

# **Demand and Options for Local Meat Processing: Finding the way from pasture to market in the CT River Valley**

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Final Report for  
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Submitted by



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## Executive Summary

In the past two years farmers in Massachusetts, Connecticut, and Vermont faced an abrupt shortage of slaughter and meat processing services as two USDA-inspected slaughterhouses burned and several other options dwindled, at the same time that market demand was growing for their local meat products.

Access to slaughter and processing services that meet farmers' needs is a significant constraint to a strong local meat market. Many farmers in the Connecticut River Valley have **adapted** to the lack of options (for example, by reducing their herds, selling animals live, driving longer distances and developing relationships with other facilities), and the sense of urgency among some producers has waned slightly since the announcement of a planned reopening of the Adams Farm Slaughterhouse in October 2008.

However, to maintain the vitality and meet the capacity of agricultural enterprise in our region, we feel it is necessary to continue to pursue slaughter and meat processing options that fulfill farmers' stated **needs** of proximity, better scheduling, USDA inspection, better communication, and affordability. As part of our mission to link farmers and communities, Community Involved in Sustaining Agriculture (CISA) was granted support from USDA to research options for fulfilling farmers' meat processing needs.

In the following report, we review previous studies, lay out several possible solutions to the shortage of slaughter options, determine the demand for processing services through a farmer survey, outline the pros and cons of a small-scale facility, and review the economic feasibility for one livestock processing scenario.

The results of CISA's **demand study** illustrate that there is sufficient demand for a small-scale facility that would process approximately 1,200 animal units (cattle equivalents) from local farms per year, and over half of the survey respondents said they would more than double their herds with an accessible USDA-inspected facility. The effects of seasonal fluctuations in demand as well as varying returns on different species would require advance planning for any livestock processing business. For full findings, see separate *Demand Study*.

Through this research we determined that a small-scale slaughter and meat processing facility in the CT River Valley could be financially **feasible** if a number of **criteria** are met, including reasonable capital costs achieved by renovating existing infrastructure or through grant or community support. Estimating costs for a small facility is difficult since there are few precedents at this scale. Site selection would be necessary to further detail and verify costs, as well as technical and operational feasibility.

The largest unknown variable in considering the demand for, and feasibility of, a small-scale livestock processing service in the CT River Valley area is the planned reopening of **Adams** Farm Slaughterhouse in Athol, MA. Specific sites would need to be identified for further assessment of demand and competition.

Alternative solutions that should be explored in more depth include 1) a **mobile livestock processing unit** with industrially-zoned docking sites, which would allow several communities and/or states to collaboratively invest in infrastructure while serving the proximity needs of farmers, or 2) a **meat processing (butcher) facility** that would add value to Adams' slaughter capacity by offering custom aging, cutting, processing, and packaging options. With the passing of the 2008 Farm Bill and a provision for interstate sales of **state-inspected** meat and cost-share from the federal government, MA and CT might consider developing technical assistance programs for custom slaughterhouses interested in upgrading.

CISA's proposed next steps include monitoring new services to determine whether they meet farmers' needs, evaluating alternative solutions, testing the findings in this report for real site options, and educating the community to foster local support for agriculture and agricultural infrastructure.

## Introduction

The mission of Community Involved in Sustaining Agriculture (CISA) is to link farmers and communities to strengthen agriculture and enhance the economy, rural character, environmental quality, and social well-being of western Massachusetts. In this field of work CISA has found that **critical pieces of infrastructure** need to be redeveloped in order to span the distance between pastures and dinner plates.

In no case is this gap – the lack of processing to bring farm products to consumers – more evident than in the local meat market. In 2006, when growers in the Connecticut River Valley faced a severe shortage of animal processing options after fires destroyed slaughterhouses in Massachusetts and Vermont, CISA found support from USDA’s Rural Development Rural Business Enterprise Grant program to investigate the best options for serving the animal processing needs of farmers.

## Objective

In response to farmers’ concerns about how the lack of animal slaughter and processing capacity would impact their farm businesses, we proposed to 1) **assess the demand** for slaughtering and processing services, and 2) work with several groups of farmers, experts, and partners to **determine options** for meeting this demand. By researching one of the biggest hurdles faced by local farmers as they raise animals and bring meat products to market, we hope to lay the **foundation for investment** in this critical infrastructure to **ensure the long-term viability** of local agriculture.

## *Audience*

This document serves as a report on project activities supported by USDA, and as a resource for regional work groups seeking processing options for farmers that bring their meat products to local and regional markets. This research project aims to provide Massachusetts and Connecticut growers, slaughter and meat processing facilities, agricultural organizations, and policy makers with useful information to further slaughterhouse development efforts and help meat producers fulfill the growing market for local meat.

## *Partners*

As part of the research process, CISA discussed the question of slaughter and meat processing with a variety of farmers who direct market and/or wholesale their animals and meat products, government officials and agency representatives, financial experts and bankers, non-profit partners, industry experts, engineers and architects. We spoke with stakeholders in Connecticut, Massachusetts, Vermont, New Hampshire, New York, and Rhode Island and participated in networking meetings along the Connecticut River Valley in CT, MA, and VT. These partners informed and guided our research and, while the conclusions are ours alone, we are indebted to these stakeholders for their input.

## Research Rationale

Within the last year and a half, farmers in Massachusetts, Connecticut, New Hampshire, and Vermont experienced an abrupt decline in USDA-inspected slaughter and meat processing services, when fires destroyed Fresh Farms Beef of Rutland, Vermont in July 2006 and Adams Farm Slaughterhouse in Athol, Massachusetts in December 2006. This shut-down of processing options came at the same time that farmers were experiencing increased demand for local meat, and many were exploring meat production as a solution to lagging farm sales, particularly amongst dairy farmers as they sought to diversify their animal stock and marketing tactics. In the words of one survey respondent: “The demand is there, the ability to raise quality animal[s] is there. The lack of slaughter infrastructure is what’s missing”.

The infrastructure constraints are felt more acutely by farmers that seek to sell their finished meat products to retailers, distributors, or direct to consumers<sup>1</sup>. While small farms producing for their own consumption can use custom slaughterhouses, who are inspected by the state periodically and whose finished products are marked “not for sale”<sup>2</sup>, farms that intend to sell throughout the food distribution system are required to use **USDA-inspected** facilities. While USDA meat processors are more common in the Northeast<sup>3</sup>, there is only one USDA-inspected slaughter facility in the state of Massachusetts<sup>4</sup>, and those remaining in Connecticut offer very limited or no services to New England growers<sup>5</sup>.

### *Opportunities and Constraints for Farmers*

Farmers raising animals for meat in MA, CT, and VT face a conundrum – a growing market for their products, but limited options for fulfilling market demand in an economically viable way. The heightened **interest** in buying fresh, local foods, and concerns about the industrial food chain highlighted by the February 2008 recall of 143 million pounds of tainted meat from one meatpacking facility<sup>6</sup>, have driven demand for local and specialty meats (e.g. grass-fed, organic, etc.) and direct purchasing (e.g. CSAs, farm stores, farmers’ markets, etc.) Also, as prices rise for industrially-raised feedlot meat with dramatic increases in the cost of grain and fuel, it’s possible that small local farms making use of pastureland, instead of fossil fuel-related inputs such as commercially fertilized grains, will become more cost competitive and more appealing to a environmentally-conscious customer base.

While many farmers are optimistic about the market potential of their products, they are unable to meet the growing demand due to the **shortage of slaughter** capacity. Farmers face significant barriers to getting their animals slaughtered – rising fuel costs and longer distances to existing facilities<sup>7</sup>, long waits and unpredictable scheduling at slaughter and processing facilities, and increased processing fees (due to higher demand and less competition, increased energy costs, etc.), to name a few.

While farmers are developing creative solutions to the challenges posed by limited slaughter options in order to maintain their businesses and keep customer relationships (e.g. cooperative trailering or selling meat “on the hoof” and using closer custom slaughter facilities), farmers are finding it impossible to meet market demand for local meat, and are choosing to constrict their businesses (e.g. by reducing breeding programs or holding off on new accounts), until they have clearer options for processing.

Our region is in need of agricultural manufacturing that will allow local farms to meet the potential of agricultural land in the CT River Valley and surrounding communities, and bring finished products to local

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<sup>1</sup> Another option for farmers is to sell live animals, but this option minimizes a grower’s profit margin. As Bill Foshier notes: “...if I were to increase my production, the lack of local slaughtering capacity would mean that the majority of my lambs would have to be sold at a commodity auction, where the highest bidder would purchase them for a much lower price than my direct customers pay. Selling direct to customers means I can stay in business; selling to auction threatens my livelihood.” Foshier, Bill. *A Missing Link in the Local Food Chain*. Local Banquet. Spring 2008, 20-21.

<sup>2</sup> Sleeping Lion Associates and Pride of Vermont. *Slaughterhouse Feasibility Report*. April 2005, p. 3.

<sup>3</sup> More research is needed to determine how many of these processors are willing to process to specification for farmers.

<sup>4</sup> Blood Farm is located in West Groton, Massachusetts. Additionally, Adams Farm Slaughterhouse plans to restart operations in October 2008.

<sup>5</sup> The Stafford Springs facility is reportedly operating at a very limited capacity for *halal* meat processing only. The most recent FSIS inspection noted online was August 2007.

<sup>6</sup> Martin, Andrew. *U.S. Moves to Prohibit Beef from Sick or Injured Cows*. New York Times, May 21, 2008.

<sup>7</sup> As one Demand Survey respondent noted, “since [the] Adams Farm fire the [cost of] trucking has skyrocketed”.

markets in an economically viable and environmentally sustainable fashion. To this end we have researched the options for developing local infrastructure for slaughter and meat processing that can meet these criteria.

### Scope of Research

The following discussion can serve as a **resource** and decision-making guide for regional work groups considering the development of small-scale livestock processing facilities. Our research included an initial review of regulatory, technical, operational, and financial requirements for slaughter and meat processing facilities. However, this is not a full feasibility study, which should include the details of technical and management planning for a specific site.

In this summary of research findings, we will:

- 1) review other studies and their recommendations for responding to limited slaughter and/or processing options
- 2) lay out a matrix of possible solutions
- 3) determine the demand for slaughter and meat processing services in Massachusetts<sup>8</sup>
- 4) outline pros and cons for a small-scale facility, and
- 5) review the economic feasibility research for one slaughter/processing scenario

### Review of Feasibility Studies

Our first task was to collect and review feasibility studies that assessed options for slaughter and meat processing. We wanted to see how others have responded to infrastructure gaps in the meat market, and if there were precedents or lessons learned that could inform next steps and a feasibility decision about a small-scale facility that would serve the local farming community. We found a variety of reports, however, many of them are outdated, and each one responds to a unique set of parameters specific to a location or group of stakeholders. Most studies sought to inventory the supply of inputs (animal numbers), review existing facilities, encourage cooperative scheduling and marketing, and/or identify and evaluate other facility options. (See attached *Slaughter Study Overview* for capacity figures and full references). We have summarized some key points from several prominent studies below.

#### *Hudson Valley/Shepstone Management (2000)*<sup>9</sup>

This study explores the feasibility of a USDA-inspected slaughter facility in the Hudson Valley region of New York that would allow producers more options to market their meat products. Shepstone Management determined that a facility would be economically feasible at 2,000 cattle per year (or 1,500 steers and 2,500 other animals) with average annual rate of return of 20.8%. **Grants** would be required to cover 70-100% of capital expenses if the facility operated at 1,000 cattle per year. An analysis of potential demand for slaughter services in the Hudson Valley region was laid out<sup>10</sup>, and the study concludes that it would be necessary for the slaughter business or a marketing entity to organize producers to guarantee sufficient supply.

The study emphasized the importance of effective marketing tools, including certifications such as “natural”, which would appeal to niche markets. The authors also suggested that the primary focus of the

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<sup>8</sup> Data for other northeastern states is available through Community Action Brattleboro Area (CABA).

<sup>9</sup> Shepstone Management Company and Hudson Valley Livestock Marketing Task Force, *Meat Processing Facility Feasibility Study*, January 2000.

<sup>10</sup> The research determined that there were 1,937 beef cattle (plus 2,198 hogs, 714 lambs) in the target market area available to a new facility, but noted that market penetration should be conservatively estimated at 25% (Shepstone, 2000).

Task Force be on **organizing growers** to pursue joint **marketing** efforts and consistent quality standards, and possibly **contract** cooperatively for available slaughter services in the region, as well as organize for promotion, transportation, and distribution purposes. Second priority would be purchasing an **existing** facility, and last resort would be **constructing** a new facility in a new location (where obtaining approvals was assumed to be more difficult for a new plant than a former slaughterhouse).

The Hudson Valley study included a review of existing facilities in the region, and laid out a detailed facility sizing estimate and cash flow projections. Siting preferences included the previous slaughterhouse location to take advantage of “grandfather rights”, industrial or agricultural zoning, reduced public opposition due to familiarity, and public infrastructure (which could allow for savings between \$20-70,000). A two acre site would provide for appropriate buffers. The facility was sized at 1,200 ft<sup>2</sup> slaughter (5,000 ft<sup>2</sup> total with fabrication, offices, etc.) at \$75/ft<sup>2</sup> (excluding land and site work). Capital costs were estimated at \$330,000 for slaughter-only and \$605,000 for slaughter/processing facility.

*Stafford Springs/ProAnd (2000)*<sup>11</sup>

This report provides a detailed review of existing livestock processing facilities in Stafford Springs, Connecticut. ProAnd lays out recommended workflow, capacity, and processing activities, as well as technical requirements and suggested improvements (cooling, rails, energy, waste treatment, and staffing). They propose to assess additional features in more detail (e.g. throughput, product line yields, staffing, direct and overhead costs, capital cost estimates, water and waste services and training requirements) prior to determining the financial viability of the project.

The plan calls for a Stage I capacity of processing 50 cattle per week (or ~2,500 per year) which would be feasible with minimal infrastructure improvements, and an expanded Stage II with a target of 300 beef cattle, 550 small stock, and 150 hogs per week.

*Pride of Vermont/Sleeping Lion Associates (2005)*<sup>12</sup>

The objective of this study was to evaluate the options available for livestock producers in northern Vermont to control the “availability, quality, and cost of slaughtering and processing services”. The study focused on processing, since they found that there was sufficient slaughter capacity in the area but insufficient processing, especially during peak season and for producers who require cuts to specification.

The study’s conclusion was that acquiring and managing a slaughterhouse was *not* feasible for the target producer group, due to: 1) market conditions (plans of increased capacity at other facilities), 2) limited livestock volume represented by the group, 3) management and financial challenges, and 4) clarification of the group’s criteria.

The authors reviewed regulatory issues for livestock processing, assessed the market for a slaughter/processing facility (including an animal inventory and competitive analysis), recommended solutions, and estimated costs. The study details six options including:

1. purchasing an existing slaughterhouse
2. building a new slaughter/processing facility
3. building a mobile slaughter unit
4. developing a fabrication facility (leased)

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<sup>11</sup> Food & Livestock Planning, Inc. and ProAnd Associates, Ltd. *Stafford Springs Meat Processing Plant Assessment & Business Plan*. February 2000.

<sup>12</sup> Sleeping Lion Associates, April 2005.

