Community Supported Agriculture: Filling a Niche Market

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In less than a decade, the number of Community Supported Agriculture (CSA) projects has grown to more than 400. Our research, suggests that CSA shareholders' social objectives dominate their decision to join. Standard economic objectives and "club-related" objectives contribute to the decision, but are clearly secondary. Our research also suggests the CSA movement will continue to grow. Its emphasis on social objectives, its inability to supply food year around, and the ongoing development of size-neutral organic technologies, however, will probably keep it from becoming a major market channel in the next century.

At the turn of the century, towns and cities depended on nearby farms for perishables such as fresh fruits and vegetables. The advent of rapid transportation, iced railroad cars, and longdistance shipping networks changed this marketing system (Nourse, 1918; Case, 1934; Hedden, 1929). Perishables now come primarily from large production regions in California, Florida, Mexico, and a few other areas. Niche markets and good soils, a favorable climate, and proximity to a large city kept a small fraction of the farms profitable; the rest of them either quit farming or shifted to other commodities.

In recent years, a small, but growing percentage of the U.S. population has begun to question this type of food production and distribution system. The environmental movement, monoculture farming, excessive soil erosion, farmers' reliance on pesticides and their perceived adverse environmental and health impacts, and demise of the family farm has motivated individuals and groups to support previously popular systems and to create new avenues. Roadside stands, U-pick farms, and farmers' markets, for example, reemerged during the seventies. The sustainable agriculture movement and organic farming found footholds during the eighties. And these past achievements and experiences set the stage for substantially more complex and innovative food production and distribution systems that reestablish a direct link between farmers and consumers; produce safe, nutritious, fresh, and economical food; and sustain the land and farmers while protecting other resources (Groh and McFadden, 1990). Subscription farming and community supported agriculture capture this latest movement.

By definition, subscription farming is a direct marketing approach where the consumer contracts with a farmer and pays in advance for a weekly bundle of fresh produce. Consumers may renew, suspend, or cancel their subscription at any time (DeVault, 1991). One variation of subscription farming is the Clientele Membership Club; it is a pick-your-own operation for members only (Whately, 1987).

Demuth (1993) argues that subscription farming emphasizes economics whereas community supported agriculture (CSA) builds its support foundation on community benefits.

"Although CSA's take many forms, all have at their center a commitment to building a more local and equitable agricultural system, one that allows growers to focus on land stewardship and still maintain productive and profitable small farms" (DeMuth, 1993).

Community supported agriculture consists of shareholders who pay at the beginning of the growing season for a share of the harvest, farmers who agree to provide fresh, locally grown, chemical-free food once or twice a week during the growing season, and a core group of volunteers who oversee food distribution, publicity, account-

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ing, and other business items. By working together, shareholders and farmers share financial and production risks, eliminate food brokers and processors, and substitute the current profit maximizing food production and distribution system with a community-based, sustainable one (Barclay, 1993, 1994, 1995; Bowman, 1991; Cicero, 1994; DeMuth, 1993; Henderson, 1994; Parisi, 1993; Wisby, 1994; Van En, 1992; VanderTuin, 1986).

The rapid growth in CSA's and the introduction of the Prairieland CSA into the Champaign-Urbana area gave us the opportunity to study this relatively new marketing phenomenon and identify the driving forces behind it. In the remainder of this paper, we describe the objectives and characteristics of the Prairieland CSA, review our primary research conclusions, and discuss needed research.

The CSA Movement and Prairieland CSA

The CSA philosophy originated during the 1960's in Switzerland and Japan. In 1986, two CSA farms -- the Indian Line Farm in Massachusetts (Van En, 1992; VanderTuin, 1986) and the Temple/Wilton Community Farm in New Hampshire (Groh, Trauger and McFadden, 1990) -were established in the United States. CSA's now number between 250 and 400, and can be found in New England, the Middle Atlantic states, the Great Lakes region and the west coast (Cicero, 1994, DeMuth, 1993; Henderson, 1994).

The three CSA's in the Chicago area represent the three different styles. Farmers at Angelica Organics initiated their CSA. In 1994, 135 households purchased shares for \$390 per share for 20 weeks of produce. Prairie Crossing is a community supported garden with 117 subscribers who pay \$350 for 20 weeks of produce. Consumers created the third CSA called Peggy's Place. Subscribers now number 117; they pay \$350 for 20 weeks of produce (Cook, 1994; Henderson, 1994; Wisby, 1994). The Prairieland CSA and the subject of this paper falls into this last category. In 1994, 25 shareholders participated; in 1995, membership increased to 70.

