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# Market Access and Entrepreneurial Training for Value-Added Vegetable Cooperatives in the Mississippi Delta of Arkansas

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This project, funded by USDA Rural Development Office, provides baseline information on how member farmers of vegetable cooperatives in the Delta area of Arkansas can engage in a participatory entrepreneurial training to add value to their produce, better manage their farm business, and exploit market opportunities in order to contribute to the economic development of their communities. The main project objective was to establish a model of a successful value-added enterprise by nurturing business-development skills in value-added vegetable producers that can be shared and replicated for other agricultural enterprises. The project selected board of directors and member farmers of vegetable growers cooperatives in Lee, Phillips, and St. Francis counties and provided them with participatory entrepreneurial training on how to effectively diversify into sustainable low-cost value-added vegetable produce, secure vendor contracts from fresh vegetable wholesalers and brokers, and manage their associations in profitable manner.

The policy implication from the results of the training sessions indicates that given the adequate entrepreneurial training and managerial personnel, farm cooperatives and their member farmers in the area can effectively expand their value-added vegetable operations to exploit the growing vegetable markets in the mid-south in order to contribute to the economic development of their communities.

Agriculture in the Mississippi Delta of Arkansas is characterized by a wide disparity between the very large farms and the very small farms. While the lack of resources represents a serious constraint for all farmers, it is particularly critical for limited-resource farmers who do not have the capacity to significantly increase their output. Therefore, it is important for these farmers to produce high-value crops such as vegetables where return per acre can be higher than crops like rice, soybeans, and cotton.

The agricultural districts of Lee, St. Francis, and Phillips counties have resources to produce fresh vegetables and are strategically located to supply the rising vegetable demand of the mid-section of the nation. In order to take advantage of the budding commercial-vegetable industry, Lee County Vegetable Growers Association (LCVGA), and St. Francis and Phillips County Vegetable Growers Cooperatives were established to help limited-resource farmers add value to their produce. However, over the years the cooperatives have struggled to be commercially profitable. Several elements have been identified as critical to the successful operation of the cooperatives for the long-term benefit of their members. The most important element

in this case is securing market access for the vegetable output. A second critical element is the ability to generate capital for the expansion of facilities and operations. Integral to this is the fact that the farmers are deficient in business skills, making it difficult for them to manage the cooperatives.

The goal of the project was to establish a model of a successful rural cooperative enterprise by nurturing business-development skills that could be shared and applied to existing small businesses and new ventures, and replicated for other rural business enterprises. The expectation was that by providing management training to vegetable farmers in order to solve their problems, they would develop new levels of business skills that could be applied to the management of their cooperatives and farm enterprises and to the establishment of future value-added enterprises in the area.

## Project Methods

The results of the project were mainly obtained from workshops and conferences organized for the management training. The goal of the management training was to provide cost-effective, local-focused, experiential, and knowledge-sharing training to directors of the value-added vegetable cooperatives and their member farmers that would help them acquire the skills needed to create and strengthen successful value-added vegetable businesses. The study was also supported by other pri-

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mary data derived through farmer interviews conducted between November 2001 and January 2002. The survey was administered to vegetable producers living in Lee County and its surrounding counties of St. Francis and Phillips because they produce similar vegetables and sometimes market their produce through the facility used by LCVGA.

Over 115 questionnaires were distributed; 65 percent were returned, of which 56 percent were usable. The primary questions used in the survey focused on problems that the producers are facing and on their risk perceptions for vegetable production and marketing. The interview also included questions on socioeconomic information such as gender, age, and farm sizes.

### **Operations of LCVGA and its Member Farmers**

Understanding the operations of LCVGA and its member farmers provided the means of identifying their problems and designing appropriate training programs for them. The operations of the member farmers and the value-added activities of LCVGA are different, yet they are closely interrelated. While most of the LCVGA members identify themselves as previous row-crop producers, they currently describe themselves as small-scale farmers with limited resources who are incapable of acquiring large capital for producing row crops or competing in the row-crop market. As a result of these deficiencies, and low crop prices, they had no option but to diversify into the production of vegetables that require small capital outlays. These farmers produce more than one vegetable produce and often supplement their incomes through part-time jobs.

The farmers sell their produce in loose form, field-packaged, or both. Analysis of the survey data showed that about 50 percent of them sold their vegetables in loose form to LCVGA for further packaging and almost 36 percent sold in field-packaged form to private buyers and vendor contractors.

