

## Report of the Sustainability Task Force on Food

Lester B. Pearson College of the Pacific



March 24, 2003

Prepared by Maggie, Meg, Ileana, Fiona, Yuill, Aidan, Nora, Jacob



## Table of Contents

<b>Title</b>	<b>Page</b>
Introduction	<b>3</b>
A. PRINCIPLES	<b>4</b>
B. MECHANISMS	<b>9</b>
Process	<b>9</b>
Costing	<b>10</b>
Bioregional Diet	<b>11</b>
Case Studies	<b>12</b>
C. RATIONALE	<b>13</b>
Social Impacts	<b>13</b>
Case of Coffee	<b>14</b>
Case of Bananas	<b>15</b>
Health Impacts	<b>16</b>
Ecological Impacts	<b>16</b>
Transport Costs	<b>18</b>
Conclusion	<b>19</b>
Appendixes	<b>19</b>

## Executive Summary

Industrial agricultural systems have indeed provided developed countries with plentiful, cheap food, but there has been a significant cost to the ecosystem, the quality of food and the people of developing nations, as illustrated in the research below. Pearson College is fortunate to be situated in a region in which the climate is mild and thus food options are diverse. As a result, Pearson College has the opportunity to lead the way in ensuring that the food provided is not harming people or the planet. Five principles of a food system that would translate ideals into a unique educational system at Pearson are outlined:

1. Sourcing Local Food
2. Organic Food
3. Fair Trade
4. Connecting People and Food
5. Keeping the Costs Down

The process to incorporate these principles into the operations at Pearson College is described, a process that would take approximately three months and involve four hours a week of an administrator's time. It is our belief that the costs of this type of food system do not necessarily exceed those of the status quo.

**Above all, this report is an appeal for action. The social and ecological imperatives for educational institutions to take the lead on transforming the institutional food system are clearly outlined below. Simply put, we cannot afford to wait.**

## Introduction

*"Through international education, shared experience and community service, United World Colleges enable young people to become responsible citizens, politically and environmentally aware, committed to the ideals of peace, justice, understanding and co-operation, and to the implementation of these ideals through action and personal example."*

United World College Mission Statement



Our research has revealed that the problems directly and indirectly associated with the industrial food production system are wide-ranging and systematic. The structure of local communities around the world is being undermined as the control of land, fertilizers, seeds and markets is concentrated in the hands of large companies. Toxic chemicals are prevalent throughout the ecosystem, including in human bodies, increasing both in concentrations and total numbers, with associated effects ranging from increased cancer rates to birth defects. The industrial system is contributing to the loss of biodiversity and cultural diversity as land is transformed from agrarian subsistence agriculture to single species cash crops. By providing food that is derived from this system, the Pearson College community is directly contributing to these problems.

Pearson College has another option which neither harms people or the planet by making careful purchasing decisions. The Pearson community can demand

1. respect for communities by choosing to purchase independently certified **fair trade** products and purchasing locally wherever possible.
2. the food the College consumes does not degrade the ecosystem or their personal health by selecting independently certified **organic** products.

The purpose of this report is to outline why decisions about food are some of the most important decisions taken at the college and to describe in detail how to achieve an alternate vision for food at Pearson College.

## **A. PRINCIPLES**

**Ideals into Action: A food system at Pearson College based on justice and ecological integrity.**

*“Eaters must understand that eating takes place inescapably in the world, that it is inescapably an agricultural act, and that how we eat determines, to a considerable extent, how the world is used”.*

*~ Wendell Berry*



The provision of food at Pearson College should be grounded on the foundation of five principles. These principles would guide rather than govern decisions relating to food issues.

## **1. Sourcing Local Food**

Local food is simply food produced for local and regional consumption. This means that 'food miles' are relatively small, reducing fossil fuel consumption and pollution. The local production of food means that the consumer is aware of the impacts of growing their food- the effect on the landscape is apparent in one's own neighbourhood, rather than being located thousands of miles away and typically grown in large plantations. Between 1987 and 1992, America lost an average of 32,500 farms per year, about 80 percent of which were family run<sup>1</sup>. As Pearson College recognizes the importance of community and family values, it is important that we support those who continue to manage small farms. The smallest farms – those of 27 acres or less – are more than ten times as productive (in terms of dollar output per acre) than large farms, and small farms of 4 acres or less can be over a hundred times more productive.<sup>2</sup> Sourcing local food takes more work than the standard order from a distributor. It means establishing relationships with local growers, requiring travel and meetings for a coordinator. These relationships can be mutually beneficial, however, providing long term financial security for the grower and long term supply security for the college. For example, produce prices can vary significantly from week to week when sourced from California, depending on factors such as demand, weather conditions and transport costs while a local farmer will provide guaranteed long term prices and any change in supply is easily anticipated.

## **2. Organic Food**

Organic food production is a key step in addressing both chemical contamination of ecosystems and human health concerns. Organic growing is philosophically different from industrial agriculture, in that industrial agriculture involves transforming natural systems while organic methods emphasises working with the ecosystem. Independent certification ensures that producers are satisfying the standard which includes growing without using synthetic herbicides, fertilizers, pesticides or fungicides, thus keeping air, soil, water and life free of toxic chemicals. The focus is on building healthy soils, which will in turn produce healthy plants that are naturally resistant to pests and diseases.

Pests are controlled with methods such as crop rotation, the use of naturally derived repellents and beneficial insects. Biodiversity is a key component in this system, as site

---

<sup>1</sup>Kimbrell, Adam (2002). *Fatal Harvest: The Tragedy of Industrial Agriculture*. Island Press. Washington, DC

<sup>2</sup>Ibid

specific species have evolved a resistance to particular pests. The maintenance of this diversity is fundamental to growing without chemicals, simply for natural resistance. Organic methods are more labor intensive, because, for example, weeding is done by tractor or by hand as broadcasting a chemical pesticide is not an option. Because it is more labor intensive, organic food is typically more expensive in the grocery store. As current student

## Healthy People

Artificial fertilisers increase the water content of fruit and vegetables. Although this method may produce bigger yields, it dilutes the nutrient content of fruit and vegetables.

