"Real Food"

For the Warren Wilson College Dining Hall

An Economic Study

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This study is the result of a semester long project for the Environmental and Ecological Economics class, fall of 2006, at Warren Wilson College. The three students involved in this project came to the class with enormous interests in agriculture, the environment, health and sustainable food systems. After some effort to focus on an aspect of these complex and interrelated systems, we decided to work on a project close to home: the food program at our own institution. With this idea, we concentrated on the environmental and health issues of our current system and the economic issues behind transitioning to a more ecologically sound, healthier and sustainable food program.

Preface: The Sodexho and Warren-Wilson Partnership

Warren Wilson College, a liberal arts college with a strong environmental drive, has two dining halls, both of which are supplied by a multinational, multibillion-dollar corporation. Sodexho Corporation is the leading food and facilities provider in the United States, Mexico and Canada, serving more than ten million people every day. This includes 1,046 colleges and universities, 482 private and public school districts, 1,671 hospitals, 1,939 businesses and the US Marine Corps. These services include catering, concessions and arena management, convenient stores and vending, and office coffee and refreshments, all using more than $1.9 billion worth of food every year and bringing $6.3 billion in revenue every year.

Sodexho is extremely proud of their expansive programs. They work hard to defeat hunger, give opportunities to minorities, women and the disabled and are well known for ranking number-one in diversity. Sodexho strives for diversity in the workforce, suppliers, and alliances. Aiming to supply high quality food at low prices is also a main goal for Sodexho as a food provider. The corporation works hard to gain business and markets, retain all of its current
clients, increase revenue, and increase clientele every year. With growing demands, Sodexho has also been increasing its partnerships with organic companies, but currently the majority of its resources support very little local and organic food.

Warren Wilson has had a contract with Sodexho since before Sodexho merged with Marriott in 2001. For years, Sodexho and its partners provided everything from dinnerware to food and drinks in the dining hall. Warren Wilson also has a five-acre garden and a sustainable farm that supplies vegetables and beef to the two dining halls, Gladfelter and Cowpie Cafe. Sodexho is not aware of this on-campus food production and it is not legally supposed to be occurring under Warren Wilson-Sodexho contract, but Sodexho’s representative on campus has worked diligently to allow for this exception within the constraints of the contract. Cowpie Cafe, a student-run vegetarian dinning hall, serves a larger percentage of local and organic foods, bought through Sodexho, based on student preferences and a limited annual budget.

As an environmental liberal arts college, Warren Wilson attracts many ecologically aware and health-conscious students who are highly interested in organic food not just for their personal health, but also out of concern for the environment. The College has a strong history of environmental commitment and has been elaborating on this commitment through the years. The college handbook exemplifies this ideology of stewardship- “conserving resources, reducing waste, and eliminating pollution…our feelings extend deeper to a recognition that we are also component parts of an interdependent web of social and ecological relationships.”

Recent student discussions have emphasized that these relationships and policies should include the food program by recognizing the environmental effect the institution has in purchasing and supporting industries and farms that are environmentally harmful. Goals and an agenda have been set for the future environmental quality of the institution. The goal of
“continuing to discuss and develop a sense of shared values that inform our environmental commitments and practices” is exactly where the food system can and should fit in. Currently students have demonstrated dissatisfaction with the quality of food provided and are hoping for a change in 2012 when the bid for a renewed Sodexo contract will take place. It is in this context that an economic study of “real food” has become increasingly important. Changing the food system to an environmentally conscious program by supporting organic and local foods would meet Warren-Wilson’s mission of continued environmental commitment and practice.

