

Building Local Food Systems: A Planning Guide

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Introduction

This planning guide provides a framework for building local food systems. This task has value and meaning for low-income communities and communities of color—in urban and rural settings—that lack both access to fresh healthy food and access to the resources needed to build self-reliance.

Household food insecurity and poverty go hand-in-hand. Local small and mid-sized family farmers seek profitable markets. Local ownership of the means of production and exchange can build community assets, self-reliance and eventually wealth.

Our own localities provide the opportunity for building local food systems that source food from local farmers, build local ownership of the businesses, engage in values-based local food trading, and create both jobs and new income.

The guide will first set the context for planning based on a new method for estimating neighborhood consumer food expenditures and an assessment of local production capacity. The guide can serve neighborhood-based and local community food assessment by providing a framework. The framework allows us to look at how neighborhood residents spend their consumer food dollars in terms of the sources, the health and the cost of the food they buy. Neighborhood-based planners can use the guide to envision, research and plan alternative local food trading systems for their neighborhoods and communities. The guide provides worksheets for the assessment of neighborhood consumer food expenditures and local production capacity.

Neighborhood-Based Food Systems

Advocates for local food systems apply this term to a wide variety of local food production and exchange transactions that range in size and scope from personal vegetable production to urban agriculture to community supported agriculture, from farmstead roadside stands to urban farmers' markets. Ideally the planning process will specify the size and scope of the proposed local food system.

To aid in this process we have developed the Taxonomy of Local Food Systems. To develop the taxonomy we asked and answered the following questions:

What is a local food system?

- ◆ *A local food system is a set of interdependent and linked activities that result in the production and exchange of food. The activities include farming, packing, processing, packaging, storing, distributing and selling food.*

- ◆ *These systems supply locally and regionally produced food to populations located within close proximity to food production sites.*
- ◆ *Local refers both to local and regional sources of food.*

What is local food?

- ◆ *Local food is food produced in a geographic area located in close proximity to the population that consumes the food.*
- ◆ *The geography of local food sources has flexible boundaries*
- ◆ *The source is as close geographically to the consumer as possible.*
 - *E.g., local food for the Red Hook neighborhood in Brooklyn, New York can come from urban agriculture in the neighborhood.*
 - *Red Hook can also source food from the Hudson Valley and Long Island. During late fall, winter and early spring Red Hook also could source fresh fruits and vegetables from the Southern US while sourcing dairy and meat from the Hudson Valley and Long Island.*

Scale and scope

- ◆ *The major types of local food systems vary in terms of scale and scope.*
 - *Scale refers to the number of people that the local food system reaches.*
 - *Scope refers to the range of food products that the local food system supplies its consumers.*
- ◆ *We can classify local food systems in terms of scale and scope*

The following taxonomy reflects these considerations.

Scale	Name	Producers	Consumers	Scope
Local food systems, in order of scale, smallest to largest				
Very tiny	Home gardens	Individuals and families	Same	
	Container gardens			
	Roof top gardens	Children	Families; neighbors	
	School gardens	Neighbors	Neighbors (10s)	
	Community gardens			
Tiny	Urban entrepreneurial agriculture	Neighbors	Neighbors (10s to 100s)	Fruits and vegetables
Mini	Community supported agriculture	Local farmer	Local consumers (100s to 1000s)	Fruits and vegetables; some livestock
Small	Farmers' markets	Local farmers	Local consumers (1000s)	Fruits, vegetables, meat, dairy
Small to middle	Farm-to-school	Local farmers	Local consumers (1000s)	Fruits, vegetables, meat, dairy
	Farm-to-hospital	Local farmers	Local consumers (1000s)	Fruits, vegetables, meat, dairy
Middle	Neighborhood-based local food system	Local farmers	Local consumers (10,000)	Fruits, vegetables, meat, dairy, small-scale processed
National and global food systems, in order of scale, smallest to largest				
Middle to large	Corner stores	National to global	Local consumers (10,000+)	Fruits, vegetables, meat, dairy, manufactured
Large	Grocery stores		Local consumers (50,000+)	
Mega	Supermarkets		Local consumers (100,000+)	
	Super stores		Local consumers (100,000+)	

If we consider the array of local food systems listed in this table, we notice that all of the various types of local food systems exist in operational reality except for one: Neighborhood-based local food systems.

Low-income neighborhoods in particular lack access to fresh, local food available every day of the week. Both inner city neighborhood residents and rural residents now must travel considerable distance at considerable expense to purchase basic food for their families to consume at home. The “market basket” for basic food includes meat, poultry, fish, dairy, baked goods and fruits and vegetables. These products comprise about 60% of consumer food expenditures. Even more importantly, virtually every region of the United States has the capacity to produce these basic food products, especially small family farms that produce a diversity of vegetables, fruit, grains and livestock using low-input sustainable production practices. These small farmers need markets and local neighborhoods close by their farms need good, healthy food. Our task is to create the trading linkages and networks that make this production and exchange both possible and profitable for all trading partners.

1. The Problem

The single most challenging problem for local food systems development is the problem of translating the ideal of bringing local food to local people into operational reality. This guide describes a planning process for building local food trading networks. To illustrate our approach we will use work in New York State with three neighborhoods as a case study for this process. The three diverse low-income neighborhoods have characteristics similar to large metropolitan neighborhoods, small cities and rural communities throughout the United States.

The three neighborhoods demonstrate the problems of access to fresh, affordable local food for which local food trading networks offer solution. The first neighborhood is one of the lowest income neighborhoods in Brooklyn, the Red Hook community. The second neighborhood is a low-income neighborhood in Poughkeepsie, New York. The third community is the village of Salamanca in rural Cattaraugus County in Western New York. In order to understand the issues, we examined first consumer demand for basic foods and then local food production capacity.

