## AGRICULTURE AND RURAL AREA STUDY

# AGRICULTURAL ECONOMIC DEVELOPMENT STRATEGIES TASK 2.A.

**SUBMITTED BY:** 



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### **Agriculture Economic Development Strategies**

#### 1. **Overview**

Globalization of the food system has placed a strain on most American farmers. Agriculture products are viewed as a commodity within industrialized agriculture in which farmers are price takers rather than price makers. Taking advantage of vast economies of scale, the industrialized food system has ensured a low price at the supermarket while pinching profit margins that are often only realized by the wholesalers and large retail outlets. Between 1975 and 1993, the retail price of food outpaced inflation and posted an 18% increase<sup>1</sup>. In 1910, approximately 44% of consumer food expenditures went to the farmer, however, in 1990 farmers received less than  $10\%^2$  of food expenditures.

Narrow profit margins have reinforced the notion that the only way to be profitable is to increase production rates. However, the resulting increased supply lowers the commodity price and further diminishes profit margins. Relief from this cycle has come through price controls, shortterm conservation reserve programs and conversion of land to non-agriculture uses. The conversion of land to inefficient non-agriculture uses, commonly referred to as "suburban sprawl," often is subsidized by federal, state and local governments through publicly funded infrastructure projects, tax credits, tax abatements, cash payments from local governments and low interest loans and mortgages. These incentives are often referred to as "economic development" initiatives, further erodes the economic viability of agriculture operations and industries that receive direct and indirect benefits from agriculture.

Globalization of the marketplace and industrialization of production techniques have increased farm sizes and rewarded techniques that create negative effects in other countries (e.g., higher energy costs, increased pollution, health concerns, etc...) that are not reflected in the market price. However, a growing number of consumers are taking note and are willing to pay a premium to account for these market failures. While local farmers and officials are unable to

Integrity Systems Cooperative Company. Adding Values to Our Food System: An Economic Analysis of Sustainable Community Food Systems. February 1997. Ellerman, John; McFeeters, Don & Fox, Julie. Direct Marketing as a Value-Added Opportunity for Agriculture (AE-8-01). Ohio State

University Extension.

address macro issues, cultivating expanding local markets through direct marketing, addressing land economics, promoting agriculture support industries and supporting appropriate technology are local activities that comprise local economic development efforts in support of agriculture.

The North America Free Trade Agreement (NAFTA), which opened free trade between Canada, Mexico and the United States in 1993, has contributed to the woes of Miami-Dade County fruit and vegetable farmers. High labor and regulatory costs experienced by domestic producers places them at a disadvantage when competing against imports from Mexico.<sup>3</sup> Florida's most significant agriculture commodities are vegetables and fruits, which are typically labor intensive to grow, harvest and process. The hardest hit commodities are tomatoes and bell peppers, although most fruits and vegetables have been affected by low import prices<sup>4</sup>. The Florida tomato industry lost approximately one-third of its value (\$600-\$700 million to \$400-\$500 million) between 1994 and 2001<sup>5</sup>. Nine large tomato operations produce approximately 70% of the tomatoes grown in Florida. In 1996, an agreement between Mexico and the U.S. Commerce Department, established a minimum price structure for tomatoes, but import quotas were not created. Tomato prices have rebounded yet are still below pre-NAFTA levels.<sup>6</sup> Some consumer groups have decried that large agribusiness undermined competition in the tomato market and contend that Mexican tomatoes produced in a wholesome manner and are a superior product.<sup>7</sup>

Since the "Summit of the Americas" in 1994, efforts have been underway to expand the NAFTA model to include the entire western hemisphere excluding Cuba<sup>8</sup>. This expanded agreement is referred to as the Free Trade Area of the Americas (FTAA). Such an agreement would open up U.S. markets to a broader range of commodities as well as allow U.S. commodities to be sold freely in the western hemisphere. If the FTAA is created, labor intensive agricultural operations in the U.S. will continue to harbor competitive disadvantages. As an individual jurisdiction, Miami-Dade County should support trade agreements that ensure a minimum price structure or quota system designed to protect labor-intensive agriculture.

<sup>&</sup>lt;sup>3</sup> Roberts, John S. Jr. FTAA Opportunity or Threat? University of Florida. August 2001.

<sup>&</sup>lt;sup>4</sup> NAFTA and U.S. Agriculture. Rural Migration News (migration.ucdavis.edu). Volume 2 Number 2. April 1996.

<sup>&</sup>lt;sup>5</sup> Gentry, Karen. NAFTA Free Trade Costly for Florida Fresh Tomato Industry. The Vegetable Growers News (www.vegetablegrowersnews.com). August 2001.

<sup>&</sup>lt;sup>6</sup> Fruits and Vegetables. Florida Department of Agriculture and Consumer Services (www.fl-ag.com). 2002.

<sup>&</sup>lt;sup>7</sup> Berlau, John. Squishing Free Trade. Consumer Research available at Consumer Alert (www.consumeralert.org). November 1999.

<sup>&</sup>lt;sup>8</sup> Roberts, *supra* note 3, at 1.

Globalization of agriculture spurred on by trade policy decisions have a profound influence on Miami-Dade County agriculture, yet are difficult to influence from the local level.<sup>9</sup> Therefore, pursuant to Task 2.a. of the Agriculture and Rural Area Study, this report reviews economic development strategies that can be utilized at the local level to strengthen the competitiveness of Miami-Dade County's agriculture industry. Strategies will be described along with their applicability to Miami-Dade County and suggested modifications to local government activities and regulations.

#### 2. Miami-Dade County Agriculture Industry

Agriculture in Miami-Dade County survives despite the County being the most populous in Florida with 2,253,362 residents in 2000<sup>10</sup>. A majority of the agriculture activity occurs west of the urban east coast and east of the protected Everglades. The agricultural environment and economy exhibits the following attributes<sup>11</sup>:

- ?? Agricultural pursuits occupy 7.7% (96,880 acres) of the County land area or 19.6% of the 493,604 acres non-protected area.
- ?? Low natural soils nutrients leads to a heavy reliance on commercial fertilizer along with other soil treatments.
- ?? A wide variety of fruits, vegetables and ornamental plants are grown in the subtropical climate. Freezing is infrequent but delicate vegetable crops sustain damage when freezing does occur.
- ?? Periodic hurricanes and flooding cause large scale crop damage and saltwater intrusion.
- ?? Low rainfall between November and April coupled with porous bedrock makes widespread irrigation a necessity.
- ?? Pest control is a significant issue because many vegetable and fruit species were introduced to the County along with pests. As a major port region, the County is susceptible to overseas introduction of different pests.

<sup>&</sup>lt;sup>9</sup> Degner, Robert L.; Stevens, Thomas J.; Morgan, Kimberly L.; Miami-Dade County Agricultural Land Retention Study – Summary and Recommendations (Volume one of six); Florida Agricultural Market Research Center, Institute of Food and Agricultural Sciences, University of Florida; 2002.

<sup>&</sup>lt;sup>10</sup> 2000 U.S. Census, www.census.gov.