The role of LCVGA is to add value to fresh vegetables by collecting the fresh produce from the farmers and then packaging, grading, and marketing them to contract buyers. These value-added activities vary from produce to produce. For example, LCVGA receives fresh okra from farmers, runs it over a grading belt to grade the okra accord-

ing to size, and packages it in standard half-bushel crates. The crates are then weighed and stored in refrigerators before shipping. Squash and zucchini, on the other hand, are dumped into a wash tank, mechanically washed, run on a conveyor to a grading line, and boxed in 30-pound wax-coated boxes. LCVGA, in collaboration with the cooperative extension service and higher institutions in the area, provides farm-extension services to member farmers in seed selection, fertilizer application, planting, and harvesting techniques. It also secures vendor contracts for the farmers' output before the planting season starts.

### **Problems Facing LCVGA and Value-added Cooperatives in the Area**

The value-added operations of LCVGA and the other farm cooperatives in the area are rife with problems including finding assured markets and competitive prices for the fresh produce, securing refrigerated transportation systems, and hiring managers with the appropriate managerial skills to run the cooperatives. Most of farmers surveyed indicated that vegetables such as watermelon, bell peppers, cantaloupe, mushrooms, tomatoes, etc., can be grown in the area. However, more than 72 percent of them indicated that lack of an assured market prevents them from diversifying into these new crops. Further analysis of the survey data indicates that most farmers have failed to diversify because their cooperatives do not consider those crops as part of their normal product line.

Lack of crop insurance is also a major risk facing the farmers. Table 1 shows that more than 54 percent of the farmers do not have any insurance coverage and they can only secure policies through third-party intermediaries or brokerage firms. But third-party insurance requires farmers to provide three years of third-party verifiable records on their production, acreage, yield per acre, type of vegetable produced, etc.; most of these farmers do not keep records, and are thus incapable of securing third-party insurance.

Another problem facing the cooperatives is that the farmer boards of directors that run them do not have the managerial skills to efficiently manage the cooperatives.

**Table 1. Factors Affecting Crop Insurance.**

	Percentage
With Insurance	20.83
Without Insurance	54.17
No Response	25.00
Total	100.00
<i>Reasons for Lack of Insurance</i>	
No Crop Insurance Firms in Area	41.54
3 Years of Verifiable Records	36.36
Yields/Acre are too High	22.10
Total	100.00
Source: Survey	

### Management Training to Overcome Problems

Securing vendor or forward contracts before the planting season was viewed as the most important activity or strategy that could alleviate most of the marketing problems confronting the farm cooperatives in the area. Selected boards of directors and farmers were provided with onsite hands-on training in vendor-contract negotiation skills at some of the major produce-brokerage firms, supermarkets, and other fresh-vegetable buyers. The contract training enabled the directors to determine what type of vegetables the member farmers must produce for the coming season, what it takes to secure a ready market, and how higher and firm prices for the vegetables can be secured for the farmers.

To overcome the management problems facing the cooperatives, the project investigators decided to provide participatory business training to selected member farmers and directors who will then teach and train others. This training would not only allow the participants to adopt effective management practices in running their cooperatives and farms but could also serve as the foundation in the creation of new or expanded rural businesses that could assist in the economic development of their communities. Hence the goal of the management training was to provide cost-effective, locally focused, and flexible experiential and knowledge-sharing training to help farmers acquire the skills needed to operate successful value-added vegetable businesses.

A consortium team of experts from Arkansas State University, Delta Center for Entrepreneurship,

University of Arkansas at Pine Bluff, Small Business Center, and the Cooperative Extension Service of University of Arkansas at Fayetteville was consulted to provide the training. The training sessions were organized in participatory and interactive workshops and conferences where more than thirty member farmers shared their experiences with others either in a participatory group sessions or on a one-on-one basis.

The training program consisted of basic management, NxLevel agricultural entrepreneur training, and food quality/safety and sanitation training. The first phase was devoted to improving individual management skills and the second phase to marketing the value-added produce. Four training modules were presented during the first phase:

1. Leadership-skills module: Trainees were provided with hands-on leadership skills in managing people who work in value-added farm cooperatives.
2. Sound business-decisions module: Trainees related the basic steps in decision making to the daily farming and value-added problems they face.
3. Organizing and controlling module: Trainees were taught to practice effective management and use resources efficiently in the value-added industry.
4. Teamwork module: This focused on ways of creating effective communication networks between farmers, their cooperatives and the markets where the final produce is sold.

The second phase of the business training provided farmers with skills in marketing, record keeping, and cash-flow basics applicable to the fresh-produce industry. The marketing training was devoted to securing vendor contracts.

**NxLevel Agriculture Entrepreneur Training**

The business training was supplemented with entrepreneur training provided by a certified instructor for NxLevel program for agricultural entrepreneurs. The trainees improved their problem-solving skills by using NxLevel worksheets (Wold, Summer, and Schlake 1999) to identify and solve individual farm problems.