Consumer Demand and Expenditures for Basic Food

Red Hook in Brooklyn: A Low-Income Metropolitan Neighborhood

According to the 2000 US Census, 10,215 people lived in the four census tracts comprising the Red Hook neighborhood of Brooklyn.¹ In 2002 Red Hook had the following demographic characteristics typical of a multicultural low-income neighborhood:

- 73% of households in 1999 had a median household income of \$10,372, all located in one census tract. Only 2% of households had a median household income of \$46,500.
- African Americans comprised 43% of the population. Hispanics of any race comprised 47% of the population. Non-hispanic whites comprised 8% of the population.
- English-only speakers comprise 57% of the population and Spanish speakers comprise 40% of the population.
- Renters occupied 93% of housing units.
- Families with children under 18 years of age with incomes below the poverty level comprised 53% of households and females with no husband present and children under the age of 18 comprised 28% of households.
- 83% of households had no vehicle available.

And the people of Red Hook spend over \$13 million annually to purchase food. Estimates of consumer food purchasing come from at least two sources, the Consumer Expenditure Survey and Neighborhood Food Expenditure (NFE[®]) methodology that we have developed.

The Bureau of Labor Statistics conducts the Consumer Expenditure Survey annually and publishes expenditures for food at home and food away from home in terms of race, ethnicity, income level, type of household, region of the country, etc.² The 2003 Consumer Expenditure Survey provides the following information relevant to estimating the annual consumer expenditure for food in Red Hook:

- People in the lowest 20% of incomes before taxes spent \$1,202 per person for food at home in 2004
- People with incomes between \$10,000 and \$14,999 before taxes spent \$1,169 per person for food at home in 2004
- Urban dwellers spent \$1,348 for at home food at home in 2004
- African Americans spent \$1,048 and Hispanics spent \$1,177 per person for food at home in 2004

Using 2004 Consumer Expenditure Survey data we can estimate that the 10,215 people of Red Hook spent between \$10.7 million and \$13.7 million dollars for food at home in 2004 (the range between African American consumer food expenditures and urban consumer food expenditures (see Table 1, Appendix).

However with NFE methodology³ we estimate that Red Hook residents will likely spend substantially more for food at home in 2006. Our estimate uses US per capita food consumption data as published by the US Department of Agriculture for 2004⁴ and prices advertised at nearby supermarkets. We assume that these supermarkets source their food from a range of national and global suppliers. Because the USDA only reports average per capita consumption on a national basis, per person demand is the same for each community. Variation in total quantity of demand therefore is a function of the size of the population.

We determined the current price for 20 basic food products on April 6, 2006, as shown in the Pathmark Gowanus supermarket weekly circular for the week of March 31, 2006.⁵ The Gowanus Pathmark is the closest store to the Red Hook 11231 zip code according to the Pathmark web site. Table 2 provides the unit of measure, the per capita consumption of each product, the total consumption for Red Hook, and total dollars spent on each product. Interviews

with Red Hook residents confirm that the Gowanus Pathmark is the closest full-service supermarket to Red Hook.⁶ We assume that Red Hook residents will likely pay the Pathmark price at minimum for each of these products because usually prices at small neighborhood “mom and pop” stores and bodegas are higher than supermarket prices.

At current prices at the nearest supermarket in Brooklyn, Red Hook residents will spend at least \$12 million for a market basket of *just 20 basic food products* used in everyday meal preparation (Table 2, Appendix), an average of \$1,175 per person for these 20 basic food products. New York State farms and food producers can readily produce each of these 20 food products.

Poughkeepsie: Low-Income Small City Neighborhoods

Poughkeepsie, about 65 miles north of New York City, is a small city in Hudson Valley with a population of 29,871 in 2000. Poughkeepsie is home to Vassar College, nearby Hyde Park, the Culinary Institute of America, and some of the nation’s most beautiful scenery, richest estates and productive farmland. Yet the city itself suffers from many of the problems of concentrated inner city poverty.⁷

1. Seven contiguous census tracts in Poughkeepsie—a neighborhood—are among the 10 census tracts in Dutchess County with the lowest median household incomes, ranging from \$15,758 to \$29,038. (Dutchess County has 66 census tracts. The 10 highest median household incomes ranged from \$70, 558 to \$82,580.)
2. The percentage of people of color in the seven census tracts ranged from 42.5% to 77.4% and exceeded 50% in five of the seven tracts.
3. In these seven census tracts the percentage of families with children under 18 years of age with incomes under the poverty level ranged from 10.8% to 25.6%
4. In these seven census tracts the percentage of households with no vehicle ranged from 25.5% to 55.5%.

Like Red Hook, residents of these low-income neighborhoods spend a substantial sum for purchasing food for home consumption. With NFE methodology we estimate that 11,319 people living in the five census tracts with the lowest incomes and highest concentration of people of color will spend almost \$11 million in 2006 (\$941 per person) for the same 20 basic food products, using current prices at the nearest Price Chopper supermarket (Table 3, Appendix).⁸

Salamanca, New York: A Low- to Moderate-Income Rural Community

Salamanca, New York is a city of 6,097 people in rural Cattaraugus County, about 60 miles south of Buffalo. Salamanca is located on the Allegheny River. The Seneca Nation holds title to the land that includes the City of Salamanca. Just south of Salamanca is the Allegheny State Park, the largest park in New York State. Salamanca is a low- to moderate-income community with a substantial Native American population.⁹

- The census tract encompassing Salamanca has a median household income of \$22,786, the second lowest in Cattaraugus County. Median household incomes for the census tracts in this county range from \$11,250 to \$40,196.
- The Native American population of 1,197 constitutes 17.6% of the population and all people of color constitute 19.8% of the population of the Salamanca census tract. The government center of the Allegheny Reservation of the Seneca Nation is in Salamanca.
- In the Salamanca census tract the percentage of families with children under the age of 18 years with income below the poverty level is 15.4%.
- In the Salamanca census tract the percentage of households with no vehicles is 17.3%.