5. cooperatively contracting for services
6. joining with Vermont Quality Meats<sup>13</sup>

The authors recommend working with VQM to transport and market meat products, and develop or contract for farmer-owned processing services for members. Less favored solutions included developing a fabrication facility after slaughter options were secure, revisiting the mobile slaughter unit option, and mitigating seasonal fluctuations in demand through education and technical assistance.

*New Hampshire/Tappan, NH Farm Bureau (2003)*<sup>14</sup>

The goal of this study was to “determine the need for an additional or expanded federally inspected livestock processing or secondary processing facility” in New Hampshire. Tappan analyzed 600 survey responses from livestock producers. Respondents commented on the lack of USDA-inspected facilities, scheduling challenges and long waits, satisfaction or dissatisfaction with slaughter services, and the need for high quality standards.

Brief recommendations include: seeking funding for a new USDA-inspected facility, upgrading an existing facility, investigating the option of a state inspection program, researching mobile processing units, and improving marketing infrastructure.

*Open Field Foundation/Roche (2001)*<sup>15</sup>

This study assessed the potential costs for developing a facility that would process at least 100 lamb carcasses a week in Amherst, Massachusetts. Roche estimated costs at \$340,000 and noted that the “projected investment in building and equipment is much higher compared to revenue than for the industry overall”, and determined that the project was “feasible and its economics, while not compelling, are acceptable”.

Two start-up models are identified with full development within a year: focusing on high-volume meat processing first with federal inspection from the outset, or phasing in with limited processing for on-site retail, requiring only local inspection at start-up. Services would include cuts from primals, sausage-making, and kebabs, and Roche reviews regulatory requirements, training options, plant and equipment needs, and financial projections for these activities.

These studies are informative and a good resource for reviewing options and checking workflow assumptions and specific technical details, however, their conclusions are diverse and no single solution emerges as a clear favorite. Additional studies are listed in the attached *Slaughter Study Overview*.

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### **Options for Fulfilling Livestock Processing Demand**

Extensive personal accounts in the CT River Valley region from 2006 to 2008 reinforced the conclusion that the slaughter and processing of animals raised locally for meat is a major constraint for farmers trying to sustain successful businesses – and our region’s agricultural economy - through direct and wholesale marketing. In particular, farmers find it very challenging to find a place to get their animals slaughtered and

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<sup>13</sup> Since the study, the slaughterhouse where VQM negotiated a lower kill fee - Fresh Farms in Rutland - burned down.

<sup>14</sup> Tappan, Anne and New Hampshire Farm Bureau Federation. *New Hampshire Livestock Inventory and Slaughter Facility Feasibility Study*. June 2003.

<sup>15</sup> Roche, Jonathan for Open Field Foundation and Massachusetts Dept. of Food and Agriculture. *Cost Analysis: a meat processing facility in Western Massachusetts*. October 2001.



processed within reasonable distances, that meets their own customer service expectations, and the processing specifications required by their customers.

While many farmers await the planned reconstruction of Adams Farm Slaughterhouse, a host of alternative and complimentary solutions have been recommended in past feasibility studies, and forwarded by farmers and other partners in the region. Several options that we feel are most viable for the CT River Valley include:

*Small-scale USDA-inspected fixed site slaughter and processing facility.* This model could replicate the tradition of local slaughterhouses serving the local market and nearby farms and maintaining community-based ownership and accountability, and improve upon it by increasing food safety and environmental oversight. A network of small facilities could prove a solution for the region, although regulatory requirements that increasingly emphasize industrial production will need to be addressed over the long term. Pros and cons are detailed below in *Small-Scale Facility Feasibility Research*.

*Mobile Slaughter and Processing Unit with Industrial Docking Sites.* Many groups have considered mobile units<sup>16</sup> because of their reasonable construction costs. An on-farm processing model, such as the one implemented by Lopez Community Land Trust community support or resistance, would mean that local regulations (health, environmental, zoning, etc.) and FSIS/USDA inspector travel would need to be navigated for every farm location. Compared to an on-farm processing unit, a centralized docking site (for instance, one each in CT, MA, and southern VT) could reduce the amount of start-up capital each group would need to raise (compared to building full fixed site facilities) and the amount of time spent on local negotiations and paperwork. This model could also rally support from each state hosting a docking site, playing to state border allegiances while encouraging a regional approach. Unique challenges would include finding qualified staff that could travel with the unit, or training teams to both slaughter and process at each location, getting approval from USDA for an inspector at several sites, travel costs, scheduling, and the approvals for, and development of, multiple sites (water, sewer, rendering options, holding pens, storage, and coolers).

*Meat Processing Only (Cut/Wrap) Facility.* This option would emphasize 1) service for the local community of farmers, 2) processing to specification for particular customer demands and 3) value-adding activities including aging, precise quality control, meat processing services (e.g. grinding, curing, smoking, sausage-making), and certifications for marketing attributes (e.g. organic, kosher, halal, natural). A meat processing only facility has fewer regulatory requirements than a full slaughter operation and would not require a full-time on-site USDA inspector. Additionally, owners of a processing-only facility could gain experience with this business and then assess if adding slaughter capacity is necessary. Drawbacks include dependence on the scheduling and quality standards of a slaughterhouse and additional regulations, transportation, and overhead costs to move meat from the slaughter operation to the cutting facility.

*Upgrade Custom Slaughter and Meat Processing Facilities.* This solution, championed by the working group convened through the Glynwood Center<sup>17</sup>, is based on investing in existing facilities and the experience of

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<sup>16</sup> Most notably, New England Small Farming Institute has invested in the development and trials of a Mobile Poultry Processing Unit.

<sup>17</sup> The Glynwood Center, based in Cold Springs, New York, is facilitating discussions about accessible slaughter and processing services in the Northeast as part of their mission to “help communities integrate their natural resources, cultural heritage, and economic development potential to create a brighter future that is distinctively theirs”.

local managers and meat-cutters. Challenges include identifying committed operators, major facility renovations<sup>18</sup>, training, and changes to management practices to meet current USDA regulations.

*Rebuild Viable Large Facilities, and Ensure Local Accountability.* With an announcement of financing for Adams Farm Slaughterhouse, many farmers hope that the facility will reopen quickly and will provide the solution to the shortage of slaughter services in the region. Farmers and other experts also suggest working with Stafford Springs or rehabilitating other large food processing facilities, based on the assumption that a certain economy of scale is required to balance the capital-intensive investments necessary to meet increasingly stringent USDA standards. However, one of the major concerns expressed by farmers is their lack of lobbying power for high **quality standards** from large facilities. A coordination service, similar to Northeast Livestock Processing Service (NELPS), may be able to fill the role of advocating for responsiveness to farmers' needs, while consolidating scheduling for small growers, and therefore ensuring the slaughterhouse's **business viability** by increasing the efficiency of custom processing.

The following chart (*Table 1*) helps to delineate the pros and cons of each of the scenarios above, but makes clear that no one option is the obvious answer. The lack of clarity is further evidenced by the fact that the entire industry (from farmers, processors, distributors, and agriculture organizations) has not coalesced around a single solution.

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<sup>18</sup> Some experts suggest that it is more expensive to adapt an out-of-date facility than to start from scratch.

Table 1. Evaluation of Slaughter and Meat Processing Options to Fulfill Local Demand

	<b>Small-scale slaughter/processing facility</b>	<b>Mobile Slaughter and Processing Unit with Docking Sites</b>	<b>Meat Processing Facility</b>	<b>Upgrade Custom Slaughterhouses</b>	<b>Rebuild Viable Large Facilities and Ensure Local Accountability</b>
<b>Scenarios</b>	USDA inspected rehabilitation or adaptive use of existing buildings new construction	multiple industrial docking sites with cooling/aging capacity potentially in different states multiple stakeholder groups	cut-wrap only reliant on slaughterhouse services	requires willing slaughterhouse operators rehabilitation required  transition planning	current rebuild of Adams Farm Slaughterhouse improving services of existing USDA-inspected slaughterhouses to meet customer needs
<b>Values</b>	replicates tradition of local slaughterhouses  accountability to local community	regional collaboration	focus on quality and value-added (aging, processing)  local control of finished product	makes use of existing experts and facilities	economy of scale and efficiency  regional resource
<b>Stakeholder Support</b>	Ad hoc farmer collectives in VT, MA, CT (?)  Community investors  Nonprofit support	Ad hoc farmer collectives in MA, CT, VT  Community investors  Nonprofit support	Slaughterhouse proprietors  Farmer/Customers	Slaughterhouse proprietors  Coordinators (e.g. meat branding and distribution companies or nonprofits)	Slaughterhouse proprietors  Farmer consortium
<b>Regulatory Challenges</b>	High due to national emphasis on large-scale facilities	High Local approval required at every site USDA waiver required for multiple users	Low USDA requirements less burdensome for processing only facilities	Medium	Medium
<b>Distance traveled by farms/Proximity</b>	Low Local vicinity only due to capacity	Low Local vicinity only due to capacity	Medium Farmers would need to travel to separate slaughter (drop-off) and butcher (pick-up) sites	Low Local vicinity only due to capacity	Low-High Regional due to capacity
<b>Transportation Costs (internal to operation)</b>	n/a	High Slaughter trailer travel between docking sites	High Handlers transport carcasses between slaughter and butcher facility	n/a	n/a

	<b>Small-scale slaughter/processing facility</b>	<b>Mobile Slaughter and Processing Unit</b>	<b>Meat Processing Facility</b>	<b><i>Upgrade Custom Slaughterhouses</i></b>	<b>Rebuild Viable Large Facilities</b>
<b>Farmer Input Opportunities</b>	High if developed with this intention	High if developed with this intention	Medium influence on processing operations only	Medium depends on long-term relationships	Medium profitability based on volume, contract or consolidation may be required
<b>Customer Base</b>	Local	Local to each docking site	Local depends on scale	Local depends on scale	Regional
<b>Fills Slaughter need</b>	Yes	Yes	No	Yes	Yes
<b>Cuts to Specification</b>	Likely	Maybe	Yes	Maybe	Maybe
<b>Retail Options</b>	Yes	Maybe	Yes may be most appealing for retail customers	Yes	Maybe industrial location may not be retail destination
<b>Capital Costs</b>	Medium Low with rented facility	Medium Low for mobile unit Additional costs for docking sites Cost-sharing at multiple locations	Low	Medium depends on level of rehabilitation required	High
<b>Management</b>	new management	new management multiple sites	new management	current additional hires for improved compliance and customer service	current additional hires for improved compliance and customer service
<b>Personnel</b>	new hires capacity to handle manual work with a low-tech line training required	new hires part-time or need to travel training required	new hires broader appeal less heavy work training required	current staff retraining required	current staff retraining required
<b>Community Support (anticipated)</b>	Medium depends on siting	Medium choose docking site accordingly	Medium	same as current	High for existing facility Low for new location
<b>Public Health Risk<sup>19</sup> (if outbreak occurs)</b>	Low volume Local	Low volume Local	Low depends on scale	Low volume Local	Medium - High Regional

<sup>19</sup> This category does not refer to the likelihood of a public health problem, which is dependent on systems and management.

To further understand the needs of the farming community, and thus determine which model is a better fit for this region, CISA worked with partners to develop a study that would gauge the volume of potential inputs for slaughter/processing operations, and the attributes of services desired by farmers. Our research focused on farmers' needs because they will serve as the customer base for any processing and slaughter operation and it is this stakeholder group which is most negatively impacted by the current lack of options.

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## Demand Study

In order to assess demand for slaughter and processing services, and thus to get a better handle on the need for additional slaughter and processing capacity in the CT River Valley, CISA worked with partners to develop a **survey** of meat producers. To date, CISA has tabulated the survey data from Massachusetts, and we are working with partners who have agreed to tabulate data for Connecticut, Vermont, New Hampshire, and New York. We provide a summary of the demand study below. For the full report, which includes a more comprehensive discussion of methods and findings, and comparisons with data from Southeastern Massachusetts, see the separate document, *Demand Study: Assessing Volume and Attributes of Demand for Slaughter and Meat Processing Services in Massachusetts*.

### *Methods & Distribution*

CISA reviewed a range of surveys used for other studies and developed a survey in collaboration with Community Action Brattleboro Area (CABA). This partnership was formed to allow us to develop a fuller picture of the demand for slaughter and processing services in the region. With the assistance of partners, CISA distributed over **600 surveys** to livestock and poultry farmers in Massachusetts and received 112 valid responses between December 2007 and February 2008. We defined the **target population** for this study as farmers who raise livestock and poultry and arrange for their slaughter and processing. The survey tool was designed to avoid double counting animals raised by one farm and finished and processed by another.

Counties in **western** and **central** Massachusetts produced the highest number of responses. Most of the farmers who responded to the survey raise **beef cattle** and/or **sheep** (along with other animals in some instances), with hogs, chickens, turkeys, dairy culls, veal calves, and goats represented in decreasing order.

## Findings

### *Current Annual Harvest*

The primary purpose of this study was to understand the volume and character of demand for slaughter and meat processing services in the study area. For total annual harvests, respondents reported roughly 2,845 chickens slaughtered each year, 1,052 lambs, 664 beef cattle, 378 turkeys, 237 pigs, 105 geese and ducks and 66 goats<sup>20</sup>.

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<sup>20</sup> These calculations take the average annual harvest number calculated per individual farm, since many respondents provided a range (e.g. 4-5 beef cattle, 2-4 lambs).

The geographic distribution of current animal harvest numbers are illustrated by county in the maps below.