Research comparing the nutrient contents of organic and non-organic fruit and vegetables reveals a strong trend toward higher levels in organic produce. Of 27 valid comparisons of the mineral and vitamin C contents of organic and non-organic crops, 14 showed significantly higher levels in organic produce while just one favoured non-organic.

Plants contain some 5,000–10,000 naturally occurring compounds (known as phytonutrients) that are often involved in protecting the plant from pests and diseases. Because organic crops are not artificially protected with pesticides they tend to produce more naturally occurring phytonutrients, many of which are now known to have protective (antioxidant) properties. Some are proving useful in the prevention and treatment of cancer.

Animals fed organically produced feed are healthier in terms of growth, reproductive health and recovery from illness than those fed on non-organic feed, even over successive generations.

Pesticides are found on one in three non-organic foods tested each year, and multiple residues of up to seven different compounds are not uncommon. Some research suggests that the 'cocktail effect' may be hundreds of times more toxic than the same compounds individually.

Applying common sense and the precautionary principle, organic farming banned the feeding of animal protein to farm animals well before the BSE crisis hit UK agriculture. The Soil Association has found no recorded cases of BSE in any animal born and reared organically.

Antibiotics are used extensively in non-organic farming to promote growth and to prevent disease in intensively reared, overcrowded farm animals. High standards of animal welfare in organic farming minimise the need for antibiotics and other veterinary drugs which are used only when strictly necessary.

A recent government survey gave organic food a clean bill of health and confirmed expectations that organic methods, such as the careful composting of manure, minimise pathogenic risks such as E.coli o157.

Source: Soil Association (2000)

Joe Downham's parents stated in their presentation, it is not that good food is too expensive, rather bad food is too cheap. The price of organic food thus reflects the true cost, whereas the ecological and social costs of industrial agriculture are not reflected on the price tag<sup>3</sup>.

The Soil Association conducted a European wide scientific literature review of evidence on the environmental benefits of organic farming. It concludes that, in comparison with non-organic farming, organic farming tends to support greater biodiversity, conserves soil fertility and

---

<sup>3</sup> N. Parrott and T. Marsden (2002). *The Real Green Revolution – Organic and agro-ecological farming in the South Greenpeace*

stability better, does not pose any risk of water pollution from pesticides, results in 40-60% lower carbon dioxide emissions per hectare, nitrous oxide and ammonia emission potential appears to be lower, energy consumption is usually lower, and energy efficiency is usually higher<sup>4</sup>. The Soil Association reviewed all the known studies that compared the levels of wildlife on organic and conventional farms (9 fully, 14 briefly). It found clear evidence that overall organic farms support substantially higher levels of wildlife in lowland areas, particularly of those wildlife groups which are declining. Examples include 40% more birds in a three year study of 44 farms by the British Trust for Ornithology, twice as many butterflies and five times as many wild arable plants. This backed up the observation by the organic sector that organic farming addresses the main causes that conservationists have identified as behind the current dramatic decline in farm wildlife<sup>5</sup>. A SAFE-World report indicated that the capacity for organic farming to feed the developing world. A review of over 200 food production projects in different countries involving simple, organic type techniques showed that they resulted in major yield increases, ranging from 46-150%<sup>6</sup>.

### 3. Fair Trade

Whenever a product is sourced, primary consideration should be given to ensure that it is fair trade. These purchases will contribute to the development of local economies in countries that are desperately poor. The cost of fair trade items is considerably higher than non-fair trade products because a more accurate cost that guarantees a basic standard of living to the workers is included. Without fair trade, the low cost of bananas, cocoa, coffee and other cash crops is the direct result of a subsidy paid for by the suppression of human rights.

### 1. Connecting People and Food

*“It is essential to understand that the methods and manner in which a society expropriates its food from nature both fashion and reflect its worldview.”*

*~ Andrew Kimbrell*

Lester B Pearson said "How can there be peace without people understanding each other and how can this be if they don't know each other?" This maxim applies equally to the issue of

<sup>4</sup> Auflage Stuttgart-Hohenheim (1999). *Organic Farming in Europe: Economics and Policy: Volume 6*

<sup>5</sup> Soil Association (2000) *The Biodiversity Benefits of Organic Farming*

<sup>6</sup> J.N. Pretty and Rachel Hine (2000). *Reducing Food Poverty with sustainable agriculture: A Summary of New Evidence.* 'SAFE-World' Research Project.

food. If one does not understand the conditions in which food is grown, the implications of its production for health, justice or the ecosystem will not be relevant. Hence, it is important to involve the consumers, in this case the students, in the production of food wherever possible. There are proposals to involve students in each step of the process (See Appendix 1 for details).

1. *Working on local organic farms:* There is a proposal in development which will facilitate all students volunteering in a model similar to the present village service at local farms. They would provide supervised labour for the farmers, who are often struggling to survive in an unfavourable economic system.

*“The best way to find yourself is to lose yourself in the service of others.” ~ Gandhi*

2. *Working in the kitchen:* There is a proposal in place that would involve students working in the kitchens to both help prepare and clean-up. This is a key element in facilitating students to understand what it takes to put food on the plate.
3. *Incidentals:* A herb garden is being established this year, as well as chickens and a cob oven which could be used for baking bread.

## **5. Keeping the Costs Down**

The justification for keeping the costs down is based both on practicalities and principle. Firstly, this system must be affordable because, due to the post-economic boom era in which we find ourselves, donations are difficult to find. Secondly, every dollar has its cost in terms of the means in which it was earned in the first place and the less the system costs, the less impact the college will have on the world. Any solution can be created if there is enough money thrown at it, however, the most ingenious and important solutions will be applicable irrespective of the wealth of the nation.

There are a number of means for keeping the costs down. Without question, organic, local and fair trade products are considerably more expensive in the grocery store than industrial food.

1. Purchase food directly from the producer- this eliminates the middle man and thus reduces the cost



2. A menu that works with the seasons. The Sooke Harbour House Restaurant has considerable experience at making this work for the Victoria climate. Although the diversity of food is reduced on a daily basis, the menu changes with the season and because the 'winter' is relatively short here, the diet will be diversified on a weekly basis. Such a menu should be simple but wholesome.
3. Involve students in the process wherever possible- this will reduce labour costs and bring the operation costs down.
4. Develop catering expertise in local sourcing and eating with the seasons. Establishing long term agreements with local farmers will significantly reduce the costs, much of which is related to insecurity. Such agreements could apply to chickens, cows, pigs, salmon, vegetables, fruits and grains.
5. Fair Trade products should be a treat rather than a regular menu item. This applies to exotic fruits, cocoa, sugar and other cash crops.