Salamanca low-income residents, like their urban counterparts, spend large sums to purchase food for meals for consumption at home. With our methodology, based on current prices at the nearest Tops Supermarket in Olean, we that estimate consumer food expenditures in Salamanca for the same 20 basic food products will exceed \$6.4 million—a per person expenditure of \$1,056 (Table 4, Appendix).¹⁰

Summary – Consumer Demand and Expenditures for Basic Food

With regard to consumer food expenditures, in spite of great diversity in community context, ranging from intense metropolitan to isolated rural, the data indicate that the residents of these three communities spend about the same amount of money per person for food for consumption at home. Residents of Red Hook spend about 20% more for food per person than Poughkeepsie and Salamanca, perhaps a reflection of higher costs of distribution in the New York City metropolitan area. Relatively similar retail food prices prevail in spite of the fact that three different retail grocery corporations serve these communities.

Local Food Production Capacity

To estimate local food production capacity we first determined the amount of land required to produce several of the basic foods consumed by people from the group of 20 basic food items listed in Tables 2 – 4. We used information for production on diversified small family farms using sustainable low-input farming practices wherever possible. For example, Joel Salatin recommends raising 500 birds per acre for pasture-raised poultry.¹¹ Each bird yields 5 pounds on average¹² Thus one acre yields 2,500 pounds of chicken for consumption, and 328 acres will provide enough chicken for a neighborhood of 10,000 (82 pounds per person consumption in 2004, a total of 820,000 pounds). Using this approach we calculated the following land requirements for several basic food items:

- 2,163 acres for beef. Cattle require about 2 acres per animal. Each animal yields about 600 pounds of meat processed for retail sale. (300 pounds per acre; 65 pounds consumption per person; 650,000 pounds for 10,000 people)¹³
- 103 acres for hogs. (20 hogs per acre; yield of 250 pounds per hog; 52 pounds per person consumption; 520,000 pounds for 10,000 people)¹⁴
- 11 acres for fresh tomatoes, based on yields of 17,000 pounds per acre, per person consumption of 18.1 pounds or 181,000 pounds for 10,000 people¹⁵
- 12 acres for processing tomatoes (yield of 60,000 pounds per acre; per person consumption of 69.7 pounds or 697,000 pounds for 10,000 people)¹⁶
- 10 acres for strawberries (yield of 4,800 pounds per acre; per person consumption of 5 pounds or 50,000 pounds for 10,000 people)
- An estimate of 50 acres for additional vegetables and herbs¹⁷
- An estimate of 50 acres of orchard land, based on reported yields of about 67,000 pounds of apples per acre (18.8 pounds per person consumption; 188,000 pounds for 10,000 people requiring 2.8 acres at a yield of 67,000 pounds per acre)¹⁸
- A total of 2,727 acres to produce these basic food products

In the following analysis of local production capacity, we have used 4,000 acres as the conservative estimate of the amount of local farmland required to produce a substantial variety of fresh, natural basic food products for a population of 10,000 people.

Local Production Capacity for Red Hook and Poughkeepsie

We examined six counties (Columbia, Dutchess, Greene, Orange, Putnam, Ulster) within a 100 mile radius of New York City and Poughkeepsie for their capacity to produce food for these two communities. Red Hook requires about 4,086 acres and the Poughkeepsie low-income census tracts described above require about 4,528 acres for basic food production. Together these two communities require about 8,600 acres of farmland.

The six counties have 2,797 farms on 488,068 acres of farmland. Over 1,000 farms in the six counties have farm sizes ranging from 50 acres to 499 acres. Farms in each production category include 388 dairy farms, 264 beef producers, 120 hog producers, 355 chicken producers, 31 wheat farms, 337 vegetable farms and 227 orchards. Local farm production capacity within 100 miles of Red Hook and Poughkeepsie low-income neighborhoods is more than adequate for the basic food needs of these two communities combined.

Local Production Capacity for Salamanca

Salamanca requires 2,439 acres of farmland to produce basic food. Three counties (Chautauqua, Cattaraugus and Allegany) within a 100 mile radius of Salamanca have 3,758 farms on 637,978 acres of farmland. There are 2,519 farms between 50 and 499 acres. Farms in each production category include 739 dairy farms, 750 beef producers, 168 hog producers, 264 chicken producers, 40 wheat farms, 132 vegetable farms and 673 orchards. Local farm production capacity within 100 miles of Salamanca is more than adequate for the basic food needs of Salamanca.

A Note on the Cost of Production and Exchange and the Potential Profitability of Local Food Trading Networks

The ideal of a local food trading network can work only if it is profitable for all participants. Farmers, packers, packagers, processors, distributors and retailers all must earn livelihoods and achieve their economic aspirations for the sustainability of the local food trading network. Is profitability possible on such a small scale? One aspect of planning must focus on accurate information about the costs of production and exchange. Nevertheless, cost-effective practices, like low-input sustainable farming, minimal processing, all-natural products, simple logistics, local transportation, low retail overhead, minimal infrastructure and state-of-the art supply chain management, all should contribute to higher profit margins. Fair trading, values-based business

practices, transparency and cooperation should also allow food trading network businesses to achieve higher levels of profitability.

A Note on the Distribution of the Retail Food Dollar

A critical issue for the economic viability and sustainability of local food systems is the ability to control the allocation of the retail food dollar across various costs. The USDA divides the retail food dollar between the revenue received by farmers for their products (farm value) and all other costs of transforming raw food inputs into food products, distributing and selling these products (the marketing bill). In 2002 the farmer received 19% of retail food expenditures. Fair trade mandates that the farmer receive larger, fairer allocations from the retail food dollar. This allocation change will require reducing costs in other areas. Low-input sustainable production reduces costs below conventional production. Local fresh food needs minimal packaging and processing, thus lower infrastructure and aggregate labor cost. Local food incurs lower storage, distribution and transportation cost. With these advantages for local food trading we argue that it is possible and reasonable to assign a different allocation of the retail food dollar compared to the conventional model (see table below).