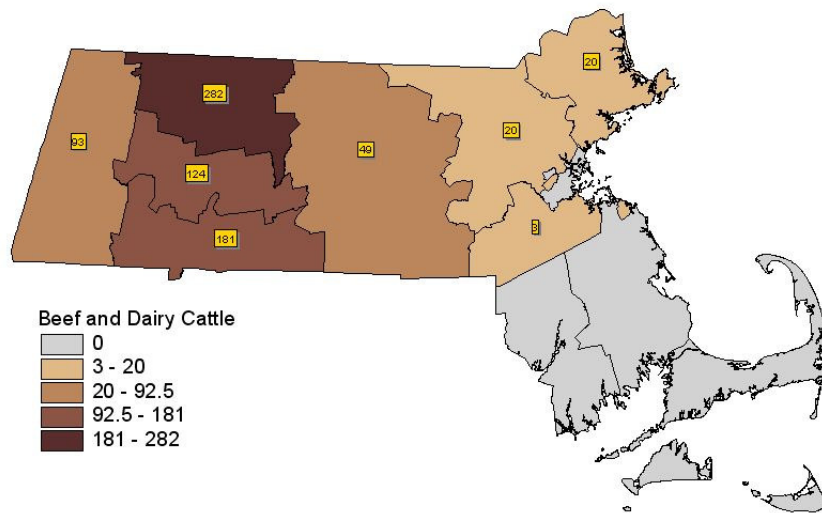


Figure 2. Annual Cattle Harvest by MA County

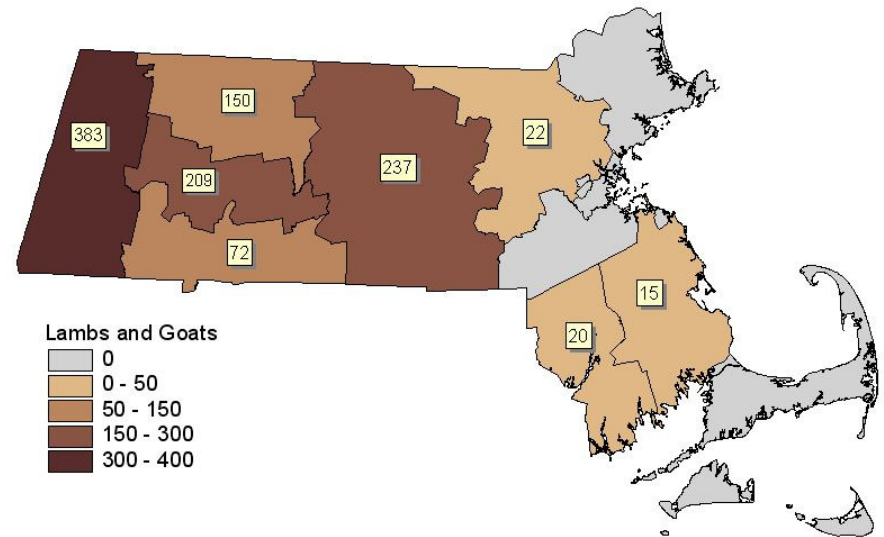


Figure 2. Annual Lamb and Goat Harvest by MA County

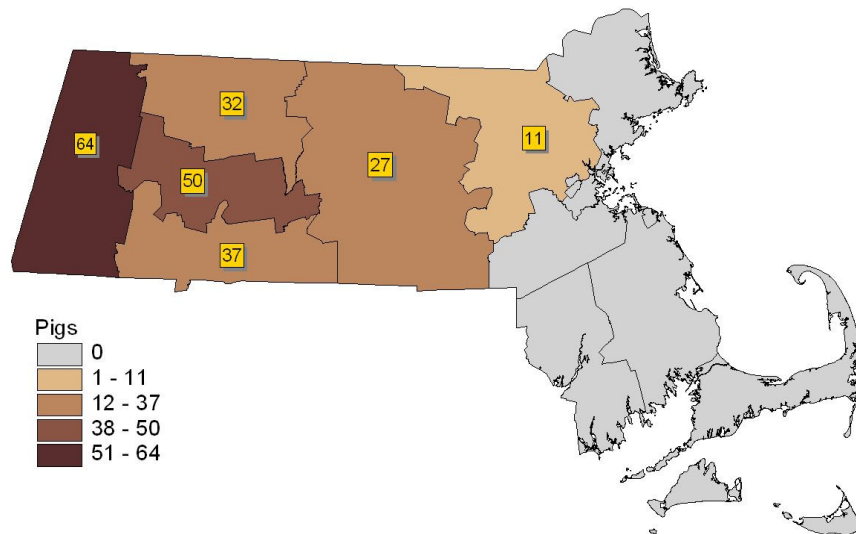


Figure 3. Annual Hog Harvest by MA County

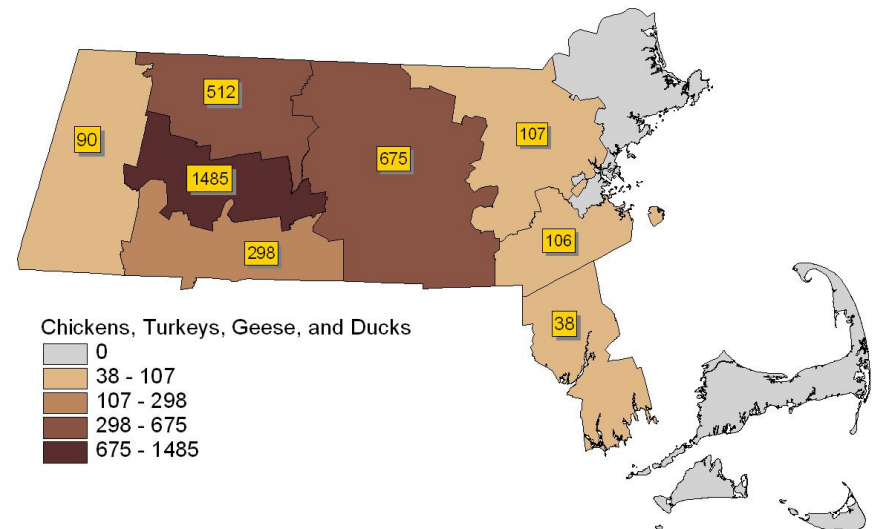


Figure 4. Annual Poultry Harvest by MA County

### Seasonality

This data confirms that seasonality is an important consideration for any slaughter or meat processing service in this region. Fluctuations in the demand for services can dramatically impact the viability of an operation that relies on consistent capacity throughout the year in order to sustain the business and make efficient use of staffing and other overhead costs.

The last quarter of the year is the peak harvest season for all animals surveyed except chickens and goats. The high season for beef cattle slaughter (Oct-Dec) has 68% higher volume than July through September. (For graphs of all species see the full *Demand Study*).

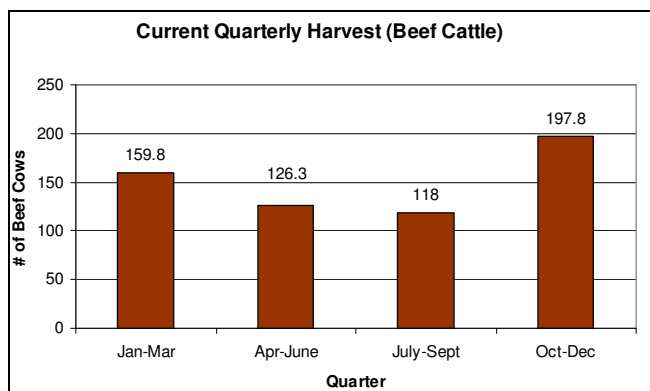


Figure 5. Current MA Quarterly Harvest- Beef Cattle

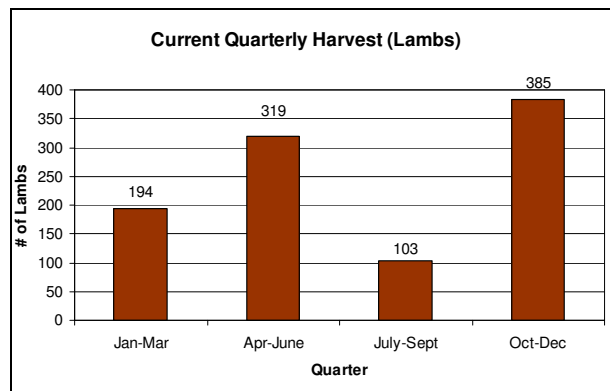


Figure 6. Current MA Quarterly Harvest- Lambs

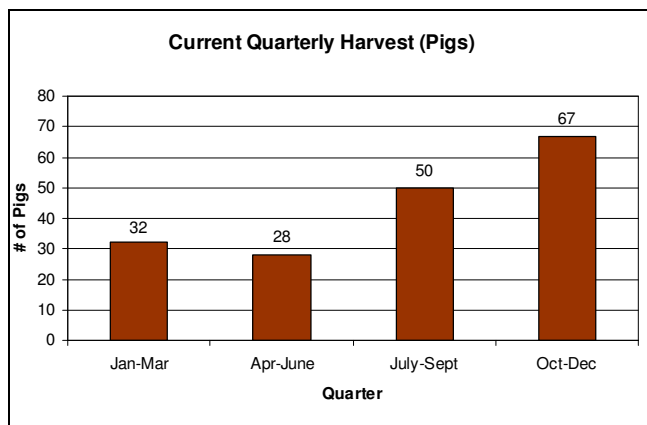


Figure 7. Current MA Quarterly Harvest- Pigs

This survey did not assess farmers' willingness to adjust livestock and poultry production cycles to fit low volume slaughter periods in winter and summer months. However, the 2006 Southeastern Massachusetts Meat Producers (SMMP) survey findings suggest that a majority of farmers (56%) would be willing to adjust and 22% were not.

### Projected Increases

Many respondents projected increases in the number of animals they would bring for slaughter and processing with "better access to a reliable USDA-inspected facility". **Fifty-nine percent** of the farmers who responded said they would more than double their herds with additional processing capacity.

### Opportunities and Threats for Increased Farm Capacity

Besides accessibility to a USDA-inspected facility, farmers noted other factors that would inhibit or enable them to expand production beyond their current capacity, including; 1) access to land, 2) cost of production,

and 3) market forces. If USDA-inspected slaughter and processing were accessible for more farms, these additional barriers or enabling conditions would need to be addressed, to reach the agricultural potential for the CT River Valley. Additional opportunities and threats included labor (available, dependable, and affordable), on-farm infrastructure, and regulations.

#### *Travel Distances*

Farmers face rising costs and increasingly difficult trips to bring their animals to slaughter. Farmers who transport their animals for slaughter travel an average of 52 miles one way. This means an average of 208 miles traveled to deliver each trailer of animals and pick up finished products.

#### *USDA vs. Custom*

A majority (54%) of respondents stated that they use USDA-inspected facilities for slaughter, 38% use custom slaughterhouses, and 6% used both types of services.

#### *Desired Qualities of Slaughter and Processing Facilities*

When asked about desired qualities of a proposed slaughter or processing facility, the most common responses were location, scheduling, USDA inspection, affordability, and communication.

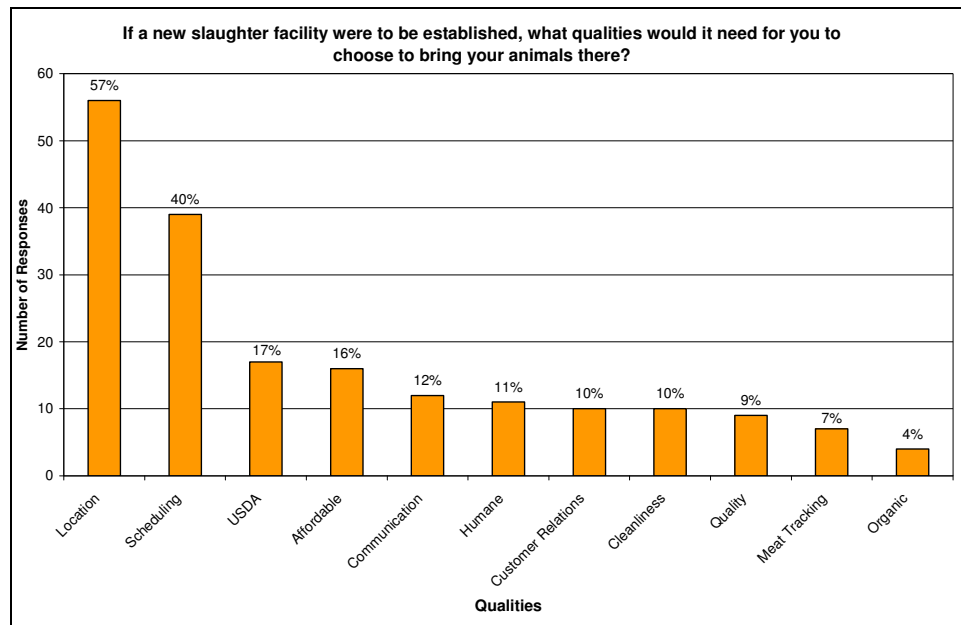


Figure 8. Qualities Desired for New Slaughter Facility

Many respondents indicated that they desired the same qualities from processing facility as they would a slaughterhouse and did not provide distinct answers for each question. For those that differentiated between the types of services, communication was a more common response for processing, and types and quality of packaging became a prominent factor.

#### *Location*

Location was the most commonly noted quality desired in a new slaughter or processing facility, representing 56 farms. Of those farms, the largest group (36%) reside in Franklin County.

#### *Target Markets and Attributes*

Grass-fed or pastured, naturally-raised, local, and specialty breed are the most common attributes used by survey respondents to market their meat products. These characteristics may influence farmers' demands for



different types of services from slaughter/processing facilities, and indicate the attributes of throughput from which a slaughterhouse could develop its own brand of meat.

The majority of respondents (61%) were interested (and 20% said they were “maybe” interested) in selling their animals or specific cuts to a slaughter/processing facility. This means that a slaughter/processing business could balance thin margins with additional revenue streams from slaughterhouse-branded meat.

## Conclusions

These survey findings can serve the purposes of a wide range of agricultural partners, and inform efforts to support farms that raise animals for meat in the Connecticut River Valley. This data can also serve as a resource for current and potential service providers to better understand their customer’s needs. The overarching conclusions that we have drawn from this set of data include:

- There is significant **demand** for slaughter and processing services, and potential supply of inputs for slaughter/processing services.  
*In the five counties of central and western Massachusetts alone (those most represented by our survey findings) the survey suggests there are at least 730 cattle (beef and dairy), 1050 small ruminants, 210 hogs, and 3,060 poultry that go to slaughter annually.*
- There is an opportunity for substantial **growth** of farms and improved farm viability, if the slaughter and processing bottleneck can be resolved.  
*59% of survey respondents would expand their operation with better access to a reliable USDA-inspected facility (depending on species), on average more than doubling the production on their farms.*
- The farming community is characterized by predominantly **small**, somewhat diversified farms. This has implications for scheduling and slaughterhouse efficiencies, but also infers that servicing these farms is that much more significant because it would impact more farm businesses and landowners.  
*50%-86% of respondents who own cattle or small ruminants send 1-10 animals (of any particular species) to slaughter every year, 14-50% of respondents send 11 animals or more. 49% of respondents raise at least two species of animals.*
- **Location** is the major factor for farmers deciding where to bring their animals for slaughter, and siting should consider the **distance** of farms and how to service them most efficiently. Larger facilities should take the regional context and animal harvest numbers into consideration.  
*Location was the most commonly noted quality desired in a new slaughter or processing facility, with 57% of respondents. Of those farmers, the largest pool (36%) reside in Franklin County.*
- **Seasonal** fluctuations in demand for slaughter and processing are significant, and would pose a challenge to a small facility. Incentives might encourage growers to adjust their scheduling for low demand periods (e.g. mid-summer).  
*For all species except for chickens and goats, the last quarter of the year is the busiest slaughter season. The high season for beef cattle slaughter (Oct-Dec) has 68% higher volume than summer (July-Sept)<sup>21</sup>. Differences between highest and lowest seasons for other species are 267% for small ruminants and 139% for pigs. The majority of farmers (56% of respondents) in the 2006 SMMP survey are willing to have their animals slaughtered during winter and summer months, but operations may need time and technical assistance to shift their harvest schedule.*
- **Scheduling, affordability, customer service** and quality assurance are high priorities for slaughter facility customers.

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<sup>21</sup> Quarterly results for April through December may be invalid due to the inversion of quarterly columns on the first round of surveys distributed.

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### Small-Scale Facility Feasibility Research

Considering the interest from several working groups in the region considering rebuilding slaughter infrastructure and these research results, we decided to research more fully the small-scale USDA-inspected fixed facility option for livestock only<sup>22</sup>, which would allow farmers to market their meat products to a range of retail and wholesale customers.

Our research suggests that the farming community in MA and CT is interested in developing regionally-based, small-scale meat slaughter and processing facilities that respond to specific quality and access requirements of local growers. Therefore, our feasibility research focused on the **viability** of a small-scale service that could serve local communities. If feasible, a small-scale slaughter and meat processing facility could serve as a model for other communities in the region where the farming community is growing and slaughterhouses face generational transfer challenges and a shifting regulatory landscape.

