Evaluating the Economic Impacts of Local & Regional Food Systems

A TOOLKIT TO GUIDE COMMUNITY DISCUSSIONS, ASSESSMENTS AND CHOICES

National Good Food Network
Atlanta, Georgia — March 30, 2016
An Overview of the Session

- AMS Toolkit Overview –
  - Jeff O’Hara and Dawn Thilmany (15-20 minutes)

- Modules 2-4, The Community process –
  - Exploring the South Carolina food system
  - Ken Meter (40-50 minutes)

- Break & Small group exercise-30-40 mins.

- Module 5-7, Estimating multipliers
  - David Hughes (20-25 minutes)

- Emerging initiatives in South Carolina
  - David Lamie (20 minutes)

- Engaging your community with the Toolkit
  - Dawn and Jeff (15-20 minutes)
GOOD MORNING
The Economics of Local Food Systems
A Toolkit to Guide Community Discussions, Assessments and Choices

Dawn Thilmany McFadden (coordinator, Colorado State University), David Conner (University of Vermont), Steven Deller (University of Wisconsin-Madison), David Hughes (University of Tennessee), Ken Meter (Crossroads Resource Center), Alfonso Morales (University of Wisconsin-Madison), Todd Schmit (Cornell University), David Swenson (Iowa State University), Allie Bauman (Colorado State University), Megan Phillips Goldenberg (Crossroads Resource Center), Rebecca Hill (Colorado State University), Becca B.R. Jablonski (Colorado State University) and Debra Tropp (U.S. Department of Agriculture, Agricultural Marketing Service)

9/2/2015
Why a Focus on the Economics of Food System Assessments?

JEFFREY O’HARA, USDA AG MARKETING SERVICE

DAWN THILMANY, PROJECT COORDINATOR, COLORADO STATE U.
Justifying this Toolkit

- Broadly held sense that economic implications of new food system initiatives should be framed and measured in a more standardized (and rigorous) manner, but also responsive to community needs.

- USDA AMS:
  - New resources/initiatives (i.e., Farmers Market and Local Foods Promotion) in need of evaluation framework
  - Expanding role as technical service provider
The Issue

- Local foods has emerged as an economic development strategy
Estimating the economic impacts is challenging!
AMS Objectives

- USDA AMS
  - Key local food grant programs
    - Farmers Market Promotion Program
    - Local Food Promotion Program
  - Local Food Research and Development Division

- Toolkit Objectives
  - Standardize framing and measurement of food system initiatives through best practice recommendations
The AMS Toolkit Team

- Dawn Thilmany (coordinator)
- David Conner, University of Vermont
- Steve Deller, University of Wisconsin
- David Hughes, University of Tennessee
- Ken Meter and Megan Phillips Goldenberg, Crossroads Resource Center
- Alfonso Morales, University of Wisconsin
- Todd Schmit, Cornell University
- David Swenson, Iowa State University
- Allie Bauman, Rebecca Hill, Becca Jablonski, Colorado State University
Does your Model Reflect Reality?

- Do local food producers have different expenditure patterns?
- Have new or deeper business linkages emerged with community planning and investments?

Source: California Tomato Machinery

Red Fire Farm, Cherry Tomato Harvest. Source: Emily Shannon, Formaggio Kitchen Cambridge
Clarifying Economic Terms

- **Impact** tends to be associated with a specific event or change in behavior and can be static or dynamic.

