

Economic Development Initiatives in Rural North Dakota Communities: Socioeconomic Impacts

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Acknowledgments

This study represents a continuation of research aimed at better understanding the economic development and diversification opportunities available to rural communities in North Dakota. The material is based upon work supported by the North Dakota Agricultural Experiment Station and by the Cooperative State Research, Education, and Extension Service, U.S. Department of Agriculture, under agreement No. 97-34216-3995.

Sincere appreciation is extended to all the community leaders and company representatives who participated in personal interviews and to the community residents and leaders who took time to complete the questionnaire. Without their input, this project would not have been possible.

Thanks are extended to Norma Ackerson for document preparation, to Randy Coon for statistical analysis, and to Randy Sell for his contributions to the initial study design and for his assistance in data collection and analysis for the agricultural processing communities. Our gratitude is also extended to our colleagues for their helpful review of the manuscript.

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Abstract

The purpose of this study was to examine the local socioeconomic impacts of new economic development initiatives in North Dakota's rural (nonmetropolitan) communities. This report is the second to present findings from this project; an earlier report analyzed the effects of four new agricultural processing plants on their host communities. This report examines the effects of manufacturing and/or exported services facilities in three communities and presents comparison data drawn from two control communities (i.e., towns that had not experienced the advent of a major new employer during the 1990s). The information from the two groups of development communities and the control communities is compared and contrasted to discern similarities and differences in the effects of the different types of development initiatives and to develop a set of general principles and recommended actions for community leaders to follow when planning for a new employer.

The agricultural processing projects were sited in rural counties, developed during the 1990s, and employed at least 40 workers. The communities with other types of economic development initiatives were rural communities where a new nonagricultural employer or an expansion of an existing facility had created at least 40 new jobs during the 1990s. The two control communities were located in rural counties, had not experienced a new nonagricultural employer or expansion with more than 20 new jobs since 1990, and were characterized by economic and demographic trends prior to 1990 that were similar to those of the development counties. In each of the study communities, the authors conducted in-depth interviews with a cross-section of community leaders, with the aim of gaining an understanding of the community (e.g., its population, economic base), the effects of project development, other socioeconomic changes that might have either exacerbated or offset the project's effects, and the community's response to the situation. Representatives of each of the development projects also were interviewed. Subsequently, a short survey was completed by a random sample of residents in each community.

Improved job opportunities and enhanced incomes were generally seen as major positive effects of each of the new economic development initiatives. Further, aside from some management and engineering positions, most of the plant jobs appeared to represent employment opportunities for area workers, rather than being taken primarily by in-migrants. Residents' incomes were enhanced both by the plants' jobs and payroll (which often represented second incomes for area households) and by increased incomes for area farmers (in the case of agricultural processing facilities). Because most of the plant jobs were taken by persons already living in the area, the new plants did not lead to substantial in-migration or major population growth in the host communities. Rather, a reoccurring comment by local leaders was that the plant in their community had stabilized the local economy and population. Comparison of population trends in the development and control communities supports the perception of local informants that the economic development initiatives served to stabilize local populations.

Key Words: rural development, community impacts, North Dakota, manufacturing

Economic Development Initiatives in Rural North Dakota Communities: Socioeconomic Impacts

Cheryl S. DeVuyst, F. Larry Leistritz, and Angela Schepp¹

Over the past several decades, production agriculture has become less important as a source of jobs and income for rural areas of the United States. In North Dakota, this trend has been evident as the number of farms fell from 54,928 in 1959 to 30,300 in 1997 (Golz et al. 1992, North Dakota Agricultural Statistics Service 2002). During the same period, employment in the state's agricultural sector dropped from 91,750 in 1960 to 42,870 in 2000 (Leistritz et al. 2002). Because agriculture had traditionally been the principal economic base of most of North Dakota's rural (nonmetropolitan) counties, rural communities across the state felt the effects of farm consolidation. During the 1980s, 46 of the state's 49 nonmetropolitan counties experienced population losses; and, as a group, these rural counties had a population decline of 15 percent. During the 1990s, rural counties lost another 6 percent of their population, and all but 3 of the 49 counties registered losses. The drop in rural population, together with changing travel and trade patterns of rural people, led to substantial decreases in retail sales in most of the state's smaller trade centers. In 1980, North Dakota's metropolitan trade centers accounted for 41 percent of the state's total taxable sales, with the smaller rural trade centers making up 59 percent. By 2000, the metro centers' share had increased to 60 percent, leaving only 40 percent for the smaller towns (Coon and Leistritz 2003).

Given the trends of declining farm numbers and employment and dwindling rural population, rural economic development and diversification have been the focus of major policy initiatives in North Dakota and the Great Plains region for many years. An economic development alternative that North Dakota policy makers found particularly attractive was additional processing of the state's agricultural commodities. In 1979, the state established an Agricultural Products Utilization Commission (APUC) to promote value-added agricultural processing. APUC has played a key role in predevelopment financing for a number of agricultural processing initiatives, and APUC grants have funded numerous feasibility studies.

The decade of the 1980s was economically challenging for most of North Dakota's rural communities. The state's net out-migration rate of 11 percent was the second highest in the nation, but for rural counties the rate was 16 percent, compared to 2 percent for the metro counties. State policy makers sought ways to stimulate state and local economies, with emphasis on measures that encouraged communities to help themselves through mobilizing local resources (Leistritz and Bangsund 1998). In 1987, the North Dakota Legislature enacted legislation enabling the state's home rule cities to levy local option sales taxes, up to a maximum of 1 percent, for the purposes of economic development, infrastructure improvements, property tax relief, and other community uses. By 1996, 39 cities had adopted local option sales taxes (Leistritz and Bangsund 1998). Other measures enacted by the Legislature during the 1980s enabled local governments to levy property taxes to support a Job Development Authority (JDA)

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and provided for the possibility of state and/or local tax incentives/abatements for new or expanding firms.

Efforts to diversify North Dakota's economy received a boost in 1991, when the state Legislature enacted a comprehensive economic development program called **Growing North Dakota**. **Growing North Dakota** provided for subsidized interest rates for loans to primary sector (basic sector) ventures, including agricultural processing, other manufacturing, and exported services, as well as additional funding for APUC. These economic stimulus programs in turn helped energize rural economic development efforts statewide.

During the 1990s, some North Dakota communities found success in their economic development efforts. Over the decade, the manufacturing sector (including agricultural processing and other manufacturing) added 7,911 jobs (46 percent increase) (Coon and Leistritz 2003). During the same period, the services sector added 27,620 jobs (44 percent), of which about 9,000 are estimated to represent exported services (i.e., telemarketing, customer support, reservation centers, and similar activities serving markets outside the state) (Coon and Leistritz 2001). While much of this growth occurred in North Dakota's metro counties, a number of rural communities were sites of new firms or major expansions of existing enterprises.

Industrial expansion in rural areas has not been without its problems. For example, the expansion of the food processing industry in rural areas of the Midwest has led to a number of community concerns (Broadway 2000, Grey 1998). Some host communities have found that the new plants offered more jobs than the local labor supply could fill and/or at wages lower than local workers would accept. Commuters and in-migrants filled many of the jobs, changing the age and racial/ethnic composition of some towns, and the influx of newcomers was perceived to lead to social disruption in some communities. Even when a major new employer has not led to major changes in the host community's population and population composition, a variety of questions and issues have arisen as local officials and service providers attempted to prepare for/cope with the effects of the new enterprise. Many of these issues have related to the local and regional socioeconomic effects of a new employer, including the number of new jobs that may be created, the proportions of these jobs that will be filled by local residents versus in-migrants, needs for housing and various community services, and effects on costs and revenues of local governments.

The purpose of this study was to examine the local socioeconomic impacts of new economic development initiatives in North Dakota's rural (nonmetropolitan) communities. This report is the second to present findings from this project; an earlier report (Leistritz and Sell 2000) analyzed the effects of four new agricultural processing plants on their host communities. This report examines the effects of manufacturing and/or exported services facilities in three additional communities and presents comparison data drawn from two control communities (i.e., towns that had not experienced the advent of a major new employer during the 1990s). The information from the two groups of development communities and the control communities is compared and contrasted to discern similarities and differences in the effects of the different types of development initiatives and to develop a set of general principles and recommended actions for community leaders to follow when planning for a new employer.

Methods

Four agricultural processing projects were selected in 1998 that met the following criteria: (1) sited in rural counties, (2) developed during the 1990s, and (3) employed at least 40 workers. The communities with other types of economic development initiatives were selected early in 2002. All were rural communities where a new nonagricultural employer or an expansion of an existing facility had created at least 40 new jobs during the 1990s. The two control communities met the following criteria: (1) located in rural counties, (2) had not experienced a new nonagricultural employer or expansion with more than 20 new jobs since 1990, and (3) were characterized by economic and demographic trends prior to 1990 that were similar to those of the development counties (Isserman and Merrifield 1982). The study communities and counties are shown in Figure 1, while the new/expanded employers are identified in Table 1.

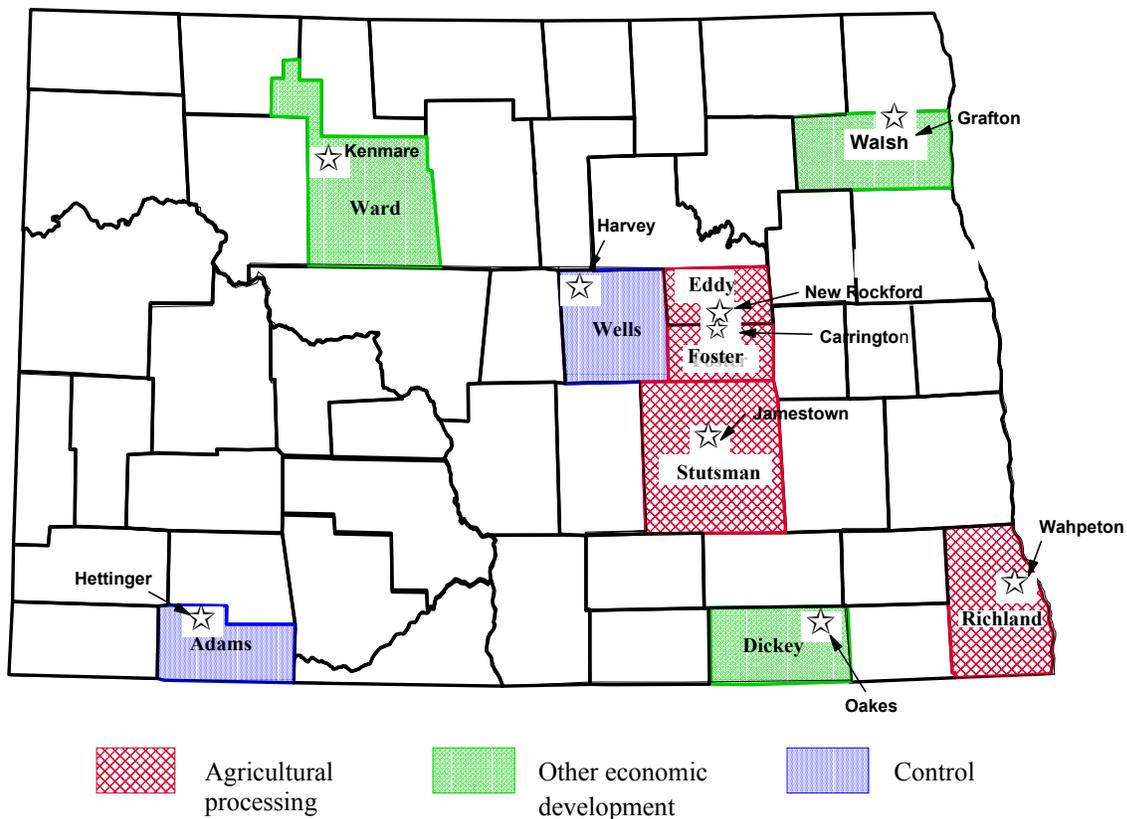


Figure 1. Study Communities and Counties

In each of the study communities, in-depth interviews were conducted with a cross-section of community leaders, with the aim of gaining an understanding of the community (e.g., its population, economic base), the effects of project development, other socioeconomic changes that might have either exacerbated or offset the project's effects, and the community's response

to the situation. Community leaders were identified based on their elected or appointed governmental positions (e.g., mayor, county commissioner, economic development director) and their roles in business, community, and educational organizations. Other community leaders were identified using a snowball technique (i.e., leaders interviewed were asked to identify others who would be knowledgeable about the issues discussed). Representatives of each of the development projects also were interviewed. Subsequently, a short survey was completed by a random sample of residents in each community. The survey was administered using a drop-off and pick-up procedure and focused on the residents' satisfaction with their community and the effects of the new employer on the community. (For the control communities, the questionnaire was modified somewhat, and some questions were phrased to address recent changes in the community, rather than the effects of a specific project or employer.) The community leaders interviewed were also asked to complete the survey. The numbers of surveys completed by leaders and residents in each community are summarized in Appendix Table 1.