<sup>&</sup>lt;sup>11</sup> Degner, *supra* note 8, at 6-9.

- ?? Small farms (1-9 acres) constitute 59% of all farm entities yet only account for 4% of the land area being farmed. Large farms (180 acres +) make up only 7% of farms but encompass 77% of the farmed acreage.
- ?? Vegetable and fruit crops are labor intensive ventures.

The signing of the North American Free Trade Agreement in January 1994 fundamentally altered the market landscape for Miami-Dade County producers. Relaxing barriers on imported fruits and vegetables, particularly from Mexico, has strained competitiveness due to domestic regulatory requirements and cost differentials between U.S. and foreign labor.

#### **3.** Production Methods

Farm viability is influenced by farming methods, management techniques, goods produced and market price. While it is beyond the scope of this report to explore all methods in which existing farm operations may be adjusted to enhance efficiency, there are three strategies that merit discussion. Generally, these operational strategies involve adjusting inputs, increasing the precision of operations and adding value to products. Of these, value added changes have the most promising benefits in Miami-Dade County. These changes include additional responsibilities for growers such as processing, packaging, marketing and retail functions can position small farms to take advantage of emerging market opportunities and capture a larger portion of the consumer food dollar.

#### A. Low Input Farming/Organics

Low input farming, also known as organic farming, which has emerged as an alternative production method for small farms that limits input costs, minimizes negative externalities, and differentiates the product and dovetails into direct marketing and value added activities. Low input farming relies on methods of using only natural occurring inputs (fertilizer, pest control, weed control, mulch, seed) and frequently no-till methods<sup>12</sup>. Diversification of products to include plants and animals, provides an opportunity for inputs to be produced and used on-site

<sup>&</sup>lt;sup>12</sup> Degner, supra note 8, at 68.

reducing the need for imported material. Diversification hedges the potential for complete crop loss and helps minimize the effects of low prices in any single commodity<sup>13</sup>.

Low input food production reduces negative externalities on the environment from the farming operation and produces healthier foods. These two qualities differentiate the products from nonorganic foods and fill a growing market niche for wholesome foods. Organically certified foods command a higher price than other products. As such, organic producers frequently seek direct marketing and value added opportunities rather than accepting a commodity price dictated through the industrialized agriculture system. Farms that transition from common agriculture practices to organic practices should anticipate low productivity until approximately the fourth year.

There are a number of challenges to operating an organic farm in Miami-Dade County. Porous soils present a significant barrier to organic farming due to sever leaching of natural nutrients in the soil. Organic soil amendment typically takes 3 to 5 years to create suitable soil for organic farming techniques to result in comparable yields to current methods<sup>14</sup>. There are few vegetable species available that are disease resistant, which simplifies organic management practices.<sup>15</sup> Organic fertilizers and plant nutrients material is more expensive and requires additional handling and blending compared to synthetic materials. Weed control to minimize plant competition is another issue that faces low-input producers.

Despite these obstructions to low-input farming, Miami-Dade County farmers may employ numerous low-input strategies that have the potential to lower costs, protect the environment and move operations towards sustainability. Crop rotation, polyculture, use of cover crops, and compost can prevent pests from fortifying on fields thereby lower pest management costs<sup>16</sup>. The adoption of no-till techniques, recycling of crop residue, organic mulches and compost can lower

 <sup>&</sup>lt;sup>13</sup> Cacek, Terry; Langner Linda L. The Economic Implications of Organic Farming. American Journal of Alternative Agriculture. 1986.
<sup>14</sup> Integrity, *supra* note 1, at 16.

<sup>&</sup>lt;sup>15</sup> White, J. M. Organic Vegetable Production (Document HS720). University of Florida (edis.ifas.ufl.edu). September 2001.

<sup>&</sup>lt;sup>16</sup> Integrity, *supra* note 1, at 12.

costs related to equipment, soils additives and plastic mulches<sup>17</sup>. The use of no-till, crop residue and organic mulches strengthen the soils ability to retain nutrient, moisture and soils additives.

Certified organic produce appeals to an increasing number of consumers who are willing to pay a premium for wholesome foods. Miami-Dade County's significant population represents a market opportunity for organically grown agricultural products for a small number of family farms. Producers who are looking to cut costs in order to remain viable should consider adopting low-input management techniques. Research of low-input techniques by the USDA has been minimal.<sup>18</sup> The County should support efforts by the County Extension Office to establish best management practices (BMP's) for the application of low-input and organic farming approaches.

#### B. Precision Agriculture

"Precision Agriculture" integrates global positioning systems (GPS), geographic information systems (GIS), sensor technology and advanced farm equipment to enhance farm profitability by using limited production resources efficiently. A precision agriculture system involves the collection and analysis of soil, groundwater, pest, topographical and yield data to optimize yields, lower costs and adjust management practices to enhance efficiency. Simply put, production inputs should be applied only as needed and where needed for the most economic production<sup>19</sup>.

For example, historic data (yield, nutrients, moisture, slope) may be collected over the land by sensors and each figure within a data set assigned a corresponding location on the ground through GPS. Spatial analysis of this data with GIS software can indicate locations on a field where operations may be adjusted to increase production without wasting inputs. Some parts of the field may require more or less chemical application to produce an acceptable return. After a determination is made concerning specific management needs for specific locations, variable rate technology (VRT) equipment may be programmed to apply chemicals in different quantities at

<sup>&</sup>lt;sup>17</sup> Degner, *supra* note 8, at 68.

<sup>&</sup>lt;sup>18</sup> Mellon, Margaret. Wholesome Harvest. Nucleus (www.ucsusa.org/Nucleus). Vol. 19 No. 4. Winter 1997.

<sup>&</sup>lt;sup>19</sup> Searcy, Stephen W. Precision Farming: A New Approach to Crop Management (Document L-5177). Texas Agriculture Extension Service – Texas A&M University (www.tamu.edu). No Date.

different locations.<sup>20</sup> Strategic applications ensure that chemicals are not over- or under-applied, resulting in higher yields at lower costs. Differential irrigation, chemical application, labor assignment, drainage improvements, and nutrient application are a few operation activities that can be effectively evaluated and adjusted through precision agriculture. In addition, information collected can be used to negotiate purchase and leasing of additional land.

Adoption of precision agriculture technology is influenced by many variables with the most significant being cost. Investments typically include yield monitoring, crop scouting, soil testing, education, hardware, software, and VRT equipment<sup>21</sup>. As with any technology transfer, the older the farm manager the less likely investments of money and time will be devoted to implementing new management tools.<sup>22</sup> Given the sizeable investment in technology and time needed to embark on substantive precision agriculture, it is unlikely that small farming operations can justify investing in this management tool. Investment in technologies that change rapidly, require specialized knowledge, have undocumented benefits, and for which there is little technical support is viewed as risky. Preliminary experience with precision agriculture suggests that the greatest benefits may be realized where input costs are high, field variability is high, high-value crops are grown and environmental effects are greatest.<sup>23</sup> Agri-businesses that occupy small acreages may experience little difference in soil quality over the operation and therefore would have little need for differential operations based on location. The greatest benefits from precision agriculture may be realized by large industrialized farming operations where minor increases in efficiency can have a noteworthy effect on profit margins.

