the policy level; and make periodic amendments to campus planning documents.

Introduction

Our task was to develop a strategy for food system sustainability in University Boulevard Neighbourhood (UBN) in UBC's University Town. We begin our investigation by defining our problem statement and discussing its evolution and importance. We then explore the concept of eco-village design and, through a case study example, outline a framework for what makes an eco-village, focusing on food system aspects. We follow this by clearly identifying both opportunities and constraints in University Town's current planning documents, with respect to food system sustainability. Using our knowledge of eco-village design, and based on the opportunities and constraints of the current planning documents, we propose a strategy for food system sustainability, at the policy level, for UBN. This strategy encompasses three key components: implementation actions, budget and resource requirements, and a timeline for action.

Problem Definition and Expansion

Although there is a framework in UBC's campus plans (Official Community Plan (OCP), Comprehensive Community Plan (CCP), and University Boulevard Neighbourhood Plan (UBNP)) for more sustainable development on campus, "food system sustainability has not been actively pursued in campus development planning" (Rojas & Richer 17). Accordingly, our team's goal is to develop a strategy for food system sustainability in UBN, which will be the center of the eight areas - North of Marine, Theological Neighbourhood, Gage South, University Boulevard, Thunderbird, East Campus, Mid-Campus and South Campus - that comprise University Town, and will be built out of University Boulevard over the next five years (University 2). It is located on University Boulevard which runs from Westbrook to East Mall and serves as "the front door of the University", which provides a "sense of arrival" for students, faculty, staff and visitors (University 2). The UBNP received its final approval from the UBC Board of Governors in January 2004 (University 1); however, there is still adequate time to make amendments to the UBNP so that food system sustainability is made a central component of the plan.

Before moving forward, we must outline why, as members of the Faculty of Land and Food Systems, we feel a sustainable food system is necessary for UBN. The development plans and guidelines for UBN suggest that sustainability ranks high in the goals for the community (University 11). In the UBNP, the sustainable community strategies outline a vision for a compact and complete community with energy efficient transportation options, as well as the use of landscaping, designed to promote community and social interactions (University 11). This indicates the desire to develop a community where both environmental health and human health are supported. Both environmental and human health are linked strongly to food production and consumption. Therefore, it follows that the inclusion of food system sustainability in the UBNP will not only support this vision of a sustainable community, but will also enhance it.

Pothukuchi and Kaufman (A 113) define the food system as “the chain of activities connecting food production, processing, distribution, consumption, and waste management, as well as all the associated regulatory institutions and activities”. Thus, all of these connections must be recognized in community food system planning. The authors illustrate why consideration of a sustainable food system is a critical step in planning any human settlement. They describe food as: “unique among human needs in its basic connections, among others, to land; in the centrality of [its] wholesomeness and nutrition to health; and the social, economic, ecological and political implications of the distance of sources” (Pothukuchi & Kaufman A 118).

Accordingly, food issues must be incorporated into the planning of human settlements to ensure sustainability of the system as a whole (Pothukuchi & Kaufman A 118). As a group, we see these connections, especially those made between ecological and human health, as very important for the development of a sustainable community. In Food Wars: The Global Battle for Mouths, Minds and Markets, the authors state that “the entire food supply [should be] geared to deliver health” (Lang & Heasman 286). After all, they argue, “a diet that is good for biodiversity is also good for human health” (Lang & Heasman 307). As a result, we feel that the lack of food system consideration in the OCP, CCP and UBNP is a serious problem. Recognition of the importance of food system sustainability and incorporation of this into the UBNP is an essential step towards achieving the objectives of the UBC Food System Project (UBCFSP).

Group reflections on UBFSP Vision Statement

Our project partners have defined the following seven guiding principles as their vision statement for a sustainable UBC food system (Richer 28):

- 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

As a group, we come from various ethnic backgrounds, possess different academic interests (food science, marketing, nutrition and animal studies) and assorted personality characteristics. Despite these differences we found common ground through our shared values for human and ecological health. To achieve and sustain human and ecological wellness we collectively see the necessity of integration between disciplines and political levels within the food system (Lang & Heasman 265). We will expand on this in our discussion and recommendations.

In reviewing the 7 Guiding Principles developed by our project partners in the UBCFSP, we generated an excellent discussion by examining the principles through our shared values and individual perspectives. For brevity, constructive criticism of the guiding principles will be the focus here; however, we would also like to commend our project partners for incorporating the three elements of sustainability (ecological, social, and economic factors) into the guiding principles.