Table 1. New or Expanded Employers in Study Communities

Community/Employer	Emp. Type ¹	Date Started	Employment		
			1995	2000	2002
Grafton					
Marvin Windows	M	1996	0	300	509
Kenmare					
Creative Industries	M	1969	10	12	18
Midwest Telemarketing	ES	1998	0	40	65
Commercial Group West	M	2000	0	5	5
Oakes					
Omniquip/Textron	M	1972	18	120	90
Performance Centers	ES	1999	0	100	65
Carrington					
Dakota Growers Pasta	AP	1993	200	275	280
Jamestown					
Aviko/Cavendish Farms	AP	1995	160	260	250
New Rockford					
North American Bison	AP	1994	20	50	81
Wahpeton					
ProGold	AP	1996	0	120	150

¹M = manufacturing, ES = exported services, AP = agricultural processing

Description of Study Communities

The site communities represent a cross-section of nonmetropolitan trade centers scattered across North Dakota. With 2000 population levels ranging from 15,527 (Jamestown) to 1,081 (Kenmare), these towns have traditionally served as trade centers for areas whose primary industry is agriculture. Agriculture accounted for more than 40 percent of total sales for final demand (exports) in six of the nine counties in 2000 (Table 2). Farm and ranch employment (including proprietors) also made up more than 10 percent of total 2000 employment in seven of the nine counties. Ward County (dominated by Minot) and Stutsman County (Jamestown) had the lowest percentages of farm/ranch employment. All nine counties lost population during the 1980s, with the declines ranging from 17 percent (Eddy Co.) to less than 1 percent (Ward Co.).

The site communities differ substantially in population, retail trade volume, and the range of services provided (Table 3). Three of the cities (Grafton, Jamestown, and Wahpeton) are classified as complete shopping centers, three are partial shopping centers (Carrington, Harvey, and Hettinger), two are full convenience centers (Kenmare and Oakes), and one is a minimum convenience center (New Rockford) (Coon and Leistritz 2003). These classifications reflect the range of goods and services provided in each community.

All of the site communities lost population during the 1980s, with the decreases ranging from 16.6 percent (Kenmare) to 3.5 percent (Wahpeton) (Table 3). During the 1990s, population continued to decline in all of the communities except Oakes, which grew by 11.5 percent. In the development communities, population decreases of the 1990s were less than declines during the 1980s. In the two control communities, however, the population losses of the 1990s were greater than those of the 1980s.

All nine of the study communities registered a reduction in their inflation-adjusted taxable sales and purchases during the 1980s, ranging from 64 percent in New Rockford to 6.5 percent in Wahpeton. During the 1990s, four of the seven development communities recorded gains in taxable sales/purchases. Both of the control communities recorded further decreases in taxable sales/purchases, but the decreases were substantially less than during the 1980s.

Pull factors, which measure a community's actual sales compared to its potential (based on trade area population and residents' incomes), decreased for five of the seven development communities and both control communities during the 1980s (Table 3). During the 1990s, three of the development communities recorded growth in their pull factors, and one was unchanged, while the remainder decreased. The control communities were split, one registering an increase and the other a decrease in pull factor from 1990 to 2000.

School enrollments declined in five of the seven development communities and both control communities during the 1990s (Table 3). Carrington experienced a 13 percent school enrollment increase, and Oakes had a 9 percent increase during the decade.

Changes in key economic and demographic indicators for the three groups of communities are summarized in Table 4. All three groups of communities sustained population losses during the 1980s. During the 1990s, the two groups of development communities had much smaller losses (2.1 percent for nonagricultural development communities and 2.8 percent

Table 2. Selected Demographic and Economic Characteristics of Study Counties, 1970-2000

	Non-agricultural Development			Control		Agricultural Processing			
	Dickey	Walsh	Ward	Adams	Wells	Eddy	Foster	Richland	Stutsman
Population:									
1970	6,976	16,251	58,560	3,832	7,847	4,103	4,832	18,089	23,550
1980	7,207	15,371	58,392	3,584	6,979	3,554	4,611	19,207	24,154
1990	6,107	13,840	57,921	3,174	5,864	2,951	3,983	18,148	22,241
2000	5,757	12,389	58,795	2,593	5,102	2,757	3,759	17,998	21,908
Percent Change:									
1970-1980	3.3	-5.4	-0.3	-6.5	-11.1	-13.4	-4.6	6.2	2.6
1980-1990	-15.3	-10.0	-0.8	-11.4	-16.0	-17.0	-13.6	-5.5	-7.9
1990-2000	-5.7	-10.5	1.5	-18.3	-13.0	-6.6	-5.6	-0.8	-1.5
Employment, 2000:									
Agriculture	493	882	1,154	211	392	239	244	1,015	870
Manufacturing	245	550	723	28	63	116	237	1,410	1,259
Retail trade	318	588	3,934	149	242	97	240	867	1,225
Services	1,496	2,987	16,472	679	1,173	649	885	4,254	6,359
Other	305	827	3,819	150	289	120	197	1,195	1,290
Total	2,857	5,834	26,102	1,217	2,159	1,221	1,803	8,741	11,003
Percent of Total:									
Agriculture	17.3	15.1	4.4	17.3	18.2	19.6	13.5	11.6	7.9
Manufacturing	8.6	9.4	2.8	2.3	2.9	9.5	13.1	16.1	11.4
Retail trade	11.1	10.1	15.1	12.2	11.2	7.9	13.3	9.9	11.1
Services	52.4	51.2	63.1	55.8	54.3	53.2	49.1	48.7	57.8
Other	10.7	14.2	14.6	12.3	13.4	9.8	10.9	13.7	11.7
Sales for Final Demand (2000):									
Total (\$ million)	167.9	343.2	1,225.9	57.8	110.8	56.8	104.9	401.7	542.6
Percent from Agriculture	57.8	55.9	8.1	61.6	47.4	34.3	42.7	57.8	23.7

Table 3. Population, Adjusted Taxable Sales, Pull Factors, and School Enrollments, for Study Site Communities, North Dakota, 1980, 1990, and 2000

	Non-Agricultural Development			Control		Agricultural Processing			
	Oakes	Grafton	Kenmare	Hettinger	Harvey	New Rockford	Carrington	Wahpeton	Jamestown
Population:									
1980	2,112	5,293	1,456	1,739	2,527	1,791	2,641	9,064	16,280
1990	1,775	4,840	1,214	1,574	2,263	1,604	2,267	8,751	15,571
2000	1,979	4,515	1,081	1,307	1,989	1,463	2,263	8,586	15,527
Percent Change:									
1980-1990	-16.0	-8.6	-16.6	-9.5	-10.5	-10.4	-14.2	-3.5	-4.4
1990-2000	11.5	-6.7	-11.0	-17.0	-12.1	-8.8	-0.2	-1.9	-0.3
Adjusted Taxable Sales & Purchases (000s-2000\$):									
1980	29,232	68,129	25,337	21,391	36,569	18,821	43,454	79,570	190,997
1990	16,289	54,673	10,538	14,289	21,426	6,828	27,486	74,411	147,797
2000	15,083	49,813	15,000	12,165	20,534	6,746	31,495	76,715	163,706
Percent Change:									
1980-1990	-44.3	-19.8	-58.4	-33.2	-41.4	-63.7	-36.8	-6.5	-22.6
1990-2000	-7.4	-8.9	42.3	-14.9	-4.2	-1.2	14.6	3.1	10.8
Pull Factors:									
1980	1.18	0.90	0.74	0.84	0.79	0.88	0.91	0.79	0.87
1990	0.74	0.95	0.49	0.80	0.49	0.33	0.74	0.82	0.77
2000	0.63	0.81	0.70	0.71	0.54	0.39	0.83	0.66	0.77
School Enrollments:									
1990	385	1,001	225	309	415	356	482	3,433	4,008
2000	423	929	206	282	382	274	554	3,224	3,800
Percent Change									
1990-2000	9.0	-7.8	-9.2	-9.6	-8.6	-29.9	13.0	-6.5	-5.5

for agricultural processing sites) whereas the average population loss for the control communities (14.5 percent) was actually greater in the 1980s.

All three groups of communities sustained major reductions in taxable sales and purchases during the 1980s, but during the 1990s, both groups of development communities registered modest gains in (inflation-adjusted) sales. The control communities experienced a further drop in sales during the 1990s, although the decrease was much less than they had sustained during the 1980s (9.5 percent vs. 37.3 percent).

School enrollments declined in all three groups of communities during the 1990s, with the largest percentage decline occurring in the control communities (Table 4).

Table 4. Changes in Demographic and Economic Indicators for Three Community Groups, 1980-2000

Item	Community Group		
	Ag. Development	Non-Ag Development	Control
	-----percentage change-----		
Population:			
1980 - 1990	-8.1	-13.7	-10.0
1990 - 2000	-2.8	-2.1	-14.5
Taxable Sales and Purchases (2000 \$):			
1980 - 1990	-32.4	-40.8	-37.3
1990 - 2000	6.8	8.7	-9.5
School Enrollments:			
1990 - 2000	-7.2	-2.7	-9.1

Changes in key indicators for the three groups of counties are summarized in Table 5. The patterns of population change are similar to those previously discussed for the cities. All three groups of counties sustained substantial population losses during the 1980s. During the 1990s, all three groups again registered population declines, but the losses in the development counties were much less than those of the control group.

The control counties experienced substantial decreases in total employment during the 1990s, whereas employment was stable in both agricultural processing and nonagricultural development counties (Table 5 and Appendix Table 2). During the same period, unemployment rates decreased substantially in both groups of development counties but increased in the control counties. (However, recent unemployment rates for all of the study counties have been quite low compared to national averages.)

Table 5. Changes in Demographic and Economic Indicators for Three County Groups, 1980-2001

Item	County Group		
	Ag. Development	Non-Ag. Development	Control
Population Change:			
1980 - 1990	-11.0	-8.7	-13.7
1990 - 2000	-3.6	-4.9	-15.6
Total Employment:			
1990 - 2001	-0.5	0.4	-18.0
Unemployment Rate:			
1990 - 2001	-29.4	-26.2	6.2
Average Annual Wage:			
1990 - 2001	9.4	9.4	8.2

The average annual wage (adjusted for inflation) increased in all three county groups over the period 1990-2001, although the rate of increase was slightly less in the control counties than in either of the development groups.

Local Effects of Economic Development Projects

Community leaders in each of the study communities were interviewed regarding effects of the new employer on their community. Community leaders were also questioned regarding other major economic changes that may have affected the area, the community's experience in dealing with project developers and responding to impacts, and their advice for other communities facing the prospect of similar projects in the future.

Grafton

When asked about recent changes affecting their community, Grafton leaders almost always referred to the town's continuing loss of population. Current population is estimated to be 4,300 to 4,500 compared to 6,000 in the early 1970s. A number of factors contributed to the population decline, including changes in the area's agricultural industry (shift away from growing potatoes, fewer seasonal farm workers needed for sugar beets) and the downsizing of the State Developmental Center (DC). The Center was downsized from 800 to 150 residents, and staffing dropped from 1,000 to 400 during the period 1989-1995 (Leistriz and Root 1999). Declining population coupled with an aging population has led to declining school enrollments. Further, the local retail sector has also been declining for the past 20 years. Competition from businesses in Grand Forks, only 40 minutes away, has affected nearly all businesses in Grafton.

The community had been attempting to attract new employers for the past 25 years, but these efforts have become better organized and more successful recently. Late in the 1980s, Walsh

County formed a Jobs Development Authority (JDA) funded by a county-wide mill levy, and the city implemented a local option sales tax (1%). These have been the major resources for economic development locally. In addition, the Red River Regional Council has been a valuable resource, providing technical assistance to local government throughout its multi-county service area (encompassing Grand Forks, Nelson, Pembina, and Walsh Counties). Development efforts in the late 1980s and early 1990s were aimed at finding replacements for the jobs being lost at the DC. The major success for local developers was the announcement (in the fall of 1996) that Marvin Windows, headquartered in Warroad, MN, would be locating a factory in Grafton.

