

Feeding Kansas

Statewide Farm & Food System Assessment with a Plan for Public Action



November 2014

KRC
KANSAS RURAL CENTER



Feeding Kansas

Statewide Farm & Food System Assessment with a Plan for Public Action

A Kansas Rural Center Report
prepared by Cole Cottin

This report reflects the input and hard work of a number of people.

Many thanks to the 275-plus individuals who participated in the statewide and regional Farm-to-Fork Summits that guided the contents and recommendations of *Feeding Kansas*, a number of whom are named below.

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The Kansas Rural Center is proud to serve as one of five organizations participating in the Statewide Partnership for a Healthier Kansas, an initiative of the Kansas Health Foundation to advance the goal of making healthful foods the routine, easy choice for all Kansans.

Through our Community Food Solutions Initiative, KRC is advancing what may seem like an obvious solution to this challenge: engaging our own farms in feeding our own people, thereby potentially improving economy, community, environment, and health for us all.

Feeding Kansas: Statewide Farm & Food System Assessment with a Plan for Public Action is our first step in this three-year initiative and represents the coming together of grassroots Kansans from across the state to examine the barriers and opportunities in our farm-to-fork system.

With this report, we follow the lead of several fellow farm states by providing an in-depth look at these issues. After a year of engagement across our state, we conclude that **Kansans from all walks of life, including policymakers, communities, and farmers, must work together to take critical action for local and statewide farm and food systems development.** Our lives, our communities, and our economic prospects for the future depend on it.

It is fitting that we are releasing this report in 2014, which marks the 35th anniversary of the Kansas Rural Center. KRC has been working on the questions presented within this report since 1979, together with many partners laying the groundwork leading to this landmark initiative. Indeed, as the credits and appendices reveal, many of those involved in this report have worked on these questions for years, if not decades.

As we have learned over the years, many issues must be addressed to achieve a Kansas farm-to-fork vision for the future. In fact, food is a community endeavor, and as the title of our project states, it's the community that must ultimately join its farmers at the table to be part of Kansas farm and food solutions.

In *Feeding Kansas*, it is our sincere pleasure to join our partners in providing this roadmap for farmers, policymakers, and communities to chart a path forward that will yield the most successes, most quickly, in providing Kansans with an abundance of healthful food. We hope you will join us on this journey toward ensuring that our own farmers are a part of the solution to feeding Kansas.

A handwritten signature in black ink, appearing to read "Julie Mettenburg".

Julie Mettenburg, Executive Director
Kansas Rural Center
November 2014

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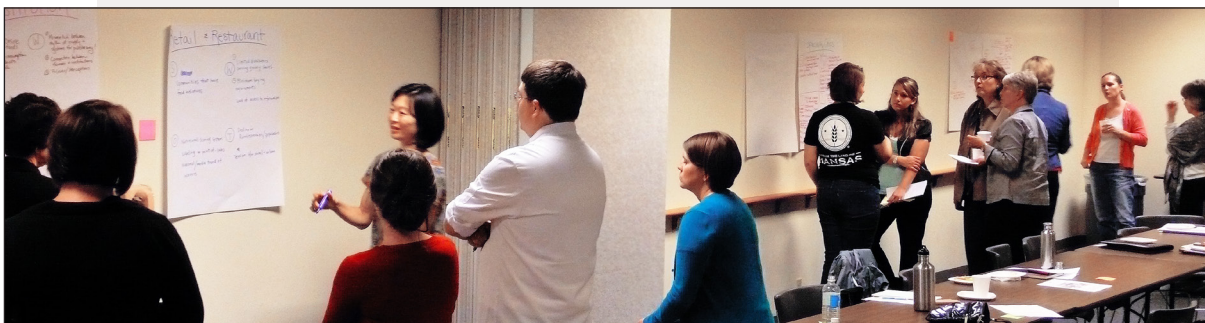
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Executive Summary: *Feeding Kansas*

A 2014 Kansas Rural Center report prepared by Cole Cottin

For more information, please visit www.kansasruralcenter.org

INTRODUCTION

Despite Kansas's important role in agricultural production for national and global markets, people with limited access to quality food due to distance and economic factors live in all 105 Kansas counties. A 2010 Healthy Eating Index assessment found that more than 92 percent of Kansans are consuming a nutritionally imbalanced diet (USDA, 2010).

In a state that prides itself on “feeding the world,” we currently struggle to adequately feed and nourish ourselves. Statewide efforts to respond to the global food crisis cannot be sustained unless we address the crisis at home – *feeding the world includes feeding ourselves*. As a leader in global food systems, Kansas's local food system can and should provide a model of well-being and success for others.

Increasing consumption of healthful foods raised by Kansans for Kansans would have significant economic and health impacts. Keeping more Kansas food dollars in Kansas would strengthen the local economy, create jobs, and improve economic access to healthful food (Black, 2009; Martinez, et al., 2010; Bagi & Reeder, 2012; Crossroads Resource Center, 2014). Kansas agriculture disproportionately serves global and national markets, while the majority of the state's food dollars – more than 90 percent in 2012 – are spent on food from outside of Kansas. If every resident purchased just \$5 of food direct from Kansas farms each week, those farms would earn \$750 million in new revenue – according to research conducted by the Crossroads Resource Center (Meter, 2014). At current sales tax rates, that could equate to more than \$46 million in state revenue and up to \$15 million in local and county tax revenue (Tax-Rates.org, 2014).

The more avenues we have for channeling nutritious food to Kansans, the better. Many Kansas farms are located in areas designated as “food deserts” by the United States Department of Agriculture (USDA, 2014). These are areas where physical availability of healthful food is critically limited for a significant portion of the population. Increasing the number of farms raising healthful foods for sale in their communities could help bring those foods to areas where they otherwise are not available.

Strengthening the Kansas food system will help make healthful food the routine, easy choice for all Kansans. *Feeding Kansas* calls for the advancement of a “farm-to-fork” food system that better incorporates Kansas farms into the supply chain that provides healthful foods to Kansans. The report and its recommendations are the product of more than a year spent engaging hundreds of individuals across Kansas in dialogue about current opportunities and barriers in the farm-to-fork food system, with a goal of improving access to and use of healthful foods for all Kansans.

Kansas communities are key to solving Kansas food issues. Every community exists within its own unique context and with unique resources and needs. Therefore, community involvement is critical to identifying and implementing successful solutions. Community engagement created the *Feeding Kansas* report. Now, Kansans from all backgrounds must work together to advance the key identified goals and policy priorities laid out in this report.

Policy solutions are critical, because lasting change occurs at the policy level. When we change our public policy environment, we codify the changes that we make, enabling them to be sustained over the long term. When we engage the broad public in the process of defining and implementing those changes, we ensure those changes, once implemented, will meet the needs of and have support from diverse groups.

We must increase public and policymaker support for policies that enhance the quality of and access to healthful foods for Kansans. *Feeding Kansas* offers a vision, assessment, and roadmap to success for all who are interested in strengthening Kansas's farm-to-fork food system to better meet these needs in Kansas. This report calls on everyday Kansans and policymakers to build more partnerships and take on greater leadership to improve the farm and food environment at the state and local level. Any reader who comes across this report has the power to make a difference, but the greatest potential for change lies in widespread and unified public engagement and support.

Fruits and vegetables are the focus of five of the seven policy priorities recommended in this report. This is because, though nutritionally-adequate diets must include a balance of whole grains and diverse protein sources along with fruits and vegetables, both production and consumption of these "consumer" or "specialty" crops fall significantly short in Kansas.

BACKGROUND

The Kansas Rural Center (KRC), an organization of farmers and those who serve them, has been a leader in food and farming systems, community engagement, and policy change work in Kansas since its inception in 1979. KRC promotes a farming and food system that is economically viable, ecologically sound, and socially just. In 1982, KRC researched and published its first report about local food production for Kansas consumption, documenting the historical production of fruits and vegetables and making recommendations. Many of the report's findings and recommendations remain relevant today, thirty-two years later (see APPENDIX: Literature Review for details). Subsequent KRC publications and projects have continued to build upon and respond to those early findings.

KRC has helped inspire increased civic engagement and leadership in work that connects health, farm, and food system issues. For example, KRC led the charge in forming a number of food policy councils in Kansas, including the former statewide Kansas Food Policy Council under Governor Sebelius (2005) and the Douglas County Food Policy Council (2009). The Rolling Prairie Farmers Alliance is another example of a multi-stakeholder collaboration that grew from KRC work, providing weekly bags of nutritious food to Kansans through a subscription service.

In 2012, KRC and a number of other Kansas groups received clear direction about next-steps needed for work on these issues from participants in the KRC-hosted statewide Agriculture and Health Summit.

In July 2013, KRC joined four other organizations in a Statewide Partnership aimed at identifying and advocating for public policy solutions that make healthful foods the routine, easy choice for all Kansans. The other partners include: KC Healthy Kids, Kansas Action for Children, Kansas Alliance for Wellness, and Healthy Kansas Hospitals.

Through the Statewide Partnership, KRC launched the "Community Food Solutions for a Healthy Kansas" initiative.

This initiative aims to identify and advance key public policy solutions to better incorporate Kansas farms into the supply chain that provides healthful foods to Kansans.

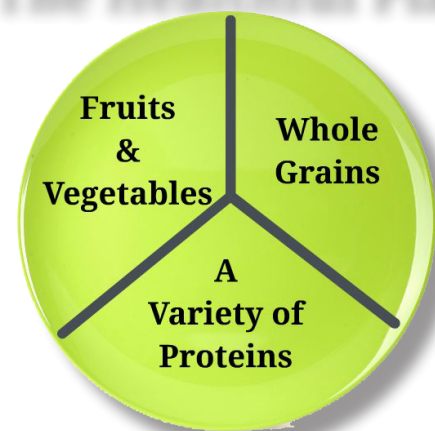
The Community Food Solutions initiative reflects a growing national and global awareness that the literal roots of our food system, our farms, are key to improving food access and increasing healthful food use. *Feeding Kansas* is one of several farm-to-fork statewide plans nationwide. The methodology for this report is modeled after those with the greatest relevance to the circumstances we face in Kansas. These include Iowa's *Local Food and Farm Plan*, North Carolina's *From Farm to Fork: Building a Sustainable Local Food Economy in North Carolina*, and the Oregon Food Bank's Food, Education, and Agriculture Solutions Together (FEAST) program. These and other food system assessments nationwide and globally have found that the issues of healthful food access and use cannot be adequately solved *without* involving farms (FAO-UN, 2014). In other words, farms are a critical underpinning to the success of the food system as a whole.

The *Feeding Kansas* report captures KRC's findings after more than a year spent engaging with hundreds of community members, farmers, policymakers, and others across Kansas in dialogue about the capacity of the state's farm and food system to more effectively feed and nourish Kansans

SUMMARY OF THE KANSAS FARM & FOOD SYSTEM ASSESSMENT

Feeding Kansas points to inadequate access and insufficient consumption of healthful foods as significant issues in Kansas, and highlights key policy solutions to better enable Kansas farms and communities to address these issues. KRC defines "healthful foods" as a balanced diet of fruits, vegetables, whole grains, and a variety of different proteins. The report explains that in order for Kansans to achieve optimal nutritional health, we must simultaneously achieve: physical availability, social and economic access, and regular utilization of each of these healthful foods. Very few in Kansas have achieved all three – less than 8 percent of the population, according to a statewide Healthy Eating Index survey (USDA, 2010).

The Healthful Plate



The assessment highlights and elaborates on the following four key barriers currently limiting the capacity of Kansas farmers to provide a diverse selection of healthful foods direct to Kansans:

- **Inadequate local- and state-level coordination, planning, and resource allocation** to support and sustain Kansas's farm-to-fork food system;
- **Lack of regulatory clarity** in regards to state-level policies that impact the farm-to-fork food system;
- **Lack of a central location for finding farm-to-fork related policy and program information**, across government and nongovernment sectors;
- **Limited information, resources and protections for the production, handling, and sale of fruit and vegetable crops in Kansas**, with its particular weather and other production challenges.

Feeding Kansas emphasizes that boosting farm-to-fork connections will not only increase the volume of healthful food available to Kansans, it will also help strengthen the state's economy by supporting its most important industry – agriculture – and Kansas farm families, many of whom are low income.

RECOMMENDATIONS AT A GLANCE

The priority policy recommendations outlined below respond directly to the key barriers identified above. They are organized by their goal outcomes, and are intended for enactment by June 2016.

For further detail and explanation, see the “Recommendations Explained” section of this report.

GOAL 1: INCREASE OPPORTUNITIES TO IDENTIFY AND ADVANCE COMMUNITY FOOD SOLUTIONS AT THE LOCAL LEVEL.

***Policy Lever 1:* Local food policy councils and food and farm task forces across Kansas should be supported by state and local government policies and programs.**

Need: Local task forces or councils can be powerful tools for governments to receive guidance on the multifaceted issues facing the communities they serve.

GOAL 2: IMPROVE CLARITY AND COORDINATION OF FARM-TO-FORK FOOD SYSTEM POLICIES, PROGRAMS AND PLANNING.

***Policy Lever 2:* A high-level, independent statewide farm-to-fork food system organizer position should be created.**

Need: A new position is needed to work independently from and across state agencies to lead the process of actively streamlining farm and food system regulatory and other information exchange, and centrally managing the facilitation, enactment and maintenance of a statewide farm-to-fork food system plan over the long term.

GOAL 3: PROVIDE SUPPORTS TO INCREASE PRODUCTION AND CONSUMPTION OF FRUITS AND VEGETABLES IN KANSAS.

***Policy Lever 3.1:* Procurement policies should prioritize Kansas grown fruit and vegetable purchasing at state and local government agencies and in public institutions.**

Need: Adopting such policies across state agencies and institutions would drive growth in production and consumption of Kansas-grown fruits and vegetables in Kansas by influencing distributors to purchase more Kansas-grown foods and providing other economic levers.

***Policy Lever 3.2:* A statewide Fruit and Vegetable Agricultural Economist position should be created through K-State Research and Extension, with support from county and state public funds.**

Need: Kansas leaders and policymakers need clearer data to better understand the economic potential for and impact of different scales and types of fruit and vegetable production in Kansas. Existing and potential farmers, local food processors and distributors also need that information to guide their business planning and operations.

***Policy Lever 3.3:* Multiple Regional Fruit and Vegetable Extension Specialist positions should be created through K-State Research and Extension Horticulture Program, with support from county and state public funds.**

Need: To advance commercial fruit and vegetable production and sales in Kansas, farm and food business entrepreneurs need significantly more research-based information and high-level technical support than is currently available.

***Policy Lever 3.4:* Kansas’s horticultural research stations should receive stable, public funding.**

Need: In order to support the long-term research needed to increase the production and sale of fruits and vegetables in Kansas, horticulture research stations need stable public funding to sustain a baseline budget for maintaining grounds, equipment, perennial plantings, and more.

***Policy Lever 3.5:* An herbicide injury (spray “drift”) task force should be created to gather and share data and information on herbicide injury to sensitive crops in Kansas.**

Need: Despite efforts to reduce the risk of crop injury or loss without compensation, Kansas producers cite herbicide drift as a key barrier to scaling-up their fruit and vegetable operations. A multi-stakeholder task force is needed to collect data and to identify key policy solutions to this complex problem.

Vision for Kansas's Farm-to-Fork Future

At the start of this project and each of the public convenings KRC provided the following basic vision for the farm's role in making healthful foods the routine, easy choice for all Kansans:

“We envision a Kansas food and farming system that will increase our residents’ access to and consumption of fruits, vegetables, whole grains, and a variety of protein sources – both at home and in food outlets.”

Throughout the year, as the convenings proceeded and the project evolved, people across Kansas and across sectors of the food system added to this vision. Together, they filled in the details for their hoped-for future:

The Kansas farm-to-fork food system will be driven by...

- Producers of healthful foods, and the communities in which they live;
- A clear and transparent policy environment, committed to cultivating and sustaining strong supports for the Kansas farmers and producers that provide healthful foods to Kansans;
- Many state- and community-level partnerships, formed across Kansas and across government and nongovernment entities, working collaboratively to advance strategic farm-to-fork solutions;
- A place-based approach adapted to the unique features of Kansas's diverse ecological and social landscape and the unique needs and resources within each region and community;
- Elected officials who understand and support this vision with policy action.

Kansas's farm-to-fork food system will make diverse, healthful foods increasingly available through...

- A consistently abundant supply of those foods, grown and raised by Kansans for Kansans;
- Adequate venues for obtaining healthful foods across Kansas;
- Economic viability for the local farms and food businesses that supply healthful foods to Kansans;
- Protection of the diversity of foods that can be produced in Kansas;
- Protection of the ecological resources needed to sustain Kansas's food supply over the long term;
- Development of a food supply that promotes optimum health, and food safety regulations that are understood and practical for Kansas's farms and local food processors and distributors to follow;

accessible through...

- Making healthful foods the core supply in food pantries and other charitable food sources;
- Addressing food inequalities by ensuring food assistance and related services connect access-challenged individuals to healthful foods grown in and around their communities;
- Making healthful foods more affordable than calorie-dense, nutrient-poor foods;
- Healthful foods becoming a well-understood and regular part of daily life in Kansas households of all types;

and utilized by ensuring...

- Healthful food are the easy choice at home and to enjoy in other food outlets;
- Seasonal, healthful foods are sourced locally year-round by food outlets of all types - including retail sources, restaurants, delis, schools, hospitals, private cafeterias, and other institutions
- A culture of enthusiasm for healthful, local foods becomes widespread;
- Cultural traditions for utilizing healthful foods are revived and normalized;
- Healthful food is seen as a central ingredient in preventive medicine and health care for Kansans, as encouraged by health professionals of all backgrounds;
- Kansas food businesses express pride in local, wholesome foods throughout their branding and promotions.

Methodology of this Initiative

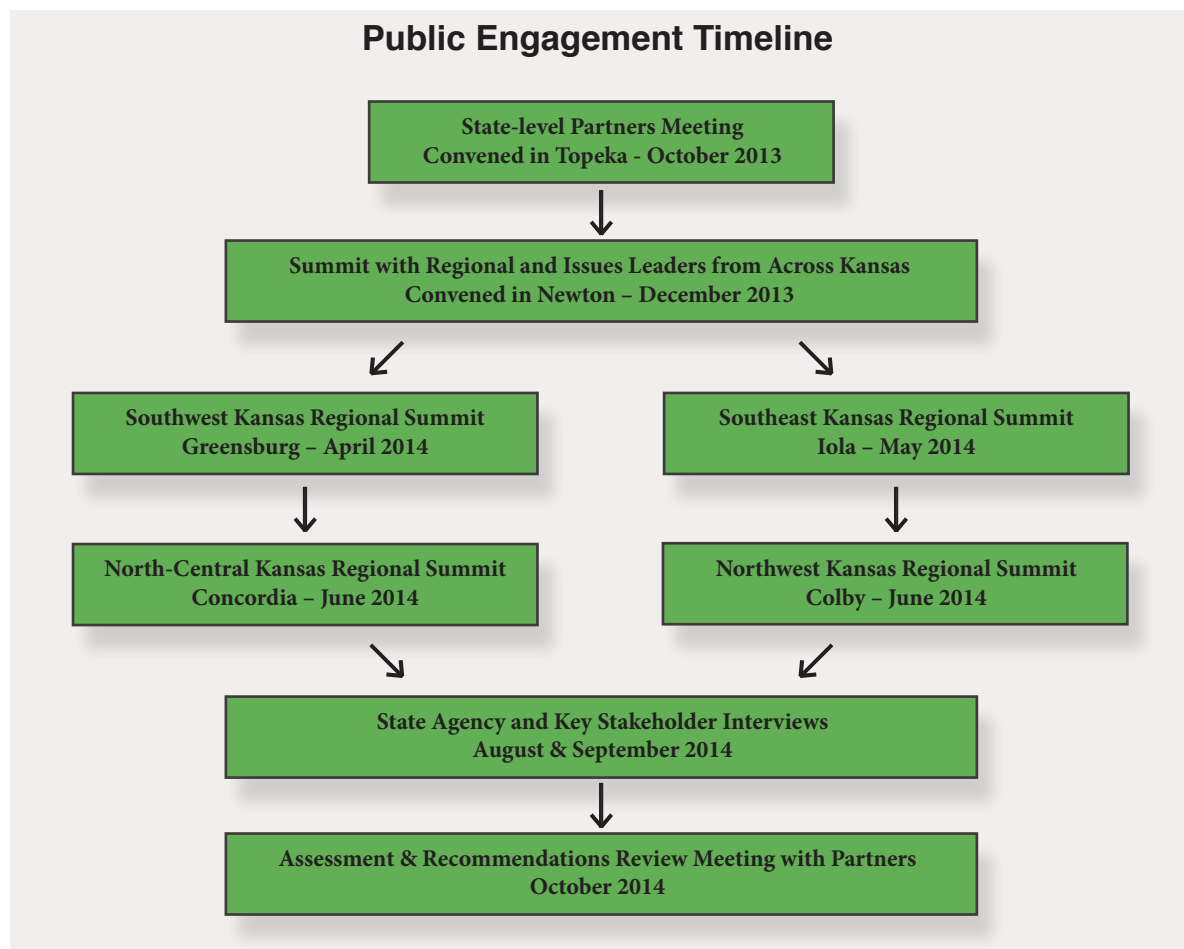
The methodological design of this initiative's assessment and report draws from similar, successful initiatives in states such as Iowa and North Carolina (Leopold Center, 2011; Curtis, 2010). Each of these initiatives involved engaging wide-ranging stakeholders from across the state and local food system in facilitated dialogue about key issues related to healthful food access and consumption. The resulting reports reflect an extensive diversity of perspectives representing a broad swath of the states' residents. This approach is deemed critical to ensuring any resulting recommendations are true responses to the on-the-ground realities in those states, and will have strong support from multiple sectors of the population.