Group members whose studies are focused on ecological health pointed out that the statements “food is locally grown, produced and processed” and “food is ethnically diverse” are contradictory. With the diverse ethnicity represented at UBC, it is not possible to provide the UBC community with an abundance of ethnic foods that are still local. It is important to be realistic and recognize that to have an abundance of ethnically diverse foods, locality has its limitations. To rectify this, we suggest adding “whenever possible” at the end of Principle 1. Another topic raised in our discussion was a concern that the term “nutrition” is not defined in Principle 3. Is it

based on Canada's Food Guide to Healthy Eating? If so, what methods are used to teach consumers these principles? It also seems problematic that in Principle 4, the importance of educating consumers about waste management is not mentioned. In the absence of this, we worry Principle 2 may not be achievable: consumers must know why recycling and composting are important in order to actively engage in it. Furthermore, in Principles 4 and 7, the term "providers" is used, while in Principle 6, "producers" is used; we were unsure if these terms are interchangeable and how our project partners would define them. Finally, due to our focus on the policy level of food systems, we feel that an eighth principle is required that recognizes the importance of addressing food system sustainability at the policy level. This will ensure that the other seven principles are adhered to in community planning documents (such as the UBNP), and that the importance of food system sustainability is not only discussed at UBC but that it is actually implemented campus wide.

Identification of Value Assumptions

Our group's outlook is influenced by our weak anthropocentric paradigm (human-centered set of values), although with such a diverse group, this vision cannot be narrowly defined. Our reasoning is also influenced by a conscious effort to include the environment in an ecocentric (environment-centered) fashion. However, this may be considered an extension of our weakly anthropocentric paradigm, as we recognize the connections between our own health and the health of our ecosystem as the foundation of our existence. We approached the concept of a "food system" with a holistic paradigm, attempting to consider all aspects and facets. This also reflects the diversity in the backgrounds and interests within members of our group.

Methodology

We organized a scenario-wide meeting to collaborate with the other three Scenario 6 groups (1, 7, & 21) to collectively develop a strategy for food system sustainability in University Boulevard Neighborhood (UBN). Our goal was to minimize overlap and maximize detail in each group's recommendations for how this can be

implemented and achieved in UBN. We divided the scenario into 4 themes and assigned one theme to each group:

- **Group 1:** *Connections between UBN and the UBC farm.*
- **Group 7:** *Food-related business in UBN.*
- **Group 21:** *Connections within the UBN community to encourage a sustainable food system.*
- **Group 26:** *Amending existing planning documents to incorporate food system sustainability at the policy level.*

A member from our team created a visual representation of this collaboration to be included in all Scenario 6 papers and power point presentations to reflect our common vision (appendix 1). Our group (26) elected to focus on the policy level, as we see targeting policy as an excellent way to influence the food system in UBN.

In order to complete the tasks outlined in the assignment, we first set up a work plan and timelines to guide our progress to ensure we accomplished all tasks in a timely manner. We began our research by reviewing UBCFSP papers written in 2005 by our AGSC 450 colleagues (groups 3, 5, 12, 14) that related to our scenario, to gain an understanding of what they had found. From our preliminary research of UBC campus planning documents and our 2005 AGSC 450 colleagues' work, we identified and discussed opportunities and constraints in the OCP, CCP and UBNP with respect to food system sustainability in UBN. We then reviewed the recommended web sites for University town, the Global Ecovillage Network, Ecovillage Training Center, Village Design Institute, and UBC Campus and Community Planning. Through the latter web site we accessed and thoroughly reviewed the UBC OCP (1997), CCP (2000), and UBNP (2001) to obtain perspective of the planning and development completed and currently underway on UBC campus in general and within UBN in particular.

Next, we read the two peer-reviewed articles, written by Pothukuchi and Kaufman, in the Scenario 6 recommended resources folder, to gather more background information on food system planning and design. As per our scenario instructions, we then identified a framework for what makes an eco-village using a case study and linked this to Mare's "Towards an Epistemology for the Eco-village Designer". Using our research, and the

Global Eco-village Network's Community Sustainability Assessment (CSA) as a foundation, we developed our vision and the attributes of a sustainable food system for UBN.

In addition, we arranged a Scenario 6 meeting with Joe Stott, Director of Planning at UBC Campus & Community Planning. On March 21st two of our group members attended the University Town Hall Meeting to find out additional details about the development of UBN and the UBNP. We also attended a meeting with Heather Friesen from University Neighborhood Association arranged by other scenario 6 groups and communicated through email with Linda Moore, Assistant Director of External & Legal Affairs of University Town Office to compensate for her missed appearance during AGSC 450 class time. We intended to meet with a member of UBC Properties Trust, but unfortunately this meeting was not organized by another Scenario 6 group as planned. Following this, we met as a group to discuss our reflections of the 7 guiding principles of the UBCFSP created by our project partners, and came up with recommendations for their improvement based on our experience with this aspect of the UBCFSP.