The Marvin Windows (MW or Marvin) plant employed 509 workers at the time interviews were conducted (spring of 2002). About 67 percent of the workers were women, and 52 percent lived in the Grafton zip code area. The starting wage was \$7.75/hr, with an average wage of \$10.63/hr., and a benefit package (health insurance, 401k retirement) and profit sharing plan that are well regarded. The company has expanded its work force by adding roughly 100 new positions each year (since 1997) and has had little problem in hiring workers. However, local leaders reported that other local employers have expressed concerns regarding competition for labor, and entry-level wages have likely increased in some cases (e.g., the school system, nursing home, some retailers).

The Grafton location was attractive to Marvin because of (1) its proximity to the firm's headquarters (HQ) in Warroad, MN, (2) access to major suppliers, and (3) financial incentives offered by Grafton. Because HQ personnel can provide support, the Grafton plant needs no R&D staff, no engineering, and very limited human resources or training personnel. Major suppliers are located in Yankton, SD (aluminum), Fargo (glass), and Warroad (wood). Grafton's proximity to vendors and to Interstate 29 means major components can reach the plant efficiently and economically. Further, a per worker "subsidy payment," a 20-year phased tax abatement, an industrial park with a speculative building already in place, and a low-interest loan tipped the scales in Grafton's favor, edging out other sites that also satisfied the first two criteria.

MW presence appears to have stabilized the local economy, rather than facilitating an influx of workers and their families. Some leaders pointed out that the continuing downturn of the agricultural sector may have served to offset the positive effects of the Marvin Windows production facility. While the plant may not have attracted new workers from outside the area, it has provided job opportunities for individuals leaving agriculture, enabled some operators to continue farming by providing off-farm income, and provided employment opportunities for workers commuting from surrounding communities (about 48 percent of the MW workforce are from outside the Grafton zip code).

While the local retail sector continues to struggle, several new businesses were started about the time MW announced its intention to locate in Grafton. Some have succeeded and remain open (AmericInn motel, Cenex gas station, 1st United Bank), but others have not (Ben Franklin, Donna's Treasures gift and variety shop). Cafes and motels seem to benefit from the presence of Marvin, and a new pawn shop offers "payday loans." Overall, retail sales rose slightly soon after MW announced its intentions, but have since declined somewhat.

Housing demand has been moderately affected by the growth of MW, according to local leaders. Housing values increased soon after announcement that MW planned to locate a plant in

Grafton, and have been stable since. (As a result, the city is now adjusting assessed values upward.) A new subdivision was developed soon after the Marvin announcement, but by spring of 2002, only three structures had been built there, and three of the five living units were vacant. In addition, 20 condominium units have been built in the past few years. While there were a number of apartment units built during the 1990s, including 49 units that were created by remodeling two DC buildings, none of the apartment complexes were built primarily in anticipation of Marvin worker-related demand. While there are some vacancies and homes for sale today, most leaders believe that vacancies would be greater without Marvin.

The failure of substantial numbers of Marvin workers to relocate to Grafton has been disappointing to some local leaders. While housing appears to be available in Grafton, commuting workers appear to have lower cost housing (farmsteads, houses in smaller towns) in their current locations and have little incentive to move. Because Marvin has provided employment largely for Grafton residents and area commuters, businesses and service providers have not experienced the positive economic effects often associated with an influx of new workers and families.

Employment opportunities and growth in personal income were identified as positive effects of MW. Marvin jobs have enabled some displaced farm families to remain in the area, and some found MW jobs an attractive alternative to their previous employment, which in some instances was a part-time and/or lower wage position with few benefits. Marvin also has provided an opportunity for some younger people (high school and trade school graduates) to stay in the area.

Local leaders indicated that most services have not been affected by the Marvin facility and its growth. Police complaints and citations and social service caseloads seem to track very close to statewide trends, with no discernable effect from MW. While some local leaders reported that day care “is always an issue,” two day care facilities opened about the time MW opened, so they were uncertain whether day care is harder or easier to arrange now. Other leaders reported the situation is fluid, with some providers leaving the business and others starting. While the Marvin plant works shifts (as does the Developmental Center), no licensed day care providers in Grafton accommodate shift hours at present.

Increased real estate values have affected public revenues while the incentives provided to Marvin represent a major public expenditure. Assessed real estate values have increased since MW has been in Grafton. In addition, there has been greater interest in remodeling homes and refurbishing rental units in recent years.

The incentive package offered to Marvin represented a major commitment of community resources over a 20-year period. Key components were: (1) a low-interest (PACE) loan through the Bank of North Dakota (BND), with the community contributing funds to “buy down” the interest rate (Grafton funded 30%, BND 70% to reduce interest rate to 5%), (2) a property tax abatement with tax only on the land for the first five years and a graduated phase-in over next 15 years, and (3) an annual job subsidy payment of \$1,000 per worker (with a maximum of \$500,000/year) for 20 years. The job subsidy payments and interest rate buy-down were funded primarily from the Grafton Growth Fund (based on local sales tax revenue), but the city of Park River and the Pembina County JDA also contributed. Local leaders reported that the rationale for

such a substantial incentive package was based on Marvin Windows' reputation. The firm was perceived to be very stable and likely to succeed over the long term.

The community leaders reported that residents generally perceived the growth of MW as a positive influence on the community. Major benefits are jobs and payroll (\$10 million/yr.), which represent opportunities for local people and businesses. MW has helped Grafton retain its population and diversified the local economy. While expectations had been for population growth and retail expansion, MW has instead been more of a stabilizing factor, rather than spurring new growth. However, not all residents view MW positively. Some area residents believe that Marvin has received inappropriate tax breaks and that the jobs MW offers are relatively low wage. Further, some find the fact that funds derived from local sales taxes are being used to "subsidize" an established and successful firm concerning. Overall, the leaders unanimously agreed that MW has had a positive effect on Grafton. They believe the company has helped to stabilize the local economy and retain workers, giving the community a more optimistic future.

Kenmare

Kenmare has experienced a similar population and retail sales decline common to many communities across rural North Dakota. While not a new concept, local leaders expressed the need to diversify the local economy and reduce dependence on the agricultural and petroleum exploration/extraction sectors. Like many other North Dakota communities, Kenmare has a 1 percent local sales tax, that funds the Kenmare Community Development Corporation. Of the sales tax revenue, 75 percent is earmarked for economic development.

Recently, the town has benefitted from the expansion of two major employers, MTI (telemarketing) and Creative Industries (truck trunk manufacturer), and the addition of Commercial Group West (prefabricated hotel manufacturer). Creative Industries (CI), a manufacturer of campers and motor homes, was the first project completed by the Kenmare Community Development Corporation (in 1969). The business has since expanded its sales line into other products (pick-up accessories) and employs 15-20 workers (depending on demand), with an average wage of \$10.25. Kenmare's second major employer, Midwest Telemarketing Inc. (MTI), has been in Kenmare since 1998 and recently expanded its facility and work force. This firm does mainly outbound calling (potentially to anywhere in the United States), selling a variety of goods and services, with an average wage of \$9.00 per hour plus benefits. Kenmare's newest employer, Commercial Group West, manufactures prefab motel rooms, but also has made bunkhouses for firefighters, school rooms, and facilities for day care centers. The firm employs five full-time workers.

Local leaders cited job opportunities as one of the key benefits of the recent business start-ups and expansions. Most jobs have been filled by local workers, including farmers' spouses who feel the need for a second income because of the depressed farm economy. Residents' incomes have likely been bolstered, although some leaders felt this effect was minimal because of the low pay scales. Competition for workers may have led to some wage increases among existing local employers, but this effect was considered minor.

Expanded job opportunities have served more to stabilize the local population than to stimulate an influx of workers and families. As a result, effects on the local retail and service

sector have been minimal. While school enrollments have continued to decline, the local housing market has stabilized with only a few vacant housing units in town. Local real estate values have strengthened or at least stabilized as a result of recent development, and the local tax base has increased about 10 percent per year.

Overall, community leaders and most residents view the recent business development as positive. The new and expanded businesses are providing employment, which has prompted some individuals to relocate to Kenmare. Population retention means less vacant housing, stable school environments, and churches that are still viable. The development corporation has not requested any funding, other than the city sales tax. The sales tax retains strong local support, as is demonstrated by the 1998 reauthorization vote – 90 percent of voters supported reauthorization of the 1 percent sales tax.

Oakes

Oakes, like most nonmetro communities in North Dakota, has focused on attracting new primary sector (basic sector) businesses. Those efforts are coordinated by Oakes Enhancement, Inc. (OEI), the local economic development entity. Like many economic development corporations, OEI is funded primarily by a local sales tax (OEI receives ½ of the 1% tax). Three major employers are greatly affecting the economy of Oakes and the surrounding area. These are Omniquip/Textron (formerly Lull Mfg.), Performance Centers (telemarketing), and Melroe/Bobcat (in the nearby town of Gwinner).

The Lull Mfg. plant was a major accomplishment for the OEI. The plant began operation in 1972 as an offshoot of the Melroe/Bobcat operation, but in 1995, the facility was purchased by Lull Industries (since acquired by Omniquip/Textron). The OEI facilitated the sale by providing a building to Lull at virtually no cost, as well as offering a five year tax abatement. In 1999, Lull expanded. The OEI arranged for Industrial Revenue Bonds (IRB) to finance the \$4 million expansion of the building, and the company put in \$1.5 million of new equipment. The OEI also improved the access road for the industrial park where Lull was located. After the expansion, employment went from 18 workers to about 120. A slowdown in demand forced a cutback in 2001, but by mid-2002, demand had come back and Omniquip employed 90 workers. Of the workers, 30-40 percent were from the local area and the rest commute from as far as 50 miles. The workforce is primarily male with wages starting around \$9 per hour plus benefits.

Performance Centers (PC) also represents a success for the OEI. Initially, OEI built a building at the Industrial Park for a firm starting a sewing factory. Unfortunately, the sewing operation only lasted about two weeks. Like the MTI organization in Kenmare, PC conducts outbound telemarketing and contracts almost exclusively with clients located outside North Dakota. The firm was recruited to fill the vacant building, began operating in February 1999, and has had over 100 workers during peak periods. The company had some layoffs during the summer of 2001, but by May of 2002, PC was reported to employ 65 workers, with an annual payroll of \$1 million. About 40 percent of these workers commute from distances within 50 miles of Oakes. Approximately 75 percent of the employees are female.

Local residents view employment opportunities as the major benefit of the community's new/expanding employers. Job opportunities bring people to town to work and in some cases

attract new residents, and help to stabilize the population. Oakes grew by 204 persons or 11.5% from 1990 to 2000. Local population growth strengthened the real estate market and helped to maintain Oakes' retail sector. While local businesses still struggle to compete with the stores in major trade centers, there are few vacant buildings on Main Street. Housing values are strong, local leaders reported, and local residents are generally optimistic about the future.

Local leaders identified several negative impacts associated with recent business development efforts, specifically (1) competition for labor, (2) tight housing market, and (3) concerns about taxes. Some local employers (especially retailers) feel challenged in trying to match the wage and benefit packages offered by the new employers. Likewise, housing prices and rents are noticeably higher than in nearby communities, and some residents complain that their real estate taxes are higher than for comparable properties in nearby towns. Others are concerned that sales tax dollars are being used to subsidize companies that will compete for local labor, or that will not be successful in the long term (hence, the assistance is wasted). Local leaders reported many residents were highly critical of economic development efforts after the sewing factory's failure. However, those criticisms seem to have moderated in the recent past.

Harvey

All local leaders cited population decline and outmigration as recent significant trends in the community. (Harvey lost 12.1 percent of its population from 1990 to 2000.) The population decline was blamed for the erosion of the local retail sector. Changes in the farm economy were cited as a major cause of population loss, as older farmers with 1,000 to 2,000 acres are retiring, and operators with 5,000 to 10,000 acres are absorbing the land. In addition, low commodity prices, adverse weather, and crop disease have made it difficult for young people to enter farming. Local leaders also cited land taken out of production as a result of the Conservation Reserve Program (CRP), as well as the acquisition of more than 30,000 acres for a reservoir, as factors influencing declining farm numbers and population. Each acre represents a loss of \$120 in farm input sales annually, according to one leader.

The community has been making efforts to attract or develop businesses. The Harvey Jobs Development Authority (JDA) (funded by a 1% local sales tax) and the Harvey Area Economic Development, Inc. are the local development entities. Recent development efforts have met with mixed success. A specialty meat processing plant opened a few years ago and now appears to be doing well, employing 20 workers in mid-2002. The city built a \$1.3 million building, which the company is renting (rent to buy program). Projects that did not work out include a manufacturing firm that built trailers and failed after four years and a food processor. Local leaders reported that failed economic development efforts have led to some pessimism regarding the feasibility of development efforts among local residents.