Feeding Kansas developed out of an iterative process of stakeholder engagement and qualitative research, conducted by the Kansas Rural Center. This process involved the broader public by activating a three-tiered partners network

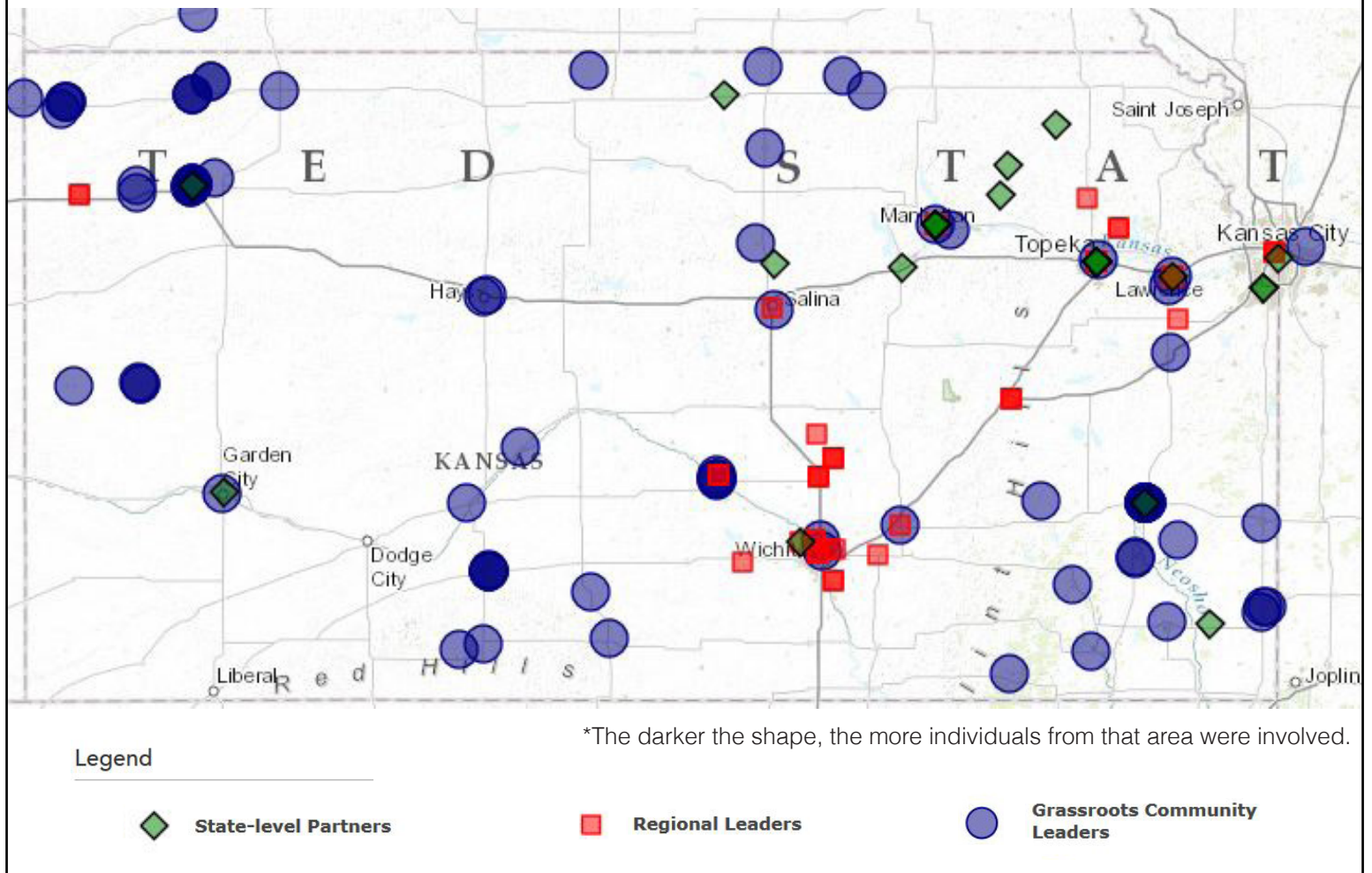
(pictured on the next page) one tier at a time, drawing upon the experience and knowledge of 275 stakeholders from across food system sectors at six public events around the state in 2013 and 2014. Participants at these events represented all regions of Kansas and all sectors of the farm-to-fork food system. Events also included health experts, educators, business and economic advisors, and more. At each event, KRC revealed the findings from conversations at previous events,

in order to avoid redundancy and ensure each new conversation delved deeper into the issues than the previous event. KRC also shaped the dialogue at each summit event around topics especially relevant to the unique features and challenges of the region where that summit was conducted.

Upon completion of the public engagement process, KRC conducted private interviews with 25 representatives from multiple state agencies, in order to pursue answers to specific questions that came up during the public events.



KRC Three-tiered Partners Network Engagement Map



Hundreds of pages of notes from more than a year of group and one-on-one conversations were analyzed by the KRC team, with technical support from the Public Health Law Center at the William Mitchell College of Law, St. Paul, Minnesota. Technical support included: research into existing related state and local government policies in Kansas, an analysis of the relevance of government policies from other states, a review and feasibility assessment of the proposed policy recommendations, creation and sharing of key resources to support farm-to-fork food system development within Kansas, and coordination of KRC efforts with other partner organizations (see list within the opening pages of this report).

In addition, KRC conducted a literature review of prior Kansas food and farm system regional and statewide studies, including many of KRC's prior reports, to ensure the *Feeding Kansas* analysis builds upon and advances the work that has come before. And finally, KRC staff, board of directors, and state-level partners provided critical input and review with the benefit of their many years dedicated to this work across the farm and food spectrum in Kansas.

KRC's final analysis yielded three key goals with seven public policy recommendations. These are respectfully presented herein to the people of Kansas, as immediate priorities for growing the state's farm-to-fork food system and helping to make healthful foods a routine, easy choice for all Kansans.

Over the coming two years, the Kansas Rural Center will work with many partners and a growing grassroots network to advocate for the enactment of the public policy recommendations set forth in this report.

The Food System

Our food choices impact every aspect of our society and economy

How we currently get food from the farm to our plates is a mystery to many of us. Food distribution and procurement is a global system. It encompasses farmers, eaters, and all of the industries that link them together. Decisions are made every day by our local governments, businesses, and organizations that influence where our food is grown, how it is prepared, distributed, and served.

Local food systems are composed of all of the interdependent steps and actors that go into producing food that is grown and raised in a region. This includes planting, harvesting, storing, transporting, processing, packaging, and retailing of food.

Consumers seeking out locally grown food is an emerging trend in our region.

From the phenomenal growth in farmers' markets in our country, to the growing interest in school gardens, to the restaurants and grocers selling local foods — members of our community care about what they eat and how it impacts the place they call home.



WELLNESS

The healthy (or not-so-healthy) foods we choose impact our individual health and can create burdensome healthcare costs for all.

EQUITY

Not all members of our community have equal access to healthy, quality foods — leaving them vulnerable to food insecurity and malnutrition.

ECONOMY

Where we buy food shapes our local economy. Buying locally-grown foods supports local farmers, and helps small and mid-sized agribusinesses create new jobs.

ENVIRONMENT

Food production and shipping can impact our landscapes and quality of life.



September, 2014

Content for this publication was provided by the Douglas County Food Policy Council and reformatted by the Public Health Law Center at William Mitchell College of Law, St. Paul, Minnesota, with funding from the Kansas Health Foundation.

The Public Health Law Center provides information and technical assistance on issues related to public health. The Public Health Law Center does not provide legal representation or advice. This document should not be considered legal advice. For specific legal questions, consult with an attorney.

Kansas Farm & Food System Assessment

The following assessment begins by describing the current status of the physical availability, economic access, and consumption of healthful foods in Kansas. Next, the assessment brings together a number of statistics to tell the story of Kansas food production for global, national, regional, and local markets. To conclude, the assessment highlights key barriers that must be addressed in order to strengthen the capacity of Kansas farms to provide healthful foods direct to Kansas communities.

In all cases, “healthful food” refers to the full spectrum of food types required to achieve a balanced nutritional diet. These are pictured in The Healthful Plate image on page 5.

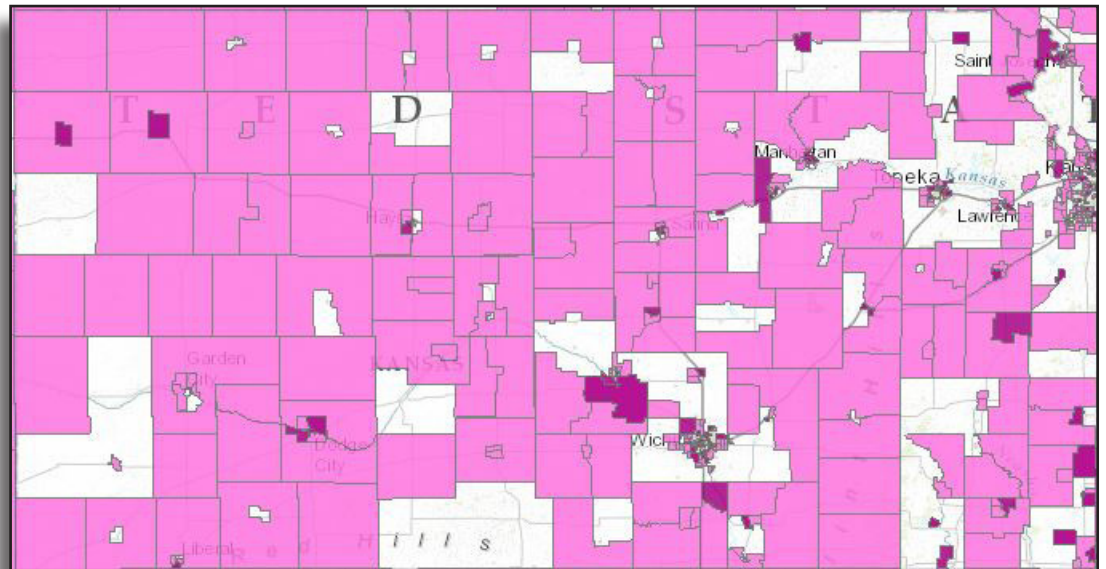
PHYSICAL AVAILABILITY OF HEALTHFUL FOOD IN KANSAS

You are what you eat, and you eat what is available.

Though agricultural production is booming in Kansas, across the state a significant number of community members find that the full spectrum of the “healthful plate” is not readily available to them, due to distance and transportation issues.

The USDA Food Access Research Atlas map below demonstrates that residents in more than 92 percent of Kansas counties face limited physical availability of healthful food – requiring travel of 10 miles or more in rural areas, and 1 mile or more in urban areas (light pink) – and in 25 percent of those counties, a significant number of households lack access to transportation (dark pink). When we expand that range, we find that residents in 58 percent

Areas with limited physical availability of healthful food



(USDA, 2014)

of Kansas counties must travel 20 miles or more to a healthful food source, and 43 percent of these more distance-challenged counties find transportation is limited for a significant number of households. Most of Kansas's highly challenged counties are predominantly rural, including 12 where the entire county is deemed to have limited-access to healthful foods (USDA, 2014). These landscapes are dominated by agricultural production that serves national and global markets.

The issue of physical availability of healthful foods continues to worsen in Kansas. In 2012, only 51 percent of Kansas's 675 cities had a supermarket (Janke & Johnson, 2012). Between 2007 and 2012, 82 of the 213 supermarkets in communities with populations less than 2,500 closed their doors, according to researchers from Kansas State University's Rural Grocery Initiative. Distribution trucks full of food drive by

rural communities without stopping, when rural grocers do not have enough volume to meet the mandatory minimum orders the food distributors set. Even if grocers can meet the minimum order, the cost of the food is higher for them and in turn less attainable for low-income populations (RGI, 2014). Higher prices can lead those willing to travel to supercenters many miles away in search of lower prices.

Meanwhile, nutrient-poor and calorie-dense, highly processed foods are amply channeled to Kansans through vending machines, fast food chains, convenience stores and gas stations. In some locations in both rural and urban areas, these are the only nearby food outlets.

ECONOMIC ACCESS TO HEALTHFUL FOOD IN KANSAS

THE ISSUE AND STATUS OF ECONOMIC ACCESS TO HEALTHFUL FOOD IN KANSAS

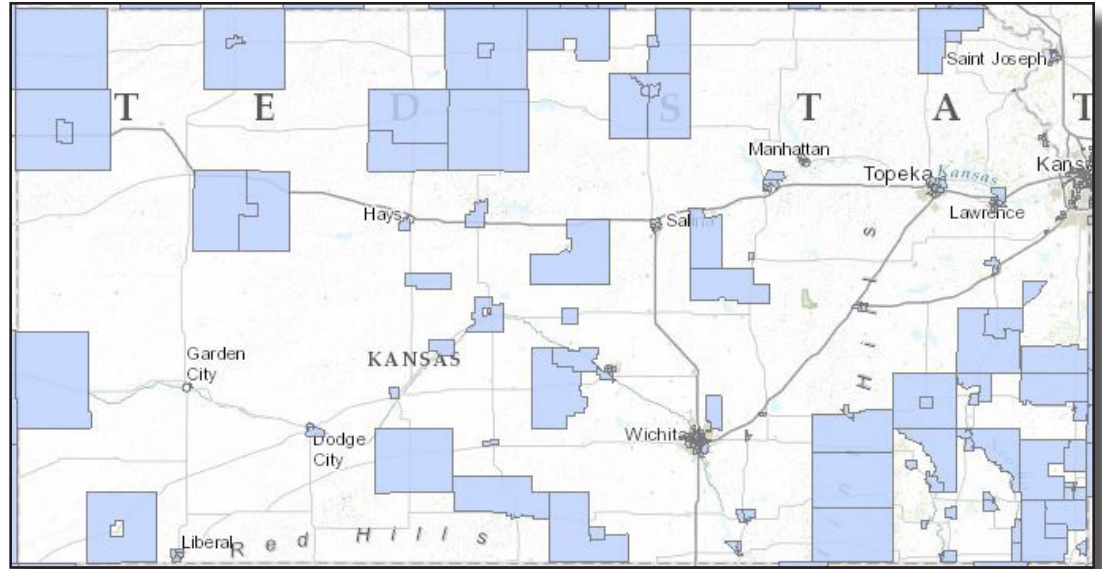
Economic access refers to financial resources available to physically access, purchase, and/or utilize healthful foods. There are a number of reasons why individuals and families with limited economic access may find themselves consuming imbalanced diets. These reasons may include:

- **Inability to afford food in general;**
- **Higher price premiums on healthful foods, in certain locations.** This is often the case at convenience stores and in low-income areas, sometimes due to food distributor policies that increase food prices for retail outlets moving smaller volumes (Hakim & McKenzie, 2011). The 2013 Wichita Community Foods Assessment notes that: “Convenience stores offer the most expensive fresh produce options. Bananas, for example, are almost four times more expensive in convenience stores than at grocery stores or super centers” (Hakim, 2013). This issue is significant in a state where 51 percent of cities have no supermarket, and grocery stores are closing at an alarming rate (Janke & Johnson, 2012; RGI, 2014);
- **Belief that healthful foods are always more expensive.** Healthful foods are not always more expensive. For example, when you shop at certain food outlets (see above) or when you calculate food cost based on nutritional value rather than calorie count (to make nutrition-based cost comparisons easier for consumers, groups like NuVal now offer grocers nutrition-based food rank labeling systems). While food prices are on the rise nationally, the price of certain healthful foods are actually rising more slowly than others. Between 2006 and 2011, “average consumer prices for fruits and vegetables in fact increased less than prices of the total food category, but consumption levels fell” (Rabobank, 2013);
- **Limited access to transportation** due to economic situation. This provides an obstacle to physically obtaining healthful foods even if they can be sourced affordably;
- **Limited experience with or training to efficiently prepare low-cost healthful foods at home.** This can be compounded by the need to work excessive hours to get by and/or inability to access quality education on how to prepare healthful foods or cook in a safe environment;
- **Cooking tools or appliances** may be unaffordable to obtain or upkeep, which can increase reliance on pre-processed, convenience or take-away food;
- **Convenience and ease of access to calorie-dense, nutrient-poor foods.**

Low income compounds physical availability issues in 51 percent of Kansas counties where residents face healthful food distances greater than 10 miles in rural areas, or one mile in urban areas. That number increases to 57 percent in counties where a significant number of residents must travel 20 miles or more to obtain healthful food.

Areas with low income and limited physical availability

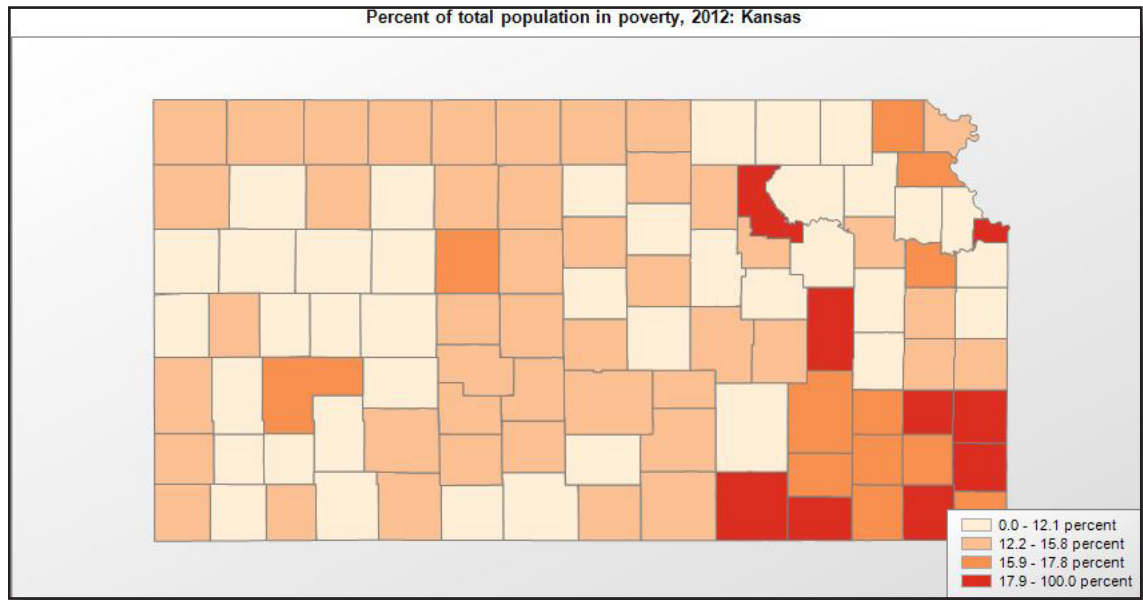
Low-income areas on this map, for the purposes of USDA's Food Access Research Atlas, are defined as census tracts with either: a poverty rate greater than 20%, a medium family income less than or equal to 80% of the statewide median family income, or, for metropolitan areas, a median family income less than or equal to 80% of the metropolitan area's median family income.