- Consequently, **impact assessment** is comparing and contrasting what a community looks like before and after a particular event, investment or change in behavior.
  - Often referred to as a **shock**
One way to frame the impact of local food growth is considering it import substitution:

- When locally produced foods are substituted for imported items, stronger regional linkages are forged.
- If local foods production and consumption increase, there are economy-wide consequences.
- Best practice measurement of these can help inform communities of the potential economic gains from local food system initiatives.
We suggest users review the whole toolkit

- Move among modules to align with the stage of discussions in their community, or address the specificity of economic measures required for the decisions to be considered.
- Users will benefit from reviewing different modules throughout planning discussions as clarification of the shared vision of the community process is needed.
Module 1: Structuring the Assessment Process to Enhance Success

- Food System initiatives are diverse
  - Place based nature is key to success in meeting local needs

- Accordingly, important to:
  - Assemble a diverse project team
  - Establish realistic timeline and roles
  - Scope the study appropriately
To Become Involved

Website and listserv: localfoodeconomics.com
Getting Started
Food System Assessments

STRUCTURING AN ASSESSMENT

MODULE 1
Module 1: Structuring an Assessment

Key steps:

1. Organize an effective team

2. Set the boundaries of your study

3. Identify priority issues
Why Perform an Assessment?

- What will an assessment help you accomplish?
- What assets does your community have?
- What do you already know?
- Were there gaps in previous studies?
- What insights could a new study add?
Why Perform an Assessment?

- Don’t perform an assessment just to have an assessment.

- Identify a clear strategic goal.
This is an Iterative Process

Plan

Reflect

Act
Assemble a Team

- Every assessment needs a “steering committee.”
- Try to find a representative for each relevant sector, geographic region, and/or desired skill set.
Assemble a Team

- Include diverse skills and experiences:
  - Diverse ethnic & cultural viewpoints
  - Farmers
  - Low-income consumers
  - Wholesalers
  - Distributors
  - Grocers
  - Other Businesspeople
  - Researchers
  - Technical Assistance partners
  - & more!
Assemble a Team

Include a variety of themes & issues:
- Ethnicity & culture
- Income (low-income will be first to know when the food system is balanced)
- Geography (rural, urban, & peri-urban)
- Scale (small & large enterprises)
- Direct marketers & intermediated
- Established & new enterprises
Consider the Whole Food System

- Farmers
- Aggregators
- Processors
- Wholesalers
- Distributors
- Institutions
- Restaurants
- Retailers
- Consumers
- Waste Recyclers

Policy Makers, Researchers, Technicians, Health Workers, Healthy Soil, Clean Air, Water Infrastructure, Energy

Meter & Phillips Goldenberg, 2016
Value Structures in Minnesota’s Food Industry

Producers

Processors

Distributors

Retailers

Consumers

Small farmers

Direct sales

Buying clubs

Coop grocers

Cooperative Wholesalers

Medium farmers

Grocers

Restaurants

Commercial Wholesalers

Large farms

Institutions

Corporate dining
Educational Inst.
Hospitals
Prisons

Institutional Wholesalers

Industrial Producers

Customers

Representative transactions only — not all are shown

by Ken Meter, Crossroads Resource Center, October 2008

Source: Meter, K. (2009) -- Mapping the Minnesota Food Industry
Identify the Purpose of the Study

- **Is the purpose to...**
  - Document conditions?
  - Explore the feasibility of a new business?
  - Generate investment in local foods?
  - Create an education or outreach program?
  - Change or revisit a key policy?

- **How will you measure success?**
Identify the Audience

- **Who is the primary audience?**
  - Farmers
  - Community residents
  - Businesspeople
  - Funders
  - Investors
  - Economic developers
  - Political leaders
Understand your Constituents

- Some communities feel over-studied and under-served.

- Assessments are often done TO a community, not WITH a community. Try to avoid this.
Set the Time Frame

- What is your time frame?
- Do you need to talk to farmers?
- If so, when would they likely have free time?
Identify Study Parameters & Priorities

- Set the geographic boundaries of your local food system.
  - Municipal boundaries
    - Political boundaries such as states and counties may make it easier to collect data...
    - But they do not necessarily reflect commerce/commuting patterns in local and regional markets.
  - “Foodsheds”
  - Watersheds
  - Transportation corridors
  - Market areas
Identify Study Parameters & Priorities

ArkLaTex Region

Map by Brendan Heberlein, 2016
Identify Study Parameters & Priorities

- Are other organizations working on similar initiatives?