We chose to investigate the case for a small-scale facility due to a number of factors, including:

- *Level of demand* – The survey results illustrate a volume of animals that would be sufficient input for a small-scale facility<sup>23</sup>. Having a network of several small-scale facilities that serve their local communities may be the only way to respond to the priority that respondents placed on proximity. Our survey suggests there is insufficient supply of animals for a large facility that would seek to only serve a “local” clientele.
- *Focus on local control and local market* – There appears to be significant interest amongst farmers, consumers, and nonprofit partners in an alternative to large-scale processing that would respond to farmer needs and contribute to an integrated local agricultural economy.
- *Research gaps* – Many feasibility studies have been performed for larger regional facilities or unique smaller ventures. Our research seeks to fill in some gaps with updated information and particular considerations for the Connecticut River Valley area.
- *Moderate financing needs* – Discussions with financial experts suggested that one of the difficulties in securing financing for large projects was the scale of capital requirements. A smaller facility might be able to attract more community support and alternative financing.
- *Reduced risk* – In the future, a new paradigm of small-scale facilities would spread the risk of loss amongst a network of service providers so that if one operation failed, farm businesses could secure alternative slaughter services. A small facility would also contain the impact of recalls or other food safety concerns by processing limited amounts of product for a smaller population of end consumers.

For the purposes of this study we have **defined a small-scale facility** as one that could function with a maximum of six full-time processing employees and an equivalent of approximately 1,200 animal units per year. The smallest facilities proposed in feasibility studies reviewed as part of this research project are Liberty, New York and Southern Maryland Meats, which propose to start at a capacity of 22-40 animal units per week or roughly 1200- 2000 animal units per year, and Hudson Valley that could operate at 1,000 animal units per year with substantial grant funding.

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<sup>22</sup> In consideration of New England Small Farm Institute’s (NESFI) Mobile Poultry Processing Unit initiative, CISA focused this feasibility research on livestock processing so as not to replicate efforts.

<sup>23</sup> There are 730 cattle, 1050 small ruminants, 210 hogs, and 3,060 poultry harvested annually according to our survey results in the five western and central MA counties. We use this number, acknowledging that not all the animals reported in the survey would be sent to a new small-scale facility if it is developed (depending on location, services, and competition), but also that the survey did not capture a significant portion of the farming community.

In the **context** of the contemporary American meat packing industry, a small-scale slaughter facility of this size would be an anomaly. The super-sizing of the meat industry has taken place over the last several decades. For example, whereas Iowa had 550 small meat plants in 1965, they have 200 today<sup>24</sup>. The industry is dominated by large-scale facilities processing thousands of animals a day from many states, consolidated ownership of stockyards through to branded meat<sup>25</sup>, and reliance on industrial feed lots to provide the volume of inputs required at this scale to achieve the target price for the mainstream retail market.

## Challenges

While there are many reasons a small facility has great appeal (see *Feasibility Conclusions*), a slaughter facility operator at any scale needs to navigate a very complicated set of factors in order to achieve success. To assess the feasibility of a small-scale facility, we developed a preliminary risk analysis, identifying the primary barriers to small-scale slaughter/processing services from our conversations with institutional partners, farmers, and past feasibility studies.

- *Federal Regulations* – Building or rehabbing a facility to meet USDA requirements is one of the biggest question marks for a small facility. A shortage of FSIS inspectors<sup>26</sup> makes it unclear whether USDA would be willing to place an inspector at a small plant that is not slaughtering full time. With the general consolidation of food production, lobbying efforts that favor large facilities, and related FSIS requirements (e.g. recently proposed licensing and expanded inspection fees<sup>27</sup>), small facilities might face an uphill battle.
- *State Agencies & Local Permitting* – State agriculture departments in Connecticut and Massachusetts have voiced their support of locally produced and process foods – including slaughter and meat processing options – and the Massachusetts Department of Agricultural Resources (MDAR) provided \$625,000 in funding toward the rebuilding of Adams Farm Slaughterhouse. However, confusing and sometimes contradictory statutory language, and differing interpretations and priorities between MDAR, the Department of Public Health, the Department of Environmental Protection, and local authorities, make permitting a maze, as experienced by NESFI in the early stages of the of the mobile poultry processing unit (MPPU) trials. In addition, home rule further complicates the regulatory picture, and the permitting of a small slaughter facility would be reliant on varying interpretation of state regulations at the local level.
- *Siting Requirements* – Slaughterhouses have a bad reputation, reinforced by poor practices recently highlighted by the Westland/Hallmark scandal<sup>28</sup>. Even though a small facility would not have the smell and noise conjured up by large meat packing plants, neighbor relations and waste treatment are complex and important issues. Small facilities, especially on-farm options, are well-suited for composting inedible offal, but environmental permitting and community response may require paying for off-site rendering services. Local opposition, such as NIMBY sentiments, could prove a strong challenge to the development of a slaughter facility anywhere in the vicinity of residential properties. (See attached *Draft Siting Criteria* for a more detailed listing of considerations).

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<sup>24</sup> North Central Regional Center for Rural Development, *Iowa Meat Processors' Resource Guidebook*, January 2008, iii.

<sup>25</sup> ConAgra, Cargill, IBP and Smithfield “process approximately 80 percent of all cattle and hogs marketed” (Shepstone, 2000).

<sup>26</sup> “...USDA admitted to Congress that several hundred plants have been officially under less than daily inspection for more than 30 years... There is evidence that an equal or greater number of plants are ‘unofficially’ not visited daily because the agency has refused to fill long-term inspector vacancies.” *Food & Water Watch*. <http://www.foodandwaterwatch.org/food/foodsafety/meat-inspection-1/usda-vacancies-mean-u-s-food-supply-not-inspected>. April 18, 2007.

<sup>27</sup> U.S. Department of Agriculture. *USDA FY 2009 Budget Summary and Annual Performance Plan*. p. 53.

<sup>28</sup> Martin, Andrew. *Company Orders Largest Recall of Ground Beef*. New York Times, February 18, 2008.

- *Economic Viability* – Profit margins are historically low for meat processing. Large plants counter this by investing in mechanization and reducing labor costs, but this level of capital-intensity requires an economy of scale that small facilities cannot afford (*See Economic Feasibility below*). The business is highly sensitive to throughput variations, both in terms of volume and species mix. Survey results showed that last quarter of the year is highest harvest month for all species except chickens and goats, yet the SMMP survey suggests some farmers are willing to adjust, and some seasonal fluctuations might balance out in a multi-species facility (e.g. heavy spring for lambs). Any facility would need to calculate different species mix scenarios and understand how to fulfill species throughput goals.
- *Competition* – It will be more difficult to make a case for a small facility within the vicinity of Adams Farm Slaughterhouse, if they are able to provide services to many local farms and thus absorb a good amount of the local demand for slaughter services. This factor could determine the siting of a small-scale facility and terms of financing. However, there is still a niche for a facility that provides alternative services for a particular market segment, and services farms that would have to travel longer distances to Athol.
- *Labor Availability & Longevity* – Small slaughter and meat processing facilities require a significant amount of manual labor due to a lower tech line, which is a difficult labor category to fill especially for the long-term. Also, good management is key to a successful facility and a small facility may not have the scale or salary to be able to attract experienced managers and other staff. A small plant would rely on a committed and resourceful ownership or board members.

These are all important risk factors to take into consideration, however, they are difficult to assess without a specific site and potential ownership group. The strengths and opportunities related to each location and management team will determine the technical and operational feasibility for a small-scale facility. Therefore, we have focused on assessing the economic feasibility – for one scenario – to get a broad brush look at the viability of a small-scale slaughter/processing venture. If this model proves sound it is worth further investigating site and ownership-specific feasibility.

### **Economic Feasibility**

Slaughter and processing facilities are far from an economic no-brainer. Despite a number of studies, few facilities have been built in the Northeast in the last decade and many of those that have been built faced financial challenges, and/or were supported with significant grant funding. The lack of model facilities not only highlights the difficulty of developing successful processing businesses, it also makes it even more important that today's efforts are grounded in sound economic analysis. There are two major economic questions we attempted to address in this feasibility assessment: 1) Could a small-scale facility be profitable? and 2) What are the barriers to funders feeling comfortable investing in a new/expanded agricultural processing businesses?

Our research and anecdotal evidence suggest that there is a strong and growing **market** for local grass-fed beef and farmers are interested in expanding their production to meet this market. However this demand for local meat and meat processing has not tipped the economic scales in favor of more processing facilities. Indeed, the **risks** associated with raising capital, regulations, labor and management, and seasonality of inputs appear to overshadow the increased demand for these services in the minds of most entrepreneurs.

Solid **economic assessments** of the sustainability of a meat processing/slaughtering facility are critical for attracting the support and **investment** of potential funders. Private and public funders, banks and angel investors, farmers and community members could all be invited to help fund the development of additional slaughter and processing capacity, but all of these parties need assurance that their investment will lead to a long-term, viable solution (see attached *Potential Funding Sources*).

### *Small-Scale Cash Flow Scenario*

In an effort to better understand the economic constraints on slaughter/processing projects the research team partnered with a small group of farmers that was considering building or renovating a small-scale slaughter and processing facility. Using real-life considerations, we developed a back-of-the-envelope cash flow projection and Profit and Loss Statement for a rented facility that was informed by previous studies, industry and business experts, and farmers (*see attached Cash Flow Template and Cash Flow References*). Please bear in mind that this estimate is a rough calculation based on the best available information at this time<sup>29</sup>. Additional research and expert consultation is needed to validate the estimates of capital, direct (including labor and utilities related to throughput), and operational costs, and the impact of fluctuating demand.

This rough assessment (*see attached Cash Flow Template*) found that a small-scale facility could be sustained if a number of conditions were met:

- not more than \$300,000 in capital costs for leasehold improvements and equipment, and \$5,000 monthly rent<sup>30</sup>
- \$200,000 provided by grants for capital costs, \$70,000 loan at 10% over a seven year term, and \$30,000 in owner equity<sup>31</sup>.
- a working capital loan for the first three years<sup>32</sup>
- at least 1,200 animal units processed/year by two shifts of three full-time employees each, plus a part-time scheduler
- modest ramp-up, doubling capacity the first two years
- conservative energy costs of \$1,000 per month
- consistent customer base with multiple species being processed. No seasonal fluctuations<sup>33</sup> are built into this illustrative cash flow, and the species mix is comprised of 400 cattle, 220 small ruminants, and 400 hogs (a ratio of 1.8 : 1 : 1.8)<sup>34 35</sup>.
- if additional construction or renovation is required for the slaughter facility, the landlord would obtain financing *separate* from these financial calculations

### *Profitability*

With these conditions, the slaughter and meat cutting service would meet bank requirements of cash flow covering debt service by 1.25 times in Year 3, and generate a cumulative profit of \$178,000 by Year 10. The business would achieve positive cash flow by Year 4 after working capital is no longer required, and owner withdrawals could commence at the same time.

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<sup>29</sup> Many capital costs are difficult to estimate prior to site selection, throughput planning, and facility design. Efficiencies built into larger facilities and associated with large capital-intensive investments are not easily translated to smaller facility models.

<sup>30</sup> Unless additional no-cost financing can be identified through community investors, grants, or forgivable loans.

<sup>31</sup> Although this level of owner investment does not meet the 20% equivalent that lenders often require.

<sup>32</sup> A monthly cash flow for the first three year start-up period will be necessary to determine what amount of working capital would be required.

<sup>33</sup> Survey results showed that spring and summer quarters had an annual harvest of roughly 80 fewer cattle than the peak fall season, which is equivalent to 60 hours of work per week.

<sup>34</sup> ProAnd Associates suggested a target livestock throughput ratio of 2 : 3.7 : 1 (cattle, small stock, hogs) in a business plan for the Stafford Springs facility, which assumes purchasing livestock. Small stock includes lambs, goats, and bob veal (ProAnd, 2000, p. 4)

<sup>35</sup> Even though our survey did capture this proportion of hogs, Massachusetts state data shows a significant volume of pigs in central and western MA. We did not include a high volume of small ruminants because the apparent lower margins compromised the cash flow.

### *Sensitivities*

It is important to note that this model has **thin margins**, and **capital costs** are most likely underestimated unless an ideal existing facility is identified. If the capital costs are determined to be much higher after costing exercises with design-build contractors for this scenario, or when calculated for different scenarios, we will need to adjust the model to see if the financing picture still looks feasible. With increased capital costs in one scenario (up to \$420,000), the business could afford commercial loans up to \$150,000 for fixed assets and a revolving line of credit for working capital up to \$250,000 over two years. The question remains whether commercial banks would be willing to offer this kind of financing, and if the business owners could match the investment requirements<sup>36</sup>.

An initial profit and loss statement indicated that this model was highly sensitive to accurate **labor per animal** rates, and somewhat sensitive to the **cost of labor**. We have also determined that the species mix can significantly impact profitability. The facility would *not* be economically viable at the same capacity, but using the **species proportions** represented by the survey in the five western and central Massachusetts counties – roughly 3.5 : 5 : 1 (cattle, small ruminants, pigs). Operators would need to do a more detailed analysis of the relative profitability of the different species, researching and loading full direct costs. According to our current figures, operators might need to emphasize beef and hogs due to their apparent higher rate of return.

### *Bankability*

Funders protect their interests when making loans in order to stay in business in the long run and thus balance risks with payoffs when deciding where to invest their money. Although there are a number of particular risks to developing a slaughter facility (such as those noted above), there are additional challenges associated with the newness of this venture and the current climate of investing.

- There is no industry benchmark for assessing the feasibility of a new small-scale slaughter/processing facility. There are few models of successful small-scale slaughterhouses, and these are not included in standard risk management references used by many commercial lenders, such as benchmarking figures provided by the Risk Management Association.
- Small-scale agriculture infrastructure such as a slaughter/processing facility is a hybrid between a farm-based business and a processing facility. Lenders in these sectors do not often cross-train and neither sector has much experience with small-scale processing. The lack of experience with these types of facilities makes funders more wary of investment.
- Limited collateral is developed in leasehold situations, and on-farm facilities with land that is held in an agricultural or conservation restriction or other zoning designations that restrict use<sup>37</sup>, which poses particular financing challenges.
- Profit margins for slaughter facilities are historically tight. Financial institutions may be particularly concerned if business owners establishes minimal profit goals but place more emphasis on customer service and the benefit of users (as would most likely take place with a cooperative or farmer-owned structure).
- Most banks will require “skin in the game” so owner-members or partners would be required to provide personal guarantees for loans. This is a major barrier for many farm businesses.

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<sup>36</sup> Commercial banks might require upwards of 20% owner investment. The financial capacity of the ownership might be the other limiting factor in how much the business would be willing or able to borrow.

<sup>37</sup> Programs such as Agricultural Preservation Restriction and Farm Viability in Massachusetts lend control over certain uses of protected land to state authorities, thereby limiting a bank’s ability to use land as collateral.

While a small-scale slaughter/processing facility does not fit the mold of a low-risk investment opportunity for commercial banks, some financing institutions in the Connecticut River Valley have expressed interest in supporting agriculture and a sustainable regional economy.

### Case Statement

There are several strong arguments for the **benefits** of a small-scale livestock processing facility which is committed to providing quality services. Farmers, government agency representatives, financial experts, and community partners often cite the following strengths and opportunities as a reason for their support for this concept.

