

Project Title

Florida Planning Grant: Matching Grant

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Situation, Purpose & Objectives

Agriculture in Florida and the SARE Program in the Southern region and nationally have both changed since FAMU and UF developed the Florida SARE Program in the 1990s. One of the most notable changes in agriculture was the effects of farm loss in the 1980s. Nationwide in scope, the economic factors that led to farm loss everywhere were exacerbated by five additional factors in Florida.

The first was prolonged, severe drought in four of seven years between 1980 and 1986^{55, 56}. Farmers raising traditional agronomic crops, corn and soybeans in particular, faced the pressures of increasing costs of production coupled with repeated crop failures. This complement of factors drove many mid-size “family farms” out of production in north Florida. While agronomic crops remain important in the Panhandle, their production virtually disappeared in the remainder of north and north central Florida. Second, tobacco production under the allotment system was a mainstay of both mid-size and small farmers, particularly African-American small farmers. Alternatives were sought, but when the allotment system disappeared, many of these farmers were unable to continue farming²⁵. The African-American farm population, in particular, has been decimated³⁵. Third, the food procurement and distribution system continued to centralize, moving away from reliance on independent brokers who would procure produce from a large pool of growers to a highly centralized system in which a few corporate buyers supply the major food chains. This affected small and mid-scale fresh produce producers very negatively throughout the state. Local packing houses and slaughter facilities, for example, have almost disappeared. Fourth, NAFTA and other trade agreements opened the door to increasing imports of key Florida crops, greatly increasing competitive pressures even for large producers^{10, 36, 39, 45, 50, 67}. Finally, during the entire period from 1980 to 2008, land prices rose precipitously in Florida as urbanization and urban-type development moved into previously rural areas¹⁵. Farmland loss was the inevitable outcome. Large blocks of land in high-value crops could remain in production profitably, but the almost inevitable result of death or retirement of the principal farm operator on small and mid-size farms was to sell the land for development. By the start of the 21st century, Florida agriculture had declined in scope. Perhaps more important, the agricultural system was characterized by a “dual system” of a few large or very large farms, usually under family ownership, and a very large number of small or very small farms, many of them “ranchettes” or “hobby farms.” A small number of traditional small and mid-size family farms remained, the historic core of Extension clientele. The struggle of the land grant institutions has been how to address this changed farm population.

Large producers have a long-standing relationship with the land grant institutions. The system of 18 Research and Education Centers around the state reflect the agricultural diversity of larger scale, conventional agriculture in the state. The Lake Alfred Center in central Florida, for example, is the largest citrus research facility in the world. The Apopka Center focuses on the ornamental plants that form the backbone of large scale, commercial agriculture in that region. The West Florida Center focuses on soybean and cotton production. The Florida SARE Program focused largely on issues associated with environmental stewardship in addressing commercial agriculture. In the mid-1990s, we completed statewide evaluations of the use of environmentally protective practices in six industries statewide: potatoes, sweet corn, container ornamentals, beef cattle, dairy cattle, and tomatoes. Statistically representative samples of producers in each industry were obtained and detailed information about production practices to protect the entire was collected through individual face-to-face interviews. These studies allowed us to identify key emphases for research and Extension, and to identify those opportunities for improving environmental stewardship. Collaborative relationships between

researchers at the Centers and County Extension faculty in agriculture were established. Grant funding, from SARE and other donors, focused heavily on addressing the issues identified.

Addressing the needs of small farmers is more difficult both for the land grants as a whole and for the Florida SARE Program. Small farms are distributed throughout the state and in fact account for more than 90% of all farms in almost all counties. They raise a variety of crops and livestock, often not those that are the center of larger scale production in the area. We established a statewide small farm and alternative crops program to address the needs of these farmers. That program, originally under SARE leadership, matured and leadership moved to the Suwannee Valley Research & Education Center. It is a vital research and extension program today. We also established a statewide Center for Organic Agriculture, under SARE leadership, to address the growing interest in organics by both farmers and consumers. The Center's role is to serve as a point for faculty members and other collaborators in the farm and consumer community to develop collaborative research and extension programs. FAMU and UF faculty have collaborated to develop a number of research and educational programs. Examples include the SARE-funded program to train County Extension faculty in Florida, the U.S. Virgin Islands, and Kentucky about the National Organic Standards. The training materials developed for that program continue in use in Florida and elsewhere. For example, South Carolina will offer the training program in 2012. We also established a specialization in Organic & Sustainable Production in the Department of Horticultural Sciences. This program experiences continued enrollment growth.