- If so, how can you collaborate?
End of Module 1
Collecting Data

SECONDARY DATA COLLECTION

MODULE 2
Use Secondary Data First

- **Secondary data** was compiled by someone else and is now available to you:
  - US Census
  - Census of Agriculture

- Use available data before investing in new research.

- Each data set has strengths and drawbacks.
Value of Secondary Data

- Abundant information is available from local, state, Federal, and private sources, usually free.

- Provides essential insights rather rapidly.

- Typically in standard formats.

- Often comparable across regions and across time.
One example: Bureau of Labor Statistics Consumer Expenditure Data

- BLS interviews about 120,000 households each year
  - Tracks what households spend for consumer purchases.
  - These interviews are “primary” data” for the BLS.
  - When summarized into tables, keeping individuals anonymous, it is “secondary” data for the researcher.
One example: Bureau of Labor Statistics Consumer Expenditure Data

- BLS Consumer Expenditure Survey
  - Posts annual reports at www.bls.gov/cex/
  - Categorizes the survey results by income level, region, race, ethnicity and other relevant attributes.
  - For example, you can look up how much money was spent buying food each year by an average household in one particular region of the country.
  - This allows you to calculate a reasonable approximation of the amount residents of your community spend each year.
### One example: Consumer Expenditure Data for One Small City

<table>
<thead>
<tr>
<th>Item</th>
<th>$ millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total food consumed by households</td>
<td>83.3</td>
</tr>
<tr>
<td>Beef</td>
<td>2.4</td>
</tr>
<tr>
<td>Pork</td>
<td>1.9</td>
</tr>
<tr>
<td>Other meats</td>
<td>1.3</td>
</tr>
<tr>
<td>Poultry</td>
<td>2.0</td>
</tr>
<tr>
<td>Fish &amp; seafood</td>
<td>1.7</td>
</tr>
<tr>
<td>Eggs</td>
<td>0.7</td>
</tr>
</tbody>
</table>
Case Study 2: ERS Food Consumption

- **USDA ERS Food Availability**

- **National estimate of per capita consumption.**

- Calculated by taking into account production, imports, exports, waste, & other uses.

- **Reported annually.**
## Case Study 2: ERS Food Consumption for One County

<table>
<thead>
<tr>
<th>Produce</th>
<th>Pounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artichokes</td>
<td>601,675</td>
</tr>
<tr>
<td>Asparagus</td>
<td>765,397</td>
</tr>
<tr>
<td>Dry Beans</td>
<td>2,709,407</td>
</tr>
<tr>
<td>Dry Peas</td>
<td>519,580</td>
</tr>
<tr>
<td>Beans, Lima</td>
<td>166,612</td>
</tr>
<tr>
<td>Beans, Snap</td>
<td>3,088,786</td>
</tr>
<tr>
<td>Beets</td>
<td>268,300</td>
</tr>
<tr>
<td>Broccoli</td>
<td>4,413,798</td>
</tr>
</tbody>
</table>

March 2016
Questions to Guide Data Collection

Quality and Appropriateness

- Which data will tell a story that moves your food systems work forward the most effectively?

- How precise do the data need to be to serve your purpose?

- How close a fit are the readily available data to the questions you are trying to answer?
Questions to Guide Data Collection

Quality and Appropriateness

- Who collected these data, and for what purpose?
  - Does the source introduce any bias into the data set?

- Is this data set appropriate?
  - When you show your findings to local stakeholders, do the data reflect their experiences?

- Do these data align with the how you plan to categorize and report the information in your study?

