

Thinking about local food systems in Lewis County, Tennessee

Information prepared for the 2008 Financial Permaculture Summit

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www.energyconservationinfo.org | www.bettertimesinfo.org | www.oklahomafood.coop
www.barkingfrogspermaculture.org

I. Economic Potential of Locally Produced Foods in Lewis County, Tennessee.

| Product | US per capita Consumption | Lewis County Potential Consumption | Est Avg Price per unit | Economic Value to Lewis County |
|-----------------|---------------------------------|--|------------------------------|--------------------------------------|
| beef, lbs | 67 | 761,589 | \$5.00 | \$3,807,945 |
| pork, lbs | 51 | 579,717 | \$4.00 | \$2,318,868 |
| lamb, lbs | 1 | 11,367 | \$4.50 | \$51,152 |
| chicken, lbs | 85.8 | 975,289 | \$2.50 | \$2,438,222 |
| eggs doz | 21 | 238,707 | \$3.50 | \$835,475 |
| cheese | 32.7 | 371,701 | \$4.00 | \$1,486,804 |
| milk, gal | 24 | 272,808 | \$4.00 | \$1,091,232 |
| flour, lbs | 150 | 1,705,050 | \$0.50 | \$852,525 |
| fish, lbs | 15 | 170,505 | \$2.00 | \$341,010 |
| turkey, lbs | 14 | 159,138 | \$2.50 | \$397,845 |
| butter, lbs | 4.7 | 53,425 | \$5.00 | \$267,125 |
| vegetables, lbs | 445 | 5,058,315 | \$1.25 | \$6,322,894 |

Total Potential Economic Value of Local Food in area **\$20,211,094**

Per capita
 annual \$1,778.05
 month \$148.17
 family of four/month \$592.68

Maximum food stamp allowance, family of 4 \$542.00

Notes on Chart: Annual consumption figures are based on USDA reports. "Vegetables" includes both fresh and vegetables used in processing. Of that 445 lbs, 130 lbs are potatoes, of which 65 pounds are for potato products, and 65 pounds for fresh eating at home. Ninety pounds of the total vegetable consumption is for tomatoes, of which 20 lbs are eaten fresh and 70 pounds are processed, mostly as sauce. "Lewis County Potential Consumption" is based on multiplying the national per capita consumption of these products times 11,367, which is the figure I found online for the population of Lewis County.

"Estimated Average Price per Unit" is based on the prices these items sell for through the Oklahoma Food Cooperative.

The per capita totals assume that each person consumes at the national average, so "mileage may vary" based on individual eating preferences. Maximum food stamp allowance for a family of 4 is from the USDA web site, and is included for comparison purposes.

II. First Thoughts on Application of Permaculture Design Principles to Local Food Systems

Permaculture is a design discipline (well, that is one way to describe it anyway) that looks at holistic systems

and our place in those systems. In our work in Oklahoma, our basic assumption is:

If we want a more sustainable, just, and humane agricultural system, then there must be a market for the products of a more sustainable, just, and humane agricultural system.

The human/invisible structure aspects of this include:

- ★ Producers
- ★ Customers
- ★ Production infrastructure
- ★ Energy production systems
- ★ Markets
- ★ Finance/money system
- ★ Other invisible structures (regulatory agencies, governments, cultural attitudes about food, etc.)

The ecosystem's contribution includes:

- ★ Climate and weather (rain, sun, etc),
- ★ Soil and nutrient systems
- ★ Geography, which includes patterns of human settlement and production in the area,
- ★ “All living things”, from micro flora and fauna up to large mammals, and all points in between.
- ★ Energy (wind, sun, weather, flowing water)

The design begins “where” the place – Lewis County – is at right now, with its existing assets and challenges, patterns of trade and production, and ecology. This means its geographical location, but also its culture, the ecology of the area, the knowledge of its residents, and its invisible structures, the land, climate, and all living things.