*Accountability and Quality Assurance* – A small-scale plant allows managers to focus on functions but also on better management. There's an opportunity with a community-scaled project to develop a model that involves a broad range of **stakeholders**, whether organized as a cooperative or an LLC with a range of farmer-partners. While not inherently well-managed, in “relatively small, community-based facilities... there's regular contact between the management of the plant and the farmers who raise the animals that they process”. Foshier says “local slaughterhouses are subject to something even more powerful than USDA inspection: the opinions of the farmers and meat customers who want things done right and will call them on shortcomings”<sup>38</sup>. Survey responses confirm that **transparency, accountability** and **confidence** in the quality of services - which is built through positive interactions with facility management - are important features of a slaughterhouse. Also, a network of small facilities would allow farmers **bargaining power** and **competition** amongst facilities would encourage managers to implement best practices.

*Local Focus and Self-Sufficiency* – Small facilities require a limited supply of animals, and therefore can draw from farms in the vicinity. This focus on **local sourcing** and limited output reduces transportation and **travel** costs, and minimizes the carbon footprint of the local meat sector, contributing to sustainable farms. Local processing enables farmers to market their products with additional niche market attributes linked to geography.

*Reduced Risk* – In terms of food safety and humane operations, there is less likelihood of mistakes at a facility that operates at a reasonable pace - a USDA inspector described the difference between industrial-scale slaughterhouses and small, community-based facilities: “at the factory plant, he had 40 seconds to inspect each animal, pre- and post-slaughter; at the local plant he has 40 minutes”<sup>39</sup>. In the case of **food safety** problems, impacts would be limited by the **small volume** of output, and confined to a limited market area, and the local sourcing approach of a hypothetical small facility also reduces animal health and food safety risks by not **commingling** local animals with animals from other regions. Small facilities may also represent less of a concern to the **public** – local community **outreach** plans can inform the public about the benefits of small-scale processing.

Having additional small facilities means that farmers have one less risk to consider as they invest in growing their herds. If they can rely on a network of small facilities versus one or two large businesses – they have a buffer if one facility fails to meet their requirements.

*Integrated Farm Economy* – Because of its size, it's possible that a small facility could be located on or near farmland, as part of an integrated rural economic system. This would generate a clearer community understanding of the role that agricultural processing plays as a part of rural character and regional

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<sup>38</sup> Foshier, Bill. A Missing Link in the Local Food Chain. *Local Banquet*. Spring 2008, 20-21.

<sup>39</sup> Foshier, 2008.

sustainability. This type of facility could illustrate the connection between working lands, land preservation, New England heritage, and vibrant rural communities.

*Financing & Community Investment* – A small facility represents an incrementally **smaller investment** required for capital and start-up costs. A local facility also has an opportunity to garner **community investment** and private donor support from individuals committed to regional food security. This kind of model has inspired many individuals to say that they would be willing to become a member, or otherwise contribute to, such a business. The level of **public interest** makes the concept of local agricultural infrastructure like a slaughterhouse worth looking at in more detail.

While there are strong arguments for a community-based small-scale slaughter/processing service, there is **no simple answer** as to whether a small-scale USDA-inspected slaughter and meat processing facility is a feasible model to supply the farmers of the Connecticut River Valley with quality services, and the market with local meat. Slaughterhouses face complex requirements and community responses, as noted by other studies and demonstrated by the lack of new small facilities to use as models.

### **Success Factors**

No matter the format a new slaughterhouse and meat cutting venture might take, our research has found that a successful project would need farmer involvement, a skilled and committed community of support, and government collaboration.

#### *Farmer Involvement*

We've learned that farmers commonly feel a **lack of control** over their animal (and meat products) after they deliver it to a slaughterhouse, and that separation from the process often means they can't meet the demands of their customers. It appears that because it is a "seller's market", and slaughterhouses realize they have guaranteed demand, there is limited effort to respond to farmers' requests, and therefore farmers are unable to meet the specifications of high-end markets<sup>40</sup>. Whether the solution is a farmer-run, community-based slaughterhouse, or coordination service the advocates for smooth scheduling and customer service for farmers, more options are necessary for farmers to continue to raise animals for the local market.

#### *Community of Support*

One of the determining factors for a successful business venture, particularly in the complicated world of livestock processing, is the **human factor**. As in the case of farmers motivated by long distances to establish something close to home, potential ownership and management, as well as community support, may be a driving force in finding a solution. An engaged community and thoughtful advisors will be able to help a business overcome barriers and serve the needs of the local farming community and meat market.

#### *Government Collaboration*

Government can play a role in supporting **alternative financing** for a solid small facility, and support has been voiced by state government agencies in Massachusetts and Connecticut. This state-level support will also be critical as any facility operators try to navigate the various regulatory and permitting requirements for different locations.

Several groups in the Northeast have suggested that state governments can also provide **regulatory support** through state slaughter and processing inspection programs. This is not a complete solution in and of itself,

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<sup>40</sup> The *Slaughterhouse Feasibility Report* notes that "(s)ince processing services are in such high demand, commercial livestock producers have been stymied in their ability to encourage greater attention to packaging and presentation" (Sleeping Lion Associates, p. i).



because state-inspected meat cannot currently be sold across state lines. However, states could become more **self-sufficient** with their own inspection programs, enabling farmers to sell state-inspected meat wholesale and retail within state lines. Also, the 2008 Farm Bill passed with a provision to recognize state inspection as an equivalent for USDA inspection and allow interstate sales of state-inspected meat, farmers could broaden their markets further<sup>41</sup>. While Vermont and Maine currently have state inspection programs, neither Massachusetts nor Connecticut do at the present time. This solution would require a strong lobbying effort, willing state agriculture departments, and state budgets that would fund inspectors and related training and administration.

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## Conclusions

### *Literature Review*

A review of past feasibility studies suggests that few precedents exist for small-scale slaughter and processing facilities. Previous studies are useful as a reference - particularly for technical information and throughput calculations and weighing pros and cons of different slaughter and meat processing scenarios. However, because most studies focus on the conditions of specific locations, they rarely claim a silver bullet solution for the lack of slaughter and processing services. This literature review should be complimented by field visits to current operations, and further investigation into the events that resulted from each study (e.g. the development of an agro-industrial park in Liberty, NY, and the turnover after the decline of nonprofit management at Stafford Springs).

### *Demand Survey*

CISA's survey of demand for slaughter and processing services in Massachusetts (primarily western and central) illustrated significant farmer interest in local processing options, but insufficient supply for a large-scale facility that focused solely on serving the local farming community. Survey responses demonstrated that farmers prioritize location, scheduling, USDA certification, customer service and affordability when making decisions about where to bring their animals, and often have specific processing needs to meet the demands of their markets. Seasonality could prove to be a major challenge for any facility servicing local farmers only. Additional research using state and national statistics data could compliment the survey findings and strengthen the estimate of potential inputs for a facility.

### *Feasibility*

Our research suggests that as a model, a small-scale USDA-inspected slaughter and meat processing facility is **economically feasible** with the right combination of:

- 1) low capital costs or sufficient owner equity, grants, or outside investment
- 2) volume of demand and species mix that fits profitability projections
- 3) additional income-generating activities such as retail

As discussed in the *Economic Feasibility* section, the numbers are dependent on a long list of assumptions, and adjustments in any category can impact the big picture. In general, a small-scale facility would only be economically viable if it obtains **grant funding** or other subsidies and/or has limited capital requirements. A small operation may be able to attract community investment through donations or community shares, or other funding sources with little or no interest, which would decrease the amount of financing required. Community support and farmer involvement are critical for a successful model.

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<sup>41</sup> If and when the Farm Bill becomes law, with a "a provision that would allow some state-inspected processors with 25 or fewer employees to ship product across state lines... USDA must solicit public comment on the interstate commerce provisions, including public meetings or hearings, then within 18 months issue final regulations." Gabbet, Janie. *State-inspected meat across state lines could be 18 months away*. Meatingplace.com. May 20, 2008.

## Next Steps

After reviewing the survey results and research findings with local farmers and regional partners, we need to determine how best to work with planned and existing facilities as resources for the region, while still building a broader foundation of USDA-inspected slaughter and processing services. We recommend the following steps to continue this work:

- 1) Monitor planned and existing facilities to understand if farmers' needs will be met with anticipated new services
- 2) Evaluate alternatives and look at one project or site in more detail
- 3) Educate the community to foster support and investment

### *Monitor Services*

While many farmers in the CT River Valley region anticipate Adams Farm Slaughterhouse opening in October, they are waiting to see if the new services will meet their needs, expressed in the survey as scheduling, customer service, quality, affordability, and particular processing options. We recommend monitoring farmer/customer response to Adams' new services and gauging what level of competition it represents for other locally-focused slaughter and meat processing options. Part of this process might include facilitating communication and education between management and customers, evaluating the need for coordination between farmers for scheduling, and requesting specific services and specifications to meet market demand.

Unfortunately, for many farmers in the CT River Valley, Athol does not meet their priority criteria – proximity. Concerns regarding distance traveled and the cost of transportation could motivate farmers to **continue to look for alternatives** that can be developed in their area.

### *Evaluate Alternatives*

While we have outlined feasibility considerations for a “generic” small-scale operation, a true determination rests on the details of a **particular site** and group of owners and managers. At this point there is enough interest to look at the feasibility of a particular site and go into more detailed business planning. We intend to identify **one site or project** that is a serious option for at least one work group, where we can investigate technical and regulatory requirements in more detail, tailor cash flow projections, and narrow in on management and ownership options for a slaughter and/or meat processing business. We are sharing this report in the hopes that partners will provide feedback and additional ideas, helping us to narrow in on a site and scope. Fabrication facilities and mobile units with docking sites in particular warrant further investigation.

### *Community Awareness & Support*

Finally, we plan to continue to **raise awareness** amongst the general public about the importance of local infrastructure that enables farmers to bring their products to market, and gather community support for agricultural processing which plays an essential role in the long-term viability of farming in the Northeast.

## Attachments

- Survey Tool
- Slaughter Study overview
- Draft Siting Criteria
- Potential Funding Sources
- Regional Updates (January and April 2008)
- Cash Flow References
- Cash Flow

## Survey: Demand for Slaughter and Processing Services

ZIP code: \_\_\_\_\_

1. I currently raise livestock and arrange for slaughter/processing : Yes / No
2. I have the potential and interest to raise livestock and arrange for slaughter/processing: Yes / No

HARVEST CAPACITY

3. Please complete the table (below) with answers to the following questions:

Column A: How many animals do you harvest per year?

Column B: How many animals do you harvest in each 3-month period?

Column C: How many animals could you harvest in the future with better access to a reliable USDA-inspected facility?

	<b>A</b>	Current Quarterly Harvest				<b>C</b>
	Current Annual Harvest (#)	Jan-Mar	Apr-June	Jul-Sept	Oct-Dec	Anticipated Annual Harvest with convenient facility (#)
Beef Cattle						
Dairy Culls						
Veal						
Goat						
Pigs						
Turkey						
Chicken						
Lamb						
Geese / Duck						
Other _____						

4. If a viable market exists for your products, what would encourage or inhibit you from expanding production beyond your current operating capacity? (apart from access to slaughter and processing services?)

SLAUGHTER

5. Where do you currently have your animals slaughtered? (Name, Town & State)
6. If applicable, how many miles do you have to travel ONE WAY to deliver your livestock?
7. What is the estimated cost per animal for slaughter? (Specify species)
8. If a new slaughter facility were to be established, what qualities would it need for you to choose to bring your animals there? e.g.: Better scheduling? Better communication? Located closer to your farm? Other?

### PROCESSING

9. Where do you currently have your meat processed? (Name, Town & State)
10. If applicable, how many miles do you have to travel ONE WAY for processing?
11. What is the estimated cost per animal for processing? (Specify species)
12. If a new processing facility were to be established, what qualities would it need for you bring your animals there? e.g.: Better scheduling? Better communication? Located closer to your farm? Other?

### MARKETING & DISTRIBUTION

13. Where do you currently sell your finished meat? (e.g. to processing plant, direct retail, farmers' market, on-farm store, wholesaler/distributor, restaurants, institutions)
14. What characteristics do you use to market your product? (e.g. grass-fed, specialty breed, organic)
15. If a new slaughter/processing facility were to develop and market a brand(s) of meat, would you be interested in selling your meat (specific cuts or whole animals) to the facility?

### ADDITIONAL ISSUES

16. If the slaughter/processing facility were to manage the transportation of live animals from farm to facility, would you find this helpful?
17. Any comments?

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If you wish, please provide the information below, and we will send you updates on the project.

Name: \_\_\_\_\_ Street/PO Box: \_\_\_\_\_

Farm: \_\_\_\_\_ Town, Zip Code & State: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

*Slaughter and Meat Processing Study Overview*

<b>Slaughter &amp; Meat Processing Studies</b>								
Title	Author/ Sponsor	Report Location	Released	Cost	Facilities	Size (ft2)	beef per time unit	lamb/goat, hog, other per time unit (add'l to beef)
<b>Slaughter Facilities</b>								
Martha's Vineyard Island Grown on- island slaughter & processing	Island Grown Initiative	<a href="http://www.islandgrown.org/files/IGI_Paper.pdf">http://www.islandgrown.org/files/IGI_Paper.pdf</a>	2007		no facility recommended			
Southern Maryland Livestock Producers: Meat Processing Feasibility Study	Shepstone Management Co.	<a href="http://www.shepstone.net/SouthernMD.pdf">http://www.shepstone.net/SouthernMD.pdf</a>	2006	\$922,500 (processing only)	3 options - fixed slaughter/proc essing, MSU, fixed processing		135/mo to 500/mo (processing only)	60 hogs/yr, 30 sheep/goats/yr
Slaughterhouse Feasibility Report	Sleeping Lion Associates for Pride of VT	<a href="http://www.uvm.edu/~susagctr/SlaughterhouseSummaryRecommendations.pdf">http://www.uvm.edu/~susagctr/SlaughterhouseSummaryRecommendations.pdf</a>	2005	\$380-455,000 (\$145k fit-up, \$75k equip, other \$15k, \$125-200 site)	options outlined	5000 (pg.26 capital budget) or 2,500-3000 (pg.14)	564/yr	210 pigs, 43 lamb/yr
Mobile Slaughter Unit for Wyoming - Assessment of need and values	Federal States Marketing Improvement Program Grant	<a href="http://www.ams.usda.gov/tmd/FSMIP/FY2003/WY0407.pdf">http://www.ams.usda.gov/tmd/FSMIP/FY2003/WY0407.pdf</a>	2004	\$449,500 (single MSU), \$588,500 (double MSU) w/ fixed processing	MSU w/ fixed processing		950/yr (single MSU), 1500/yr (double MSU)	60 hogs/yr, 30 sheep/goats/yr
New Hampshire Livestock Inventory and Slaughter Feasibility Study	Anne Tappan for NH Farm Bureau	<a href="http://www.nhfarmbureau.org/pdfs/LivestockReportWriteup.pdf">http://www.nhfarmbureau.org/pdfs/LivestockReportWriteup.pdf</a>	2003		options outlined			
Hudson Valley Livestock Marketing Task Force - Meat Processing Facility Feasibility Study	Shepstone Management Co, PA	<a href="http://www.shepstone.net/HVreport.pdf">http://www.shepstone.net/HVreport.pdf</a>	2000	\$375,000 (excluding land & site work), combined w/ processing \$605,000	coolers, employee areas, fabricating operations, offices, utilities	5,000	2000/yr total (after start-up 1,500 beef, 1,250 hogs, 1,000 sheep and 250 other animals/yr)	2,200 hogs "and comparable number of other species per year" (NH/Tappan study)
Stafford Springs Meat Processing Plant Assessment and Business Plan	Food and Livestock Planning and ProAnd Associates	hard copy	2000			10,000	50 beef & 400 other stock/wk (start-up w/ 6 employees)	