- Are you able to map data to provide visual display?
Questions to Guide Data Collection

Timeliness

- How often is data compiled?
- How recent do the data need to be to be useful and persuasive?
- If the data are a few years old, what may have changed in your community since the data were compiled?
Questions to Guide Data Collection

- How large is the original sample in the data?
- How do you know the findings are significant?
- Does the data source report error?
Matanuska Valley, Alaska
Lakes Region Land Cover

Map by Brendan Heberlein, 2016
Change in Direct Food Sales by U.S. Farms
1997 - 2002

Change in Direct Food Sales
1997 to 2002 (in $1,000s)
Agriculture Census - Map by Ken Meter 2005

Map by Ken Meter 2005
Questions to Guide Data Collection

Time-series data is often useful
- Can illuminate key patterns and trends
South Carolina’s 2013 *Making Small Farms into Big Business* provides a good example of using secondary data, before filling in information gaps with primary data collection.

For more information: [www.crcworks.org/sefood.pdf](http://www.crcworks.org/sefood.pdf)
Details on South Carolina’s approach

- Compiled a variety of data from secondary sources
  - USDA Economic Research Service, the Bureau of Labor Statistics, the Census of Agriculture, County Business Patterns, Centers for Disease Control and Prevention, National Center for Education Statistics, South Carolina Department of Natural Resources, and the National Hydrography dataset
- Key informant interviews with over 150 practitioners, as well as a survey of specialty farmers
- By corroborating these secondary and primary data, the team came up with a strategic approach that addresses all levels of the state’s food system
Bureau of Economic Analysis Data

Net cash income for South Carolina farms, 1969 - 2014

- Cash receipts
- Production expenses
- Net cash income

$billions (each year's dollars)

- 1969
- 1971
- 1973
- 1975
- 1977
- 1979
- 1981
- 1983
- 1985
- 1987
- 1989
- 1991
- 1993
- 1995
- 1997
- 1999
- 2001
- 2003
- 2005
- 2007
- 2009
- 2011
- 2013
Bureau of Economic Analysis Data

Net cash income for South Carolina farms, 1969 - 2014

- Cash receipts
- Production expenses
- Net cash income

$ billions (2014 dollars)
“The food web:” This map sparked the imagination of rural legislators and local food leaders.
Incubator Farm with Packing Shed

PACKHOUSE

GREENHOUSE

PUBLIC ROAD

INCUBATOR FARM
(5 ACRE PARCEL)

INCUBATOR FARM
(5 ACRE PARCEL)

INCUBATOR FARM
(5 ACRE PARCEL)

INCUBATOR FARM
(5 ACRE PARCEL)

PACKHOUSE

GREENHOUSE

GREENHOUSE

GREENHOUSE

access road
One farm-level node
One farm-level node

Distribution

Commercial kitchen

Washing & Storage

Utilities

Staging

Offices
End of Module 2

Garlic harvest
© Ken Meter, 2012
Collecting Data

PRIMARY DATA COLLECTION

MODULE 3
Generating & Using Primary Data

- **Primary Data:** To learn more, you may choose to collect your own data (e.g., a survey).

- This can cost a lot of money!

- It helps to know your purpose and audience, and to pose questions carefully.
Is it Time to Collect Primary Data?

- Review and re-evaluate your goals and objectives
- Have you tried to answer your questions with secondary data?
- Why aren’t the secondary data good enough?
- What else do you need to know?
- Do you have the time and resources to continue?
Case Study: Farmers Market in MI

Farmers Market Data

- Vendor sales for fresh produce at each market, as reported by the vendors.
- Foot traffic, as recorded by the market manager.
Farmers Market Data

Sales of fresh produce
Foot Traffic

2016 Food Hub Conference
March 2016
Fresh produce sales at farmers market, $ per person

Fresh produce sales per person

2016 Food Hub Conference
Words of caution before you begin...

- Primary data collection, analysis, and interpretation requires skill and training.

- It often costs, at a minimum, several thousand dollars to conduct even a small study.
  - You may need to hire people to test and administer the surveys/interviews, pay for travel, compensate respondents for their time, etc.
Types of Primary Data Collection

- **Surveys**
  - Example: Dot survey at a farmers market.

- **Interviews or Focus Groups**
  - Example: Convene small group to discuss a set of questions.
  - Example: Interview farmers at their farms.