Recent economic and demographic trends were reported to have wide ranging impacts on the community. Out-migration has affected school enrollments, and leaders who grew up in the area commented that only a handful of their high school classmates remain. Residents are concerned about the future of their community and how recent trends will impact the value of their property. Residents' opinions on development efforts are mixed; some are unsure about supporting future development projects because of past failures and mixed results. Local leaders

report that some residents simply want to maintain the status quo and avoid any further deterioration.

Hettinger

Out-migration and population decline has been the norm for the past two decades. As a result of young people leaving the area, the population age distribution has become dramatically skewed, with many older and few young people. School enrollments have fallen considerably in recent years, as have retail sales. While Hettinger still has an extensive trade area, extending a considerable distance into South Dakota, the town has lost two of its three farm machinery dealers but has retained its auto dealership. The community has a large hospital, nursing home, and clinic with a total employment of 300 that draws people to the community from outlying areas. The medical center, which has 14 physicians on staff and operates 8 satellite clinics, is viewed by local leaders as one of Hettinger's major strengths as the community seeks to attract new businesses and residents.

The Adams County Economic Development Corporation, the principal economic development organization in the county, appeared to have successfully attracted a new firm in June of 2001. An area manufacturing firm announced its plans to open a branch plant in Hettinger with the potential to employ 50 workers. Unfortunately, the company's markets were disrupted by the terrorist attacks of September 11, 2001 (it makes aircraft components for both military and civilian markets), and in the summer of 2002, the facility had only 8 employees. While attracting new employers continues to be a high priority for the community, recent efforts have also focused on retaining key businesses and services. In the past five years, the town has acquired three major chain stores to replace closing businesses, and the effort to maintain key retail and service functions is viewed as critical to maintaining Hettinger's status as a trade center.

Recognizing the difficulty of attracting or developing a manufacturing facility in a location remote from major markets, some local leaders have identified tourism and/or businesses/services that cater to an aging population as development possibilities. The area's reputation for excellent upland bird (pheasant) hunting already attracts large numbers of out-of-state hunters, and leaders hope to build on this base. The community's excellent medical facilities could make it attractive to retirees, who would also find housing at a fraction of the cost of most urban areas.

Agricultural Processing Communities

In the four agricultural processing communities, interviews also were conducted with local leaders and key service providers. The information and observations obtained in each community are summarized in Leistriz and Sell (2000). The highlights from that study are summarized in the paragraphs that follow.

Improved job opportunities and enhanced incomes were generally seen as major positive effects from the new processing plants. Further, aside from some management and engineering positions, most of the plant jobs appeared to represent employment opportunities for area workers, rather than being taken primarily by in-migrants. Residents' incomes were enhanced both by the plants' jobs and payroll (which often represented second incomes for area households) and by increased incomes for area farmers. Because most of the plant jobs were taken by persons already

living in the area, the new plants did not lead to substantial in-migration or major population growth in the host communities. Rather, a reoccurring comment by local leaders was that the plant in their community had stabilized the local economy and population.

The plants' effects on the infrastructure and service needs of their host communities varied. For the two smaller communities (New Rockford and Carrington), the processing plants were the major economic change that had affected the local area, whereas in Jamestown and Wahpeton, the agricultural processing plant was only one of several major employers which had been expanding in recent years. In these towns, it was sometimes difficult for informants to separate the effects of the agricultural processing plant from the effects of growth in manufacturing sector employment generally. In all communities, the additional employment opportunities had resulted in an increased demand for housing, which initially led to increased occupancy of vacant units but also sometimes was perceived to result in a local housing shortage. The type of housing units that were generally believed to be in short supply were affordable housing (i.e., units that plant workers paid \$9-13/hr. can afford).

Day care was a service that was reported to be affected by plant development and/or manufacturing growth in each community. Two issues concerning day care were general affordability and the need for extended hours (to accommodate shift workers). The effects on other services were mixed. Streets and roads were affected to some extent, with three of the four site areas reporting expenditures to improve access roads to the plant. In addition, increased road use by trucks delivering products to the plants and/or by workers during shift changes was reported but was generally not seen as a serious concern. Fire and police protection were not seen as issues in most communities, although the large construction work force associated with the ProGold project led to some short-term policing issues.

Public expenditures and revenues were topics of interest for leaders of the agricultural processing communities. Each project had involved some commitments of public resources, generally associated with provision of a plant site and some services, and each plant had received an abatement of local property taxes.

Survey of Study Community Residents

To gain a better understanding of residents' views of recent changes in their communities, a random survey was conducted. Questionnaires (available from the authors) were distributed to residents of the nine study communities, using a drop-off and pick-up procedure. Response rates ranged from 83 to 92 percent (Appendix Table 1). In addition, the questionnaire was completed by 67 of the 110 leaders who were interviewed (61 percent).

Socioeconomic Characteristics

Selected demographic characteristics of the community resident respondents are summarized in Table 6 (for the three community groups) and Appendix Table 3 (for the communities individually). The age distributions of respondents in the two groups of development communities were similar, whereas the control communities had a higher percentage of older respondents (43.4 percent over age 50 and 22.4 percent 60 or over). The respondents in each community group were predominately white, and females made up 64 to 68 percent of

respondents in each group. Most respondents were married, but the percentage who were widowed, divorced, or separated was substantially higher in the control communities (perhaps because of the higher percentage of older respondents in this group). Two-thirds or more of respondents in each group had some post-secondary education, but this percentage was lower for the control communities than for either of the development groups.

The demographic characteristics of the community leaders are compared with those of community residents in Appendix Table 13. The leaders tended to be clustered in the age groups 40-49 (37.3 percent) and 50-59 (31.3 percent). Almost 85 percent of the leaders were male, compared to only 35 percent of resident respondents, and 67 percent were college graduates, compared to 44 percent of residents.

Selected economic characteristics of the resident respondents are summarized in Table 7 for the three community groups and in Appendix Table 4 for individual communities. The percentage of respondents who indicated they were the primary wage earner in the household ranged from 43 percent in the non-agricultural development communities to 49 percent in the control communities. Most respondents were employed by someone else, ranging from 60 percent in control communities to 75 percent in non-agricultural development communities. The percentage who were self-employed ranged from 12 percent in non-agricultural development communities to 19 percent in the control communities. Those who were retired ranged from 9 percent in the agricultural development communities to 15 percent in the control communities. Respondents were most often employed in the services sector, in all three community groups. Household incomes covered a broad range; the percentage of households reporting incomes less than \$25,000 ranged from 30 percent in the control communities to 14 percent in nonagricultural development communities. Conversely, those with incomes over \$50,000 ranged from 31 percent in control communities to 55 percent in nonagricultural development communities. (The survey in the agricultural development communities asked for household income in 1998 whereas the surveys in the other two groups asked for income in 2001. Thus, the data for the agricultural development communities are not strictly comparable to those for the other groups.) Most respondents owned their homes, ranging from 76 percent in the agricultural development communities to 88 percent in nonagricultural development communities. Many also reported owning farm or ranch property and/or operating a farm/ranch; this percentage ranged from 17 percent in nonagricultural development communities to 22 percent in the control communities. Similar percentages of respondents reported owning other property.

Economic characteristics of community leaders are compared with those of residents in Appendix Table 14. Leaders more often reported being the primary wage earner in their household – 88 percent compared to 45 percent for residents. Their households also generally had higher annual incomes – 72 percent of leaders reported annual household incomes of \$50,000 or more, compared with 42 percent of residents.

Table 6. Selected Demographic Characteristics of Community Resident Survey Respondents, by Community Group

Item	Community Group		
	Ag. Development	Non-Ag Development	Control
	-----percent-----		
Age:*			
<30	22.4	15.9	13.2
30-39	25.4	23.0	16.6
40-49	26.2	31.5	26.8
50-59	13.6	18.5	21.0
60 or over	12.4	11.1	22.4
Sex:			
Female	63.9	66.7	67.8
Race:			
White	97.4	95.1	98.5
Marital Status:**			
Married (or living as married)	75.3	83.3	72.7
Widowed, divorced, or separated	10.7	7.8	16.1
Never married	14.0	8.9	11.2
Education:**			
High school or less	26.9	25.2	34.2
Some post-secondary	30.7	24.1	26.3
College graduate	42.4	50.7	39.5
N =	469	270	205

*Significant at the 1 percent level based on Chi Square test.

**Significant at the 10 percent level based on Chi Square test.

Table 7. Selected Economic Characteristics of Community Resident Survey Respondents, by Community Group

Item	Community Group		
	Ag. Development	Non-Ag Development	Control
	-----percent-----		
Respondent is primary wage earner in household	45.5	42.6	48.7
Respondent is:**			
Not employed	5.1	3.0	5.9
Retired	9.3	10.3	14.9
Employed by someone else	67.9	74.9	59.9
Self-employed	17.4	11.8	19.3
Industry respondent works in:*			
Agriculture	10.9	5.5	5.3
Manufacturing	6.9	7.7	2.0
Trans., comm., & utilities	8.5	4.6	1.3
Retail trade	10.1	8.2	13.3
FIRE	6.4	8.7	15.9
Services	45.0	57.1	53.6
Public administration	6.1	3.2	4.0
Other (mining, construction, & wholesale trade)	6.1	5.0	4.6
Household Income, 1998/2001:*			
<\$25,000	23.6	14.1	30.2
25,000-34,999	18.2	14.5	15.1
35,000-49,999	19.9	16.0	23.4
50,000-79,999	27.2	36.9	21.9
80,000 or more	11.1	18.5	9.4
Residence is:**			
Owned	76.3	88.0	80.4
Rented	19.3	10.1	16.2
Occupied without cost	2.4	1.9	3.4
Respondent:			
Owns/operated a farm/ranch	21.0	17.4	22.0
Owns other property**	14.8	21.5	21.5
N =	469	270	205

*Significant at the 1 percent level based on Chi Square test.

**Significant at the 10 percent level based on Chi Square test.

Community Satisfaction

When asked to rate their level of satisfaction with various aspects of their community, 60 percent or more of residents in all three community groups were somewhat satisfied or very satisfied with fire protection, medical services, public schools, utilities, the quality of the natural environment, and housing (Table 8). Most respondents were somewhat or very satisfied with their community as a place to live, ranging from 76 percent in agricultural development communities to 79 percent in nonagricultural development communities. However, less than one respondent in five was satisfied with the adequacy of employment opportunities to keep young people in their area, ranging from 17 percent in agricultural development communities to only 8 percent in the control communities. Similarly, less than half were satisfied with the opportunity to earn an adequate income in their community, ranging from 32 percent in control communities to 46 percent in nonagricultural development communities. Responses from individual communities are shown in Appendix Table 5.

Table 8. Community Residents' Satisfaction with Selected Community Attributes, by Community Group

Item	Community Group		
	Ag. Development	Non-Ag Development	Control
	-----percent <i>somewhat</i> or <i>completely satisfied</i> -----		
Fire protection	84.7	86.3	86.8
Medical services*	63.9	67.4	81.0
Public schools**	74.0	75.8	66.3
Utilities	67.3	70.0	70.7
Quality of the natural environment	66.2	65.9	68.8
Housing	61.8	66.3	67.3
Streets and roads*	34.1	56.3	71.2
Law enforcement**	67.8	61.9	57.6
Childcare/daycare**	51.9	47.0	57.5
Recreation facilities/opportunities	51.7	45.6	53.2
Opportunity to earn an adequate income*	40.7	45.9	31.7
Employment opportunities to keep youth in area**	16.8	13.7	8.3
Community as a place to live	76.3	79.3	77.6
N =	469	270	205

*Significant at the 1 percent level based on Chi Square test.

**Significant at the 10 percent level based on Chi Square test.

When the ratings by community leaders are compared with those of community residents (Appendix Table 15), the leaders' ratings of the various community aspects were generally more favorable than those of the residents. The only community attributes for which the leaders' ratings were not more favorable were child care/day care and employment opportunities for youth.

Involvement with New/Expanded Employer

In both groups of development communities, almost all respondents knew where the major employer's plant or office was located -- 98 percent in agricultural development communities and 93 percent in nonagricultural development communities (Table 9). Roughly half of the respondents had visited the plant or office, ranging from 44 percent in agricultural development communities to 59 percent in nonagricultural development communities. When responses for individual communities are examined (Appendix Table 6), the percentage of respondents who had visited the facility tended to be higher for the smaller towns (e.g., Kenmare, New Rockford) and lower for the largest towns (Jamestown, Wahpeton). While relatively small percentages of respondents reported that they or a family member worked for the plant/office, most had been living in the community when the new/expanded employer was proposed. Less than 8 percent of respondents in agricultural development communities lived within 1 mile of the plant, compared to 30 percent in the nonagricultural development communities. However, more than 70 percent in both community groups lived within 5 miles of the facility.