Findings

Although we are particularly interested in the UBNP, the OCP and the CCP form the foundation for the UBNP. If any details of the UBNP conflict with what is outlined in the OCP, the OCP prevails (University 3). The OCP was created in 1997 by the Greater Vancouver Regional District (GVRD), UBC, Campus and non-campus related interest groups, and the general public, and provides a broad outline for the framework of development on UBC. It functions as an overall guideline to aid UBC in creating a sustainable and unique community that balances "ecological health, economic sustainability and community relationships" (group 5 in Richer 96). The CCP, on the other hand, was accepted by the UBC Board of Governors in November 2000, and provides specific details for how the overall plan outlined in the OCP will be put into place in the eight local areas that comprise UBC's University Town (Richer 97). The OCP and CCP overlap in several areas, and share a common goal to provide a living place for 18 000, including 9 500 existing residents, by 2021 within University Town (Group 5 in, Richer 99).

Review of 2005 UBCFSP revealed the scenario most relevant to ours was scenario 4: *Exploring Existing Opportunities that Enhance and/ or Barriers that Impinge on the Sustainability of the UBC Food System within Current Campus Community Plans*. Their task was to determine to what extent campus plans (i.e. CCP, OCP, Main Campus Plan, and South Campus Neighbourhood Plan) and the current pattern of development facilitates or hinders UBC attaining a sustainable food system (Richer 97). Our colleagues recommended that the OCP and CCP should be amended to make food system sustainability at UBC more attainable (groups 5 and 12 in Richer 98-99). They identified several opportunities in the OCP for food system sustainability; however, because we are the first scenario to focus specifically on the UBNP, the opportunities they identified are not particularly relevant to our project. The main constraint in current planning documents identified by our colleagues is the failure to mention food security, which is a major concern in developing a sustainable community. Moreover, the OCP fails to describe its ideas on ecological sustainability (group 12 in Richer 98).

In 2005, Scenario 4 did not review the UBNP in terms of its opportunities and constraints for food system sustainability. Our analysis of UBNP revealed some opportunities for food system sustainability such as preservation of green space (University 4), and sustainable building guidelines to reduce energy consumption, improve air quality, conserve water, reduce waste, and use resource efficient materials (University 24). Group 21 in our scenario will elaborate how these opportunities make implementing community and rooftop gardens feasible. In terms of opportunities relevant to our particular focus on policy, Joe Stott informed us that the OCP is up for revision in 2007 (personal communication, 15 March 2006). This is auspicious timing to recommend amendments to the OCP that will ensure the food system is made a priority in the development of UBN. Finally, some constraints we found in the UBNP are failure to address food system sustainability in terms of what food outlets will be allowed in UBN and whether locality of food will be considered (University 6). Within our scenario, Groups 7 and 1 will address these constraints and provide recommendations to ensure a sustainable food system for UBN in terms of food outlets and suppliers, respectively.

Examination of peer-reviewed articles indicated the importance of the inclusion of food system sustainability in planning documents. Review of Pothukuchi and Kaufman's articles revealed several reasons why planning

professionals often overlook the food system. Planners feel that food systems are only indirectly related to the environments they plan upon; therefore, food systems only deserves attention when a land use or zoning issue is involved (Pothukuchi & Kaufman B 216). Planners identify food as a rural rather than urban issue; thus, it should be dealt with by farmers and others directly involved in agriculture (216). Planners take responsibility for public issues only and view the food system as a private matter because it is market driven (216). Planning departments are not funded to deal with food system planning (216). The public has not brought problems with food system planning to their attention so they do not consider it to be a problem (216-217). Planners feel they have no professionals to collaborate with when it comes to food system planning due to a lack of formal food system departments or agencies (217). Planners do not have knowledge of the food system so they feel inept to deal with it (217). Food just flows into the city and is readily available making it unnecessary for urban dwellers to stop and think about where their food actually comes from, thus food is taken for granted (Pothukuchi & Kaufman B 214). This finding is relevant to our research as our meeting with Joe Stott confirmed Pothukuchi & Kaufman's suggestion that the food system is truly not a part of planning at UBC.

From our meeting with Mr. Stott, it was apparent that he was aware of the concept of food system sustainability, despite its absence in campus planning documents. However, when asked to explain this absence, Mr. Stott explained that current campus planning documents (OCP, CCP, and UBNP) are products of the thinking at the time they were written (personal communication, 15 March 2006). In other words, these documents were written at a time prior to the Faculty of Land and Food Systems' promotion of food system sustainability on campus.

The University Town Hall Meeting confirmed that food system sustainability is being overlooked in the development of UBN. The neighbourhood plan was described in detail, including the major transportation port via the underground bus loop that will be built, and the results of the architecture contest to decide the neighbourhood building design were discussed; however, food system sustainability was not mentioned. We did, however, learn that UBC has hired Mark Holland, a sustainability consultant, who is responsible for integrating sustainability initiatives into projects and advocating for increased sustainable developments on campus ([Holland A](#)). Mark

Holland is the co-founder and principle of a planning consulting firm called Holland Barrs Planning Group (Holland B). We see Mr. Holland as a possible resource for encouragement of sustainable development in UBN, and will elaborate on this in our recommendations.