Generally, in rural areas, the economic pattern is simple:

- ★ Items necessary for human life (food, energy, manufactured goods), are trucked in from other areas, with the local area being a link in a global just-in-time distribution chain.
- ★ Most of the money paid for those items goes out of the area quickly.
- ★ Much of the economic activity is financed by money from outside the area, so interest paid on the loans also leaves the area, and persons seeking financing must meet national standards. Lenders may not be interested in non-traditional financing needs..
- ★ Some money comes back into the area in the form of government transfer payments, government spending programs, and the sale of goods and services produced/located in the county to places elsewhere.
- ★ Generally, the net result over time in rural areas is that they are slowly being killed by a “death of a thousand financial cuts”. More money goes out than comes back in, and this financial accounting doesn't even begin to report eco-system issues such as the continuing loss of fertility, depletion/pollution of water/aquifers, and erosion of topsoil, losses which are not reported in conventional accounting systems.
- ★ So a local economy can be compared to a ship with lots of leaks. As Benjamin Franklin said, “A small

leak can sink a large ship.” This is why rural areas everywhere are slowly sinking.

We hope through permaculture design is to discern a better way of living in the area – the development of local systems of exchange and production and consumption. In this particular case, we are considering how permaculture design can help create a local food system.

Leaving aside all of the ecological questions, let’s first look at some of the elements of a local food system.

- ★ Producers grow the food, raise the animals and then either sell the product directly to the end customer, or to an aggregator or processor. Sometimes the producer will do some processing on farm, or – as is the case with meat – arrange with a local processor to have the animal butchered and cut to order.
- ★ Customers buy the food and cook it in their kitchens. *But note here that the emphasis is on buying whole foods and preparing meals from basic ingredients.* We have found this single little detail to be a Very Big Thing for our customer members. While local food systems can certainly offer casseroles and cakes and other convenience prepared foods, many people will need to know how to prepare meals from basic ingredients. This is a challenge, because many people no longer prepare meals like this. Indeed, in many ways there has been an almost complete collapse in the cross-generational transfer of important cultural information, especially in the kitchen. *Plan from the beginning to teach people how to use this local food.* If people want Twinkies, fine, but teach how to make them in a home kitchen, from local ingredients. I have done this, and believe me, a “Twinkie” made with locally grown, organic wheat flour, real butter and cream from a pastured dairy heard, and local honey, is quite a different “treat” than the manufactured “Twinkie Products” sold in the supermarket system.
- ★ Production infrastructure is also required. If meat is to be sold, the area will need at least one inspected meat processing facility. If people are to have vegetables in the winter, someone will need to do preservation for winter consumption (freezing, canning, drying, etc) – the household, the producer, a separate producer enterprise or cooperative or (most likely) a combination of “all of the above”. Community canning kitchens used to be produced and sold commercially in various sizes by canning jar companies. The Ball jar company gave their canning kitchen production unit to the Church of the Brethren, who later sold it to an employee, but that lead died at that point. As far as I know, the institution with the most experience with community canning kitchens is the LDS Church, which operates a nation-wide network of wet and dry pack community canneries for use by their members. NB: A community canning kitchen could also be created as a commercial kitchen where local food entrepreneurs could make products to sell directly to the public.
- ★ Energy production and distribution systems greatly impact the economics of local food production. Higher costs for energy drive up the cost of local production. Using locally produced energy, perhaps even produced on the farm, is one way to insulate the local food system from the turbulence of world energy markets.
- ★ Markets are fundamental to local food systems. They can include farm stands, farmers markets, cooperatives, independent grocery stores, and CSAs. Each has their strengths, and I tend to think that in an active local food system, such as we envision here for Lewis County, there would be several diverse forms of markets open to local food producers and their customers.
- ★ A cooperative is a specific type of business organization. It is 100% owned by its members. Every member buys one share, and one share only, to join. A coop exists “for the benefit of its members”, as defined by the members. It is a very permacultural way to organize business operations.