Much of the impetus for our planning process came from the realization that the emerging "agrifood" movement may offer alternatives to expand SARE programming in the state. Public interest in food has grown enormously since 2000. General public interest in food and farming is higher than it has been in the post WWII period. This interest developed largely outside the traditional farm community and outside the land grant institutions, both of whom have probably been somewhat slow to recognize the implications of increased public interest for farmers, extension, and education in the agricultural and life sciences. This "agrifood" or "healthy food" movement both reflects and extends beyond the organic food movement. It includes groups that ask where their food comes from, how it is produced, and how their food purchases affect local farmers and farm communities^{38, 69}. However, other sectors and concerns also fuel the contemporary public interest in food systems. In 2000, we produced enough food to provide 3,900 calories per person per day and nutrient content exceeded recommended levels for protein, dietary fiber and 19 critical vitamins and minerals,²⁹. Yet, in 2008, 14.6% of U.S. households experienced low or very low food security²⁴. U.S. households as a whole decreased median spending on food by 6% relative to the Consumer Price Index from 2000 to 2007^{14, 49}. Food insecurity in the U.S. has increased even more as a result of the recession¹⁶ and is spreading to suburban areas⁵³. Another is the growing epidemic of childhood obesity affecting all segments of the population^{31, 46, 61, 69}. The third is the cost, monetary and in human suffering, of diet-related diseases among adults, particularly the aging, like Type II diabetes, morbid obesity, and coronary disease^{6, 38, 47}. Based on our recognition of the need to address the growing public concern with food, we wanted to examine how the SARE Program could contribute to creating more sustainable food systems. We had three main goals:

- 1) To evaluate how these changes may affect the social, environmental, and economic sustainability of Florida agriculture over the next 10 to 20 years;
- 2) To identify and evaluate opportunities for the farm community and land grant universities to respond to both the historic and contemporary changes to generate more sustainable food systems that better incorporate the full range of farms in the state; and

- 3) To develop a strategy for creating an integrated sustainable agriculture program that exploits these opportunities and that addresses the challenges of both large and small farms.

Approach

We completed our process largely as originally proposed, although we did adjust some procedures to accommodate to and take advantage of opportunities that presented themselves to increase participation at our institutions and from others in the state.

Phase I.

We identified a multi-disciplinary core panel of approximately 15 UF/FAMU agriculture and non-agriculture faculty members to lead our process. This core panel had multiple responsibilities. They were responsible in Phase 1 for proposing an overall conceptual framework to guide the content that would inform our process. The panel included faculty members from Horticultural Sciences, Entomology & Nematology, Sociology, Religion, the Office of Sustainability, Agronomy, Food & Resource Economics, Agricultural Extension & Education, and Family, Youth & Community Sciences at UF and members of the Department of Agriculture, the Small Farm Program, and the SARE Program at FAMU. The Project PI and project assistant developed a bibliography of literature to stimulate the initial discussions of the core panel and briefed the panel on the key issues and questions raised in those documents, particularly documents concerning the status and future directions for land-grant institutions.

Our original proposal was to develop four very concise briefing documents covering (1) the structure of the agricultural sector; (2) the contemporary policy and regulatory environment; (3) food sourcing, supply and pricing; and (4) interest on the part of major distributors. As our examination of the issues confronting contemporary agriculture and the role of the land-grant institutions developed, additional topics to be included in the white papers emerged. The result was nine rather than four white papers, each with a more narrow focus. These nine topics are direct marketing, economic multiplier effects, energy, farm size, food insecurity, food safety, health outcomes, non-food agriculture, and water. Two versions of the white papers were produced. The first version informed our internal institutional process by providing information about the topic, a discussion of how SARE has contributed to programming to address the concern or issue in the past, and a series of questions about if and how SARE programming might address the issues/topics in the future. The second version was a highly condensed presentation distributed to interested parties who attended seven visioning sessions.

The core panel of faculty also spent time reviewing the Model State Program, overall institutional commitment to sustainable agriculture and to sustainability in general in the state, and examples of sustainable agriculture programs that could serve as a model for Florida. At this point, the core panel divided into three subcommittees to address the direction of sustainable agriculture research, teaching, and extension at the institutional level. The subcommittees were expanded to include additional faculty working within these areas. A total of approximately 60 faculty participated in the process. Each group developed a set of potential goals and objectives for the Florida SARE program. Rather to our surprise, the most prominent theme to surface during this internal process was a suggested shift in focus for our program. All subcommittees agreed the sustainable agriculture program in the state should be looking at food systems as a whole, particularly regional food systems. The first drafts of the white papers reflected this suggested shift in focus, which also inspired the expansion of topics and changes

in focus. They were completed in time for the statewide stakeholder meeting, the Food Summit, held on UF's campus in Gainesville, FL.