## **B. MECHANISMS**

### **Process**

An administrator should have time allocated to facilitate this process. Issuing a Request for Information (RFI) requires more initial work, however, this can pay off in terms of reducing the number of questions from the Request for Proposals (RFP), particularly when an innovative agreement is being created (See Appendix 2 for an example of an RFI).

**Table 1: Process for Selecting a Caterer**

Measure	Duration	Description
1. Issue a Request for Information (RFI)	20 days	An RFI is a way to solicit ideas from the community. The responses will allow Pearson to gauge what services are available. The Request for Proposals will be considerably clearer and reduce the 'back and forth' discussion with prospective suppliers as a consequence.
2. Reviewing the Information	10 days	Further refinement of what is required and analysis
3. Develop a Request for Proposals	10 days	Identify precise requirements
4. Issue a Request for Proposals (RFP)	30 days	Reflects very specific ideas that the College would like to have implemented. Generally this is very specific in terms of areas to be addressed, methodologies, desired outcomes, deadlines and budgets.
5. Select Proposal	20 days	Compare proposals and select appropriate company.
6. Draw up Contract	2 days	

There are at least three different catering companies in Victoria who are capable of providing the services outlined in the principles section. These are:

- Truffles Catering Group currently operates the cafeteria at Royal Roads University
- The Cutting Veg Organic Catering
- Feys and Hobbs Catered Arts Inc.

## Costing

Although pinpointing the cost differences with the status quo is difficult, the factors which will influence the budget are identifiable. Some of the variables are flexible, and can be adjusted according to budgetary requirements, while others are set. For example if the budget is too high, one can modify three factors; decrease the percentage of organic food, increase the student labor contribution, or simplify the diet.

**Table 2: Increasing and Decreasing Costs**

Item	Increased Costs	Decreased Costs
Set Costs	<ul style="list-style-type: none"><li>• Coordination</li></ul>	<ul style="list-style-type: none"><li>• Direct Farm Purchases</li></ul>
Variable Costs	<ul style="list-style-type: none"><li>• Organic food</li></ul>	<ul style="list-style-type: none"><li>• Seasonal Diet</li><li>• Students working in the kitchen</li></ul>

## A Bioregional Diet (Vancouver Island)

A bioregional diet is key to eating locally. Because Pearson College is located on the sea, a portion of this diet can be sourced from the ocean- however, only species which are known to be in plentiful supply should be harvested. An innovative proposal might be to partner with local first nations on a commercial fishing license. The variety of fruit and vegetables available in the summer is significant while in the winter and spring there is less available. This requires the preservation of berries, fruits, and vegetables in the fall; a large task that would save money but requires labour. Pearson College is fortunate to be situated in a location that has one of the best growing seasons in Canada, and, in addition, one of the most rapidly growing markets for local, organic food.

**Table 3: Food by the Season** (without preserving)

Season	Spring	Summer	Fall	Winter
<b>Vegetables</b>	Cabbage, Carrots, Cauliflower, Garlic, Kale and Collards, Kohlrabi, Lettuce, Onions, Oriental Greens, Spinach, Swiss Chard, Potatoes	Artichoke, Amananth, Arugula, Beans, Beets, Lettuce, Tomatoes, Peas, Carrots, Corn, Cucumbers, Rhubarb, Broad Beans, Broccoli, Brussels Sprouts, Cabbage, Carrot, Cauliflower, Celery, Cilantro, Eggplant, Fennel, Lettuce, Melons, Onions, Oriental Greens, Parsley, Parsnips, Peas, Peppers, Radish, Spinach, Squash, Swiss Chard, Tomatoes	Arugula, Amaranth, Corn, Beans, Beets, Broad Beans, Broccoli, Brussels Sprouts, Cabbage, Carrot, Cauliflower, Celery, Cilantro, Corn, Cucumbers, Eggplant, Fennel, Garlic, Leeks, Onions, Oriental Greens, Parsnips, Peas, Peppers, Pumpkin, Radish, Rutabagas, Spinach, Squash, Swiss Chard, Tomatoes, Turnips, Potatoes	Arugula, Chail, Beets Broccoli, Brussels Sprouts, Cabbage, Carrots, Cauliflower, Cilantro, Fennel, Garlic, Kale and Collards, Kohlrabi, Leeks, Onions, Oriental Greens, Pumpkin, Turnips, Potatoes
<b>Fruit</b>	Apples	Plums, Apricots, Cherries, Peaches	Plums, Apricots, Cherries, Peaches	Apples, Pears
<b>Berries</b>		Strawberries, Blackberries, Blueberries, Raspberries	Blackberries	
<b>Animal Products</b>	Beef, Fish, Pork, Chicken, Seafood, Milk, Eggs, Cheese, Honey	Beef, Fish, Pork, Chicken, Seafood, Milk, Eggs, Cheese, Honey	Beef, Fish, Pork, Chicken, Seafood, Milk, Eggs, Cheese, Honey	Beef, Fish, Pork, Chicken, Seafood, Milk, Eggs, Cheese, Honey
<b>Grains</b>	Garbanzos, Lentils, Favaz, Quinoa, Wheat, Oats, Barley, Beans	Garbanzos, Lentils, Favaz, Quinoa, Wheat, Oats, Barley, Beans	Garbanzos, Lentils, Favaz, Quinoa, Wheat, Oats, Barley, Beans	Garbanzos, Lentils, Favaz, Quinoa, Wheat, Oats, Barley, Beans

Source: West Coast Seeds (2003)



**Table 4: Examples of Preserved Fruits and Vegetables**

<b>Fruits</b>	<b>Berries</b>	<b>Vegetables</b>	<b>Mixed</b>
Pears, Plums, Apricots, Peaches, Cherries, Apple Sauce	Blackberries, Strawberries, Raspberries	Peas, Broccoli, Cauliflower, Arugula, Corn, Beans, Beets, Broad Beans, Broccoli, Cabbage, Cauliflower, Corn, Peas, Peppers, Pumpkin, Squash, Swiss Chard, Tomatoes, Turnips, Potatoes	Salsa, Pickled cucumbers, onions, beets, Artichoke, Jams, Jellys, Chutneys