	Labor	Packaging materials	Rail and truck transportation	Fuels and electricity	Pretax corporate profits	Advertising	Depreciation	Net interest	Net rent	Repairs	Business taxes	Other costs	Farm value	Total consumer expenditures
Percent distribution of retail food dollar for conventional system - actual 2002	38%	8%	4%	4%	5%	4%	4%	3%	4%	2%	4%	3%	19%	100%
Percent distribution of retail food dollar - proposed local food systems model	13%	4%	2%	4%	5%	2%	4%	3%	4%	2%	4%	3%	50%	100%

The Challenge for Community Food Security in Red Hook, Poughkeepsie and Salamanca

To have community food security a low-income community must have access to affordable, nutritious, culturally appropriate food from local, non-emergency sources. Residents of low-income neighborhoods in Red Hook, Poughkeepsie and Salamanca spend substantial sums of money to purchase basic food, all of which local farms and food producers have the capacity to produce. Linking local food producers with consumers in these communities can provide community food security. Local food trading networks that create these linkages can include local business ownership of farms, packers, packagers, processors, storage, distribution and retail businesses comprising the local food production and exchange system.

Local food business ownership can drive local economic development.^{19, 20} Each local business in the production and exchange business generates revenue and income for the owner(s) and employee(s) as well as increases in regional income and jobs through the regional multiplier effect. In New York State we estimate that every increase in farm revenue of \$1,000,000 generates new income of \$2,000,000 and produces 1.45 new downstream jobs because the new revenue will result in new expenditures for goods and services in the region.²¹ To illustrate the impact of the regional multiplier effect, if the low-income neighborhoods in Red Hook, Poughkeepsie and Salamanca transitioned from global food sources to local food sources, they would increase local farm income. For every million dollars of new farm revenue from local basic food purchases, the local economy would grow by \$2 million in new income and 1.45 jobs. In the ideal scenario, if these communities purchased all of their basic food from local farmers (a combined expenditure of about \$30 million) that new farm revenue would generate \$60 million in new income and 45 jobs.

This economic benefit would accrue from basic food sales of only 20 basic food products in only three communities with a combined population of about 27,000 people. At this small scale the benefit may seem minimal. However taking this approach to local food production and exchange out to scale with a much larger set of small local trading units amplifies the economic benefit substantially. Looking at NYS as a whole we estimate that New Yorkers spend about \$44 billion per year to purchase food (and export about \$35 billion to purchase food imported from national and global sources). If New Yorkers transitioned to purchasing just 10% more of

their fresh food from local farmers they would add \$4.4 billion in new revenue. If they purchased just 10% more of their processed food from NY processors, they would add another \$4.4 billion, for a total of \$8.8 billion in new revenue. The farming multiplier is 1.45 and thus the increase in farming revenues would add 6,300 jobs. The food manufacturing multiplier is 2.54 and the increase in food manufacturing revenues would add 11,000 jobs—a total of 17,000 jobs. Restated, if New Yorkers would simply buy 10% more of their food from NY farmers and another 10% from NY food manufacturers, they would fuel economic growth with 17,000 new jobs and \$16.5 billion in new revenue.²²

The purpose of the local food system planning process is to expand the global-to-local transition by initiating new trading networks and new channels for the production and exchange of local food for local neighborhoods in many communities throughout New York State and the United States.

Challenges to Building Local Food Systems

This planning process must overcome two significant challenges. First the process must build trust. Second the process must create a credible and convincing framework for operationalizing and realizing the vision for a successful structural alternative to extant global supply chains. To overcome these challenges the people engaged in this process must carefully, deliberately work with each other—farmers, local economic development specialists, and neighborhood stakeholders—to plan, build and eventually operate the local network of food production, distribution and retail serving low-income neighborhoods.

3. Organizational Infrastructure for the Planning Process

The planning process to address complex challenges like those in Red Hook, Poughkeepsie and Salamanca requires collaboration and teamwork with key community partners and consulting partners. Every state, region and locality will find its own solutions to the collaboration puzzle. In New York State the planning has involved statewide and local partners. Each partner brings a track record, a skill set and experience that add value to the collaborative.

The New York Sustainable Agriculture Working Group (NYSAWG) reached out to local partners and consultants to engage with them in the planning process. NYSAWG²³ is a non-profit, tax-exempt organization that fosters and promotes sustainable agriculture, community-based food systems and community food security in New York State through training and technical assistance, capacity building, participatory research and policy advocacy. NYSAWG has a 14-year track record of accomplishment, including spin-off organizations like New York Farms! and the New York Small Scale Food Processors Association. NYSAWG serves as the lead organization for the Community Food Security Coalition's Regional Organizing Initiative in New York State. NYSAWG is the New York State Regional Coordinator for the FoodRoutes Network "Buy Fresh, Buy Local" Campaign.

Added Value²⁴ is a non-profit, tax exempt organization that initiated and operates a highly successful urban agriculture program in the Red Hook neighborhood of Brooklyn, New York. The program includes a 3-acre urban farm, a youth development program, a farmer's market with farmers from the Hudson Valley and Long Island, and a media program, Digital Horizons. In the summer 2005 Added Value conducted a youth-led community food assessment funded in part by the New York Regional Organizing Initiative. Added Value, NYSAWG and The Center for Popular Research, Education and Policy have worked together over the past 18 months on the development of a business plan for a local food trading network serving Red Hook.

Sprout Creek Farm²⁵ is a 200-acre working farm in Dutchess County, New York that has evolved from the inspiration of three high school teachers who desired to expand the social consciousness of their students and awareness of our connection to the land, the animals, the plants and the natural systems that sustain them on the farm. The farm provides year-round educational programs for children and youth, including summer camps. The farm uses low-input sustainable farming, has its own creamery and sells its award-winning cheeses at the Sprout Creek Farm Market.