Massachusetts Slaughter House Meat Processing Facility Project - Proposal Bid	ProAnd (G.A. Yule)	proposal only	1999					
NPPB Business Plan	Northern Plains Premium Beef	hard copy	1997					
<b>Processing Facilities (excluding slaughter)</b>								
Direct Marketing of Lamb in MA	Ed Maltby for Open Fields Foundation	grant report only (see feasibility study by Roche) <a href="http://www.mass.gov/agr/programs/agroenviro/grantreport_openfields_meatproc_final.pdf">http://www.mass.gov/agr/programs/agroenviro/grantreport_openfields_meatproc_final.pdf</a>	2002	\$340,000 (see below)	processing only			5000/yr
Cost Analysis: A Meat Processing Facility in Western Massachusetts	John Roche for Open Field Foundation and Susan Phinney/MDA R	<a href="http://www.mass.gov/agr/programs/agroenviro/grantreport_openfields_meatproc.pdf">http://www.mass.gov/agr/programs/agroenviro/grantreport_openfields_meatproc.pdf</a>	2001	\$340,000 (\$280k new building, \$97k equip, \$18k other start-up, \$20k yr. operating overhead (no direct labor))	processing only			
<b>Market Studies (processed meat)</b>								
A Resource Guide to Direct Marketing Livestock and Poultry (NY)	Goodsell (Fallow Hollow), Stanton (Cornell), McLaughlin (Cornerstone)	<a href="http://www.nyfarms.info/FAIDPaper.pdf">http://www.nyfarms.info/FAIDPaper.pdf</a>	2007					
Economic Analysis of Agricultural Markets in VT: Organic/Grass-fed Dairy and	SJH Company for VT DED and VT Ag of Ag	<a href="http://www.thinkvermont.com/agreports/SJH_VDED_Final%20Report_Revised_26Aug05.pdf">http://www.thinkvermont.com/agreports/SJH_VDED_Final%20Report_Revised_26Aug05.pdf</a>	2006					

Livestock for Meat								
Manitoba Forage Finished Beef Potential in Niche Markets	Kelwin Management Consulting for Manitoba Forage Council	<a href="http://www.mbforagecouncil.mb.ca/Repository/Projects/Forage%20Fin.%20Beef%20VC%20(Final)%20June%2020%2006.pdf">http://www.mbforagecouncil.mb.ca/Repository/Projects/Forage%20Fin.%20Beef%20VC%20(Final)%20June%2020%2006.pdf</a>	2006					
<b>Additional Resources</b>								
<i>Lopez Community Land Trust mobile processing unit</i>			2007	\$150,000			1000/yr (3rd yr)	
<i>Mobile Slaughter Unit for Wyoming: Assessment of Needs and Values</i>	for Federal States Marketing Improvement Program		2004	\$449,500 single (MSU & fixed processing plant)			5/day	or 20 lambs
<i>Chenango County Meat Packers of NY State: Proposed Business Plan</i>		ref. in NH study	1999			3000	30 & 42 calves/wk	12 pigs, 42 sheep & goats/wk
<i>SUNY, College of Agriculture and Technology at Cobleskill proposed Small Producer Meat Processing Initiative</i>						2800	126 & 156 veal/yr	178 hogs, 350 lamb/goats, 13,900 chicken, 1,205 turkeys, 960 rabbits, 600 fish

<i>Draft Siting Checklist - Slaughter Facility</i>		
Location		
	Site Plan	
	- conceptual site plan	
	Permitting/Zoning	
	- Agricultural Commission	for on-farm processing
	- local Board of Health	animal permits
	- Zoning Board	Title 5, use, parking, site plan requirements, setbacks, easements, fire & access
	- Town Clerk	business registration needs
	- Animal Inspector	walk site, # animals, holding facilities
	Phase I & II Environmental	
	accessibility and parking	supply & reefer trucks, customers
	Utilities	
	Excavation	
Waterways		
	Conservation Commission, environmental mitigation	approval for wetland considerations
	DEP	
	Storm water, erosion control, flooding	mitigation, insurance quotes
	Water supply	sufficient volume, potability test
	- USDA Approved Water letter	letter required from State or Local health authorities stating the plant's water source is acceptable/potable
	- private well	requires 6-mo check
Waste		
	Composting	
	- Conditional Exemptions	
	- DEP Determination of Need/Site Assignment	
	- MDAR Agr Composting Registration	
	- register w/ local BoH	
	septic	
	- Title 5	
	- USDA Approved Sewage	letter required from State or local health authorities stating the plant's sewage system (and water source) is acceptable
	Rendering	
	Treatment	
	- DEP tight tank reqs	for industrial wastewater holding, restrictions on septic system and drywell for "commercial" waste
	- tight tank approval (town)	identifies disposal of grey water



Facility		
	Building Plan	
	- conceptual building plan	
	MA State License (DPH)	105 CMR 530/531 - facility requirements, Ch. 94 120 license
	Design: layout options, workflow	
	- refrigeration	
	- handling - rails, carts	
	- restrooms	
	- inspector reqs	
	- rehab & finishing needs	
	- utilities and back-up generator	
	- HVAC	
	- "green" building & energy efficiencies	
	- expansion possibility	
	Engineering, bidding	
	Construction/Rehab	
Transportation		
	docking requirements, vehicle purchase	
Operations		
	Ownership structure	
	GMPs	
	HACCP	
	SSOPs	
	Certifications	Organic, kosher, halal, EU
	labeling	
	FSIS Inspection	submit detailed operation plan to FSIS District for staffing assignments
Insurance		
Financing		

<b>Source</b>	<b>Amount</b>	<b>Timing</b>
<b>USDA Rural Development Rural Business Opportunity Grant</b>  The primary objective of the program is to improve the economic conditions of <b>rural</b> areas. Assistance provided to <b>rural</b> areas under this program may include technical assistance for <b>business</b> development and economic development planning. Only public bodies, Cooperatives, nonprofits, etc. are eligible NOT businesses. Mainly used for training and business planning.	Max \$50,000	Application generally due in March and awarded as soon as money is allocated in the federal budget.
<b>USDA Rural Development Value-Added Producer Grant</b>  For planning or working capital. Planning is a defined program of economic activities to determine the viability of a potential value-added venture including feasibility studies, marketing plans, business plans and legal evaluations. Working capital funds are used to operate the venture and pay the normal expenses associated with the operation of the venture.	\$100,000 for planning, \$300,000 for working capital.	Application due March 31 <sup>st</sup> (we think) and awarded as soon as money is allocated in the federal budget. (recipients announced in Sept. 2007 for last cycle).
<b>USDA Rural Development Renewable Energy Systems and Energy Efficiency Improvements Grants and Guaranteed Loans</b>  Grants and loans to purchase renewable energy systems and make energy efficiency improvements for agriculture producers and rural small businesses in eligible rural areas. Funding will be available in the form of grants, guaranteed loans, and combined guaranteed loans and grant applications.	Max \$250,000 grant. The maximum amount of a guaranteed loan made to a borrower will be \$10 million.	Applications generally due in May and awarded soon after.
<b>USDA Rural Development RURAL BUSINESS ENTERPRISE GRANTS (RBEG) PROGRAM</b>  Grants for rural projects that finance and facilitate development of small and emerging rural businesses.	Officially, there is no maximum level. But smaller projects are given higher priority. Each state as a limit that they can spend (MA is about \$300,000). Application must be made by rural community, town, or non-profit.	Rolling application, money awarded as soon as money is allocated in the federal budget.
<b>MA Labor and Workforce Development Workforce Training Fund</b> Grants awards for employee training.	Up to \$1,000,000 OR "Express funds" 50% of the cost of training-up to \$15,000-from	Rolling Application

	pre-approved vendors.	
<b>MA Labor and Workforce Development Workforce Training Grant Hiring Incentive Training Grant</b>  For training new hires.	Up to \$2,000 per new employee	Rolling Application
<b>Federal Government Earmark</b> Congressman John Olver could put in a federal earmark to support the project once the project is in planning and development.	Unknown	Earmark requests made in November 08, funding available at least a year and a half down the line (spring '10).
<b>State Earmark Request</b> A state Rep or Senator could put in an earmark – could be tricky with budget shortfalls and Gov. Patrick's desire to cut down on earmarks.	Unknown	Earmark requests made in January, funds available in fall (possibly) up until the following June.
<b>Western MA Enterprise Fund Loan program</b>  Provides financing and technical assistance to entrepreneurs and small businesses in the five counties of western Massachusetts.	Loans range from \$1,000 to \$150,000.	
<b>Franklin County CDC The Rural Development (USDA) Intermediary Lending Program</b> Loans for established businesses that need gap financing. Funds may also be available for new and expanding businesses.	Loans range from \$5000 - \$150000?	
<b>Small Business Association (SBA) Certified Development Company (CDC), a 504 Loan Program</b>  For small businesses requiring “brick and mortar” financing.		
USDA Rural Development <b>BUSINESS AND INDUSTRY GUARANTEED LOANS (B&amp;I)</b>	LOANS not to exceed \$10 million.	Deadlines unknown
<b>Common Good Bank Project</b> democratic economics for a sustainable world www.commongoodbank.com PO Box 21, Ashfield, MA 01330 USA +1 413-628-3336	Community investment	Unknown



Dear meat enthusiasts,

Discussions all over the Northeast are heating up (5 regional meetings that we've heard of in the last couple weeks!) in an effort to create solutions for the limited livestock and poultry processing options in the region. We wanted to share some updates with you in order to facilitate additional information sharing and coordination. While we understand that many growers and partners have a vested interest in developing improved services in their home state, through regional cooperation we may be able to find the most effective solutions to this challenge.

Please find below brief summaries of recent achievements made by different groups:

### **Background Materials**

CISA has been compiling feasibility studies that might inform our work on slaughter and meat processing. Attached please find a summary of the studies we have located (with several additions from [www.litchfieldfarms.net](http://www.litchfieldfarms.net)).

- Please contribute references and we can circulate an updated version in the future.

Several listservs have been created to facilitate discussions in Vermont and New York (see subscription information attached).

- Other listservs we can share? Let us know!

### **Volume Study**

In November CISA was planning to implement a volume study to determine the level of demand for slaughter and meat processing services. After discussions in Westminster VT, CABA (Community Action Brattleboro Area) initiated a survey for VT and NH, and CISA joined with CABA to structure the survey which would allow comparisons between the states and an analysis of the seasonality of demand. CABA distributed the survey through partners in VT, NH, and CT, and will be coordinating the tabulation of responses. CISA disseminated the survey in Massachusetts through Local Hero members and with the generous assistance of other agricultural organizations.

- Know of someone who hasn't received a survey? A livestock or poultry organization interested in sharing the survey with members? Let us know!
- Share the weblink or request an electronic copy:  
[http://www.surveymonkey.com/s.aspx?sm=K622T6BIY3ZOzfcAgvxVQA\\_3d\\_3d](http://www.surveymonkey.com/s.aspx?sm=K622T6BIY3ZOzfcAgvxVQA_3d_3d)

### **Massachusetts**

CISA is working with a group in Western MA to develop feasibility study components, cash flow projections, a mission statement, and initial drafts of siting criteria and considerations for slaughter and processing services. CISA helps to coordinate this effort in order to develop tools and resources that can be used by small-scale, regionally-focused facilities. CISA has also submitted letters of support on behalf of the Adams Slaughterhouse for their fundraising efforts.

Adams Farm Slaughterhouse has received state funding to support rebuilding the USDA-inspected slaughterhouse in Athol that was destroyed by fire in December 2006. Ed Maltby, a consultant on the project, stated in a recent publication that they hoped to have the new slaughterhouse operating by May

([http://www.recorder.com/story.cfm?id\\_no=4722982](http://www.recorder.com/story.cfm?id_no=4722982)). The publication noted that Adams has not obtained full financing to date.

The Southeastern Massachusetts' Meat Producers Group, coordinated by SEMAP and USDA-NRCS Pilgrim RC&D, facilitated a 2/22/07 panel discussion on navigating regulations and technical requirements for several scenarios including slaughter, meat processing, and sales, with input from local, state, and federal representatives. Another meeting for the group is being held 1/15/08.

### **Vermont**

Bekah Murchison, President of the Vermont Grass Farmers' Association and co-owner of Fair Winds Farm, facilitated the 1/4/08 meeting in Westminster. Patrick Moreland of CABA presented the launch of the survey and an initial workplan Gantt chart for feedback. The group discussed funding possibilities, appointed a Steering Committee, and decided to pursue a survey of marketing partners (buyers/retailers/distributors). A recent article describes the group's efforts: [http://www.reformer.com/search/ci\\_7940921?source=email](http://www.reformer.com/search/ci_7940921?source=email).

### **Connecticut**

Michael Keilty, of UConn Cooperative Extension, facilitated the 1/7/08 meeting to determine the mission and name of the group, and discuss the merits and limitations of different organizational structures depending on the primary objectives of the organization (501c3, 501c5, etc.). The group discussed whether the group's role would be advocacy, project implementation, or other services. Joyce Meader developed an overview of local, CT, and federal regulations.

### **New York / CT**

Doug Dubitsky, an agriculture/equine attorney in Hartford, CT, reported on the December 6 and 7, 2007 Slaughterhouse Task Force meeting held at Glynwood Center in Cold Spring, NY. After identifying and mapping out the livestock processing capacity in the region, the Task Force is taking steps to implement the following work plan: 1) developing a service for livestock producers which will assist with scheduling (similar to NELPS), logistics, and transportation to and from existing facilities; 2) coordinating and monitoring quality/consistency of processing services (communicating cut specifications, etc.); 3) increasing capacity at aging and/or under-utilized processing facilities; 4) determining the feasibility of adding USDA inspection to existing uninspected facilities like custom slaughterhouses; 5) determining the remaining geographic need for new slaughter and processing facilities; 6) undertaking to site, fund, and construct new slaughter and processing facilities, which may or may not include a mobile component.

Any news to add? Let me know and I'll include it in a future update.

Best wishes,  
Jess

Jessica Cook  
Program Coordinator

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f. 413-665-7101  
[www.BuyLocalFood.com](http://www.BuyLocalFood.com)



Dear local meat advocates,

As spring welcomes the next generation of lambs, chicks, kids and calves at local farms, discussions continue across the Northeast about these animals' eventual fate – and how to develop local livestock and poultry processing services that will treat them well, suit the needs of farmers, and fulfill market demand.

Here are some updates from around the region – apologies for the length, there's a lot going on:

### Massachusetts

**CISA (Community Involved in Sustaining Agriculture)** is researching the feasibility of small-scale USDA-inspected livestock processing, including the volume of demand for slaughter and meat cutting services in MA. We sent surveys, developed with CABA, to over 600 farmers in MA and received 115 responses, which represented 1,175 beef cows (including some dairy culls and veal calves), 1,338 lambs and goats, 257 hogs, and 5,023 chickens and turkeys. Thanks to CISA's Local Hero members, MA Farm Bureau Federation, NOFA MA, PVSBA, Berkshire-Pioneer RC&D, the Graze-it-up listserv, and other partners for disseminating the survey.