**Table 5: Examples of Fair Trade Products**

<b>Asia</b>	<b>Africa</b>	<b>South America</b>	<b>Central America</b>
Tea, Coconut, Rice	Peanut Butter, Cocoa, Almonds, Raisins, Cashew Nuts, Sugar	Bananas, Coffee, Cocoa, Brazil Nuts, Pasta, Wines	Bananas, Coffee, Cocoa

**Case Studies****Bates College Dining Service**

The college dining service has grown into a program that integrates sustainability principles into almost every facet of its operation. A collaborative purchasing effort by the Maine Organic Farmers and Gardeners Association, the Maine Department of Agriculture, the University of Maine Cooperative Extension, the Purchasing Manager, and other Bates key players led to a loose co-op of local farmers who provide seasonal, organic food for the College. The program enabled the college to get rid of five garbage disposals, saving \$70,000 in electricity and water bills, Kalb said.

**College of the Atlantic**

The COA kitchen staff is highly committed to using local, organic food products whenever possible. Collaborative work and planning between Beech Hill Farm and the kitchen will help COA to "close the loop" by forming a more sustainable system of food production and consumption, while eliminating the need for excess food packaging and long-distance transportation. Some of the food for the kitchen is produced in COA's community gardens.

**Evergreen College**

Their caterer, Bon Appetit, is in a partnership with Evergreen's organic farm. They take pride in supplying a "made with organic" menu, which by federal (USA) standards equates to a 75 percent minimum organic content. They ensure that all sauces and soup stocks are made



from scratch and partner with vendors who value fair trade, sustainable food production, recycling and conservation.

### **Slippery Rock College**

ARAMARK will begin buying approximately 10 percent of its produce from Pennsylvania Local Organic Works. They are sourced by the president of the organic farmer's coop who also farms 70 acres of organic vegetables. ARAMARK has already started using some locally grown vegetables; however, largely only for summer students and participants in summer activities.

### **Yale Residential College**

The Yale Sustainable Food Project, a newly formed committee made up of representatives from Berkeley College. Yale administrators and ARAMARK are exploring ways to introduce large-scale institutional organic food management to the University. The process involves every aspect of dining services, from finding and contracting local suppliers to developing a system of composting. They also hope to implement the same system in the other campus dining halls.

## **C. RATIONALE**

### **Industrial Agriculture**

#### **Social Impacts**

Agricultural production, traditionally regionally and culturally diverse, is being increasingly controlled by global monopolies and in so doing, this diversity is being lost, due to the efficiency gains of using, for example, only a few types of grain across global operations. Global profits are similarly concentrated. Today just two companies, Cargill and Archer Daniels Midland, control 70 to 80 percent of the world's grain trade. One agribusiness, Philip Morris, gets ten cents out of every American food dollar - more than earned by all US farmers combined<sup>7</sup>.

While the farmers growing cereal grains - wheat, oats, corn - earn negative returns and are pushed close to bankruptcy, the companies that make breakfast cereals reap huge profits. In 1998, cereal companies Kellogg's, Quaker Oats, and General Mills enjoyed return on equity

---

<sup>7</sup> Norberg-Hodge, Helena and Gorelick, Steven. *Bringing the Food Economy Home: Local Alternatives to Global Agribusiness*, Fernwood Press (Canada).

rates of 56%, 165% and 222% respectively. While a bushel of corn sold for less than \$4, a bushel of corn flakes sold for \$133<sup>8</sup>.

Helena Norberg-Hodge quotes a farmer, Dolma Tsering, from Northern India in her article Think Global, Eat Local:

*"Whole families used to work on the land. We grew almost everything we needed. Now imported wheat is destroying our market. It's just not worth going to the trouble of producing food anymore, and the village is being emptied of people." Throughout the South, most of those displaced people will end up in urban slums - without community, without connection to the land, without a secure and healthy food supply<sup>9</sup>.*

### **The Importance of Fair Trade Coffee**

Fair Trade coffee offers the farmers stable prices for their coffee as opposed to being subject to the constant fluctuation of global market prices. The Fair Trade Certification indicates that the farmers are guaranteed a fair price for their crops, which provides security and stability in developing nations. It also guarantees that the coffee plantations are run as cooperatives. The Fair Trade coffee is sold at competitive prices because it has reduced the number of "middlemen" by having a more direct link between the producer and the consumer.

---

<sup>8</sup> Shiva, Vandana (2000) Vandana. *Poverty and Globalisation*. [http://www.sirc.org/news/vandana\\_shiva\\_reith.html](http://www.sirc.org/news/vandana_shiva_reith.html) Reith Lecture.

<sup>9</sup> Norberg-Hodge, Helena and Gorelick, Steven (2002). *Think Global, Eat Local*. The Ecologist. September Edition.



## The Case of Coffee

World prices for coffee have fallen to their lowest-ever level in real terms. Failure to reverse current trends will have devastating consequences across the developing world.

Over the past three years the export price of coffee as a proportion of the retail price has fallen by half, to less than seven per cent. As a recent Nestlé document on its coffee-trading performance states: 'trading profits increased ... and margins improved thanks to favourable commodity prices.' This indicates that is that corporate gain is consigning some of the world's poorest and most vulnerable people to extreme poverty.

While the coffee economy generates bumper profits for corporations, it is also intensifying poverty and fuelling social dislocation in the world's poorest countries.

Fair Trade Certification is an alternative approach to the coffee market that puts more of the profit in the hands of coffee farmers. Coffee companies that import and roast Fair Trade coffee guarantee farmers a minimum "floor price" of \$1.26 per pound. This increase is possible because the Fair Trade system eliminates a number of middlemen where much of the profit goes in the open coffee market.

Fair Trade organizations are also committed to provide credit so farmers can plan their cultivation. Democratically-run cooperatives share the profits from their harvest and invest it in community improvements, such as clean water, medical clinics, and schools.