The Cattaraugus County Local Food System Development Group is a newly-emerging group of farmers and consumers in Cattaraugus County initiated by NYSAWG in partnership with Joan Petzen, Extension Issue Leader for Business Development at the Allegany/Cattaraugus office of Cornell Cooperative Extension. Participants include the Canticle Farm CSA, local chicken and beef producers and local vegetable growers. The group started to meet in late 2005 to discuss ways to increase the supply of local food to local consumers. The group has an interest in marketing to increase sales at the Salamanca Farmers Market.

Growing Power in Milwaukee, Wisconsin is a highly respected organization that operates an urban farm, a farmers' marketing cooperative and educational programs designed to build self-reliance and community food security for low-income communities and communities of color. Growing Power has a program in Chicago and provides training nationally and internationally.

Each of these organizations will contribute to planning the local food system for each locality. But the local partner has primary responsibility for designing a local food system that meets the needs of its community. NYSAWG and Growing Power lend capacity—technical assistance and support—to the local partner only as needed and requested by the local partner. The local partner must drive the planning process.

4. Planning Process Goals and Objectives

Ideally the planning process will pursue specific goals and objectives. In the case of the work in New York State, the goal is to plan three local food trading networks, one each in Red Hook, Poughkeepsie and Salamanca. We envision low-income neighborhoods where people walk to a small grocery store (or drive a short distance) to buy fresh local food—meat, dairy, fruit and vegetables—for use at home. We envision a local food system with these vital elements:

- Local farmers grow the food using low-input sustainable farming and production practices
- Local packers, packagers and processors prepare the food for sale
- Local distributors store and transport the food
- Local grocery stores sell the food
- *Local* means that people living in the particular place (the neighborhood, the village, the community) own and operate the enterprises operating in the food trading network.
- This local system of production and exchange ensures fairness and equity at each transaction point
 - People can afford the food
 - Business owners and workers have good livelihoods from the profit derived from a fair share of the retail food dollar—an exit strategy from poverty
 - Farmers get a fair share of the retail food dollar

We have defined the following objectives:

1. Identify local food system stakeholders in Red Hook, Poughkeepsie and Salamanca
2. Establish local food system planning process with key stakeholders and define project deliverables for the three target communities
3. Inventory local food systems assets and needs in the three target communities
4. Produce comprehensive business plans for local food systems in the three target communities
5. Initiate implementation of local food system construction and operation in the three target communities

5. Activities to Achieve the Objectives, Timeline Anticipated Outcomes and Cost

The planning process should break down objectives into action items or activities, organized in a logical manner, that if followed will result in the accomplishment of the objectives. The following table enumerates and describes the activities from the New York State case study.

<i>Project goal: Plan three local food trading networks operating in Red Hook, Poughkeepsie and Salamanca, New York</i>
<i>Objective 1: Identify local food system stakeholders in Red Hook, Poughkeepsie and Salamanca</i>
Activity 1.1. Hold initial meetings with project partners in each target community to develop contact lists of key food system stakeholders.
Activity 1.2. Invite local food systems stakeholders to participate in the planning process
Activity 1.3: Conduct a series of initial local food system stakeholder meetings to orient them to the planning project and process
<i>Objective 2: Establish local food system planning process with key stakeholders and define project deliverables for the three target communities</i>
Activity 2.1: Define planning tasks, establish work plan for planning group and subgroups and define deliverables for planning groups in the three target communities
Activity 2.2. Organize each planning group and subgroup and assign tasks
Activity 2.3. Initiate planning group work
<i>Objective 3: Inventory local food systems assets and needs in the three target communities</i>
Activity 3.1: Conduct asset mapping and inventory process
Activity 3.2: Identify data gaps and plan to acquire additional necessary data
Activity 3.3: Define business relationships and infrastructure to support the local food system trading networks
Activity 3.4: Prepare community food system assessment as basic information to inform business plans
<i>Objective 4: Produce comprehensive business plans for local food systems in the three target communities</i>
Activity 4.1: Define business goals and objectives for local food trading networks
Activity 4.2: Conduct competitive and market analyses for local food trading networks
Activity 4.3: Research models for local food trading, e.g., Good Natured Family Farms ²⁶
Activity 4.4: Conduct research on available sources of capital for financing local food trading networks
Activity 4.5: Write, vet, revise and finalize business plans with appropriate consultants. This process will gain efficiency by sharing and replicating common business plan elements for each of the three localities. The business plans will include operating plans for each local food trading network
<i>Objective 5: Initiate implementation of local food system construction and operation in the three target communities</i>
Activity 5.1: Prepare formal local food system network partnership agreements and enroll partners, including producers, packers, packagers, processors, distributors and retailers
Activity 5.2: Prepare fundraising and capitalization plan for each project
Activity 5.3: Prepare funding applications
Activity 5.4: Organize operating team and financial management protocols for each project
Activity 5.5: Implement start-up operations

Timeline

The project timeline provides a rough sketch of how much time each activity will require, when it will begin and when you expect to conclude the activity. The following table outlines the timeline from the New York State example.

PROJECT ACTIVITY (full description above)	QUARTER					
	Q1	Q2	Q3	Q4	Q5	Q6
Activity 1.1. Hold initial meetings	X					
Activity 1.2. Invite local food systems stakeholders	X					
Activity 1.3: Conduct a series of initial stakeholder meetings	X					
Activity 2.1: Define tasks, establish work plan, define deliverables	X					
Activity 2.2. Organize groups, assign tasks		X				
Activity 2.3. Initiate work		X				
Activity 3.1: Conduct asset mapping and inventory			X			
Activity 3.2: Identify data gaps, plan to acquire additional necessary data			X			
Activity 3.3: Define business relationships and infrastructure			X			
Activity 3.4: Prepare community food system assessment			X			
Activity 4.1: Define business goals and objectives			X			
Activity 4.2: Conduct competitive and market analyses			X	X		
Activity 4.3: Research models			X	X		
Activity 4.4: Conduct research on financing			X	X		
Activity 4.5: Write, vet, revise and finalize business plans			X	X	X	
Activity 5.1: Prepare partnership agreements and enroll partners			X	X	X	
Activity 5.2: Prepare fundraising plan			X	X	X	
Activity 5.3: Prepare funding applications				X	X	
Activity 5.4: Organize operating team, financial management protocols				X	X	
Activity 5.5: Implement start-up operations					X	X

Anticipated Outcomes

An important step at the beginning of the planning process for local food systems is the definition of the outcomes that the planning group hopes to achieve by the end of the process. Outcomes describe what will change as a result of the work. Along with thinking through, defining and writing down goals and objectives, the partners in the planning process need to think about what changes they want to achieve as a result of reaching their goals and objectives.