The full range of benefits of precision agriculture are not fully documented due to the relative infancy of the integrated technology. However, a review of what is known about site-specific management suggests that Miami-Dade County agribusiness could adopt and reap benefits from precision agriculture techniques. Topography and soils are fairly uniform in the County, which minimizes their influence on modifying management practices. Hand harvested agricultural products may be difficult to evaluate for yield based on location within the field. However, the

<sup>&</sup>lt;sup>20</sup> *Id*. at 2.

<sup>&</sup>lt;sup>21</sup> Cowan, Tadlock. Precision Agriculture: A Primer. National Council for Science and the Environment. March 27, 2000.

<sup>&</sup>lt;sup>22</sup> Wiebold, Bill; Sudduth, Ken; Davis, Glenn; Shannon, Kent & Kitchen, Newell. Determining Barriers to Adoption and Research Needs of Precision Agriculture. Missouri Precision Agriculture Center – University of Missouri (www.fse.missouri.edu/mpac). No Date.

<sup>&</sup>lt;sup>23</sup> Cowan, *supra* note 20, at 2.

high level of field applications, high-dollar commodities grown, high labor costs and intense use of irrigation represent factors that contribute to precision agricultures return on investment. Technology transfer may be viable for large-scale<sup>24</sup> vegetable, grain, range livestock and fruit producers, provided accurate spatial yield data is obtainable. There may also be a market for precision agriculture services as an agriculture support industry.

#### C. Value Added Activities

Many entrepreneurial farmers have responded to low commodity prices and diminishing share of the consumer food dollar by diversifying activities to include processing, packaging, transporting and marketing of their produce. Some agriculture operations have gone beyond the boundaries of the food industry and taken on secondary complementary business activities using farming and animal husbandry as a background. Individually or cooperatively small farms are increasingly adding value to their raw product and thereby capturing mark-up and profit margins normally sought by other firms in the food chain.

As previously cited, small farms fail to produce in quantities that take advantage of economies of scale making standard commodity pricing impossible to operate under. Once a harvest is complete, processing and packaging can be conducted on-site with varying degrees of profitability for the standard market. Small farm cooperatives may invest in processing, packaging and local shipping. Unique labeling and promotional campaigns in conjunction with the Florida Department of Agriculture and Consumer Services, have boosted demand in previous efforts.

Processing may extend beyond cleaning and sorting. Farmers may invest in food service facilities for on-site consumption or to produce ready to eat good to off-site consumers. Some established farmer's markets provide food preparation facilities to member vendors to allow for value added activities in conjunction with retailing<sup>25</sup>. However, depending on the quantity of final processed product, certain food safety requirements may dictate added expense that is difficult to justify. Rather than investing in their own kitchens, some farmers lease facilities

<sup>&</sup>lt;sup>24</sup> Degner, *supra* note 8, at 69.

<sup>&</sup>lt;sup>25</sup> Lewis, Christopher J. A Case Study of The Laytonville Farmers' Market: A Rural Community Market. University of California Sustainable Agriculture Research and Education Program (www.sarep.ucdavis.edu). March 2000.

through churches, schools and other institutions. These specialized products typically are dispensed through a number of direct marketing avenues.

Complementary uses to agricultural operations diversify the farm to non-agricultural pursuits that do not interfere with farming and often use agriculture and rural area as the primary attraction. A significant genre of use is the agri-tourism and eco-tourism functions. Agri-tourism (Ag Entertainment) has become one of the most profitable value added activities conducted on farms.<sup>26</sup> Tourism opportunities for agriculture typically include a lodging (bed & breakfast) and/or recreational (hiking, walking, fishing, hunting, equestrian facilities, ect...) component. The unique tropical climate, large population base, and agricultural diversity provide a favorable environment for agri-tourism. Coupled with long distance direct marketing tools (e-commerce and mail order) and on-site retail, agri-tourism can retain tourists as consumers. Given the diverse characteristics of agriculture in Miami-Dade County caution should be exercised to ensure that agri-tourism does not interfere with neighboring agricultural operations.

Capitalizing on the skills of the small farmer, some agricultural operations include a secondary agriculture support function for other farms. Implement and equipment repair, bookkeeping, storage, feed and seed sales and blacksmithing represent accessory uses to agriculture operations that provide direct support to neighboring farms.

#### D. Product Labeling

National research has indicated that consumers prefer to know where agricultural products are produced<sup>27</sup>. Increasing consumer information through product differentiation by geographic origin is desirable in the market place. Florida has been a leading State in the use of labeling to differentiate products produced in Florida and those produced in other countries. In 1979, Florida adopted mandatory Country-of-Origin labeling and voluntary labeling of Florida produced agricultural products<sup>28</sup>. Under the Florida Statute<sup>29</sup>, retail vendors engaged in the

<sup>&</sup>lt;sup>26</sup> Ellerman, *supra* note 2, at 3.

<sup>&</sup>lt;sup>27</sup> Country of Origin Labeling – A Sign of The Times. Florida Fruit & Vegetable Association (www.ffva.com). May 2002.

<sup>&</sup>lt;sup>28</sup> Country of-Origin Labeling. New Rules Project (www.newrules.org). 2002.

<sup>&</sup>lt;sup>29</sup> Florida Statute 504.012(2).

selling of products identified as to their origin are prohibited from removing labeling subject to civil fine. The level of success for current labeling efforts is unknown.

Although product origin labeling is not new in Florida, the expanded use of labeling has flourished in response to NAFTA, growing health concerns, and an increasingly political minded consumer. In May 2002, ratification of the 2002 Farm Bill established a voluntary Country-of-Origin program effective until September 30, 2004 at which time the program will become mandatory<sup>6</sup>. Mandatory labeling advocates suggest that differences in product safety warrant labeling to protect the public health. While many in the agriculture industry supported passage of these provisions, many retailers oppose Country-of-Origin labeling because of costs of labeling and enforcement will place a burden on independent grocers and would be reflected in higher consumer prices<sup>30</sup>. In addition, concerns over potential violations of NAFTA and the World Trade Organization (WTO) surfaced.<sup>31</sup> Shortly after passage, United States Department of Agriculture Secretary, Ann Veneman, sought for a "Product of North America" label in order to appease Canadian livestock producers concerned about the effects of country specific labeling<sup>32</sup>

Product differentiation by geographic origin represents a competitive advantage that would likely boast domestic product sales due to consumer preference for products made and grown in the United States. Miami-Dade County should partner with federal and state authorities to facilitate implementation and compliance with existing and future Country-of-Origin labeling and "Product of Florida" labeling provisions. Local public awareness and advocacy efforts should be explored and supported. Voluntary labeling efforts could be supported through incentive packages for processors and small farm value added activities.

<sup>&</sup>lt;sup>30</sup> Zaucha, Thomas K. Letter to Senators to Oppose Country-of-Origin Labeling in the Farm Bill. National Grocers Association (www.nationalgrocers.org). December 6, 2001.