This suggested focus grew out of a number of factors. One was that our review of the literature led us to understand that, despite enormous increases in agricultural productivity, the food needs of the U.S. population are not met. We concluded that the unfulfilled need is not at its core a production issue, but rather an issue of the availability of the food that we do produce to numerous sections of the population. Food insecurity and particularly poor availability of fresh fruits and vegetables are widespread and growing. While it is true that poor, urban communities suffer higher levels of food insecurity, we were frankly surprised by the extent of the problem. Rural areas, for example, can suffer the most from food insecurity as local grocery stores that serve small towns decline in number. Distance to the major chain supermarkets, located primarily in larger communities, can be an enormous barrier to those without personal vehicles^{11, 40, 57}.

The second, and perhaps more important, factor that influenced our interest was gaining an understanding of how intertwined agricultural and urban land uses have become nationally and in Florida over the past 25 years. Florida has 19 metropolitan areas, including seven of the nation's 100 largest metropolitan areas. Only 28 of the state's 67 counties are non-designated rural counties. Further, as is typical nationally, high-value crop production occurs in some of the most highly urbanized counties. The three leading counties for value of agricultural products sold in 2007 were Palm Beach County with \$932 million in sales and a population of 1.3 million, Miami-Dade with \$661 million in sales and a population of 2.5 million, and Hillsborough with sales of \$488 million and a population of 1.2 million. This juxtaposition of intensive agriculture and urbanization is not unique to Florida. Nationally, 91% of fruits, tree nuts and berries, 78% of vegetables and melons, and 67% of dairy products come from urban-influenced counties². Ultimately, we concluded that a focus on regional food systems is appropriate for SARE in Florida.

Phase II.

We had planned to conduct a statewide meeting of stakeholders as a part of this grant, and ultimately coordinated our effort with the Florida Food Summit, spearheaded by the Office of Sustainability. The Director and Assistant Director of the Office were key participants in our planning process. Providing students and faculty with locally produced food has developed as a key focus of the Office. Therefore, when the Office decided to hold a two-day Food Summit, we decided that we should participate in that process, use the Summit to bring together many of the potential stakeholders that we identified in our grant proposal, and conduct our own activities as a part of the Summit. This permitted us to reach a larger audience with the discussion of the future of Florida agriculture, bring together both traditional and non-traditional stakeholders, and bring together more players that would be possible through the grant. The Summit brought together farmers and farmer representatives, UF and FAMU faculty and administrators, representatives of key companies involved in large scale food distribution and vending in the state, and emerging actors in the agrifood and local food movement. The overall objective of the Summit was to identify opportunities and barriers to build more sustainable food systems in Florida with a strong focus on opportunities for increasing local and regional food systems serving local communities and major institutions. This grant covered travel expenses for county and research center faculty to attend the Food Summit.

At the Food Summit, one session was dedicated to Florida SARE Planning Grant activities. State and county research and extension faculty broke into small groups by interest area to

discuss the issues and opportunities identified by the panel. Key questions in each topical area were addressed, primarily to determine (1) faculty interest at the regional and county level in the suggested focal points for programming, and (2) the degree to which the issues identified in Phase I of our process reflected opportunities, constraints, and issues in their own areas. This session led to revisions to our discussion papers to reflect both the institutional (FAMU/UF) interests for sustainable agriculture programming and the interests of stakeholders around the state.

There were two major outcomes from the Summit. First, we found that there is great diversity in the state with regard to interest in and activities directed at integrated food systems. Some areas, like Sarasota County and the seven-county region in NE Florida in the Jacksonville metropolitan area, have very active stakeholders highly involved in developing robust food systems. These include traditional farmers of all sizes, new and beginning farmers, local government agencies, state agencies, local schools, community colleges, and private organizations (mostly consumer organizations like Slow Food or Flagler Heritage Foods). Activities in other areas were minimal. We concluded that there is no way to identify either a common approach that is of interest and benefit statewide or a common set of issues that drive programming and local activities. The second outcome of the Summit activities was that county faculty strongly urged that we alter the original plan of holding one large stakeholder visioning session and instead host several regional sessions around the state. This suggestion was made because the diversity in level of activity, issues of concern, number and type of potential collaborators, and Extension capacity clearly differed greatly from place to place in the state. We therefore instituted this regional approach to the listening sessions rather than the single session we had envisioned.

Phase III

The third and final phase of the planning process was the visioning sessions. We found strong contrasts and provide a summary of the findings at each session here.

As suggested by county faculty, we selected seven sites around the state we considered “hot spots” for sustainable agriculture. These locations are Gainesville area, Indian-River, St. Augustine/Jacksonville area, Tampa Bay area, Pensacola area, Tallahassee area, and Miami area. These are places where there was already an expressed interest in building a sustainable agriculture network of stakeholders and activities were already taking place fostering the development of local and regional food systems. The visioning sessions were designed to encourage discussion of opportunities for addressing topics within sustainable agriculture in the future. The topics were the same topics addressed in the white papers and included direct marketing, water, health outcomes, food insecurity, economic multiplier effects, energy, food safety, farm size, and non-food agriculture. We advertised the visioning sessions through our listserv and with the help of collaborating partners around the state to promote participation of any interested parties, particularly non-traditional partners. At each visioning session participants were asked to vote on three of the nine topics they wanted to discuss. The two or three most voted on topics were selected to be discussed. Participants worked in small groups, one group for each chose topic. The groups were asked to do three things: 1) to brainstorm *opportunities* to address their topic in new and innovative ways (i.e., an opportunity for addressing food security may be through the school system), 2) to identify potential partners for collaboration in pursuing these opportunities, and 3) to suggest several “first action steps” that should be done to get started in addressing their topic. Below are the outcomes to each of the regional meetings.