(USDA, 2014)

ORGANIZATIONS AND PROGRAMS RESPONDING TO ECONOMIC ACCESS ISSUES IN KANSAS

Many groups and organizations actively work to address the mounting issues of poverty and low-income that obstruct economic access to healthful foods in Kansas. The Kansas Association of Community Action Programs (KACAP) is an example of an organization that works with several member organizations under the common goal of fighting poverty in Kansas. The group holds an annual statewide conference on



(USDA-ERS, 2012)

poverty. Several state and local government agencies also work to address these issues. In 2014, many of these organizations and agencies joined farmers and other partners in issuing the *Kansas Health Assessment and Improvement Plan*, through the Healthy Kansas 2020 Steering Committee (HK2020, 2014).

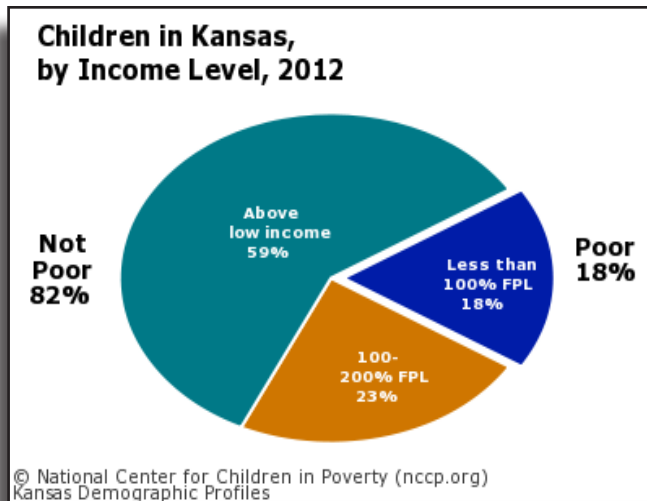
The following are examples of programs and policies aimed at increasing economic access to healthful foods among low income Kansas families and individuals:

- **National School Lunch Program** offers free or discounted breakfast and lunch to students from households at or below 185 percent of the federal poverty level. Nearly 1,700 Kansas schools and residential childcare institutions (RCCIs) participate in the National School Lunch Program, to provide healthful foods at least twice per weekday to children of families with economic access challenges, during

times when school is in session. About one in five Kansas children live at or below 100 percent of the federal poverty level.

• **Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)** is a federal nutrition program managed locally by the Kansas Department of Health and Environment. The program provides nutrition and health education, healthful food and other services to Kansas families who qualify. These families may earn up to 185 percent of the federal poverty level.

A 2009 national WIC policy change led to increased consumption of fruits and vegetables among participating families. The changes include offering financial incentives to families for purchasing fresh, frozen, or canned fruits and vegetables. As a result, WIC recipient “purchases of fresh vegetables increased in volume by nearly 18 percent, and purchases of frozen vegetables increased by nearly 28 percent. The biggest improvements were for fresh fruit, with an increase of almost 29 percent, adding almost a kilogram of fresh fruits per household per month” (Yale, 2014).



Federal Poverty Guidelines for FFY2014

Size of family unit	100 Percent of Poverty	110 Percent of Poverty	125 Percent of Poverty	150 Percent of Poverty	175 Percent of Poverty	185 Percent of Poverty	200 Percent of Poverty
1	\$11,490	\$12,639	\$14,363	\$17,235	\$20,108	\$21,257	\$22,980
2	\$15,510	\$17,061	\$19,388	\$23,265	\$27,143	\$28,694	\$31,020
3	\$19,530	\$21,483	\$24,413	\$29,295	\$34,178	\$36,131	\$39,060
4	\$23,550	\$25,905	\$29,438	\$35,325	\$41,213	\$43,568	\$47,100
5	\$27,570	\$30,327	\$34,463	\$41,355	\$48,248	\$51,005	\$55,140
6	\$31,590	\$34,749	\$39,488	\$47,385	\$55,283	\$58,442	\$63,180
7	\$35,610	\$39,171	\$44,513	\$53,415	\$62,318	\$65,879	\$71,220
8	\$39,630	\$43,593	\$49,538	\$59,445	\$69,353	\$73,316	\$79,260

For all states (except Alaska and Hawaii) & for the District of Columbia. (USDA Health & Human Services, 2013)

include fruits, vegetables, honey, and fresh-cut herbs. In Kansas, the program is managed by the Kansas Department of Health and Environment (KDHE).

KDHE’s implementation of SFMNP serves about 5,000 Kansans during their “golden years,” by providing up to \$30 in food vouchers per year per eligible person. In 2014, this included about \$142,000 in vouchers reimbursable for fruits, vegetables, herbs and honey at Kansas farmers markets. Limited funding is the biggest barrier to reaching more than 10,000 additional eligible low-income seniors with these benefits (Randles, 2014).

• **Supplemental Nutrition Assistance Program (SNAP)** is a federal nutrition program managed locally by the Department for Children and Families. The program provides qualifying low-income households, at or below 130 percent of the federal poverty level, with food benefits and education on food preparation and nutrition. In Kansas, this program is called the Food Assistance Program and food benefit dollars, formerly

Kansas could improve WIC recipients’ access to fruits and vegetables, as other states have, by integrating the program with the existing Electronic Benefits Transfer (EBT) system that enables SNAP food benefit dollars to be used with local farms.

• **Senior Farmers Market Nutrition Program (SFMNP)** is a federal program that channels grant funds to state and tribal governments to provide qualifying seniors, at or above 185 percent of the federal poverty level, with coupons that can be exchanged for eligible foods direct from local farms. Qualifying foods

known as “food stamps” are made available through Benefit Cards that function similar to credit cards.

In Kansas, mobile Electronic Benefit Transfer (EBT) equipment helps link customers with Benefit Cards or credit cards to products at farmers market and/or from individual farmer vendors. Markets and vendors may apply to receive and use free EBT equipment.

A “SNAP” Match Pilot Program launched in 2014 to provide Food Assistance Program participants an additional \$25,000 in matching dollars over 16 weeks – up to \$25 additionally to spend per person per day – for use at three farmers market in Lawrence. This program is made possible through the efforts of the Douglas County Food Policy Council, which helped coordinate a fiscal partnership between with the City of Lawrence, Douglas County, and a local nonprofit called LiveWell Lawrence. This example illustrates one potential role for local, broad-based task forces of community members.

Unfortunately, the rate of participation in Kansas’s Food Assistance Program is among the lowest in the nation – about 31 percent of those who are eligible for the program do not apply (Foodstamps.org, 2013; Shields, 2013). Only 10.6 percent of Kansans received food assistance benefits in 2012. This is despite the fact that 14 percent of Kansans live at or below 100 percent of the federal poverty level, and eligibility for assistance is set at 130 percent of the federal poverty level (Governing.com, 2013).

Stigma, or negative perceptions of low-income/food assistance status, is a significant barrier limiting participation in programs that provide food benefits such as those outlined above, according to participants in the 2013 and 2014 farm-to-fork summits conducted for this project.

UTILIZATION OF HEALTHFUL FOOD IN KANSAS

Even for those who have physical availability and economic access to healthful foods, underlying obstacles prevent their consumption of a nutritionally-balanced diet. This is a major issue in Kansas.

The vast majority of Kansans do not eat a healthy diet. Less than 8 percent of surveyed Kansans reported consuming a nutritionally-balanced diet in a Healthy Eating Index survey conducted by the Kansas Health Institute in 2009 (USDA, 2010).

Most Kansans fall behind in consumption of produce, while grains and proteins are often over-consumed (and not necessarily in their ideal or most nutritional form). A Center for Disease Control study demonstrated that less than 25 percent of Kansans consumed the recommended daily amount of fruits and vegetables in 2009 – a number that was trending downward (KDHE, 2010).



(KLC, 2010)

Obesity, a condition related to malnutrition, is a growing problem affecting Kansas health.

Obesity, like the emaciation that comes from prolonged hunger, is recognized as a condition related to consuming a nutritionally-imbalanced diet. Many health conditions are made worse by the condition of

obesity (Haslam & James, 2005). The Governor's Council on Fitness – established in 2006 to promote a statewide response to prevent chronic disease and injury among Kansans – has hosted annual statewide Obesity Summits since 2012. In 2013, 30 percent of Kansas adults were obese (CDC, 2013). Over the next 20 years that percentage is projected to double. If food consumption patterns remain as they are, Kansas is on track to reach an adult obesity rate of 62.1 percent by 2030, making it one of the nation's most obese states (Levi, Segal, St. Laurent, Lang, & Rayburn, 2012).

According to those engaged through this assessment, the top five the most significant factors restricting Kansans from obtaining a nutritionally-balanced diet include:

- **Limited availability, marketing, and affordability of healthful foods;**
- **Widespread availability of well-marketed, highly processed, nutrient-poor and calorie-dense convenience foods;**
- **Social inequities** that limit access to the adequate income, food, and education needed to achieve a balanced diet,
- **The erosion of cultural knowledge** about the health value of different foods, and
- **The erosion of capacity to prepare healthful foods at home and in food establishments.**

The following list describes two key statewide entities and significant programs they offer to improve nutrition education and increase the utilization of healthful foods across Kansas:

- **Kansas State University Research and Extension (KSRE)**
 - o KSRE provides free nutrition education to individuals and families who receive food assistance or who are eligible to receive food assistance, through **The Family Nutrition Program (FNP)** (Kansas's version of the federal Supplemental Nutrition Assistance Program Education (SNAP-Ed)). KSRE County Agents and their assistants administer this program in over 80 counties. Funding for the program is administered by the Kansas Department for Children and Families (DCF).
 - o KSRE offers practical lessons in basic nutrition, food preparation, food budget management and food safety to young families and youth through the **Extended Food Nutrition Program**. This demographic is considered most at risk to suffer from hunger, food insecurity, and the inability to connect with available support systems.
- **Kansas Schools**
 - o **School Nutrition Standards** updates and the launching of the **Fresh Fruit and Vegetable Program** have helped create healthier school environments in Kansas by providing healthier food choices to students of all economic backgrounds (KSDE, 2014).
 - o **The Kansas Farm to School Program** works closely with Kansas schools and farms to help create stronger connections between children and local sources of healthful food. Kansas celebrates Farm to School Month and Kansas School Lunch Week by promoting healthful menus using local products in schools. In 2014, eight Kansas schools received Farm to School grants to incorporate local products into their school nutrition programs, through a federal program administered by the Kansas Department of Agriculture.

Existing programs are crucial but, alone, they are not enough. Respondents across Kansas reported that Extension and schools alone cannot realistically reach every Kansan with the tools needed to adequately improve their food choices. A coordinated, collaborative effort across state agencies and communities, building on present successes, would extend the reach of those working to improve the nutrition of Kansans and their families.

An “all hands on deck” type approach is needed to successfully reverse poor-eating trends, and to increase the utilization of healthful foods in Kansas. This approach is already being implemented in Kansas by citizens of South Hutchinson and Allen, Crawford, and Douglas Counties, where individuals from diverse backgrounds have formed publicly-recognized food policy councils. These councils, like hundreds of others across the nation, are actively identifying and pursuing solutions to their communities’ food challenges. Due to the wide range of those challenges and differing needs from one locale to the next, it is a conclusion of this assessment that many additional local, community-based policy councils or task forces are needed to effectively “feed Kansas.”

AGRICULTURAL PRODUCTION AND SUPPLY CHAIN STATUS IN KANSAS

A HISTORICAL PERSPECTIVE

Kansas is one of the nation’s iconic farm states, with 90 percent of its 82,277 square miles in farmland and an agricultural industry that, in 2012, generated nearly \$18.5 billion in sales (USDA, 2012). So how is it that we face such significant food access and nutrition challenges?

Kansas farmers once produced a broad range of healthful, nutritious foods for their surrounding communities. In 1920, nearly three-quarters of 165,000 farmers in Kansas grew vegetables for their own tables and most produced vegetables for sale in their communities and region. However, a major shift in agricultural economics – shaped by farm consolidation and the vertical integration of the food industry – has dramatically altered how and where food is grown and made available to us. Decades of agricultural policies and programs have emphasized the production of a handful of agricultural commodities for the national and global marketplace, without providing equal resource and attention to serving local and regional markets, or to producing the countless other food and farm products once found in abundance in this state. The result has been an erosion of Kansas’s once-thriving diversified farming and food system.

*Artist Henry Worall painted **Drouthy Kansas** in 1878, to highlight the agricultural potential of the state and counter drought-inspired claims that Kansas was part of the “Great American Desert.” In the foreground, the painting depicts abundant harvests of grapes, watermelon, potatoes, sweet potatoes, and grains - while the background includes rain, flooding, and a rainbow stretching across the horizon.*

Image retrieved from the Kansas Historical Society



In recent decades, the number of Kansas farms and the diversity of Kansas agricultural products has declined dramatically. Most dramatic of all is the decreased production of so-called “consumer” or “specialty crops,” which include fruits and vegetables. In 1920, more than 30,000 farms had land in fruit or nut orchards. By 1950, the number of farms with orchards jumped to 43,000. However, six decades later, diversity of production has plummeted in Kansas. In 2012, only 441 farms in the entire state produced vegetables for sale, and only 489 still had land in orchards (USDA, 2012).

Today, the vast majority of food consumed within Kansas is imported from out of state, while the lion’s share of Kansas’s agricultural products are exported. Of the \$7.2 billion Kansans spent on food in 2012,

more than 90 percent went toward food produced outside the state (Meter, 2014). That same year, Kansas ranked 7th in agricultural exports among 50 states – with revenue from those exports totaling about \$4.9 billion (USDA-ERS, 2012). Nearly 97 percent of Kansas’s 2012 agricultural sales, almost all of which went out of state, were derived from grains, meat and animal products. This includes the following: cattle and calves (55 percent), wheat (13.4 percent), corn (12.4 percent), soybeans (6 percent), hogs (3.8 percent), sorghum (3.1 percent), and dairy (2.6 percent). In contrast, fruits, vegetables, and tree nuts represented a meager 0.15 percent of total statewide agricultural market value in 2012 (USDA, 2012).

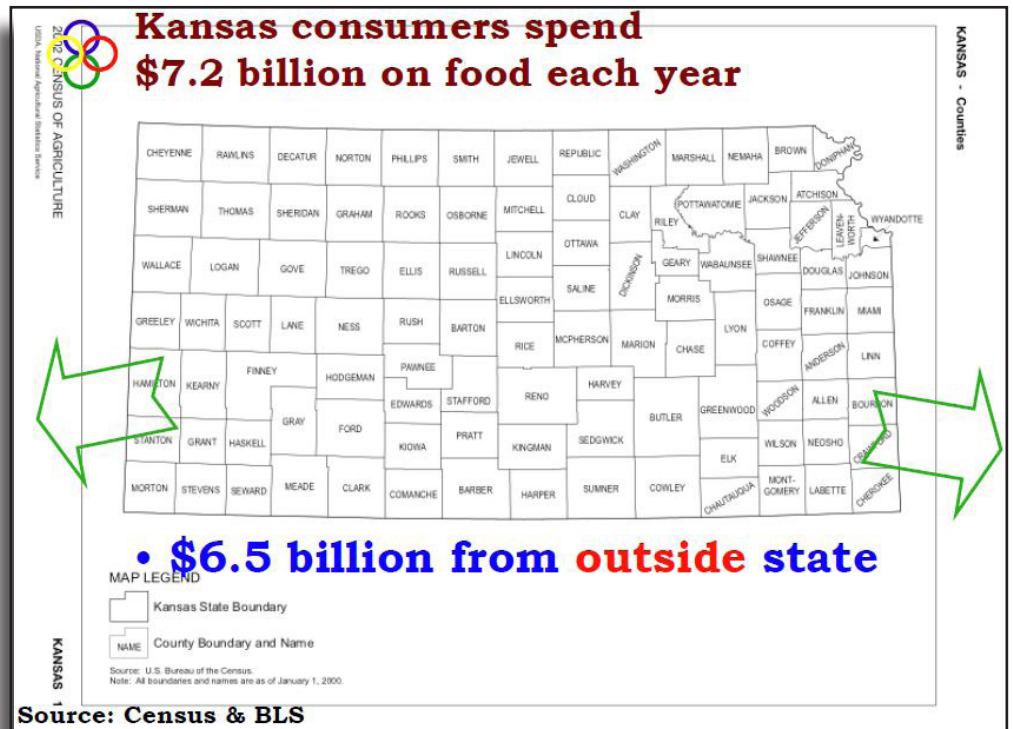
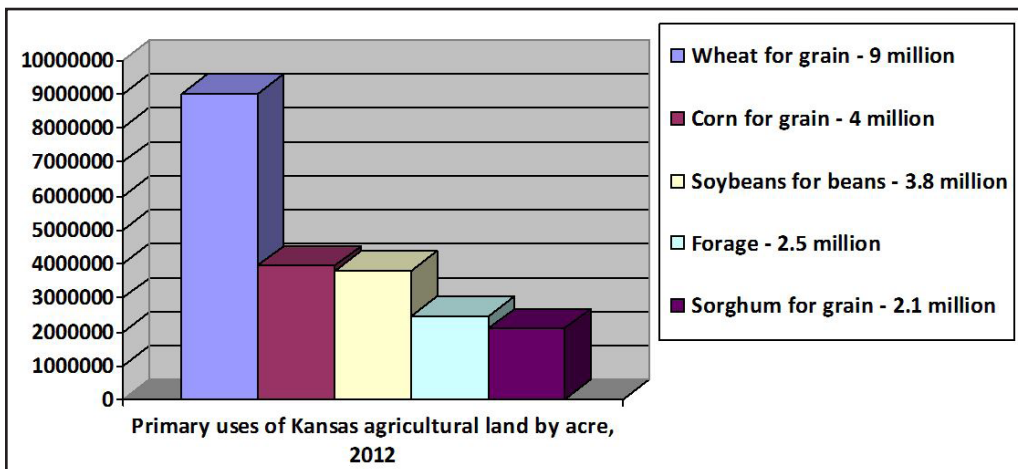


Image from Crossroads Resource Center (Meter, 2014)



KRC graphic based on data from the 2012 USDA Census of Agriculture

Both Kansans’ diets and Kansas’s agricultural landscape are deficient in fruits and vegetables, compared to other food and farm products. In 2012, 90 percent of Kansas’s harvested crop acres were devoted to growing the following four foods: wheat (9 million), corn (4 million), soybeans (3.8 million), and sorghum (2.1 million). Forage for livestock covered nearly 2.5 million acres. Meanwhile,

Average Kansas farm income per crop per acre

	Corn	Soybean	Wheat	Vegetables (Ave. of 16)
Gross Income	\$ 509	\$ 358	\$ 362	\$ 9314
Total Costs	\$ 372	\$ 220	\$ 254	\$ 6682
Net Income	\$ 137	\$ 138	\$ 108	\$ 2631

(Janke, 2012)

only 14,359 acres, 0.03 percent of Kansas farmland, were used to produce vegetables, berries, fruits and nuts.

Increasing production of fruits and vegetables for local markets would help diversify and thereby strengthen Kansas agriculture and the Kansas economy.

Kansans currently spend an average \$716.5 million on fruits and vegetables annually (Commons, 2014). It would take a mere 0.26 percent of Kansas's agricultural acres to produce enough fruits and

vegetables to meet that level of fruit and vegetable consumption (Janke & Johnson, 2012). At current sales tax rates, production at that level could equate to more than \$44 million in state revenue and up to \$14.3 million in local and county tax revenue (Tax-Rates.org, 2014). (It should be noted, however, that the fact that Kansas charges sales tax on food was a strong point of debate at this project's public convenings. Although outside the scope of this project, Kansas's food sales tax policy warrants careful and long-term examination by Kansans and their policymakers.) Transitioning Kansas crop acres to fruit and vegetable production could also result in increased net income for Kansas farms – as demonstrated by 2007 data from Kansas State University, shown in the table to the right.

Kansas farmers are among the lower-income members of the state.

