



Item #16-6-2 Information

Land Use & Natural Resources Committee

May 26, 2016

Delta Case Study and RUCS Tools

Issue: SACOG has completed its third case study deploying the RUCS toolkit in the region. Staff is seeking committee feedback on how the RUCS tools have been used in the studies, and on future work building out the RUCS platform.

Recommendation: None, this item is for information and discussion.

Discussion: Over the last two years SACOG has conducted a series of case studies that apply RUCS planning tools to help answer questions about how to stimulate economic development in rural communities. The first case study centered on the agricultural system in Yuba County, while the second delved into rural community development in western Yolo County.

In the June 2016 meeting of the LUNR committee RUCS staff will present the findings of our third case study, conducted in partnership with the Delta Protection Commission and focused on Delta communities in Sacramento and Yolo Counties. The case study combines customized market and financial analysis with model improvements to answer the study's key organizing question: how to capitalize on a local food system assessment to expand market opportunities for agricultural producers. Attachment A provides an executive summary of the Delta Case Study findings.

Each case study has worked with local partners in building upon the base RUCS toolkit to respond to a unique set of questions relevant in the study area. Together, the work of the completed case studies showcases the breadth of the tools' applications to date, as synthesized in Attachment B. Staff will conclude the presentation by summarizing these applications across studies, and seek committee feedback regarding future development and use of the tools.

Staff is seeking committee insight into the following questions:

- How do the RUCS tools relate from your jurisdiction's perspective on economic development?
- How can these tools be most effective for the SACOG region?
- What refinements or additions are needed in the future?
- Are there ways to leverage the tools to support current food system implementation activities?

Approved by:

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Attachment

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Delta Case Study Executive Summary

Background

The Delta Protection Commission has asked SACOG to conduct a case study focusing on a local food system assessment for Delta communities in Yolo and Sacramento Counties. The RUCS toolkit helps not only describe how the current agricultural system is affected by internal and external changes, but also to help envision strategies moving forward to preserve and enhance the long-term viability of agriculture in the Delta.

Current Agricultural Conditions

Agriculture is the centerpiece of the Delta economy and benefits from incredibly productive soil, a moderate climate, multi-generational knowhow and a prime location between two major population centers in Northern California.

The case study area includes the portions of Yolo and Sacramento Counties within the legal Delta, encompassing 151,005 acres of agriculture production split between a variety of crops. The largest crops currently in production by acreage include alfalfa (31,880 acres, or a fifth of the study area), wine grapes (20,000 combined acres of white and red grapes) then corn, wheat and pears. By value the area's top agricultural commodities begin with wine grapes, followed by pears, alfalfa, tomatoes and cherries. Notably, the top twenty crops in the Delta study area account for 95 percent of agricultural value. The gross value of this substantial agricultural output varies by year based on annual commodity prices. The study's modeling efforts estimate the value of agricultural production coming off Delta farms in Yolo and Sacramento Counties at around \$300 million, not including the further substantial economic activity associated with the larger food system.

Emerging Market Opportunities

Agriculture in the Delta is well positioned to capitalize on the rapidly expanding demand for locally grown food, a sector that has witnessed nearly double digit percentage growth year over year. Likewise, consumer willingness to pay a price premium for local, source-identified food also continues to grow, and recent estimates have this price premium at around 20 percent from retail transactions. Even with substantial growth in the local market in prior years there is still substantial unmet capacity for expansion as individual households, restaurants, grocery stores, fresh produce distributors, and institutions such as schools and hospitals across northern California continue to seek out locally-grown food.

The nearly 10 million residents of the Sacramento and Bay Area regions consume over 6.2 million tons (12.5 billion pounds) of food each year. Notably, over half of this consumption is for fruit and vegetables. Delta markets in these produce crops are particularly poised to benefit from increased local consumption trends. Households in metropolitan Sacramento spend over \$6,700 each year for food; this figure rises to \$8,400 in the Bay Area.

Barriers Growing for the Local Market

As a major agricultural economy, the greater Delta region has developed capacity for aggregation, processing, and distribution. Yet with the notable exception of the emerging cluster of activity around resident wineries, agricultural infrastructure in the Delta has closed or consolidated through time. The lack of mid-scale facilities makes it difficult for individual growers to reach the scale needed to access the emerging demand throughout the mega-region. Without this locally-serving infrastructure, produce distributors and wholesalers are challenged to source locally-grown produce at a cost-effective, consistent and reliable scale, instead often purchasing large amounts of produce from outside the region.

Strategies to Support the Local Food System: Delta-Serving Food Hub Model

Infrastructure encompassing aspects of aggregation, packing, processing, storage, marketing and distribution capacity—commonly referred to as food hubs—can help overcome the barriers farmers face in growing for local market demand. Likewise, a food hub can also begin to offer contracts to local growers for fresh produce, and, as it reaches scale, further processing to provide a shelf stable product for both local and export markets.

Drawing on the RUCS toolkit, the project team conducted an in-depth financial feasibility analysis of a food hub serving agricultural production in the portions of Sacramento and Yolo counties in the legal Delta. The food hub model developed in this work identifies crops currently or with the potential to be grown in the study area that respond to pronounced unmet demand, have a high ratio between purchase and sales prices, capture changes in food consumption trends, and allow for value-added activities and a year-round supply.