For many years, the Champaign-Urbana area has had a small, but active group interested in societal issues and solutions. John Barclay, coor-

dinator of the Common Ground Co-op, heard about CSA's, liked their philosophical and social underpinnings, and decided to try and start one. Barclay and several other individuals decided to create a "pilot CSA." They recruited a local farmer (Rick Larimore) from Champaign-Urbana's farmers' market. This core group of individuals also talked to people and used the Common Ground Food Co-op, the IDF Progressive Resource Action Center, the Cooperative Red Herring Vegetarian Restaurant, computer bulletin boards, newspapers, radio and public service announcements to spread the word and attract shareholders (Miller, 1995). People interested in joining a CSA were invited to attend a study group. At the study group, potential members watched the videotape "It's Not Just About Vegetables (VanderTuin, 1986)" and learned about the purpose of a CSA:

"CSA is a collective response (initiated by farmers or consumers) to the ecological, social and economic problems we are currently facing in agriculture and community. It holds that a mutual commitment between farmers and community members encourages sustainability and responsibility, as well as directly benefiting both people and land (Barclay, 1993)."

Discussions in these study groups pointed out some of the key points such as this new marketing channel builds an urban-rural link that allows consumers to deal directly with farmers. Besides eliminating food brokers and processors, this linkage provides the framework for the creation of a stronger, more sustainable agricultural system where consumers and farmers work together in a trusting relationship to produce a fresh, low-cost, organic food supply that sustains the land and community. Under a CSA marketing system, decision making and profits revert back to farmers and consumers, and the two parties share financial and production risks.

Sometime in early 1994, Prairieland CSA was born. Its structure consists of three parts: the farmer who provides "fresh, local, chemical-free produce," the consumers who support the farmer, and the core group of volunteers who help with food distribution, publicity, membership, accounting, and legal issues. The agreement (see Table 1) gives specifics such as the cost of a share (\$240), 24 weeks of produce valued between \$8.00 and

\$12.00 each week using farmers' market prices, the use of organic farming practices, types of produce to be delivered, a drop-off point, and cautionary statements which remind shareholders that they are participating in an experiment and that nature, their silent partner, has the final say.

Praireland's core group set a fairly high goal of 50 shares for 1994; they successfully sold 25 shares. The University of Illinois purchased two shares, the Red Herring Vegetarian Restaurant purchased five shares, and the Common Ground Food Co-op purchased two shares. Families purchased the remaining shares.

Table 1. Prairieland CSA's 1994 Agreement Between Consumer and Producer.

The Consumer, ______, subscribes for _______ shares of the fresh produce planted, grown, and harvested for Members of Prairieland Community Supported Agriculture (PCSA) during a 24 week period that begins May 29, 1994 and ends November 12, 1994 (Production Period). The consumer agrees to pay the Producer \$240.00 for each share subscribed. The total amount may be paid in full when a signed copy of this agreement is sent to the Producer. Alternatively, the Consumer may pay half the total amount when a signed copy of this Agreement is sent to the Producer, and pay the other half of the total amount by June 20, 1994.

The Producer, Richard L. Larimore, agrees to plant, grow, harvest, and deliver the fresh produce paid for by the consumer. Although not certified organic, the Producer will use organic farming practices. No herbicides, synthetic pesticides, or commercial fertilizers will be used. The Producer plans to grow enough crops to provide, for each share subscribed by the Consumer, a weekly supply of produce that would retail for \$8.00 - \$12.00 at a farmers' market. He plans to plant crops of arrugula, basil, several kinds of beans, beets, broccoli, several kinds of cabbage, cauliflower, swiss chard, corn, salad cucumbers, dill, kale, kholrabi, leeks, three kinds of lettuce, okra, onions, parsley, snap peas, snow peas, several kinds of peppers, pumpkins, oriental radishes, spinach, several kinds of squash, and tomatoes. Other vegetables may be planted, depending on how many shares are subscribed by PCSA Members.