In 2012, Kansas farmers netted a total \$2.9 billion less than they netted in 1969 (USDA, 2012). Farmer incomes are not only significantly lower than other industries, they are also not increasing at the rate of other types of employment (DCFPC, 2011). Consequently, the majority of Kansas farmers must work multiple jobs to subsist. In 2012, only 44 percent of Kansas farm operators cited farming as their primary occupation (USDA, 2012). In some areas of Kansas, agricultural workers' low-income is compounded by the challenge of lack of U.S. citizenship – which prohibits access to many services, including food assistance that could help alleviate

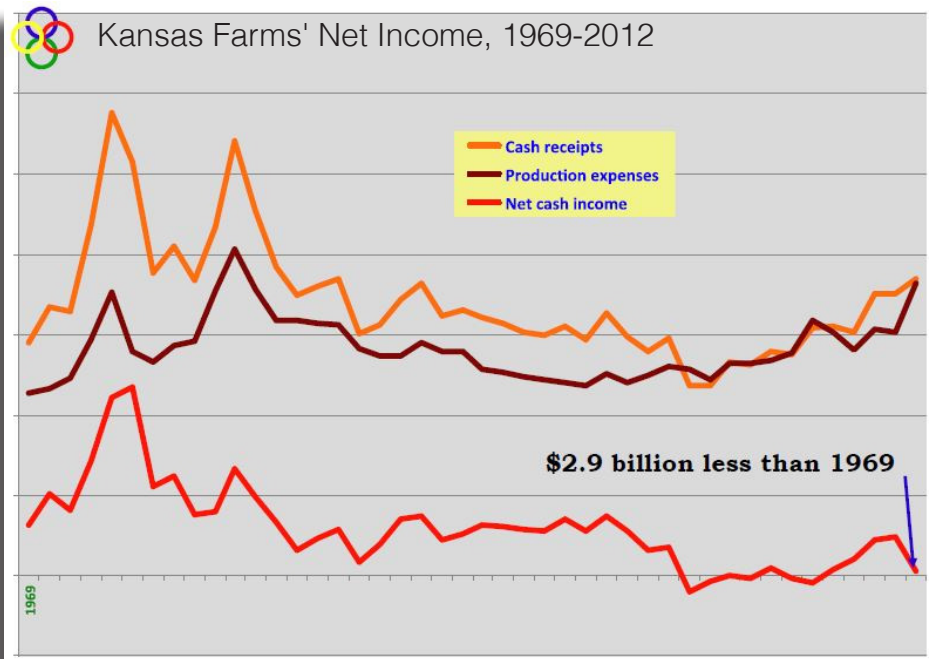


Image from Crossroads Resource Center (Meter, 2014)

food access challenges. Most farmers in Kansas are of course located in rural areas, many of which are designated as “food deserts” or areas with significantly limited healthful food access.

The irony that those tasked with feeding the world are included among those most challenged to acquire and use healthful foods was not lost among participants in the Kansas farm-to-fork summits that helped shape this report.

THE BOTTOM LINE

Two key strategies that Kansas farmers can implement to increase their “bottom line,” or net farm income, could have notable impacts on healthful food access and consumption in Kansas. These include: diversifying types of production and diversifying markets.

In terms of diversified agriculture, Kansas saw a significant increase in the production of fruits and an increase in the production of some types of vegetables between 2007 and 2012.

- Berry production increased most dramatically – with the number of blueberry farms increasing 269 percent, blueberry acres 250 percent, blackberry farms 112 percent, and blackberry acres 260 percent. Other types of berry operations also showed significant expansion.
- The number of Kansas farms producing tree fruit also increased, by 46 percent.
- Though the number of vegetable acres and vegetable farms decreased overall, the following vegetables increased their presence on Kansas farms: eggplants, garlic, lettuce, onions, peppers, potatoes, snap peas, summer squash, and tomatoes (USDA, 2012).

It is possible for Kansas farms to economically produce both fruits and vegetables for year-round consumption in Kansas – indeed, many already are. Better adapted crop varieties and advancements in technology have helped make this easier on a larger scale. For example, plastic-covered growing systems such as high tunnels can provide crops up to 12 months of protection from extreme weather, with the added benefit of increasing both product quality and yields.

Extending the income season in this way is a standard practice for a number of Kansas farmers, and is of growing interest to many more. Between 2013 and 2014, 200 current and beginning farmers participated in the Kansas Rural Center’s “Tunnel to Table” workshop series. In addition, 58 extended-season tunnel farmers responded to the Tunnel to Table initiative’s growers survey. Twenty-five percent reported having farmed in Kansas tunnels for six years or more. The Tunnel to Table program is aimed at supporting Kansas farms to increase their competitiveness in the specialty crop sector through strategic high tunnel and low tunnel use. Funding for the program comes from the Kansas Department of Agriculture’s Specialty Crop Block Grant program and Farm Aid.

Increased farm-to-fork connections through diverse markets is also evident across Kansas.

- With support from entities like the Kansas Rural Center, Kansas Department of Agriculture, and Kansas Department of Health and Environment, Kansas has experienced **a quintupling in the number of farmers markets** in the past 30 years – from 26 in 1987 to 130 in 2014 (KDA & KDHE, 2014). Many of these markets have expanded membership and days of operation to accommodate increasing demand – and a number of them are now open year-round.

- In northwestern Kansas, several innovative producers and consumers joined together in 2008 to form the **High Plains Food Cooperative, which offers an online food hub for connecting consumers to local and regional food products**. (See Glossary for a working definition of “food hub.”) The cooperative reports far greater demand than it currently has supply for – particularly in the area of fruits and vegetables. They are actively working to scale-up current producer-member operations and attract more producers to the group.

- **Kansas schools have major purchasing power, and are actively seeking sources of local food.** Though Kansas farm-to-school efforts are in their fledgling stage, 35 percent of Kansas schools have

already engaged in local food procurement and education activities. According to 2012 Kansas Farm to School Census data, the top five local foods being procured by Kansas schools include: tomatoes, apples, watermelon, beef, and cantaloupe. While Kansas schools have increased purchases of food from Kansas farms, schools report the following two top barriers limit their purchases of local foods: 1) a real or perceived inadequate supply of locally grown products and 2) limited knowledge of and access to local farmers and producers to buy from (KSDE, 2014).

Farm-to-fork connections are still developing across Kansas, including in schools. Enhanced supports for local supply and marketing are needed to continue to advance these efforts.

KEY IDENTIFIED BARRIERS

The following four barriers limit the effectiveness of Kansas farmers working to diversify production and increase sales to local and regional markets, according to those engaged through this assessment:

- **Inadequate local- and state-level coordination, planning, and resource allocation to support and sustain Kansas's farm-to-fork food system.** These issues restrict innovation in food and farming in Kansas. Because food touches all aspects of society, health, and the environment, there are many different entities work on food issues across the state. However, many of these efforts are insufficiently coordinated with related efforts. Confusion results due to both the sheer number of agencies and departments involved, and the fact that food production, processing and sales are regulated differently by each agency, depending on the type of product, scale of production, level of processing, and market channel used for distribution;

- **Lack of regulatory clarity around state-level policies that impact the farm-to-fork food system.** While several tools do exist to communicate these policies, they are not widely known. Due to lack of information, inconsistent information, or inconsistent regulatory enforcement in the field, confusion persists regarding the various requirements that can impact the production, processing, and sale of products by Kansans for Kansans;

- **Lack of a central location for finding farm-to-fork related policy and program information, across government and nongovernment sectors.** Many reported being bounced around between and within state agencies when seeking answers to key questions for their food and farm businesses. When conflicting information was provided, there was no "higher authority" to serve as the final word, with the effect of frustration, fear, and shutting down attempts at advancing such enterprises;

- **Limited information, resources, and protections for the production, handling, and sale of fruits and vegetables crops.** Only a small number of professionals are available to assist Kansans seeking to address business planning, production, processing, distribution and marketing challenges. What few Kansas-specific written resources are available are often outdated, and funding resources are either limited or challenging to obtain for these diverse operations. Due to inadequate crop insurance options and the threat of drift, Kansas fruit and vegetable growers face unique risks that limit their capacity and diminish their willingness to scale-up.

Recommendations Explained

As this assessment establishes, and has been determined in fellow farming states, our farms are important links in the food supply chain. As key drivers of the Kansas economy, key potential providers of healthful foods, and key leaders in our communities, farmers can and should take a leading role in making healthful foods the routine, easy choice for Kansans. They cannot do so, however, without increased public engagement at all levels of policy.

Kansas and its communities must contribute to this solution through sound policies and administration to help Kansas farms serve this important role. Accordingly, the *Feeding Kansas* report recommends the following as a plan for immediate public action to better incorporate local farms into the supply chain that must provide healthful foods to all Kansans.

Though nutritionally-adequate diets include a balance of fruits, vegetables, whole grains, and diverse proteins sources, fruits and vegetables are the focus of five of the following seven policy priorities. This is because production and consumption of these “consumer” or “specialty crops” falls significantly short in Kansas.

The overarching goals of these recommendations are:

- 1) To increase opportunities to identify and advance community food solutions at the local level;**
- 2) To improve state-level clarity and coordination of farm-to-fork food system policies, programs and planning;**
- 3) To provide key local-, regional-, and state-level supports to increase production and consumption of fruits and vegetables in Kansas.**



Implementing the following policies by June 2016 will be a major step toward addressing global food issues at home in Kansas.

GOAL 1) INCREASE OPPORTUNITIES TO IDENTIFY AND ADVANCE COMMUNITY FOOD SOLUTIONS AT THE LOCAL LEVEL.

***Recommendation 1* – State and local government agencies should pass resolutions, provide technical assistance and funding, and/or take any further steps needed to support the formation and longevity of local Food Policy Councils and Food & Farm Task Forces across Kansas.**

EXPLANATION: Task forces or councils can be powerful tools for governments to receive guidance on the multifaceted issues facing the communities they serve. Community leadership and civil discourse are required to make truly effective policy change and for communities to grow their capacity to handle complex challenges, such as those outlined in this report.

Nationwide, state and local governments have demonstrated the benefits of citizen participation in policymaking through food and farm task forces, or food policy councils. Members of these advisory groups come from diverse backgrounds. They work together to gain a comprehensive understanding of how their local food system operates, and then provide policy recommendations to improve that system over the long term. Thus, governments are better equipped to meet the needs of the public, because members of the broader public are formally engaged and tasked with identifying and prioritizing their needs and designing key solutions.

Local food-focused task forces or councils can address a wide-range of farm and food system issues. Examples of policies could include, but are not limited to: opening up public land for community gardens, securing permanent locations or parking for farmers markets, incorporating stronger healthful-food policies into public institutions, identifying key policies and infrastructure needed to improve local food processing, addressing zoning and codes issues to enable affordable farmworker housing, forming agreements to increase food assistance dollars for use with local farms, et cetera.

Four local-level food policy councils exist within Kansas at the time of this writing. A number of similar groups are organizing, and there is widespread public support to continue to increase the number of these groups serving city and county governments in Kansas (HK2020, 2014). These local-level food policy councils are located in Allen County, Crawford County, Douglas County, and South Hutchinson.

To create a local task force or council:

- A written resolution is voted-upon by government representatives at the city or county level or through a joint resolution between city and/or county governments;
- Governments often allocate funds to support the ongoing coordination of these groups;
- Technical assistance, such as training in leadership and multi-stakeholder coordination or in identifying, understanding, and drafting revised or new policies, may be needed to help these groups get started, or to support their efforts once enacted.

Kansas groups seeking to form councils or task forces may find strong allies within local Resource Conservation and Development (RC&D) organizations and through local Research and Extension offices.

RC&D organizations are 501(c)3 nonprofit entities that work on food issues and may provide a vehicle for council formation. Kansas State University Research and Extension funding supports policy change and systems work for Extension Agents in the Family Nutrition Program, and welcomes these agents' involvement with food policy councils or similar entities (USDA, 2014).

Key resources for forming or advancing the efforts of local food task forces/policy councils are cited in the Resource Directory, included as an appendix to this report.

GOAL 2) IMPROVE STATE-LEVEL CLARITY AND COORDINATION OF FARM-TO-FORK FOOD SYSTEM POLICIES, PROGRAMS AND PLANNING.

Recommendation 2 – A high-level, independent farm-to-fork food system organizer position should be created to oversee statewide food system planning and actively streamline information sharing and coordination efforts across agencies.

EXPLANATION: Lack of regulatory and informational clarity and limited coordination across statewide food and farm efforts currently restricts the growth of the Kansas farm-to-fork food system – a system that integrates Kansas farms into the supply chain that provides healthful food to Kansans.

To address these limitations, Kansas would benefit from:

- the active streamlining of farm and food system regulatory and other information exchange, and
- a centrally-managed effort to facilitate the enactment and maintenance of a statewide farm-to-fork food system plan over the long term.

A new, independent state-level position is needed to lead these activities by coordinating, communicating, monitoring, evaluating, and making recommendations. The mandate for this position would be advancement of Kansas's farm-to-fork food system and its critical role in the goal of health, economic, social, and environmental well-being for all Kansans.

To adequately address the issues outlined in this report, this high-level position needs to be:

- **Independent** from agency jurisdictions;
- **Full-time**, with a dedicated budget to both the farm-to-fork food system organizer position and its mandated role of advancing the Kansas farm-to-fork food system;
- **Tasked with jurisdictional oversight** of the food-related efforts of state agencies and related advisory councils;
- **Tasked with coordination of state agencies** to draft a statewide farm-to-fork food system plan, track progress, and update the plan as needed.

The position would be empowered to:

- **Analyze and monitor the development and implementation of federal, state, and local government laws, rules and regulations, ordinances, and policies** with respect to farm-to-fork activity across the state;
- **Work with state agencies to establish statewide goals and benchmarks for Kansas's farm-to-fork food system;**
- **Gather and facilitate increased data collection across agencies and councils/task forces,**

including public health and economic impact reports, to ensure measurable progress is made toward those goals, and benchmarks are met within intended timelines;

- **Provide governor and legislature with annual reporting and recommendations** regarding the status and needs for the advancement of Kansas’s farm-to-fork food system;
- **Facilitate increased coordination and strengthened relationships** between and across government agencies, nongovernment agencies, Kansas food and farm businesses, and the general public;
- **Provide a centralized, public point-of-contact and clearinghouse for farm-to-fork food system policy and program information** –
 - o ensuring that the clearinghouse is formed and maintained in collaboration and with direct links to various state agencies, and
 - o striving to enhance the quality of information provided to various agencies and the public by connecting them to (and not duplicating) information already provided, as well as providing information not easily accessible elsewhere.

GOAL 3) PROVIDE KEY SUPPORTS TO INCREASE PRODUCTION AND CONSUMPTION OF FRUITS AND VEGETABLES IN KANSAS.

Recommendation 3.1 – State and local government agencies should establish goals and policies for their agencies and for Kansas’s public institutions to prioritize procurement of Kansas-grown fruits and vegetables.

EXPLANATION: By establishing formalized goals and policies that prioritize the purchase of Kansas-raised fruits and vegetables, Kansas’s publicly funded agencies and institutions can formalize their commitment to improving the health of Kansans and the economy.

Adopting such policies across local and state agencies and institutions would drive growth in production and consumption of Kansas-grown fruits and vegetables in Kansas. This is because it would provide clear incentive for food distributors serving those agencies and institutions to purchase Kansas foods, offering Kansas producers the stable market necessary to invest in infrastructure for scaling-up production volumes over the long term.

These special local produce purchasing requirements could be enacted through statutes similar to existing Kansas statutes that give priority to in-state bidders and bidders for paper products whose recycled content is highest.

At the state-level, the Department of Administration and Kansas Association of Public Purchasing Professionals (KAPPP) could lead the effort by establishing statewide goals and drafting a statute to prioritize local produce procurement. This statute would apply to all agencies that fall under the Department of Administration’s contracting requirements.

Those agencies with independent purchasing power that do not fall under the Department of Administration’s contracting requirements could join in the statewide effort by establishing internal procurement policies to align with the Department of Administration’s local produce procurement goals and priorities. These independent agencies would include the Department of Corrections, Kansas Unified

School Districts, Kansas State Educational Institutions, and public universities.

The Kansas Department of Agriculture (KDA) could be a key partner in supporting the pursuit of this priority statewide. KDA's From the Land of Kansas™ program actively works to help facilitate farm-to-institution connections like these, and the online hub they host for those purposes could be useful in this process. KDA also has an internal practice of purchasing Kansas-grown food whenever possible. The formalization of KDA's goals into agency-wide procurement policy could serve as a model for implementation in other state, and local, agencies.

Recommendation 3.2 – Public funds should support the designation of a statewide Fruit and Vegetable Agricultural Economist, with an emphasis on local food systems, through Kansas State University Research and Extension.

EXPLANATION: Kansas leaders and policymakers need clearer data to better understand the economic potential for and impact of different scales and types of fruit and vegetable production in Kansas, and existing and potential farmers, local food processors, and distributors also need that information to guide their business planning and operations.

There is currently no statewide position to address this need. A number of agricultural economists are employed through Kansas State University Research and Extension, but their focus is not fruits and vegetables or local markets.

This position would conduct an applied research and outreach program focusing on the economics of producing, processing, selling, and distributing a wide range of fruits and vegetables to diverse markets on a local and regional scale, while also addressing the potential for Kansas farmers to respond to these needs on a national and global scale.

The position should:

- Assist government agents and decision-makers in quantifying and evaluating the current status of and economic potential for the fruit and vegetable sector in Kansas;
- Research and quantify models of processing and distributing Kansas grown fruits and vegetables;
- Develop and deliver extension and research programming to assist Kansas growers and farmers;
- Develop collaborative programs/projects with other faculty, units, and departments at Kansas State University and with allied industry organizations, government agencies, and other stakeholders – including related advisory councils and task forces at the state and local level;
- Attract grant funds to support research/extension programs;
- Support new and ongoing research and scholarship initiatives related to fruit and vegetable agricultural issues;
- Contribute to the Department of Agricultural Economics' extension website (www.agmanager.info).

Work outputs should include, but not be limited to:

- Conducting economic impact evaluations of Kansas fruit and vegetable production, processing, distribution, and sales;
- Researching and documenting the potential gross and net value per acre of various types of fruit and vegetable crops – at different scales of production and marketing;
- Researching, developing, and maintaining regionally relevant enterprise budgets for various scales

and types of fruit and vegetable crop production, processing, and distribution – including for Kansas-based markets;

- Creating model business plans for different scales and types of fruit and vegetable operations;
- Providing quantitative economic analyses to local decision-makers in the identification and selection of cost-effective agricultural best management practices (BMPs) for these types of operations;
- Compiling financial and cost data, researching results regarding factors related to the implementation of key identified agricultural BMPs in the fruit and vegetable sector;
- Developing and instituting a standardized methodology for calculating water use reductions, pollinator population enhancements, soil health improvement, and other outcomes resulting from the implementation of key identified BMPs.

Recommendation 3.3 – Public funds should support the designation of multiple Regional Fruit and Vegetable Extension Specialist positions across Kansas, through Kansas State University Research and Extension Horticulture Program.

EXPLANATION: To advance commercial fruit and vegetable production and sales in Kansas, farm and food business entrepreneurs need significantly more research-based information and high-level technical support than is currently available.

Kansas State University Research and Extension (KSRE) fills this role in other agricultural sectors and, with adequate support, could expand its services to the fruit and vegetable sector. This would increase Kansas producers' access to specialized information they need to address challenges associated with beginning or scaling-up fruit and vegetable operations, and to address the unique production and marketing challenges of these food crops.

Demand for the type of services regional Extension Specialists could provide for the fruit and vegetable sector is unmet and increasing across Kansas. Current county agents are often taxed by tremendous demand for a broad range of services, and could benefit from additional specialized support in this sector – as is the case with existing Specialist positions in other specialty areas, such as turfgrass, beef, swine, or wheat (KSRE).

KSRE presently assists farmers with addressing pest, disease, and other issues associated with the production of Kansas's current top commodity crops – wheat, corn, soybeans, and sorghum – much of which are sold to national and international markets. However, fruit and vegetable operations may produce upwards of 30 different crops, each with its own unique pest and disease challenges, harvest and post-harvest handling requirements, and diverse market niches.

