

**Socioeconomic Conditions for and Impacts of
Establishing and Operating a New Generation Cooperative:
The Case of the South Dakota Soybean Processors**

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Socioeconomic Conditions for and Impacts of Establishing and Operating a New Generation Cooperative: The Case of the South Dakota Soybean Processors¹

It has been widely documented that agriculture and rural communities have undergone a series of structural changes in recent decades. In agriculture, these changes have taken the form of an increasingly industrialized agriculture. Simultaneously, many rural communities have decreased their dependence upon agriculture as the main driver of economic activity. These changes have been attributed to a number of forces, including changes in consumer preferences led by demographic shifts, increased global competition forcing a continuous drive towards increased efficiency, a shift in government policies away from agriculture and towards rural areas in general, and changes in technology (Barr; Senauer, Asp, and Kinsey, pp.1-12; Saxowsky and Duncan). Moreover, changes taking place in agriculture and rural communities have accelerated in times of economic difficulties such as those in the 1980s (Murdock and Leistritz; Diersen, Janssen, and Loewe; Stefanson and Fulton; and Cobia).

In spite, or perhaps because, of these changes many rural communities in general and agriculture dependent areas in particular have not shared in the decade-long economic boom of the nation as a whole. Many rural communities have long experienced a “vicious circle” of population loss due to the lack of employment opportunities on the one hand and, on the other hand, insufficient investments by manufacturers because they cannot find workers (Rathge and Highman; and McGranahan).

To counteract the forces of economic decline in rural areas, various rural development policies have been applied, including encouraging the use of cooperatives. Cooperatives have long been viewed as a useful instrument of rural economic development, because they are grounded in the region they serve and generally do not have incentives to relocate elsewhere. Also, cooperative profits tend to stay within the local economy (Ziewacz; and Stafford). In recent years, many agricultural cooperatives have had to make organizational adjustments in response to structural changes taking place in rural communities and among their membership. Changes in the structure and organization of cooperatives led to the development of “New

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Generation Cooperatives” (NGCs), which have become an increasingly popular cooperative form among farmers wishing to enhance their profits by engaging in economic activities that traditionally take place off the farm. These cooperative value-added processing activities generally involve a contractual association between the cooperative and its members, specifying that members obtain the right to deliver one unit of raw product for each share purchased.

NGCs’ focus on capturing an increased share of the consumer’s food dollar for the benefit of their farmer-members makes them particularly useful as a rural development tool, not only because potential profits accrue directly to member-farmers, but processing raw agricultural commodities generates additional economic activities for the benefit of rural communities. A further characteristic of NGCs is that their membership is restricted to only those agricultural producers who agreed to invest in the cooperative at the time of its inception. Further, NGC capital acquired by up-front member investment is semi-transferable at market value.

Many NGCs are located in the Upper Midwest, particularly in North Dakota and Minnesota. While some of these cooperatives have failed in recent years, many have been able to provide some initial positive benefits to their members and their communities. Successful cases include the Dakota Growers Pasta Company and the North American Bison Cooperative. Leistriz and Sell (2000) have documented that these two cooperatives have made positive contributions to their local economies, including improved job opportunities and wages, as well as a more stable real estate market.

While many NGCs provide direct and indirect benefits to local communities, some have experienced difficulties, stemming from management problems and marketing failures. Also, the introduction of NGCs into rural areas has been associated with social and demographic shifts in local communities. Leistriz found that newly formed cooperatives may be unable to satisfy their demand for labor within the communities in which they are located, or that the cooperatives require jobs that are not well liked by local citizens. The resulting in-migration — often by individuals with different racial/ethnic backgrounds from those of local citizens already living in these communities — may lead to social disruptions within local communities.

While the benefits of the NGCs are generally thought to exceed negative aspects associated with them, the research to back up this assertion is somewhat limited. This paper provides an attempt to shed further light on the social and economic benefits and costs associated with the establishment of a recently formed NGC, the South Dakota Soybean Processors (SDSP) cooperative in Volga, South Dakota. The SDSP cooperative is a particularly interesting NGC example, because it is relatively new – having begun operation in late 1996, so the memories of those who helped form the cooperative and were affected by it are still fresh, enabling easy identification of the critical success factors of the cooperative. Its recent establishment also enables an accurate documentation of the economic and social impacts of the cooperative. Further, SDSP’s short track record is largely determined by market conditions and not tied to Federal policies to the same extent as some other NGCs. In contrast, the success of many ethanol-producing NGCs is intimately tied to the continuation of Federal tax credits for ethanol and methanol producers.