The Consumer and Producer agree that delivery and distribution of the fresh produce will be coordinated by PCSA and handled in the following manner: (1) the Producer will deliver the Consumer's produce to the Common Ground Food Co-Op, 403 S. Wright Street, Champaign between 1:00 and 3:00 p.m. each Monday during the Production Period; (2) if inclement weather or other factors prevent delivery on a Monday, the Producer will contact a person designated by PCSA to reschedule delivery for that week; (3) the PCSA designated contact person will notify the Consumer that the delivery has been rescheduled; (4) the Consumer will pick up produce at the Food Co-Op on the day of delivery; and (5) if the Consumer does not pick up produce on the day of delivery AND does not contact the Food Co-Op (Telephone No. 352-3347) to arrange for pickup at another time, PCSA will classify the produce as surplus and donate it to the Food Co-Op.

The Producer and Consumer agree that they are willing partners in an experiment to determine if community supported agriculture is feasible in this area. As partners, they will share the risks of planting, growing, and harvesting enough fresh produce to provide an adequate amount and variety of vegetables during the Production Period for each share subscribed by the Consumer. It is possible that some crops will wholly or partially fail. Hopefully, other crops will do better than expected, making up for the failures. In the event that everything goes according to plan, and the experiment is successful, the Consumer and Producer agree to share the credit for this achievement.

Consumer

Date

Date

PRODUCER'S COPY

Research

Given the opportunity to investigate this new movement, we initiated contact with Prairieland, and discussed our research interests with them. An understanding was reached between the two parties, which culminated in the University of Illinois purchasing two shares.

To understand the driving forces behind the CSA movement, one needs to understand why individuals join. Some individuals join CSA's because they deliver organic or "chemical-free" produce. People also join because they find the type and amount of produce received equals or exceeds membership fees. Furthermore, CSA's provide the opportunity for individuals who place value on an alternative production and distribution system to actively support it. Organizations can and frequently do provide "club" benefits that individuals value and contribute to their decisions to join. These primary reasons are investigated below.

Produce Survey

Prairieland CSA partially differentiates itself from other market channels by selling fresh, high quality, organic or "chemical-free" produce. With

this thought in mind a small experiment was concocted to judge the relative desirability of CSA produce to similar produce from two other marketing channels: local grocery stores and farmers' markets. For eleven of the twenty-four weeks, employees, students, and visitors of the University of Illinois College of Agriculture were given the opportunity to judge the desirability of three types of produce from three sources: a local grocery store, the farmers' market, and the CSA. Participants were randomly assigned to a room with either 9 unlabeled samples (three different vegetables from three sources) or a room with 9 labeled samples that indicated each sample's source (grocery store, farmers' market, or organic).

In each room, participants were given a survey form similar to the partial one shown in Table 2 for beets. Given the grocery store's price for the vegetable that week, participants were asked how likely they would purchase each one of the vegetable samples. When participants finished with their vegetable ratings in their assigned room, they moved to the other room and repeated the process. To minimize bias, vegetables were also randomly assigned within each display tub in both rooms for each of the eleven weeks.

ROOM A	CODE:		
BEETS Are you fan	niliar with this vegetable? YES N	NO TO	
If these samples were priced at \$1.49/bunch, how likely would you be to purchase them?			
Sample 132	Sample 366	Sample 038	
(check only one)	(check only one)	(check only one)	
definitely would purchase	definitely would purchase	definitely would purchase	
probably would purchase	probably would purchase	probably would purchase	
might or might not purchase	i might or might not purchase	might or might not purchase	
probably would not purchase	probably would not purchase	probably would not purchase	
definitely would not purchase	definitely would not purchase	definitely would not purchase	
Comment:			
		· ·	

Table 2. Example of the Vegetable Survey Form.

The data from these eleven surveys yielded 32 sets of three-vegetable comparisons for both the blind and labeled trials. Each participant's score for a vegetable was given a number between 1 (definitely would purchase) and 5 (definitely would not purchase). All the participants' scores were then totaled for each of the 32 threevegetable comparisons. The vegetable (and more importantly its source) with the lowest total won the trial.