We will again use the New York State case study for an example of anticipated outcomes.

The New York State local food systems planning process will result in important outcomes demonstrating the viability of the local food trading network for achieving community food security in low-income neighborhoods and stimulating local economic development.

1. The three communities will demonstrate an increase the food self-reliance through locally-owned and operated food trading networks that provide economic growth.
2. The three communities will gain comprehensive responses to local food, farm and nutrition issues bringing together local farmers and food producers to deliver sustainably-grown local fresh, healthy food to local consumers.
3. The three communities will gain new, innovative linkages between public, for-profit and nonprofit food sectors. Public agencies such as local economic authorities; community-based agencies like cooperative extension; farm and food business entrepreneurs; and four nonprofit partner organizations will collaborate in the local food system. The three communities will gain locally-based entrepreneurial solutions to community food insecurity.
4. The three communities will gain and sustain long-term, continuous planning and comprehensive multi-agency approaches that build local capacity to address their food and agricultural problems.
5. The three communities will gain new collaboration among stakeholders from distinct parts of the food system.
6. The three communities will gain understanding of national food security trends and their impact on local food systems.
7. The three communities will gain improved availability of high-quality locally-produced foods to low-income people.
8. The three communities will gain new operational food system infrastructure to support the three local food system trading networks.
9. The three communities will create innovative marketing activities that mutually benefit agricultural producers and low-income consumers.
10. The three communities will gain and demonstrate entrepreneurial income-generation.

Costs

The planning process incurs costs for staff and consultant time, travel and meeting expenses and overhead. The NYS planning will cost between \$65,000 and \$75,000

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- ²⁵ <http://www.sproutcreekfarm.org/farm/farm.html>
- ²⁶ http://www.goodnatured.net/our_story/story.html

Appendix

Table 1: Consumer food expenditures, 2004, for low-income and populations of color

Food expenditure category	Lowest 20% of income before taxes - 2004	Red Hook projection using lowest 20% of income before taxes data	Income before taxes \$10,000 to \$14,999 - 2004	Red Hook projection using income before taxes \$10K to \$14K data	Urban - 2004	Red Hook projection using urban data	Black - 2004	Red Hook projection using Black data	Hispanic - 2004	Red Hook projection using Hispanic data
Average number in consumer unit	1.7		1.8		2.5		2.6		3.3	
Number of Red Hook Consumer Units		6,009		5,675		4,086		3,929		3,095
Food	\$ 2,967	\$ 17,828,179	\$ 2,981	\$ 16,917,175	\$ 5,854	\$ 23,919,444	\$ 4,230	\$ 16,619,019	\$ 5,911	\$ 18,297,232
Food at home	\$ 2,044	\$ 12,282,035	\$ 2,105	\$ 11,945,875	\$ 3,370	\$ 13,769,820	\$ 2,725	\$ 10,706,106	\$ 3,883	\$ 12,019,650
Cereals and bakery products	\$ 296	\$ 1,778,612	\$ 294	\$ 1,668,450	\$ 463	\$ 1,891,818	\$ 387	\$ 1,520,463	\$ 517	\$ 1,600,350
Meats, poultry, fish and eggs	\$ 548	\$ 3,292,835	\$ 562	\$ 3,189,350	\$ 882	\$ 3,603,852	\$ 893	\$ 3,508,460	\$ 1,175	\$ 3,637,159
Beef	\$ 157	\$ 943,385	\$ 152	\$ 862,600	\$ 261	\$ 1,066,446	\$ 214	\$ 840,773	\$ 367	\$ 1,136,032
Pork	\$ 122	\$ 733,076	\$ 135	\$ 766,125	\$ 175	\$ 715,050	\$ 207	\$ 813,271	\$ 236	\$ 730,527
Other meats	\$ 65	\$ 390,574	\$ 62	\$ 351,850	\$ 109	\$ 445,374	\$ 86	\$ 337,881	\$ 113	\$ 349,786
Poultry	\$ 101	\$ 606,891	\$ 107	\$ 607,225	\$ 160	\$ 653,760	\$ 185	\$ 726,837	\$ 231	\$ 715,050
Fish and seafood	\$ 71	\$ 426,626	\$ 71	\$ 402,925	\$ 136	\$ 555,696	\$ 156	\$ 612,900	\$ 159	\$ 492,177
Eggs	\$ 32	\$ 192,282	\$ 35	\$ 198,625	\$ 41	\$ 167,526	\$ 44	\$ 172,869	\$ 68	\$ 210,491
Dairy products	\$ 222	\$ 1,333,959	\$ 230	\$ 1,305,250	\$ 373	\$ 1,524,078	\$ 245	\$ 962,567	\$ 425	\$ 1,315,568
Fresh milk and cream	\$ 101	\$ 606,891	\$ 105	\$ 595,875	\$ 143	\$ 584,298	\$ 98	\$ 385,027	\$ 201	\$ 622,186
Fruits and vegetables	\$ 354	\$ 2,127,124	\$ 385	\$ 2,184,875	\$ 575	\$ 2,349,450	\$ 435	\$ 1,709,048	\$ 712	\$ 2,203,964
Fresh fruits	\$ 113	\$ 678,997	\$ 126	\$ 715,050	\$ 193	\$ 788,598	\$ 128	\$ 502,892	\$ 249	\$ 770,768
Fresh vegetables	\$ 117	\$ 703,032	\$ 131	\$ 743,425	\$ 188	\$ 768,168	\$ 118	\$ 463,604	\$ 250	\$ 773,864
Processed fruits	\$ 68	\$ 408,600	\$ 75	\$ 425,625	\$ 112	\$ 457,632	\$ 104	\$ 408,600	\$ 127	\$ 393,123
Processed vegetables	\$ 55	\$ 330,485	\$ 54	\$ 306,450	\$ 81	\$ 330,966	\$ 85	\$ 333,952	\$ 86	\$ 266,209
Other food at home	\$ 624	\$ 3,749,506	\$ 633	\$ 3,592,275	\$ 1,077	\$ 4,400,622	\$ 766	\$ 3,009,496	\$ 1,054	\$ 3,262,609
Fats and oils	\$ 61	\$ 366,538	\$ 62	\$ 351,850	\$ 88	\$ 359,568	\$ 85	\$ 333,952	\$ 107	\$ 331,214
Nonalcoholic beverages	\$ 181	\$ 1,087,597	\$ 176	\$ 998,800	\$ 287	\$ 1,172,682	\$ 225	\$ 883,990	\$ 328	\$ 1,015,309
Food away from home	\$ 923	\$ 5,546,144	\$ 876	\$ 4,971,300	\$ 2,484	\$ 10,149,624	\$ 1,505	\$ 5,912,913	\$ 2,027	\$ 6,274,486
Per person expenditure for food at home	\$ 1,202		\$ 1,169		\$ 1,348		\$ 1,048		\$ 1,177	