★ Invisible structures such as regulatory systems have a major impact on the development of local food systems. One issue we have in Oklahoma is that on-farm processed poultry cannot be sold through third parties such as the Oklahoma Food Cooperative. There are no inspected facilities in Oklahoma that will take small batches of chickens and return the same birds to the farmers, processed and frozen. So all of our coop poultry producers are in eastern Oklahoma and take their birds into Arkansas for processing, which drives up costs. Our Articles of Incorporation and other documents of the coop make a big point in noting that at all times, the food items moving through our system are owned either by the producer or the customer, the coop never holds title to those products. We do not buy wholesale and sell retail. We charge the producers and the customers commissions for using our system, to pay for our experiences (producers pay 10%, customers pay 8%). Producers set their own prices. All of this legal verbiage is necessary to keep us out of regulatory problems. E.g., if we were buying wholesale and selling retail, our producers who make casseroles that include meat, in licensed/inspected kitchens, would have to have a USDA inspector present while the food is being prepared! But since we are set up the way we are, it is considered (for this purpose anyway) a direct farm to customer sale, so even though the inspected kitchen is required, the “live on premises inspector” is not required. Like education, invisible structures are Very Big Deals for local food systems..

III. Adapting the Oklahoma Food Cooperative model in Lewis County.

The Oklahoma Food Cooperative operates an internet order system linked with a volunteer delivery system. Members order via the website and on the third Thursday of each month, the producers bring their products to our warehouse in Oklahoma City, where we sort them into customer orders, and then the food goes out to 32 pickup sites where customers pick up their groceries.

In the beginning, our first thought was to open a store. But we set that idea aside because we didn't figure that we had the money, the people or enough local production to sustain a store with its higher overhead. Our research indicated that most grocery cooperatives begin as buying clubs, where members pool their money and buy from wholesalers. They gradually bootstrap their way to the point where they can open a store. So we asked ourselves, “What does a buying club look like that only has local food and non-food items?” Out of that question grew our present method of doing business.

Using the internet provides an easy and cost-effective way to collect orders, invoice the customers, and pay the producers, whether you operate in one county or a larger area.

In an area such as Lewis County, our model could still be used, only on a smaller geographical scale. In many ways, the smaller geographical area actually simplifies the start-up. The critical feature is enough producers to make it interesting for customers. This could be as few as a half dozen or so. From the producers point of view, “customers” are what makes the system interesting, but since the buy-in is so low (\$50 for one share in the Oklahoma Food Coop), it's not a big risk if they are already producing something that can be sold.

Starting small is not a problem, we often said in the beginning, “We start small or we don't start at all.” Starting small is good, because this is something new, and it takes time to learn how to do it. Lewis County has the advantage of being able to look at our model and see a success, and then that can be adapted for your own needs.

Members could order via your website, using our software or some other shopping cart system, and you could have one or more delivery days each month. We used borrowed space for several years, until our growth required us to find a place of our own. Our first home was Epiphany Catholic Church, and then we later moved to the OKC Farmers Market Pavilion. Ordering “in advance” helps producers all down the line. E.g., artisan food producers (like bakers) don't have to cook “on spec”, they can “cook to order”. Having a space of your

own is definite advantage, though, because part of the work of using borrowed space is setting it up in the AM and then re-setting it in the PM, and as you grow, that is increasingly an issue. When we started, we used only a half dozen or so tables. When we left the farmers market pavilion for our own space, we were renting, setting up, and then taking down 125 tables every delivery day.

We have helped folks in other areas start similar cooperatives. Idaho's Bounty, <http://www.idahosbounty.org/>, started with two pick-up locations, in Hailey and Ketchum, Idaho, with a population base smaller than Lewis County, and have recently expanded to include a pick-up site in Boise. Since Lewis County could be considered part of the food-shed for Nashville, that offers additional opportunities for producers and a new way for economic resources to flow from the city to your rural area. NB: I am not from the area, have never been there, and am making this assumption after looking at Mapquest.

