

Noble Cumming // *Peak Food*

February 20, 2010 // Project 1



Introduction

There has been a whole lot of talk about peak food and overconsumption ravaging the world in the near future. The infamous “Malthusian Correction” about to come about again, casting millions (even billions) of people worldwide into famine.

The common believe is that humans are consuming more food than the world is producing. Between dwindling oil and water supplies, as well as climate change, this problem will only get worse. Much of this is as a result of population growth, but it is also directly linked to the Green Revolution of the last half century. Ironically, it was meant to put and end to famine. Instead, it has given those experiencing “plenty” license to propagate, while slowly ruining the arable land it was meant to coax higher yields from.

Another factor, which is also part of the problem but may soon become part of the solution, are bio-fuels. Currently, the dominant methods for producing Ethanol include either destroying rainforest (which contributes to climate change) or using food-staple crops (which further threatens world food supplies).

It is safe to say that the problems and solutions to food security are locked in a dance, one solution being perfect today in Sub-Saharan Africa, while wreaking havoc on South-East Asia tomorrow.

But, with further investigation yields even more ironies. Grain output is actually at an all time high. On top of that, in order to keep prices steady, significant portions of farmland in the western world lie fallow. Then, there's meat. Though not inherently bad, the increased world appetite for meat has pushed grain consumption well past logic (It takes up to ten times more grain to get the equivalent amount of calories from eating U.S. beef as from simply eating grain itself¹).

Lightness

Food Waste is the biggest and probably most ignored issue of the global food crisis. According to the World Health Organization, the U.S. produced about 125 kilos of vegetables per person in the year 2000. and 27% of that goes right in the trash.²

In England, an estimated third of all consumable food goes straight in the trash and in Sweden (a bastion of progressive environmentally minded citizens) about a quarter of table food is wasted by families with small children. Probably the biggest shocker, however, is Africa. It would seem that in a region constantly bombarded with famine, food would be treated with extra care. No so. In many areas, more than a quarter of edible crops are lost before they can be eaten. While this is mostly attributed to infrastructure and climate issues, it is still waste.³

The amounts stated above are shocking, and those aren't scraps, in many cases, they're even prepared foods that were never eaten. But what about scraps? Well about 98% of table scraps go into landfills (only 38% of yard clippings go to landfills). When food scraps rot in landfills, they create methane, a very powerful greenhouse gas.

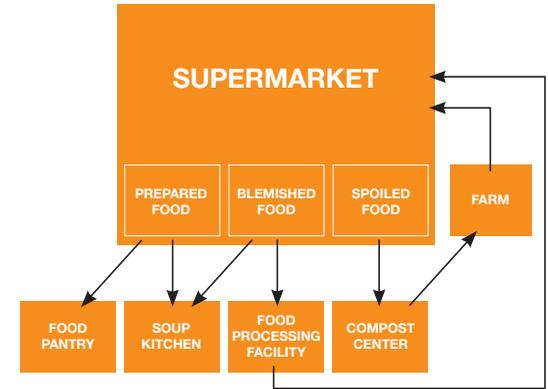
Reclamation and Redistribution of Food Waste

Unfortunately, there is no silver bullet for this problem. It will require the coordinated efforts of NGOs and Municipal Waste Management companies.

There can, however, be groups that secure food waste from Supermarkets and Distribution Centers. This sort of work is already done with restaurants, by a group called City Harvest, here in New York. But restaurants are generally sending over prepared food. And, as any “Freegan” will tell you, there is lots of “slightly blemished” produce deposited in dumpsters by supermarkets daily. This pickup service, coupled with a fine for throwing food products into the regular garbage, would give these establishments the incentive they need to start moving our food waste back towards our mouths.

The various degrees of food waste can be sorted (not unlike at clothing drives) to suit various needs of groups. Donations to soup kitchens and food pantries first, then collected ingredients distributed to places which process various packaged foods (for instance, boxes of apples sent to an apple sauce manufacturer) at reduced prices. Actual spoiled food can be taken to a waste management-based composting center and converted into fertilizer

Food Waste Redistribution Model



Mobility

As I noted earlier, much of the current Global Food Crisis has its roots in what is known as the Green Revolution. The proper solution for the time, it all but eliminated famine in the countries it was introduced to. But now, the lands it was meant to help have been severely abused and the sheer scale of mono culture farming has hit a wall which has not only brought it to a standstill but has left crops around the world vulnerable to a variety of previously minor threats.