- **Observations**
  - Example: Count shoppers at a farmers market.
On Sampling

- It's almost always impossible to survey everyone or observe every situation.

- **Representative sample:**
  - Draw a random sample to represent the whole population.
  - Can be very expensive and difficult to administer well.
Sampling Methods

- **Probabilistic sample.**
  - Target a certain group to serve your needs (farmers).

- **Quota sample.**
  - Set targets or limits for groups of respondents.
  - Helps eliminate some bias.

- **Snowball sample.**
  - Ask your respondents to identify additional respondents.

- **Convenience sample.**
  - Find respondents who are most convenient (farmers’ market shoppers).
  - Easiest and least expensive.
Types of Data

- **Qualitative** research collects data detailing the quality of someone’s experiences, very often in the form of interviews.
  - Qualitative data deals with descriptions and data that cannot be measured using numbers.
  - Examples:
    - A farmer describes how she decided to sell food locally.
    - A chef says he wants to visit a farm before he buys their food.
Types of Data

- **Quantitative** research deals with numbers and data that can be measured.
  - Often statistical analysis can be performed comparing frequencies and finding relationships among responses.
  - For example:
    - A survey of farmers shows that 45% sell to local chefs.
    - A count of those entering the market documents that 1,231 people attended the farmers market on the third Saturday of August.
Northeast Indiana (2016)

- 11 Local Economic Development Organizations commissioned a food system assessment for Northeast Indiana

- 10 Previous studies had been completed

Map by Brendan Heberlein, 2016
Northeast Indiana

Stated purpose: to build a local food network

Seven Sons Farm
Roanoke, IN
© Ken Meter, 2015
Northeast Indiana

- The assessment found that multiple local food networks already existed

Map by Brendan Heberlein, 2016
- Some expanded well beyond the region
- Some did not penetrate the region thoroughly

*Map by Brendan Heberlein, 2016*
The assessment also discovered that five definitions of “local food” were in use:

- Whatever local farms produce, even if exported.
- Food raised on the exemplary farms of our region.
- Food grown or processed in the state.
- Food raised on a Northeast Indiana farm and eaten by Northeast Indiana consumers.
- When people have an opportunity to know where their food came from, and it is presented thoughtfully in a relational marketing way.
Decide on a Focus

- The assessment recommended:
  - Agree on one definition of “local food.”
  - Build on emerging local food networks.
Observations and interviews

• There is a broad array of things to look for, such as:
  ○ Participants (who is there, how many, what are their demographic attributes);
  ○ Behaviors (what do they do, for how long);
  ○ Interactions (who do they talk to, work with, what is the non-verbal communication happening);
  ○ Physical environment (sights, sounds, climate, location);
  ○ Outcomes (what happens as a result).

• Open-ended text questions on a survey.
Qualitative Interviews

- Interviews may involve one-on-one discussions, or convening a focus group.

- It is good to assemble a formal list of questions but you may choose to deviate from that list.
  - One response may provoke you to ask deeper questions.
  - Open-ended questions allow respondents to respond in their own words.

- Group interviews may collect more insights, but some respondents may remain quiet.
Tips on Interviews

- **General to specific.**
  - This order helps to avoid biasing later responses.
  - For example, if you first ask about what foods consumers like to buy at farmers markets, they may answer subsequent questions in that context.

- **Most to least important.**
  - Some respondents may have time constraints or become bored with the interview and end it early.

- **Safest to riskiest.**
  - Best to open with a safe question to put the subject at ease and leave controversial or risky questions for later in the interview.
Surveys are the most common method of gathering quantitative data.
- Involve a common set of questions, generally with short or close-ended answers.

As a rule, the order of questions in the survey instrument mirrors those for interviews.
- E.g., general to specific, most to least important, and safest to riskiest. It is also customary to put demographic questions (age, race, gender, education) at the end of the survey.

Having clear, straightforward instructions is critical in administering surveys.
Tips for Effective Surveys

- It is always good protocol to pilot-test the survey with 5-10 volunteers to assure survey captures data you are looking for, without creating excessive confusion.