IV. Miscellaneous Issues

- ★ In our Oklahoma experience, producers who require feed are doing best when they produce/grow their own feed (e.g. for chickens), due to the rising costs of feeds. (Feed in general is an issue, and if no feed is ground/mixed in your county, that will be a bit of infrastructure you will want to encourage.) Product diversification is important (“have something to sell every month of the year”).
- ★ Education of customers and producers is essential, and never stops. Producers need to be taught how to sell directly to the public, and customers need to learn how to use the basic foods they can get from farmers.
- ★ The cooperative ethos really helps. Our delivery days are very much like the barn raising events of previous generations. Sixty to seventy people come together, work hard, eat, fellowship, laugh, etc, and when the day is done, important work has been accomplished. All members of the Oklahoma Food Coop do a bit of the work, one way or another, although we don't require every member to come to the delivery day sorting. For example, we have tried every possible way to sort frozen and refrigerated items to individual orders, and none of them are satisfactory at this stage of our monthly business. We need to be able to do that kind of sorting in a refrigerated room. We have “room” for that at our warehouse, but the refrigeration is a big capital expense and we aren't ready for that. So refrigerated and frozen items go into ice chests (using dry ice for the frozen items, and frozen bottles of water for the refrigerated items), by pick-up site, and by producer, with the customers names on card on top. So when the customers come to pick up their food – all of their dry items are collected together and bagged, but they have to go to the ice chests and pull their own individual items, thus doing some of the delivery day work – investing their own sweat equity in our success.
- ★ A local ethanol plant, operating as part of a regional permaculture design, would integrate well into this, providing farmers with fuel and the “brewers grains” that are left over after the alcohol is distilled. An area-wide composting operation would help boost regional fertility.
- ★ Home and community gardens are important supplemental food sources, as are wide plantings of fruit and nut trees and bushes.
- ★ A local food cooperative has very low capital requirements to get started. We did not spend \$1,000 by the time we opened our doors, and most of that was for postage to send letters soliciting farmers and customers. We had no online ordering system for our first order; instead, members emailed orders and we copied those emails into word processing documents to create invoices for the customers and producers. Our first month we had 35 orders, totaling about \$3,500. Now we do about \$70,000/month. It takes about as much time now to sort \$70,000/product (typically 12,000+ items, for 700 orders, going to 32 pick-up sites) as it did to sort \$3,500 six years ago.

- ★ Non-food items are about 20% of our monthly sales, so this provides a place for artisan soap makers, folks who can sew, artists, and etc to sell their products.
- ★ The coop offers a low-entry barrier way for people to enter the market and sell food or non-food items.



Developing a Local Food System

Lessons from the organizing campaign of the Oklahoma Food Cooperative

By Robert Waldrop, president

- ★ A local food system starts in local kitchens, as individuals decide to take personal responsibility for the food they eat.
- ★ The permacultured kitchen is the essential foundation of a local food system. If we want a more sustainable and just food production system, then there must be a market for the products of sustainable and just food production systems. Personal and household choices about where and how we spend our kitchen money and time are critical to the design of the permacultured kitchen. This design process begins with observation of your present situation and an inventory of what you have and do, what you need, and the challenges of getting from here to there.
- ★ A local food system is about distributing basic foods; it does not look like Wal Mart. Don't expect all the ersatz "convenience" offered by manufactured foods. The good news is that while the process is not always easy, the change that the permacultured kitchen brings to your household is uniformly positive. The food will be more nutritious, it will taste better, you will feel better about your work in the kitchen.
- ★ Basic principles of the permacultured kitchen:
 - ★ Form and function follow food.
 - ★ Eat with the season.
 - ★ Be temperate in your selection of foods.
 - ★ Prepare meals from basic ingredients.
 - ★ Develop the organization and systems of your kitchen.
 - ★ Recycle resources and energy
 - ★ Process and preserve foods at home. Practice food storage.
 - ★ Grow some of your own food.
 - ★ Buy foods from local farmers and producers.
 - ★ Never buy meats that originate in confined animal feeding operations.
 - ★ Design for economy.
 - ★ Design for catastrophe
- ★ Organizers must be people who have advanced through the beginnings of this "permacultured kitchen" process and who are already actively buying, or looking for places to buy, local foods. In the case of the Oklahoma Food Cooperative, Robert Waldrop had more than 20 years experience in preparing meals from basic ingredients, growing food, and preserving, processing, and storing foods. A year prior to the organizing campaign, he began to look for sources for local foods, and by the time the organizing campaign started, he was getting 80% of his household's food from his own gardens or from local farmers. This gave credibility to his "buy local foods" message.