Most community leaders (84 percent) had visited the new plant or office (Appendix Table 16), and almost 90 percent had been living in the community when the new/expanded employer was proposed. The leaders also lived somewhat closer to the facility -- 84 percent lived within 5 miles compared to 75.5 percent of residents.

The community residents had been involved in a variety of activities related to the development of the new plant or facility (Table 10 and Appendix Table 7). Almost 15 percent in nonagricultural development communities and 16 percent in agricultural development communities had attended a meeting or hearing about the facility. Almost 11 percent in agricultural development communities and 15 percent in nonagricultural development communities had contacted company officials. Much smaller percentages had contacted government officials, signed petitions, or written letters concerning the plant/business. However, almost 10 percent of respondents in agricultural development communities and about 8 percent in nonagricultural development communities had participated in other activities concerning the facility, including open houses and employment informational meetings.

The community leaders' involvement in these activities was substantially greater than that of the residents (Appendix Table 17). Almost 65 percent of the leaders had attended a meeting or hearing about the new employer, compared to 15 percent of residents. Similarly, 39 percent had contacted a government official concerning the facility, compared to 4 percent of residents, and 58 percent had contacted company officials (12.5 percent for residents).

Table 9. Community Residents' Relationships with New Employers, by Community Group

Item	Community Group	
	Ag. Development	Non-Ag. Development
	-----percent-----	
Respondent knows where plant/office is located*	98.3	93.0
Respondent has visited plant*	44.0	58.9
Respondent works for plant*	3.0	9.7
Family member works for plant*	7.7	14.1
Respondent lived in community when plant was proposed**	81.8	74.6
Respondent owns or works for business that supplies the plant	17.5	14.1
Distance from residence to plant*		
<1 mile	7.8	30.0
1-5 miles	63.7	52.7
6-10 miles	13.7	7.3
>10 miles	14.8	10.0

*Significant at the 1 percent level based on Chi Square test.

**Significant at the 10 percent level based on Chi Square test.

Effects of Development

When the community residents were asked about the development of their community's new/expanded employer, they most often agreed (somewhat or strongly) with the statement that the economic impacts of the facility had been positive – 76 percent of respondents in the agricultural development communities and 73 percent of those in nonagricultural development communities (Table 11). Most also agreed that the social impacts had been positive – 63 percent in agricultural development communities and 62 percent in nonagricultural development communities. Views were more mixed about whether a majority of the project workers were previous residents of the area. While 62 percent of respondents in the nonagricultural development communities agreed that a majority of the operating workers were area residents, only 39 percent of those in agricultural development communities agreed with the statement. However, further examination of this group revealed that many respondents neither agreed or disagreed with the statement while others indicated they did not know. When these responses were eliminated, 56 percent of those expressing an opinion agreed that a majority of operating workers were area residents. Similarly, while only a minority of respondents agreed that state government officials or company officials had provided complete and accurate information about the local impacts of the new facility, many neither agreed nor disagreed and others did not know.

Of those who expressed an opinion, a majority of respondents in each community group agreed that adequate information had been provided.

Community leaders' views about the new/expanded employer were similar to those of the residents (Appendix Table 18), except that the leaders were even more likely than the residents to believe that economic impacts of the facility were positive (86 percent vs. 75 percent) and that the social impacts were positive (75 percent vs. 63 percent).

Table 10. Respondents' Involvement in Activities Related to Development of New Employers, by Community Group

Item	Community Group	
	Ag. Development	Non-Ag. Development
	-----percent-----	
Attended meeting or hearing about plant or business	15.8	14.8
Contacted a government official about plant/business	4.1	3.7
Signed a petition concerning plant/business**	1.7	3.7
Contacted company officials**	10.9	15.2
Wrote a letter to a newspaper about plant/business**	0.0	0.7
Other activities concerning plant/business	9.7	8.3

*Significant at the 1 percent level based on Chi Square test.

**Significant at the 10 percent level based on Chi Square test.

Table 11. Community Residents' Opinions about Circumstances of New/Expanded Employers, by Community Group

Item	Community Group	
	Ag. Development	Non-Ag. Development
	percent who <i>somewhat</i> or <i>strongly agree</i>	
Construction workers were area residents*	23.8	48.5
Operating workers were area residents*	39.0	62.3
State government officials provided complete and accurate information about potential local impacts**	31.9	25.1
Company officials provided complete and accurate information about potential local impacts	34.7	36.4
Social impacts of the plant are positive	63.4	62.6
Economic impacts of the plant are positive	75.6	73.3

*Significant at the 1 percent level based on Chi Square test.

**Significant at the 10 percent level based on Chi Square test.

Residents' opinions about the general effects of new/expanded employers were quite favorable (Table 12 and Appendix Table 9). New economic development initiatives were viewed as economically beneficial to the community by 86.5 percent of residents in agricultural development communities and 91 percent in nonagricultural development communities. Almost 82 percent of respondents in agricultural development communities felt that a new agricultural processing plant encourages other industries to locate nearby, while 88 percent of those in nonagricultural development communities felt a new manufacturer or exported services firm has the same effect. Only 12 percent of nonagricultural development community residents and 16.5 percent of those in the agricultural development communities believed a new facility would cause decreases in property values. Of residents in the agricultural development communities, 31 percent agreed with the statement that a new agricultural processing plant would cause environmental contamination, whereas only 13 percent of nonagricultural development community residents felt such contamination was likely to result from a new manufacturing or exported services facility. Substantial majorities of respondents in each community felt that a new facility increases residents' sense of well-being and community pride – 59 percent in agricultural development communities and 83 percent in nonagricultural development communities.

The leaders' opinions were similar to those of the community residents (Appendix Table 19), except that the leaders' views were more favorable on all dimensions. Only 3.5 percent of

leaders felt that new development initiatives cause environmental contamination, compared to 24 percent of residents.

Table 12. Community Residents' Opinions about Effects of New/Expanded Employers, by Community Group

Item	Community Group	
	Ag. Development	Non-Ag. Development
	-----percent who <i>somewhat</i> or <i>strongly agree</i> -----	
New/Expanded Employers:		
Are economically beneficial to a community**	86.5	91.1
Encourage other industries to locate nearby**	81.8	88.1
Result in decreases in property values	16.5	12.2
Cause environmental contamination*	31.0	12.6
Increase residents' sense of well-being and community pride*	58.6	83.3

* Significant at the 1 percent level based on Chi Square test.

** Significant at the 10 percent level based on Chi Square test.

The community residents were asked to rate the effects that development of the new/expanded employer had on various aspects of their community (Table 13 and Appendix Table 10). Residents of both groups of development communities felt overwhelmingly that the effects of recent development on local job opportunities had been positive. Almost 88 percent of respondents in agricultural development communities and 90 percent in nonagricultural development communities rated effects on job opportunities as positive or very positive, compared to only 31 percent in control communities. Residents' incomes were also believed to be positively affected by 62 percent of agricultural development community residents and 72 percent of those in nonagricultural development communities, compared to 29 percent in the control communities (Table 13). One-third or more of respondents in both groups of development communities felt that effects on schools, child care/day care, local public revenues, and social organizations had been positive. However, for some of these attributes, control community respondents were as likely to rate the effects of recent changes positively as those in development communities.

Table 13. Community Residents' Assessment of Positive Effects of Recent Development (or Recent Changes) on Selected Community Attributes, by Community Group

Item	Community Group		
	Ag. Development	Non-Ag. Development	Control
	-----percent who rated <i>positive</i> or <i>very positive</i> -----		
Job opportunities*	88.1	89.8	33.2
Residents' incomes*	61.7	72.1	29.0
Schools*	40.8	52.3	39.6
Quality of life*	36.2	52.1	59.8
Local public revenues*	38.1	54.8	35.6
Social organizations* (churches, civic groups, etc.)	33.3	48.6	60.3
Child care/day care*	34.5	44.6	46.5
Housing costs	31.0	31.5	36.0
Family life*	27.0	47.9	55.3
Local public expenditures*	30.4	43.8	42.9
Streets, roads, & highways*	24.2	33.3	52.7
Fire protection*	24.0	32.8	56.1
Police protection*	18.7	25.7	34.2
Crime/public safety*	11.5	18.2	35.0
Air quality*	7.8	14.6	51.7
Water quality*	7.8	12.7	60.4

* Significant at the 1 percent level based on Chi Square test

Community leaders also viewed job opportunities and enhanced incomes for area residents as the most positive effects of recent developments (Appendix Table 20). Also, two-thirds or more of the leaders felt that effects on local public revenues and on local schools had been positive. For most community attributes, leaders were somewhat more likely to view the effects of development positively.

The community aspects that were believed to be most negatively affected in the agricultural development communities were air quality, housing costs, and streets, roads, and highways (Table 14 and Appendix Table 11), with 27 percent of respondents rating effects on air quality as negative, while 24 percent viewed effects on housing costs as negative or very negative and 23 percent perceived negative effects on streets, roads, and highways. The percentages for air quality and for streets, roads, and highways are much higher than the corresponding values for the nonagricultural development and control communities. For most other community attributes, the effects in the development communities were less frequently perceived as negative than corresponding changes in the control communities. Exceptions to this pattern were again in the

agricultural development communities, where water quality was more often felt to be negatively affected than in the control communities.

Table 14. Community Residents' Assessment of Negative Effects of Recent Development (or Recent Changes) on Selected Community Attributes, by Community Group

Item	Community Group		
	Ag. Development	Non-Ag. Development	Control
	-----percent who rated <i>negative</i> or <i>very negative</i> -----		
Job opportunities*	1.6	2.7	39.9
Residents' incomes*	2.2	4.1	33.3
Schools*	4.0	3.7	24.1
Quality of life*	4.3	3.8	10.8
Local public revenues*	17.9	10.4	25.9
Social organizations* (churches, civic groups, etc.)	2.7	2.5	13.2
Child care/day care*	6.3	6.4	11.8
Housing costs	23.6	16.6	19.7
Family life*	3.4	2.6	11.6
Local public expenditures*	13.0	8.4	22.5
Streets, roads, & highways*	23.2	8.3	12.8
Fire protection*	2.3	1.7	2.6
Police protection*	4.0	3.0	13.5
Crime/public safety*	10.2	6.7	14.2
Air quality*	27.3	2.7	3.3
Water quality*	14.4	3.2	4.3

* Significant at the 1 percent level based on Chi Square test.

**Significant at the 10 percent level based on Chi Square test.

Community leaders most often identified increased housing costs as a negative effect (23.9 percent) of economic development initiatives (Appendix Table 21), followed by local public expenditures (18.8 percent), air quality (12.7 percent), local public revenues (9.6 percent), and streets and roads (9.6 percent). These were also the community aspects most often identified by residents as being negatively affected. Except for air and water quality, each community aspect was rated as positively affected by a substantially higher percentage of residents (and leaders) than considered it negatively affected.

Most development community residents who expressed an opinion felt that both economic and social impacts of the new development initiatives had been positive (Table 15 and Appendix Table 12). Among the agricultural development community residents, 47.1 percent felt that economic benefits of the new plant exceeded costs to the community, while 12.8 percent disagreed and 40.1 percent did not know. Thus, of those who expressed an opinion, almost 79 percent indicated that economic benefits exceeded costs. Among the nonagricultural development community respondents, almost 81 percent of those expressing an opinion felt economic benefits

exceeded costs. Regarding social benefits, 72 percent of nonagricultural development community residents who expressed an opinion felt social benefits of the recent developments exceeded costs. The corresponding figure for agricultural development communities was 68 percent (Table 15). If an election were held today, 66 percent of respondents in the agricultural development communities and 72 percent of those in nonagricultural development communities believed most people in their community would vote in favor of the new employer/facility. When asked if they would personally vote in favor, 72 percent of respondents in the agricultural development communities and 83 percent in the nonagricultural development communities responded affirmatively.

Most community leaders believed that economic benefits of development exceeded costs (81 percent) and that social benefits exceeded costs (72 percent). Compared to residents, much smaller percentages of leaders provided “don’t know” responses to these questions (Appendix Table 22). Most leaders also agreed that most people in their community would vote in favor of the new employer (82.5 percent) and that they would vote in favor themselves (89 percent).