The international Fair Trade Labeling Organization certifies that the cooperatives that grow coffee comply with Fair Trade standards, and that the profits from the Fair Trade premium price are used in ways that benefit the coffee-farmer members of the cooperatives.

By supporting Fair Trade coffee, consumers and <sup>1</sup>coffee companies are also supporting a socially just system that makes the world a better place.'

Source: Oxfam (2001)

## The Importance of Fair Trade Bananas

The issues concerning bananas are similar to the issues concerning coffee plantations. The toll taken on the environment from not only the production of bananas but also the transport from South and Central America to Canada is high. There are also numerous social injustices associated with banana plantations. Organic Fair Trade bananas are a solution to meeting our accustomed luxuries; however, an alternative is to eat local seasonal fruits.



## **The Case of Bananas**

Countries that provide bananas in Canada include Ecuador (30%), Costa Rica (24%), Colombia (33%).

Latin American countries export to the United States, Canada, Europe and the Asia-Pacific region. They are called 'dollar' countries because they traditionally belong to the zones of influence of the US dollar. The banana industry is usually associated with US multinational companies that control directly or indirectly 60 per cent of their banana exports.

### **Social Injustices**

The companies are extremely powerful both in exporting countries, and in their country of origin. They set producer countries competing with each other, forcing governments to accept impositions with regarding taxes and the deregulation of social and environmental policies.

The multinational companies succeed in maintaining extremely high profit margins. They tend to repatriate profits to their countries of origin. Only 12% of the final price stays in the producing countries, whilst an even smaller proportion goes to small farmers (5-10 per cent) or to plantation workers (1-2 per cent).

People suffer allergic illnesses, pulmonary and carcinogenic ailments caused by the permanent use of pesticides. Also it is estimated that some 20 000 banana workers in Latin America were rendered sterile in the 1970's and 1980's because of the use of two nematicides (Nemagon and Fumazone)

The colonisation of vast tracks of land by banana companies has driven out indigenous population. Banana production for export results in the exploitation of workers due to poor social structures. Migrant workers frequently live in overcrowded accommodation where drugs, violence, alcoholism, and prostitution flourish. Sexual harassment and discriminatory measures against women are common. Plantation workers are often effectively denied the right to join a trade union.

### **Environmental Impacts**

Bananas are ecologically demanding species that require abundant humidity levels, high temperatures and a lot of nutrients in the soil. If bananas are cultivated without rotation, the soil fertility sharply declines after the first three-four years. This has pushed companies to continuously expand plantations leading to deforestation. The loss of forest and soils, together with high levels of pesticide application, has led to a loss of biological diversity.

Plastic bags used to protect bananas from disease and damage create a massive amount of waste. The EARTH College in Costa Rica estimates that for every ton of bananas shipped, two tons of waste is left behind, not least mountains of plastic bags sprayed with insecticide.

Pesticides are used in an attempt to beat the ever-increasing number of diseases affecting the banana plant. In Costa Rica alone, at least 280 different pesticides are authorized for use in the cultivation of bananas. The cost of pesticides is huge - in some cases as much as 30-40% of total costs.

Companies believe that consumers want cosmetically beautiful which ties them to high levels of chemical use. However, after many years of massive applications of pesticides, the incidence of pests in banana plantations has not been noticeably reduced. On the contrary, scientists argue that there are more pests today than 50 years ago as pests and diseases are becoming increasingly resistant

Source: BananaLink

## Health Impacts

The costs of industrial agriculture in terms of human health are widespread. In 1990 the World Health Organization published an estimate that 3 million severe acute pesticide poisonings occur in developing countries a year, including some 220,000 fatalities<sup>10</sup>. In December 2000, a study on two common agro-chemicals highlighted the fact that the safety of pesticides has not been established. The study found that brain damage similar to Parkinson's disease resulted in rats when both chemicals (maneb and paraquat) were used, while there were no effects from either chemical alone. Moreover an epidemiological study found a geographical correlation in the US between deaths from Parkinson's disease and the use of these chemicals<sup>11</sup>. According to the Soil Association, pesticides are found in about 14% of every day foods in the UK.

There is significant uncertainty even about the impacts of the industrial food system, due to the complexity and interconnectedness of the natural system. A survey of the scientific literature by Greenpeace found that by 2001 there had only been three published studies on the health effects of consuming GMOs and that none of the animal feeding trials were longer than 70 days<sup>12</sup>.

Micro-economic and traditional macro economic theory fails to account for health or environmental costs, hence a decision-making matrix that focuses on costs of production and labor only. A full cost analysis of farming in the UK indicated that the indirect costs of industrial agriculture in the UK are costing the taxpayer over £2.3 billion annually, as a result of negative effects on health care and the environment<sup>13</sup>.

## Ecological Impacts

*“Biological riches are the most dependable kind of wealth”. ~ David Ehrenfeld*

Industrial agriculture is eroding the fabric of the earth's ecosystems in many ways- through contamination with chemicals, causing physiological mutations in species ranging from frogs

<sup>10</sup> Kimbrell, Adam (2002). *Fatal Harvest: The Tragedy of Industrial Agriculture*. Island Press. Washington, DC

<sup>11</sup> Journal of Neuroscience (2000). December 15. Quoted in briefing paper by the Soil Association. [www.soilassociation.org](http://www.soilassociation.org)

<sup>12</sup> Greenpeace (2001). *Genetically engineered food: still unlabelled and untested*. Survey of peer-reviewed scientific journals. <http://www.greenpeaceusa.org/ge/untested-unlabeled.pdf>

<sup>13</sup> Pretty et al. (2000). *An assessment of the total external costs of UK agriculture*. *Agricultural Systems* 65 (2), 113-136



to birds; through conversion of habitat from an ecosystem to a landscape dominated by a single species, by mining the soil of nutrients and consuming tremendous amounts of energy.

