Education and Information Promotion at Lafayette's LaFarm

TO: Professor Cohen, Project Advisor
CC: Sarah Edmonds, LaFarm Manager
FROM: Matthew Pigott, Lucy Bass, and Elise Buffinton
DATE: December 6, 2013
SUBJECT: Final Memorandum for EGRS Capstone Project

RESEARCH QUESTION

The goal of this project is to promote volunteering at LaFarm for the Lafayette student body and local outreach programs with agriculture-related information. More specifically, we wanted to provide LaFarm with educated and engaged volunteers by asking what information would be beneficial for visitors to know and how can we create a physical product that would provide this information?

BACKGROUND

LaFarm is one of the premier sustainability initiatives offered at Lafayette College. The goals of LaFarm Community Garden & Working Farm are to, "offer students and local volunteers education, research, outreach, and opportunities to grow healthy food and build community" (LaFarm website, 2012). An increase in potential projects and integration between the farm, students, faculty, and local organizations has been seen since the implementation of the new garden manager, Sarah Edmonds. In addition, the garden has become a model topic for student research and volunteering opportunities throughout campus.

LaFarm is an ideal example of an interdisciplinary, sustainable community development, and student engagement project offered at Lafayette College. The farm itself is part of the broader context of the development of student farms as centers for experiential learning, sustainable agriculture, and educational activities about food systems. Viewing LaFarm in the greater national context, it fits in nicely with the growing local food and farming movement as well. Within the past 20 years, a social push toward producing and consuming local foods has emerged (LaFarm website, 2012). This movement stems from a variety of environmental, ethical, and economics contexts. While the benefits of having a global food market that allows people to obtain any food at anytime are vast, as a result, this market displaces local cuisine and agriculture. Long-distance food eliminates the face-to-face contact of consumer and producer and the security that comes along with that. Economically, the costs of long-distance food, including damages to the environment, agricultural landscape, and farm communities, may far outweigh the surface benefits of obtaining food from the lowest-cost provider. Additional arguments for the growing local food movement include, "restoring rural areas, enriching poor nations, returning fresh and wholesome food to cities, and reconnecting suburbanites with the land by reclaiming lawns, abandoned lots, and golf courses to use as local farms, orchards, and gardens" (Halweil, 2002). While a certain amount of food trade is useful, the local food movement allows communities to create new jobs, increase self-reliance, rebuild local foodsheds, and decrease chemical use (Halweil, 2002). With the development of Lafayette's farm, they became a part of the

local food movement by providing fresh produce to the college itself and supporting the local economy. The mission of LaFarm to, "cultivate fresh and local food, environmental interaction, and the health of the Lafayette community" coincides directly with the context and reasoning behind the local food movement nationwide (LaFarm website, 2012).

The development of LaFarm can also be placed in the context of "growing" university farms across the country. While small organic farms have struggled to find their place in the daunting food market, small farms on college and university campuses have found a much more supporting environment. As a part of a larger institution, these campus farms have the monetary and human labor resources required to sustain the produce. As primarily a learning resource to students and the community, the lack of monetary profit, which is so detrimental to independent farms, is a non issue on campuses (Sayre, 2011). With the emergence of local farming at colleges and universities, many graduating students have acquired a greater understanding of the technicalities of farming, as well as the social, political, and economic contexts surrounding the practice.

The Dickinson Farm, located at Dickinson College in Carlisle Pennsylvania, is a prime example of a student-run farm within the college environment. The farm itself is a 50-acre living laboratory that serves many purposes within the college community. The majority of the harvest produced is delivered to the campus-dining hall while the rest is delivered to local restaurants and donated throughout the growing season (Dickinson, 2013). The large student involvement in the development and maintenance of this farm has made it one of the most successful examples of university farming. The Dickinson Farm acts to support the academic interests of students and faculty, promote renewable energy, and build a greater awareness among students of how food is generated to sustain natural ecosystems. Due to the innovation and success of this farm, setting standards for other colleges and universities, the college has received substantial grants of money from the state government to continue their program. This farm has served as a model for the development of many other college farms around the country including Lafayette's farm. We therefore sought to further integrate Dickinson's ideas about student involvement and college integration with the similar goals of LaFarm and our own goals of benefitting the community in which we are a part of.