Implications

Rural economic development and diversification have been a priority for state and local decision makers throughout North Dakota for more than two decades. These efforts have been based on the hope that increased employment in the agricultural processing, other manufacturing, and exported services sectors in rural areas of North Dakota would lead to a variety of positive effects for the areas where the new facilities were located. These local/regional benefits were believed to include new job opportunities for area residents, improved incomes for farmers and other area residents (e.g., through improved employment opportunities, opportunities to produce higher-value crops, and/or better prices/returns for existing crops), enhanced economic stability for communities that had often been almost totally dependent on agriculture, population stability and reduced out-migration, stabilization of local services (e.g., schools), and an enhanced local tax base. A goal of this study was to examine several recently developed agricultural processing plants, other manufacturing facilities, and exported services firms to determine how their actual outcomes compared with initial hopes. In addition, the experiences of North Dakota communities where new economic development initiatives have been developed can be compared with those of communities in other areas that also have experienced development or expansion of similar facilities. Finally, a major aim of the study was to examine the experiences of these North Dakota communities to determine what lessons might be learned and used by other areas that might experience similar developments in the future.

Table 15. Community Residents' Assessment of Costs and Benefits of New/Expanded Employers, by Community Group

Item	Community Group	
	Ag. Development	Non-Ag. Development
	-----percent-----	
Economic benefits to community exceeded costs:		
Yes	47.1	50.4
No	12.8	11.8
Don't Know	40.1	37.8
Social benefits to community exceeded costs:**		
Yes	34.0	41.6
No	16.2	16.0
Don't Know	49.8	42.4
If an election were held, most people would vote in favor of the new employer Somewhat or strongly agree**	65.5	71.5
If an election were held, I would vote in favor of the new employer Somewhat or strongly agree*	72.1	82.5

* Significant at the 1 percent level based on Chi Square test.

** Significant at the 10 percent level based on Chi Square test.

Outcomes Compared to Expectations

Concerning the actual outcomes and how these compared with expectations, improved job opportunities and enhanced incomes were generally seen as major positive effects of each of the new economic development initiatives. Further, aside from some management and engineering positions, most of the plant jobs appeared to represent employment opportunities for area workers, rather than being taken primarily by in-migrants. Residents' incomes were enhanced both by the plants' jobs and payroll (which often represented second incomes for area households) and by increased incomes for area farmers (in the case of agricultural processing facilities). Because most of the plant jobs were taken by persons already living in the area, the new plants did not lead to substantial in-migration or major population growth in the host communities. Rather, a reoccurring comment by local leaders was that the plant in their community had stabilized the local economy and population. Comparison of population trends in the development and control communities supports the perception of local informants that the economic development initiatives served to stabilize local populations.

The plants' effects on the infrastructure and service needs of their host communities varied. Some communities (e.g., Grafton, New Rockford, and Carrington) were primarily affected by the development or expansion of a single major employer, whereas in others (e.g., Jamestown and

Wahpeton), several major employers had been expanding in recent years. In these towns, it was sometimes difficult to separate the effects of the new agricultural processing plant from the effects of growth in manufacturing sector employment generally. In all communities, the additional employment opportunities had resulted in an increased demand for housing, which initially led to increased occupancy of vacant units but also sometimes was perceived to result in a local housing shortage. The type of housing units that were generally believed to be in short supply were affordable housing (i.e., units that plant workers paid \$9-\$13/hr. can afford).

Day care was a service that was reported to be affected by plant development and/or manufacturing growth in each community. However, some reported that additional day care facilities had been developed, so it was not clear whether day care had become more or less readily available. Two issues concerning day care were general affordability and the need for extended hours. The affordability issue relates to the challenge of meeting federal and state requirements while keeping rates at levels that plant workers can afford. The need for extended hours was a special concern with respect to facilities that operate around the clock. Most day care facilities have schedules geared to the standard workday, so workers on other shifts have difficulties arranging for child care. However, two of the communities had attempted to offer day care for shift workers and determined that numbers were insufficient to support the service.

The effects on other services were mixed. Streets and roads were affected to some extent, with three of the four agricultural processing site areas and one of the other manufacturing sites reporting expenditures to improve access roads to the plant. In addition, increased road use by trucks delivering products to the plants and/or by workers during shift changes was reported in all of the agricultural processing communities but was generally not seen by local leaders as a serious concern. Roads and streets were not cited as major issues in communities with other manufacturing and/or exported services firms. Fire and police protection were not seen as issues in most communities, although the large construction work force (peaking around 1,200) associated with the ProGold project led to some short-term policing issues. Schools were generally seen as having few effects as the plants led to little in-migration. Those school-age children who came to the community served mainly to stabilize local enrollments during a period generally characterized by a declining school-age population across the state. Increased needs for special education services were reported by the two largest school districts, but informants were not sure to what extent this should be attributed to a specific project, or to manufacturing growth in general, as compared to general changes in society. On the other hand, demands on social services had generally eased with the advent of plant-related job opportunities. In three of the four agricultural processing communities, case loads were reported to be down substantially over the past few years, and leaders credited improved job opportunities for the change.

Public expenditures and revenues were topics of interest for both leaders and residents of the affected communities. Each project had involved some commitments of public resources, generally associated with provision of a plant site and some services, and each plant had received an abatement of local property taxes. The cost of providing services became a major issue only in Jamestown, where the cost of an expanded waste water treatment facility was greater than expected and the city and company disagreed about the appropriate sharing of the costs. In Wahpeton, the concern seemed to be not so much the costs incurred as the fact that local benefits had been less than anticipated. (Many residents and leaders in this community had hoped that the new agricultural processing plant, together with expanded employment by several other local

manufacturers, would stimulate substantial in-migration leading to revitalization of the local retail and service sector.) In the other development communities, the resources committed were generally seen as appropriate in view of the new employer's contribution to the community.

The pros and cons of local tax abatements and other incentives were discussed in all the communities. A reoccurring theme was that these decisions should be made based on an understanding of both short- and long-term implications for local government budgets, as well as the broader implications of having the facility in the community. School officials sometimes expressed concern that they should have a voice in tax abatement decisions that will affect their revenue base for years to come. On the other hand, county officials mentioned a need to look beyond the abatement period and appreciate the plant's long-term contribution to the local tax base. However, there was general agreement that local residents should be kept informed regarding the commitments being made to a project and the implications of those commitments.

Of all the effects of the agricultural processing plants, only air quality and water quality were more often rated as negative than positive by local residents. Objectionable odors were reported in connection with three of the four plants, although local leaders generally considered these to be minor issues. Water requirements were a pre-development concern with respect to two of the plants, while waste water treatment became a major issue with one. These issues appear to have been resolved, but the inherent nature of some types of agricultural processing suggests that air and water quality are issues that should be considered when such plants are proposed for development.

In the communities with other manufacturing and exported services facilities, the only service area/community attribute identified as being negatively affected by one-sixth or more of respondents was housing costs. However, even for this area, the percentage rating effects negatively was less than in the control communities.

Outcomes Compared to Other Studies

Recent literature regarding agricultural processing plants and other economic development initiatives in rural areas is dominated by accounts of the effects of a shift of meatpacking plants from urban to rural areas in the Great Plains (Broadway 2000). These studies have emphasized a variety of social problems, including housing shortages, increases in crime, and increased demands for social assistance and special services (Broadway 2000, Grey 1998). Some of these issues are similar to those reported in connection with rapid population growth in rural energy communities in the western states during the 1970s and early 1980s (Leistriz and Murdock 1981, Murdock and Leistriz 1979).

When the impacts associated with recent agricultural processing plant, other manufacturing, and exported services development in North Dakota are compared to those reported in previous studies of meatpacking and energy communities, it is clear that the North Dakota communities did not experience either the levels of in-migration or the social problems reported in the other studies. Although the employment requirements of the North Dakota plants were sometimes substantial in relation to the local labor pool (e.g., Dakota Growers' work force of 280 represents 15 percent of Foster County's pre-project employment while Marvin Windows' 509 employees represent about 8.6 percent of the Walsh County workforce), most of the jobs were

filled by local workers. Those workers who did relocate to the host communities were reported to be easily assimilated. While a thorough analysis of the reasons behind the differences in community effects is beyond the scope of this study, these differences appear to be substantial.

Lessons Learned

The community leaders interviewed in the course of this study were specifically asked about their advice for other communities that might face the prospect of a similar project. Their advice fell into four major categories.

Appropriateness of Project and Compatibility with Community. Leaders felt that the first consideration must be determining that the project is economically feasible. In that regard, it might be noted that all four of the agricultural processing projects had feasibility studies professionally prepared. The other development projects often were branch operations of established firms, which should have been in a position to evaluate the economic viability of the new venture. The leaders also emphasized the importance of determining if the project is a “good fit” for the community, as regards infrastructure and labor force. This means that the leaders must have a thorough understanding of local capabilities (e.g., a local labor survey may be helpful to determine if the labor force will be sufficient to meet the firm’s needs). In general, the community should ask how the company fits into the community’s long-term plan.

Infrastructure Planning and Financing. The leaders emphasized the importance of evaluating the costs of infrastructure improvements that might be required and, more generally, the short-term and long-term implications of the project and the incentive package that might be proposed. These issues need to be considered on a case-by-case basis. Also, in planning for infrastructure needs, the community should keep in mind that the effect of a project may be to offset decline in other sectors, thus stabilizing the community rather than resulting in substantial growth. In general, the projects studied resulted in relatively few demands on community infrastructure.

Anticipating Issues and Needs. Leaders felt that examining experiences of other communities that had been sites of similar projects might be helpful in identifying issues or needs that are likely to arise. Based on the experiences of the communities in this study, it appears that two issues which can be expected to arise with many new employers are affordable housing and day care (especially for shift workers); in addition, for agricultural processing projects, environmental (e.g., air and water) quality questions appear likely to arise.

Development Approach and Attitude. Especially in the smaller towns, the leaders emphasized that attracting or developing a viable industry is a major challenge, and that the alternative is to watch the community decline into oblivion. Their advice was for rural communities to keep trying in their development efforts and to recognize that the number of failures in these endeavors will always exceed the number of successes. They also suggested that communities should take a more regional approach to development, as the benefits of projects like those studied are regional in nature. The leaders emphasized the importance of a hired economic development person to lend continuity to development efforts. They suggested that communities strive to leverage their local resources and avoid risking too much on a single venture. Finally, if a major investment of local resources is contemplated, leaders should assure themselves of the new firm’s long term potential.

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Appendix A

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Appendix Table 1. Number of Community Leader and Resident Surveys, by Community

Community	Leader Surveys		Resident Surveys	
	Usable Surveys	Response Rate	Usable Surveys	Response Rate
Non-agricultural development:				
Grafton	8	53.3	95	82.6
Kenmare	7	58.3	75	83.3
Oakes	6	60.0	100	90.9
Control:				
Harvey	6	54.6	111	91.7
Hettinger	4	50.0	94	85.5
Agricultural processing:				
Carrington	9	64.3	102	85.6
Jamestown	9	60.0	117	85.0
New Rockford	9	75.0	130	86.3
Wahpeton	9	69.2	120	83.9

Appendix Table 2. Total Employment, Unemployment, and Average Wage Rate for Covered Employment, for Study Counties, 1990 and 1995-2001

	County								
	Non-agricultural Development			Control		Agricultural Processing			
	Dickey	Walsh	Ward	Adams	Wells	Eddy	Foster	Richland	Stutsman
Total Employment:									
1990	3,005	6,106	25,264	1,765	2,389	1,354	1,872	8,229	10,879
1995	2,814	6,116	27,667	1,447	2,404	1,194	2,079	8,770	10,850
1996	2,786	6,248	28,570	1,478	2,411	1,240	2,100	9,361	11,315
1997	2,743	6,099	29,097	1,406	2,430	1,218	2,147	9,517	11,688
1998	2,794	6,009	28,460	1,393	2,416	1,308	2,158	9,271	11,574
1999	2,816	5,976	27,453	1,327	2,432	1,216	2,222	9,064	11,237
2000	2,874	6,008	27,888	1,307	2,376	1,145	2,084	8,891	11,181
2001	2,802	5,944	27,932	1,198	2,295	1,163	1,972	8,590	11,134
Percent Change, 1990-2001	-6.8	-2.7	10.6	-32.1	-3.9	-14.1	5.3	4.4	2.3
Unemployment Rate (percent):									
1990	2.5	4.5	4.4	1.3	5.8	6.3	3.5	4.5	3.4
1995	2.2	5.1	3.2	1.7	4.1	5.9	2.8	3.2	3.1
2004	2.2	3.6	2.9	2.0	3.4	4.8	2.8	2.9	2.1
Percent Change, 1990-2001	-12.0	-20.0	-34.1	53.8	-41.4	-23.8	-20.0	-35.6	-38.2
Average Annual Wage (2001\$):									
1990	17,562	18,817	22,306	19,840	17,307	19,040	18,287	22,958	22,671
1995	18,136	19,693	22,063	19,884	17,572	17,719	19,569	23,512	21,917
2001	20,064	20,516	23,443	21,302	18,860	18,912	22,089	25,390	24,266
Percent Change, 1990-2001	14.2	9.0	5.1	7.4	9.0	-0.7	20.8	10.6	7.0