In order to understand whether small-scale USDA-inspected livestock processing can be viable, we are drawing on some of the models proposed by different farmer groups in the area, and working with them as we review past feasibility studies, look at the regulatory and facility requirements, and develop cost projections and a case statement. CISA helps to coordinate this effort in order to develop tools and resources that can be used by other partners in the region.

CISA plans to meet with a representative of **Adams Farm Slaughterhouse** this week. They intend to release an update in the next two weeks – we will forward any new information.

The **Massachusetts Mobile Poultry Processing Unit** project is a work in progress lead by New England Small Farm Institute (NESFI) and New Entry Sustainable Farming Project. They have completed design review and the prototype unit is undergoing a final round of changes, with support from MDAR and the MA Society for Promoting Agriculture. Modifications reflect agency concerns regarding 1) the incoming potable water supply and 2) separate approaches for handling pre- and post-op cleaning water (containing small amounts of bio-degradable soap) and processing water. Processing water will be collected along with blood and all solids for transport to a passively aerated (PAWS) compost windrow.

They are in the final stages of "permitting" an on-farm MPPU for limited use this season - by a limited number of producers, processing "real product" for the "real market"! State agency leadership has been helpful in navigating a complex set of jurisdictions.

There's still a lot of work to be done, including; 1) continued work on creating a more appropriate regulatory framework and, 2) a comparative analysis (both qualitative and economic) of on-farm MPPU use vs. off-farm custom processing.

The **Southeastern Massachusetts Meat Producers Group**, coordinated by SEMAP and USDA-NRCS Pilgrim RC&D, met 1/15/08 to review a proposal developed by a consultant to perform a value chain assessment of the local meat market in the state. The SE Mass Group intends to meet at least 1-2 times a year with subcommittees pursuing additional opportunities along the way.

Additionally, during a 3/15/08 meeting of **Cape Cod Agricultural Commissions**, the group expressed their support of current efforts to strengthen the slaughter and processing infrastructure in the region and throughout the state, including 1) producer education and mobile poultry slaughter units use (and regulations), 2) building additional units for mobile poultry slaughter, and 3) efforts to secure a USDA inspected multi-species facility within southeastern MA.

### **Vermont**

The **Southern Vermont Processing Project** has formalized a Steering Committee which is currently focused on collaborating with Community Action Brattleboro Area, collecting price lists, considering site criteria, and seeking funding to support their planning activities.

CABA presented initial findings from the compiled survey data from VT, NH, MA, CT, and NY on 3/14/08, including current and potential animal numbers in different regions with proximity measured from Brattleboro. They plan to support survey data findings with in-depth interviews.

CABA made several business recommendations drawn from the first run of data analysis. In regards to the anticipated opening of Adams Slaughterhouse, they suggested pursuing a small livestock and poultry slaughter operation and a somewhat larger processing facility that focuses on customer service, and could be paired with a shared use commercial kitchen.

### **Connecticut**

The **CT Meat and Poultry Producers' Association**, in its formative stage and convened under the umbrella of the CT Food Policy Council, is pursuing funding to support their organizational efforts. During the last meeting 2/25/08 they considered incorporating as a nonprofit organization (501c6 trade association), charged with "providing leadership consistent with local and agriculturally sustainable principles and values, organized to create and further market opportunities for the local meat and poultry industry".

Potential activities include: pursuing state inspection for poultry to be sold at farmers' markets, and requesting state support for federal exemptions for poultry, upgrading existing facilities, use of vo-ag schools, or capital funding for new operations.

### **Eastern New York**

The **Glynwood Center** has polled a range of stakeholders in the Northeast about slaughter and meat processing efforts in the hopes of coordinating future discussions. They have prepared a proposal to submit to USDA's Community Food Projects grants program if funding is committed through a new or extended Farm Bill, and are working to expand the membership of their group and secure matching funds for the proposed activities.

Any news to add?

*Let us know and we'll try to include in a future update.*

Have questions?

*We can provide contact information to help link you with other resource people in the region.*

Best regards,  
Jess

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*Support for this update from CISA is provided by USDA's Rural Development program.*

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## Revenue & Direct Costs

### Revenue Assumptions

#### Flat Kill Fee per Head

\$52/head = average flat kill fee for beef cattle (9 facilities)<sup>42</sup>

\$26/head = average flat kill fee for lambs (6 facilities)<sup>43</sup>

Some facilities have a variable kill fee based on hanging weight which was not included in the average.

Additional references include:

Hudson Valley, NY<sup>44</sup> \$31/beef, \$25/hog, \$20/lamb (or other)

Liberty, NY<sup>45</sup> \$40/beef, \$30/veal, \$20/hog, \$18/lamb

#### Processing Fees<sup>46</sup>

Cryovac/lb = \$.75

Paper Wrapping/lb = \$.55

3:1 assumed ratio cryo to paper wrapping<sup>47</sup>

Fee/lb with 3:1 ratio = \$.70

No labeling fee is included, but two of the 13 facilities surveyed charge labeling fees averaging \$.17/label.

#### Beef Patty Charges

8% = percent of hanging weight (beef only) further fabricated into patties<sup>48</sup>.

#### Sausage Charges

Sample does not include sausage fabrication but this could be another possible source of revenue. Equipment list would need to be adjusted accordingly.

#### Drop Income

Beef Cattle = \$17/head<sup>49</sup>

Other conversations suggest that this is a low estimate for drop income, and that the revenue for hides alone might be closer to \$46-\$96/head, and that additional income may be captured from edible offal which comprises 2-3% of a carcass by weight<sup>50 51</sup>

## Direct Costs

### Labor

Full time is calculated at 2000 hrs/yr to allow for time off.

Hourly rates (\$25 manager/lead cutter, \$19 assistant manager/cutter, \$14 assistant cutter) were estimated in collaboration with an experienced butcher employed in western Massachusetts.

Benefits are calculated at 15% of salary for this sample. Employer taxes include Social Security and Medicare, estimated FUTA/SUTA and MA 2008 workers compensation rate for butchers. Benefits assume employer

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<sup>42</sup> An informal survey of thirteen USDA-inspected livestock slaughter and meat processing facilities in the Northeast (MA, CT, VT, NH, NY) was performed by Barbara Goodchild in December, 2007. *Kill-Processing Costs*, B. Goodchild, December 2007. (available upon request)

<sup>43</sup> Ibid.

<sup>44</sup> *Meat Processing Facility Feasibility Study*, Hudson Valley Livestock Marketing Task Force, Shepstone Management Company, January 2000.

<sup>45</sup> Sullivan County Division of Community & Economic Development, *Liberty NY Revenue Projection*, 2006.

<sup>46</sup> Goodchild, 2007.

<sup>47</sup> Based on farmer-direct marketer estimates.

<sup>48</sup> Ibid.

<sup>49</sup> Shepstone, 2000.

<sup>50</sup> One industry expert estimates that for an average steer (1,100 lbs), the hide would comprise 7% of carcass weight (77 lbs), and hide prices range between \$.60 - \$1.25/lb (equaling revenue of \$46-\$96/head for the hide alone). This revenue source might depend on meeting a minimum volume to capture a particular market for hides.

<sup>51</sup> Additional estimates are provided in *Stafford Springs Meat Processing Plant Assessment & Business Plan* (ProAnd Associates, 2000).



contribution to health insurance and/or other employee benefits such as retirement. However, while the sample cash flow assumes that increases in costs will be balanced out by price increases for services, health insurance costs increase very rapidly, and 15% of salary may be insufficient to cover benefits for employees with lower salaries<sup>52</sup>.

Annual merit increases are not assumed, other methods of performance rewards could be considered (e.g. profit sharing).

#### *Supplies*

All species = \$7/head<sup>53</sup>

More detailed estimates could be distinguished by species or an average cost per “animal unit”<sup>54</sup>, since the amount of cryovac packaging needed to process the cuts of a large steer than a small lamb<sup>55</sup>.

#### *Waste*

Cattle = \$4/head<sup>56 57</sup>

Other estimates range from \$25/head (cattle) to \$.035/lb hanging weight.

#### *Laundry*

Placeholder only – needs local estimates.

### **Production Assumptions**

#### *Rate*

Labor required for kill and processing per animal<sup>58</sup>:

9 hrs/steer

2.5 hrs/small ruminant

2.5 hrs/hog (assuming skinning)

Alternative estimates suggest a higher efficiency rate at approximately 7.8 hrs/steer and 1.75 hrs for lambs/goats/hogs<sup>59</sup>. Productivity could be enhanced by installing high-tech equipment.

#### *Quantity*

594 animal units (beef equivalents) equals 89% staff efficiency for a 3-person crew at 50 weeks/year<sup>60</sup>

400 cattle, 220 small ruminants, 400 hogs = 1.8:1:1.8 ratio species mix<sup>61</sup>

Note: cooling facilities also need to match processing capacity

#### *Average Hanging Weight Per Head*

Beef cattle = 550 lb/head<sup>62</sup>

Pigs = 210 (average dressed weight)<sup>63</sup>

Lambs = 42 (average dressed weight)<sup>64</sup>

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<sup>52</sup> Community Action Brattleboro Area (CABA) notes that health insurance rates can increase between 12-15% per year.

<sup>53</sup> Estimated from \$5.50/head (Sleeping Lion, 2005).

<sup>54</sup> One “Animal Unit” is generally the equivalent of one mature cattle. Other species ratios depend on the factor being calculated (e.g. amount of labor required for slaughter and processing, pasture required, etc.).

<sup>55</sup> The Hudson Valley feasibility study included estimates that supplies equal 5% of basic slaughter/processing costs (Shepstone, 2000).

<sup>56</sup> Estimate provided by composting facility per 55-gallon drum (estimated to be sufficient for the waste from one “beef equivalent”).

<sup>57</sup> “Waste removal costs are also expected to be \$4 per beef and \$2 per hog or other animal” (Shepstone, 2000, p. 6-6).

<sup>58</sup> Estimates provided by expert butcher for a relatively low-tech line, including flexibility for time to transport meat between proximate slaughter and processing facilities.

<sup>59</sup> Informal estimates provided by Ed Jackson.

<sup>60</sup> Additional down time should be calculated for sick time and holidays.

<sup>61</sup> The survey suggests that the available input is more like a 3.5:5:1 ratio, but MA state data suggests that more hogs are available than the survey captured. Cattle and hogs appear to generate higher revenues and having a lower proportion of small ruminants makes the cash flow project work.

<sup>62</sup> Ibid.

<sup>63</sup> *Slaughterhouse Feasibility Report – Pride of Vermont*, Sleeping Lion Associates, April 2005.

<sup>64</sup> Ibid.

### *Labor/Capacity*

Assumes 3 cutters/shift required. By monitoring total hours production needed per shift (hrs/animal/species x quantity/species) can match production to staff capacity. Because in sample facility the manager who is also a cutter will have other duties, the 89% production efficiency is adequate.

### **Operating Costs**

#### *Scheduler/Bookkeeper*

Estimate. See Direct Costs for employer taxes and benefits assumptions

#### *Transportation*

Estimate includes trailering between separate by proximate slaughter and processing facilities, and travel related to administration (e.g. supply pick-up).

#### *Utilities*

Estimates are placed in "Admin Costs" as an operating expense, but may be more accurate if typical utility usage (electricity, other fuel or energy costs, water, septic, etc.) for the facility can be separated out from a per head usage rate under "Direct Costs".<sup>65</sup>

Other estimates include \$700/month for processing activities only<sup>66</sup>.

#### *Office Expenses*

Estimate

#### *Rent*

Figure provided by potential landlord.

#### *Insurance*

Estimate<sup>67</sup>

#### *Property Taxes*

Sample facility will be rented and property taxes paid by the landlord.

#### *Professional Fees*

Estimate for tax preparation and related services

### **Start-up Capital Costs, Loans & Depreciation**

#### *Start-up Capital Costs*

Assumes leasehold improvements and equipment purchase.

#### *Non-capital Start-up Costs<sup>68</sup>*

Sample assumes non-capital start-up costs will be incurred and deducted in first year of operation. Consult with a tax attorney about deductibility of start-up cost items.

### **Total Operating Projections**

Inflation is not noted – the template assumes that revenues (processing fees) will be adjusted to balance out cost increases.

#### *# Shifts/year*

Revenue and direct costs are based on one shift per year and can be adjusted by increasing or decreasing the number of shifts. Template assumes facility capacity is 2 shifts/year.

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<sup>65</sup> Shepstone estimated \$6,000/yr plus \$4/beef and \$2/hog (Shepstone, 2000).

<sup>66</sup> Sleeping Lion, 2005.

<sup>67</sup> Shepstone estimates \$15,187 annually for Stage 1 capacity (438 cattle, 625 hogs). Sleeping Lion Associates estimates \$8,000 annually, and Roche estimates \$2,100 annually for property insurance alone.

<sup>68</sup> Estimates from Roche were used as a baseline. Roche, Jonathan. *Cost Analysis: A Meat Processing Facility in Western Massachusetts*, October 2001.

#### *Other Income*

Anticipated non-production income can be entered here. Consult with a tax attorney to find out if any grant funds you receive are taxable.

#### *Interest on Line of Credit*

This rate will be applied to the working capital line of credit amount entered in the previous year.

#### *Income Taxes*

Sample % is based on combined 2007 federal and MA state rates for cooperative businesses.

#### *Working Capital Line of Credit*

Working capital loan amounts were entered after seeing whether there was a negative cash balance at year end. The template assumes that a line of credit drawn in one year will be repaid in full with interest in the following year. This may be adjusted for a 3-year monthly cash flow where the line of credit can be adjusted as needed throughout the year.

#### *Owners Withdrawals*

In the sample, owners withdrew 50% of profits on an annual basis, starting in the first year of positive cash flow, and leave the remainder in the business for future investment in the plant.

## HOW TO USE THE TEMPLATE

This template is designed to help test the feasibility of establishing a small-scale, low-tech, mixed species slaughterhouse and processing facility. The template assumes that the facility will provide services only, not sale of product. While it can provide a “back-of-the-envelope” assessment, it should not be sole tool used in your determination. “Small-scale” is defined as a facility that can process up to approximately 2,000 animals or 1,200 beef equivalents annually.

The workbook template has four separate worksheets, each of which permits some input of data. The input cells are colored blue. If you wish to change data or formulas in any other cells, you will need to unlock the worksheet (select Tools/Protection/Unprotect Sheet).

### **Revenue & Direct Costs**

- a) The calculations on this worksheet are based on one shift. You can modify the number of shifts on the Profit/Loss worksheet.
- b) Full shift capacity is assumed to be 3 FTE person crew or 6,000 hrs/yr. As you input production and labor assumptions monitor the labor/capacity information to be sure you are matching staff to production.

### **Start-up Costs, Loans & Depreciation**

- a) Up to 2 long-term loans can be estimated on this worksheet. Working capital loans will be entered on the Cash Flow.
- b) Depreciation is calculated as straight line, using IRS asset life guidelines.

### **Operating (Indirect) Costs**

### **Combined Profit & Loss and Cash Flow Projections**

- a) Enter the number of shifts per year (between 0-2) to calculate revenues and direct costs for different levels of production.
- b) Use the Ending Cash Balance on the Cash Flow to determine whether you need to take out a line of credit (working capital) loan in a given year. The worksheet assumes that a working capital loan will be repaid in full with interest in the following year.
- c) All calculations are made in current dollars. It is assumed that any increase in costs will result in a corresponding increase in fees charged.