The purpose of this paper is to gauge the socioeconomic impacts of the SDSP plant on the region in which it is located and to provide community, state, and national leaders with insights on areas that need to be addressed when establishing new generation cooperatives. Specifically, the two main objectives are to (1) document the economic conditions needed for the successful establishment and operation of a processing cooperative; and (2) assess local resident perceptions of the social and economic impacts of the SDSP cooperative on the Volga community.

Data and Methods

The paper consists of two main components. First, it reports on an in-depth survey of selected community leaders from the town of Volga – near which the SDSP plant is located – and surrounding areas. The purpose of this survey was to create an in-depth database of the community, the effects of the SDSP plant, conditions helping or hindering the effects of the plant, and the community’s perception of the plant. These leaders were chosen on the basis of their roles in business and community organizations, or because of their elected or appointed

governmental positions. The survey was based on a questionnaire developed by Leistriz and Sell (1999a). The first part of the paper also reports basic financial and workforce data, based on annual reports and interviews conducted with individuals directly involved with the plant.

The second component of the paper reports on a survey administered to a random sample of citizens living in Volga and surrounding communities. The survey was conducted through a mail questionnaire using the “total design method” developed by Salant and Dillman. The survey, based on a questionnaire developed by Leistriz and Sell (1999b), sought to obtain information from local residents on the degree of satisfaction with their community and on residents’ perceptions of the effects of the agricultural processing plant on their community. The reported information is based on 96 usable responses, yielding a response rate of 68%.

The South Dakota Soybean Processors Cooperative

The SDSP cooperative was formed in response to a combination of factors. First, in the early 1990s, farmers in the region were facing relatively low prices for small grains and had experienced poor harvests as a result of inclement weather. Second, soybean varieties were introduced that were suitable for northern U.S. climates, leading to major increases in South Dakota’s soybean production. According to the U.S. Census of Agriculture, soybeans accounted for over two million acres in 1992, a five-fold increase from 1978 (Diersen, Janssen, and Loewe). Third, prior to the establishment of the SDSP facility, there was a substantial difference between the price of raw soybeans and that of soy meal. Low soybean prices in the region were caused by large shipping costs to population centers and international harbors, and high soy meal prices were associated with transporting processed soy meal from processing locations back into the state.

In late 1992, the South Dakota Soybean Research and Promotion Council sponsored a study assessing the feasibility of establishing a soybean processing plant in South Dakota. The results of this study indicated that a profitable soybean processing plant could be built in South Dakota. In early 1993, a newly formed soybean producers group interested in pursuing this idea conducted 15 meetings with farmer groups and subsequently incorporated as the South Dakota

Soybean Processors cooperative. The group's initial board of directors updated the findings of the original feasibility study and made plans to build and operate a soybean processing plant. The board circulated a prospectus and offered stock to potential investors in South Dakota and Minnesota. The organizers of SDSP held nearly 200 meetings and reached 6,000 farmers during the winter of 1993-94. The organizers also developed a limited membership plan and a uniform marketing agreement, outlining member delivery requirements. Members were initially required to purchase a minimum of \$5,000 in shares. By mid-1994, \$7.2 million in equity had been raised.

After researching four proposed sites – three in South Dakota and one in Minnesota – the board voted in November 1994 to build the \$32.5 million plant at its current site. This controversial decision led to the defection of some cooperative members. The Volga site was chosen because it has access to highway transportation – a major U.S. highway as well as Interstates 29 and 90 – and is in close proximity to a track of the Dakota, Minnesota, and Eastern Railroad, which travels directly to one of the area's largest refiners of soybean oil. The Volga site also offered advantages regarding utilities, including natural gas hook-ups and relatively shallow wells for access to water. Other factors highlighted in Volga's selection were the cost of the site, tax incentives offered by the community, and nearness to the majority of the cooperative's investors. After an additional \$15 million in equity was raised, SDSP started building its processing facility in August of 1995, and started operating in September 1996. At the time of construction, the SDSP plant was the nation's first soybean crushing plant built since 1978 and it remains the only soybean processing plant in South Dakota.

Currently, the cooperative has 2,100 members, mainly in western Minnesota and eastern South Dakota. The cooperative employs 57 full-time workers and 15 part-time workers and has an annual payroll of \$2 million. In 1999, SDSP's total assets were \$48.4 million and members held \$29.2 million in equity in the plant. In 1998, the cooperative's net proceeds were \$4.6 million, of which 74 percent was paid in cash to its members, while 17 percent and 13 percent was retained by the cooperative in cash and equity patronage, respectively. In 1999, the plant processed 24.2 million bushels of soybeans, yielding 539,456 tons of soy meal, 134,998 tons of

soy oil, and 35,136 ton of soy hulls, representing an increase of 11 percent over its 1998 level. The processing capacity of the plant was expanded from 50,000 to 65,000 bushels of soybeans per day in the first six months of the plant's operation, followed by additional expansions to 70,000 bushels of soybeans per day in 1998 and 80,000 bushels of soybeans per day in 1999.