Communications with Linda Moore and Heather Friesen also echoed the general finding that the recommended resources had little understanding of food system sustainability and how this could be incorporated into UBC planning documents in general and the UBN in particular (personal communication, 1 April 2006; 27 March 2006). However, through e-mail communication with Linda Moore, AD External & Legal Affairs, we did find out that the OCP, CCP, and UBNP can be amended, but that it is quite an extensive process (personal communication, 1 April 2006). The proposed amendments need to go through an elaborate application and review, and must ultimately be approved by the GVRD (personal communication, 1 April 2006). However, we could not get specific answers from Joe Stott or Linda Moore as to when the CCP and UBNP will be available for amendments. When we further investigated this through Joe Stott, he stated that these documents would only be amended if necessary and the UBNP in particular would not be amended as development is already underway. Furthermore, he stated that UBC Community and Campus Planning is only responsible for things such as building design; what goes in the buildings (food retailers, etc) is up to University Properties Trust (personal communication, 15 March 2006).

Discussion:

As described in our problem statement, methodology and findings, UBC's current planning documents overlook food system sustainability in campus development. In particular, the UBNP fails to mention food system sustainability considerations. To correct this, we use the concept of an eco-village, as well as our own vision of a sustainable food system, to demonstrate how planning documents can be amended to ensure that UBN embodies the characteristics of a sustainable food system.

Epistemology for Eco-village Designers

Civilization moves people away from Nature and into man-made environments, which attempt to improve nature through organization and rationality (Mare 7). Through science and mathematics, these environments are more controlled than the chaotic Nature. This structured way of living also influences our paradigm or way of thinking. Therefore, as humans manipulate their environment, they are also influenced by the environment; this interconnection cannot be separated. Mind and body co-exist with each other, much like human-kind and the environment. Failure to recognize this, and the subsequent isolation of humans from their environment, leads to a sustainability crisis (Mare 7-8).

The epistemology that eco-village designers need to solve sustainability issues involves reestablishing the integration of mind, body, and the environment. The “human habitation systems” designed by eco-village designers support optimal human potential (Mare 20). Through multidimensional, holistic, ecologically-integrated eco-village habitats, the human mind is supported in cognitive awareness and potential (Mare 28). We must realize that not only are we connected to Nature, we are Nature (Mare 29).

Framework for an Eco-village

An eco-village can be defined as a sustainable unit of human settlement (Village). Eco-villages incorporate three dimensions into their design: social and community, ecological, and cultural. In the social and community dimension, the community supports the individuals residing within it and, in turn, those individuals are responsible for the community. The ecological dimension strives to reconnect people with the living earth through both increased awareness of ecology and landscaping that incorporates the natural ecosystem. Finally, a cultural and spiritual dimension exists in the eco-village. These values are not centered on one religion or belief system, but rather, supportive of diverse beliefs (Global).

The design goals of an eco-village are aimed at saving energy and resources by increasing efficiency and decreasing waste. First, the eco-village should be designed to promote walking by having a maximum quarter-mile radius between homes and businesses (Tobin 18-20). To reduce the reliance on cars, cycling paths and public

transit should be the focus of mass transportation options. Buildings should be designed with energy efficiency in mind. The placement of buildings should encourage solar daylighting, and buildings should be compact and heat-efficient (Tobin 18-20).

Food consumed within the eco-village should be grown either within the village or locally whenever possible. Organic meats, grains, fruits, and vegetables should be consumed (Tobin 18-20). Organic wastes should be composted and returned to the soil and other forms of waste should be recycled or eliminated (Ecovillage). Rooftop gardens and edible landscaping are examples of food production that can occur in the urban eco-village.

Eco-village Case Study

The eco-village case study example we chose is located two miles from downtown Ithaca, New York. This eco-village helped us identify a framework for a sustainable food system, and allowed us to apply some of these concepts to the University Boulevard Neighbourhood. This eco-village was developed in 1991 based on the concept of a community and ecologically oriented neighbourhood (Sustainable). The eco-village has an area of 176 acres, consisting of five neighbourhood areas, with 80% of the land preserved for agricultural, open space, woods, and wetlands. The first neighbourhood was built in 1997 and is comprised of 15 energy-efficient residential houses clustered around a pedestrian courtyard. The house sizes range from 922 square feet to 1642 square feet with prices ranging from \$81,000 to \$132,000 USD. In addition, there is a shared Common House and 30 acres of common neighbourhood land (Sustainable).