KSRE funds presently support the part-time employment of one Extension specialist that serves all fruit and vegetable crops. Located in Northeast Kansas, this position is intended to serve the entire state. Only one county-level horticulture agent specializes in fruit and vegetable crops. There are no regional Extension Specialists in Kansas with specialized knowledge in fruit and vegetable production and marketing, though historically this was not the case.

Public funds should be appropriated to employ regional Extension Specialists with graduate-level education to support county agents in meeting the research and service needs of growers across all

regions of Kansas. To begin, a regional Extension Specialist in fruit and vegetables could be stationed in Western Kansas, since Kansas's only current fruit and vegetable Extension Specialist is in Eastern Kansas. Subsequently, further specialist positions could be established in other key regions. The ultimate goal would be to increase access to region-specific research-based information and high-level technical support for fruit and vegetable producers statewide. The activities of these regional Specialists would be managed by Kansas's state-level Fruit and Vegetable Extension Specialist (a position that already exists).

Recommendation 3.4 – Public funds should be allocated toward Kansas State University Research and Extension's horticultural research stations.

EXPLANATION: Agricultural research stations are "required to keep our basic and applied agricultural research comprehensive and relevant," wrote John D. Floros, the Dean at KSU College of Agriculture and Director of K-State Research and Extension, in an open letter to Faculty Senate he submitted June 2013. In order to support the long-term research needed to increase the production and sale of fruits and vegetables in Kansas, horticulture research stations should be added as a regular line item for consideration in government and Extension budget negotiations. Kansas houses several Agricultural Experiment Stations through K-State Research and Extension, and these are a regular line item on the state budget; however, Kansas's horticulture research stations do not currently receive state funding.

Kansas's horticulture research stations need stable funding, just as its Experiment Stations do, in order to sustain a baseline budget for maintaining grounds, equipment, and perennial plantings. Without this baseline budget, research stations risk losing valuable investments, the loss of a former vineyard at Haysville station being a case in point.

KSRE has a history of excellence in this type of horticultural research, and stable funding will better enable leadership in the fruit and vegetable sector. For example, in the 1950s and 1960s, KSRE specialists used research station grounds for several years to develop a now nationally-renowned variety of watermelons called "Crimson Sweet" that is resistant to anthracnose and fusarium wilt, both of which are problems in Kansas. Providing stable funds to support the maintenance of facilities for research of this kind would enable Kansas to better achieve regional recognition for new varieties of fruits and vegetables.

Employing a number of regional fruit and vegetable Extension Specialists would also support the functionality of these research stations (see recommendation 3.3, above).

Recommendation 3.5 – The Kansas Legislature should establish a multi-stakeholder Task Force to gather and share data and information on herbicide injury ("drift") to sensitive crops in Kansas. This group should work in coordination with the state-level food system organizer, once that position is created.

EXPLANATION: Drift and co-existence are sensitive topics in a state whose agricultural economy is currently driven by crops that are sprayed with chemicals that can damage other types of crops and their pollinators. Therefore, we recommend the creation of a task force with membership representing all sides of this conversation, to work with the shared mission of collecting clear data to guide policy recommendations that better protect sensitive crops in Kansas.

Many fruits and vegetables – and the pollinators they rely on – are sensitive to damage from spray drift. Much is being done in Kansas to provide education on best practices for application and to help both growers and applicators prevent damage to sensitive crops. However, despite these efforts to reduce the risk of crop injury or loss without compensation, Kansas producers cite drift as a key barrier to scaling-up their fruit and vegetable operations.

Education programs have not proven to be enough to protect sensitive crops in Kansas. More research is needed to identify key policy solutions to this complex problem.

At least two chemicals currently used in agriculture – 2,4-D and Dicamba – continue to damage specialty crops even when best practices are implemented. This is because, even days after application, the esters from these chemicals may volatilize (convert from liquid to gas) and travel miles in the air during conditions of low humidity and high temperatures (Proost & Boerboom, 2004; Nice, Johnson, & Bauman, 2004). Dicamba and 2,4-D are likely to be used more often by farms in the near future, because biotechnology companies are introducing crops genetically modified to resist those chemicals (Swayne, 2014).

This type of drift is not only difficult to prevent, it is also difficult to determine when and from where the drift occurred. In cases when Department of Agriculture investigators are unable to confirm the source of drift, uninsured Kansas growers experiencing crop injury from drift are left un-compensated for their loss and some have reported closing down as a result. (Kansas growers have limited options, if any, for crop insurance to cover such loss.)

One Kansas grape grower reported that in his experience, with 40 years of farming and near-annual loss from drift on his farm, the problem of drift will prevent specialty crops like fruits and vegetables from being a viable industry in Kansas.

Task force members should include:

- A number of producers of different types of sensitive crops from across diverse regions of Kansas (including small and large fruits, vegetables, honey, nuts, cotton, and more);
- Small and large scale agricultural spray applicators;
- State and local government pesticide distributors, regulators, applicators, and damage inspectors;
- Representatives of multiple government agencies including the DriftWatch program that serves as Kansas's Specialty Crop Map;
- Representatives of public and private educational institutions, nonprofits, and other community based efforts related to food access, conservation, public health and nutrition, and diverse forms of agriculture; and
- Multiple researchers with technical skills to support the tasks below.

Task force objectives should include:

- **Conducting research** and publishing findings to guide drift-related policy decisions. Including, but not limited to:
 - o Obtaining clarity from KDA pesticide and fertilizer investigation reports, to:
 - Quantify and identify patterns in the outcomes of investigations over years or decades,
 - Identify what percent of reported drift cases lead to compensation for damage/loss,
 - Identify which herbicides are most often responsible for reported drift cases.
 - o Conducting a statewide survey in order to:

- Determine rate of reporting/non-reporting among respondents who have experienced damage/loss from drift,
 - Assess the economic impact of drift, including the estimated loss of revenue for specialty crops and cotton, and the extent to which threat of drift prohibits scaling-up of sensitive crop operations.
- **Making policy recommendations based on research findings.**
 - **Helping spread information related to why and how Kansas farmers should report herbicide injury and how applicators can avoid risks of drift.**

Closing Comments

These recommendations for public action, based upon the deep assessment of Kansas's farm and food system's fundamental needs, come from more than a year of intensive work by a broad cross-section of Kansas leaders, farmers, and community members.

Such reports are too often discovered years later on dusty shelves. Therefore, in order to ensure public action as a result of this report, the Kansas Rural Center and its growing network of partners now embark on a two-year plan for mobilization aimed at helping bring these recommendations to fruition through policy implementation. It is our hope that the majority, if not all, of these recommendations will be taken up by public servants for careful consideration, improvement, and implementation by July 2016 – the conclusion of this portion of the Community Food Solutions Initiative.

First, this report will be provided to the statewide Farm-to-Fork Task Force enacted by the Kansas State Legislature in 2014 and tasked with providing recommendations to the legislature by January 2016 for policies to advance Kansas's farm-to-fork food system.

Second, KRC will conduct grassroots training, assisting Kansans who participated in the research portion of this project to become more active participants in their local and state policy environments to effect the change they seek.

KRC will continue to work, as we always have, with state agency personnel and colleagues who every day are seeking to advance the farm-to-fork system. And, as farmers ourselves, we will continue to identify and provide the education and information that farmers need to strengthen their own farm businesses.

Ultimately, the Kansas Rural Center Community Food Solutions Initiative brings Kansas communities together with their farmers to chart the course forward for a robust, bright future for the farm-to-fork food system – a system that will go a long way toward making healthful foods the routine, easy choice for all Kansans.



Appendix I: Key Identified Needs and Opportunities

The following needs and opportunities were identified by assessment participants from across Kansas as key to advancing the vision expressed in the *Feeding Kansas* report. The report's recommendations focus narrowly on just seven priority strategies for immediate implementation. However, this appendix presents a more comprehensive list of needs and opportunities for future study and action by Kansans.

Need: Increase the availability of healthful foods by increasing the production, supply, and physical access to these foods in Kansas.

Key Opportunities:

- Codify and stabilize demand by implementing local and healthful food procurement policies in public and private settings;
- Identify key supports needed to increase the utilization of local and healthful foods in retail, restaurant, and institutional food outlets;
- Identify key supports needed by producers to begin and/or scale-up production of healthful foods for local and regional markets;
- Make it a top priority for local and statewide efforts to address the issue of Generational Stewardship Transition in Kansas's agricultural sector. The Census of Agriculture indicates that Kansas has seen a drop in the number of new farmers by 15 percent over the past 5 years – whereas, just over the state line, Nebraska has seen an uptick of nearly 10 percent. The average Kansas farmer is also older than the national average (USDA, 2012);
- Increase efforts to strategically manage and protect natural resources across the state – such as soil, water, and pollinators – as these are essential for the long-term production of Kansas foods for Kansas;
- Assist farmers in managing risk from liability and crop loss, through policies and programs that address the insurance needs and drift protection needs of diverse farm operations.

Need: Increase access to healthful foods by addressing social and economic inequities, reducing the presence of food deserts, strengthening food assistance programs, and increasing access to public transportation and public land for food access and production.

Key Opportunities:

- Implement a healthful food systems approach in all state and local policy efforts, to reduce social inequities that impact healthful food access and to help eliminate food desert or food swamp areas;
- Ensure existing food assistance programs – including SNAP, WIC, and SFMNP – continue to work to increase the consumption of locally produced healthful foods;
- Increase statewide availability of public transportation;
- Open up publicly-owned lands for use in healthful food production and sales – through community gardens, school gardens, incubator farms, farm stands, and other efforts committed to meeting local communities food needs.
- Formalize community advisory groups, such as local food task forces or food policy councils, to play a critical role in guiding these developments.



Need: Increase utilization of healthful foods by Kansans through coordinated statewide and local efforts.

Key Opportunities:

- Eat local campaigns can transform individual and household food consumption patterns, as evidenced by Colorado's "Eat 5, Buy 5" campaign or North Carolina's "10 percent Campaign." The resulting boost in local sales of local agricultural products could have significant economic impact. According to Crossroads Resource Center, "If each Kansas resident bought \$5 of food directly from a Kansas farm each week, farms would earn \$750 million of new revenue" (Meter, 2012).
- Increase the availability of local and regional scale food processing facilities in Kansas, to transform agricultural products into forms most convenient for use by the end consumer. These could include small and mid-scale grain mills, fruit and vegetable processing facilities, and meat lockers that handle diverse product types and are appropriately certified so that end products can be sold locally.
- Identify local and statewide food loss and food waste issues, and design policies and programs to address them. The USDA recently revealed that approximately 30 percent of the food produced in U.S., or 1,259 calories per person per day, goes uneaten daily. This is actually a conservative estimate, which does not factor in the food lost on the farm and in transit from farms to processors or buyers. On farm and transportation losses were factored into a 2009 report from the National Institutes of Health, which calculated greater than 1,400 calories are being lost per person per day (USDA, 2012).
- Continue to ramp up farm-to-school and farm-to-preschool activities. According to a Kansas health analyst, children who participate in growing foods are more open to trying different kinds of fruits and vegetables, and are more likely to have better eating behaviors.
- Support food retailers in combatting patterns of imbalanced nutritional consumption through communications and marketing efforts that grow awareness that local and healthful foods are an easy, affordable choice for Kansans.

Appendix II: Special Issue – Water and Food in Kansas

Content Provided by Lead Writer-Analyst: Cole Cottin, Kansas Rural Center

Feeding Kansas illustrates how the production, processing, distribution, and consumption of food is a systems issue. Water is a fundamental part of the biological systems that make food production possible. Limited water supply and poor water quality issues are critical to address, in order to strengthen and sustain Kansas's food system.

This special report looks at water-related issues concerning Kansas agriculture as it strives to meet global food needs, including those here at home.

WATER AND THE FOOD SUPPLY

Food comes from water. All plants, including those central to our food supply, are nourished by water. Livestock, too, feed on these plants and their products and depend on regular access to water to survive.

No water, no food.

Food production is water intensive. Take corn, for example. The United States is the number one consumer of corn per capita in the world (USDA-ERS, 2012). In the U.S., corn is an ingredient in a wide range of food products and is heavily relied on for livestock feed. The average U.S. citizen consumes over four pounds of corn per day, or 1,540 pounds of corn per year. Estimating 58 gallons of water to produce a pound of corn grain, it takes approximately 89,320 gallons of water per year to supply just one American with corn (Rogers D. H., 2014). (That number does not account for the amount of water it takes to manufacture the needed tractors, planters, fuel, fertilizer, et cetera.)

Some foods are more water-intensive than others. The amount of water needed to produce food varies based on food type, variety or breed, local conditions, and agricultural practices employed. Due to these variations, quantifying how much water it takes to produce a given food is challenging and estimates can vary widely. Experts consider figures that look at water per unit of yield, rather than water per acre, to be most reliable – such as those seen in the graphic to the right (Rogers D.H., 2014).

STATUS OF WATER USED FOR FOOD AND AGRICULTURE IN KANSAS

In Kansas, water is an integral and increasingly vulnerable resource for producing food through agriculture. Both water quality and water quantity issues put our farm and food system at risk.

Table 1. Water requirement for the production of various food items. (Adapted from Source: <http://www.waterfootprint.org/Reports/Hoekstra-2008-WaterfootprintFood.pdf>).

Food Item	Gallons per unit	Unit
Lettuce	16	lbs.
Tomato	22	lbs.
Cabbage	24	lbs.
Cucumber or pumpkin	29	lbs.
Potato	30	lbs.
Orange	55	lbs.
Apple or pear	84	lbs.
Banana	103	lbs.
Corn	108	lbs.
Peach or nectarine	144	lbs.
Bread (from wheat)	156	lbs.
Sugar (from sugar cane)	180	lbs.
Mango	192	lbs.
Chocolate	288	lbs.
Dates	359	lbs.
Groundnuts (in shell)	371	lbs.
Rice	407	lbs.
Chicken	467	lbs.
Olives	527	lbs.
Pork	575	lbs.
Cheese	599	lbs.
Beef	1857	lbs.

(Rogers, Anguilar, Kisekka, Barnes, & Lamm, 2015)

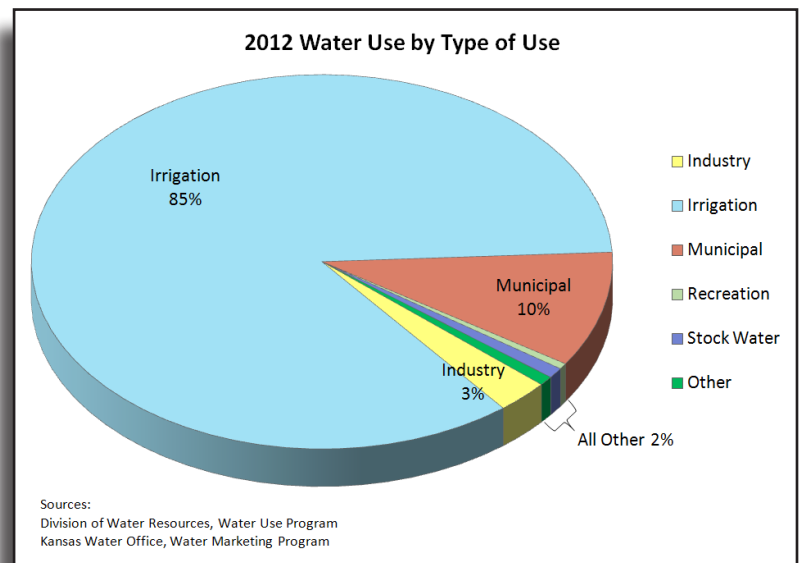
WATER QUALITY STATUS

In terms of water quality, two of the greatest challenges affecting and affected by Kansas agriculture include:

- **Contamination** – Kansas waters are increasingly vulnerable to chemical runoff and other forms of contamination, where wildlife habitat, forests, and grasslands are removed. This is common in operations seeking to extend crop production from fencerow-to-fencerow or from roadside ditch to roadside ditch (EWG, 2012).
- **Sedimentation** – Kansas reservoirs are silting in due to inadequate support for upstream land management (USGS, 2014). This causes both water quality and water quantity issues for the two-thirds of Kansas citizens who rely on reservoir water for flood protection, municipal, irrigation, recreational, industrial, and other uses. During times of drought, five of seven Kansas reservoir basins will not be able to meet demand (KWO, 2014).

WATER QUANTITY STATUS

Water scarcity is a rising concern for agriculture in Kansas, where water is being used at “unsustainable” rates according to researchers from within and outside of the state (Steward, et. al., 2013). Agriculture accounts for the majority of Kansas water use. This water use predominately supports the production of certain irrigated grain crops and livestock for export markets. In 2012, irrigation alone accounted for 85 percent of statewide water use, as depicted in the pie chart from the Kansas Water Office pictured to the right. Nearly 2.9 million acres, 14 percent of Kansas’s harvested cropland acres, were irrigated in 2012 (USDA, 2012).



The High Plains Aquifer – which stretches across most of western and south-central Kansas – feeds the majority of Kansas’s irrigated cropland and is currently being pumped far faster than its natural recharge rate. In 1960, only 3 percent of the aquifer had been used. By 2010, 30 percent was gone. If current irrigation trends continue, 69 percent of the groundwater stored in Kansas’s High Plains Aquifer will be depleted within the next 50 years. **To bring groundwater depletions in line with rainwater recharge, Kansas farmers would need to cut their groundwater pumping by 80 percent immediately, according to researchers at K-State University (Steward, et al., 2013).**

Farms and communities across Kansas are already feeling the effects of water scarcity. In 2013 in west-central Kansas, up to a fifth of the irrigated farmland along a 100-mile swath of the aquifer was reported as going dry; in other areas, farmers reported insufficient water to supply peak summer needs (Wines, 2013). In some locations strapped for water supply during drought, restrictions are placed on gardening, including food gardens, and other home use without necessarily placing similar restrictions on use by industry and production agriculture (Medicine Lodge City Council, 2013). Ranchers with dried-up ponds have had to sell portions or entire herds of cattle before they were market-size, losing income due to limited access to other water sources. Others, unable to irrigate, have left crops to dry up in the fields. This happens even in places not on the High Plains Aquifer, where well water is not available and city or rural water costs are prohibitive (Adamson, 2003).

Increased water availability is linked to increased yields in the production of Kansas's top commodity crops (Steward, et al., 2013). In 2012, an average acre of irrigated land produced more than three times as many bushels of grain corn and two-and-a-half times more soybeans than did dry land (USDA, 2012). Farmers of these crops are put in a tough position when given the choice to either tap into the depleting aquifer or accept decreased yields in times of extreme heat or drought.

All of the above water-related issues are further exacerbated by increasingly uncertain weather patterns that impact crop yields and intensify food security issues such as food supply, distribution, and price (The White House, 2014). Adaptation is needed.

STATEWIDE ATTENTION TO THESE ISSUES

Water resource issues are of increasing importance to Kansas and its agricultural sector.

In October 2013, the Governor charged his administration to develop a "50-Year Vision and Plan for Water in Kansas" by November 2014 (KWO, 2014). The effort included far-reaching public engagement across Kansas, to gather input. The authors of the statewide water vision are tasked with the challenge of balancing the needs of Kansas communities and families with those of the state's economy and leading industries.

Nine natural resource and environmental groups, including the Kansas Rural Center, publicly responded to an early draft of the statewide water vision with concerns that it should not reflect the same "development at all costs" mentality that has put Kansas in its current water predicament. The group emphasized the importance of implementing policy and funding supports aimed at reducing Kansas water consumption to truly sustainable levels (Fund, 2014).

In its official comments on the draft water vision, the Kansas Rural Center wrote that **"to achieve sustainability and protect the water resource, some parts of the Kansas economy will have to change radically, meaning a decline or shift in some activities, while other parts develop to match the water and other resources available."**

WHAT CAN BE DONE?

*"If we're able to save as much water as possible now, the more we save, the more corn we'll be able to grow into the future."
- David Steward, Professor of Engineering at Kansas State University*

Water scarcity and water quality issues can put the short-term economic gains of a few at odds with the long-term need to secure adequate water resources for future generations.

Water issues may seem difficult to address. Water is fluid, ever moving. It is hard to grasp with our hands, so how can we keep it from running out?