St. Augustine/Jacksonville Area

Participants of the St. Augustine/Jacksonville visioning session selected to focus the discussion on direct marketing and food security. This group emphasized the need to centralize their local food system by developing a distribution system in their area in order to address direct marketing, particularly to restaurants and schools. Another opportunity identified to address direct marketing was to increase processing capabilities so farmers can offer more value-added products. They identified potential partners to include in these efforts as the institutions in the area (Flagler College, University of North Florida, and First Coast Technical College), farmer's markets, school administration (particularly the food service directors), and Slow Food First Coast. Some of the initial action activities they recommended include building a community certified kitchen, implementing a mobile slaughter facility, procuring trucks for a distribution network, and installing a community garden.

Opportunities to address food insecurity in this area focused on partnering with institutions to research extending the growing season and diversifying products. The group also felt there should be more of an effort to educate consumers on the availability of local food and the benefits of investing in local agriculture. They recommended collaborating with local school boards, county government, medical practitioners, and the North Florida Grower's Exchange to connect with consumers through the development of a local food guide, social media, educational programs, and farm tours. They also discussed opportunities to encourage individuals interested in becoming new and beginning farmers by offering incentives for local producers through state and/or federal programs.

Pensacola Area

Santa Rosa County is one of the most rural in the state and was chosen because it represents a part of the state that has traditionally relied on agronomic crop production with relatively little emphasis on alternative crops or food systems. The discussion at this visioning session centered on food safety with additional consideration of direct marketing. Consumer education was seen as the primary opportunity for addressing food safety concerns. Other opportunities including building a community certified kitchen, establishing a third party processing facility (both for horticulture crops and poultry), and advocating for amendments to policy addressing food safety with regard to small farms specifically. Potential collaborating partners were identified as Panhandle Fresh Marketing Association, institutions (WFREC), representatives of county and state government, consumers, community/school garden groups, 4H, FDACS, WIC, SNAP, Downtown Improvement Board, FNGLA, lobbyist organizations, and Farm Bureau. The group recommended funding food safety audits for farmers and conducting a literature review of food safety research as the first steps in getting started. They also felt including law makers in the research project would help to ensure valuable results that can influence policy. They would like to produce food safety fact sheets to disburse at markets explaining how consumers can improve food safety through preparation.

There were several opportunities discussed to improve direct marketing including online sales, CSAs, and building a distribution center. Panhandle Fresh is currently working on a virtual market that would accomplish several of these activities. Some research has been done in the area that looks at providing vouchers to seniors. Results show that 90% of vouchers were redeemed. The group also felt that increasing agritourism opportunities with the local schools and setting up petting zoos with livestock producers may help to build a stronger local network.

Tampa Bay Area

Sarasota County has been very active with the Florida SARE Program for many years. While often seen as part of the "Gold Coast" (referring to income), communities in the county are

diverse ethnically and in terms of income. It has a very large senior population, many of whom have been very adversely affected by the recession. Water supply and availability is a driving factor in both agricultural and urban development in Sarasota County, which was the first county in Florida to ban further urban development based on water scarcity. The group chose to discuss water, direct marketing, and economic multiplier effects at this visioning session. Drip irrigation and composting were seen as the greatest opportunities for addressing water use in this area. Other opportunities to address water included working with the Food Policy Council to better enforce water permits, eliminate irrigation water entitlement permits given by the water management districts to farms, establish local legislation requiring farmers move to more efficient water systems over time, and offer financial incentives to facilitate the transition. There has also been a growing interest in aquaponics and hydroponics in the area and the group felt we should continue to pursue alternative production systems like these. They identified potential partners to work with as schools, farmers, the League of Women Voters, water management districts, local and state government, technological producers, FDACS, environmental groups, and SCOPE, a highly active non-profit in the area. They feel a good place to start addressing water issues would be hosting a networking field day devoted to issues of water conservation including on-farm tours utilizing innovative technology. They were in agreement that producers may also benefit from additional education programs such as field trips to watersheds and seminars on the “water footprint” of food production and consumption.