The village adopted an agricultural concept geared towards an environmentally and economically sustainable food system. The village focuses on local self-reliance and provision of affordable food (Sustainable). The central concept is education and community involvement, to raise residents' and visitors' awareness of their land. This is done by employing local workers, and teaching organic techniques to minimize use of fossil fuel and to foster long term soil fertility. The community is able to provide a substantial food supply for its residents, including a diverse range of fruits, nuts, vegetables, poultry and dairy products. In order to meet its agricultural and ecological goals, food is grown using permaculture techniques which are defined as "the conscious design and maintenance of

agriculturally productive ecosystems which have the density, stability, and resilience of natural ecosystems. It is the harmonious integration of landscape and people providing their food, energy, shelter and other material or non-material needs in a sustainable way” (Sustainable).

The village incorporates neighbourhood gardens, solar greenhouses, household livestock (e.g. chickens, bees and sheep) and urban farms to produce local food; thus, the distance food travels is decreased and household food costs are lowered (Sustainable). The village has cold storages outside or within the houses for long-term food storage. When cold storages are not in use, they provide an alternative method for cooling houses by the movement of cool air from the cold storage area throughout the building (Sustainable).

The buildings in the village were designed based on the concepts of environmental and economic sustainability. The building materials must minimize toxin production to improve environmental and human health (Sustainable). The buildings use low embodied energy materials which require “less total energy to extract, manufacture, transport, construct, maintain and dispose” (Sustainable). The buildings focus on energy storage using air-tight and building envelope insulation to minimize energy loss. The buildings are clustered and built low-rise to reduce maintenance cost, encourage community setting and allow for more open space. The buildings are built with large window areas for passive solar heating to reduce indoor heating, therefore reducing carbon dioxide production (Sustainable).

Although the case study of Ithaca, New York represents a food sustainable eco-village, it has its limitation for incorporation into UBN. The eco-village is located in a suburban area where it is possible to preserve 80% of its land for agricultural, whereas University Boulevard Neighbourhood is in a more urban setting. Los Angeles Ecovillage, which is located 3 miles west of downtown Los Angeles, gave us some insights into ecological sustainability in an urban setting. It is a two block multi-ethnic working class neighborhood which consists of 500 people (Belongie). Their main vision is to enable residents to enjoy lives that are ecologically, socially, and financially sustainable, while having a strong sense of belonging. Los Angeles Ecovillage has a strong sense of community, where residents (adult and children) come up with ideas and suggestions to a broad range of issues within the community. Meetings, workshops, conferences, informal dinner gatherings, sidewalk encounters, and

forums are conducted to involve residents and friends in the neighbourhood (Belongie). Moreover, most residents live close to their work place and essential services are within walking distance, decreasing pollution from automobiles. The eco-village has more than a dozen organic community gardens, rooftop gardens and one hundred fruit trees along the streets, which supplies 15% of the neighborhood's food supply (Belongie). Green wastes are composted back into the neighbourhood (Belongie).

Our Vision of a Sustainable Food System

Based on the above framework for what makes an eco-village and the specific case studies of Ithaca, New York and Los Angeles Eco-village, our group felt it was pertinent to create our vision of what a sustainable food system in UBN would look like. Our vision is based on the Global Eco-village Network's Community Sustainability Assessment, a tool to quantify the degree of sustainability in a community (Community 3). For a community to be truly sustainable, the ecological, social, and spiritual components must achieve harmonious balance within themselves and with each other (Community 3). We recognize this concept of sustainability differs from the traditional "three legged stool" concept of sustainability which considers economical aspects rather than spiritual. However, we feel the intimate, spiritual connection between humans and food is often overlooked. We also recognize economic viability as an essential component of any sustainable food system, but do not mention it in our vision, as we feel that UBC is capable of ensuring the economic feasibility of any venture.

An ecologically balanced sustainable food system in UBN is one which fosters a sense of connection between consumers and the land in which the system is situated (Community 6). This connection transcends the physical world and can be attained by knowing some of the food is produced locally through: community and roof-top gardens, the UBC farm and community kitchens. Foods provided should be local, organic and nutritionally balanced when possible (Community 9). Locality should be emphasized over organic; using organic foods that have high 'food miles' are counterintuitive to the concept of sustainability (Lang & Heasman 242). Food should be accessible, affordable, and culturally appropriate to accommodate the vast ethnic heterogeneity within the UBC community (Community 9). UBC community members and visitors should rejuvenate the environment through

their awareness and utilization of abundant recycling and composting opportunities, minimizing waste (Community 6). Surplus food or food scraps produced within UBC campus should be stored appropriately for future use, sold, donated to students or a community kitchen, fed to animals at UBC farm or returned to the food system as compost (Community 9). The bottom line is that extra food or food waste should be purposeful and not discarded as garbage. Community and roof-top gardens should be maximized to supplement sourced foodstuffs and local production (Community 9).