Table 2: Consumer food expenditures for 20 basic food products in Red Hook

		2004 annual per capita consumption in units	Red Hook population 2000	Total estimated Red Hook annual consumption	Unit price at Brooklyn Pathmark on 4/6/2006 (posted in weekly circular for week of 3/31/2006)	Total estimated Red Hook sales for basic food product list
Food at home	Units					
1 White and whole wheat flour	pounds	123.1	10,215	1,257,467	\$ 0.86	\$ 1,081,421
2 Beef	pounds	65.8	10,215	672,147	\$ 3.42	\$ 2,300,663
3 Pork	pounds	50.9	10,215	519,944	\$ 1.99	\$ 1,034,688
4 Other meats (veal, lamb)	pounds	1.6	10,215	16,344	\$ 7.00	\$ 114,408
5 Chicken	pounds	84.5	10,215	863,168	\$ 1.88	\$ 1,622,755
6 Fish	pounds	5.5	10,215	56,183	\$ 2.99	\$ 167,986
7 Eggs	dozen	21.0	10,215	214,515	\$ 2.50	\$ 536,288
8 Fluid milk	gallons	23.7	10,215	242,096	\$ 5.98	\$ 1,447,731
9 American cheese and other cheese	pounds	31.3	10,215	319,730	\$ 3.99	\$ 1,275,721
10 Ice cream	gallons	3.4	10,215	34,958	\$ 7.97	\$ 278,615
11 Apples	pounds	18.8	10,215	192,042	\$ 1.29	\$ 247,734
12 Strawberries	pounds	5.5	10,215	56,183	\$ 2.99	\$ 167,986
13 Broccoli	pounds	5.4	10,215	55,161	\$ 1.00	\$ 55,161
14 Fresh potatoes	pounds	44.7	10,215	456,611	\$ 0.60	\$ 273,966
15 Onions	pounds	20.4	10,215	208,386	\$ 0.66	\$ 137,535
16 Tomatoes	pounds	16.4	10,215	167,526	\$ 2.50	\$ 418,815
17 Potato chips	pounds	4.1	10,215	41,882	\$ 2.53	\$ 105,960
18 Canned vegetables (mixed)	pounds	15.4	10,215	157,311	\$ 0.53	\$ 83,375
19 Frozen vegetables (mixed)	pounds	16.9	10,215	172,634	\$ 2.00	\$ 345,267
20 Canned tomatoes	pounds	70.4	10,215	719,136	\$ 0.43	\$ 308,201
VALUE OF SALES OF 20 BASIC FOOD PRODUCTS PRODUCED IN NEW YORK STATE						\$ 12,004,275
Per Person Sales						\$ 1,175

Table 3: Consumer food expenditures for 20 basic food products in Poughkeepsie

	Units	2004 annual per capita consumption in units	Poughkeepsie target neighborhood population 2000	Total estimated Poughkeepsie target neighborhood annual consumption	Unit price at Price Chopper on 4/6/2006 (posted in weekly circular for week of 4/2/2006)	Total estimated Poughkeepsie target neighborhood sales for basic product list	
Food at home							
1	White and whole wheat flour	pounds	123.1	11,319	1,393,369 \$	0.80 \$	1,114,695
2	Beef	pounds	65.8	11,319	744,790 \$	1.99 \$	1,482,132
3	Pork	pounds	50.9	11,319	576,137 \$	1.39 \$	800,831
4	Other meats (veal, lamb)	pounds	1.6	11,319	18,110 \$	6.99 \$	126,592
5	Chicken	pounds	84.5	11,319	956,456 \$	2.99 \$	2,859,802
6	Fish	pounds	5.5	11,319	62,255 \$	2.99 \$	186,141
7	Eggs	dozen	21.0	11,319	237,699 \$	1.88 \$	446,874
8	Fluid milk	gallons	23.7	11,319	268,260 \$	2.99 \$	802,098
9	American cheese and other cheese	pounds	31.3	11,319	354,285 \$	2.10 \$	743,998
10	Ice cream	gallons	3.4	11,319	38,736 \$	3.98 \$	154,170
11	Apples	pounds	18.8	11,319	212,797 \$	0.80 \$	169,387
12	Strawberries	pounds	5.5	11,319	62,255 \$	2.99 \$	186,141
13	Broccoli	pounds	5.4	11,319	61,123 \$	1.49 \$	91,073
14	Fresh potatoes	pounds	44.7	11,319	505,959 \$	0.33 \$	167,978
15	Onions	pounds	20.4	11,319	230,908 \$	0.40 \$	92,363
16	Tomatoes	pounds	16.4	11,319	185,632 \$	0.99 \$	183,775
17	Potato chips	pounds	4.1	11,319	46,408 \$	2.18 \$	101,254
18	Canned vegetables (mixed)	pounds	15.4	11,319	174,313 \$	0.55 \$	96,172
19	Frozen vegetables (mixed)	pounds	16.9	11,319	191,291 \$	1.00 \$	191,291
20	Canned tomatoes	pounds	70.4	11,319	796,858 \$	0.83 \$	659,468
VALUE OF SALES OF 20 BASIC FOOD PRODUCTS PRODUCED IN NEW YORK STATE						\$	10,656,235
Per Person Sales						\$	941