Mission: Critically Examining Eating

The goal of this study is to critically examine the current food program in association with the wants and needs of the Warren Wilson community from an environmental and ecological economics point of view. This implies analyzing the costs and benefits of the system both to human health and to the environment, and determining whether our status quo is safe, sustainable, and efficiently meets the community’s wants and needs. The method we used was contingent valuation by performing research into the attributes and costs of the food service provided by Sodexo Corporation and research into the tastes, preferences, and willingness to pay of the Warren Wilson food consumers. Warren-Wilson community food consumers are the key link between the status quo and the policy alternatives. Our strategy for analysis is the comparison of the current system to a potentially better alternative, shaped by community demand, through contingent valuation and the calculation of consumer surplus. The purpose of this study is to present a policy alternative, based on a synthesis of the research, to the college administration as well as recommendations for action. A schematic representation of this outline
The economic and environmental issues behind eating well are many. This generation’s "Real Food Revival" has us thinking twice about the values of a potato- is it a good potato? Warren-Wilson asks itself whether the current food service is a good choice- does it match our wants and needs? Conscientious students are realizing that the food they eat is inextricably connected to the environment, local economies and human health, and can make the choice to support these webs with their buying power. Yale University recently initiated the Yale Sustainable Food Project- a student-led program that brings local and organic food into the campus dining hall. Warren-Wilson is also interested in moving towards a more ecologically sustainable food system, but has been challenged by economic issues.

In this report, we examine the values of a food service, market and non-market, to the environment and ourselves. The economic models we will rely on to examine these issues will be principles of environmental and ecological economics- that put the human economy within the context of the environment, recognizing the macro-economy as an open system in which matter and energy are exchanged with the environment. Our analyses are based on the assumption that the environment and social welfare are connected and that both are affected by the economy- in our case, by the microeconomy of the Warren-Wilson food service.

Research

Status Quo- The Attributes of the Food Company and the Costs of Corporate Catering

The first area of research is the current policy- the Warren-Wilson food system under Sodexo. This encompasses both market and non-market goods. How much do we pay for what we get? What percentage of the food Sodexo serves is organic relative to conventional? What is the dollar value of each meal served by Sodexo? Figure 2 charts the sources of food served in
the dining hall and the price paid by each student eating 3 meals a day. Figure 3 shows an estimate of the ratio of conventional, to local, to organic, to natural foods served now in Gladfelter. This pie chart clearly shows the dominance of conventional food, with equal parts local and natural food, and the slimmest slice of organic products. The status quo represents the current policy of mostly conventional food.

Now that the attributes and dollar value of the current system are clear it is important to start considering the externalities of the food system. What are the non-market costs and benefits of contracting corporate catering?

An article in “Sustainable Table” addresses the economics behind industrial agriculture, stating that:

"The seemingly low price of industrial food does not include the true costs of production. These hidden costs include environmental degradation, use of fossil fuels, damage to human health, and the destruction of rural communities. These costs are not paid by the owners of factory farms, they are paid by residents of the communities in which these operations are located, by taxpayers, and by society as a whole."

The negative externalities the author associates with large-scale conventional agriculture affect the environment, human health and rural communities, and are not internalized by the agro-industry itself, nor by Sodexho as a distributor, but rather are absorbed by the human and environmental communities served. The monetary cost of industrial food, therefore, is artificially low because the cost to the environment and social welfare is secretly high. In order to better estimate the true cost of the food we consume with Sodexho, we must account for the costs to natural systems and ourselves.

1 http://www.sustainabletable.org/issues/economics/ September 17, 2006
The costs to the Warren-Wilson community include the current college dining budget, (or the amount paid by each student for board), the opportunity costs of missing out on “better” food, opportunity costs lost to local food producers, and the health costs of conventional, imported food products. The benefits to the Warren-Wilson community include the convenience of the current system, the personalized relationship we have with the company and the exceptions they’ve made for local producers, the value of the food received, and the relatively low price of conventional and imported products.

Organic, locally produced food eliminates the negative external costs of agriculture by using agro-ecological methods that are environmentally and socially safe. This key difference, however, also eliminates the artificially low price. But, as Yale notes, the environmentally sustainable alternative, though more expensive, can become more economically sustainable:

“Sustainable food does not benefit from the hidden or direct subsidies that make its conventional counterpart seem cheap. Nevertheless, our experience over the last three years strongly suggests that [a sustainable food system] can be fiscally responsible. Two positive trends encourage this thinking. First, experience at the test kitchen is lowering the cost of sustainable food. The experience accrued at Berkeley in sourcing, preparing, and setting menus has nearly halved the additional food cost, from 70 percent more than conventional food to 37 percent more. Learning drives down costs. The second positive trend is our ability to realize economies of scale as we expand the Project. Making purchasing agreements with farmers and producers in advance for large volumes lowers cost; the inefficiencies of managing two distinct food inventories in the dining halls disappear; and the administrative and infrastructure costs are spread out over more meals.”