METHODS

Beginning this project, we first developed potential project ideas for serving the needs of LaFarm, while taking into account the various contexts that define the farm. Through talking to students, faculty, and our own observations, we discovered a disconnect between the intent of jobs needed to be accomplished on the farm and the practical outcomes of these jobs completed by students. We recognized that this disconnect comes from a variety of areas such as lack of knowledge of agricultural practices and techniques needed for the completion of projects. To correct for this disconnect, we came up with various physical product ideas that would aid volunteers and groups that visited the farm. After meeting with Sarah to discuss her thoughts on the project, she recommended different ways that this could be accomplished that would both support our goals and would specifically benefit her and the needs of the farm.

There were various categories of tasks needed for the completion of this project. The bulk of these tasks came from research. This included articles, books, websites, personal communication, and hands on experience. In order to create the product, we needed to learn about the various topics relating to the farm. We relied mostly on journals, articles, other farmers, books, and our own experiences to understand these ideas and how they related to LaFarm specifically.

Through our scholarly research, we recognized the importance of implementing the ideas of sustainable community development, as outlined in the book *Engineering and sustainable community development.* This book demonstrates the importance of contextual listening in order to build relationships and benefit the community (Lucena, 2010). Contextual listening entails being able to understand the needs of the community that one is serving and how to incorporate the contexts (social, political, economic, cultural, etc.) that are embedded in any project and technology created. Our project brings these ideas into practice because of the importance of properly understanding Sarah's needs and creating a product that is both useful to her and beneficial to the farm.

Upon meeting with Sarah, she encouraged us to develop a product that could be used and applied to a variety of projects at LaFarm. Our initial idea of creating a directory that displayed what projects need to be completed and the resources and information that one would require was altered slightly in the process. Because LaFarm's projects are always changing and new ways are discovered for completing them, it seemed impractical to develop specific guidelines for individual jobs. Instead, the focus was moved towards creating a product that would be useful for a variety of jobs on the farm. A range of specific knowledge is needed for all projects completed on the farm such as knowledge about plants, insects, agricultural practices, weeds, crops, etc. This knowledge is useful to many projects and should be known by all volunteers and groups that come to the farm. To iterate this point, we received input from students in our Capstone class (roughly 16 people) about the farm. One student explained her experience volunteering at LaFarm during its Greek life volunteer day. She expressed frustration because after being told to weed the pots of rosemary, she accidentally removed all the rosemary, not knowing what was a weed and what was the actual plant. This story, as well as others similar about lack of understanding, justifies the need for an informational product that would inform students and volunteers about various aspects of the farm.

PRODUCT

After talking to Sarah, we came up with a product idea for displaying information that would be beneficial for both volunteers and visitors to see. We developed two informational signs (see Appendix B and below) that are both aesthetically pleasing and useful for those coming to LaFarm. These signs display good agricultural practices (GAPs) and beneficial and harmful insects. The sign for good agricultural practices details proper soil practices such as preventing erosion, applying fertilizer, and maintaining organic content, and proper water practices such as irrigation, preventing run-off, and maintaining soil coverage. Good agriculture practices are beneficial for every volunteer project at the farm and would be useful for visitors to be aware of as well. The sign for beneficial and harmful insects gives descriptions of various types of insects while describing some of their characteristics and providing pictures. This sign is also

extremely useful for volunteers by informing them what types of insects are and are not good for the various plants.

Our final project integrates the contexts of education, sustainable agriculture, and community development through a physical, promotional product. The informational signs provide student awareness of the LaFarm and, furthermore, promote student activity and volunteering at the garden.

CONCLUSION

Benefits from a project through promoting community farms via education and information promotion are not solely applicable to Lafayette College, but would also be valuable at a variety of other colleges, universities, and institutions. While there are the obvious benefits of this education promotion in the increased awareness of farming knowledge and sustainable practices, there are countless other, more subtle and far-reaching benefits to strengthening the presence of a community farm. Such benefits include the creation of a healthy community gathering place, the addition of new communication and collaboration ties between various individuals and groups, increased awareness and education of a much larger agricultural debate, and the physical farm as an environment which can be adapted or manipulated to reflect and strengthen cultural or community identity.