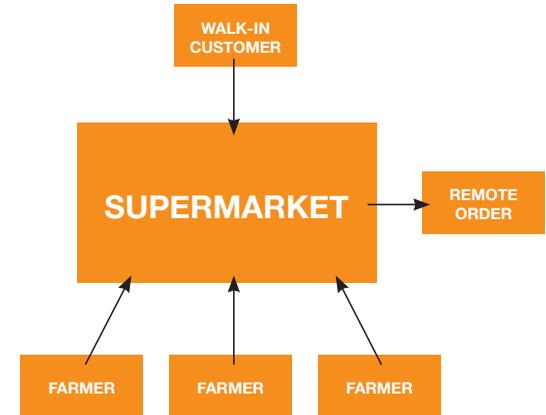
In the U.S. it is popular to change our consumption habits by subscribing to the tenants of the Slow Food movement and more specifically the Localvore diet. I, the author, am a member of Slow Food International, and a localvore. Why not? Fresh, local food is often more flavorful and nutritious than it's Supermarket counterpart. Plus, it reduces one's carbon footprint. But these practices can be expensive and elitist. Slow Food events can cost \$1,000 to attend. Farmer's Markets, often expect people to know all about the foods they are examining and to be willing to pay up to 300% above comparable Supermarket costs. Consumer Supported Agriculture (CSAs) are hardly better, with limited produce options, many operate like exclusive food clubs. The core customer is a middle-aged white person and little is done to change that.

Farmer's Supermarkets

The idea that CSA's and Farmer's Markets have become the exclusive domain of food-snobbs is laughable considering these means of food production and distribution were typical throughout the world until about 50 years ago. Still, in the U.S. that is currently not how most people shop and furthermore, elitism does not encourage envy in consumers.

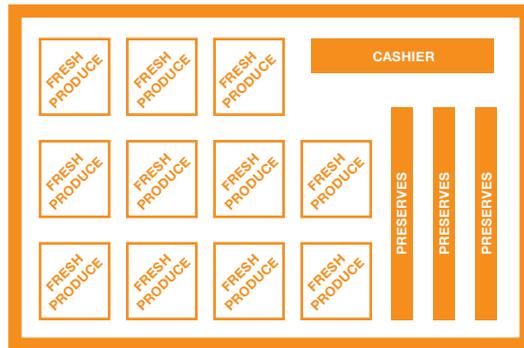
The idea of a Farmer-based Supermarket is that of a store, like a regular Supermarket, but with the notable exception that it only deals directly with the farmer. Stocking and selection would be smaller, but prices and service could be handled by a staff in the building. Various products mirroring what is found in a regular supermarket could be sold, as long as they were produced within a day's travel. The opportunity would also present itself for remote ordering either by phone or online.

Simplified Business Overview

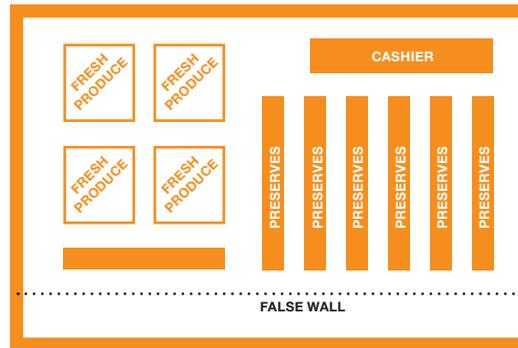


Lastly, Franchise Branding would be created for the Supermarket. This would subliminally legitimize the market in many people’s minds and offer a strong network of businesses that could help defray operating costs. With a strong brand and knowledge of incoming stock, advertising would be possible, as would publicized weekly specials. In order to keep an organized look and not feel like the Soviet Union at it’s worse, the interior would need to be flexible, almost in the way a trendy “pop-up” store would be. That way, as supplies of apples shrink, they can be replaced by dried apples, or as local peaches disappear, the layout of the store can adjust, so it will always look complete.