2. http://www.yale.edu/sustainablefood/resources.html September 17, 2006
To better calculate the cost of a sustainable food system based on locally produced and organically certified food, Warren-Wilson will have to take a learning curve and a changing market into account. The price of organic food on the national market is already in flux due to changes in consumer demand, and a food service will need to work on its efficiency as an economic system.

**Status Quo - The Tastes and Preferences of Food Consumers**

The second important area of research is the student and faculty population at Warren-Wilson, the users of the food service. We need to determine our wants and needs as a whole community in order to determine whether our dining service adequately fulfills them. Then we need consumers to supply two important pieces of information: what are their perceived benefits of a change in the food system and how much are they willing and able to pay for such a change?

A re-evaluation of the expectations of participants in the food system will illuminate the criteria of a “better” system.

Economists have been doing willingness to pay research for many years now. One study by Wanki Moon et al. completed a survey on willingness to pay for eco-labeling. This is, for foods that are labeled with facts in regards to their environmental impact. Their goal was to discover willingness to pay a premium for foods produced with environmentally friendly methods.

Completed between the former West Berlin and East Berlin, keeping income into account by ensuring a state from each province to represent different incomes, the study revealed that households with larger incomes did not choose the environmentally friendly foods over others. They did find that those residing in West Berlin were more willing to purchase these foods, as
well as the younger audience that too part in the survey. The most important issue that was
brought up in this study was that

"consumers' purchase decisions will be made based on the price of premium associated with
environmentally sensitive goods. That is, consumers will purchase environmentally sensitive goods until the
marginal benefits of environmental attributes equal marginal costs, represented by the price premium" (Moon et al).
Our study relates to this because our students must be able to feel the benefits and will be willing
to pay only as much as they feel they will benefit from their money.

The benefits of a “better” food system include non-market benefits that are not
immediately associated with a dollar value. These non-market benefits must be inferred through
non-market goods valuation. Our strategy for non-market good valuation is the analysis of
consumer stated preference, collected through a survey. This stated preference is consumer
willingness to pay (WTP) to get a positive impact.

Another study that has been completed in this way was a study to discover different ways
that consumers may respond to food safety problems completed by Eileen O. van Ravenswaay
and John P. Hoehn. Instead of putting a price on food, consumers were simply informed with the
environmental and health issues with each type of food and was given different options. It was a
study to reveal what “empirical measures of benefits reveal about how consumers would value
policy change if they had expert information” (Ravenswaay). Four ways that consumers respond
to food hazards included: avert, mitigating actions, and brand switching and product
avoidance. The study resolved in the fact that when educated, depending on the severity of the
issue at hand, consumers would do one of these options (Ravenswaay).
Ask the Consumers: A Community Food Survey

The “Community Food Survey” (see appendix) addresses the need to define the demand for organic, local, and natural food at Warren-Wilson College in order to evaluate how the food service can better meet our wants and needs. Specific questions are aimed at the community’s opinion of the status quo, their preferences for change, and their willingness and ability pay for it. The survey was designed with the following principles in mind:

- The non-market benefit to be measured is the use value of local, organic, and natural food.
- The current level of the non-market benefit and its positive/negative attributes are defined on the survey.
- The population surveyed is a random sampling of users of the Warren-Wilson food service.
- The non-market benefit will be valued through consumer stated preference, specifically through contingent valuation and choice models.
- Contingent valuation establishes a hypothetical market by which the respondent can determine the value of a non-market good. The choice model presents the respondent with a choice between tangible options.
- Proportions of local, to organic, to natural foods are used as a proxy variable for the non-market benefits.
- The stated preference is the consumer’s willingness to pay to get a positive impact.
- The non-market good valuation will be measured through consumer surplus—the difference between what the consumer is willing to pay and what the consumer currently pays.
- The payment vehicle presented to the respondent in an increase in board.
- Payment values may include vehicle bias, information bias, starting point bias and strategic bias.