While the community farm is an excellent place for educational and informational signs about sustainable farming practices, this is not the only venue, which would have the positive effects on viewers. Another possible location for this education and information promotion would be at the farmer's market and other similar events. Visitors often enjoy buying local and/or organic produce and products from these markets, but they may not be aware of what exactly sets these farmers and vendors apart from those which supply the big industrial grocery stores. Visitors at the farmers market would likely be a very receptive crowd to learning more about values and practices they are supporting when they attend the market, purchase goods and simply participate in the social activity.

Once again taking a much broader perspective of this capstone project, it is important to determine whether or not the effects and end results of this project fully satisfy the problem initially defined. We feel that the final product of this project accurately supports our goals of integrating the greater contexts of education, sustainable agriculture, and community development through physical promotional signs. Our project will hopefully promote further growth and activity at the farm and encourage future

integration of sustainable, organic agriculture with both the college and community members.

FUTURE RECOMMENDATIONS

This project is merely a phase in interdisciplinary work at LaFarm. It will hopefully precede future projects and capstone groups looking to benefit the farm and promote educational opportunities on campus, at LaFarm, and in the community as well. Through our observations and discussions with Sarah Edmonds, possible future projects include creating an organizational system for the various seeds and plants that need to be harvested, providing compost bins throughout Lafayette College's campus for the LaFarm, organizing "LaFarm Day" to invite and host many people at the farm, and integrating trips to LaFarm during First-Year Orientation.

Currently, there is very little organization for all the seed packets, when they need to be planted, how many of each packet there are, and where they are going to go. This is a very important process for the farm and requires great care and attention. In order to plant correctly, students and volunteers should know which seeds go where and how many of each packet there are. Another option of placing compost bins across Lafayette College's campus would promote both sustainability and eco-friendly awareness. The compost from these bins can be used as future soil at LaFarm, further increasing Lafayette College's sustainability initiatives. In addition, "LaFarm Day" is an idea to host community members, student volunteers, and all others interested in the farm's ideals for a gathering at the farm, samples of the harvest, and optional tours and information at the LaFarm. Another future recommendation includes integrating a visit to LaFarm during First-Year Orientation. This recommendation appeals to the greater idea of "putting LaFarm on the map." If new orientees for Lafayette College are provided information and physically visit the farm early in their college careers, volunteering and student activism at LaFarm should see a great increase. All future recommendations have the goal of promoting volunteering at LaFarm with the greater plan of growing this sustainable agriculture initiative at Lafayette College.

GROUP MEMBERS

Elise Buffinton _____

Lucy Bass _____

Matthew Pigott _____

APPENDICES

APPENDIX A: Annotated Bibliography

Azman, A., Azril, M., D'Silva, J., Samah, B., Man, N., Uli, J., Shaffril, H. (2012). Acceptance Towards Sustainable Agriculture among Contract Farmers and its Impingement Factors. ***American Journal of Environmental Sciences,*** **8(3), 297-303. Retrieved from: http://0-ehis.ebscohost.com.libcat.lafayette.edu/eds/detail?vid=11&sid=01bc27c4-99bf-413e-959d-410f69449677%40sessionmgr11&hid=3&bdata=JnNpdGU9ZWRzLWxpdmU%3d#db=aph&AN=85797488**

This article researched sustainable agriculture and farmers' responses to sustainable agriculture in Malaysia. Rising demands and needs for food in communities across the globe put great pressure on natural resources. The solution offered by the authors is to implement sustainable agriculture in these communities. Furthermore, the authors observed the villagers' responses to the implementation of sustainable agriculture in the respective communities. A total of 326 farmers across Malaysia were observed in this study. The goal of the article is to quantify the acceptance rate of these Malaysian farmers and sustainable agriculture. Acceptance of sustainable agriculture is key to implementing the process in any culture. In the context of the capstone project, in working with the LaFarm, it is important to target the acceptance of sustainable agriculture in society. While the studied community is much more rural compared to Easton, it is important for all people to see and choose to accept the process of sustainable agriculture.