Table 4: Consumer food expenditures for 20 basic food products in Salamanca

	Units	2004 annual per capita consumption in units	Salamanca population 2000	Total Salamanca annual consumption	Unit price at Tops Olean on 4/6/206 (posted in weekly circular for week of 4/2/2006)	Total estimated Salamanca sales for basic food product list	
Food at home							
1	White and whole wheat flour	pounds	123.1	6,097	750,541 \$	0.79 \$	594,428
2	Beef	pounds	65.8	6,097	401,183 \$	1.99 \$	798,353
3	Pork	pounds	50.9	6,097	310,337 \$	1.99 \$	617,571
4	Other meats (veal, lamb)	pounds	1.6	6,097	9,755 \$	3.29 \$	32,095
5	Chicken	pounds	84.5	6,097	515,197 \$	1.99 \$	1,025,241
6	Fish	pounds	5.5	6,097	33,534 \$	5.99 \$	200,866
7	Eggs	dozen	21.0	6,097	128,037 \$	2.99 \$	382,831
8	Fluid milk	gallons	23.7	6,097	144,499 \$	1.99 \$	287,553
9	American cheese and other cheese	pounds	31.3	6,097	190,836 \$	5.99 \$	1,143,108
10	Ice cream	gallons	3.4	6,097	20,865 \$	7.32 \$	152,734
11	Apples	pounds	18.8	6,097	114,624 \$	1.18 \$	135,256
12	Strawberries	pounds	5.5	6,097	33,534 \$	2.50 \$	83,834
13	Broccoli	pounds	5.4	6,097	32,924 \$	1.69 \$	55,641
14	Fresh potatoes	pounds	44.7	6,097	272,536 \$	0.60 \$	162,976
15	Onions	pounds	20.4	6,097	124,379 \$	0.56 \$	70,067
16	Tomatoes	pounds	16.4	6,097	99,991 \$	2.99 \$	298,972
17	Potato chips	pounds	4.1	6,097	24,998 \$	2.49 \$	62,255
18	Canned vegetables (mixed)	pounds	15.4	6,097	93,894 \$	0.48 \$	45,524
19	Frozen vegetables (mixed)	pounds	16.9	6,097	103,039 \$	1.00 \$	103,039
20	Canned tomatoes	pounds	70.4	6,097	429,229 \$	0.43 \$	183,955
VALUE OF SALES OF 20 BASIC FOOD PRODUCTS PRODUCED IN NEW YORK STATE						\$	6,436,300
Per Person Price						\$	1,056

Work Sheets

Worksheet 2: Spending on 20 Basic Food Products

Sources: USDA per capita consumption data, local supermarket weekly circular

		Units	2004 annual per capita consumption in units	target neighborhood population 2000	Total estimated target neighborhood annual consumption	Unit price	Total estimated expenditures in target neighborhood for basic product list
Food at home							
1	White and whole wheat flour	pounds	123.1		-	\$ -	\$ -
2	Beef	pounds	65.8		-	\$ -	\$ -
3	Pork	pounds	50.9		-	\$ -	\$ -
4	Other meats (veal, lamb)	pounds	1.6		-	\$ -	\$ -
5	Chicken	pounds	84.5		-	\$ -	\$ -
6	Fish	pounds	5.5		-	\$ -	\$ -
7	Eggs	dozen	21.0		-	\$ -	\$ -
8	Fluid milk	gallons	23.7		-	\$ -	\$ -
9	American cheese and other cheese	pounds	31.3		-	\$ -	\$ -
10	Ice cream	gallons	3.4		-	\$ -	\$ -
11	Apples	pounds	18.8		-	\$ -	\$ -
12	Strawberries	pounds	5.5		-	\$ -	\$ -
13	Broccoli	pounds	5.4		-	\$ -	\$ -
14	Fresh potatoes	pounds	44.7		-	\$ -	\$ -
15	Onions	pounds	20.4		-	\$ -	\$ -
16	Tomatoes	pounds	16.4		-	\$ -	\$ -
17	Potato chips	pounds	4.1		-	\$ -	\$ -
18	Canned vegetables (mixed)	pounds	15.4		-	\$ -	\$ -
19	Frozen vegetables (mixed)	pounds	16.9		-	\$ -	\$ -
20	Canned tomatoes	pounds	70.4		-	\$ -	\$ -
VALUE OF SALES OF 20 BASIC FOOD PRODUCTS PRODUCED LOCALLY							\$ -
Per Person Sales							\$ -

Worksheet 3: Production capacity
Source: USDA 2002 Census of Agriculture

	County 1	County 2	County 3	County 4	County 5	County 6	Total
n of farms							
acres							
farm size							
1-9							
10-49							
50-179							
180-499							
farm type							
milk cows							
beef cows							
hogs							
chickens							
wheat							
vegetables							
orchards							

Notes