Regional Socioeconomic Characteristics

The city of Volga is located approximately 30 miles from the Minnesota border in east central South Dakota. In 1998, it had a population of 1,296 (U.S. Department of Commerce). The town is located in Brookings County, classified by Butler and Beale; and Butler as a nonmetropolitan county not adjacent to a metropolitan area. Census figures indicate that the county had a total population of 25,931 in 1999, making it the fourth most populous in the State (U.S. Department of Commerce). In 1997, per capital income in Brookings County was \$19,977, behind State (\$21,067) and national (\$25,288) averages, but it has been growing by an average of 5.5 percent per year over the last ten years recent years (U.S. Bureau of the Census).

Brookings County has a diversified economy. Between 1994 and 1997, the two largest sectors were State and local government and durable goods manufacturing, contributing 28.5 percent and 25.7 percent of total earnings, respectively. In the same period, the agricultural sector generated 5.2 percent of total earnings in the county. While the contribution of most sectors to total earnings has been relatively stable, that of the farm sector fluctuated considerably over the last decade, varying from a high of 12.1 percent in 1987 to a low of 2.7 percent of total earnings in 1995 (U.S. Bureau of the Census).

Local Effects of SDSF

The community leaders participating in the survey identified the introduction of SDSF into the Volga area as a very important economic development affecting the community. The most important benefit of the introduction of the cooperative in the view of these respondents was the addition of new job opportunities for area residents. The leaders also indicated that soybean price increases provided important benefits to local farmers. Further, infrastructure improvements – in

particular the upgrade of U.S. Highway 14 through Volga – and a new truck stop and café were identified as important factors associated with the cooperative’s decision to locate in the Volga area. However, the increased truck traffic associated with the plant was identified as a source of contention. While much of the infrastructure would have improved in the absence of the SDSP cooperative, one respondent indicated that the SDSP plant probably hastened this process. Further, it was noted that the introduction of the plant had indirectly helped enable improvements and expansions to other facilities in the town.

The community leaders surveyed stated that the introduction of the cooperative provided a positive impact on the region’s real estate market, but that school enrollments remained virtually unchanged. Nevertheless, the plant was viewed as having a positive impact on the school system by adding to the county’s tax base – the plant will be fully taxed by the year 2002.

Social interactions among community members were seen as relatively unchanged. However, some concern was expressed over new residents moving into the area, but little change in the use of social services has been reported. Also, crime and public safety levels, as well as the use of police services were viewed as has having remained unchanged. Further, the respondents indicated that Volga’s volunteer fire department received a financial donation from SDSP, and vice versa, that SDSP worked closely with local fire departments.

The local leaders did not view the impact of the cooperative on the quality of the environment as major concern, and noted that the cooperative implemented environmental safeguard measures. Further, water, sewer, and related utilities have been positively impacted by new industry, in that a new substation was built close to the plant and the city’s water and sewer system were upgraded.

The community leaders indicated that a number of lessons were learned from their experience with a value-added agricultural enterprise. It was felt that communities need information on environmental and economic impacts of the processing facility, and on whether the project is expected to provide social and economic benefits to an area. The organizations that the leaders felt should provide this type of information are state economic development agencies, local job service agencies, farm organizations, and universities.

Based on their experience with the SDSP cooperative, the community leaders offered several suggestions for other communities that consider attracting value-added agricultural processing facilities. First, the organization proposing the development of the facility should provide honest information to all parties involved with the project. Also, the organization should conduct a high quality feasibility study before negotiating with community leaders, have a credible business plan to present to the public, and hire superior-quality management. These leaders also stated that projects must be sufficiently financed so as to prepare for large project expenses – particularly in its first year of operation – and that organizers must invest considerable time in the project. Finally, the leaders suggested that communities may be able to enhance local and regional support for proposed projects by joining forces with neighboring areas.

Survey of Study Community Residents

Among the community residents, almost all of the respondents indicated that they knew where the plant was located, but less than half (41 percent) had visited SDSP. One percent of the respondents worked for SDSP and five percent had a family member who worked for the plant. Over 18 percent owned or worked for a business that supplied SDSP. Close to three-fourths of the respondents lived within five miles, 20 percent lived between six and ten miles, and six percent lived over ten miles from the plant.

Respondents were also asked about their involvement in activities related to the development of SDSP. About 24 percent of the resident respondents reported having attended one of more meetings or hearings about the plant, and ten percent had contacted company officials. Very few individuals (two percent) reported having contacted government officials or signed a petition (six percent) concerning the plant.