Five to six billion pounds of insecticides, herbicides, fungicides, rodenticides and other biocides are added to the world's environment each year, adding to the several hundred billion pounds that have been released this century<sup>14</sup>. Sixty percent of the herbicides used in the United States are endocrine disruptors, which simulate hormones and interfere with fetus development in humans and animals<sup>15</sup>. The effects of endocrine disruptors on animals are varied -- ranging from alligators born with abnormally small penises and birds with crossed beaks, to the sudden disappearance of entire populations

Biodiversity is also a victim of industrial agriculture's onslaught. According to the United Nations Food and Agriculture Organisation (FAO), twelve species provide seventy-five percent of the world's food and four provide just over half of the world's food. A total of just one hundred and fifty are cultivated<sup>16</sup>. Such a focus on so few species has increased the vulnerability of agriculture and impoverished the human diet. Species are being lost, the emptying of a genetic bank, which, besides having value in itself, may hold secrets enabling the treatment of disease like AIDS or Cancer. The FAO reports that 75 per cent of genetic diversity in agriculture disappeared in this past century<sup>17</sup>.

Food is a global commodity, and the distance any particular piece of food travels has increased significantly in the past fifty years, meaning that transport for food is a significant contributor to greenhouse gas production and therefore to climate change. In the US, for example, transporting food within the nation's borders accounts for over 20 percent of all commodity transport, and results in at least 120 million tonnes of CO2 emissions every year. The international trading system means that, for example, Britain will export 111 million tons litres of milk and 47 million kilograms of butter while simultaneously importing 173 million litres of milk and 49 million kilograms of butter<sup>18</sup>.

---

<sup>14</sup> Wargo, John (1998). *Our Children's Toxic Legacy: How Science and Law Fail to Protect Us from Pesticides*. Yale University Press

<sup>15</sup> Colburn et al. *Our Stolen Future*

<sup>16</sup> Food and Agriculture Organisation (2003) *Biological Diversity in Food and Agriculture*.

[http://www.fao.org/biodiversity/crops\\_en.asp](http://www.fao.org/biodiversity/crops_en.asp)

<sup>17</sup> Food and Agriculture Organisation (1997). *The State of the World's Plant Genetic Resources for Food and Agriculture*. United Nations. Rome.

<sup>18</sup> Norberg-Hodge, Helena (1999). *Reclaiming Our Food*. In the *Ecologist Magazine*. May/June



In the UK, imports of food and animal feed require over 83 billion tonne-kms of transport, use 1.6 billion litres of fuel, and emit more than 4 million tonnes of CO<sub>2</sub>. For example, a Kiwi fruit that is transported by freight carrier plane from New Zealand to Europe results in 5kg of CO<sub>2</sub> being pumped into the atmosphere for every 1kg of fruit carried<sup>19</sup>.

### Transport Costs of Food

How many emissions does this put into our atmosphere per flight? Assuming: the average passenger weighs 150lbs; the average banana weighs 0.22lbs and there are 0.566lbs of CO<sub>2</sub> emissions per flown mile.

Considering that Ecuador, Costa Rica and Columbia are the three biggest producers of the bananas consumed in Canada, these are the distances our bananas travel:

Source	Distance (miles)	lbs of CO <sub>2</sub> per banana
Quito, Ecuador	4306 miles	3.57
San Jose, Costa Rica	3514 miles	2.92
Bogotá, Columbia	4187 miles	3.48

Canada's coffee suppliers are: Brazil, Columbia, Vietnam, Mexico, Indonesia, Ivory Coast, Guatemala, India, Uganda and Costa Rica. This is how far our coffee has to travel to get here:

Source	Distance (miles)	lbs of CO <sub>2</sub> per 100g
Brasilia, Brazil	6393	5.31
Bogotá, Columbia	4187	3.47
Hanoi, Vietnam	6759	5.61
Mexico City, Mexico	2422	2.01
Jakarta, Indonesia	8297	6.88
Yamoussoukro, Ivory Coast	7104	5.90
Guatemala City, Guatemala	2998	2.49
New Delhi, India	6945	5.77
Kampala, Uganda	8783	7.29
San Jose, Costa Rica	3514	2.92

### CONCLUSION

The United World Colleges have been built on the principles of making the world a better place.

*“There is sufficiency in the world for man's need but not for man's greed.” ~ Gandhi*

<sup>19</sup> Simms, Andrew (2000). *Collision Course. Free Trade's Free Ride on the Climate*. New Economics Foundation. London.



## APPENDIX 1: Students in Action: The Students' Contribution

### Kitchen Service

Rosters of students perform the serving/cleaning duties in the kitchen. This will involve setting up, serving, washing. It is envisaged that there would be three shifts each day consisting of five students. This would mean that first year students would operate for 21 meals over the course of three weeks and each second year would operate for 14 meals over the course of two weeks.

#### Breakfast Shift: 6:15 to 8:00

Routine:	6:15 to 6:45	Workers Breakfast
	6:45 to 7:00	Set up for breakfast service
	7:00 to 7:30	Breakfast service
	7:30 to 8:00	Clean up and dishes

#### Lunch Shift: 11:15 to 2:00 (2:30)

Routine:	11:15 to 11:45	Workers Lunch
	11:45 to 12:00	Set up for lunch service
	12:00 to 12:50	Lunch service
	12:50 to 1:20	Clean up and dishes

#### Dinner Shift: 4:30 to 9:00

Routine:	4:15 to 5:15	Workers Lunch
	5:15 to 5:30	Set up for lunch service
	5:30 to 7:00	Lunch service
	7:00 to 9:00	Clean up and dishes

*Cooking and culinary arts activity:* Even though one may be prone to dismiss persistent complaints about the taste of the food here as trivial, one has to consider that food is an important part of many people's day. There has been considerable interest in the community for students to be able to cook for the whole school on select days. Besides strengthening a feeling of community and providing the opportunity for students to showcase international culinary fare, it shall also be good training in an essential skill for students who have no experience with the same hitherto. While this should never be made mandatory, as good food



requires true spirit and love, we are of the conviction that there shall be many enthusiastic volunteers. This shall however require the circumventing of certain health and safety regulations that don't permit students in the kitchen. We are thus looking at organising a formal student-led cooking activity next year.

## **Student Farming**

First and perhaps foremost, the students are offering a service to the locale community. They are also learning valuable skills, which, as leaders, will no doubt be of service to them and others and make them an asset wherever they roam. Moreover, organic farmers are a rare breed in today's society; they harbor much wisdom that they are prepared and willing to share with Pearson students. Yet another benefit is the exposure to the source of the food the students eat each day and the work involved. It is also an excellent reminder of the strenuous labor the majority of the world must do every day of their lives.