The discussion of direct marketing focused on reshaping policies defining how land can be utilized and educating consumers about available products. The group saw opportunities to change purchasing policies to increase direct marketing to schools, increase infrastructure (e.g. processing facilities, co-op), and to develop “farm-based” code that would allow mixed-use zoning. Changing the zoning laws would permit farmer’s markets to establish closer to urban populations who often face food security issues. Opportunities were also identified to better educate consumers by offering programs focused on seasonal cooking, notifying consumers of available products, and providing education materials at farmer’s markets. Collaborating partners identified were farmer’s markets, IFAS, 4H, SCOPE, institutions, distributors, Florida Public Relations and Advertisement Association, Food Policy Council, insurance companies, and healthcare providers. The first step to addressing direct marketing opportunities would be to develop a network connecting farmers with medical practitioners who prescribe sustainably-raised foods to address health issues. The group would also like to see presentations offered, possibly through Extension, explaining the total cost of local food compared to agribusiness foods –for example, local food purchases can be more expensive but present the opportunity to reduce waste cost.

Many opportunities were presented to increase economic multiplier effects within a local food system. Opportunities were seen to diversify the economy through job creation by building a commercial kitchen and processing facility allowing farmers to offer more value-added products. Utilizing these facilities would also increase consumer interest in purchasing locally produced foods. Increased sales could result from accepting food stamps at local markets, connecting with the public schools, and creating an ‘eat local food guide’ for consumers educating them on available products and encouraging them to pledge to convert 10% of their diet to local foods. Decreasing production costs could come through community composting, W.O.O.F. internships, training new and beginning farmers, and harvesting seaweed and algae. Building a strong local food system would also reduce transportation and health care costs in the county. Working towards these opportunities requires partnering with the Economic Development Corporation, city and county neighborhood groups, public and charter schools, Global Organics, hospitals, SCOPE, Food Policy Council, and CHIP. Initial activities the group identified are to create a resource guide and promote Eat Local week, work with SCOPE to collect data on impacts of

local production, work with government and the Food Policy Council to develop a county comprehensive plan, and form partnerships with edible landscape companies.

Tallahassee Area

Tallahassee is the home to Florida A&M University and farmers and other organizations in the County have long been active in Florida SARE programming. Leon County participants chose to discuss health outcomes and direct marketing at the visioning session. They saw the most opportunity to address health outcomes in children by working with local schools to increase farm to school programs by offering local foods through non-traditional channels like after school programs, summer schools/camps, at-risk schools, and private schools. Partnerships would need to be established with school administrators, program directors and food service directors to educate them on what local food is available and the cost benefit of buying things locally when in season. An opportunity also exists to address health outcomes through farm to hospital programs. They suggested using already existing facilities as certified kitchens so farmers can prepare their products to meet the needs of hospitals and schools. Partners include the Progressive Farmers Group, Agriculture Institute, Center for Public Issues Education, Food Distribution Bureau, FL Fruit and Vegetable Association, Farm Service Agency, FAMU, farmers, and the USDA procurement division. They would like to start by hosting a regional networking event that would educate interested parties and create more visibility of farm to school/hospital opportunities among farmers.

This group identified many opportunities to increase direct marketing in the area. Some of the ideas include connecting with consumers through Market Maker, social media, local and radio or television announcements, or developing a directory of small farms. They would like to increase Extension's involvement with small farms and see more on-farm sales taking place. Potential partners to work with in direct marketing efforts include 4H Clubs, FFA, Agriculture in the Classroom, community garden groups, institutions, community based organizations, USDA, Fresh From Florida, religious organizations, and the health department. The group felt establishing a Leon County label would help to eliminate resellers at markets and facilitate purchasing by schools/hospitals. Long term goals for increasing direct marketing include establishing a processing facility and transportation network, and documenting the various products grown locally.

Miami Area

This is the largest population center in Florida with a very diverse population, including a large Hispanic and Latino population. Faculty members in this area have participated in many SARE programs since its inception. To our disappointment, we had very little participation in Miami-Dade County. We do not know why. Rather than following the same format as above, we held a meeting with the CED and a researcher from the Everglades REC. We identified training needs in each of the topical areas relevant to the region's unique circumstances. There is a lot of demand for training and research in horticultural crops suitable for the South Florida region. Many of the growers in this area once produced ornamental crops, largely fueled by new construction. With the "real estate crash," these farmers have been forced to shift their focus to horticultural crops and lack the knowledge in how to produce them efficiently. Many of these growers are also new to direct marketing horticultural crops through farmers markets and direct sales to restaurants and schools so some basic marketing training is necessary. This area has the ability to produce many unique sub-tropical crops. However, they face problems in marketing these crops because the general public does not know what they are and how to cook them. Increasing the amount of value-added products available would possibly encourage consumers to try unfamiliar produce. We discussed increasing consumer education explaining what the different local foods available are and how to incorporate them into their diets. A

potential partner in these efforts would be the Tropical Food Growers Association (they have received several marketing grants focusing on educating the public on the nutritional value of local produce). Consumer education is also needed regarding food safety. Many producers are interested in transitioning to organic or starting an organic operation as well. Training in the National Organic Program was requested, as well as training specific to the needs of new and beginning farmers. The Extension office is receiving increased requests to initiate community gardens and need training on the role of Extension in implementing and maintain the gardens. The Extension office is also facing increased requests from farmers to explore alternative energy options such as solar energy in order to combat power outages.