To obtain social balance within the food system, UBN should provide spaces that encourage relationships and communication between community members while concurrently allowing productivity (Community 21). This could be achieved through a community kitchen or community garden; these would also encourage community members to share their skills and talents within the community to promote a food system where knowledge, continual learning, personal growth and creativity are celebrated (Community 21). In addition, there should be sufficient opportunities for communication among community members and the surrounding communities (Community 21). This is essential to allow continual evaluation of the food system by all stakeholders. Health should be viewed as transcending the physical state to recognize the dynamic relationship between people and their environment and embracing diversity as a key component to health (Community 21).

To balance spiritual aspects of the food system in UBN, regular celebrations should be encouraged for community members to develop a sense of joy and belonging (Community 32). This celebration of food and community could be delivered through regular neighborhood dinners. Community members should share a common vision of a sustainable UBN and this commitment to sustainability in general, and food system sustainability in particular, should be voiced through official documents, such as the UBNP or OCP (Community 32). Finally, the UBN community should be flexible in their vision of food system sustainability to allow adjustment in response to difficulties that may arise (Community 32).

Strategy for Food System Sustainability

The preceding discussion provided the framework for the development of our food system sustainability strategy, outlined below:

All research partners and collaborators of the UBCFSP should be exposed to rationale for inclusion of food system sustainability at the policy level.

Rationale: Food system considerations are frequently overlooked in community planning, and yet “there are both conceptual and practical reasons why planners should devote more attention to the food system” (Pothukuchi & Kaufman A 117). These include the large amount of retail space occupied by food outlets, the high percentage of household income spent on food, widespread diet-related health problems, etc. We want research partners and collaborators of the UBCFSP to recognize these factors so that food system sustainability can become a priority and an integral part of policy that will not be overlooked by planners. Furthermore, our communications with some collaborators have indicated disconnect and lack of understanding of food system sustainability, thus identifying a need to expose everyone to the rationale for inclusion of food system considerations in policy. Our research on the importance of food system sustainability can be used to convey this information.

Implementation: We are making this recommendation to the Principal investigator and co-investigators of UBCFSP, as they should be responsible for implementation of this recommendation due to their well established relationships with the research partners and collaborators and their expertise in food system sustainability.

Budget: The only cost we foresee is the time required to thoroughly educate all UBCFSP collaborators and research partners.

Timeline: This should start as soon as possible (i.e. May 2006).

A Food Policy Council should be created for UBC, using UBN as pilot project to prove the efficacy of such a council a resource for future development campus wide.

Rationale: According to Pothukuchi and Kaufman, a food policy council consists of representatives from different food system segments, and can have a key role in ensuring the food system is considered when in urban planning (B 219). They describe food policy councils as bodies that oversee many aspects of the food system which our colleagues who are also researching UBN will be recommending. Some of these include: establishing community gardens; educating residents about nutrition, food shopping and preparation, and gardening; and strengthening the link between urban and rural sectors by making a connection with local farmers and consumers (Pothukuchi & Kaufman B 220).

Implementation: We are making this recommendation to the investigators of UBCFSP as they are UBC's resident experts on food systems sustainability. To form this council, we recommend that the council include the following:

- Representatives from each of the eight local areas in University Town;
- At least one member from all UBFSP partners/collaborators (AGSC 2005/07);
- Representatives from UBC Properties Trust and University Neighbourhoods Association;
- A nutrition educator from within the Faculty of Land & Food Systems;
- Student Representatives from AMS and Sprouts;
- Sustainability Consultant; and
- Members of the UBC community interested in influencing the food system on campus.

Budget: The cost of this includes the time involved in forming the council. The council may wish to attain status through AMS as a committee in order to receive funding.

Timeline: The council should be established by January 2007 so they are well organized for the scheduled amendment of the OCP in 2007.

Food system sustainability should be implemented at policy level in the Official Community Plan.

Rationale: Unless food system sustainability is incorporated in UBC policy, it will continue to be overlooked by campus planners and other stakeholders. With food system considerations as a part of UBC policy, campus developers will be obligated to consider it as part of their planning process. In order to have a sustainable food system at UBC, there must be a common vision of what such a system looks like; amending planning documents

so there is a “sustainability clause” as part of policy for development on campus will ensure this happens. This clause should be based on our vision of a sustainable food system and the 7 Guiding Principles. We recommend these amendments be made to the OCP as it forms the basis for the UBNP, and if any details of the UBNP are contradictory to what is stated in the OCP, the OCP prevails (University 3).

Implementation: We direct this recommendation to Campus and Community Planning and suggest that the Food Policy Council work with them to advocate for inclusion of a food system “sustainability clause” at the policy level. Both our vision of a sustainable food system and the 7 Guiding Principles will be valuable resources in implementing this recommendation.