Appendix Table 3. Selected Demographic Characteristics of Community Resident Survey Respondents, by Community

Item	Community								
	Grafton	Kenmare	Oakes	Hettinger	Harvey	Carrington	Jamestown	New Rockford	Wahpeton
	-----percent-----								
Age:*									
<30	16.8	26.7	7.0	6.4	18.9	32.4	23.9	8.5	27.5
30-39	25.3	17.3	25.0	12.8	19.8	37.3	29.1	26.2	10.8
40-49	28.4	25.3	39.0	19.2	33.3	14.7	23.1	23.8	41.7
50-59	22.1	14.7	18.0	27.7	15.3	6.9	15.4	19.2	11.7
60 or over	7.4	16.0	11.0	34.0	12.6	8.8	8.6	22.3	8.3
Sex:									
Female	73.7	56.0	68.0	60.6	73.9	59.8	63.3	66.9	64.7
Race:*									
White	97.9	91.9	94.9	100.0	97.3	99.0	96.6	98.5	95.8
Marital Status:*									
Married (or living as married)	90.4	69.3	87.0	79.8	66.7	79.4	74.4	79.7	67.8
Education:*									
High school or less	14.7	41.3	23.0	29.8	37.8	25.5	25.6	36.2	19.2
Some post-secondary	22.1	22.7	27.0	31.9	21.6	31.4	27.4	33.1	30.8
College graduate	63.2	36.0	50.0	38.3	40.5	43.1	47.0	30.8	50.0

* Significant at the 1 percent level based on Chi Square test.

** Significant at the 10 percent level based on Chi Square test.

Appendix Table 4. Selected Economic Characteristics of Community Resident Survey Respondents, by Community

Item	Community								
	Grafton	Kenmare	Oakes	Hettinger	Harvey	Carrington	Jamestown	New Rockford	Wahpeton
	-----percent-----								
Respondent is primary wage earner in household*	29.0	56.8	44.9	55.4	43.0	43.1	56.5	43.8	38.5
Respondent is:*									
Not employed	3.2	1.4	4.1	1.1	10.1	5.4	2.8	3.4	8.7
Retired	9.7	13.7	8.3	21.5	9.2	5.4	6.6	16.4	7.8
Employed by someone else	81.7	64.4	76.3	55.9	63.3	74.2	74.5	52.6	72.2
Self-employed	5.4	20.6	11.3	21.5	17.4	14.0	16.0	27.6	11.3
Industry respondent works in:*									
Agriculture	3.9	8.6	4.8	7.1	3.7	17.1	2.9	17.1	7.7
Manufacturing	5.1	12.1	7.2	2.9	1.2	6.8	4.8	2.1	14.3
Trans., Comm., & Utilities	1.3	12.1	2.4	1.4	1.2	19.3	7.8	5.3	2.2
Retail trade	7.7	13.8	4.8	11.4	14.8	6.8	15.5	8.5	8.8
F.I.R.E	6.4	8.6	10.8	30.0	3.7	2.3	7.8	10.6	4.4
Services	68.0	29.3	66.3	37.1	67.9	38.6	41.8	45.7	53.9
Public administration	6.4	0.0	2.4	7.1	1.2	5.7	9.7	7.4	1.1
Other (mining, construction, & wholesale trade)	1.3	15.5	1.2	2.9	6.2	3.4	9.7	3.2	7.7
Household Income, 1998/2001:*									
<\$25,000	3.6	28.6	12.6	27.6	32.4	20.6	20.0	32.3	22.3
\$25,000-34,999	8.3	20.0	15.8	13.8	16.2	20.6	16.5	24.2	12.5
\$35,000-49,999	13.1	18.6	16.8	21.8	24.8	18.6	24.4	24.2	12.5
\$50,000-79,999	41.7	22.9	43.2	24.1	20.0	30.9	29.6	9.1	37.5
\$80,000 or more	33.3	10.0	11.6	12.6	6.7	9.3	9.6	10.1	15.2
Residence is:**									
Owned	95.7	81.1	86.0	83.9	77.5	78.2	76.7	80.0	78.0
Rented	4.3	16.2	11.0	14.0	18.0	20.8	22.4	16.2	18.6
Occupied without cost	0	2.7	3.0	2.2	4.5	1.0	0.9	3.8	3.4

-----continued-----

Appendix Table 4. Continued

Item	Community								
	Grafton	Kenmare	Oakes	Hettinger	Harvey	Carrington	Jamestown	New Rockford	Wahpeton
	-----percent-----								
Respondent:									
Owns/operates farm/ranch**	19.0	18.7	15.0	25.5	18.9	24.5	13.0	30.8	15.0
Owns other property*	26.3	28.0	12.0	25.5	18.0	10.8	14.9	16.9	15.8

* Significant at the 1 percent level based on Chi Square test.

** Significant at the 10 percent level based on Chi Square test.

Appendix Table 5. Community Residents' Satisfaction with Selected Community Attributes, by Community

Item	Community								
	Grafton	Kenmare	Oakes	Hettinger	Harvey	Carrington	Jamestown	New Rockford	Wahpeton
	-----percent <i>somewhat</i> or <i>completely satisfied</i> -----								
Fire protection*	90.5	70.7	94.0	93.6	81.1	84.2	82.3	94.5	76.5
Public schools*	82.1	62.7	79.6	73.4	60.4	82.6	72.2	68.2	75.0
Law enforcement*	67.4	33.3	78.0	74.5	43.2	67.7	73.5	51.5	80.0
Utilities	73.7	62.7	72.0	76.6	65.8	72.3	66.7	67.7	63.3
Quality of the natural environment	63.2	65.3	69.0	75.5	63.1	71.6	70.1	64.8	59.2
Medical services*	73.7	48.0	76.0	93.6	70.3	79.4	67.2	33.8	80.0
Housing*	76.8	50.7	68.0	75.5	60.4	50.5	62.4	66.2	65.8
Recreation facilities/opportunities*	63.2	41.3	32.0	57.4	49.6	39.6	54.7	45.4	65.8
Child care/day care*	54.8	35.6	47.9	65.9	50.5	51.0	70.2	44.0	42.9
Opportunity to earn an adequate income*	46.3	46.7	45.0	37.2	27.0	47.5	39.3	23.1	55.0
Streets and roads*	59.0	44.0	63.0	75.5	67.6	39.2	29.9	43.9	23.3
Employment opportunities to keep youth in area*	10.5	18.7	13.0	9.6	7.2	20.0	14.5	3.9	30.2
Community as a place to live	84.2	68.0	83.0	84.0	72.1	76.5	74.4	77.7	76.7

* Significant at the 1 percent level based on Chi Square test.

Appendix Table 6. Community Residents' Relationships with New Employers, by Community

	Non-agricultural Development			Agricultural Processing			
	Grafton	Kenmare	Oakes	Carrington	Jamestown	New Rockford	Wahpeton
	-----percent-----						
Respondent knows where plant/ office is located*	100.0	88.0	90.0	100.0	98.3	100.0	95.0
Respondent has visited plant*	68.4	66.7	44.0	55.9	27.4	64.3	28.3
Respondent works for plant*	5.3	24.0	3.0	6.9	0.8	3.9	0.8
Family member works for plant*	12.6	20.0	11.0	18.6	4.3	4.6	5.0
Respondent lived in community when plant was proposed*	87.4	70.7	65.3	71.6	82.9	87.6	83.3
Respondent owns or works for business that supplies the plant**	17.9	13.3	11.0	26.5	15.4	17.1	12.5
Distance from residence to plant:*							
<1 mile	13.7	54.2	28.0	21.8	0.9	9.3	0.9
1-5 miles	72.6	18.1	59.1	51.5	60.0	81.4	58.3
6-10 miles	8.4	8.3	5.4	4.0	22.6	3.1	25.2
> 10 mile	5.3	19.4	7.5	22.8	16.5	6.2	15.6

* Significant at the 1 percent level based on Chi Square test.

** Significant at the 10 percent level based on Chi Square test.

Appendix Table 7. Community Residents' Involvement in Activities Related to Development of New Employers

	Non-agricultural Development			Agricultural Processing			
	Grafton	Kenmare	Oakes	Carrington	Jamestown	New Rockford	Wahpeton
	-----percent-----						
Attended meeting or hearing about plant**	22.1	10.7	11.0	13.7	10.3	22.3	15.8
Contacted a government official about plant	5.3	2.7	3.0	4.9	5.1	2.3	4.2
Signed a petition concerning plant	3.2	5.3	3.0	2.9	0.0	2.3	1.7
Contacted company officials*	23.2	12.0	10.0	17.6	4.3	15.5	6.7
Wrote a letter to a newspaper about plant	0.0	1.3	1.0	0	0	0	0
Other activities concerning plant**	13.0	4.1	7.1	12.9	5.2	15.2	5.8

* Significant at the 1 percent level based on Chi Square test.

** Significant at the 10 percent level based on Chi Square test.

Appendix Table 8. Community Residents' Opinions about Circumstances of New/Expanded Employers, by Community

	Non-agricultural Development			Agricultural Processing			
	Grafton	Kenmare	Oakes	Carrington	Jamestown	New Rockford	Wahpeton
	-----percent who <i>somewhat</i> or <i>strongly agree</i> -----						
Construction workers were area residents*	44.1	57.5	45.8	20.4	29.1	41.0	4.3
Operating workers were area residents*	63.2	54.8	67.0	46.5	54.0	32.5	25.0
State government officials provided complete and accurate information about potential local impacts**	33.7	23.3	18.4	38.4	32.1	28.8	29.4
Company officials provided complete and accurate information about potential local impacts*	47.9	37.5	24.5	45.0	37.2	36.0	22.2
Social impacts of the plant are positive*	64.2	58.7	64.0	72.6	57.9	73.6	50.0
Economic impacts of the plant are positive*	74.7	64.0	79.0	87.3	66.1	86.2	63.3

* Significant at the 1 percent level based on Chi Square test.

** Significant at the 10 percent level based on Chi Square test.

Appendix Table 9. Community Residents' Opinions about Effects of New/Expanded Employers, by Community

	Non-agricultural Development			Agricultural Processing			
	Grafton	Kenmare	Oakes	Carrington	Jamestown	New Rockford	Wahpeton
	-----percent who <i>somewhat</i> or <i>strongly agree</i> -----						
New/Expanded Employers:							
Are economically beneficial to a community*	93.7	78.7	98.0	94.1	78.6	89.8	84.2
Encourage other industries to locate nearby*	87.4	79.7	95.0	92.2	72.6	87.5	75.6
Result in decreases in property values*	10.6	10.7	15.0	12.0	21.4	8.7	24.1
Cause environmental contamination*	10.6	14.7	13.0	20.6	31.0	20.3	51.3
Increase residents' sense of well-being and community pride*	82.1	74.7	91.0	63.7	48.7	67.4	54.2

* Significant at the 1 percent level based on Chi Square test.