**Sampling Methodology**

The sampling of this survey had to be as random as possible to have the best range of people interviewed. It is important to have students of all ages, years in schools, sex and backgrounds. To do this, it was decided that each dorm has different groups of people in it and each dorm should be surveyed. That in mind, floors from each dorm were randomly chosen to be surveyed. Next, the surveyor started at the end of the hall with the door on the right. From there, every other door was knocked on and those answering were asked to complete a survey. Other surveys were completed in the library, with surveyors sitting near the circulation desk asking students entering or exiting the library if they had taken the survey and if not, and if they would. All students who refused to take the survey were marked at non-respondents. Students not home at the time of surveying did not fit into this category.

While designing the surveying methods, it was determined that approximately 200 surveys would be an adequate sample of the Warren Wilson College student body, which consists of 837 undergraduates. The appendix contains a copy of the cover letter all surveyors held and read to the students chosen to be surveyed. Also in the appendix is the sampling method handout that was given to all samplers. It illustrates the 18 dormitories on campus and the floor from each that was chosen at random to be sampled. While surveying the chosen floor.
surveyors were instructed to address every other room and to record which students were not home and which students were not willing to participate.

The sampling method handout also explains how surveyors were to address students at the Library, and Cowpie and Gladfelter dining halls. All sampling was to be random and respectful of the students and facilities.

*Original Comparative Figure*

The survey contained an estimated figure of a $150 increase per semester in board to compensate for a dietary budget in Gladfelter dining hall that contained 75% organic foods. This figure was used so students would have something to roughly gage their answers on willingness to pay. The figure was calculated by studying Gladfelter’s annual cash expenditure for certain families of foods and then studying percentages of average higher premiums paid for organic foods within those families. Those figures were taken from a study conducted by the Economic Research Service of the United States Department of Agriculture. Figure 4 is a chart illustrating those figures, percentages, and proportions.

*Results*

*Sample Results*

Out of the 200 surveys administered, 147 were completed, producing a 74% survey completion rate. The 147 surveys represent approximately 18% of the undergraduate student body. There was an average age of 20.5 years old and approximately 64% of the samples were females and 36% males. About 95% of these students are on the meal plan at Warren Will College. Approximately 73% are omnivores, 22% vegetarian, and 5% vegan. The median of
sample was juniors, but the mode was sophomores. The average grade point average for the sample was 3.38, which rides closely with the entire Warren Wilson population’s average grade point average of 3.45.

Data Results

The results show the majority of the sample is not happy with the current food system at Warren Wilson College. The sample closely weighs organics, local, and natural foods in a high level of importance. There also did not seem to be a large difference in preferences of different kinds of local and organic foods as long as they were local and organic.

When asked about ideal dietary budgets, the majority of the sample wanted a conscientious combination of conventional, local, organic, and natural foods. 45% of the sample chose the hypothetical dietary option B that maximized local and organic foods. 25% chose the hypothetical option C wherein 75% of the budget is organic, a 25% increase from option B, but local was cut down to 15%, a 10% decrease from option B. This helps illustrate the consumer demand for local foods in comparison to organics. 13% of the sample chose option A wherein conventional, organic, local, and natural foods are weighted the same, and 17% of the sample said they were content with the current system.

The average increase in food students from the sample were willing to pay was approximately $116 per student, per semester. High-end averages were approximately $160 for option C. And the low-end averages were as high as $87 for option B. For those students who chose the current option, there was still a willingness to pay of approximately $94.
According to the survey results, Warren-Wilson community wants and needs are not being met by the current food system. The samples of responders are generally “unhappy” with the current system and highly value the non-market benefits of organic, local, and natural food. It is apparent that responders are interested in changing the attributes of the current food system and are willing to pay an average of $116 to gain a positive impact. The sample most desires a careful combination of all the different types of food with an emphasis on local and organics, most closely represented by the hypothetical option B: 50% organic, 25% local, 15% natural and 10% conventional. This re-evaluation of expectations of participants in the food system has illuminated the criteria of a “better” system (Dimitri).