<sup>&</sup>lt;sup>31</sup>Country-of-Origin Labeling Amendments. Public Citizen (www.citizen.org). September 1998.

<sup>&</sup>lt;sup>32</sup> Johnson, Tim. News Release - Johnson Pleased Veneman to Implement Country-of-Origin Labeling. Office of Tim Johnson (D-SD) (Johnson.senate.gov). May 30, 2002.

#### 4. New and Expanded Markets

Fostering more direct trade between agriculture producers and consumers offers an opportunity to control post-production costs, add value to produce, and cultivate a mutually beneficial consumer/producer relationship. A portion of the products grown locally travel to distant markets while the same products offered in local supermarkets travel over long distances from other regions. Through direct marketing local farmers can take advantage of lower transportation costs and avoid intermediaries between the farm and consumer, thereby capturing a greater portion of the retail price of agriculture goods. There are numerous business models through which farms can directly market to the local population although a complimentary combination of approaches should be employed.

The potential for direct marketing techniques to enhance small farm profitability appears significant<sup>33</sup>. Within Miami-Dade County, the large consumer base, cultural diversity, small farms, and variety of farm products create an environment in which direct marketing for the local consumer can support small farms and augment the operations of larger farms by increasing marginal profits by capturing value usually reaped by processing, packaging, distribution, wholesaling, marketing and retail businesses.

#### A. Farmers' Markets

Direct marketing and retail through farmers' markets has recently experienced a revival throughout the country. Between 1994 and 2000, the number of farmers' markets nationwide grew 63% to 2,863 with estimated annual sales in excess of \$1 billion annually<sup>34</sup>. Responding to local population's demand for fresh produce, many entrepreneurial farmers provide a direct venue for shoppers through their participation in Saturday farmers' markets. Farmers are able to realize greater returns by removing the need for intermediary services from the farm to the table. Transportation and labor costs are borne by the farmer and are reflected in the price of their products. Prices are typically equal to or lower than supermarket prices. While farmers sell their wares directly to consumers, critical customer relationships and loyalty can be forged. Direct interaction with consumers and other vendors gives the farmer a new vantage point from which

<sup>&</sup>lt;sup>33</sup> American Farmland Trust. Town Meets Country: Farm-City Forums on Land and Community. March 2002. (www.aft.org).

<sup>&</sup>lt;sup>34</sup> Cantrell, Patty; Lively, Jim. The New Entrepreneurial Agriculture. Michigan Land Use Institute (www.mlui.org). April 2002.

to adjust production for local needs<sup>35</sup>. Local demographics, culture and consumer preference tend to dictate the vendor and product mix within local farmers markets<sup>36</sup>. Consumers patron farmers markets because of the fresh food, direct contact with farmers and to save money.

Farmers' markets are frequently governed by a Board of Directors that oversees the operations of the market. They ensure that the market is incorporated, permitted, insured and able to accept various methods of payment.<sup>37</sup> Some markets are established as non-profit organizations. Market managers perform the operational functions necessary for a successful market. Vendor recruitment, pricing, public amenities, advertising, space allocation and quality/variety control are among the operations performed by the market manager. If the market establishes prices, management must consult with farmers to ensure profitability for the farmers. Farmers typically rent space within the market and establish a temporary outlet to sell fresh products and specialty items such as jams, processed fruits and vegetables, crafts and other prepared farm products<sup>38</sup>. Although four of every five established farmers markets are self-financing, support is required to encourage their development through the financing of start-up costs and initial networking.<sup>39</sup>

The state of Florida operates 13 markets and has an office and warehouse facility. According to the Florida Department of Agriculture and Consumer Services<sup>40</sup>, there are four local farmers' markets within Miami-Dade County. Of the four in the County, three operate on Saturdays year round. For many small producers, farmers' markets are integrated into an overall marketing strategy that includes e-commerce, joint promotions with restaurants, school programs (educational and food service), mail order, CSA and tourism.

Consumer grants are available through the Farmers' Market Nutrition Program (WIC/FMNP) which provides WIC recipients with coupons that can be used to purchase specific fresh fruits and vegetables from farmers' markets. The goals of this program is to provide fresh agricultural products to pregnant, postpartum, breast feeding women and children between the ages of 1 and

<sup>&</sup>lt;sup>35</sup> How to Organize a Farmers' Market. Florida Department of Agriculture and Consumer Services. No Date.

<sup>&</sup>lt;sup>36</sup> Lewis, Christopher J. The Saturday Stockton Certified Farmers' Market: An Urban Community Market. University of California Sustainable Agriculture Research and Education Program (www.sarep.ucdavis.edu). May 2001.

<sup>&</sup>lt;sup>37</sup> Supra note 29.

<sup>&</sup>lt;sup>38</sup> Lewis, *supra* note 16, at 5.

<sup>&</sup>lt;sup>39</sup> Farmers Markets: Action Needed by Local Authorities. Friends of the Earth (www.foe.co.uk). August 2000.

<sup>&</sup>lt;sup>40</sup> Florida Department of Agriculture and Consumer Services, (http://www.florida-agriculture.com/farmmkt), 2002.

5 while promoting farmers' markets and family farms. Modeled after the WIC/FMNP program, the Seniors Farmers' Market Nutrition Program (SFMNP) provides vegetable and fruit coupons to low-income seniors. The coupons may be used to purchase produce from farmers' markets, roadside stands and CSA's.<sup>41</sup> Florida has an on-going WIC/FMNP program and did not received SFMNP funding for FY 2002. Although the funding for these programs is modest, the program addresses several matters of the public interest: targeted nutrition and direct marketing of agricultural products. As of 2000, 58% of farmers' markets accept FMNP coupons.<sup>42</sup>

#### B. CSA's and Subscriptions Farms

Since 1985, numerous subscription farms and other "Community Supported Agriculture" (CSA) ventures have been created within the United States primarily in the northeastern states and the west coast. CSA's are farmer-consumer cooperatives based on the "teikei" concept born from food safety concerns in Japan during the 1960's<sup>43</sup>. Teikei literally translates to "food with the farmers' face on it"<sup>44</sup>. There are numerous business models consistent with the CSA concept ranging from passive subscribers to active shareholders. Participating consumers pay a price per share (subscription) prior to the produce being grown, thereby investing in the subsequent agricultural yield. The farmer receives necessary operating capital before the crop is grown. The price per share should reflect the cost associated with growing food and raising livestock including a salary for the farmer. Shareholders accept risk of crop failure and also reap rewards in good growing seasons. Therefore, the risk associated with crop loss is not entirely the burden of the farmer. Harvesting occurs as the crop matures and is forwarded to consumers on a weekly basis. This practice cuts down on waste produce associated with variations in wholesale demand and crop maturity<sup>45</sup>.

The level of shareholder input into farm decisions and operations may vary widely depending on the nature of the farm. Existing farms may opt to sell subscriptions in which for a price a specific amount of produce will be delivered provided an average yield is achieved. A newly

<sup>&</sup>lt;sup>41</sup> USDA Awards Grants to Farmers' Markets (Release No. 0246.02). U.S. Department of Agriculture. June 12, 2002.