- ★ The first step outside of the home kitchen is to collect and share information. Waldrop started a website, www.oklahomafood.org (it is now www.oklahomafood.coop) to share the information he was finding about local food producers.
- ★ Where to look for local food sources?
 - ★ Directories. Some state departments of agriculture maintain directories of local food producers.
 - ★ Farmers markets.
 - ★ County extension agents.
 - ★ Custom butchers.
 - ★ Classified ads in newspapers.
 - ★ Word of mouth.
- ★ The Oklahoma Food Cooperative organizers made extensive use of the internet. Besides the website, they organized a listserv to discuss organizing a local food cooperative, and joined many local internet discussion groups. (okfoodret@yahoo.com, whose archive contains a complete written record of the development of the cooperative from the first announcement of the idea to the present time.)
- ★ Where to find more people:
 - ★ Local and state chapters of environmental organizations, in particular, look for Sierra Club chapters.
 - ★ Homeschoolers
 - ★ Weston A. Price Foundation local chapters
 - ★ Churches
 - ★ Local and regional internet discussion groups.
 - ★ Food editors
 - ★ Restaurant owners
 - ★ Slow Food conviviums/contacts
 - ★ Peak oil discussion groups
 - ★ Doctors and medical professionals
 - ★ Support groups for people with allergies
- ★ The fastest way to create jobs in rural areas is to help farmers sell food directly to local residents.
- ★ Besides internet discussion groups, the Oklahoma organizers held a dozen meetings, in many different parts of the state. Usually the primary publicity was through free notices published in local newspapers. The meetings were held in churches and libraries, the best attendance at any of these meetings was 12. The people attending each meeting elected one person to serve as a member of the “Oklahoma Food Cooperative Organizing Committee.”
- ★ The organizing committee incorporated as an Oklahoma Non-Profit Organization, and began holding monthly meetings. At each meeting, they had a potluck lunch. The organizers believe that this was critical to the group’s success.
- ★ The group determined it was not feasible to open a store, so we invented an order delivery system with the following features (features are as of 2006, not all of this was present at the beginning).

Features of the Oklahoma Food Cooperative

Order Delivery System

- ★ Organized as a cooperative under the Oklahoma statute for consumer cooperatives.
- ★ The cooperative has designed its own online operating system, the Local Food Cooperative Management System, which is available free of charge to others via the General Public License System. Details at <http://www.localfoodcoop.org> .
- ★ We do a monthly order delivery service. The order opens on the first day of the month. Customers order by browsing the product lists and clicking to add items to their shopping cart. Or they can order by phone, by postal mail, or email. 99% of orders come through the online system. When a customer orders, the system creates two invoices: one for the customer, and one for the producer informing him or her what people have ordered. The order closes the second Thursday. Producers can then log in and click a link to access their orders, in two formats, sorted by customer, and sorted by product/storage (“storage categories” are refrigerated, frozen, dry, produce, eggs). Delivery Day is always the third Thursday of the month.
- ★ Producers and customers are members. Everybody pays the same, and has the same rights. Producers can buy, and customers can sell. One member, one vote, one class of membership stock. Each member is assigned a unique membership number (in sequential order, starting with 001, we are now over 2200). 145 of our members are also identified as producers. In any given month, about 1/3 of the customers buy, and about 1/2 of the producers sell. Half of our membership orders in the typical quarter.
- ★ The relationship between the cooperative and its producer and customer members is an agency relationship. We act as agents of the producers in listing their products, collecting the customer orders, arranging for delivery, collecting from the customers and paying the producer. We act as agents of the customers in finding producers with products to sell, providing an order system, collecting their payments, and delivering their groceries. In our sorting operation, we are a cross-docking operation. The cooperative never holds title to any of the products. The products are always owned by either the producer or the customer. This is important for regulatory reasons.
- ★ The cooperative has been almost totally self-financed by the sale of membership shares, sweat equity volunteer workers, and in-kind donations. In our organizing campaign we received a few hundred dollars in donations (from the Sierra Club and the Oscar Romero Catholic Worker House), in-kind donations from Epiphany Church in the form of free use of church space for meetings, delivery day, and banquets, and we received one small grant, most of which we were unable to use because we had requested the grant when our goal was to open a store and not all of the money could be re-programmed to fit our order delivery service.
- ★ Producers set their own prices.
- ★ The cooperative does not limit the number of producers who can sell a particular product. We think this is very important to maintaining the vitality of the cooperative and make it an interesting place for customers to shop. If the cooperative limited producers in product categories, this would totally change the relationship between the cooperative organization and its producer and customer members. The cooperative would find itself in the business of picking winners and losers and second-guessing customer tastes and choices, as well as requiring us to forecast expected demand in order to make sure we had enough producers.
- ★ All the producers have a page at our website to tell their story, plus their products are stored in its