**Food Quality/Safety and Sanitation Training**

The vendor-contract training made the farmers aware of their buyers’ strict adherence to FDA food-safety, quality, and sanitation requirements by. It also became clear during the training that the cooperatives do not have food-safety procedures. As a result, a certified food-safety trainer provided a series of training workshops to the project participants. The main training modules on vegetable quality and safety were based on program materials for fresh-produce food safety (Osborne, Sanders, and Ward 2001).

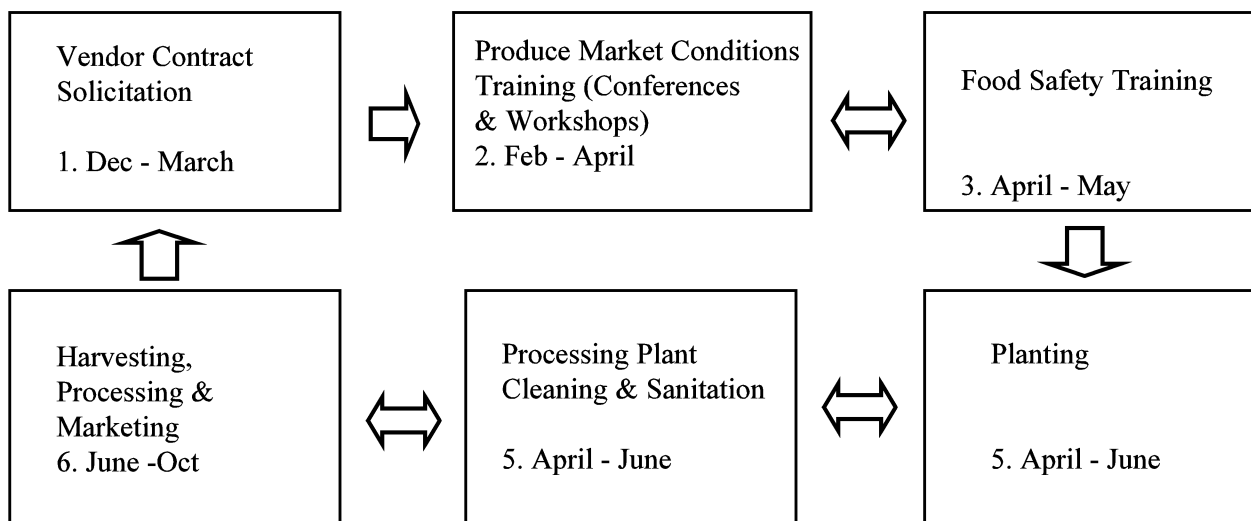
The food-safety training and demonstrations enabled the farmers to understand the need to adopt

FDA food-safety and sanitation guidelines and apply them in all their production and value-added operations in the future. Adherence to the FDA food-safety and sanitation guidelines will not only force the cooperatives and the member farmers to produce higher quality and safer value-added produce, but will enable them to secure large-volume vendor contracts for many different crops at high prices.

Most boards of directors of the three farm cooperatives indicated after the training that their participation in the conferences and workshops did provide them with some skills in creating business plans, policies, and supervisory responsibilities needed to provide leadership to their cooperatives. However, most also indicated that they still lack the time and expertise needed to effectively manage the value-added operations of their cooperatives. The implication from the evaluations of training is that permanent managers with long-term experience in the fresh-produce processing industry must be hired to effectively and efficiently manage the three cooperatives.

**Policy Strategies for Establishing Future Value-Added Enterprises**

One of the critical problems identified during the project workshops and conferences was lack of cohesive integration of the timing of farm operations with the value-added activities of the coop-



**Figure 1: Operational Procedures for Farm Production and Value-added Activities.**

eratives in the area. A schedule of workable operational procedure that integrates the farming activities of member farmers with the operations of the cooperatives were jointly designed by trainees and farmers during the projects workshops. The operational procedure designed serves as a future itinerary of activities to be followed before and during the season. Figure 1 shows a schematic diagram of the operational procedures.

### **Strategic Alliance Formation Among Cooperatives and Farmers in the Area**

To eradicate the common operational problems facing the cooperatives, the project participants recommended consolidating the activities of the cooperatives in the area to exploit economies of scale and avoid duplication of functions. With the pledge of financial support from East Arkansas Enterprise Community and the University of Arkansas at Pine Bluff the operations of the three cooperatives were consolidated into a unified "Arkansas Delta Produce Marketing Association (ADPMA)." The benefits of combining the operations of the cooperatives include:

- Reducing duplication of functions to exploit economies of scale, thereby reducing costs.
- Adding value to different vegetables in one facility and market them through vendor contracts, thereby enabling ensuring higher prices for the farmers.
- Securing the necessary capital to attract permanent managers who will manage the association effectively and implement the operating procedures designed by member farmers during training sessions.
- Serving as a "third-party intermediary" through whom farmers can secure third-party or group insurance.