- **You will want to ask your volunteers to:**
  - Take the survey;
  - Record how long it takes them to complete it;
  - Note any spelling or format errors;
  - Identify any questions that were difficult to understand or answer.

- **Aim for surveys of less than 15 minutes**
  - Only longer for those respondents very engaged in topic/issue.
Case Example: Dot Surveys

- Dot Poster Surveys, also known as Rapid Market Assessments
  - Developed by researchers at Oregon State University to gather information from farmers’ market patrons.
  - Many advantages:
    - Simple to administer, responses are easily tallied, and possible to get a large set of responses in a short period of time.
    - Respondents report that this method is faster to complete, more fun, and less intrusive than written surveys or face-to-face interviews.
Case Example: Dot Surveys

What products did you purchase at market today?

- Fresh Fruit & Veggies
- Baked Goods (breads, cakes, muffins, cookies)
- Prepared Foods (empanadas, veggie wraps, soups)
- Processed Foods (honey, jams, jellies)
- Other
Internet Surveys

Internet-based surveys have the advantages of:
- Relative ease of response – subjects respond when they wish.
- Cheaper to administer – no need to pay for travel to specific sites to conduct surveys.

Internet surveys are increasingly popular.
- Survey platforms may compile responses into a spreadsheet.
- It may be worth paying upfront for a site that supports robust backend features that facilitate data analysis.
- Can build in question logic.

Disadvantages include:
- Potential for a biased sample towards internet users (middle to upper class, younger, etc.).
- Low response rates.
Internet Surveys

Typical Distances Traveled to Primary Markets

Source: Megan Phillips Goldenberg, “Making Small Farms into Big Business”
Written Surveys

• In-person surveys generally sample the most convenient group, called **convenience sampling**.
  ○ In-person surveys also run the risk of annoying people who came to shop, not take surveys.

• Mail surveys can be designed for a **representative sample**, but tend to have very low response rates.
  ○ **The Dillman Method**, consisting of an introductory letter, survey with addressed stamped return envelope, and reminder postcards is commonly used in mail surveys.

• Surveys of employees or key stakeholders should be well over 50%, while surveys of customers may be in the 10-40% range.
Phone vs. Mail Surveys

Consider how these pros and cons translate to your target respondents and topics:

- **Phone Surveys**
  - Ability to sample selectively to reach sample quotas (a given percentage of females, for example).
  - Quick to complete and summarize responses.
  - Survey caller can explain complex questions.
  - Land line or Mobile phone?

- **Mail Survey**
  - Lower cost.
  - Ability to add visual graphics or longer questions.
Corroborating Findings

- **Results should be triangulated or corroborated with other findings.**
  - If you find a trend in responses from farmers market managers that does not appear in your farm responses, you need to consider alternative interpretations or explanations, such as:
    - Are the farmers market managers involved in the same markets as the farmers? Do market managers have access to different information? Was the sampling of each group representative?
MAKING SENSE OF EVERYTHING YOU’VE ALREADY COLLECTED

MODULE 4
Interpreting Data

- Interpretation is an ongoing and iterative process.
  - Review and re-evaluate your goals and objectives.

- Conditions in your food system will change over time.
  - Review your data and conclusions to make sure they are still valid.

- Engage your analyst up front.
Interpreting Data

Questions to pose at each stage:

- **What have we learned so far?**
  - How do we interpret the data we collected?

- **What information gaps or data needs remain?**
  - Can additional information help to tell a story and prioritize action steps?
Comparative Analysis

- Look for ways in which your community is unique within a region, and over time:
  - Higher than average incomes and expenditures.
  - High rates of rural to urban conversion.
  - Etc.

- This can help identify priority projects or issues, or local assets.
Common Data Pitfalls

- Not all changes are significant
- Correlation does not equal causation

Let the Data Speak

- Community meetings can be an ideal place to solicit feedback on areas of interest or importance.