When asked how the plant had affected the community, almost 85 percent of the respondents felt that SDSP had provided economic benefits to the community. In addition, 68 percent of the respondents agreed that the presence of agricultural processing facilities encourages other industries to locate in the community. Specific positive effects are listed in Table 1. The items that are most positively valued among community residents as a result of SDSP's establishment

and operation include employment opportunities, resident income and public revenue enhancement, and road infrastructure improvement.

On the negative side, about one-fourth stated that SDSP helped decrease property values, and an almost equal percentage of the respondents stated that the plant causes environmental contamination. Despite these negative aspects, well over half of the respondents agreed that SDSP had increased residents' sense of well-being and community pride. Specific negative effects are listed in Table 2, which shows that SDSP had a negative effect on air quality in the view of 37 percent of the community residents. Further, the increased costs of housing, road infrastructure, water, and local public expenditures were also viewed as having been negatively affected by more than ten percent of the community residents.

The community resident respondents indicated that few construction workers were area residents (9 percent) and less than half (42 percent) of SDSP's operating workers were area residents. While 45 percent of respondents agreed that company officials had provided complete and accurate information on SDSP, almost as many respondents (37 percent) neither agreed nor disagreed that the company had provided such information. Similarly, only 31 percent agreed that state government officials had provided timely and accurate information, while half of the respondents were neutral regarding this statement. Close to three-fourths of the respondents somewhat or strongly agreed that the economic impacts of the plant had been positive, and just over half of the individuals indicated that the social impacts of the facility were positive.

Community residents were asked to rate how SDSP had affected various aspects of the community. Close to three-fourths of the respondents indicated that job opportunities had been positively impacted and 56 percent of the respondents indicated that the effect on resident incomes had been positive or very positive. Further, 53 percent of the respondents stated that local public revenues had been positively affected, and 51 percent indicated that streets, roads, and highways had improved as a result of the cooperative. On the negative side, ten percent of the respondents felt that the air quality had worsened, 17 percent indicated that the quality of streets, roads, and highways had declined, and 13 percent found that the water quality had been reduced since the soy processing facility had been established.

Overall, a large majority of community resident respondents (70 percent) felt that the economic benefits of SDSP exceeded its costs, and over 80 percent felt that the social benefits exceeded the costs to the community. Finally, 77 percent of the respondents somewhat or strongly agreed that they would vote for, and 74 percent of most residents somewhat or strongly agreed that others in the community would vote in favor of the cooperative's establishment in the Volga community under current conditions.

Concluding Remarks

The information presented in this paper provides important information for rural policy makers, community leaders and producers interested in becoming involved with the development of agricultural processing facilities. While the circumstances may not be the same for another rural area, the information needed, and the procedures and methods to follow in establishing a NGC are similar to the SDSP experience. Clearly, important drivers of the economic success of NGCs are leadership capabilities and an ability by project leaders to provide a vision regarding the future role of the NGC. Other important elements in the successful development and operation of a value-added agricultural enterprise are firm commitments by and cooperation among producer-members and community leaders.

Overall, SDSP has provided social and economic benefits to the Volga community, producing several new jobs and enhancing the economic situation in the region. While negative aspects – such as odors emitted from the plant and increased highway traffic – associated with the development and operation of the facility have occurred, community residents indicated that the benefits, both social and economic, have exceeded the costs.

Agriculture and rural communities are currently in a state of flux, but community leaders and agricultural producers have tools at their disposal to combat the forces they face. While NGCs may not be the answer for all rural communities facing hard economic times, they do serve as excellent resources for areas with strong agricultural ties.

Table 1. Community Residents' Assessment of Positive Effects of SDSP

	Percent who rated effect as <i>positive or very positive</i>
Job opportunities	73.2
Residents' incomes	56.7
Local public revenues	52.6
Streets, roads, and highways	50.5
Quality of life	35.1
Schools	34.1
Fire protection	34.0
Local public expenditures	27.8
Family life	25.7
Housing costs	20.6
Social organizations	20.6
Police protection	14.4
Water quality	13.4
Crime/public safety	11.3
Childcare/daycare	10.3
Air quality	10.3

Table 2. Community Residents' Assessment of Negative Effects of SDSP

	Percent who rated effect as <i>negative or very negative</i>
Air quality	37.1
Housing costs	16.5
Streets, roads, and highways	14.5
Water quality	13.4
Local public expenditures	12.3
Crime/public safety	9.3
Childcare/daycare	5.2
Family life	5.2
Job opportunities	5.1
Police protection	5.1
Residents' incomes	4.1
Quality of life	4.1
Local public revenues	3.1
Fire protection	2.1
Schools	1.0
Social organizations	1.0

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