The number of "trial" winners by source (grocery store, farmers' market, and organic for the CSA) is shown in Figure 1. For the blind trial, grocery store vegetables scored the highest number of trial wins (44%). Vegetables from the farmers' market captured ten trial wins (31%), and the organic (i.e. CSA) vegetables won the remaining 8 trials (25%). Trial wins in the labeled room showed a different pattern. Organic vegetables won 13 trials for 41%; farmers' market vegetables, 12 trials for 38%; and grocery store vegetables 7 trials for 21%. Stated another way, when the vegetable sources were known, some participants placed more value on the organic or "chemical-free" produce.





Figueroa (1994), Weaver (1994), and Packer (1994) have documented similar shifts in preferences when consumers learn more about a particular commodity. For example, in one study of consumer acceptance of thrip damaged oranges, Bun, Feenstra, Lynch and Sommer, (1990) observed that consumers appeared to be more willing to purchase cosmetically imperfect oranges once they learned insecticide use had been reduced. More importantly, they pointed out the market potential of their finding:

"Information appears as the sole determinant of this shift in willingness. These findings reveal a potential market across a range of consumers for cosmetically imperfect produce when customers are given information regarding reduced pesticide use (Bun, Feenstra, Lynch, and Sommer, 1990)."

It appears that this principle applies to Prairieland CSA with their designation of organic or "chemical-free" produce. Upon learning which vegetables came from the CSA, participants placed more value on those samples.

Shareholder Survey

At the end of the 1994 season, Prairieland shareholders were surveyed to judge their overall satisfaction with their CSA. The questions and summary data are shown in Table 3. Of the members who returned their surveys, 83% said they would buy a share next year. Comments included phrases such as "wonderful," "good and cheap," "nice concept," "satisfied," and "good experience." The two "no" responses represented logistic problems rather than dissatisfaction. Tuesday delivery created a conflict for one "no" respondent. The second "no" respondent was leaving town.

A consistent picture emerges from the results of the specific statements. On average, shareholders found produce quality, variety, and quantity acceptable as well as cost of a share, weekly delivery, delivery location, and length of season. The survey also captured the importance shareholders placed on receiving locally-grown, organic produce, knowing the farmer, and eliminating the middleman. They were, however, unsure about providing labor for either on-farm work or delivering produce to the drop-off site. Together, these results suggest that shareholders were satisfied with the produce, and with the exception of the labor requirement, received additional satisfaction (utility in economic jargon) from supporting the guiding principles of the Prairieland CSA.

Table 3. Shareholders' Survey¹

Statements	Average score ²	Standard deviation
CSA produce quality was acceptable.	4.75	0.43
Produce variety was acceptable.	4.33	0.62
The quantities of produce received were acceptable.	4	1.22
Having little choice in the mix of produce I received bothered me.	2.33	0.75
I would like the CSA to provide recipes.	3.08	0.76
The cost of a CSA share was acceptable.	4.5	0.65
I would prefer a half share.	3.17	1.14
I would prefer a shorter season.	2.17	1.14
Once-a-week delivery was appropriate.	4.25	0.6
The delivery location was acceptable.	4.5	0.5
The flowers were valuable to me.	4.25	0.83
The availability of locally-grown produce is important to me.	4.67	0.47
The availability of organic produce is important to me.	4.67	0.62
Knowing the farmer who grows the produce is important to me.	4	1.08
Avoiding the middleman is important to me.	4.5	0.65
CSA shareholders should be required to work on the farm or help deliver the produce.	2.83	1.07
Do you plan to purchase a share in PCSA next year? YES: 10	NO: 2 ³	

¹ Shareholders returned 12 survey forms, some of which represented multiple shares. The University of Illinois did not participate in the survey.

 2 5 = strongly agree; 4 = agree; 3 = not sure; 2 = disagree; 1 = strongly disagree

³ One shareholder was leaving town, and hence, voted no.

Value Comparison

Receiving a "fair deal" typically plays a role in an individual's purchasing decision. To assess whether or not CSA shareholders were obtaining a "fair deal," we used grocery store prices to value every weekly produce delivery. Values of the weekly deliveries and the eight to twelve dollar range stated in the Prairieland CSA's shareholder contract are shown in Figure 2. These estimates of market value are low because we could not find prices for the flowers which came with every weekly delivery.

Given that a share cost \$240, it appears that shareholders generally got their money's worth provided that each weekly bundle mirrors what they would have bought in the grocery store or farmers' market. When this assumption does not hold, market value may be only one of many factors that contribute to shareholder satisfaction.