Overall the project team finds this food hub model serving Delta agriculture to be financially feasible for the hub operator and supplying farmer. Like many business start-up activities, the team's financial estimates suggest the facility would operate at a net loss during its initial years, as volumes are low and the operator incurs equipment and other capital costs. Yet as the food hub facility reaches adequate scale its cost structure shifts to a positive cash flow. At full capacity the Delta-serving food hub would generate a revenue of over \$16 million a year with an annual net positive cash flow of over \$2.3 million to the hub operator. Notably, the food hub facility specified for this project provides a higher economic return than other facility cost analyses due to the unique crop mix supply of local agriculture. However, it is also important to note the considerable challenges in siting new infrastructure and development investments in the study area beyond West Sacramento, due to development limitations resulting from the Delta Protection Act of 1992.

Envisioning the Future: Delta Agriculture Scenarios

Working with the Delta Protection Commission, the case study conducts a range of agricultural scenarios to detail the magnitude of economic, environmental and other outcomes from potential cropping pattern changes. The three identified scenarios—continuing recent trends, advancing a food hub investment, and supporting agritourism—demonstrate varying strategies to leverage the local food assessment for Yolo and Sacramento County Delta communities. The scenarios are constrained by market and environmental conditions to represent feasible near-term shifts that respond to different

policy and strategic goals. Together, the scenarios demonstrate possible strategies that Delta stakeholders may explore to accelerate growth in the local food system.

The first scenario measures the outcomes associated with the continuation of recent trends in cropping patterns over the last several years as farmers have responded to changing market conditions. The scenario shows some steady increases in study-wide economic indicators compared to the base case of existing conditions, illustrating the momentum in food system development through time. The study's final two scenarios however—one encompassing an investment in a food hub facility, the other fostering increased agritourism—offer more proactive strategies to accelerate this economic growth for Delta farmers. Of the strategies modeled in this case study, the food hub scenario provides the highest net revenue and return on investment (ROI) for Delta growers. And with the highest overall gross returns, the agritourism scenario sheds light onto further possible strategies to support agricultural-based economic development. Both the food hub and agritourism scenarios also carry the potential to capture more economic value, not only on the farm, but in further value-adding activities within the larger food system. Yet the difficulty in siting infrastructure may mean this off-farm activity is captured on the periphery or outside the study area.

All three scenarios result in a higher modeled level of farm labor demand compared to the existing conditions; this labor demand translates into potential jobs on Delta farms. The agritourism scenario leads the way in new on-farm labor, followed by the food hub and trend scenarios. In addition to the labor generated on the farm, the scenarios—especially the food hub and agritourism—also would lead to a greater diversity of off-farm employment opportunities, such as processing and distribution in the food hub scenario or commercial establishments supporting agritourism. Finally, the modeled outputs of the scenarios showcase the connection between higher agricultural values and jobs, and the need for a stable water supply.

Conclusion

Overall, the study's analysis and scenarios show a range of strategies to stimulate food system development in a manner consistent with a shared vision for a healthy, sustainable Delta. Notably, the study provides indicators of economic and other impacts as Delta farmers continue to expand on local market opportunities. The case study's trend scenario shows current food system momentum, while the food hub and agritourism scenarios demonstrate strategies to accelerate this trend and further activate the local market opportunity. All three scenarios are small-scale shifts constrained by market and environmental factors; as the strategies embodied by these scenarios grow through time, so too does the potential for further economic return and job creation. Yet while the strategies also provide for further economic activity off the farm, the difficulty in building new infrastructure in the study area may mean this activity occurs farther along the supply chain, not on the farm. As such, the analysis and planning contained in the case study helps also provide connection to how Delta agriculture fits within the larger food system.

**Summary of RUCS
Case Study Tools**


Case Study	Yuba (initial application of tools)	W. Yolo (further additions to tools)	Delta (further additions to tools)
Case Study Major Theme	Agricultural-based economic development	Enhancing established rural communities	Capitalizing on local market opportunity
Applied Tools	Base application	Base tools plus:	Base tools plus
Market Analysis	-Food consumption calculator -Supply/demand imbalances -Barriers	-From farmgate to main street -Place-based development strategies	-Bay Area consumption -Target crops to meet demand
Agriculture Scenarios	-Analyzing extreme conditions and large cropping shifts for key metrics -Parameters on labor and water -Range of scenarios	-Strategies given constrained water availability -Synergy of place-based development & food system	-Market and environmental constraints -Near term strategies -Trend analysis
Fiscal Model	-Urbanization of agricultural land (large shifts) -Infrastructure and service cost, O&M	-Rural main street development (parcel level) -Conversion to housing	-Not applied in case study
Food Hub	-Deployed toolkit (business model, capital costs, phasing, financial feasibility, etc)	-Locational analysis	-Customized pro forma
Transportation	-Truck trip intensity by major agricultural crops	-VMT and emissions -Bicycle tourism	-Agritourism (proximity to roads and highways)
Data Development	-Field level cropping patterns -Soil quality and water use	-Similar local data collection -Update and streamline model	-Similar local data collection -Model enhancements