Indian River

Indian River is both a high-value agricultural county and was one of the most rapidly urbanizing counties in the state prior to the real estate crash. Conversation in Indian River County focused on water use, direct marketing, energy and non-food agriculture. Few suggestions were discussed for addressing energy and non-food agriculture. Many participants were very interested in developing an educational system to promote agriculture and agricultural careers in the community. Transition Towns were an opportunity discussed for addressing rising energy costs. The majority of this session was spent discussing water use and direct marketing, however.

The main focus for direct marketing was the need to develop a local network of people interested in developing a sustainable food system in their area. This area is not as far along in the local and regional food system development as some of the other areas we visited. The group expressed the need to start by building a strong foundation for food systems by bringing people together. They suggested developing monthly “updates” and meetings to get people involved in what’s already happening in their area. Since this is a fairly new focus for their community, an opportunity to address direct marketing is through an educational series that teaches consumers of products available. Partners in this would be community affairs liaisons, restaurant groups, culinary institute, charter schools, Green Markets, Lake Worth, and the Committee for Sustainability, Treasure Coast. The initial activity to be done is to develop an experienced support team to guide educational programming, create interactive media to teach consumers, and initiate conferences and events for publicity.

Water presented a variety of opportunities for addressing sustainability issues in this area. Participants discussed using closed (self-contained) farming systems to reduce on-farm water use, working with aquaponics and subirrigation methods, repurposing used water sources, using grey water, adjusting policy on rainwater usage/collection, and working with large water conservation facilities on redistribution, water farming, and multi-purposing water. Mutually beneficial partnerships could be formed with journalists at Florida Trend Magazine, water management districts, land use building department, Chamber of Commerce, and Indian River State College.

Gainesville Area

Alachua County is the home site of the University of Florida and has been an important source of innovation among small farmers, particularly in direct marketing. In Alachua County the discussion focused on water, economic multiplier effects, and food insecurity. As in many parts of Florida, water use is of increasing importance in this area. Participants would like to take advantage of opportunities to address water use by researching ways to increase water use efficiency in agriculture and developing cropping systems that are appropriate for the environment and soils that will increase water retention capacity. UF’s presence fuels urban growth in the area and increases water demand. Participants therefore felt that public education

to reduce domestic water use is critical. Partners to include in this work include farmers, university researchers, city planners, FDACS, Farm Bureau, Agriculture Associations, WMDs, and FDEP. Suggested activities to begin addressing these issues would include public awareness events, changing the subsidy system where appropriate, gathering a multi-disciplinary research team at UF, and looking for opportunities to conserve water better using the existing infrastructure.

Opportunities for addressing economic multiplier effects in Alachua County were similar to other areas of the state. This group felt promoting value-added products and developing a countywide label would increase visibility of locally grown products. They would also like to see agricultural tourism expanded and a reinvestment in existing infrastructure. Retirement communities are less common in Alachua county than other parts of the state, but still exist and present an opportunity for direct marketing to a vulnerable population. The final opportunities discussed for addressing direct marketing were restructuring land-use policy and increasing opportunities for micro enterprise loans. Participants focused on expanding private-public partnerships to take advantage of these opportunities. Potential partnering organizations were identified as Florida Farm Bureau, Extension services, local food entrepreneurs, action and policy advocates, loan agents, and the Board of Citizens Co-op. Initial useful actionable activities are a farm study looking at the leakages in the local food system and how to fill them, contacting non-profit organizations, and developing a county label through extension services.

There were many opportunities identified for addressing food insecurity. Opportunities that gathered the most support from participants were addressing food insecurity through schools, churches, and community gardens. The group also felt researchers could be instrumental in this area. Opportunities also exist within the distribution system, youth programs, and the newly developed consumer cooperative. Many potential partners were identified with a focus was on identifying partners that could assist with mentorship programs in food insecure communities. Other partners include Blue Ovens Kitchens, financial institutions, youth organizations, Alachua County School Board, Rainbow Produce, and pastors. Necessary initial activities include identifying local food deserts, holding a meeting with interested parties to identify assets in the community, host a kick-off event introducing local food with recipes, providing an educational training to set up a steering committee and learn from other groups, conduct a feasibility study, research pilot projects, and getting at-risk youth engaged.