<sup>&</sup>lt;sup>42</sup> Farmers Market Facts. USDA (www.ams.usda.gov). May 2002.

<sup>&</sup>lt;sup>43</sup> Kavanagh, Helen. Farmer-Consumer Co-partnership Agreements in Japan. Permaculture Association of Western Australia Inc. (www.rosneath.com.au/ipc6/ch03/kavanagh). 1997.

<sup>&</sup>lt;sup>44</sup> Van En, Robyn. Eating Your Community. A Good Harvest. Fall 1995. Page 29. Context Institute (www.context.org).

<sup>&</sup>lt;sup>45</sup> Samson, Roger. Community Shared Agriculture – Putting the Culture Back Into Agriculture. Resource Efficient Agriculture Production – Canada. 1994.

formed CSA may establish a shareholder board that confers with the farmer to establish business operations. In 1992, a three-year study of CSA operations was published in which it was concluded that shareholders paid 37% less than they would have at the supermarket<sup>46</sup>.

CSA and subscription farms are typically small acreage farms that produce a wide variety of items. Processing, packaging and delivery of farm produce is minimal. In order to provide diversity of goods, some CSA's form cooperatives so that specialized farming and animal husbandry operations can participate.<sup>47</sup> Some CSA's require on-site retrieval of produce by subscribers and shareholders while others provide delivery service or pick up arrangements in urban areas. While proximity to shareholders is extremely important, land prices close to urban populations are a significant barrier to the creation of CSA's and other agricultural operations.<sup>48</sup> Costs are a major challenge to operating a successful CSA. The price competitiveness of subscriptions and shares is questionable, but CSA shareholders value their support of the local farmer, hands-on farm experience and freshness of the products they receive.

#### C. On-site Retail

Many small farms sell agriculture products from facilities located on the farm. On-site retail sales may take the form of roadside farmstands or as a nursery. On-site retail minimizes transportation costs and alleviates middleman markup to prices. However, sales facilities and additional labor costs will occur in most cases. Prices can be competitive with supermarkets and premium prices may be acceptable for specialty and value added products. Convenience in location and facilities are a significant determinant of on-site retail success<sup>49</sup>.

#### D. Pick-Your-Own

Pick-your-own (PYO) operations simply allow consumers to visit the farm and harvest the produce themselves. PYO's are most common among berry and fruit producers and works well as an agritourism operation. Many consumers are willing to pay prices comparable to

<sup>&</sup>lt;sup>46</sup> Greer, Lane. Community Supported Agriculture – Business Management Series. Appropriate Technology Transfer for Rural Areas (www.attra.org). January 1999.

<sup>&</sup>lt;sup>47</sup> *Id*. at 13.

<sup>&</sup>lt;sup>48</sup> Samson, *supra* note 32, at 4.

<sup>&</sup>lt;sup>49</sup> Integrity, *supra* note 1, at 46.

supermarket prices because of the freshness and experience of harvesting their own food<sup>50</sup>. Reduced prices may be used to sell lower quality produce<sup>51</sup>. Harvesting costs are greatly reduced. Processing, packaging and shipping costs are completely eliminated. PYO operations should be in a location conducive to consumer travel, carry additional liability insurance for patrons and provide customer amenities (signs, parking, restrooms, containers, paths, etc...)<sup>52</sup>. Fields are open on weekends for harvesting during the season and weather can hamper efforts.

Advertisement efforts should concentrate on roadside signs, PYO directories, direct mail and non-classified newspaper advertisements. Almost 80% of PYO customers are repeat customers. Word of mouth is also a major source of information regarding PYO operations<sup>53</sup>. Pricing is customarily determined by weight and is usually below wholesale price. Businesses near large population centers generally charge a higher price than rural businesses. Additional costs lie in crop damage due to customers roaming the farm and personnel to guide customers and cashiers.<sup>54</sup>

#### E. Local Merchants

Direct sales from the farm to local merchants and service businesses avoid the middleman mark up associated with processors, brokers and wholesalers. Health food stores, convenience stores, grocers, florists, nurseries, pet stores and other merchants often carry locally produced goods and provide and may add a niche customer base to the stores existing market. Restaurants that feature entrees with fresh local ingredients cater to a specific high end and tourism clientele.

#### F. Public Sector

Local government and institutions that have food service operations can purchase local produce directly from farmers and farmer owned cooperatives. School cafeterias and jails provide a market niche for local growers that may provide a stable demand. Local governments are not only regulators and promoters. They are consumers.

<sup>&</sup>lt;sup>50</sup> Ellerman, *supra* note 2, at 2.

<sup>&</sup>lt;sup>51</sup> Greer, Lana. Marketing Channels: Pick-Your-Own & Agri-Entertainment – Business Management Series. Appropriate Technology Transfer for Rural Areas (www.attra.org). February 1998.

 $<sup>5^{52}</sup>$  *Id*. at 4.

<sup>&</sup>lt;sup>53</sup> *Id*. at 2.

<sup>&</sup>lt;sup>54</sup> Poole, Terry E. Direct Marketing (Fact Sheet 13). University of Maryland – Cooperative Extension Service. No Date.

In recent years, many school lunch programs have been serving a greater variety of fresh fruits and vegetables. Schools have also been taking advantage of idle facilities by offering breakfast, summer meal programs, catering and summer parks and recreation programs therefore food service facilities are operating nearly all year<sup>55</sup>. Partnerships with schools also provides an educational opportunity for school children through field trips while providing promotional opportunities for local farmers. Early reports suggest that school children respond favorable to fresh produce on school menus.<sup>56</sup> It is also reported that salad bars are popular with middle and high school students. School food service is generally operated on a tight budget with target procurement prices<sup>57</sup>. Administrators would rather purchase from a local cooperative than several independent producers. Price is not the only expectation food service managers have for suppliers. Seasonal availability, reliability of volume, packaging and labeling safety and efficient business transactions are issues that need to be resolved in order to successfully market to institutional food service operations.<sup>58</sup> Some of these concerns can be addressed through a cooperative agreement with a number of local producers or through a non-profit facilitating agent that coordinates producers and the customer.

In order to be eligible for government contracts, local agriculture produce vendors should register with the Department of Defense's Central Contractor Registration list<sup>59</sup>. Food service establishments through the DOD Department of Morale, Welfare and Recreation (MWR) and the Army & Air Force Exchange Service (AAFES). Military facilities located within Miami-Dade County may be potential customers for local agriculture products. AAFES operates a Supplier Diversity Program, which may offer local vendors opportunities for the sell of fresh produce directly to military personnel<sup>60</sup>.

 <sup>&</sup>lt;sup>55</sup> Tropp, Debra. Olowolayemo, Surajudeen. How Local Farmers and School Food Service Buyers Are Building Alliances. December 2000.
<sup>56</sup> *Id.* at 4.

<sup>&</sup>lt;sup>57</sup> Cantrell, *supra* note 25, at 15.

<sup>&</sup>lt;sup>58</sup> Local Food Connections From Farms to Schools (PM 1853a). Iowa State University – University Extension. June 2000.