**The truth is,
nothing short of reducing water use will make much difference.**

FOR CONSUMERS AND NUTRITION EDUCATORS

Shifting eating habits towards a healthier diet would have a significant influence on conserving water resources. About 90 percent of an individual's personal water footprint is through food. If the 92 percent of Kansans who currently consume nutritionally imbalanced diets were to change their eating patterns to adhere to the "Choose My Plate" dietary guidelines recommended by the United States Department of Agriculture (USDA), it could decrease their personal water footprints by 20% to 35% (Marrin, 2014). This would require a significant increase in consumption of plant-based foods, such as fruits, vegetables, legumes, and whole grains.

Curbing food waste could also help food and farm water footprints decrease. In the United States, about 30 percent of food, equating to about 11 trillion gallons of irrigation water, is thrown away or wasted every year (Lundqvist, de Fraiture, & Molden, 2008).

FOR FARMERS AND POLICYMAKERS

Increased agricultural water use efficiency and advancements in technology can help, but they are not enough. Even those irrigators practicing what's been termed "water smart farming" techniques remain vulnerable to water shortages. **Research supports that the following under-utilized agricultural practices should also be advanced to help protect both water supply and quality:**

- **Integration of cover crops,**
- **Implementation of complex crop rotations,**
- **Conversion of cropland to diversified grassland,**
- **Emphasis on producing more of the foods known to have a smaller water footprint, and less of those foods that tax our diminishing water resource base.**

Policies, programs, research, and funding should increasingly aim to advance these and strategies like these across all types of agriculture (Tirado & Cotter, 2010; National Wildlife Federation, 2012). **Enforcing policies and funding efforts that help Kansas's biggest users, including irrigators, limit water use is critical for preserving Kansas waters for use by future generations.**

Each of the strategies above, for both consumers and producers, **embrace diversity as a key strategy** for protecting and increasing water availability and water quality in Kansas over the short and long term.

Appendix III: Special Issue – Pollinators and Food in Kansas

Content Provided by Contributing Writer: Joanna Voigt, Kansas Rural Center

As this *Feeding Kansas* report attests, food is a systems issue, which applies not only to processing and distribution, but to growing food as well. In the biological systems of food production, pollinators can be considered a “canary in the coal mine.” With global pollinator decline, global human food systems are at risk. Many of the crops that supply high-nutrient, healthful foods to Kansans rely upon pollinators. This special report looks at pollinator-related considerations for Kansas agriculture as Kansas looks to meet its food needs here at home.

POLLINATORS AND THE FOOD SUPPLY

“Food security, food diversity, human nutrition and food prices all rely strongly on pollinators. The consequences of pollinator declines are likely to impact the production and costs of vitamin-rich crops like fruits and vegetables, leading to increasingly unbalanced diets and health problems. Maintaining and increasing yields in horticultural crops under agricultural development is critically important to health, nutrition, food security and better farm incomes for poor farmers” (FAO, 2013).

“Pollination is a keystone process in both human managed and natural terrestrial ecosystems. It is critical for food production and human livelihoods, and directly links wild ecosystem with agricultural production systems” (FAO, 2014).

Pollinators are crucial to food production and access to healthful foods. The majority of the earth’s flowering plants require pollination in order to produce seeds, and in the absence of pollinators entire ecosystems would collapse. This extends to agriculture, including some of the world’s most nutritious human food crops.

About one in every three bites of food humans eat is pollinator-dependent. Worldwide, insects pollinate 75 percent of human food crops, contributing \$210 billion in agricultural earnings per year (Conniff, 2014). In the U.S., European honey bees are the primary providers of pollination services for agriculture, with an economic value of \$17 billion per year. Pollination increases yields and results in higher quality produce. Even crops that don’t require pollination in order to set fruit have been found to have higher yields when visited by bees or other pollinators, and there is evidence that pollination may protect crops from pests.

A study published in September 2014 in *Proceedings of the Royal Society B: Biological Sciences* has shown that **there is a disproportionately large link between pollinators and human nutrition** because many of the most vitamin- and micronutrient-rich human foods are pollinator-dependent. Apples, apricots, avocados, lima beans, blackberries, blueberries, cabbage, canola, citrus, cucumber, eggplant, kiwi, mango, melons, peaches, pears, peppers, pumpkins, strawberries, sunflowers, squash, and watermelon are all pollinator-dependent crops.

In Kansas, where food access issues and nutritional imbalance impact a wide swath of the population, and access to healthful foods can be greatly enhanced by local production and availability, **pollinator protection is extremely important.** Access to healthful, vitamin- and nutrient-rich fruits and vegetables depends on pollinator services, which requires pollinator populations sufficient to carry out the task.

POLLINATORS AT RISK

Worldwide, pollinators are in decline – and we can assume the same is true in Kansas. Habitat loss, increased use of pesticides and other chemicals, and introduced diseases and pests all play a role in pollinator decline. In 2000, the Convention on Biological Diversity declared a “pollinator crisis” and implemented an International Pollinator Initiative aimed at stemming the tide of the decline (FAO, 2014). Since then, awareness of the crisis has increased but pollinators continue to struggle. Calling attention to the gravity of the situation, in June 2014 President Obama issued a Presidential Memorandum directing federal agencies to “reverse pollinator losses and help restore populations to healthy levels” (Balmer, 2014).

Loss of habitat due to large-scale conversion of natural areas to cropland and pastures is one of the primary culprits in pollinator population decline over the course of the last century. In Kansas, 90 percent of the state’s 53 million acres have been converted to farmland, with 57 percent in monoculture and 29 percent in pastures. The result is a homogenized landscape devoid of habitat for pollinators and other wildlife.

Pesticides and other chemicals used in agriculture also play a significant and growing role in declining pollinator populations. By 2006, neonicotinoids, a class of systemic insecticides introduced to the market in the 1990s, were the fastest-growing class of insecticides in the history of synthetic insecticides. **There is mounting evidence that neonicotinoid insecticides cause significant harm to pollinators** and are accelerating pollinator population declines. The European Commission has banned use of three neonicotinoids based on a study which concluded that the insecticides posed “... a high, acute risk” to the food supply and economy (EEA, 2014).

WHAT CAN BE DONE?

In order to ensure adequate availability and access to healthful foods across Kansas, pollinator populations need protection.

Critical steps for shoring up pollinator populations, fundamental to ensuring long-term availability of and access to healthful food in Kansas and globally, include:

- **Providing habitat specific to pollinators,**
- **Increasing natural areas within the agricultural landscape, and**
- **Eliminating use of harmful pesticides.**

Everyday Kansans and policy makers should consider these key priorities in their work to address farm and food issues in their communities and statewide.

Appendix IV: A List and Literary Review of Kansas Food System Reports

Core content provided by Contributing Writer: Chavis Lickvar-Armstrong, Center for Public Partnerships and Research, AAI

INTRODUCTION – HISTORICAL BACKGROUND

Food production through agriculture has long been a source of struggle, prosperity, and overwhelming pride in Kansas. Early, nineteenth century explorers like DeSoto, John Smith, and Jacques Cartier described the cultivation of “good and large fields of corn” by Native Americans in the region (Bureau of American Ethnology, 1907; White, J., 1913). Maize, or Indian corn, was a staple in the diets of Native Americans throughout the continent. Archeological evidence dating back to the 1600s suggests that some native communities relied on agriculture to settle and remain in Kansas (Banyasiz, M., 2013). By cultivating the land, Native Americans in Kansas were able to sustain themselves in times of need and enjoy a rich and diverse diet in times of plenty. However, growing crops never fully replaced the indigenous tradition of hunting and gathering food.

The fertility of these Midwestern lands played a major role in shaping the image and the spirit of the settlers who called Kansas home. Once the state lines were drawn, in the 1850s, delegates and prospectors who had interest in attracting inhabitants began marketing Kansas as a garden utopia throughout the nation. Feeling threatened by the loss of work force, the East Coast retaliated by publishing writings depicting Kansas as a desert wasteland. In a sense, they were both telling simple truths, and the people who could attest to that were Kansans. The shifts between feast and famine caused many to leave the state, but those that stayed earned reputations as, “an especially hardy breed of yeoman farmers. ...Those who stayed would be chastened and gain a clear-eyed, pragmatic approach to life” (Shortridge, J.R., 2005).

Below we offer a list of over 30 years of reports related to Kansas food systems, and cite key findings and recommendations from select reports to highlight thematic messages along that timeline.

Taken as a whole, the farm- and food-related studies and reports listed below demonstrate how Kansans have become increasingly disconnected from the food their state produces. They reveal how Kansas agriculture now produces fewer food types, on larger farms and with fewer farmers than in years past. At the same time, residents of the state invest less in Kansas-produced food and rely more on imported food than ever before.

LIST AND LITERARY REVIEW

KANSAS FOOD PRODUCTION & FOOD SYSTEM REPORTS

Kindscher, K. (1982). *The Kansas Food System: Analysis and Action Toward Sustainability*. The Kansas Rural Center and Rodale Press.

The Kansas Rural (KRC) Center published its first report about food production in the state and its effects on the overall food system in 1982. Written by Kelly Kindscher of KRC, in collaboration with the Cornucopia Project of Rodale Press, *The Kansas Food System: Analysis and Action Toward Sustainability* study provides an in-depth analysis of the system of food production and consumption trends in the state of Kansas at that time. In the study, Kindscher discusses the impact of agriculture on the environment and natural resources, and offers suggestions for the creation of a more sustainable food system; a food system that is, “culturally, environmentally, and technologically sustainable in respect to production and all other aspects of the Kansas food system – including resource inputs, cultivation techniques, processing, and distributing.” By taking into consideration the physical geography of the state, the increased industrialization of food production since World War II, and the decrease in product diversity, the study

determined that, “production of crops as currently practiced in Kansas is not sustainable into the future.”

The report states that change will occur when, “vocal, intelligent, and concerned people take action to change current structures, systems and practices.” It provides a list of actions that enable consumers, industry, and government to do just that.

The report suggests that the first step towards achieving a sustainable food system is for Kansas consumers to purchase food grown in Kansas. Producers were encouraged to label their products with the registered trademark, “From the Land of Kansas,” a brand that was recently resurrected through the Kansas Department of Agriculture’s statute-required Trademark Program. Kindscher does not deny that purchasing and eating foods produced by Kansas farmers requires a change in diet; eating seasonally and putting effort toward ensuring wheat and dairy products are produced in Kansas. Consumers are recommended to keep their dollars circulating locally by shopping at local or regionally owned grocery stores. Citizens are advised to make an effort to understand the challenges that local farmers face, to get involved with what their children eat at school, and to have discussions with community members about food and hunger both locally and abroad.

Kindscher further suggests that farmers consider alternative agricultural practices and energy sources for production that would mitigate soil erosion and the need for chemical fertilizers. Growers are advised to get to know consumers and take charge of marketing their products directly to them. This would allow consumers who want to support local foods the ease of finding those goods.

Finally, **Kindscher advised producers to join farm organizations, to become “an organized force when seeking legislation, to create marketing channels and to share and exchange information and skills.”**

Business and government certainly play a role in whether the suggestions above are easily achieved. Kindscher states: **“The State Government of Kansas and the Extension Service at Kansas State University can take a much more active role in promoting food self-reliance, a more regional food supply, and in developing a sustainable food system for Kansas.”** One of the primary ways they can do this is by working with agri-business to provide “information and guidance through specific research and legislation.” Examples of legislation that would strengthen the state’s food system include requiring state institutions to purchase local foods when they are available at the same level and quality as imported foods. Kindscher also suggests that the state government should make greater strides to provide guidance to the state land grant college to move toward a decentralized and diversified agricultural system. The report points out that state governments have an opportunity to establish progressive policies that will shape the type of food system a state has.

Kindscher’s report concludes that following the outlined recommendations would bring Kansas closer to achieving goals for its food system that include: abundance, dependability, sustainability, safety, efficiency, appropriateness, equitability, wealth, flexibility, and openness.

Fund, M. (February 1999). Kansas Food System: Local Production of Fruits and Vegetables Offers Opportunities for Farmers and Consumers. *Rural Papers*, 7-11.

Mary Fund of the Kansas Rural Center wrote an article for the *Rural Papers* publication providing a summary of a 1998 update to Kindscher’s *The Kansas Food System* analysis. The new study was conducted by Kindscher and the Kansas Biological Survey. Fund reports that sixteen years after the original analysis, production trends changed little in the state. The number of farmers decreased, while the scale of individual farming operations increased. This study used 1996 consumption statistics to identify gaps in production and consumption for specific food products. According to the updated report, “Kansas

produces much more than it consumes in meats and grains, commodities which play an important role in [Kansas's] export economy...the state increasingly relies on imported foods as our source of fruits, vegetables, and other specialty crops.”

The report goes on to illustrate the potential for family farmers to fill in those gaps by allocating resources toward production of fruits, vegetables, and other specialty crops.

Creating this type of regional economy would allow farmers to eliminate certain profit takers by connecting directly with the consumer, while boosting the state's economy. The farmer wanting to pull out of the global commodity price market, however, would need help in the form of niche marketing and credit programs for small/beginning operations that specialize in local food production.

Pothukuchi, K. (2004). Community Food Assessment: A First Step in Planning for Community Food Security. *Journal of Planning Education and Research*, 23: 356. Retrieved from http://www.cdc.gov/healthyplaces/healthtopics/healthyfood/community_assessment.htm. doi: 10.1177/0739456X04264908

Kami Pothukuchi is a professor at Wayne State University in Detroit, Michigan, whose research interests include community food systems and community participation in planning. Pothukuchi's article reports on nine community food assessments (CFAs) around the United States to identify common traits that planners can incorporate into their practices. All of the CFAs analyzed had a common concern for establishing a sustainable food system.

Sustainability in a food system, the assessment concludes, is achieved by, **“creating spatially closer links between two or more food system activities; making specific food system activities more environmentally sensitive; including previously excluded players such as small farmers and low-income consumers; and educating community residents about their participation in food systems.”**

This research aims to illustrate the integral role CFAs play in planning a community and the potential for community planners to lead CFAs.

Champion, B. (2007). The Political Economy of “Local Foods” in Eastern Kansas. DPhil. *University of Oxford*. Retrieved from <http://ora.ox.ac.uk/objects/uuid:6f0586d3-7302-4650-9fe7-8254b1e7e1f0>

This dissertation, conducted by a native Kansan studying at University of Oxford in England, assesses the political economy of local food relations occurring in Eastern Kansas as a result of the convergence of alternative agriculture and counter-cuisine movements. Findings from the study reveal how, at the time, local food generally represented a marketing niche in urban consumerism served primarily by regional rural producers.

Champion's dissertation provides insight into the range of different value systems employed by diverse players engaged in Eastern Kansas's local food system. Among 357 Eastern Kansas local food system individuals and organizations interviewed through the study, there were large variations in marketing methods and distances related to scales of production and distribution. In addition, the value systems and types of relationships engaged through these marketing methods were similarly variable.

The report concludes that, while participants in local foods are almost universally doing so for good reasons, if they want to participate consciously in ways that challenge facets of the dominant food system then they must validate their values as they deepen those local relationships. The study reveals that “local” can mean very different things to different people and in different contexts.

Meter, K. (2008). Eastern Kaw River Region (Kansas) Local Farm & Food Economy: Highlights of a Data Compilation. Crossroads Resource Center. Retrieved from <http://www.crcworks.org/?submit=fffc>

Crossroads Resource Center partnered with the Kansas Rural Center and Kansas State University to gather data on the food and farm economy in the eastern Kaw River Region, in Northeast Kansas.

Peterson, H., Selfa, T., and Janke, R. (2010). Barriers and Opportunities for Sustainable Food Systems in Northeastern Kansas. Sustainability 2010, 2, 232-251. Retrieved from <http://www.mdpi.com/2071-1050/2/1/232>. doi:10.3390/su2010232

This cross-discipline analysis was conducted by Kansas State University professors specializing in agricultural economics, horticulture, and sociology. It seeks to understand barriers and opportunities for a more sustainable food system in Northeastern Kansas. Through the study, producers and buyers both identified barriers regarding mismatches of available quantities and prices. At the time, producers' enthusiasm to supply locally exceeded buyers' interest to source locally. Transportation was identified as one of the major concerns by producers.

DCFPC. (2011). Building a Deep-Rooted Local Food System: A Food System Analysis for Douglas County, Jefferson County & Leavenworth County in Kansas. Produced for the Douglas County Food Policy Council. Retrieved from http://www.douglas-county.com/depts/ad/su/su_fpc.aspx

The goal of this report is “to identify the challenges and opportunities for a successful and sustainable local food system” in the tri-county area that includes Douglas, Jefferson, and Leavenworth counties. The report highlights key findings from an assessment of both newfound data and data cited in the two sources listed above (Meter, 2008; Peterson, et. al., 2010).

Key findings of the report include: a 54 percent overweight and obesity rate, more than 10,000 residents struggling with food access issues, \$392 million spent on food annually, and less than 0.1 percent of land devoted to vegetable production in the tri-county region.

The report outlines a plan for addressing those key issues by: **preserving prime agricultural land for farming; increasing and incentivizing local production and consumption of fruits, vegetables, poultry, and dairy; attracting food processing businesses to the region; offering incentives for new and existing food retailers to better serve low-access neighborhoods; and supporting the expansion of farmers markets, community gardens, and mobile food carts/trucks that sell fruits and vegetables to help provide greater access to healthful food.**

Anegon, Angela. (2014). Evaluating the Local Food System of Manhattan, Kansas: Producer and Institution Perspectives. Masters of Science Thesis. Kansas State University. Available upon request.

Angela Anegon's Master's thesis, submitted to the Department of Agriculture at Kansas State University, evaluates the “characteristics of a local food system within the fabric of an agriculturally rich state.”

Through her research, Anegon sought to understand the barriers that kept producers surrounding Manhattan, Kansas, from expanding into institutional markets like school and hospital dining services and grocery stores. Anegon surveyed 162 producers within a 150 mile radius of Manhattan, Kansas, and interviewed 11 local institutions. Counties within the Kansas City Metropolitan area were purposefully excluded from this study

because similar research was taking place in those areas at the same time. This compilation of qualitative data revealed the common themes addressed in the following paragraphs.

In general, the producers surveyed were small-scale, diverse producers who relied mostly on direct sales to consumers. These direct-to-consumer markets include farmers markets and community supported agriculture (CSA) arrangements (see Glossary). Anegon notes that one of the disadvantages of this type of marketing is the small scale, which leads to limited economic stability for these producers.

Many producers want to stabilize their income by scaling up their production to meet not only the demands of their consumers, but also break into the direct-to-institution market. This is an emerging concept in which local producers market their products directly to public and private institutions like schools, universities, hospitals, prisons and other retail locations. In theory, this type of marketing should mimic the positive aspects of direct-to-consumer marketing (social, economic and environmental benefits) while allowing producers to scale up production and contribute to a larger regional food system.

The data collected from the producer surveys and the interviews with institutions revealed challenges that keep producers from accessing the direct-to-institution markets. Producers expressed concerns that included low prices, small production quantities, and delivery costs. Institution concerns also included production quantities, seasonality, quality of communication, and food safety. The report states that improving communication between producers and institutions, and allowing producers greater access to resources to increase seasonal production, can help lead to successful direct-to-institution marketing, to further develop the local food system in Manhattan.

Anegon concludes that in Manhattan, **local food system development hinges upon allowing producers access to the resources they need to increase production and break into direct-to-institution markets.**

KANSAS HEALTHFUL FOOD ACCESS & CONSUMPTION REPORTS

Adrian, M. (1997). Kansas and Nutrition. *Kansas Health*, 1:6.

Arya, R., Zhang, Y., Wilkinson, A., and Adrian, M. (1997). The Rise of the Salad Bar: Nutrition in Kansas. *Kansas Health*, 1: 6.

In 1997, the Kansas Health Institute (KHI) published a series of articles in its bimonthly publication, *Kansas Health*, that put a spotlight on consumption trends in the state, and the effects those trends were having on public health. At that time, it was “estimated that more than one in three Kansans [would] die of coronary heart disease alone, and that one in five [would] develop symptoms of the disease before the age of 60” (Adrian, 1997).