- These serve as an additional way to corroborate and ground-truth your data findings.

- Sharing data is another strategy to keep key influential partners engaged.
Let the Data Speak

- Use graphs, charts, maps, and infographics.

- Be prepared for additional data requests.
  - Compose a “canned response” with a couple of key indicators.
How Buffalo Is Doing

Average percentage of households with low vehicular access per block group within five minute (.25 mile) walk of a healthy food retail destination

<table>
<thead>
<tr>
<th>Baseline</th>
<th>5 Yr Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>50%</td>
<td>55%</td>
</tr>
</tbody>
</table>

**Data Details**

**Definition**: Percentage: \([\text{Number of census blocks with low vehicular access (more than 40% of households without access to a motor-vehicle) and within a .25 mile walk from healthy retail/Total number of census blocks in the City of Buffalo}*100]\)

**Geographic Scale**: Citywide

**Data Source**: Reference USA; US Census 2010

**Notes**: *Supermarkets and grocery stores*
Craft a Narrative

- Highlight local projects alongside hard data.
- Highlight good stories from stakeholder interviews.
- Use your community engagement process to identify recommendations and actionable items.
- Be aware of inherent group biases.
Craft a Narrative

“I don’t have a positive outlook on row crops. I am looking for new products where I don’t have to deal with commodity exchanges.”

Farmer adds vegetables to cotton farm

Photo © Ken Meter, 2015
Focus Your Findings

- Focus on 3-5 key issues.

- Leave insignificant findings or unfinished lines of inquiry out of the main report.

- Compose an Executive Summary and topic specific factsheets.
Upper Peninsula (Michigan) Local Farm & Food Economy
Ken Meter, 2013

- Large compilation of secondary data sources:
  - Federal Census, Ag Census, CDC, ERS, BEA, BLS.

- Farm Production Balance using BEA data:
  - 2,193 U.P. farmers sell $91.7 million of food commodities per year (1989-2011 average), spending $93.6 million to raise them, for an annual loss of $1.8 million. This is an average net loss of $820 per farm.
Upper Peninsula (Michigan) Local Farm & Food Economy (2013)

Farmers suffer $1.8 million production losses / year

Consumers spend $700 million buying food from outside

Total leakage: $744 million

Farmers buy $42 million of outside inputs
Crossroads Farmers Market

First in U.S. to double federal nutrition benefits

$361,985 ➞ 11,334 families
Fresh Checks distributed since 2007

$37,000 ➞ 1,475 families
in federal nutrition benefits doubled
WIC and SNAP registered families

2015

The Washington Post covered our market in their story, "Crossroads Farmers Market closes the income gap with fresh produce"

75% of vendors are immigrants

1,000+ community members received healthy eating education at market or school

800 volunteer hours performed

30% of shoppers walk to market

3,063 pounds of fresh produce donated to Meals on Wheels

1,169 average attendance on Wednesdays

OUR 10TH ANNIVERSARY SEASON OPENS JUNE 1, 2016!
Wednesdays, 11am-3pm, University Blvd. @ Anne St., Takoma Park, MD

Takoma Park, Maryland
Used with permission
Mapping an Urban Vision

Community Hubs in Shreveport

Map by Brendan Heberlein 2016
Case Study: Food Consumption
End of Module 4
A Deeper Look at Economic Implications

DAVID HUGHES
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2016 Food Hub Conference

March 2016
Reliable Local Foods Impact Estimates

- Input-Output models track the flow of transactions between local industries, sales by industries to households, and to other “final users” of goods or services.

- The lion’s share of analysts rely upon IMPLAN (IMPact Analysis for PLANning) because of its ease of operation.
Importance of Defining the Study Area

- Determining what constitutes local can have a decisive impact on the results: the larger the definition of local, the more inter-industry linkages exist.

- Note: USDA ERS and others moving to a ‘supply chain’ definition of ‘local’ (D2C and intermediated sales).
Module 7: Adapting Your I-O Model

- Evidence that farmers and value-added businesses interact differently with the local economy than more commodity-oriented businesses.