<sup>&</sup>lt;sup>59</sup> Department of Defense Central Contractor Registration. www.ccr.gov. 2002.

<sup>&</sup>lt;sup>60</sup> Army & Air Force Exchange Service. www.aafes.com.

#### G. Mobile Retail and Home Delivery

After several decades of decline, home delivery of agriculture products has shown some growth in recent years. Epitomized by milk and ice cream sales, home delivery and mobile retail of food products provide convenience for consumers. Mobile retail consists of placing vehicles strategically in locations where consumers pass, commonly downtown business districts.<sup>61</sup> Home delivery operators deliver goods directly to homes on a subscription of periodic order basis.<sup>62</sup> Home delivery is particularly attractive to seniors and others with limited mobility. Other customer benefits from home delivery include: reducing vehicle costs, avoiding impulse buying, dealing with small companies with more responsive customer service, and providing better access to organic and specialty foods. Although prices for mobile retail and home delivery generally are higher than in supermarkets, due to processing, transportation and labor costs, some target consumers are willing to pay for the convenience of home delivery.<sup>63</sup>

#### H. Mail/Internet Specialty Sales

The internet has extended and improved the concept of home and mail order delivery. Historically a relatively small niche, mail order sales of agricultural products have provided the opportunity for value added sales of agricultural products. The internet has expanded the potential of this niche dramatically by drastically reducing the cost of reaching customers. Marketing costs are reduced because catalog production and distribution costs are replaced by web site production and maintenance costs, which are lower and provide the potential to reach a much wider market. Within the arena of internet based commerce, small and large producers are on relatively equal terms, which may give small firms a competitive edge in regards to customer service and developing a customer relationship.<sup>64</sup>

Internet sales will likely expand as consumers become comfortable with internet retail interfaces, transaction security, and the technology becomes increasingly widespread. Many direct marketers foster repeat business by targeting tourists and farmers' market patrons with on-line

<sup>&</sup>lt;sup>61</sup> Integrity, *supra* note 1, at 50.

 $<sup>^{62}</sup>$  *Id*. at 51.

<sup>&</sup>lt;sup>63</sup> *Id.* at 51.

<sup>&</sup>lt;sup>64</sup> Ohmart, Jeri L. Using E-commerce to Add Value to Small Farming Businesses in California. University of California – Sustainable Agriculture Research and Education Program (www.sarep.ucdavis.edu). May 2002.

product information and retail.<sup>65</sup> Small farms that rely heavily on direct marketing of value added products have found that at the consumer's current level of confidence, the internet is largely an advertisement, educational tool and on-line catalog. Countless consumers research products on-line and place orders through conventional methods. The internet as a marketing tool for small scale agriculture is best used as a complement to other direct marketing efforts.

#### 5. Supportive Uses and Activities

#### A. Businesses

As with most businesses, agriculture requires materials, services and investment to sustain a viable operation. Forming symbiotic relationships with businesses that serve agriculture can enhance a region's competitive nature and improve the profitability of the market actors within the region. If maintaining a viable agriculture industry is a local goal, zoning and subdivision regulations should be reviewed and amended to facilitate development of and investment in agriculture support businesses.

Growing and raising agriculture products requires numerous material and labor inputs. Referred to as "factors of production" these inputs include, but are not limited to: land, water, soil nutrients, labor, seed, livestock, feed, pesticides, equipment, fuel and buildings. A number of these factors are purchased from suppliers within the local market and all require access to sufficient capital. Allowing merchants who sell to farmers to locate near agricultural operations provide convenience, familiarity, and cost savings through reduced transportation costs. Businesses such as feed and seed dealers, agriculture equipment and implement dealers, livestock auctions, chemical dealers and applicators, rural real estate services, farm worker housing and agricultural research facilities support agriculture operations, and their effectiveness is influenced by their proximity to the operations they serve.

Those businesses that store, process, package and ship agriculture products provide a necessary outlet for raw farm produce. While proximity to the farm does limit transportation costs for receiving produce, many other cost factors frequently make transportation costs a secondary cost concern. Labor, utility, distribution networks, land, physical plant, operations, regulatory, tax and input costs factor into locational decisions and often overshadow proximity issues.

<sup>&</sup>lt;sup>65</sup> Lewis, *supra* note 16, at 3.

However, for small facilities that serve local or regional niche needs, proximity to farm operations and the population they feed is a major profitability factor.

Modern agriculture operations have an increasing need for services to operate profitably. In general, legal, financial, and internet services can retain their effectiveness without being located near those they serve in the agriculture community. Most telecommunications services require physical presence of equipment within agricultural areas, but all other activities may be conducted elsewhere. Services related to equipment maintenance and contracted operational functions provide a higher level of service when they are located close to their customers.

#### B. Farmworker Housing

An on-going issue related to farm operations is the lack of safe attainable housing for farm workers. The Florida Department of Community Affairs Division of Housing and Community Development recently applied for and received funding for the federal government for the Migrant and Seasonal Farmworker Housing Initiative.<sup>66</sup> This one-time initiative has contributed funds to construct 3 apartment and dormitory buildings creating a total of 508 accommodations. The construction projects are partially funded and managed by non-profit housing development organizations. In addition, the Department of Corrections provides vocational opportunities for offenders in which they construct housing component and modular homes for use in farm worker housing.

Like many labor intensive agriculture regions, farm worker housing is a significant issue effecting efficient farm operations in Miami-Dade County. Although state funding specifically earmarked for farm worker housing does not exist, there are grant and low interest loan funds provided on a competitive basis. Local housing development organizations, lenders, developers and agriculture interests should explore funding packages for attainable housing.

Within the regulatory framework of the zoning and subdivision code, inclusive zoning techniques should be applied in proximity to preserved agricultural land. Zoning may be enacted that would either make inclusion of attainable farm worker housing mandatory or voluntary with

<sup>&</sup>lt;sup>66</sup> Florida Department of Community Affairs (www.dca.state.fl.us). 2002.

incentives. Mandatory inclusion would require a specified amount of attainable housing be incorporated into residential and mixed use development proposals. In-lieu fees may be collected and distributed to non-profit housing organizations for construction or rent subsidies. Minimum time periods of affordability are often required to retain below market housing rents. Voluntary inclusion can be promoted through zoning incentives such as increased Floor Area Ratios (FARs), allow Transferable Development Rights (TDRs) with favorable transfer ratios, reduced parking requirements, reduced or eliminated yard requirements, waiving or lowering of exaction requirements, reduced minimum lot sizes and reduced fees.

#### C. Non-Profit Research and Development

There are numerous organizations conducting agriculture related research within Miami-Dade County specifically to enhance farm efficiency, improve farm profitability, protect water quality and diversify farming operations. A significant number of these organizations are members of the Miami-Dade Water Quality and Water Conservation Coalition including USDA-NRCS, University of Florida Cooperative Extension, University of Florida Tropical Research and Education Center, University of Miami, Florida Department of Agriculture and Consumer Services, South Florida Resource Conservation and Development Council, and the South Dade Soil and Water Conservation District. The following paragraphs include examples of projects that enhance management practices and promote farming in general.