Outcomes

Our outcomes reflect the conclusions reached by FAMU/UF faculty, the wider network of stakeholders at the Food Summit and the participants in the visioning sessions. We identified four related sets of issues that Florida SARE can potentially help address.

Future Directions for Florida SARE Programming in Research & Extension. The first is to address the constraints that producers face in urbanized and urbanizing counties. Urban land use both poses threats to agriculture, such as soil and water contamination, and places limitations on farming practices. Many of Florida's new farmers are small farmers who farm inside the urbanized area or on its very fringes. Operating farm machinery, application of materials like manure, and the presence of equipment can all pose potential or perceived risks to others, for example. The limitations for larger farms that tend to be farther from the immediate urban land use are different. Competition for water is an example. Farmers who do not have an established record of water use may be unable to gain access to more of this resource in the future. In some areas of the state, agricultural use has already been greatly reduced by the Water Management Districts. Our research and extension efforts need to focus on ways to

maintain and enhance agricultural productivity and profitability and maintain environmental quality in a context of growing influence of urban land use on options for farmers.

The second is to increase farmers' ability to take advantage of the opportunities offered by large urban markets through direct marketing. Both public sector agencies and private organizations emphasize direct marketing as a strategy for small and mid-sized farmers, although few studies have examined the benefits and constraints of direct marketing for farmers^{8, 17}. USDA provides the best data nationally. USDA²¹ reports that the growth of direct-to-consumer food marketing grew by 105% in the U.S. in the period 1997-2007. However, 86% of farmers selling direct to consumers reported annual sales of \$9,000 or less and 58% of the total value of direct sales went to the 3% of farms with sales of \$50,000 or more. USDA's most recent survey of farmers' market managers shows similar disparities in income from farmers' markets; 93% of vendors reported sales of \$25,000 or less at farmers' markets⁵². Sales of less than \$10,000 annually, especially for farmers who depend heavily on direct sales, cannot support a farm family. Extending the growing season can generate greater income. Most farmers markets responding to the USDA survey (88%) were seasonal, operating an average of 4.5 months per year on average nationally. The survey shows that year-round markets reported more than three times the sales of markets open six months or less and seasonal markets that operated for seven or more months showed sales figures similar to those of year-round markets. Florida markets can generally operate seven or eight months per year, making this a better opportunity here than in many places. However, keeping markets open year-round is also important for maintaining consumer awareness and use of the markets and is difficult in Florida. Similarly, supermarkets, institutional buyers, and non-chain food stores commonly cite interruption of the supply as one barrier to purchasing from local farmers. We concluded that Florida SARE should work with organizations like those identified by participants in the visioning sessions to expand direct market opportunities, particularly diversified marketing strategies that increase farm income from direct marketing. Examining alternatives to increase the growing season will also be important in some areas. This focus also addresses the APLU⁴ recommendation to increase and diversify the number and success of profitable alternative agricultural enterprises, value-added and niche markets, and organic production systems.

The third is to explore ways to identify opportunities to develop alternatives to both traditional contract sales through major suppliers and direct marketing. Direct markets are a valuable source of income for some farmers and small farmers in particular often rely on direct sales. However, for mid-size and larger growers direct sales are often less attractive due to the volume they produce and the time that direct sales require. Some studies have shown that farmers' markets are usually economically and geographically inaccessible for residents in disadvantaged communities^{42, 51}, may reinforce racial and class differences in access to fresh produce^{1, 58, 66}, and do not accommodate the constraints of groups like the working poor and elderly⁴³. Therefore, there is growing interest in developing regional food distribution networks that could potentially supply both traditional food vendors and alternative vendors like "mom and pop" stores, mobile food markets, convenience stores, institutions (schools, hospitals, retirement centers), and consumer cooperatives. These networks probably must include some ability to process, like flash freezing, and pack fresh produce. There are a number of potential advantages to these kinds of networks. They increase potential profitability for farms. They create jobs in the food and agriculture sector – and most jobs in the sector are off-farm, not on-farm. They may reduce food loss in the field, storage and transportation. They may also offer the best potential for addressing food availability in underserved communities. Our approach directly responds to the APLU recommendation for Extension⁴ to address ways to increase the use of locally produced food to maximize quality and minimize long-distance transport and to increase limited resource families' and communities' access to local, safe, nutritious and