Appendix Table 10. Community Residents' Assessment of Positive Effects of Recent Development (or Recent Changes) on Selected Community Attributes, by Community

Item	Community								
	Grafton	Kenmare	Oakes	Hettinger	Harvey	Carrington	Jamestown	New Rockford	Wahpeton
	-----percent who rated <i>positive</i> or <i>very positive</i> -----								
Job opportunities*	93.6	84.5	89.9	30.2	35.5	95.0	88.4	92.1	77.0
Residents' incomes*	60.2	71.2	83.2	26.6	30.8	68.5	56.1	71.8	50.5
Schools*	41.5	43.1	68.1	43.0	36.6	64.9	35.0	36.2	29.4
Quality of life*	55.8	37.7	58.1	64.0	56.2	49.5	27.1	34.8	35.2
Local public revenues*	33.3	63.5	68.8	38.8	33.0	48.2	42.7	41.6	20.8
Social organizations* (churches, civic groups, etc.)	45.4	35.9	60.2	62.1	58.8	51.1	29.1	35.8	18.8
Child care/day care*	36.0	45.2	51.8	57.3	37.9	48.2	37.7	29.3	23.3
Housing costs*	20.4	23.7	47.7	54.2	20.0	30.8	32.4	34.9	25.5
Family life*	45.9	42.6	53.4	58.6	52.4	25.3	26.8	30.6	24.8
Local public expenditures*	34.8	32.1	60.3	53.6	33.3	35.6	32.6	33.0	20.7
Streets, roads & highways*	27.7	11.9	53.5	52.9	52.5	12.8	38.7	15.8	27.1
Fire protection*	20.7	24.6	50.0	62.5	50.9	32.6	18.4	20.4	26.0
Police protection*	17.4	14.0	41.4	44.8	25.5	28.4	13.5	13.6	21.2
Crime/public safety*	14.8	13.3	25.0	43.9	27.7	6.2	13.9	14.4	9.9
Air quality*	7.7	13.8	21.7	54.9	49.0	4.8	4.6	10.8	10.4
Water quality*	6.4	13.1	18.3	69.0	53.0	3.6	8.7	10.1	7.9

* Significant at the 1 percent level based on Chi Square test.

Appendix Table 11. Community Residents' Assessment of Negative Effects of Recent Development (or Recent Changes) on Selected Community Attributes, by Community

Item	Community									
	Grafton	Kenmare	Oakes	Hettinger	Harvey	Carrington	Jamestown	New Rockford	Wahpeton	
	-----percent who rated <i>negative</i> or <i>very negative</i> -----									
Job opportunities*	1.1	5.6	2.0	46.5	34.6	1.0	2.7	0.8	1.8	
Residents' incomes*	2.4	7.6	3.2	44.3	25.0	2.2	1.9	0.9	3.9	
Schools*	1.2	9.2	2.1	30.2	18.8	2.1	1.9	1.9	9.8	
Quality of life*	0.0	11.5	2.2	13.5	8.6	4.3	2.8	2.6	7.6	
Local public revenues*	19.2	7.9	3.8	30.0	22.3	11.1	17.5	10.9	31.2	
Social organizations* (churches, civic groups, etc.)	1.2	7.8	0.0	20.7	6.9	1.1	1.9	2.8	5.0	
Child care/day care*	2.7	16.1	2.4	13.3	10.5	12.9	7.6	3.0	2.2	
Housing costs*	25.0	10.2	12.5	19.3	20.0	37.4	19.4	4.7	35.7	
Family life*	1.2	6.6	1.1	16.1	7.8	4.4	0.9	3.6	5.0	
Local public expenditures*	10.1	8.9	6.4	23.2	21.8	8.2	15.8	6.6	20.7	
Streets, roads & highways*	6.0	18.6	3.5	19.5	6.9	27.9	17.1	10.5	39.2	
Fire protection*	0.0	6.6	0.0	3.4	1.9	2.2	1.9	1.8	3.0	
Police protection*	0.0	12.3	0.0	9.2	17.0	3.4	2.9	5.4	4.0	
Crime/public safety*	4.9	18.3	0.0	9.8	17.2	13.8	6.9	8.1	12.9	
Air quality*	1.3	6.9	1.2	4.9	2.0	3.6	37.6	20.7	42.4	
Water quality*	1.3	8.2	1.2	4.6	4.0	4.8	21.4	4.6	25.7	

* Significant at the 1 percent level based on Chi Square test.

Appendix Table 12. Community Residents' Assessment of Costs and Benefits of New/Expanded Employers, by Community

	Non-agricultural Development			Agricultural Processing			
	Grafton	Kenmare	Oakes	Carrington	Jamestown	New Rockford	Wahpeton
	-----percent-----						
Economic benefits to community exceeded costs:*							
Yes	46.3	45.3	58.0	64.7	40.2	52.3	33.3
No	13.7	16.0	7.0	3.9	14.5	7.7	24.2
Don't Know	40.0	38.7	35.0	31.4	45.3	40.0	42.5
Social benefits to community exceeded costs:*							
Yes	43.2	31.1	48.0	44.1	29.9	37.7	25.2
No	16.8	23.0	10.0	7.8	18.8	16.1	21.0
Don't Know	40.0	46.0	42.0	48.0	51.3	46.2	53.8
If an election were held, most people would vote in favor of the new employer							
Somewhat or strongly agree*	75.5	62.2	74.7	78.2	61.5	65.6	58.5
If an election were held, I would vote in favor of the new employer							
Somewhat or strongly agree*	88.4	71.6	84.9	82.6	66.7	82.7	56.6

* Significant at the 1 percent level based on Chi Square test.

Appendix Table 13. Selected Demographic Characteristics of Community Resident and Leader Survey Respondents

Item	Community Residents	Community Leaders
	-----percent-----	
Age:*		
<30	18.5	0.0
30-39	22.8	19.4
40-49	27.9	37.3
50-59	16.6	31.3
60 or over	14.2	11.9
Sex:*		
Female	65.5	14.9
Race:		
White	97.0	100.0
Marital Status:**		
Married (or living as married)	77.0	89.4
Widowed, divorced, or separated	11.1	3.0
Never married	11.9	7.6
Education:*		
High school or less	28.0	7.5
Some post-secondary	27.9	25.4
College graduate	44.1	67.1
N =	944	67

*Significant at the 1 percent level based on Chi Square test.

**Significant at the 10 percent level based on Chi Square test.

Appendix Table 14. Selected Economic Characteristics of Community Resident and Leader Survey Respondents

Item	Community Residents	Community Leaders
	-----percent-----	
Respondent is primary wage earner in household*	45.4	87.7
Respondent is:		
Not employed	4.7	0.0
Retired	10.8	3.1
Employed by someone else	68.2	76.6
Self-employed	16.2	20.3
Industry respondent works in:*		
Agriculture	8.2	3.1
Manufacturing	6.2	3.1
Trans., comm., & utilities	5.9	3.1
Retail trade	10.2	9.4
FIRE	9.0	18.8
Services	50.3	39.1
Public administration	4.8	23.4
Other (mining, construction, & wholesale trade)	5.5	0.0
Household Income, 1998/2001:*		
<\$25,000	22.3	4.6
25,000-34,999	16.4	7.7
35,000-49,999	19.6	15.4
50,000-79,999	28.8	32.3
80,000 or more	12.9	40.0
Residence is:**		
Owned	81.5	92.4
Rented	16.0	6.1
Occupied without cost	2.5	1.5
Respondent:		
Owns/operated a farm/ranch	20.2	16.4
Owns other property*	18.2	40.3

*Significant at the 1 percent level based on Chi Square test.

**Significant at the 10 percent level based on Chi Square test.

Appendix Table 15. Community Residents' and Leaders' Satisfaction with Selected Community Attributes

Item	Community Residents	Community Leaders
	<i>-percent somewhat or completely satisfied-</i>	
Fire protection*	85.6	98.5
Medical services*	68.6	88.1
Public schools*	72.8	89.6
Utilities**	68.8	79.1
Quality of the natural environment*	66.7	86.6
Housing	64.3	65.7
Streets and roads*	48.5	64.2
Law enforcement*	63.9	85.1
Childcare/daycare	51.7	42.4
Recreation facilities/opportunities*	50.3	67.2
Opportunity to earn an adequate income*	40.2	59.7
Employment opportunities to keep youth in area	14.0	13.4
Community as a place to live**	77.4	88.1

*Significant at the 1 percent level based on Chi Square test.

**Significant at the 10 percent level based on Chi Square test.

Appendix Table 16. Community Residents' and Leaders' Relationships with New Employers

Item	Community Residents	Community Leaders
	-----percent-----	
Respondent knows where plant/office is located	96.3	98.3
Respondent has visited plant*	49.5	84.2
Respondent works for plant	5.4	3.5
Family member works for plant	10.0	5.3
Respondent lived in community when plant was proposed**	79.2	89.5
Respondent owns or works for business that supplies the plant	16.3	22.8
Distance from residence to plant		
<1 mile	15.8	18.2
1-5 miles	59.7	65.5
6-10 miles	11.4	7.3
>10 miles	13.1	9.1
N =	738	57

*Significant at the 1 percent level based on Chi Square test.

**Significant at the 10 percent level based on Chi Square test.

Appendix Table 17. Community Residents' and Leaders' Involvement in Activities Related to Development of New Employers

Item	Community Residents	Community Leaders
	-----percent-----	
Attended meeting or hearing about plant or business*	15.4	64.9
Contacted a government official about plant/business*	3.9	38.6
Signed a petition concerning plant/business**	2.4	7.0
Contacted company officials*	12.4	57.9
Written a letter to a newspaper about plant/business*	0.3	7.0
Other activities concerning plant/business*	9.2	23.6
N =	738	57

*Significant at the 1 percent level based on Chi Square test.

**Significant at the 10 percent level based on Chi Square test.

Appendix Table 18. Community Residents' and Leaders' Opinions about Circumstances of New/Expanded Employers

Item	Community Residents	Community Leaders
	----percent <i>somewhat</i> or <i>strongly agree</i> ----	
Construction workers were area residents	33.0	28.6
Operating workers were area residents	47.6	53.6
State government officials provided complete and accurate information about potential local impacts	29.4	29.8
Company officials provided complete and accurate information about potential local impacts	35.3	43.9
Social impacts of the plant are positive**	63.1	75.4
Economic impacts of the plant are positive**	74.8	86.0

**Significant at the 10 percent level based on Chi Square test.

Appendix Table 19. Community Residents' and Leaders' Opinions about Effects of New/Expanded Employers

Item	Community Residents	Community Leaders
	----percent <i>somewhat</i> or <i>strongly agree</i> ----	
New/Expanded Employers:		
Are economically beneficial to a community**	88.2	96.5
Encourage other industries to locate nearby**	84.1	93.0
Result in decreases in property values	15.0	8.8
Cause environmental contamination*	24.3	3.5
Increase residents' sense of well-being and community pride	67.7	75.4

* Significant at the 1 percent level based on Chi Square test.

**Significant at the 10 percent level based on Chi Square test.

Appendix Table 20. Community Residents' and Leaders' Assessment of Positive Effects of Recent Development on Selected Community Attributes

Item	Community Residents ¹	Community Leaders
	-percent who rated <i>positive</i> or <i>very positive</i> -	
Job opportunities	88.7	89.5
Residents' incomes*	65.5	87.5
Schools*	45.1	67.3
Quality of life	42.0	50.9
Local public revenues*	44.2	73.7
Social organizations (churches, civic groups, etc.)	39.0	44.4
Child care/day care**	38.2	50.0
Housing costs*	31.2	49.1
Family life	34.6	39.3
Local public expenditures	35.3	40.4
Streets, roads, & highways**	27.4	42.1
Fire protection	27.3	27.8
Police protection	21.2	27.8
Crime/public safety	13.9	10.9
Air quality	10.2	12.7
Water quality	9.5	12.7

¹Includes residents and leaders from the development communities (i.e., respondents from control communities were excluded).

*Significant at the 1 percent level based on Chi Square test.

**Significant at the 10 percent level based on Chi Square test.

Appendix Table 21. Community Residents' and Leaders' Assessment of Negative Effects of Recent Development on Selected Community Attributes

Item	Community Residents ¹	Community Leaders
	percent who rated <i>negative</i> or <i>very negative</i>	
Local public revenues	15.1	9.6
Child care/day care	6.3	4.0
Housing costs	21.0	23.9
Local public expenditures	11.3	18.8
Streets, roads, & highways**	18.0	9.6
Crime/public safety	8.9	10.9
Air quality	18.8	12.7
Water quality*	10.4	0.0

¹Includes residents and leaders from the development communities (i.e., respondents from control communities were excluded). Only items viewed to be negatively affected by 5 percent or more are included.

*Significant at the 1 percent level based on Chi Square test.

**Significant at the 10 percent level based on Chi Square test.

Appendix Table 22. Community Residents' and Leaders' Assessment of Costs and Benefits of New/Expanded Employers

Item	Community Residents	Community Leaders
	-----percent-----	
Economic benefits to community exceeded costs:*		
Yes		
No	48.3	80.7
Don't Know	12.5	7.0
	39.2	12.3
Social benefits to community exceeded costs:*		
Yes	36.8	71.9
No	16.1	12.3
Don't Know	47.1	15.8
If an election were held, most people would vote in favor of the new employer Somewhat or strongly agree**	67.7	82.5
If an election were held, I would vote in favor of the new employer Somewhat or strongly agree**	75.9	89.3

*Significant at the 1 percent level based on Chi Square test.

**Significant at the 10 percent level based on Chi Square test.