The South Dade Soil and Water Conservation District's mission is to conserve and improve soil, water, vegetation, wildlife and related resources, and reducing damage from floods and sedimentation. A significant number of the efforts undertaken by the SDWCD to fulfill their mission also help improve the sustainability and viability of farming. For example, the Clean Organic Waste (C.O.W.) Compost project was a cooperative effort between the SDWCD and the University of Florida Tropical Research and Education Center (TREC) to produce compost for local agriculture operations.<sup>67</sup> Composted materials included institutional waste and exotic invasive plants, which produced a decent soil amendment. The primary users of the compost were commercial nurseries and individuals, although large scale composting could bwer input costs for other agricultural activities.

<sup>&</sup>lt;sup>67</sup> South Dade Soil and Water Conservation District (www.southdadeswcd.org). 2002.

The South Florida Resource Conservation and Development Council (SFRC&D) assist in community development projects that develop natural resource based industries, protect rural industries from natural hazards, improve rural housing, improve rural infrastructure and promote aquaculture. SFRC&D provides technical services relating to the design, funding and administration of community and environmental protection projects in Broward, Miami-Dade and Monroe Counties.<sup>68</sup> Entrepreneurial farmers, who wish to seek grant or loan funding to finance a shift to more sustainable practices, may solicit the assistance of the SFRC&D. Detailed services include: funding source identification, grant writing, grant management and report writing, contract writing and project management.

In January 2000, The Council on the Environment of New York City created an innovative program to cultivate sustainable small farms operated by recent immigrants with agriculture skills and knowledge. Known as the New Farmer Development Project (NFDP), this initiative imparts knowledge of direct marketing (farmers' markets, CSA's and restaurants), business finance, farm operation management and organic production methods.<sup>69</sup> The project operates 3 demonstration farms, provides loans to new farmers and provides technical assistance in evaluating farm sites, product selection and best management practices. A family farm incubator similar to the NFDP is not dissimilar from other small business incubators and could ease a transition from large farms to small farms in Miami-Dade County.

Economic development within the Napa Valley is conducted by many organizations. While the Napa Valley Economic Development Corporation is the organization that conducts traditional economic development activities, the Napa Valley Convention and Visitors Bureau strictly focuses on the travel and tourism sector.<sup>70</sup> The Napa Valley region has a carefully crafted image based on the natural landscape and high quality locally crafted wine. The Napa Valley Vintner's Association, which is an association of local wineries, focuses on marketing local wares in conjunction with other organizations.

<sup>&</sup>lt;sup>68</sup> South Florida Resource Conservation and Development Council (www.sfrcd.org). 2002.

<sup>&</sup>lt;sup>69</sup> Greenmarket Farmers Market – New Farmer Development Project. The Council on the Environment of New York City (www.cenyc.org). May 14, 2002.

<sup>&</sup>lt;sup>70</sup> Howard, Daniel. Executive Director of the Napa Valley Convention and Visitors Bureau E-mail correspondence. August 30, 2002.

Within Miami-Dade County there are sufficient organizational infrastructure to promote local agriculture. However, the agriculture industry in the County does not have a clear identity upon which to base marketing. The diversity of agricultural products and lack of natural geographic boundaries, specifically to the urbanizing east, makes defining the region and marquee product difficult.

Public and private activities that support the functions of agribusiness vary in their reliance on proximity to agriculture as a business advantage. There are numerous cost and quality of life factors that determine business location including location to demand. Local regulatory barriers to the creation of support businesses within or adjacent to designated agriculture areas should be thoroughly reviewed and adjustments made for the benefit of agriculture and supporting businesses.

#### 6. Local Government Roles

Local governments can and do play numerous protection and promotion roles that influence the viability of agriculture. They can provide fiscal and political support for direct marketing programs, public sector purchasing of local agriculture products, development of local best management practices and the removal of regulatory barriers to the flexibility of agricultural operations. In addition to providing technical and fiscal support for the strategies outlined above, local governments should examine development and other regulations for unproductive restrictions on agricultural and ag-support operations.

Land use controls are the most cost effective and potent tool local government has to stem the conversion of agricultural land and protect farm viability. Agriculture operations are commonly described as "land rich and cash poor," indicating the large proportion of farm value invested in the land. Land value has many components and the dynamics between land values, development pressures and agricultural viability are complex. Development potential typically is used to secure funding for on-going agricultural operations. Unfortunately, this potential often escalates land values to levels that accelerate the conversion of agricultural land.

Establishing a means to allow agricultural businesses to extract value from the land without selling the land itself would provide much needed capital without stimulating the development and loss of agriculture land. This report has focused on local initiatives that can enhance the profitability of agriculture operations. The <u>Analysis of Agricultural Land Retention Strategies</u>, prepared pursuant to Task 2.B. of this study, examines growth management techniques that may be employed by local government in a coordinated effort to capitalize on growth and strengthen the local agriculture economy through protection of land resources.

#### 7. Conclusion and Recommendations

This report examines numerous approaches that may be employed by private and public interests to enhance the viability of agriculture in Miami-Dade County. Within the context of global agricultural markets, agriculture operations must adapt to satisfy emerging local and regional demand for unique agricultural products while capturing a greater portion of the consumer dollar. The consumer base, cultural diversity, product diversity and entrepreneurial skills of local agribusinesses provide the ingredients for success. Indeed, there are numerous successful archetypes operating within the County. Miami-Dade County could assume a lead role by fostering expansion and diversification of agriculture and related endeavors. Working with agribusinesses, the Florida Department of Agriculture and Consumer Services, the County Agriculture Extension, lenders, landowners, merchants, Chambers of Commerce, cities and service providers, the County can promote the long-term viability of agriculture by encouraging employment of the strategies herein described.

The economic development strategies reviewed in this report are largely actions initiated by individual agricultural producers as a response to the changing dynamics of the agriculture industry in Miami-Dade County. Regardless of which course of action is taken, farm planning and management competence are necessary to farm and co-op vitality. Local governments and cooperative agriculture organizations can facilitate entrepreneurial adaptive actions on behalf of producers. While these adaptations make individual agricultural operations more viable, individual actions alone will not preserve an appreciable economic agricultural base. Results oriented growth management coupled with farm operation development is necessary to create a sustainable agriculture sector in Miami-Dade County. Viability is not separate from longevity. Long-term viability hinges on the County's efforts to preserve agriculture in addition to

promoting agriculture. Retaining a critical mass of agricultural lands through growth management is the subject of Task 2.b. of this study. Until finite land resources are adequately preserved, the economic development activities discussed herein allow increased viability of agribusiness and may prove effective in the long term for small farms while large scale row crop operations will struggle to survive. The following strategies may be employed by the County to promote adaptive activities within the agriculture industry.