Basic Spring, Summer, Fall Layout



Basic Winter Layout



References

- ¹ **Bourne, Joel K. Jr.** “*The Global Food Crisis; The End of Plenty*”. June 2009.
<http://ngm.nationalgeographic.com/2009/06/cheap-food/bourne-text/1>
- ² **World Health Organization.** “*Global and regional food consumption patterns and trends*”. http://www.who.int/nutrition/topics/3_foodconsumption/en/index6.html
- ³ **Martin, Andrew.** “*One Country’s Table Scraps, Another Country’s Meal*” May 18, 2008.
<http://www.nytimes.com/2008/05/18/weekinreview/18martin.html?pagewanted=1&r=1>

Thank you.

Noble Cumming //

Fresh Batch Food Company

March 28, 2010 // Project 2



Introduction

People want seasonal/local/fresh and will pay for it, but processing the produce into sauces and garnishes or soups and stocks, etc. takes time that many of the people in Brooklyn don't have. Also, the product is usually quite perishable. Combined, all the work with such a fragile yield makes the idea unfavorable to many.

I propose a seasonal fresh batch food service, specializing in the stuff that people can only really use in ready-to-eat or family portions, but that require preservatives to be cost-effective in traditional in-store situations. For example (this is the situation that gave birth to the idea) take Pesto.

Real Pesto is made with a Mezzaluna Knife (a blender is fine) and/or a Mortar & Pestle and can be quite course in texture. The freshness is paramount to the taste and it is traditionally enjoyed in the late Summer only. The pine nuts are supposed to add a delicious crunch to the freshness and the parmesan cheese adds a savory (yet zesty) balance. The store bought alternative (while delicious in it's own right) is quite smooth in nature. There is often no evidence

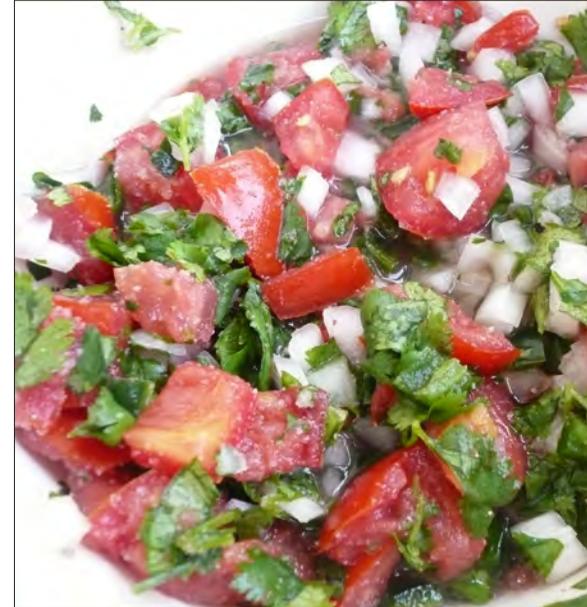


of the individual ingredients any indication of the freshness of the basil has been long since lost. It is also generally saltier and has preservatives added.

However, making Pesto is a time consuming process. Including proper ingredient preparation and washing of leaves, a home cook can spend hours making a batch of pesto by hand (multiple batches take only a little more time to execute than one batch). To make matters worse, Pesto is quite perishable. Typically, a batch without the olive oil added can last only a week in the refrigerator.

The window for fresh seasonal basil is small but only the most committed “foodie” will make Pesto more than once or twice a season.

But, what if Pesto (or Cranberry Sauce, or Pico de Gallo) could be available the same way milk is? What if it appeared with a 1 week use-by date on it, so that people could get maximal flavor and freshness, while not having to slave away in the kitchen?



Concept

I propose Creating a Seasonal, Fresh Batch Food Goods Company.

This means that prepared or processed foods would be made only when ingredients are locally in-season. Seasonal scheduling of products would occur, but most would be produced in real time and therefore would fluctuate slightly in price and availability.

We have good reason to believe that upper-middle class and the wealthy will most likely consume these products. First because of access and second because of cost. These will also be the people with the least time on their hands. These people are as likely as anyone else in the city to have a full schedule. They would appreciate the home made taste and freshness.