Campbell, D., Carlisle-Cummins, I., & Feenstra, G. (2013). Community food systems: Strengthening the research-to-practice continuum. ***Journal of Agriculture, Food Systems, and Community Development*****,** ***3*****(3), 121-138. Retrieved October 23, 2013, from http://www.agdevjournal.com/component/content/article/136-open-access-aug-2013/343-community-food-systems.html**

De Sousa, A., and de Azevedo, E. (2012). Organic foods and human health: a study of controversies. ***Pan American Journal of Public Health, 31(6),*** **513-517. Retrieved From: http://0-apps.webofknowledge.com.libcat.lafayette.edu/full_record .do?product=WOS&search_mode=GeneralSearch&qid=1&SID=3C7ItWzIy7fAPXBueKR&page=1&doc=1**

This article is about the political, social, and scientific controversies surrounding the practice and production of produce on organic farms. The controversies include those about health effects of organic food contaminants, quality of organic foods in comparison to non-organic foods, and the economic sustainability of organics with substantially increased prices. The goal of the study is to present a

case for and solutions to lower organic food prices and make the practice more sustainable. In the context of the capstone project, working with LaFarm, I think it is very important to know the arguments for and against local organic farming, as this knowledge could trigger better-informed decisions. Promoting local foods and making them appealing and affordable are two very great challenges today. While LaFarm does not sell produce to the community, they do provide food to Lafayette College dining services and this is an important relationship to not only maintain but also develop sustainably.

Dickinson College (2013). Dickinson College Organic Farm. Retrieved October 25, 2013 from: http://blogs.dickinson.edu/farm/

Friedmann, H. (2006). Scaling up: Bringing public institutions and food service corporations into the project for a local, sustainable food system in Ontario. Agriculture and Human Values, 24(3), 389-398. doi:10.1007/s10460-006-9040-2

This article addresses the relationship between the University of Toronto and the Local Flavour Plus non-governmental certifying organization to implement local and sustainable farm products in school cafeterias. The articles approaches the difficulties in implementing the increasing demand for local, sustainable produce within large institutions, notable universities. Institutions in Ontario eventually began to express rapid interest in sustainable supply chains. The article describes the LFPs methods and purpose to facilitate the sustainable certification of local farmers and food suppliers to large institutions. Increasing the amount of local produce supply in these institutions is strongly promoted. This attitude is important to address in our capstone project. The current limitation of this article is how it implements multiple local food producers to these large institutions, while Lafayette College only has the LaFarm for local sustainable produce for implementation.

Grundmann, J., Scheutze, N., Lennartz, F. (2013). Sustainable management of a coupled groundwater-agriculture hydrosystem using multi-criteria simulation based optimisation. *Water Science and Technology, 67*(3), 689-698. Retrieved from: http://0-ehis.ebscohost.com.libcat.lafayette.edu/eds/detail?vid=2&sid=01bc27c4-99bf-413e-959d-410f69449677%40sessionmgr11&hid=3&bdata=JnNpdGU9ZWRzLWxpdmU%3d#db=geh&AN=2013-060573

Halweil, Brian, and Thomas Prugh. *Home Grown: the case for local food in a global market.* Washington, DC: Worldwatch Institute, 2002. Print.

Jackson, T., Hanjra, M., Khan, S., & Hafeez, M. (2011). Building a climate resilient farm: A risk based approach for understanding water, energy and emissions

in irrigated agriculture. *Agricultural Systems*, *104*(9), 729-745. Retrieved October 23, 2013, from the ScienceDirect database.

This article provides information on water and energy use in farming. It discusses the link between water application and energy consumption and how it differs among different types of farms. The authors highlight many factors (both climatic and technical) that impact the amount of energy and water used. These factors create uncertainty in the amount and levels needs to sustain the farm. The article provides an analysis of this uncertainty through modeling and strategies for farm level mitigation in order to optimize production and decrease usage. This article will be important in learning about the energy and water usage for Lafayette's farm. A potential part of the project will be providing information for visiting student, faculty, and outsiders that come to learn about the farm and local farming in general. Including relevant information about energy would be interesting for people to see and be able to connect with. The article details water-energy systems for farms and would be beneficial for Lafayette's farmers and volunteers to learn about. A small critique of the article is that most of the research takes place in Australia, with the main author, T. Jackson, being a professor at Charles Sturt University there. While the information is applicable to many places around the world, it will be important to also check local data and verify statistics in the Lehigh Valley to truly get the most out of the article.