#### A. Grants, Loans and Cost Share

As globalization continues to squeeze the profit margins of large vegetable and fruit producers, some farms will adapt by taking on addition business functions to add value to the products they grow. In order to facilitate this shift to value added activities, many small farms will need access to capital to invest in various structural, equipment and marketing improvements. Small business loans and grants through Federal, State and local governments could be used to leverage private investment to ease this shift. Small business grant and loan programs are administered through the U.S.D.A. Rural Development and Florida Department of Community Affairs. A coordinated effort between local USDA, Miami-Dade County, Chambers of Commerce, agriculture enterprises and lenders should be initiated to coordinate funding sources.

A cost share program may be developed to reimburse entrepreneurial farmers for specific expenditures that support the viability of the agriculture operation while accruing benefits to the general public. For instance, a farmer who invests in composting will in the long run lower fertilizer and soil additive costs while reducing the amount of organic material processed through the County's solid waste disposal process. Farming activities that reduce agriculture related nuisances (ie. spraying versus crop rotation to reduce pests) has a positive benefits to the public through a high better quality of life and increased property values.

Cost share programs are flexible. The amount of cost share maybe adjusted to promote highly beneficial practices based on the degree of local impact. Once a funding source has been dedicated by the County, budget and program adjustments can be made overtime to reflect changes in demand and effectiveness of the program.

#### Recommended Actions

- ?? Cosponsor or support applications for state and federal funding to enhance direct marketing, farmers' markets, adoption of improved technologies and techniques, incorporation of value added activities and the creation of cooperative facilities among agri-businesses and/or local public services.
- ?? Through the Housing Authority provide matching funds, low interest revolving loans, and in-kind donations for farm worker housing development projects.
- ?? Actively assist in the preparation of funding applications by providing technical and documentary support.
- ?? Dedicate a funding source (land conversion mitigation fee, land fill tipping fee, etc...) to provide local grant, revolving loan, or cost share funds for agriculture related projects that accrue benefits to the general public. Accrued public benefits include, but are not limited to: reduced environmental degradation, enhanced natural assets, reduced or minimized demand on service capacity, enhanced use compatibility, reduced consumer prices, increased retail outlets and job retention.

#### B. Zoning and Subdivision Amendments

Land use controls are the most cost effective and wide-ranging tool to effectuate agriculture viability. While zoning is a basic growth management tool that may be applied for the stability of the local agriculture industry, this report will focus specifically on modifying the mixture of uses in the agriculture and adjacent areas to support the agriculture industry in Miami-Dade County. Other effects of zoning on agriculture viability is discussed in Task 2.b.

Land uses that either support or are complementary to agriculture have been identified under Tasks 1.d. and 1.e. "Supportive uses" refers to those uses that provide or receive direct benefits to or from the local agriculture industry. "Complementary uses" can operate in close proximity to commercial agriculture businesses but do not significantly contribute to agriculture production. Zoning text amendments should be proposed to incorporate supportive and complementary uses either within or adjacent to agriculture regions. Each potential use should be scrutinized and reasonable performance or design standards applied accordingly. Existing zoning provisions regarding accessory buildings, on-site retail, packing facilities, livestock and

poultry houses should be reviewed taking into their effects on viable agriculture. Farm worker housing and related commercial and public/semi-public uses should be encouraged adjacent to agriculture areas but not within agriculture lands. Buffering and right-to-farm requirements should be established or augmented.

#### Recommended Actions

- ?? Adopt and implement a concerted growth management program designed to minimize land fragmentation, intrusion of incompatible non-agriculture uses and minimize infrastructure investments that promote the conversion of land to non-agriculture uses.<sup>71</sup>
- ?? Adopt mandatory inclusive zoning techniques in residential and mixed use developments to create attainable housing for farm workers in proximity to agricultural operations. TDR's from agricultural land should be required within inclusionary zones to provide the developer with density, floor area ratio and yard size concessions.
- ?? Adopt an Agriculture Support Commercial zoning district to include supportive and complementary uses with performance and design standards to minimize incompatibilities. This zoning district should be applied to transportation nodes adjacent to the agricultural areas. Supportive and complementary uses should be limited in other zoning districts to guide uses to the commercial node locations.
- ?? Value added, direct marketing, tourism and other accessory uses to agriculture operations should be allowed in agriculture areas with modest performance standards.

#### C. Support of Research and Development Activities

There are an abundant number of agriculture and environmental research and development organizations working towards improving the harmonious and sustainability of agriculture in Miami-Dade County. To the extent that the activities of these organizations promote the public health, safety and general welfare, the County should promote and consider incentives for the application of new technologies and techniques to local agriculture operations.

<sup>&</sup>lt;sup>71</sup> Growth management is the concern of Task 2.b., however it is worth mentioning here because long-term viability of existing large-scale agriculture and related support businesses hinges on effective growth management.

#### Recommended Actions

- ?? Provide financial and technical assistance to research designed to assist agri-business within the unique context of the local agricultural industry.
- ?? Propose research and projects evaluating solid waste reduction through composting, efficient water use and the feasibility of using local agriculture products in local government and school food service uses.
- ?? Partner with various agriculture research, economic development and environmental research organizations to share and disseminate information.
- ?? Evaluate and promote farm worker patronage of public transportation with focus on adjusting operations and increasing ridership.
- ?? Partner with the Chamber of Commerce and the U.S.D.A. Cooperative Extension to create a public/privately funded "Agriculture Economic Development" organization to:
  - provide technical support to diversifying agriculture operations (grant writing, business education, direct marketing techniques, niche market analysis, etc...);
  - coordinate and promote an agriculture regional identity through labeling, symbiotic promotion with other business sectors and other advertising techniques;
  - disseminate information regarding agriculture best management practices, market trends, and emerging technologies to agri-businesses;
  - o advocate for public policy that supports Miami-Dade County agriculture.

#### D. Promotion

A significant component of any economic development strategy is promotion. Promotion of agricultural products within Miami-Dade County may prove beneficial to small agribusinesses and traditional tourism based industries. With over 10 million overnight visitors annually, the County has a premier tourism industry. There are several promotional activities that would enhance agricultures viability through agri-tourism opportunities. Successful regional agritourism promotion is epitomized by the collective efforts in the Napa Valley region of California. The Napa Valley agri-tourism industry is spurred on by several local and regional economic development organizations, chambers of commerce, local governments, business associations, direct market outlets, and vineyards. A similar coalition should be formed perhaps

under the auspicious of the Chamber of Commerce for the coordinated promotion of direct marketing, agri-tourism and business partnerships for dual marketing.

#### Recommended Actions

- ?? Advocate and participate in a concerted effort to develop a promotional identity for the Miami-Dade County agriculture industry focusing on the unique products, value added goods and tourism opportunities. To this end, a marketing consult should be sought.
- ?? In conjunction with the previous recommendation, support a county specific product labeling program in conformance with impending federal labeling requirements.
- ?? Advocate and support a long-term marketing campaign designed to add agri-tourism to the regional attractions currently existing in the region.
- ?? Encourage cross promotion between agri-businesses, restaurants, hotels, travel agents and regional recreational attractions.
- ?? Support the creation of an agri-business development and assistance component within local small business "incubator" programs.
- ?? Review local government purchasing and food preparation policies to facilitate the use of locally produced goods.