Figure 2. Value of CSA Produce.



The conventional economic model of choice is shown in Figure 3. Given this choice model, consumers maximize their utility (satisfaction) by selecting point A where the budget line is tangent to the highest indifference curve. At any other point on this budget line (i.e. points B and C), consumers would be paying the same amount, but receiving less utility (satisfaction).





Because shareholders do not select their vegetables, it is doubtful everyone of them is at their preferred point A in Figure 3. Conventional analysis and the conclusion derived from it, however, may be misleading because it focuses on the best mix of individual items whereas CSA members selected among market channels. The market value of the CSA produce probably contributed to the decision to join a CSA. Other factors, however, also contributed to shareholders' decisions to switch marketing channels. For example, the shareholder survey suggested that members placed value on selecting a whole food system and all the placed value structural changes that go with it (Walter, 1995). As another example, shareholders seemed to place value on having someone else select their vegetables.

Shareholders also received additional satisfaction or value by being surprised with vegetables they had never purchased, prepared or eaten and giving their excess produce to neighbors and friends. Finally, participating in a social experiment added to some of the shareholders' satisfaction as did the mutual exclusivity of receiving a bundle of goods that could only be received by being a member of the CSA.

In many ways, people join book clubs cheese-, chocolate-, and wine-of-the-month clubs,

and rent-a-tree or rent-an-acre-of-land programs for similar reasons. They value participation; they like being surprised; they like trying new things; and they like someone else doing the shopping for them.

Summary of Research Results

When individuals join a CSA, they are substituting one market channel for another one. Conventional economic wisdom suggests this decision is made using the indifference curve/budget line approach shown in Figure 3. Using this approach, we can understand, for instance, the selection of a mix of produce, the choice of organic versus conventional produce, and the decision to shop at a farmers' market versus a conventional grocery store.

This conventional analysis, however, does not appear to be very useful for explaining choice of a marketing channel. In the decision of whether or not to join the Prairieland CSA, individuals included a mix of economic, social, and other factors or objectives. Economics (paying \$240 and receiving 24 weeks of produce and flowers) contributed to their decision to join Prairieland, but so did other, and probably more important, objectives. Our results suggest that shareholders placed value on knowing their produce was "chemical-free," knowing the farmer who grew their vegetables, supporting a food production and marketing system that eliminated merchandisers, and reestablishing a direct urban-rural channel. The fact that the CSA recruited a farmer from the local farmers' market and that many of the shareholders knew and bought his produce before joining the CSA point to the existence of other important objectives. Otherwise, they would have had very little incentive to shift from the farmers' market channel to the CSA channel. Still another indication of the importance of these other objectives was the produce survey where participants increased their ratings of the CSA's produce in the labeled room.

The final set of objectives that cannot be ignored are the ones that we categorize as "club" benefits. Shareholders received added value from having someone else select their vegetables, altering their eating habits, giving their excess produce to neighbors and friends, and sharing and supporting common interests and beliefs. It is unclear how important these objectives are in the selection of a marketing channel, but at this stage, they cannot be excluded from the analysis.

Based on our research, it appears that the CSA shareholders' social objectives dominated their decision to join. Standard economic objectives played a relative minor role. The other objectives which we tend to lump under "club" objectives were noted, but we could not judge their relative importance.

Conclusions

In less than a decade, the number of CSA's has grown from two to more than 400. The reasons for their rapid growth appear to involve economic and other probably more important objectives. Conventional economic analysis is not well suited to problems that include more than price, quantity, and quality relationships. Another paradigm such as multiple objective utility theory needs to be investigated to more fully understand this movement.

Will CSA and similar organizations be the dominant marketing channel in the next century? The answer is probably no. CSA's require a new set of social objectives and behavioral change. Furthermore, CSA produce supplements a family's food needs. During peak production, CSA's can meet a family's needs. The rest of the time a family relies on other marketing channels. Furthermore, technological breakthroughs that make organic farming more efficient and economic will allow the current food production and distribution system to compete more effectively with CSA's.

In summary, the CSA movement will continue to compete and fill niche markets in towns and cities across America. CSA's emphasis on social objectives, its inability to supply food year around, and the ongoing development of sizeneutral organic technologies make other marketing channels very competitive.

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