Kim, J. (2013). *Applying Sustainable Land Use Development Studies to Sustainable Agriculture*. United States: Environmental Protection Agency. Retrieved from: http://0-ehis.ebscohost.com.libcat.lafayette.edu/eds/detail?vid=2&sid=01bc27c4-99bf-413e-959d-410f69449677%40sessionmgr11&hid=3&bdata=JnNpdGU9ZWRzLWxpdmU%3d#db=aph&AN=90572411

This article provides information on agriculture and its effects of causing pollution, destroying natural habitats, and altering the composition of soils, lakes, and rivers. The author highlights how in a capitalistic, technologically advanced society the amount of farmland decreases while efficiency increases. The ability of technological advances that allow for this inherently cause negative externalities on the environment. These actions do not promote sustainable agriculture. This article is important in learning how to make less land and more output sustainable in today's society. A major aspect in this project is ensuring sustainable agriculture and this article directly addresses the long-term negative externalities correlating with advanced agriculture. The scope of this project is very time-limited, and this issue needs to be addressed for the long run.

Lucena, J. C., Schneider, J. J., & Leydens, J. A. (2010). *Engineering and sustainable community development*. San Rafael, Calif.: Morgan & Claypool Publishers.

This book acts a resource for students, faculty, and others that want to understand the background, procedure, and current problems with community development projects. It examines the history of engineering, discusses problems with current design models, addresses challenges and obstacles students face, and details two case studies that portray the ideals of proper sustainable community development procedures. This book will be a great resource to have throughout the course of our project because while working with various farmers, we will be engaging in sustainable community development. The part of the book most relevant, I believe, will be the chapter on contextual listening. It will be incredibly important during this project to be able to listen to what the farmers need and understand how everything will need to be done. The book states that in community development, it is essential to engage in contextual listening in order to help build relationships and help the community (in this case, Lafayette) take ownership of the project. The main author, Juan Lucena is a professor at Colorado School of Mines and has degrees in Mechanical Engineering, Aeronautical Engineering, and a Masters and Ph.D. in Science and Technology Studies. While the book does provide many great examples of community development, a limitation of it for our project is that it focuses most heavily on overseas development and working with other cultures. Because the project will be with members of our own community, not everything in the book will be completely applicable.

Mount, P. (2012). Growing local food: scale and local food systems governance. ***Agriculture and Human Values, 29(1),*** **107-121.**
doi:10.1080/14735903.2012.726854

This article is about the future of local farming in terms of growth, accessibility, economics, and system governance. For local farming to be sustainable in the long run, the support has to grow, and larger local farms need to be able to, as a collective, take on the food capacity of the current industrial farms. In order for this shift in farm reliance to happen, modes of governance must be established while environmentally sustainable farming techniques are advanced and incorporated. This article appears a reliable source as it is peer reviewed, has been published in a credible journal, and has been referenced and cited by other professionals many times. In the context of the capstone project, the contents of the article will be useful in looking at the long term implications of decisions we make today about Lafayette's LaFarm. It is unlikely that LaFarm will grow to a size where it is sustaining a population, but the models for sustainable and successful farming will be very relevant.

Nieusma, D., & Riley, D. (2010). Designs on development: Engineering, globalization, and social justice. ***Engineering Studies*****,** ***2*****(1), 29-59.**

Nieusma and Riley, professors at RIT and Smith College respectively, critically examine 'engineering for development' in efforts to establish new models that incorporate social justice goals more effectively. They investigate various assumptions engineers make when engaging in community development and

interacting with other societies. The article details two case studies (Nicaragua and Sri Lanka) in which personal observations and accounts are studied in order to learn about the various problems faced. The authors write with a critical and passionate tone, while being slightly persuasive of their goals through details and examples. The article does cite many other sources, including several of the authors' works, bringing into question the credibility of the article. This will be something to keep in mind while using the article as reference throughout my project. This article fits in nicely with our project on Lafayette's farm. It details many examples of both good and bad community interactions. Although the people we will be interacting with are not from another country or culture, it will be important to keep the ideals of sustainable community development in mind and design a project that caters to the needs of the farmer and workers.