The major anticipated problems that ADPMA must resolve in the near future include:

- **Processing and Storage Capacity:** Given the anticipated volume of fresh vegetables to be handled, ADPMA must increase its refrig-

erated warehouse space.

- **Market Capacity:** ADPMA's success depends on developing relationships with major fresh-produce channels and negotiating seasonal vendor contracts.
- **Working Capital:** ADPMA's ability to provide long-term services to its members depends on access to working capital. Currently, ADPMA does not have adequate capital to expand its operations or hire a permanent manager. East Arkansas Enterprise Community and the University of Arkansas at Pine Bluff have together pledged a grant of about \$180,000 to ADPMA as working capital for the 2003 season. Furthermore, with assistance from the project investigators, the ADPMA and Arkansas Land and Farm Development Corporation have jointly applied for a working-capital grant from USDA.
- **Contract Agreements:** A critical organizational problem is the willingness of the farmers to execute and abide by the marketing agreements negotiated on their behalf by ADPMA. This need must be addressed to ensure that the member farmers are fully committed to marketing all their produce through ADPMA.

Currently, there is no vegetable-brokerage firm in the area; as a result the cooperatives have to market their produce through out-of-state brokerage firms. The second strategy recommendation from the project was the establishment of a brokerage center in Marianna to serve all cooperatives. Figure 2 shows that by pooling their resources and establishing a vegetable brokerage firm or a consolidated value-added cooperative in the area, ADPMA could consolidate its activities and help the farmers secure insurance and negotiate vendor contracts.

**Summary and Conclusions**

This project was based on the premise that hands-on participatory training can be instrumental in strengthening the farm-business base in rural communities. This premise has proven sound in the project area in which a consortium of local experts partnered with farmers to facilitate the training programs. The project has provided one of the first participatory experiential training programs involving vegetable farmers, directors of value-added cooperatives, extension agents, and other experts to strengthen existing value-added vegetable cooperative in the Delta area of Arkansas. This experiential learning/training has also created networks at several levels to assist in future value-added enterprise facilitation as well as in skills that participants such as the cooperative directors and extension agents can use to train more facilitators and mentors.

In particular, this project has identified and provided solutions to the problems facing the farm cooperatives in the area and consolidated the cooperatives’ operational activities into a unified Arkansas Delta Produce Marketing Association (ADPMA) to allow them operate efficiently. This unified ADPMA will assist in expanding the value-added activities for various vegetables produced in the area, serve many farmers, secure high prices for farmers, increase farm income and employment, and exploit economies of scale. The increased profitability and operational efficiency that ADPMA

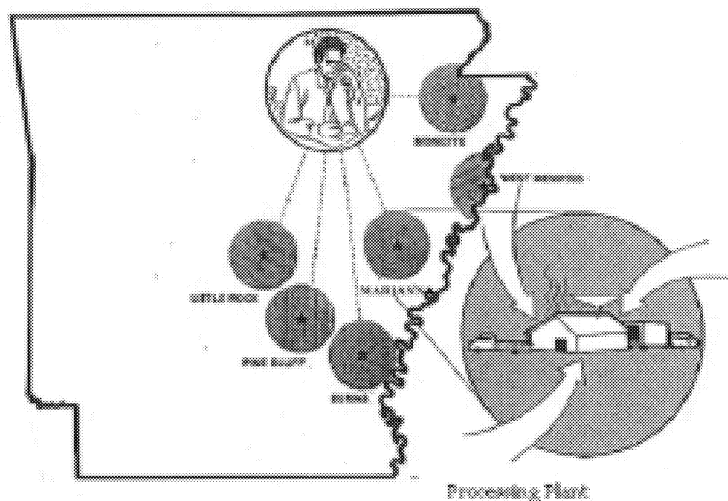
will bring to the area, combined with support and secondary activities, will assist in expanding the rural-equity tax base to support education and local government services. Because the strategy of integrating the cooperatives into ADPMA is based on local resources, the impact will be permanent. Furthermore, ADPMA’s value-added activities are not dependent on relocation decisions from businesses outside of Arkansas.

As impressive as these strategy recommendations are, the success and growth of the newly integrated ADPMA will depend on its ability to obtain continuous working capital to enable it to expand the value-added activities in order to serve many vegetable farmers in the area. While the immediate results of this project are specific to the Delta area of Arkansas, they could well be generalized to other states or applied to universal value-added vegetable cooperatives.

**References**

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**Figure 2: Proposed Fresh Produce Brokerage Firm.**