Budget: The cost of this includes the time required to advocate for this amendment, the funds possibly needed to hire a sustainability consultant (e.g.: Mark Holland), and the Food Policy Council’s time in creating a “sustainability clause”. The estimated cost associated with hiring a sustainability consultant is approximately \$34,000 to 42,000 CAD (Bereford).

Timeline: Preparations should start immediately (i.e. May 2006) so food system sustainability can be incorporated at the policy level in the OCP when it comes up for amendment in 2007.

Amendments to campus planning documents should be made periodically (e.g. every three years) to reflect the dynamic nature of the food system.

Rationale: Communities evolve and the food system must be able to evolve with them. According to Joe Stott, the OCP was developed in a time when consideration of sustainable community development was not a common way of thinking. Therefore, we see this as a constraint of current planning documents, and feel that in order to ensure community development at UBC is not based on old ways of thinking, planning documents must undergo periodic amendment. Every 2-3 years may be sufficient to account for the dynamic needs of the UBC food system.

Implementation: We direct this recommendation to Campus and Community Planning as they are in charge of amending planning documents.

Budget: Such amendments will require both time and manpower (e.g. food policy council and the Sustainability Consultant) as resources.

Timeline: Amendments should occur every three years, beginning in 2007

Recommendations

To the Principal investigator and co-investigators of UBCFSP:

- *Expose all research partners and collaborators of the UBCFSP to the rationale for inclusion of food system sustainability at the policy level.*
- *Create a Food Policy Council at UBC, using UBN as pilot project to prove the efficacy of such a council as a resource for future campus-wide development.*

To Campus and Community Planning:

- *Incorporate food system sustainability at the policy level in the Official Community Plan (OCP).*
- *Make periodic amendments (every three years) to campus planning documents to acknowledge the dynamic nature of the food system.*

To our AGSCI 450 2007 Colleagues:

- *Work with University Properties Trust to see if it is feasible/realistic to establish criteria for allowing food retailers in UBNP*
- *Asses the progress of the food policy council (i.e. is it established and what have they accomplished). If the food policy council has not been established, inquire why and find out what is necessary for this to happen.*
- *Work with UBC Campus and Community Planning to determine the amendment procedures for campus planning documents (i.e. what is the amendment procedure, what does it involve)*

- *Work with the University Neighbourhood Association to develop a survey to identify what food retailers or improvements to the UBC food system UBC community members would like to see on the entire campus in general and UBN in particular.*
- *Asses campus planners and UBCFSP collaborators' knowledge regarding food system sustainability and whether or not they think it is relevant or necessary for it to be incorporated at the policy level. Specifically, find out if their attitudes towards food systems is similar to that in the two articles we reviewed by Pothukuchi and Kaufman.*
- *Evaluate the work of our 2006 colleagues who worked on scenario 4 (Promoting Education and Awareness for Local Food Systems) and see how their ideas can be implemented in UBN to help increase education of food system sustainability in UBN*
- *Inform students and staff at UBC that UBN is under development (e.g. organize a forum where students can voice what they would like to see in UBN or concerns). If a University Town Hall meeting is held in 2007, they should advertise it to UBC students in general, and students in Land and Food Systems in particular.*
- *Investigate the feasibility of exposing all UBC students to concepts of sustainability (e.g. Sustainability 101).*
- *Investigate the UBC School of Community and Regional Planning to see if the concept of food system sustainability is incorporated into the curriculum. That is, determine if food systems really are a "stranger" to the planning field as Pothukuchi and Kaufman suggest.*
- *As UBN further develops, identify weaknesses that hinder achievement of food system sustainability and report these findings to the UBC Food Policy Council.*

Conclusion and Final Reflections

In summary, the key to attaining a sustainable food system in UBN is through the establishment of policies that promote and facilitate the incorporation of food system considerations in campus planning and development. The preceding discussion and recommendations provide a framework for how this can be achieved.

We see the food system at UBC as a microcosm of the global food system. In other words, UBC's food system is a miniature model of the global food system, facing many of the same challenges. The main challenge is how to achieve sustainability in order to secure the future of the UBC community. Like the global food system, UBC's food system is also subject to the food policy crisis identified in Food Wars: The Global Battle for Mouths, Minds and Markets (Lang & Heasman 1). Therefore it is essential that changes be made at the UBC policy level in campus planning documents, such as the UBNP, to ensure food policy moves past appeals and recommendations to "binding agreements with legal gravitas" (Lang & Heasman 301-302). If changes that make food system sustainability a planning priority are not made to UBC planning documents, the UBCFSP and the associated recommendations, from the six years of hard work done by project partners and AGSC 450 students, may not become a reality.