Two of Thackara's Strategies apply nicely to this concept

Speed – *Including The concept of Slow Food and Tempo Design.*

Locality – *Including the concept of webs, chains and networks.*



What to Consider

Packaging

Design

- Self Designed label and packaging requiring 3 days work to start
- Continual redesign and improvement for the first few months

Label Printing

- Digital Labels in small runs (1,000 max.) with adhesive-backed label through commercial printer.
- 1 week turnover
- \$720 per print run
- \$25 per delivery

Sourcing Package

- Plastic tubs at 5 cents per piece (10,000 minimum order)
- Possible “take back” program?
- Ongoing research to re-assess costs and sustainable attributes



Producing Product

Quantity

- Batch of 1,000 per week to start
- Numbers to fluctuate based on ingredients and demand for product

Prep /Cooking /Packaging /Loading

- 8 hours per week
- Labeling can occur off site for estimated 2 hours per week

Leasing Commercial Kitchen

- \$180 for weekly 8 hour shift from 6:30 pm to 2:30 am
- \$50 per month of dry storage

Kitchen Tools

- Knife sets
- 8 Spoons
- 4 Spatulas
- Aprons, hair nets
- Latex gloves

Sealing Tools and Materials

- \$2,000 for machine
- \$100 per 5,000 pieces
- 1 hour per batch



Sales

Sales Agent(s)

- Self and another partner. 4 hours per day
- \$8 per week for business clothes cleaning
- \$30 per week in gas for car

Order Processing

- 2 hours per day (1 hour matching to ingredients)
- \$500 for processing software

Farmer's Market Stalls

- \$100 per stall per month
- \$15 per hour each for 2 stall workers
- \$500 for banner
- \$1,000 for event tent



Marketing

Website with daily updated calendar

- 40 hours for initial design
- 3 hours per month for updates
- \$3,000 for web coding

Monthly email blast with estimated Calendar

- 3 days for initial design
- \$1,000 for initial coding with forms

Weekly email blast updates with schedule and time stamp

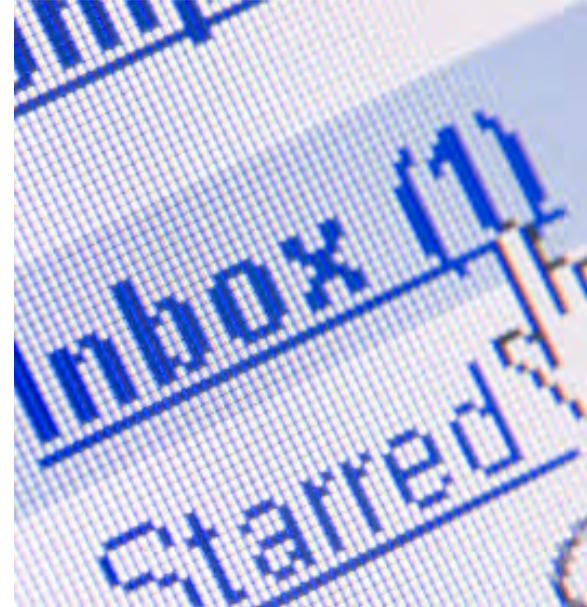
- 4 hours for initial design
- \$300 for initial coding with forms

Pre-Production Alert Email Blast

- 30 minutes for initial design
- \$100 for initial coding with forms

Post-Production Alert Email Blast and official time stamp

- 30 minutes for initial design
- \$100 for initial coding with forms



Advertising

In-store Point of Purchase/Display

- 10 hours for initial design
- 2 hours for seasonal updates
- \$1,000 for 240 signs

Advertisements in Local “Foodie” magazines and websites

- \$800 average cost per advertisement
- 3 main local “foodie” publications
- 10 hours initial design time
- 2 hours for establishing contacts and application filing

Product Placement at restaurants and events

- Donated stock for food charity events
- New product test batch for restaurants at reduced cost
- Product tastings



Development

Business Plan

- 3 weeks development

Lawyer

- \$350 per hour

NYC Food Handlers License

- \$105 for course
- 15 hour course
- \$250 processing fee of application

Product Liability Insurance Policy

- \$500 per month

Accountant

- \$350 per hour (2 hours per week)
- \$1,000 accounting software

Development, *continued...*

LLC Business License

- \$25 application fee
- \$500 name copyrighting
- 2 days research and application filing
- 6 weeks publication advertisement
- \$2,500 advertising costs