Profile of facility used in sample:

**Organization:** Farmer-owned cooperative

**Facility:** rented with 10 year lease, separate slaughter and processing facilities.

**Capital sources:** grants, loans and owner equity

**Capital uses:** building improvements, equipment

**Animals processed:** beef, sheep, hogs

**Labor:** Manager and 2 assistants per shift. In addition to managerial duties manager is also a cutter, and all crew members do both slaughter and processing. Admin labor is 1 half-time scheduler/bookkeeper.

See *Cash Flow Template References & Assumptions* to identify data sources for the sample facility.

## Revenue & Direct Costs

Revenue Assumptions	% of production fee	unit	quantity/ shift/year	revenue/ shift/year
Slaughter (beef)		\$52.00 hd	400	\$20,800
Slaughter (sheep/goat)		\$28.00 hd	220	\$6,160
Slaughter (pig)		\$30.00 hd	400	\$12,000
Processing (beef)		\$0.70 lb	220,000	\$154,000
Processing (sheep/goat)		\$0.70 lb	9240	\$6,468
Processing (pig)		\$0.70 lb	84000	\$58,800
Beef patty charges	8.00%	\$0.20 lb	220,000	\$3,520
Sausage charges			84000	\$0
Other processing				\$0
Drop (hides)		\$17.00 steer	400	\$6,800
<b>Total Revenue/Shift/Year</b>				<b>\$268,548</b>

### Direct Costs

Labor (FTE = 2000 hrs/year)	% FTE	#hrs	rate	annual cost
Manager/Cutter	100%	2000	\$25	\$50,000
Asst Mgr/Cutter	0%	0	\$19	\$0
Assistant Cutters	200%	4000	\$14	\$56,000
Other	0%	0		\$0
<b>Total</b>		<b>6000</b>		<b>\$106,000</b>
Employer taxes & workers comp			15%	\$15,900
Employee benefits			15%	\$15,900
<b>Total Annual Direct Labor Cost</b>				<b>\$137,800</b>
<b>Supplies</b>		unit	rate	
		hd	\$7	\$7,140
<b>Waste</b>		be	\$4	\$2,378
<b>Laundry</b>		month	\$100	\$1,200
<b>Total Direct Costs</b>				<b>\$148,518</b>

### Production Assumptions for 1 Shift

rate	unit	quantity	hang wt	beef equiv
9	hrs/animal	400	550	400
2.5	hrs/animal	220	42	61
3	hrs/animal	400	210	133
<b>Total</b>		<b>1020</b>		<b>594</b>

### Labor/Capacity:

5350 total hours production needed per shift  
 2000 hrs/yr per cutter available  
 3 # full-time cutter  
 6000 100% efficiency  
 0.89 % production efficiency per shift

## Operating (non-production) Costs

Admin Labor (FTE = 2000 hrs/year)	% FTE	#hrs	rate	annual cost
Scheduler/Bookkeeper	50%	1000	\$19	\$19,000
Other	0%	0		\$0
Other	0%	0		\$0
<b>Total</b>		<b>1000</b>		<b>\$19,000</b>
Employer taxes & workers comp			15%	\$2,850
Employee benefits			15%	\$2,850
<b>Total Admin Labor Cost</b>				<b>\$24,700</b>

Other Operating Costs	#months	rate	
Transportation/trucking	12	\$500	\$6,000
Utilities	12	\$1,000	\$12,000
Telephone/Office Expense	12	\$200	\$2,400
Rent	12	\$5,000	\$60,000
Insurance	12	\$1,250	\$15,000
Property Taxes	12		\$0
Professional fees	12	\$125	\$1,500

## Start-up Capital Costs, Loans & Depreciation

Start-up Capital Costs		#Years Depr.	Non-capital Start-up Costs	
Property acquisition:			Recruitment	\$300
Land	0		Training	\$5,000
Buildings	27.5		HACCP	\$5,000
Construction costs:			SSOP development	\$1,000
New construction	27.5		Legal	\$3,000
Building Improvements	15	\$120,000	Accounting	\$1,500
Equipment purchases	7	\$180,000	Label set-up	\$200
Contingency			Misc. small equip.	\$3,000
<b>Total Capital Costs</b>		<b>\$300,000</b>	<b>Total Non-capital Start-up Costs</b>	<b>\$19,000</b>

### Financing & Equity

Grants	\$200,000	Caution: grants may be treated as income
Owner Capital	\$30,000	
Loan #1	\$70,000	
Loan #2	\$0	
<b>Total Financing &amp; Equity</b>	<b>\$300,000</b>	

**NOTE: Working capital loans are entered on Total Operating Worksheet - See Instructions**

<b>Loans</b>	Loan #1	\$70,000	Loan #2	\$0	<b>Total Loans</b>	\$70,000
	Interest Rate	10%	Interest Rate	0%		
	Term (#Yrs)	7	Term (#Yrs)	1		
	Ann. Debt Serv.	(\$14,378.38)	Ann. Debt Serv.	\$0.00		

<b>Loan #1 Schedule</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
interest	\$7,000	\$6,262	\$5,451	\$4,558	\$3,576	\$2,495	\$1,307	\$0	\$0	\$0
principal	\$7,378	\$8,116	\$8,928	\$9,821	\$10,803	\$11,883	\$13,071	0	0	0
loan balance	\$62,622	\$54,505	\$45,578	\$35,757	\$24,954	\$13,071	\$0	\$0	\$0	\$0

<b>Loan #2 Schedule</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>Year 6</b>	<b>Year 7</b>	<b>Year 8</b>	<b>Year 9</b>	<b>Year 10</b>
interest	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
principal	\$0	0	0	0	0	0	0	0	0	0
loan balance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total Annual Interest</b>	<b>\$7,000</b>	<b>\$6,262</b>	<b>\$5,451</b>	<b>\$4,558</b>	<b>\$3,576</b>	<b>\$2,495</b>	<b>\$1,307</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total Annual Principal</b>	<b>\$7,378</b>	<b>\$8,116</b>	<b>\$8,928</b>	<b>\$9,821</b>	<b>\$10,803</b>	<b>\$11,883</b>	<b>\$13,071</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

### Depreciation

Buildings	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Improvements	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000
Equipment	\$25,714	\$25,714	\$25,714	\$25,714	\$25,714	\$25,714	\$25,714	\$25,714	\$25,714	\$25,714
<b>Total Depreciation</b>	<b>\$33,714</b>	<b>\$33,714</b>	<b>\$33,714</b>	<b>\$33,714</b>	<b>\$33,714</b>	<b>\$33,714</b>	<b>\$33,714</b>	<b>\$8,000</b>	<b>\$8,000</b>	<b>\$8,000</b>

Profit & Loss and Cash flow Projections

Gross Revenue		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
#shifts/year		0.5	1	2	2	2	2	2	2	2	2
Slaughter (beef)		\$10,400	\$20,800	\$41,600	\$41,600	\$41,600	\$41,600	\$41,600	\$41,600	\$41,600	\$41,600
Slaughter (sheep/goat)		\$3,080	\$6,160	\$12,320	\$12,320	\$12,320	\$12,320	\$12,320	\$12,320	\$12,320	\$12,320
Slaughter (pig)		\$6,000	\$12,000	\$24,000	\$24,000	\$24,000	\$24,000	\$24,000	\$24,000	\$24,000	\$24,000
Processing (beef)		\$77,000	\$154,000	\$308,000	\$308,000	\$308,000	\$308,000	\$308,000	\$308,000	\$308,000	\$308,000
Processing (sheep/goat)		\$3,234	\$6,468	\$12,936	\$12,936	\$12,936	\$12,936	\$12,936	\$12,936	\$12,936	\$12,936
Processing (pig)		\$29,400	\$58,800	\$117,600	\$117,600	\$117,600	\$117,600	\$117,600	\$117,600	\$117,600	\$117,600
Beef patties		\$1,760	\$3,520	\$7,040	\$7,040	\$7,040	\$7,040	\$7,040	\$7,040	\$7,040	\$7,040
Sausage		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other processing		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Drop (hides)		\$3,400	\$6,800	\$13,600	\$13,600	\$13,600	\$13,600	\$13,600	\$13,600	\$13,600	\$13,600
<b>Total Gross Revenue</b>		<b>\$134,274</b>	<b>\$268,548</b>	<b>\$537,096</b>	<b>\$537,096</b>	<b>\$537,096</b>	<b>\$537,096</b>	<b>\$537,096</b>	<b>\$537,096</b>	<b>\$537,096</b>	<b>\$537,096</b>
<b>Less Direct Costs</b>											
Labor - Direct		\$68,900	\$137,800	\$275,600	\$275,600	\$275,600	\$275,600	\$275,600	\$275,600	\$275,600	\$275,600
Supplies		\$3,570	\$7,140	\$14,280	\$14,280	\$14,280	\$14,280	\$14,280	\$14,280	\$14,280	\$14,280
Waste Removal		\$1,189	\$2,378	\$4,756	\$4,756	\$4,756	\$4,756	\$4,756	\$4,756	\$4,756	\$4,756
Laundry		\$600	\$1,200	\$2,400	\$2,400	\$2,400	\$2,400	\$2,400	\$2,400	\$2,400	\$2,400
<b>Net Revenue</b>		<b>\$60,615</b>	<b>\$121,230</b>	<b>\$242,460</b>	<b>\$242,460</b>	<b>\$242,460</b>	<b>\$242,460</b>	<b>\$242,460</b>	<b>\$242,460</b>	<b>\$242,460</b>	<b>\$242,460</b>
Other Income:											
<b>Total Revenue</b>		<b>\$60,615</b>	<b>\$121,230</b>	<b>\$242,460</b>	<b>\$242,460</b>	<b>\$242,460</b>	<b>\$242,460</b>	<b>\$242,460</b>	<b>\$242,460</b>	<b>\$242,460</b>	<b>\$242,460</b>
<b>Operating Costs</b>											
Labor - Admin		\$24,700	\$24,700	\$24,700	\$24,700	\$24,700	\$24,700	\$24,700	\$24,700	\$24,700	\$24,700
Transportation/trucking		\$6,000	\$6,000	\$6,000	\$6,000	\$6,000	\$6,000	\$6,000	\$6,000	\$6,000	\$6,000
Utilities		\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000
Telephone/Office Expense		\$2,400	\$2,400	\$2,400	\$2,400	\$2,400	\$2,400	\$2,400	\$2,400	\$2,400	\$2,400
Rent		\$60,000	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000
Insurance		\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
Property Taxes		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Professional fees		\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
Maint./contingency (% of total income)	7%	\$4,243	\$8,486	\$16,972	\$16,972	\$16,972	\$16,972	\$16,972	\$16,972	\$16,972	\$16,972
Interest on term debt		\$7,000	\$6,262	\$5,451	\$4,558	\$3,576	\$2,495	\$1,307	\$0	\$0	\$0
Interest on line of credit (%)	10%	////////	\$11,000	\$14,000	\$2,500	\$0	\$0	\$0	\$0	\$0	\$0
Start Up Costs		\$19,000	////////	////////	////////	////////	////////	////////	////////	////////	////////
<b>Total Operating Costs</b>		<b>\$151,843</b>	<b>\$147,348</b>	<b>\$158,023</b>	<b>\$145,630</b>	<b>\$142,148</b>	<b>\$141,068</b>	<b>\$139,879</b>	<b>\$138,572</b>	<b>\$138,572</b>	<b>\$138,572</b>
<b>Net Operating Income Before Depreciation</b>		<b>-\$91,228</b>	<b>-\$26,118</b>	<b>\$84,438</b>	<b>\$96,830</b>	<b>\$100,313</b>	<b>\$101,393</b>	<b>\$102,581</b>	<b>\$103,888</b>	<b>\$103,888</b>	<b>\$103,888</b>
Depreciation		\$33,714	\$33,714	\$33,714	\$33,714	\$33,714	\$33,714	\$33,714	\$8,000	\$8,000	\$8,000
<b>Profit before Taxes (NBT)</b>		<b>-\$124,942</b>	<b>-\$59,832</b>	<b>\$50,723</b>	<b>\$63,116</b>	<b>\$66,598</b>	<b>\$67,679</b>	<b>\$68,867</b>	<b>\$95,888</b>	<b>\$95,888</b>	<b>\$95,888</b>
Income Taxes (%)	40%	\$0	\$0	\$20,289	\$25,246	\$26,639	\$27,071	\$27,547	\$38,355	\$38,355	\$38,355
<b>Profit after Taxes (NAT)</b>		<b>-\$124,942</b>	<b>-\$59,832</b>	<b>\$30,434</b>	<b>\$37,870</b>	<b>\$39,959</b>	<b>\$40,607</b>	<b>\$41,320</b>	<b>\$57,533</b>	<b>\$57,533</b>	<b>\$57,533</b>

\$178,014

<b>Annual Cash Flow</b>											
<b>Beginning Cash Balance</b>		0	\$11,394	\$7,159	\$9,155	\$26,984	\$69,875	\$112,010	\$153,313	\$190,079	\$226,846
<b>Cash In During the Year</b>											
Owners Capital		\$30,000									
Grants		\$200,000									
Term loans		\$70,000									
Working Capital Line of credit		\$110,000	140,000	25,000							
Operating Income		\$60,615	\$121,230	\$242,460	\$242,460	\$242,460	\$242,460	\$242,460	\$242,460	\$242,460	\$242,460
Other cash in											
<b>Total Cash In</b>		<b>\$470,615</b>	<b>\$261,230</b>	<b>\$267,460</b>	<b>\$242,460</b>	<b>\$242,460</b>	<b>\$242,460</b>	<b>\$242,460</b>	<b>\$242,460</b>	<b>\$242,460</b>	<b>\$242,460</b>
<b>Cash Out During the Year</b>											
Capital Expenditures		\$300,000									
Repayment of loan principal		\$7,378	\$8,116	\$8,928	\$9,821	\$10,803	\$11,883	\$13,071	\$0	\$0	\$0
Repayment of credit line principal	////////		\$110,000	\$140,000	\$25,000	\$0	\$0	\$0	\$0	\$0	\$0
Operating Expenses (before depr & taxes)		\$151,843	\$147,348	\$158,023	\$145,630	\$142,148	\$141,068	\$139,879	\$138,572	\$138,572	\$138,572
Income Taxes paid		\$0	\$0	\$20,289	\$25,246	\$26,639	\$27,071	\$27,547	\$38,355	\$38,355	\$38,355
Owner's withdrawals					\$18,935	\$19,979	\$20,304	\$20,660	\$28,766	\$28,766	\$28,766
Other cash out											
<b>Total Cash Out</b>		<b>\$459,221</b>	<b>\$265,465</b>	<b>\$327,240</b>	<b>\$224,632</b>	<b>\$199,569</b>	<b>\$200,326</b>	<b>\$201,157</b>	<b>\$205,694</b>	<b>\$205,694</b>	<b>\$205,694</b>
<b>Ending Cash Balance</b>		<b>\$11,394</b>	<b>\$7,159</b>	<b>\$9,155</b>	<b>\$26,984</b>	<b>\$69,875</b>	<b>\$112,010</b>	<b>\$153,313</b>	<b>\$190,079</b>	<b>\$226,846</b>	<b>\$263,612</b>