Furthermore, it gives students an opportunity to support an eco-friendly action in our generally environmentally-unfriendly world. Organic farmers work in harmony with the natural ecosystem to produce the healthiest food possible for people and the planet. They grow crops without the use of synthetic fertilizers, herbicides, pesticides or fungicides. They build healthy soil, essential to growing strong plants that are naturally resistant to pests and diseases, by planting nitrogen-building cover crops and adding nutrient-rich compost and natural fertilizers. They control pests through diligent crop rotation, beneficial insects, and naturally derived repellents.

Most weeding is done by tractor and by hand. Organic farming is more labor-intensive but it is an important step in taking care of our environment and ourselves. Organic farming offers a healthier, chemical free environment for field workers; it conserves natural resources by recycling natural materials on the farm to build healthy, fertile soil for a sustainable future and it helps keep our air, soil and water, as well as our food supply, free of toxic chemicals.

## **Farm Service**

Students donate their time and energy to working on a local farm throughout the year. Students, scheduled for various weeks of the year, would work on the farm in place of their normal afternoon activities. Essentially, it is a new form of village service.



Both first and second year students will contribute 4 afternoons of labour. This would amount to a weekly workforce of 6 students each day. Their days will be rotated so that the same activity is not missed each week. Students will go in pairs to two separate farms each day. These pairs will also rotate throughout the two weeks to ensure continuity for the farmers. The remaining pair of students will remain on campus to help the maintenance staff.

### Sample Roster

The students: Maggie, Alex, Meg, Rianne, Jamie, Adrian, Nora, Jacob, Shirla, Julio, Ileana and Felix.

**Table 6: Rota for Farm Service**

<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>
Maggie (2 <sup>nd</sup> Week) Rianne (1 <sup>st</sup> Week) <b>Deeter Farm</b>		Maggie (2 <sup>nd</sup> Week) Rianne (1 <sup>st</sup> Week) <b>Deeter Farm</b>	Nora (2 <sup>nd</sup> Week) Shirla (1 <sup>st</sup> Week) <b>Tsutomo Farm</b>	Nora (2 <sup>nd</sup> Week) Shirla (1 <sup>st</sup> Week) <b>Tsutomo Farm</b>
Alex (2 <sup>nd</sup> week) Meg (1 <sup>st</sup> Week) <b>Bernie Farm</b>	<b>No Activities</b>	Alex (2 <sup>nd</sup> week) Meg (1 <sup>st</sup> Week) <b>Bernie Farm</b>	Jacob (2 <sup>nd</sup> Week) Julio (1 <sup>st</sup> Week) <b>Fern Farm</b>	Jacob (2 <sup>nd</sup> Week) Julio (1 <sup>st</sup> Week) <b>Fern Farm</b>
Jaimie (2 <sup>nd</sup> Week) Adrian (1 <sup>st</sup> Week) <b>Village Service</b>		Jaimie (2 <sup>nd</sup> Week) Adrian (1 <sup>st</sup> Week) <b>Village Service</b>	Ileana (2 <sup>nd</sup> Week) Felix (1 <sup>st</sup> Week) <b>Village Service</b>	Ileana (2 <sup>nd</sup> Week) Felix (1 <sup>st</sup> Week) <b>Village Service</b>

*Extreme Farming Activity:* The student's responsibilities would be coordinating Farm Service every day, as well as work on developing, maintaining and tending to the on-campus garden. These students would be in continual contact with the farmers so that they could help the farmers when needed as well as prepare students for their afternoon of service. These students would also tend to nearby fields lent to Pearson for its own cultivation. The activity will consist of two students every day. The nature of these leadership roles have many possibilities and will be evolving as the direction of this service takes shape.

### **APPENDIX 2: Sample Request for Information**

The following is an example of an outline of a Request for Information.

REQUEST FOR INFORMATION  
FOR  
*Issued by*



Issue Date: June 5, 2002

RFI #2002-13

Response Date: June 27, 2002; 2:00 p.m.

CATERING SERVICES

REQUEST FOR INFORMATION  
CATERING SERVICES

## **PART I: GENERAL INFORMATION FOR CATERERS**

### I-1. Introduction:

The purpose of this Request for Information (RFI) is to identify those Caterers interested in providing catering services to the Pennsylvania State System of Higher Education (Educational Resources Group and the Office of the Chancellor) located at the Dixon University Center in Harrisburg, Pennsylvania, and to determine the best concepts for catering services at the Dixon University Center. This RFI is not intended to select a caterer to provide catering services. Subsequent to this RFI, a Request For Proposal (formal competitive solicitation) will be issued for the selection of a provider of the services.

### I-2. Issuing Office

### I-3. Incurring Costs

### I-4. Amendment to the RFI

### I-5. Response Date

### I-6. Proposals

### I-7. Economy of Preparation

### I-8. Disclosure of Proposal Contents:

### I-9. News Releases:

## **PART II: DESCRIPTION OF THE ORGANIZATION and BACKGROUND**

### II-1. State System of Higher Education:

### II-2. Explanation of Organizations.

### II-3. The Dixon University Center.

## **PART III: STATEMENT OF REQUIREMENTS**

### III-1. Objectives:

#### A. General.

#### B. Specifics.

### III-2. Scope:

#### A. Kitchen Facilities:

#### B. Catering History:

### III-3. Requirements

## **PART IV INFORMATION REQUIRED FROM FIRMS**

### IV.1 Statement of Qualifications:



### APPENDIX 3: Sample of Food available in BC

Cereal/Pasta/Grain Products: Excerpt from BC Food Directory  
[http://www.agf.gov.bc.ca/foodind/processor\\_directory/](http://www.agf.gov.bc.ca/foodind/processor_directory/)

pasta

**Alta I.D. Enterprises Ltd.**

Pasta, fresh, plain, stuffed,  
pasta sauces, sundried tomatoes, extra  
virgin oil, balsamic vinegar, pickles,  
custom process

**Anita's Organic Grain & Flour Mills**

**Ltd.** Organic milled and unmilled  
flour, cereal grain, pancake, & waffle  
mix

**Creando Organic Farm**

Baked goods

**D'Angelo Pasta Ltd.**

Fresh pasta noodles, pasta  
sheets, fresh and frozen stuffed pasta,  
custom process