affordable foods. Finally, it became clear over the course of the planning process that policy is a critical component to creating more opportunities for farmers and providing more nutritious, safe, locally produced food to communities. Local, state and federal policies including food safety, land use, water rights and zoning, affect the options that farmers, public and private actors in the food chain, and consumers have for developing robust regional food systems¹¹. Historically, we have treated “urban” and “rural” as largely disassociated systems with different policy needs^{23, 60}, even though local, state and federal policies that treat rural and urban as two separate domains create unintended barriers to integrated food and agriculture systems in urban-influenced counties⁵⁴. Agriculture has been the subject of rural policy, in spite of the prevalence of farming in urban counties. Policy and programs not directed at agriculture create unintended impacts on the pattern and extent of urban growth and its effect on rural communities and farmers³⁴. Despite differences, local, state and regional policies have had similar impacts on food and agriculture systems nationally²⁶. For example, a limited range of options for protecting agricultural land has developed nationwide⁵⁹ and urban zoning limits agricultural production and processing activities in many urban settings^{7, 13, 63, 68}. CAST¹⁸ and the American Planning Association³ provide key recommendations for finding common ground that benefits both urban and agricultural communities. Understanding policy barriers to agriculture and regional food systems and facilitating the development of local and regional networks to reduce policy barriers, like the Food Policy Council in Sarasota County, may offer fruitful avenues for Florida SARE programming.

We have taken the following actions to address these opportunities for research and extension.

Multi-disciplinary teams led by faculty members who played key roles in our planning process have applied for grant funding to address needs and opportunities for regional food system, incorporating the social, environmental, and economic aspects of sustainability. We have also looked to other institutions such as the State University of New York at Buffalo, to collaborate with us. These institutions provide expertise in areas UF and FAMU do not have, especially urban studies. A team was formed that submitted a proposal to the National Institute of Food and Agriculture that included social and biological research, as well as a teaching component. The proposal was not funded in 2011. The team has reconvened to revise the proposed project in order to respond to a new NIFA RFA for Global Food Security. This proposal will be submitted in 2012.

The Florida SARE program and County Extension also submitted a project proposal in conjunction with a non-governmental educational group to increase food security in a rural community in Sarasota County. This project focuses on increasing farm profitability through development of a local sales outlet to serve the community. This opportunity arose from the visioning sessions in Sarasota County where the community-based collaborators participated.

The Florida SARE program assistant attended four farm-to-school advisory council meetings during 2011. This partnership allowed us to expand our network of partners around the state to include representatives from the Florida Department of Education, Dairy Cattleman’s Association, Small Business and Rural Development, and other school personnel, distributors, and producers from around the state. Our participation in this council has also led to a collaborative effort between FDACS, FLDOE, and UF/FAMU to develop extension and research activities to address opportunities for farm-to-school programs, food distribution networks, and food safety.

In the 2011 and 2012 Florida SARE Program plan of work we adjusted our objectives to reflect the changing interests of faculty at both institutions. We have expanded our activities to include

collaborative efforts with non-traditional partners such as hospitals, schools, non-governmental organizations, and other state agencies not traditionally involved with us, such as the Department of Public Health.

To better reflect faculty and community interest, we changed the name and focus of work of the Center for Organic Agriculture to the Center for Sustainable and Organic Food Systems.

Teaching. Although SARE does not at this time directly address teaching, certainly training the next generation professionals to work in food and agricultural science is critical to the sustainability of the U.S. food and fiber production system. Further, most of our faculty members are involved in graduate education and many in undergraduate education as well. Therefore, we addressed educational opportunities in our planning process, particularly Phases I and II. Our interest was also driven by our increasing awareness of the need for our institutions to create a workforce that addresses APLU's⁵ recommendations to (1) enhance employee's skills and develop programs that address issues important to urban and nontraditional audiences in addition to maintaining Extension's strength in rural areas and (2) increase Extension's capacity for building and working in multi-cultural communities. The National Research Council's⁴⁸ examination of the need to transform agricultural education and several other reports that document the need for a more diverse, representative workforce in agriculture and one whose knowledge extends beyond traditional production agriculture^{5, 9, 33} guided our discussions of the teaching component of sustainable agriculture in Florida. The following actions have been taken.

In the spring of 2011 a cross-disciplinary seminar course, Facets of Food, was taught between the Agronomy department and the Religion department that discussed various elements of food systems. This course will be taught again in the Spring of 2012 and will expand to include the Family, Youth and Community Sciences Department, the Office of Sustainability, Journalism, and Fine Arts. Additional departments have expressed interest in participating in 2013. The course allows students, faculty, and the public the opportunity to participate in seminars by guest lecturers from various organizations and universities working in sustainable agriculture and food systems research and outreach/extension. Students complete post-seminar assignments in small discussion groups.

A new concentration in Community Food Systems was created in the Plant Sciences program.

A graduate student has developed a new course for this concentration that will provide an overview of food systems for undergraduate students. The course will cover three units: food security, key components in the food system, and food policy and programs. We anticipate offering this course in 2012-13. It has already been approved at the departmental level.

The College of Agriculture and Life Sciences at the University of Florida recently appointed a new dean. UF requested information that representatives from outside the University with an interest in the future and direction of land-grant education meet with and submit recommendations for each candidate. Florida SARE invited a community member working in the non-profit sector with food insecure communities to participate in this process and provide input. This individual provided extensive comments to the selection committee.

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