**Conclusion**

*An ideal Food System*

Based on a critical analysis of the current food system, the non-market valuation information collected and taking into account the demands and willingness to pay of the consumers, a picture of an ‘ideal’ food service has started to form. The cost-benefit analysis of Sodexo in the Warren-Wilson community shows areas that need improvement- aspects of the system that cause negative externalities. The survey of the campus contributes information about the benefits that the community values but the system lacks. Given this information our next step is to propose a transition to an alternative food program that would better fulfill our wants and needs.

We have an idea, from our two areas of research, what our policy options look like. The first policy is our current system and the second is the “better” alternative. To present a viable
alternative, we have determined what changes can be made to minimize negative externalities of
the food system and increase social and environmental benefits in a way that is economically
possible and sustainable. The ratio of organic to local, to natural, to conventional foods that
would best match the consumers' wants and needs is presented in figure 5 along with the
participants' willingness to pay.

This alternative policy to the status quo can be reached through various courses of action.
Warren Wilson can take action towards a sustainable food service by a) negotiating with
Sodexo b) signing with another catering company c) designing its own food service. Other
options may arrive as the date of the contract renewal approaches.

Assume that the main obstacles in the way of an "ideal" food system that fulfills the
consumers' stated wants and needs are a) the high environmental cost of the current system,
and/or b) the high economic cost of the alternative. To choose an approach to better the system,
we must first consider: which costs can we most effectively lower? In past experience, the
college has effectively lowered its environmental footprint through compromises with Sodexo,
without any affect on the monetary cost to the students. Does this effort pay off more than an
effort to make an alternative more affordable?

When environmental economists ask, how much is too much? they are thinking about
environmental thresholds- about crucial levels of degradation that are quantifiable both
normatively and non-normatively. In the same respect, how much is enough? is another threshold
we must determine as we re-evaluate, both normatively and non-normatively, what we must give
to get what we want.

Assigning value to the elements involved in the food system- the quality of our
environment, our physical health, the strength of local economies- will be normative as well as
quantitative. Weighing the costs and benefits will be affected by idealism as much as realism- for idealism has a certain value as well.

Real Food- a Real Possibility?

Today colleges and universities are already in the process of creating “green dining halls.” Yale University in New Haven, Connecticut, Williams, MA, Sterling, VT, St.Olaf, MN, Colby, ME, and Bowdoin ME, are just a few schools of higher education that are replacing old food services with local and organic options. Each one of these schools has different programs catering to different needs and desires on each campus. Figure 6 has each of these schools listed with different aspects of their green dining hall that makes them unique.

Yale did it! Is ‘sustainable’ food economically possible for Warren Wilson? Yale had student demand and leadership- they changed the resource flow between their dinning hall and the local agricultural system in favor of an exchange that drastically reduced the costs on the environment and their personal health. The trade-off for Yale was a spike in fiscal expenses. Yale’s student demand, willingness, and ability to support the economic burden made the transition possible. It was the combination of idealism, as well as a monetary investment, that paid the initial cost of an alternative food service. Given the information presented in this study, consider whether Warren Wilson College has the necessary incentive to make the same move.

Economies of scale will play an important role in evaluating the plausibility of this project. An external economy of scale is necessary to efficiently offer the services Warren Wilson wants to buy, and internally Warren Wilson must watch marginal costs to see that they decrease after the initial investment. If buying power is to be the tool of choice in Warren
Wilson's movement towards an ecologically and economically sustainable food service then our expenditures must also be sustainable- we must work towards an economy of scale.