KHI’s research showed that a number of factors influenced food choices: age, gender, marital status, education, employment, and income. Both articles made the point that food choices influence the health of the individual along with the health of the overall population. Arya’s article (Arya, R., et. al., 1997) took the research a step further and tried to understand the relationship between nutrition and health in the state. Using data from the Behavioral Risk Factor Surveillance System (BRFSS), KHI determined that “only 31.8 percent of Kansans consumed five or more servings of fruits and vegetables per day as recommended” (Arya, R., et. al., 1997), and that age and level of education received were the variables of greatest influence when it came to people’s dietary choices.

Eberhart-Phillips, J., Walsh, E., & Bhakta, N. (2010). Health Risk Behaviors of Kansans: 2009 Kansas Behavioral Risk Factor Surveillance System. Kansas Department of Health and Environment Bureau of Health Promotion.

LaClair, B. J., (2010). Kansans Not Following Nutrition Guidelines: Findings from the Kansas Health and Nutrition Survey. Kansas Health Institute, Issue Brief. Retrieved from <http://www.khi.org>.

Knowing that dietary choices directly impact health and wellness, the Kansas Health Institute (KHI) conducted a study to assess the overall dietary quality of persons in the state of Kansas. In 1995, the USDA's Center for Nutrition Policy and Promotion developed the Healthy Eating Index (HEI), a tool that allows researchers to assign a score to individuals' diets based on survey results. KHI made this tool specific to factors that influence Kansans' diet and physical activity behaviors, resulting in the Kansas Health and Nutrition Survey (KHANS).

The data collected from this survey revealed that "a majority of Kansans were unaware of the USDA's recommended dietary guidelines and an even greater number failed to consume a healthy diet" (LaClair, 2010). In fact, only 8 percent of the surveyed individuals achieved a "good" score on the HEI. Understanding the factors that influence Kansans' dietary decisions, the report explains, provides an opportunity for policymakers to take action by improving access to and affordability of fresh fruits and vegetables, and for consumers to make more informed choices.

LaClair states that the greatest impact policymakers can have on the dietary habits of Kansans is to implement public policies that "foster a supportive eating environment and encourage healthy dietary habits," along with policies that encourage children and adults to incorporate more servings of fruits and vegetable into their daily diets.

Pratik, Pandya. (2011). Health Risk Behaviors of Kansans: 2011 Kansas Behavioral Risk Factor Surveillance System. Kansas Department of Health and Environment Bureau of Health Promotion. Retrieved from http://www.kdheks.gov/brfss/PDF/2011_Kansas_BRFSS_Report.pdf

Centers for Disease Control and Prevention. (2013). State Indicator Report on Fruits and Vegetables, U.S. Department of Health and Human Services. Retrieved from <http://stacks.cdc.gov/view/cdc/21642>

This Center for Disease Control (CDC) report gives a national perspective on fruit and vegetable consumption by assessing fruit and vegetable consumption in each state, while discussing behavioral, policy and environmental indicators that influence consumption. The authors touch on topics like school lunches and limitations of the Supplemental Nutrition Assistance Program (SNAP), providing a comprehensive overview that explains why Americans do or do not consume enough fruits and vegetables on a daily basis. The purpose of the report is three fold: to illustrate how states can support greater consumption of fruits and vegetables; to monitor progress and celebrate state success; and to identify opportunities for improvement in fruit and vegetable access.

According to the data collected by the CDC, Kansas falls below the national average in the following areas:

- The percentage of farmers markets that accept Food Assistance (SNAP) benefits;
- The percentage of cropland acreage harvested for fruits and vegetables (Kansas average is 0.1 percent while the national average is 2.5 percent);
- The percentage of census tracts with at least one healthy food retailer within half a mile of the census tract boundary.

Health & Wellness Coalition of Wichita. (2013). Wichita Food Deserts: Why We Should Care. Retrieved from <http://findyourfitwichita.com/food-study.pdf>

The intention of this report is to build awareness and understanding of current accessibility to healthful foods in the Wichita community. With this understanding, the Health & Wellness Coalition of Wichita hopes to bridge the gaps identified in the report to aid in development of a healthier community.

Healthy Kids Challenge. (2014). Nutrition Standards for Kansas Communities. Retrieved from <http://www.healthykidschallenge.com>.

This brief report outlines standards for healthy snacking. It is intended as a guide for other organizations to reform their food practices so that, in time, the snacks and meals they provide will meet these standards.

Kansas Health Foundation Fellows VII. (2013). The Challenge of Increasing Access to and Consumption of Healthy Foods in Kansas: How Might More Stakeholders Work Together More Often in Pursuit of the Common Good? A Discussion Brief. Kansas Leadership Center. Retrieved from http://issuu.com/kansasleadershipcenter/docs/discussion_brief

This report, prepared by the Kansas Leadership Center with guidance and input from the 2012-2013 Kansas Health Foundation Fellows, identifies key issues related to civic leadership in efforts to improve access to and consumption of healthful foods in Kansas. The Fellows were part of a year-long leadership development program offered annually through the Kansas Health Foundation. The 22 participants pooled their experience and knowledge to develop this resource to help Kansans better understand the civic challenges associated with providing access to and consumption of healthful foods. This report focuses on subjective information and aims to capture different interpretations and opinions that exist surrounding the issue. All of the information in this report reflects the questions, ideas, and solutions considered by the participants during the fellowship experience.

This discussion begins by identifying trends related to healthful food access and consumption in the state. Those trends include: growing and more productive farm operations; significant amounts of food waste; increased consumption of processed foods; decreased consumption of fruits and vegetables; increased rates of obesity; increased circumstances of food insecurity; formation of food deserts; lack of knowledge surrounding diets.

Statewide trends mirror those around the nation, and this discussion brief highlights some of the contradictions associated with food production and consumption trends. As American farms are growing larger and more productive, Americans are spending less of their total income on food, and the food that is purchased has less nutritional value. Despite more food production in the nation, there are populations of Americans, and Kansans, that remain food insecure. Factors like rising grain and fuel costs threaten to raise food prices, which would further limit access to healthful food. This report cites research by the Kansas Health Institute that shows how these trends impact how Kansans eat, the perception Kansans have of their diets, and public health overall.

To continue the discussion, the fellows had to work towards a definition of “healthy foods”. Through their discourse they determined that healthy foods are “the basis of a diet that is low in fat, added sugar and sodium, helps fight chronic disease, allows for the maintenance of healthier weights, and is balanced based on expert recommendations,” and is safe for the individual to consume. This definition is based on the insights of the Fellows VII participants, and the report acknowledges this may not fulfill everyone’s definition of healthful food. For example, this definition does not consider whether the food item was

processed, grown with pesticides or from GMO seed, or transported across the nation; all factors that can influence one's perception of whether a food item is or is not beneficial to health.

The fellows provide seven broad categories of conditions that stand in the way of Kansans accessing healthier foods:

1. Affordability,
2. Proximity/transportation,
3. Availability,
4. Sustainability/profitability,
5. Consumer awareness/demand for healthful foods,
6. Consumer capacity to utilize healthful foods, and
7. Cultural norm or expectation.

The fellows conclude that resolving these conditions requires strategies for bringing together diverse stakeholders. Drawing from the experience and knowledge of the fellows, **they determined that accessibility cannot improve until the poverty and income issues that affect Kansans are addressed.** They pointed to the opportunity to incentivize healthful food production by subsidizing fruits and vegetables, forming food hubs, and educating producers on food related business. The fellows suggest that regulations be considered to reduce food waste and to continue using research and technology to increase production. They concluded that consumers must be educated about their diets, and that cultural norms need to change in Kansas. Family meal times and healthy lifestyles, they said, should be encouraged, and education and media campaigns targeting young children are one way to help teach youth about health, nutrition, and consumption.

The report emphasizes the need for food systems to be a consideration of all government planning efforts. It explains that, ideally, civic conversation will continue to shed light on different vantage points and political persuasion, and **coordination across sectors will facilitate the goal of making healthful food more accessible and desirable to the people of Kansas.**

SCALE, Inc. (June 2014). Food Hub Feasibility Study: Northeast Kansas. Douglas County Food Policy Council. Retrieved from http://www.douglas-county.com/depts/ad/su/su_fpc.aspx

This food hub feasibility study, conducted by SCALE, Inc. on behalf of the Douglas County Food Policy Council, offers a current look at the challenges faced by Northeast Kansas producers and consumers when it comes to selling and purchasing locally produced foods. With funding from USDA Rural Development and the Kansas Health Foundation, this report provides an analysis of the food system in Northeast Kansas.

According to the study, there are trials on both sides: "farmers struggle to find sizable, secure, well-paying markets, and the vast majority of consumers do not participate in local food transactions, whether because of awareness, cost, or accessibility." Part of SCALE's investigation involved gathering qualitative data from consumers and food markets (grocers and restaurants) to gauge what buyers perceive to be their greatest challenges in sourcing local food. Producers were questioned similarly, but from the perspective of marketing their goods.

With the local-level information, the researchers took a look at kitchen incubator and food hub models from around the country to see if establishing a food hub in the northeast region of Kansas would provide solutions to the challenges on both sides of the spectrum. The USDA defines a food hub as infrastructure that supports a stronger regional food system by offering a combination of production, aggregation, distribution, and marketing services for small- and mid-scale producers surrounding the hub.

The study found that “Lawrence and Kansas City have developed a relatively mature local food system in terms of both the farmers producing food and individual consumers buying from them.” At this time, consumer desire for locally sourced food does exceed supply and establishing a food hub in the region could be a solution to some, if not all, of the challenges and concerns that were expressed.

Despite the risks associated with subsidizing a food hub in its initial phases, the consultants at SCALE, Inc., believe the time is right for this type of project in Northeast Kansas. The study is frank about the fact that establishing a food hub is no easy task. Like all business models, it requires investment and is not likely to be profitable in the first years. However, there is the possibility that once infrastructure and trust is established, a food hub could work in this region. At the very least, SCALE asserts it is something that warrants further investigation.

Though Lawrence and Kansas City communities have made great strides towards developing a local food system, SCALE suggests there is a chance those strides will stall if the community is not energized. The report provides short-, medium-, and long-term recommendations for getting started. In the short-term, the consultants recommend designating a lead organization to form a planning and implementation team that will develop a Draft Action Plan by the end of 2014.

Launching a pilot food hub is listed as a medium-term recommendation that would happen in 2016. From that point, organizers would start incorporating more products and seek partnerships with the Kansas Department of Agriculture and regional farmers market leaders. There would be an effort to reach beyond the current local food consumer base.

The Douglas County Food Policy Council is using this research to consider the role that a food hub can play in addressing certain priorities for the Northeast Kansas regional food system. Those “Core Functions” aim to help expand opportunities for established producers, help new producers succeed, improve reliability and access, and accessing a new consumer base.

Based on quantitative and qualitative information gathered by the consultants at SCALE, along with case studies of successful food hub in other parts of the nation, the consultants determined that a producer-driven food hub stands the best chance at facilitating those “Core Functions.”

Public Health Law Center, William Mitchell College of Law. (2014). State Laws Impacting Farmers’ Markets in Kansas. Produced for the Kansas Health Foundation. Retrieved from <http://www.publichealthlawcenter.org/resources/state-laws-impacting-farmers%E2%80%99-markets-kansas>

Public Health Law Center, William Mitchell College of Law. (2014). Local Government Regulations of Farmer’s Markets in Kansas. Produced for the Kansas Health Foundation. Retrieved from <http://publichealthlawcenter.org/sites/default/files/resources/08.18.14.Local%20Government%20Regulation%20of%20Farmers%20Markets%20in%20Kansas.pdf>

Healthy Kansas 2020 Steering Committee. (2014). Kansas Health Assessment and Improvement Plan. Kansas Department of Health and Environment. Retrieved from <http://www.healthykansans2020.org/KHAIP.shtml>

In 2014, the Healthy Kansas 2020 steering committee, chaired by Dr. Robert Moser, the State Health Officer and Secretary of the Kansas Department of Health and Environment (KDHE), joined state and local stakeholders to complete a nearly three-year process of conducting a state health assessment and developing a state health improvement plan. This plan is the result of meetings with hundreds of

participants from across Kansas who helped sort and analyze data, researched best practices and evidence-based strategies, and reviewed current assets and strengths in addressing Kansas's leading public health challenges.

The state health improvement plan is organized around three themes: Healthy Living, Healthy Communities and Access to Services. It includes five priority strategies, 15 objectives and more than 50 partner driven activities. This improvement plan outlines measurable targets for the state to improve the health of Kansans by 2020.

The assessment notes that poor nutrition and physical inactivity are the 2nd leading causes of premature death in Kansas. These behaviors have led to a doubling in Kansas obesity rates since 1980 as well as significant increases in certain chronic conditions such as diabetes, coronary artery disease, and hypertension. Cited report data reveals that "two out of every 3 Kansas adults and 1 in 4 youth are overweight or obese, accounting for more than \$650 million in health care costs in Kansas and driving the continued escalation of medical costs due to chronic disease." Poor nutrition and physical inactivity, it explains, are estimated to contribute to 15.2% of deaths (3,700 people) per year in Kansas.

The following summarizes the report's most significant farm-to-fork food system related strategy, goal, and objective, and the corresponding activities proposed by Healthy Kansans 2020 stakeholders to advance them.

Priority Strategy One: "Promote healthy eating and physical activity in Kansas through increased access to farmer's markets and community gardens and through food policy councils and a growing network of schools, worksites and early childhood care providers."

Justification for strategy one: "Individuals with access to healthy foods-farmers' markets, produce stands and/or stores with a high level of healthy selections had a greater odds of consuming at least one serving of vegetables per day."

First listed goal for strategy one: Increase access to healthy foods

First listed objective for goal one, strategy one: Increase local food sourcing

Benchmarks for this objective:

- By 2020, **increase the number of farmers markets** per 100,000 state residents (3.4 in 2012)
- By 2020, **increase the number of state and local food policy councils** (Baseline: 0 state, 1 local in 2011)
- By 2020, **increase the percent of Kansas middle schools and high schools that have planted a school food or vegetable garden** (Baseline: 13% in 2012)

Activities for this objective:

- Establish new, and expand existing, farmer's markets
- Promote and support access to and use of EBTs in farmers markets
- Establish and support state and local food policy councils
- Promote and support farm-to-school and farm-to-institution programs and policies
- Promote and support school and community garden initiatives

The Kansas Health Assessment and Improvement Plan was published six months prior to the completion of *Feeding Kansas: Statewide Farm & Food Assessment with a Plan for Public Action*. The two assessments were conducted completely separately, but have notable overlap in their findings and objectives.

Appendix V: Glossary

The following list offers definitions of key words or phrases used in the Feeding Kansas report.

Advocacy – Any action that speaks in favor of, recommends, argues for a cause, supports or defends, or pleads on behalf of others. Advocacy encompasses a wide range of activities that influence policy and help find specific solutions to persistent problems. *Examples:* research, public education, policymaker education, coalition building, regulatory work, litigation, work before administrative bodies, lobbying, organizing, and voter education. *-Adapted from the Minnesota Department of Health*

Aggregation – The collection of food and farm products from producers to specified locations to generate quantities compatible with direct or wholesale food markets, for sale in whole form or for processing.

-Adapted from [Minnesota Food Charter](#)

Distribution – In terms of food, the process of dividing up, transporting, and delivering food to wholesale, retail, and institutional settings. *-Adapted from [Minnesota Food Charter](#)*

Community Food System – The interconnected steps involved in planning, producing, storing, processing, transporting, marketing, retailing, preparing, eating, and disposing of food and food packages at the community level. *-Adapted from [Minnesota Food Charter](#)*

Community Garden – A garden that is shared by members of a community on public or private land. Gardeners may share resources, talents, and labor to grow and produce food for themselves and/or other members of the community. There are many models that exist. (See page 5 of Clemson Cooperative Extension’s [Starting a Community Garden](#) for examples.)

Community Supported Agriculture (CSA) – A partnership between farmers and customers through which CSA members (typically) provide a farm with up-front capital to cover anticipated costs of the farm operation. In exchange for that capital investment, and/or their labor, CSA members receive a “share” or portion of farm products over an agreed upon period of time. Multi-farm CSAs are also possible. (See KRC’s [Finding your Niche: A Marketing Guide for Kansas Farms](#) for examples of models.)

Cooperative (Co-op) – An agricultural cooperative, or “farmers co-op,” is a cooperative model where farmers pool their resources in certain areas of activity. There are two main types of agricultural cooperatives: 1) [Agricultural Service Cooperatives](#), which provide services such as marketing and supplies to their farmer members; 2) [Agricultural Production Cooperatives](#), in which farmer members pool together to share production resources, such as land and machinery. In *Feeding Kansas*, the word “cooperative” refers specifically to an agricultural marketing cooperative, a type of service cooperative through which farmers (and sometimes consumers) work collaboratively to market their products.

Farm-to-Fork Food System – The web of activities and players that enable food from local farms to be produced, processed, aggregated, distributed, and made accessible for use at food outlets and at home. In *Feeding Kansas*, this phrase refers specifically to incorporating Kansas farms into the supply chain that

provides healthful foods to Kansans.

Farm-to-School/ Farm-to-Preschool – The act of schools and preschools sourcing ingredients for their menus from local farms and/or participating in on- or off-site gardening and other food production activities. Farm-to-School is the official name of a national network that supports a movement to enrich the connection communities have with fresh, healthful food and local food producers by changing food purchasing and education practices at schools, including preschools. (<http://www.farmtoschool.org/>)

Farmers Market – A multi-stall venue at which farmer-producers sell agricultural products directly to the general public at a central or fixed location. -[USDA AMS](#)

Farm Stand – A location or structure that is designed and used for selling farm produce retail, direct to customers, on the same site as the producing farm itself. These stands are typically operated by the individual farmer. Farm stands can be located in any structure besides the farmer’s residence. They may be actual stores, or simply a shed or a table. -*Adapted from Kansas Department of Health & Environment*

Food Assistance Program – Kansas’s version of the federal Supplemental Nutrition Assistance Program / SNAP. Managed by the Kansas Department for Children and Families, the program provides qualifying low-income households at or below 130 percent of the federal poverty level with food benefits and education on food preparation and nutrition. In Kansas, these benefits (formerly known as “food stamps”) are made available through Benefit Cards that function similarly to credit cards.

Food Desert – A low-income census tract where either a substantial number or share of residents have low access to a supermarket or large grocery store. -[USDA AMS](#)

Food Hub – “A centrally located facility with a business management structure facilitating the aggregation, storage, processing, distribution, and/or marketing of locally/regionally produced food products.” -[USDA](#)

Food Policy Council – A formalized group that operates as a nonprofit, quasi-governmental entity, or within a government agency, and caters to both community and local government needs. These groups can provide local, regional, or state governments, as well as residents, information and advice about various policies and programs that support community-based farm and food systems. -*American Planning Association*

Food Security – Access by all people at all times to enough food for an active, healthy life. -[USDA-ERS](#)

Food Swamp – A geographic area where an overabundance of highly-processed, calorie-rich, nutrient poor foods deluge healthful food options. -*Adapted from [The Food Section](#)*

Food System – The interconnected steps involved in planning, producing, storing, processing, transporting, marketing, retailing, preparing, eating, and disposing of food and food packages at any geographical scale. -*Adapted from [Minnesota Food Charter](#)*

Healthful Food – For the purposes of this project, healthful foods include a balanced diet of fruits, vegetables, whole grains, and a variety of different proteins.

Local Food – There is no consensus about how to define “local food” in terms of the geographic distance between production and consumption. However, defining “local” based on marketing arrangements, such as farmers selling directly to consumers, is well recognized. Generally speaking, local food is food grown or raised “close to home,” defined at either a community, state, region, or even country-scale. [-USDA-ERS](#)

Local Food and Farm Task Force – This term is an example of an alternative title that could be attributed to a group performing the type of work described above under “Food Policy Council.”

Policy – Refers to any written plan or course of action designed to influence and determine decisions. When enacted, policy can ensure clear direction, consistency, and sustainability of a plan or course of action. Local policy can be limited by state policy, and both local and state policy can be limited by federal policy. *-Adapted from Minnesota Department of Health*

Processing – In *Feeding Kansas*, this refers to any method of altering food from its original, whole form into a new product. Processing can make healthful foods more convenient for use. However, over-processing may result in an end product that is denatured and can be detrimental to consumer health (such as those this report refers to as “calorie-dense and nutrient-poor”).