- Evidence that these value-added businesses purchase a greater share of their inputs locally (by definition).
  - e.g., Food hubs, local food aggregation and distribution businesses.
Problematic assumptions in this framework include:

- **The no resource constraints** assumption on the supply side – i.e., gross gains in local food production must be balanced against the fact that these shifts (**countervailing effects**) will usually come in the form of a direct, acre-by-acre reallocation of existing uses of agricultural land.

- **The no opportunity cost of spending** assumption on the demand side – i.e., farmers directly marketing their crops constitute a positive local economic impact, but there may also be negative impacts due to the **opportunity cost** of lost direct sales activity in other sectors of the economy (the wholesale and retail sectors).
Case Study: Fruit & Veg Production in Midwest

- Study estimates county-level fresh fruit and vegetable production potentials (supply side) for the states of MN, WI, IL, MI, IN and IA, as well as expected sales based on current population (the demand side).
  - Secondary data demonstrates that the land, water, and other resources required for the growth of local foods production must come from existing conventional crop production.
  - Corn and soybean are the dominant crops in these states, and net impacts would occur from shifts to fruit and vegetable.
  - Land needed to satisfy regional fruit and vegetable demand is small, and overall production consequences would be nominal.
Case Study: Fruit & Veg Production in Midwest

Case Study: West Virginia

- **Evaluating the Economic Impact of Farmers’ Markets Using an Opportunity Cost Framework**
  - Primary data collected from producers who participate in West Virginia farmers’ markets to account for the opportunity cost.
  - Assuming the positive impacts associated with money spent at farmers’ markets results in decreased spending at local grocery stores, building material, and garden supply stores.

- **Study finds that while farmers’ markets do result in a net positive impact on the state economy**
  - Accounting for the opportunity cost of spending reduces the economic impact of the markets.
West Virginia Winners and Losers

Example of Industry Sectors Impacted by Increased Demand for Food Hub

Indirect and Induced Effects per $1 increase in final demand

indirect effects (Total = $0.42)  induced effects (Total = $0.22)

Source: Jablonski, Schmit, and Kay forthcoming March 2016
Key Takeaways

- Work with experts who understand economic modeling in conducting impact analysis
- Need to be aware of opportunity cost when evaluating economic impact
- Local food systems have different community linkages that elicit economic impacts. We can measure those differential impacts, but requires a thoughtful approach – including diverse community stakeholders, resources, and expertise
INSERT DAVE LAMIE MATERIAL
Small Group Activity

DIVIDE INTO GROUPS OF 4-5

DISCUSS SCENARIOS PRESENTED AS IF A CONSULTANT GROUP SOLICITED FOR TECHNICAL ASSISTANCE

1. DOES THE FIRST ELEMENTS OF TOOLKIT MAP OUT YOUR DISCUSSION AND FIRST STEPS?
2. WHERE WOULD MORE DETAILED INFORMATION GUIDE YOU BETTER?
3. CONSIDER AT LEAST ONE ISSUE WHERE MORE ANALYSIS WILL BE NEEDED.
A state Dept of Ag has approached you about a potential investment in a local food distributor that has been operating for the past three years:
- This business is a for-profit sole proprietorship
- Distributes in a four county region
- Sources from your state and a neighboring state.

Your community market may expand to being open year-round:
- What is the potential increase in economic impact from expanding the market to be year-round?
- The geographic reach of vendors in the summer market is a two-county region and customers are located within the county the market is located.
A state Dept of Ag wants an estimate of economic impacts

- The majority of its producers are small and mid-size farmers that are involved in direct marketing.
- If the investment was linked to Farm to School efforts, would your approach change?

Year round market

- The greatest concern is the supply constraints, especially in the off-season.
- 4 farmers are interested in starting a multi-farm CSA with shared mgmt.
- All are able to consider some season extension, additional production, storage and processing to have more available a longer share of the year.