Yale's model for cutting costs by increasing allocation efficiency and increasing economies of scale can create positive network externalities from which colleges like Warren-Wilson can benefit. Economic barriers to ecological health can be challenged by new economic initiatives; the bad potato can become good.
Sampling Method

ECON 380
FALL 2006

1) You need:
- Ten surveys each
- Cover Letter
- A clipboard and attached pen (bring extra pens)
  (or a cardboard table and two chairs)
- DRESS nicely. No jeans. Ties are not necessary, but would be nice. Nice shirts, trousers,
  sweaters etc.

2) Contact dorm RD and let them know you are interviewing.
3) Sampling Method.

DORMS: We are surveying every dorm. There are 18 dorms, and randomly selected floors for each
dorm will be surveyed. Every other room of that floor should be surveyed. The following floors will be
surveyed:

ANTC: 2nd Floor
Ballfield A: 3rd floor
Dorland: 2nd floor
Edmund: 1st floor
Ballfield B: 1st Floor
Sage: 1st Floor
Schaefer A: 2nd Floor
Schaefer B: 2nd Floor
Schaefer C: 2nd Floor
Shepard: 1st Floor
Stephenson: 1st Floor
Sunderland: 2nd Floor
Sutton: 2nd Floor
Village A: 1st Floor
Village B: 1st Floor
Vining A: 2nd Floor
Vining B: 2nd Floor
Wellness: 3rd Floor

Begin at the end of the hall and take the first door on the right as the first room, and alternate rooms
thereafter.

LIBRARY: You may survey in the library at the circulation desk. We have permission from Chris
Nugent and BK Segall. Please check in with BK when you get there.

Ask students who come to the circulation desk whether or not they have already done the survey. If they
have done the survey, tell them thank you for filling it out. If they have not done the survey, ask them if
they will do the survey. If they say no, mark them as a non-respondent. If they say yes, give them a
GLADFELTER AND COWPIE: Go table to table and ask students whether or not they have already done the survey. If they have done the survey, tell them thank you for filling it out. If they have not done the survey, ask them if they will do the survey. If they say no, mark them as a non-respondent. If they say yes, give them a survey. Be sure to show them the cover letter.

REMEMBER: Respondents must be over 18 years of age. Responding is voluntary. All responses are anonymous.

4) Non-Respondents:

Please keep track of all non-respondents to the survey. These are people who have been asked to take the survey and said no. If someone is not home, they are not home, not a non-respondent. Use the tally sheet given to keep track of both non-respondents and not homes.

e.g. Keep a tally Not Home Non-Respondent (said no)
     III           III

8) Finally, be sure to thank people after they have completed the survey or non-response sheet.

Please bring your completed surveys and tally sheets to Matthew Lucas by Tuesday morning.
Gladfelter's Cash Expenditures and Requirements for Organic Foods

<table>
<thead>
<tr>
<th>Food Stuffs</th>
<th>Cash Expenditures</th>
<th>% of Total Expenditures</th>
<th>Average % Higher Premiums for Organic</th>
<th>% of Ex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baked Goods</td>
<td>$8,035</td>
<td>2%</td>
<td>81.50%</td>
<td>1</td>
</tr>
<tr>
<td>Beverages</td>
<td>$49,937</td>
<td>11%</td>
<td>52.75%</td>
<td>5</td>
</tr>
<tr>
<td>Milk and Ice Cream</td>
<td>$36,389</td>
<td>8%</td>
<td>70.80%</td>
<td>11</td>
</tr>
<tr>
<td>Dry Goods</td>
<td>$129,170</td>
<td>28%</td>
<td>65.60%</td>
<td>12</td>
</tr>
<tr>
<td>Frozen Foods</td>
<td>$56,742</td>
<td>13%</td>
<td>21.67%</td>
<td>3</td>
</tr>
<tr>
<td>Meat, Eggs, Cheese</td>
<td>$99,975</td>
<td>21%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Produce</td>
<td>$83,944</td>
<td>18%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Expenditures</strong></td>
<td><strong>$465,552</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Estimated Increase in Tuition for Organics in Gladfelter