Public Policy – Refers to policy in which the public enters into and influences the enactment, execution, and interpretation of legislation, such as that related to public health, safety, and welfare. Public policy can refer to the principles on which laws rest, for the public good or public order. It may also refer to the decision-making and analysis of various governmental decisions. In *Feeding Kansas*, “public policy” recommendations and goals pertain to those public decisions that are codified into written policies, procedures, and laws.

Retail Food Outlet – Any location where food may be purchased by consumers – for consumption on- or off-site. *Examples:* restaurants, grocery stores, convenience stores, farmers markets, farm stands, et cetera.

Rural – Encompasses all population, housing, and territories not included within an urban area. Population thresholds dividing rural from urban locations range from 2,500 to 50,000. [-United States Census Bureau](#)

Senior Farmers Market Nutrition Program (SFMNP) – A federal program that channels grant funds to state and tribal governments to provide qualifying seniors, at or above 185 percent of the federal poverty level, with coupons that can be exchanged for eligible foods direct from local farms. Qualifying foods include fruits, vegetables, honey, and fresh-cut herbs.

Supplemental Nutrition Assistance Program (SNAP) – See “Food Assistance Program” above

Wholesale – The sale of agricultural products in relatively large quantities for resale. Wholesale items are generally purchased at a lower price per unit than direct-to-consumer sales, due to the volume purchased at one time. *-Adapted from Merriam Webster Dictionary*

WIC – A federal nutrition program that provides nutrition and health education, healthful food, and other services to Kansas families who qualify (they may earn up to 185 percent of the federal poverty level).

Appendix VI: Resource Directory

The following list highlights key contacts and resources for particular farm-to-fork work being conducted in Kansas. The list is not comprehensive, it is just meant to serve as a starting-point for those looking for more information on these topics.

Beekkeeping

Lead: **Kansas Honey Producers Association** – *The Kansas Honey Producers Association promotes good beekeeping practices, promotes honey, enables beekeepers from various areas to meet and share experiences and ideas, and publicizes the honey bee as an important contributor to the nation’s food supply.*

Contact Information: Master Beekeepers, *Becky & Steve Tipton*: bstbees@embarqmail.com; (785) 484-3710

Online Resources:

- **Kansas Honey Producers Association:** <http://www.kansashoneyproducers.org/>;
- **KRC Beginning Beekeeping Resource Guide:** <http://kansasruralcenter.org/introductory-beekeeping-workshop-beginning-beekeeping-resource-guide-for-northeastern-kansas/>

Business Planning Assistance

Lead 1: **Kansas Small Business Development Center (SBDC)** – *Kansas SBDC offers consulting, training, and education to existing or beginning Kansas small businesses.*

Contact Information & Website: SBDC: State Director, *Greg Panichello*: 214 SW 6th St #301, Topeka KS 66603-3719; panichello@ksbdc.net; (785) 296-6514; <http://www.kansasbdc.net/>

Lead 2: **NetWork Kansas** – *is a non-profit founded by the Kansas Department of Commerce and Kansas SBDC, cultivates business-building resources to start and grow small businesses.*

Contact Information & Website: NetWork Kansas: P.O. Box 877, Andover, KS 67002-0877; (877) 521-8600; <http://www.networkkansas.com/>

Community Gardens

Lead: **Kansas Community Garden program** – *This joint project of K-State Research and Extension and the Kansas Health Foundation offers resources, grant funds, and an annual conference to support existing and beginning community gardens across the state.*

Contact Information: KSRE: 4-H, *Evelyn Neier*: 9822 Harvest Court, Wichita, KS 67212; eneier@k-state.edu; (785) 410-3760

Online Resources:

Kansas Community Gardens: <http://www.kansascommunitygardens.org/>

Community Garden Resource Guide (Let’s Move): <http://www.letsmove.gov/sites/letsmove.gov/files/pdfs/Let%27s%20Move%20Community%20Garden%20Guide.pdf>

Drift / Crop Protection

Lead: **Kansas Department of Agriculture (KDA)** – *KDA’s Pesticide & Fertilizer Program works to ensure compliance with Kansas statutes and regulations governing products that are used to control pests or to enhance plant growth. They offer compliance assistance and outreach education, complaint investigation, and monitoring inspections.*

KDA’s DriftWatch Specialty Crop Site Registry is a voluntary communication tool that enables crop producers, beekeepers, and pesticide applicators to work together to protect specialty crops and apiaries through use of the registry mapping program.

Contact Information: KDA Pesticide & Fertilizer Program: Program Manager, *Dr. Gary Meyer*: 1320 Research Park Drive, Manhattan, KS 66502; Gary.Meyer@kda.ks.gov; (785) 564-6688 **<-- If you suspect that a pesticide has been misused, including herbicide drift or direct human contact, please report it immediately at this number.**

Online Resources:

- **Kansas Pesticide & Fertilizer Program page (KDA):** <http://agriculture.ks.gov/divisions-programs/pesticide-fertilizer>
- **Kansas Sensitive Crops & DriftWatch page (KDA):** <http://agriculture.ks.gov/divisions-programs/pesticide-fertilizer/sensitive-crops-driftwatch>

Farm Funding, for Kansas Farmers

Lead: **Kansas Department of Agriculture (KDA)** – maintains a list of grants & loans available to Kansas farmers.

Contact Information: KDA: Agricultural Marketing, Advocacy, & Outreach Team – From the Land of Kansas Specialist, *Annarose White*: 1320 Research Park Dr., Manhattan, KS 66502; Annarose.Hart@kda.ks.gov, (785) 564-6755

Online Resource: **Agriculture Grants and Loans Available (KDA):** <http://agriculture.ks.gov/divisions-programs/agricultural-marketing-advocacy-and-outreach-team/resources-and-partnerships>

Farmers, Beginning

Lead: **Kansas Beginning Farmers Coalition (KBFC)** – *The Kansas Beginning Farmers Coalition, coordinated by the Kansas Farmers Union, is a statewide organization working to engage, encourage, and empower beginning farmers of all ages.*

Contact Information: Kansas Beginning Farmers Coalition, Kansas Farmers Union: 901 W 1st Street, PO Box 1064, McPherson, KS 67460; kfarmersunion@gmail.com; (620) 241-6630

Online Resources:

- **Kansas Beginning Farmers Coalition:** <http://www.kansasfarmersunion.com/kbfc/>
- **Kansas Beginning Farmer Loan Program:** <http://www.start2farm.gov/programs/kansas-beginning-farmer-loan-program> *The Kansas Beginning Farmer Loan Program makes loans available at below-market interest rates to help farmers. The program can be used for beginning farmers and ranchers to purchase agricultural land, farm buildings, farm equipment, and breeding livestock.*
- **Financial Assistance Programs for Kansas Beginning Farmers:** http://www.ksrdc.org/BeginFarm_bro.pdf *A list of beginning farmer financial assistance programs, provided by the Kansas State Rural Development Center.*

Farmers, General

Lead 1: K-State University Research and Extension (KSRE) – *KSRE works in all 105 Kansas counties. Local offices are staffed with professionals to serve the public on a range of food & farm related topics.*

Contact Information: KSRE: 123 Umberger Hall; Manhattan, KS 66506; (785) 532-5820

Online Resource: **Map of Research and Extension services in Kansas:** <http://www.ksre.ksu.edu/Map.aspx>

Lead 2: Kansas Center for Sustainable Agriculture and Alternative Crops (KCSAAC) – *KCSAAC supports small family-owned farms in Kansas through research, education and outreach focused on production, storage, processing, and marketing technologies that will boost small farm profitability, protect natural resources, and enhance rural communities.*

Contact Information: Coordinator, *Kerri Ebert*: Department of Biological and Agricultural Engineering, Kansas State University, 129 Seaton Hall, Manhattan, KS 66506; kebert@ksu.edu; (785) 532-2976

Online Resource: **KCSAAC Webpage:** <http://kansassustainableag.org/>

Farmers Markets

Lead: **Kansas Department of Agriculture (KDA)** – *KDA manages a central registration for farmers markets, offers liability coverage, and shares resources through the From the Land of Kansas™ webpage.*

Contact Information: KDA: Agricultural Marketing, Advocacy, & Outreach Team – From the Land of Kansas Specialist, *Annarose White*: 1320 Research Park Dr., Manhattan, KS 66502; Annarose.Hart@kda.ks.gov, (785) 564-6755

Online Resource: **Farmers Market Resources (KDA):** <http://fromthelandofkansas.com/discover-resources/farmers-market-resources>

Farm-to-Retail

Lead 1: Rural Grocery Initiative – Kansas State University Center for Engagement and Community Development works to identify and develop models to sustain retail sources of food for rural Kansas citizens. They offer an online toolkit for grocers and are available for technical support.

Contact Information: RGI: 202 Ahearn, Kansas State University, Manhattan, KS 66506; cecd@k-state.edu; (785) 532-6868

Online Resource: **Rural Grocery Toolkit (K-State University):** <http://www.ruralgrocery.org/resources/>

Lead 2: Kansas Department of Agriculture (KDA) – KDA works with and supports restaurants using Kansas products and retailers selling Kansas products and ingredients through the From the Land of Kansas™ program and website.

Contact Information: KDA: Agricultural Marketing, Advocacy, & Outreach Team – From the Land of Kansas Specialist, *Annarose White*: 1320 Research Park Dr., Manhattan, KS 66502; Annarose.Hart@kda.ks.gov, (785) 564-6755

Online Resource: **From the Land of Kansas™ program (KDA):** <http://fromthelandofkansas.com/>

Farm-to-School & School Gardens

Lead: Kansas State Department of Education (KSDE) – KDSE is the lead agency coordinating statewide farm-to-school efforts. They work with farmers, schools, KDA, and other partners, and offer a central website and contact person for farm-to-school related information and resources.

Contact Information: KSDE: Farm-to-School Coordinator/ Child Nutrition Consultant, *Barb Depew*, RD, LD: 19565 Pauling Run Road, Wamego, KS 66547; bdepew@ksde.org; (785) 456-7388

Online Resources:

- **Kansas Farm-to-School Website (KSDE):** http://www.kn-eat.org/F2S/F2S_Menu/F2S_Home.htm
- **Kansas Green Schools Garden Gate:** <http://www.kansasgreenschools.org/green-schools-garden-gate> Kansas Green Schools offers resources and support for beginning and existing school gardens – which now number over 100 in Kansas.

Food Benefits & Local Foods – Electronic Benefit Transfer (EBT) System for Kansas Benefit Cards

Lead: Department for Children and Families (DCF) – Kansas farmers markets and/or individual farmers may apply to receive and use Electronic Benefit Transfer (EBT) equipment to facilitate food product purchases by customers using either a Kansas Benefit Card (which hold individual Food Assistance benefit funds) or a credit card. EBT machine credit card fees are nationally negotiated and often lower than those available elsewhere.

Contact Information: DCF: Economic and Employment Services, Food Assistance Program – *Chris Tomlinson*: 915 SW Harrison, Suite 580, Topeka, KS 66612-1505; Chris.Tomlinson@dcf.ks.gov; (785) 296-5416

Online Resources:

- **Market Link:** <http://marketlink.org/> (see if your farm or your farmers market qualify for EBT)
- **“Learn about SNAP Benefits at Farmers Markets” (USDA):** <http://www.fns.usda.gov/ebt/learn-about-snap-benefits-farmers-markets> (informational)

Food Benefits & Local Foods – Senior Farmers Market Nutrition Program (SFMNP)

Lead: Kansas Department of Health and Environment (KDHE) – SFMNP provides vouchers for low-income seniors for the purchase of Kansas grown fruits, vegetables, herbs, and honey from participating farmers markets, roadside stands, and CSAs.

Contact Information: KDHE: Bureau of Health Promotion, Physical Activity/ Nutrition Program – *Anthony Randles*, MPH, PhD: 1000 SW Jackson, Suite 230, Topeka, KS 66612-1270; arandles@kdheks.gov; (785) 296-8060

Online Resource: **Kansas Senior Farmers Market Nutrition Program webpage (KDHE):** <http://www.kdheks.gov/sfmnp/>

Food Benefits & Local Foods – WIC (Women, Infants & Children) Program

Lead: **Kansas Department of Health and Environment (KDHE)** – *WIC provides nutrition and health education, healthful food, and other services to Kansas families who qualify. WIC's goal is to help keep pregnant and breastfeeding women, new moms, and kids under age 5 healthy. Part of the WIC program includes providing checks to buy healthful food.*

Using WIC checks at farmers market or with farm vendors is possible through strategic planning and coordination. However, integrating WIC into the EBT system may be a stronger/simpler option for Kansas.

Contact Information: KDHE: Bureau of Family Health – Nutrition & WIC Section Director, **David Thomason**, MPA: 1000 SW Jackson, Suite 220, Topeka, KS 66612-1270; dthomason@kdheks.gov; (785) 296-1324

Online Resource: **Kansas WIC Program (KDHE):** <http://www.kdheks.gov/nws-wic/index.html>

Food Nutrition Education

Lead: **Kansas State University Research & Extension (KSRE)** – *KSRE's Family Nutrition Program (FNP) provides nutrition education at no cost to Kansas families with limited resources. FNP is the Kansas version of the Supplemental Nutrition Assistance Program Education (SNAP-Ed). It is sponsored by the USDA through a contract with the Department for Children and Families (DCF), and implemented by KSRE. Programming takes place in more than 80 of Kansas's 105 counties, through the efforts of County Extension Agents, their assistants, and a number of partnering agencies.*

Contact Information: KSRE: Extension Human Nutrition/ Department of Human Nutrition – FNP Coordinator/ Assistant Professor Extension Specialist, **Sandra Procter**, PhD, RD, LD: 204 Justin Hall, K-State University Manhattan, KS 66502; procter@k-state.edu; (785) 532-1675

Online Resource: **Family Nutrition Program webpage (KSRE):** <http://www.he.k-state.edu/fnp/>

Food Policy Councils / Local Food and Farm Task Forces

Lead: **Kansas Alliance for Wellness (KAW)**

Contact Information: KAW Coordinator: Advocacy Project Director at American Heart Association, Kansas, **Missty Lechner**. AHA Midwest Affiliate, 5375 SW 7th Street, Topeka, Kansas 66606; Misssty.Lechner@heart.org; (785) 228-3419

Online Resources:

- **Food Policy Council Resources (Public Health Law Center):** <http://publichealthlawcenter.org/resources/food-policy-council-resources/> *The resources included on this webpage provide strategic direction to Kansans seeking to create and implement food councils or task forces to increase access to healthful food.*
- **Food Policy Network (Johns Hopkins Center for a Livable Future):** <http://www.jhsph.edu/research/centers-and-institutes/johns-hopkins-center-for-a-livable-future/projects/FPN> *This website hosts a national network of food policy councils, provides examples of model policies, and includes an extensive resource database with thousands of reports written by or for food policy councils/ task forces.*

Food Safety

Lead: **Kansas Department of Agriculture (KDA)** – *KDA's Food Safety and Lodging program promotes public safety by regulating the production and sale of food products in Kansas.*

Contact Information: KDA Food Safety & Lodging – Program Manager, **Steven Moris**, CPM: 1320 Research Park Drive, Manhattan, Kansas 66502; steve.moris@kda.ks.gov; (785) 564-6767

Online Resources:

- **Food Safety & Lodging (KDA):** <http://agriculture.ks.gov/divisions-programs/food-safety-lodging>
- **Food Safety for Kansas Farmers Market Vendors (KSRE & KDA):** <http://www.ksre.ksu.edu/bookstore/Item.aspx?catId=201&pubId=17219>
- **Good Agricultural Practices (GAP) Cost-Share Program (KDA):** <https://agriculture.ks.gov/ksda/services/grants-and-cost-share-programs/good-agricultural-practices-%28gap%29>

Pollinators & Pollinator Habitat

Lead: **The Xerces Society for Invertebrate Conservation** – At the time of writing, there is no specified in-state lead on this subject in Kansas. However, Kansas is served by a regional Midwest Pollinator Conservation Specialist through The Xerces Society. Xerces is a nonprofit organization at the forefront of invertebrate protection worldwide, harnessing the knowledge of scientists and the enthusiasm of citizens to implement conservation programs.

Contact Information: Midwest Pollinator Conservation Specialist, *Jennifer Hopwood*: jhopwood@xerces.org; (855) 232-6639

Online Resource: **Xerces pollinator conservation page:** <http://www.xerces.org/pollinator-conservation/>

Value Added Food Processing

Lead: **Kansas State University (KSU)** – KSU's Value Added Foods Lab offers food-related businesses, processors, and entrepreneurs numerous services. They process requests and inquiries in regard to new food concepts; assist in the production of new foods or consult on methods of adding value to existing ones; perform a wide variety of physical, chemical, microbiological, and sensory evaluations; conduct shelf-life tests to determine expiration date; review product labels for compliance with state and federal guidelines; generate nutritional information panels from available databases or by chemical analysis; offer HACCP and food safety training; act as a "Processing Authority," as defined by the Food and Drug Administration (FDA); suggest suppliers for ingredients, packaging materials, and equipment; answer questions concerning food processing rules and regulations; and offer publications on food processing issues such as labeling and sanitation.

Contact Information: KSU Value Added Foods Lab: 216 Call Hall, Manhattan, KS 66506; kvaf@ksu.edu; (785) 532-1668

Online Resources:

- **Kansas Value Added Foods Lab:** <http://www.ksre.ksu.edu/kvaf/p.aspx>
- **Value Added Producers Grant (USDA Rural Development):** http://www.rurdev.usda.gov/BCP_VAPG.html



Water Policy in Kansas

Kansas's state-level water policies are directed by a number of government agencies. These include:

- **Kansas Water Office (KWO)** – the water planning, policy, coordination and marketing agency for the state. The primary statutory function of the agency is the development and implementation of the Kansas Water Plan. KWO, in coordination with KWA, reviews all water laws and makes recommendations to the Governor and Legislature for needed legislation to ensure water policies and programs address the needs of all Kansans. *(KWO: 901 S. Kansas Avenue, Topeka, Kansas 66612; (785) 296-3185; kwo-info@kwo.ks.gov; http://www.kwo.org/contact_us/Contact_Us.htm)*
 - **Kansas Water Authority (KWA)** – statutorily within and a part of KWO, KWA is a governor-appointed board that represents diverse water use interest groups and state natural resource agency leaders. KWA advises the Governor, Legislature, and the Director of KWO on water policy issues. They are also responsible for approving water storage sales, the Kansas Water Plan, federal contracts, regulations, and legislation proposed by KWO.
- **Kansas Department of Agriculture Division of Water Resources (DWR)** – governs the use and allocation of the state's water resources; regulates the construction of dams, levees, and other changes to streams; represents Kansas on its four interstate river compacts; and coordinates the National Flood Insurance Program in Kansas. They administer 30 state laws, including the Kansas Water Appropriation Act, Groundwater Management District Act, Obstructions in Streams, and the Levee Law. *(KDA-DWR: 1320 Research Park Drive, Manhattan, Kansas 66502; (785) 564-6640; <http://agriculture.ks.gov/divisions-programs/dwr>)*
- **Kansas Department of Agriculture Division of Conservation** – works with 105 local conservation districts, 88 organized watershed districts, other special purpose districts, and state and federal entities to administer programs that: improve water quality, reduce soil erosion, conserve water, reduce flood potential, and provide local water supply. *(KDA-DC: 1320 Research Park Drive, Manhattan, Kansas 66502; (785) 564-6640; <http://agriculture.ks.gov/divisions-programs/division-of-conservation/>)*
 - **State Conservation Commission (SCC)** – partners with the Division of Conservation to administer the Conservation Districts Law (K.S.A. 2-1901 et seq), the Watershed District Act (K.S.A. 24-1201 et seq.), and other statutes authorizing various programs. SCC works to protect and enhance Kansas's natural resources and assist local governments and individuals in conserving the state's renewable resources. SCC is comprised of and governed by nine elected officials, each serving two-year terms.
- **Kansas Department of Health and Environment Bureau of Water** – regulates and administers programs related to public water supplies, wastewater treatment systems, the disposal of sewage and nonpoint sources of pollution. *(KDHE Water: 1000 SW Jackson, Suite 420, Topeka, KS 66612-1367; (785) 296-5500; mtate@kdheks.gov; <http://www.kdheks.gov/water/>)*

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