Partners

- 2 equal partners (part time)
- Start with time and cost covering
- Push for profits after 9 months cost covering

Employees

- 1 food prep assistant (\$15 per hour)
- 2 farmer's market stall workers (\$15 per hour)

Sourcing Ingredients

Timing for Production

- Wholesale Green Market open 3 to 9 am daily
- 2 hours commute

Wholesale Purchasing

- \$1 per adult basil plant (enough for 3 batches)
- 35 cents per bunch of parsley (enough for 3 batches)
- \$1 per pound of garlic (enough for 15 batches)
- Pre-ordered ingredient arrangements
- No membership needed
- Pine Nuts, Olive Oil and Parmesan cheese through distributor

Getting ingredients to kitchen in timely manner

- Day-of purchasing for fresh ingredients
- Pine Nuts, Olive Oil and Garlic in kitchen facility storage



Distribution

No storage of finished product

- Distribution occurs as batch is finished
- \$8,000 for used refrigerated truck
- Palette-loaded in back for secure moving

Immediate deliveries to all clients

- Gas for truck
- 5 hours delivery time
- Class C driver's license
- Insurance and Parking Permit



Business Outlook

1 month

- Craft business plan
- Establish partnerships and roles
- Test product(s) at large parties and social events
- Assess competition
- Calculate manufacturing costs and retail cost

3 months

- Source financial backing like business loan and personal savings
- Obtain necessary insurance and licenses
- Source delivery methods such as refrigerated truck, etc.
- Start establishing clientele

Business Outlook, *continued*

6 months

- Perfect procurement, production and delivery techniques
- Break even on batch cost inputs, excluding equipment investments
- Review design and advertising of key messaging
- Review product and market response

12 months

- Break even on overhead costs
- Review seasonal presence and fluctuations in price
- Review and update business plan
- Set new target goals

Thank you.

Noble Cumming //
Expanding Community Gardens
into the Community

May 9, 2010 // Project 3



Introduction

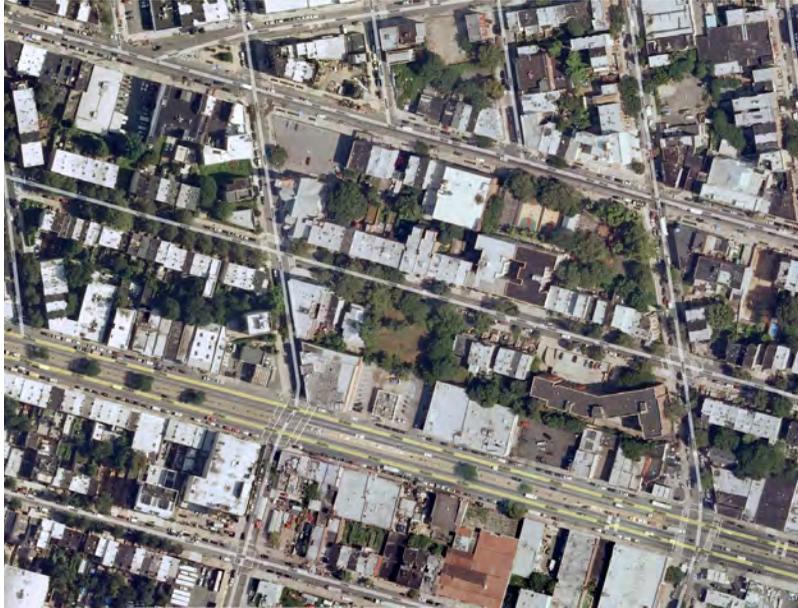


My neighborhood is what many would label as transitional. They see the block becoming more wealthy, more white and more bohemian. All of this may be true, but as a result, the community is becoming less cohesive and wealth is becoming concentrated to certain spots. With all of this, the crime rate has remained almost unchanged and in some cases, the violent crime rate has actually increased. One end of the block (near the garden) has gotten greener and the property values are as a result, higher. This end has easy access to the our current community garden (of which I belong) and has the bulk of it's members. Another issue is money. Because of the cost to join the garden (\$125), most potential members are hesitant. This is a good middle class community, but that doesn't mean that people are parading around with \$125. In fact, many of our newest members are coming from wealthier neighborhoods.