Total Number of undergraduate Students

5

Figure 5: alternative policy proposal

Average Willingness To Pay: $116
<table>
<thead>
<tr>
<th>School</th>
<th>Start date-implanted date</th>
<th>Student Involvement</th>
<th>Number of food establishments</th>
<th>Cost Increase</th>
<th>How it was funded</th>
<th>What Company is used?</th>
<th>100% organic, local or natural?</th>
<th>Farm at school</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yale, CT</td>
<td>2000</td>
<td>Yes; they started the Yale Sustainable Food Project</td>
<td>1, at Berkeley College</td>
<td>7%, or $2.25 per meal increase</td>
<td>Gifts by parents, alumni and advisory committee. University operating budget</td>
<td>Aramark</td>
<td>No, but strives for highest percentage.</td>
<td>YES, does not provide for dining</td>
</tr>
<tr>
<td>Williams College, MA</td>
<td>2001-2003</td>
<td>Yes; a hired student did most of the research</td>
<td>All 5 dining est. at the college</td>
<td>4.5%, or $9.17 per meal increase</td>
<td>Through the regular department budget</td>
<td>Original dining services of college</td>
<td>No, all summer &amp; autumn veggies, milk, mushrooms, beef and frozen dairy are local.</td>
<td>No</td>
</tr>
<tr>
<td>Sterling College, VT</td>
<td>1991-1995</td>
<td>No, just farm involvement</td>
<td>Only 1 on campus</td>
<td>Unknown</td>
<td>Dropped old service, doing on own now</td>
<td>Original dining services of college</td>
<td>No, as much as possible, but not possible for all in VT, all used is local.</td>
<td>Yes, provides for dining (meat &amp; veggies)</td>
</tr>
<tr>
<td>St. Olaf College, MN</td>
<td>1993-2005</td>
<td>Yes</td>
<td>Main cafeteria and snack bar</td>
<td>Worked budget with Bon Appetite to make it reasonable</td>
<td>Normal dining budget</td>
<td>Bon Appetite</td>
<td>No all done through purchase with Bon Appetite</td>
<td>No</td>
</tr>
<tr>
<td>Colby College, ME</td>
<td>2001-2002</td>
<td>Yes; 4 students in Env. Advisory Group, huge involvement</td>
<td>All 3</td>
<td>More than that consumed than money consumed</td>
<td>Normal dining budget</td>
<td>Sodexo</td>
<td>No, but as local as possible, fair trade coffee and lots of organic produce</td>
<td>No</td>
</tr>
<tr>
<td>Bowdoin College, ME</td>
<td>2004-present</td>
<td>Yes; almost completely student organized and implemented</td>
<td>The only dining hall on campus</td>
<td>Made money because of profits from garden</td>
<td>Grants asked for by students, garden makes money now too, and dining services</td>
<td>Original dining services</td>
<td>No, but all from garden is organic and local</td>
<td>Yes, provides most to dining, other donated to soup kitchens</td>
</tr>
</tbody>
</table>

Information from:

http://www.yale.edu/sustainablefood/faq.html

http://www.awf.org/campusEcology/dspGreeningProjects.cfm?iID=6


COMMUNITY FOOD SURVEY

Many people on campus have been talking about getting more local, organic, and natural food in the dining halls. This survey is the first step in working towards a more sustainable food system—one that is ecologically sound, socially conscious, and better for the health of the Warren-Wilson Community. Please take your time to fill it out thoroughly. Thank You!

Here’s where we are now:
Our current food service is provided by Sodexo. The representative of Sodexo on campus has worked hard to get as much local and organic food into the food system as is permissible within the constraints of the Sodexo contract. So far we already have some local and organic food in the dining hall and, when available, food from our own farm and garden. In Gladfelter: Local apples, local honey, WWC beef and sausage. In Cowpie: WWC garden vegetables, organic cereals, grains, beans, dried fruits, nuts, and seeds.