**Duso's Enterprises Ltd.**

Fresh pasta & italian and  
mediterranean sauces

**Empire Foods Enterprises Ltd.**

**English Bay Blending**

Bakery mixes and blends

**Favorite Foods Ltd.**

Asian noodles, Asian sauces

**FoxHole Bakery**

Bread, baked goods, grinds  
own flour

**Gambrinus Malting Corp.**

Whole grain, specialty malt  
from barley and wheat

**Golden Boy Foods Inc.**

Rice, spices, lentils, peanut  
butter, jam, kosher, dried fruits, snack  
mixes, peanuts, roasted, salted

**Gourmet Pasta Inc.**

Fresh pasta, frozen stuffed

**Kootenay Pasta Company Ltd.**

Gourmet fresh pasta &  
sauces

**Lazy Gourmet Inc., The**

**Maximillien & Co. Specialty Foods**

Chips, rice crackers,  
chocolate almonds, antipastos, salsas

**Moly Enterprises**

Organic milled grains

**Nature's Path Foods**

Breads, cereals, frozen  
waffles, snack mix, custom process

**Northern Gold Foods Ltd.**

Ready to eat breakfast cereal

**Olivieri Foods Limited**

Pasta, sauces

**Organic Farm & Bakery (The)**

Yeast-free bread, buns, spelt  
flour

**Park May Guy Foods Ltd.**

Dimsum products, noodles,  
baked goods, Chinese foods.

**Rogers Foods Ltd.**

Flours, cooking cereals,  
breakfast cereals, custom process

**Salt Spring Flour Mill**

Flour

**Savoury Processed Foods Inc.**

Mexican foods, flour tortillas,  
tortilla chips, snack chips

**Sepp's Gourmet Foods Ltd.**

Chilled ready meals, cookies,  
frozen waffles, pates, dips, prepared



functional foods

**Top-Valu Food Products Ltd.**

Noodles, steamed noodles,  
wonton wrapping, fortune cookies.

**Win Full Food Ltd.**

Chinese noodles

**Winners Circle Marketing Inc.**

Meat pies, fruit pies,  
sausage rolls

**Van Rice Products Ltd.**

Rice and rice products, rice  
cakes

#### **APPENDIX 4: Bibliography**

Airplane Pollution. *Greenhouse Gas Pollution in the Stratosphere Due to Increasing Airplane Traffic*. <http://www-personal.engin.umich.edu/~murty/>

Auflage Stuttgart-Hohenheim (1999). *Organic Farming in Europe: Economics and Policy: Volume 6*

Banana Link. *Companies*. <http://www.bananalink.org.uk/companies/comp.htm>

Bates College Dining Service (2002).  
[http://solstice.crest.org/environment/renew\\_america/98nar/98d3803.htm](http://solstice.crest.org/environment/renew_america/98nar/98d3803.htm)

Beach Hill Farm. *Local and Sustainable Food Production*.  
<http://www.coa.edu/beechnill/production.html>

Colburn, Theo et al (1996). *Our Stolen Future*. Dutton. New York.

Evergreen State College. <http://www.evergreen.edu/housing/handbook/food.htm>

Food and Agriculture Organisation (2003) *Biological Diversity in Food and Agriculture*.  
[http://www.fao.org/biodiversity/crops\\_en.asp](http://www.fao.org/biodiversity/crops_en.asp)

Food and Agriculture Organisation (1997). *The State of the World's Plant Genetic Resources for Food and Agriculture*. United Nations. Rome.

Greenpeace (2001). *Genetically engineered food: still unlabelled and untested*. Survey of peer-reviewed scientific journals. <http://www.greenpeaceusa.org/ge/untested-unlabeled.pdf>

Helena Norberg-Hodge and Steven Gorelick. *Bringing the Food Economy Home: Local Alternatives to Global Agribusiness*, published by Kumarian Press (US), Zed Books (UK) and Fernwood Press (Canada).

Helena Norberg-Hodge and Steven Gorelick. (2002). *Think Global, Eat Local*. The Ecologist. September Edition.

Indo. *Bali and Indonesia on the Net*. <http://www.indo.com/distance/>

J.N. Pretty and Rachel Hine (2000). *Reducing Food Poverty with sustainable agriculture: A Summary of New Evidence*. 'SAFE-World' Research Project.

Journal of Neuroscience (2000). December 15. Quoted in briefing paper by the Soil Association. [www.soilassociation.org](http://www.soilassociation.org)



Kimbrell, Adam (2002). *Fatal Harvest: The Tragedy of Industrial Agriculture*. Island Press. Washington, DC

Norberg-Hodge, Helena (1999). *Reclaiming Our Food*. In the Ecologist Magazine. May/June

N. Parrott and T. Marsden (2002). The Real Green Revolution – Organic and agro-ecological farming in the South Greenpeace

Organic Consumers Association (2002). Organic Farm will Supply Food for PA University. <http://www.organicconsumers.org/Organic/slipperyrock091302.cfm>

Oxfam. (2001) *Bitter Coffee: How the Poor are Paying for the Slump in Coffee Prices* <http://www.oxfam.org.uk/policy/papers/coffee/coffee.htm>

Pretty et al. (2000). *An assessment of the total external costs of UK agriculture*. Agricultural Systems 65 (2), 113-136

Simms, Andrew (2000). *Collision Course. Free Trade's Free Ride on the Climate*. New Economics Foundation. London.

Soil Association (2000) *The Biodiversity Benefits of Organic Farming* <http://www.pan-uk.org/pestnews/pn48/pn48p15b.htm>

Vandana Shiva's Reith Lecture. *Poverty and Globalisation*. [http://www.sirc.org/news/vandana\\_shiva\\_reith.html](http://www.sirc.org/news/vandana_shiva_reith.html)

Yale News Release (2002). *Yale Residential College Goes Organic*. <http://www.yale.edu/opa/newsr/02-10-01-02.all.html>

Wargo, John (1998). *Our Children's Toxic Legacy: How Science and Law Fail to Protect Us from Pesticides*. Yale University Press

West Coast Seeds (2003). *The West Coast Seeds Farm Catalogue*. pw design, BC.