What do people really want? Do they want to just plant and grow things? Or, do they wish to be part of a larger community of growers? I suspect it's a little bit of both. The idea isn't to rent land, it is to garden. People have options when it comes to growing fruits and vegetables, however, they need land in order to exercise those options. Well, there is actually plenty of land in our neighborhood, as there is all over the world. Many would say that it's already been put to use, but that's not exactly true. It has been paved over, built over, etc. but that's about it. In fact, many would argue

that the land has less utility than it did before. For example, a common problem with paving is that drainage is difficult to maintain and flooding occurs. Another issue is that the compacting from paving and construction curtails soil's role as a carbon-sink. And what about unpaved land in the neighborhood? Developers come in and would rather build new than renovate. Empty lots and potential green spaces are often sold by the city to property development companies, without regard to the long term effects.



From micro to macro, there are many ways to address the issue of not only who gets to grow, but how that could effect the condition of the neighborhood. Ideally, multiple methods would be implemented and overlapping each other, they would form a stronger network of both community gardening and block beautification. Each concept takes it's name from how plants grow and they are similar in form, and are label as such:

I: The Seed // *Utilizing Biomimicry*

II: The Pod // *Utilizing Mobility*

III: The Vine // *Utilizing Locality*

IV: The Field // *Utilizing Lightness*

I: The Seed // *Biomimicry*



The idea is to copy nature's technique and increase the garden size by "seeding" plants around the neighborhood. Potted plants loan various interested parties. These would range in all sorts of sizes, from tomatoes to young trees. This can bring the garden to people's front yards, stoops, or even into their apartments. The pots would be colored, marked with identification and labeled with a bar code or RFID tag purely for tracking purposes. This way, people get the experience of growing without the cost of equipment. This is really cool, because the neighborhood becomes the garden and the garden becomes the neighborhood. With plenty of the plants in and around living spaces, the elitism of the original garden begins to fade.



II: The Pod // *Mobility*



The Pod is an entire portable garden plot, for placement on concrete or rooftops. This gives renters and upper-floor building dwellers the chance to have the experience of the community garden without having to rent plot space. Literally a portable version of a standard community garden plot, it will be constructed with lightweight, renewable materials and include a runner, or inflatable cushion to disperse the weight on the roofs. New members will also be taught about high density growing techniques in order to encourage their immediate success with their planting.

IIV: The Vine // Locality



This is intended to increase the footprint of the garden by making the garden seamlessly integrate with the larger neighborhood. The idea is to build a larger network of wooden planters along the street each placed between tree planters and increasing floor vegetation on the ground around the tree planters. Also, by embedding a gypsum block monitoring system, the planters (trees included) could be

monitored and alerted to the need for watering and drainage issues via a text message to member's cell phones. The nearest neighbors would be in charge of the box and could care for it immediately. This would trigger the alarm to silence itself. Such a technique would also mean that care would be specialized for different plants and different parts of the block with heat island conditions, etc.



IV: The Field // *Lightness*



This follows the idea of environments healing more quickly when allowed to connect. If, by utilizing empty lots, rooftops, and unused portions of our local park, we are able to create significant green strips in our neighborhood, then we will potentially create a magnet for other types of flora and fauna of the region. But more to the point, we are talking about freeing up a few acres of undeveloped land for urban agriculture. Looking at the existing garden, there are about 20 4' x 8' plots. That means the lot across the street could accommodate



continued...

another 20 plots of the same size. Also, the large lot in the center of my block could take at least 200 plots! Without much work, these plots could be constructed from salvaged or purchased 2x8's, some burlap and tarp (to protect from contamination) and of course the soil to fill it. At this point there could be more than enough food produced for the entire neighborhood and a small pollution buffer would be between the neighborhood and Atlantic Avenue.

Conclusion

I really think that there are elements of the four concepts which are well sited for the design problem. In fact, I think that many of the elements can work together. Even from a technical standpoint, these are not hard for me to do, except the gypsum block monitoring system, which shouldn't be too much of a task for the block president who worked for IBM and can build circuits with his eyes closed.

All in all, I tried to keep this piece simple and direct. I have the ability to get lost in the details, but I think I was successful in sticking with the core concepts. I hope you enjoyed the presentation as much as I enjoyed making it once the concepts came together in my head..

Thank you.