database. Their products are displayed sorted in various ways. Producers enter and edit their own information and products on the website. 99% of our producers have been able to do this. The cooperative does it at no charge for a small handful who don't have computer access or whose computer is down. Each product receives a unique number, automatically assigned by the software when it is entered. Producers can specify inventory amounts in their product descriptions. As products are ordered, the inventory declines. If somebody cancels an order, the inventory increases. When all of the product is sold, customers can't order it, but it continues to appear on the public price list..

- ★ We have strict standards about what can be sold through the cooperative. We allow no distributorships, anything sold must be produced by the producer. Producers can buy raw materials, but the producer must add value. "Re-packaging" is not added value. No confined animal feeding operation products may be sold through the cooperative nor may they be used as ingredients in processed/prepared foods. Ingredients for prepared and processed foods may be bought from the regular food system, except that any meats or eggs must come from Oklahoma farmers. Meats, dairy, and eggs must come from free-ranging flocks and herds. No animal products or antibiotics are allowed in feed, nor bovine growth hormones. Products do not have to be organic or all natural, but producers must declare what their production practices are at the cooperative's website.
- ★ Customers and producers are assigned a user ID and password. Their access to the members only parts of the website is governed by this, which enables us to have a basic level of access for everybody, and then various levels of administrative access for cooperative officers and volunteers.
- ★ Producers are responsible for getting their goods to the delivery location. In several areas, producers cooperate and send their products to delivery day on one truck.
- ★ Each product coming in to our central sorting location, must be labeled with the name of the producer, the name of the customer, the customer's delivery code, and what the product is. The cooperative's website produces labels in two formats which the producer can automatically download at any time after the order closes, so all he or she has to do is cut them apart and staple, tape, or otherwise stick the label onto the package.
- ★ Product packaging has been an issue. The flimsy plastic grocery bags are not that suitable for our system, since items have to be sorted and moved, and packages inside them can easily fall out. Attaching labels to such bags is next to impossible (well, you can attach them but they don't always stay). For frozen items, the best packaging is ziplock bag, with the label inside the ziplock bag.
- ★ Each customer has a unique delivery code which is based on how they choose to get their food (pickup at one of several locations or home delivery):
- ★ We have 250+ ice chests of varying sizes, for moving frozen and refrigerated items. For frozen items, we use food grade dry ice which we buy directly from a distributor, not from a retail store. For refrigerated items, we keep them cold with 2 liter bottles of ice. Each ice chest is numbered. Keeping track of those ice chests and ensuring that they come back to each delivery day is a challenge.
- ★ Each route and pick-up site has a volunteer in charge of it. This volunteer has an administrative access that allows them to see the customers on their route. They email or phone them before delivery day to verify that the customer selected the right delivery method and remind them of the pickup times. Each pickup site has a volunteer in charge of that. Sometimes one person is the volunteer in charge of the route, the pickup site, and the driver for the route (smaller routes, like Midwest City).

- ★ The cooperative charges the producers 10% to sell and the customers 10% to buy, this provides the operating revenues of the cooperative.
- ★ The cooperative takes payments in checks, money orders, and via the PayPal system, thus allowing us to take credit cards. We do not add a surcharge for PayPal payments (they cost us 2.7%, competitive with credit card fees. We stopped taking cash because of problems with our distributed pick-up sites.
- ★ All orders must be paid for by the customer before leaving with the groceries.
- ★ Our primary method of communication with customers is via the internet. We do not do regular mailings to members
- ★ Monthly sales are presently fluctuating between \$65K and \$70K/month. We sold our “million dollar” in November 2007. We expect our gross revenues for 2008 to be right at \$800,000, which is a 50% increase over 2007.

Oklahoma Food Cooperative

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