Parr, D., & Trexler, C. (2011). , *40*, 172-180
Student's experiential learning and use of student farms in sustainable agriculture education. *Journal of Natural Resources and Life Sciences Education*

Rigby, D. & Caceres, D. (2001). Organic farming and the sustainability of agricultural systems. Journal of Agricultural Systems, 68(2001), 21-40.

Sayre, L., and Clark, S. (2011). *Fields of Learning: The Student Farm Movement in North America.* Lexington, Kentucky: The University Press of Kentucky.

This book addresses the evolution of local farms and the future outlook of farms, farmers, and the social and political challenges. Case studies from a variety of colleges and universities are examined to see how they are incorporating farms on campus held together by collaboration between students, faculty, and staff. The case studies in this book are extremely relevant to the capstone project this semester of working with Lafayette College's LaFarm. The successes and failures of farms on other campuses can provide insight into what is likely to work and what is not, as well as give ideas for alternative approaches to situations or problems. In addition, the social interactions between various individuals, groups, and organizations in the book can help my capstone group to cultivate strong working relationships with project partners.

Wharton, C. Harmon, A. (2009). University engagement through local food enterprise: Community -supported agriculture on campus. Journal of Hunger and Environmental Nutrition, 4(2), 112-128. doi: 10.1080/19320240902915235

Wilkins, J., Bowdish, E., & Sobal, J. (2000). University student perceptions of seasonal and local foods. Journal of Nutrition Education, 32(50), 261-278.

APPENDIX B: Posters

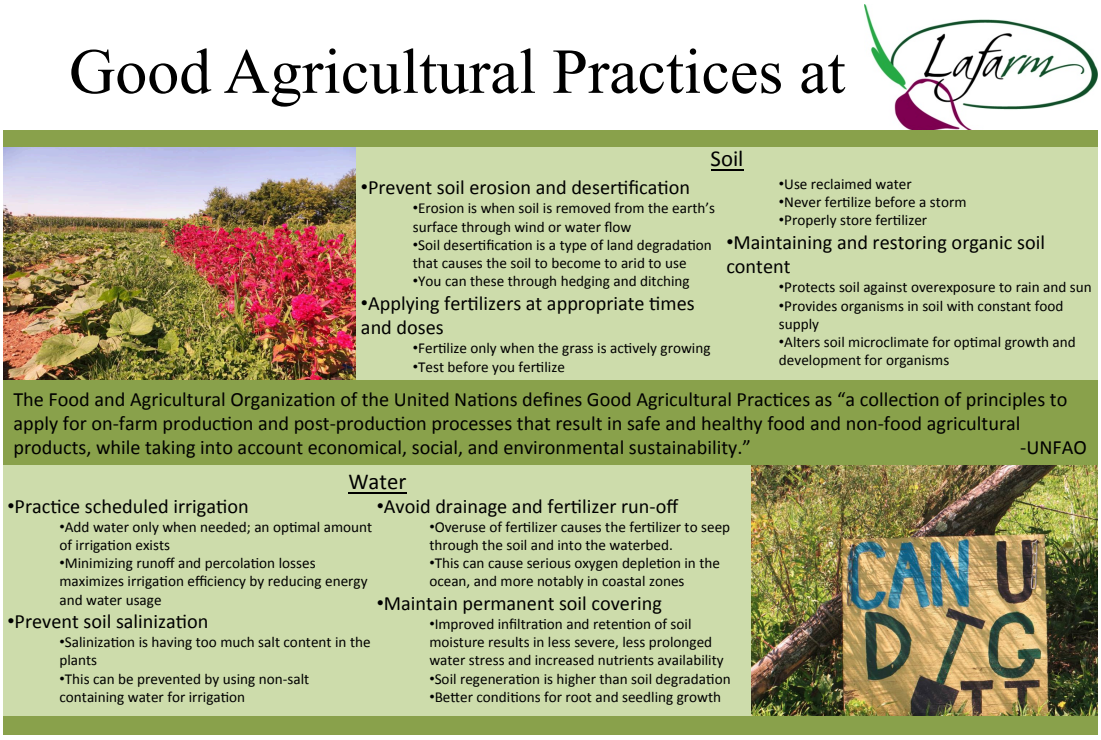

Figure 1: Poster for Good Agricultural Practices

Figure 2: Poster for Beneficial and Harmful Insects