The UBCFSP is a proactive attempt to secure the future of the UBC food system, rather than the reactive process normally characteristic of the globalized food system, which often waits for crisis to evolve before attempting to make change (Lang & Heasman 276). The UBCFSP can also be viewed as an opportunity to improve the status of the global food system. The food system at UBC is just one of billions of subsystems that collectively form the global version. By moving the UBC food system closer to sustainability, the UBCFSP establishes a precedent for other food system subsystems. Change has to start somewhere; sometimes it is more realistic and attainable if the initial change is small. Thus, the UBCFSP will hopefully act as a catalyst for initiating change within the food system by modeling success. Theoretically, if every food subsystem became more sustainable within itself, this in turn would cause the global food system to become more just, sustainable and food secure (Richer 22), which are the ultimate goals of the UBCFSP.

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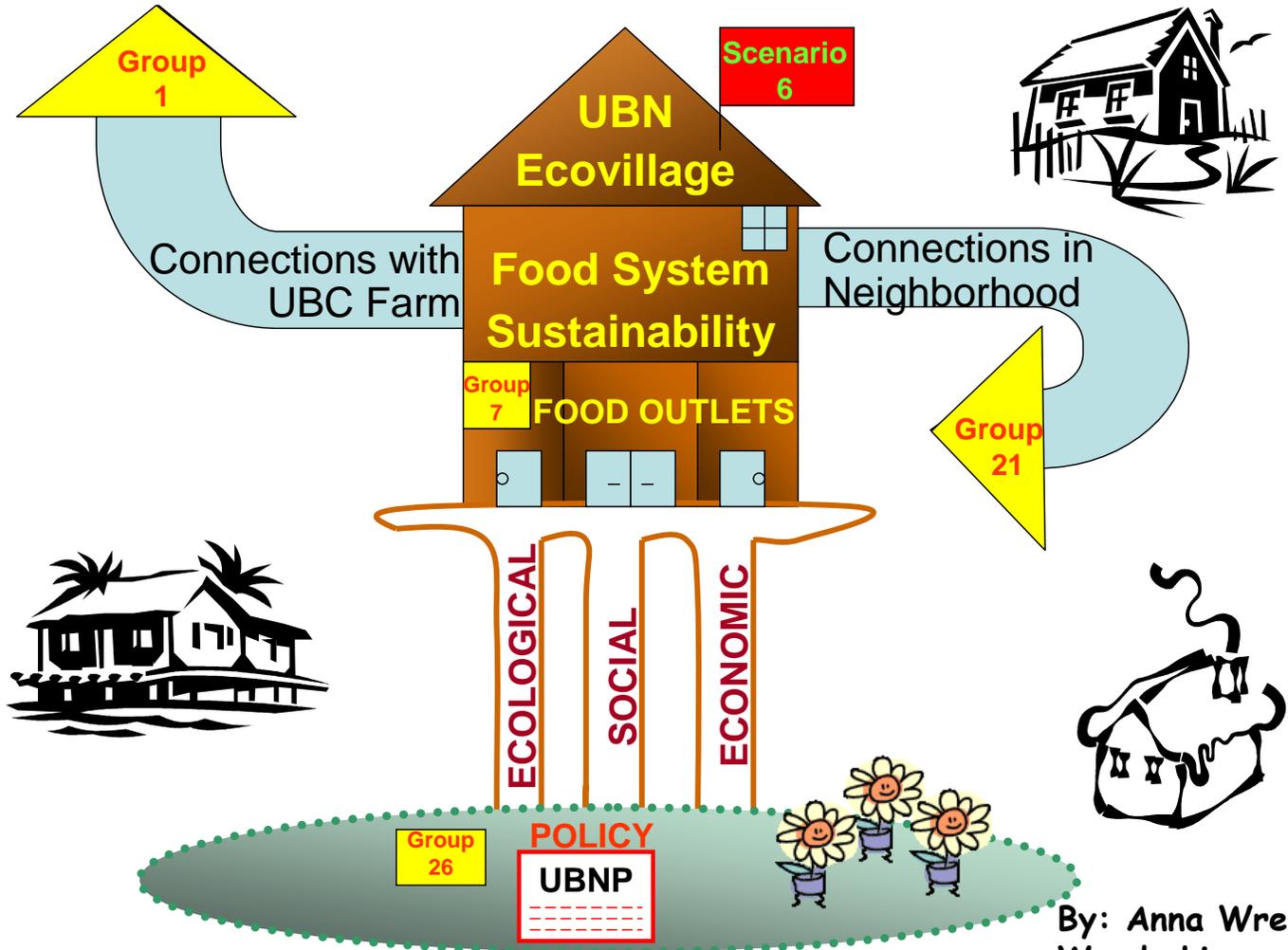
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Appendix 1



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