<table>
<thead>
<tr>
<th>Percentage food available per meal*</th>
<th>From the Garden/Farm</th>
<th>Other Local Sources</th>
<th>Certified Organic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gladfelter</td>
<td>5% or less</td>
<td>5% or less</td>
<td>Less than 3%</td>
</tr>
<tr>
<td>Cowpie</td>
<td>15-40% seasonally</td>
<td>5% or less</td>
<td>40-99%</td>
</tr>
</tbody>
</table>

* Statistics are approximate

1. How do you feel about our current food system? Please circle any that apply.

extremely dissatisfied........not happy.........don’t care...........satisfied............happy...........totally content

2. In order of importance to you, please rate Organic, Local, and Natural.

important
“most important”
Organic Food
1               2               3               4               5
USDA Certified Organic
Local Food
1               2               3               4               5
Produced in the Appalachian region
Natural
1               2               3               4               5
Hormone/Antibiotic Free milk, eggs, meat
Other
3               4               5

Please describe

3. In order of importance to you, which food groups would you like to see targeted for local, organic and natural substitutes?

not
important
"most important"

Fruit
1  2  3  4  5  0
organic, local

Vegetable
1  2  3  4  5  0
organic, local

Dairy
2
organic, hormone free, cage-free eggs, local

Meat
1  2  3  4  5  0
organic, grain-fed, hormone-free, local

Cereal
1  2  3  4  5  0
organic, local

Oil
1  2  3  4  5  0
organic

4. Organic, Local and Natural foods are more expensive than conventional. But studies have shown that farming organically is good environmental practice, that foods without pesticides, hormones and antibiotics are better for our health and that buying locally produced foods supports local economies while cutting down on transportation costs.

With the current dining service, we pay an average of $3.08 per meal. On the 21-meal plan we spend $1,036 on meals per semester. To convert to 75% organic food and 25% conventional would cost approximately an extra $150 per student per semester. Or, an additional 45 cents per meal.

- For this question, first select the combination you most prefer of local, natural and organic food sources from the four options below. Each pie chart represents a reasonable possibility for the dining service; mark your choice with a check in the lower right hand corner of the box you choose.

- Then, carefully consider your budget and, in the space provided below, state how much extra would you be willing to pay, per semester, for options A, B, or C.
5. If you said $0, please tell us why.
   a) income/budget constraint
   b) graduating/leaving school
   c) satisfied with current dining service
   d) other:

6. In your view, tell us what an ideal combination of conventional, local, organic and natural foods served in the dining would look like to you. Choose an option listed below or draw your own pie chart in the empty circle provided.
   a) the food system we have now
   b) 100% certified organic food
   c) 100% local food
   d) 100% natural food
   e) a conscientious combination of conventional, local, organic and natural foods
   f) 0% conventional foods
   g) other
7. Finally, some personal information: please circle all that apply

Are you: male
female

vegetarian omnivore

vegan on the meal plan

off the meal plan in a co-op

Do you eat at: Gladfelter Cowpie

both neither

Because: atmosphere food quality

convenience

Age: Year: Major:

GPA

Your additional comments are welcome! Thank you for your participation!
Figure 1: Schematic representation of mission

Status Quo: Corporate Catering
- Warren-Wilson-Sodexho partnership
- Sodexho Attributes & Prices
- Cost & Benefits to environment & health

Consumers:
- Non-Market Goods Valuation
- Tastes & preferences
- Willingness to pay
- Consumer surplus

Policy Alternative: “Real Food”
- Research synthesis
- Policy options
- Recommendations for action
- Examples of successful transitions

Figure 2: Attributes of Sodexho

<table>
<thead>
<tr>
<th></th>
<th>Garden/Farm</th>
<th>Other Local Sources</th>
<th>Certified Organic</th>
<th>Conventional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gladfelter</td>
<td>5% or less</td>
<td>5% or less</td>
<td>Less than 3%</td>
<td>87%</td>
</tr>
<tr>
<td>Cowpie</td>
<td>15-40%</td>
<td>5% or less</td>
<td>40-99%</td>
<td>1-40%</td>
</tr>
<tr>
<td>Average Cost</td>
<td>Per meal</td>
<td>Per Semester</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gladfelter/Cowpie</td>
<td>$3.98</td>
<td>$1.636</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Statistics are approximate.

Figure 3: Pie Chart of Sodexho Food Sources