Case Study Report

Dakota County, Minnesota

One of 15 Case Studies for the Research Project

Farm Viability in Urbanizing Areas

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Section I: Summary

Farm Market Value of Agricultural Products and Numbers of Farms: Dakota County has a very strong agricultural sector and is traditionally a "corn and soybeans" county. According to 2002 Census of Agriculture data, approximately 65% of the county's total land area was in agriculture in 2002, and there were an estimated 997 farms. According to the census, the county's top four types of agricultural products in 2002 were (in order): grains (mainly corn and soybeans); nursery, greenhouse, floriculture, and sod; cattle and calves; and vegetables, melons, potatoes, and sweet potatoes. In terms of the market value for crops and livestock in the county, overall sales of crops increased 124% from 1987 to 2002, while livestock sales remained stable or decreased in real terms. In crops, sales of grains increased 25% since 1987, while more marked increases occurred with vegetables (increasing 200% since 1987) and nursery products (increasing 230%), albeit on a smaller sales base. In 2002 the average size of farms in the county was 236 acres. The vast majority of farms in Dakota County fell between 10 and 499 acres in size.

Farmer Satisfaction with Markets: Based on a survey of 136 Dakota County landowners in the winter of 2006, survey respondents overall seemed very satisfied with the accessibility of marketing outlets and satisfied with the markets' competitiveness but less satisfied with the profitability of the markets. Some exceptions to these findings were respondents with owned acreage only in hay or other forage crop production, who were less satisfied with the accessibility to markets. Those with a higher percentage of farm products marketed within a one-hour trip from his/her farm were more satisfied with the accessibility of markets. Respondents with a higher percentage of gross sales marketed through livestock feed companies were more likely to be satisfied with the profitability of their markets, while those who raise only beef cattle and calves in livestock were less likely to be satisfied. In addition, those respondents who marketed all their sales through direct markets were much more likely to be satisfied with the profitability of their markets.

Production Inputs: Based on the same survey, landowners seemed to have few problems with the availability of production inputs in general. The most-used non-land inputs—good and services from implement dealers and seed suppliers, farm chemicals, and family labor—were available most of the time. Other types of labor (e.g., seasonal and year-round) had the highest reports by respondents of limited availability.

Land for Farming: In 2002 Dakota County had almost 236,000 acres in farmland, and about 44% of that land was leased. Survey respondents overwhelmingly felt that purchasing county farmland was not affordable. While more reported that rented land was affordable, many found rented land unaffordable as well. Interviews with agricultural leaders reinforced the results of the survey in terms of the affordability of farmland.

Most agricultural leaders interviewed thought that farmland would not be in adequate supply in the future, although a few thought that it would be adequate in 10 years.

Support for Farmland Preservation: The county's purchase of development rights (PDR) program is still very young, established in 2002. By January 2008 the county has acquired 20 permanent agricultural easements totaling 2,216 acres. Other major programs supporting farmland preservation are agricultural zoning and tax benefits programs, most notably the Agricultural Preserves Program (APP) and the Green Acres Program. In 2005 Dakota County had 61,200 acres are in the APP and 117,000 in Green Acres.

Of the policy tools, the agricultural tax assessment laws were seen by survey respondents as being the most helpful, with almost three-quarters reporting them as either very helpful or moderately helpful in keeping property taxes at acceptable levels. Approximately 50% of survey respondents supported the PDR, while a third opposed or strongly opposed the program. Finally, 54% perceived zoning restrictions as helpful in maintaining an adequate supply of land for farming. However, all the agricultural leaders interviewed felt that the 1:40 agricultural zoning has been a very effective tool to preserve land in Dakota County.

Farmers' Plans for the Future: Under half (40%) of survey respondents said they were planning to be farming in the county 10 years from now. Of those who responded that they were below 55 years of age, 81% said they were planning to be farming in the county 10 years from now. We also found that most respondents did not have plans for changing much about their farm operations over the next five years, although there were indications that there would be a net increase in farm acres owned, the number of livestock, and the number of separate crops grown. Overall, the number of livestock was the area in which most respondents planned to make any change.

Regression analysis indicated that operators more likely to be farming in 10 years transported relatively a lot of their agricultural goods to points of sale greater than one hour away from the farm, or reported a relatively higher number of separate crops. On the other hand, respondents were less likely to remain 10 years if they were older and if they felt they had made changes "for the worse" to the farm operations due to nonfarmers living nearby.

Predictions of Agriculture's Viability 20 Years into the Future: The 136 surveyed farmland owners seemed less than optimistic about the future of agriculture in the county: only 8% responded that the future was "bright," while 40% said it was "modest." Forty percent said the future looked "dim," while only 2% responded that there was no future for agriculture in the county. In the regression analysis, other things being equal, respondents were more likely to believe the future of agriculture in the county to be bright or modest if they were very satisfied or moderately satisfied with the profitability of their marketing outlets in 2005, if they felt that the programs to assess farmland for property tax purposes at its farm use value rather than at the higher real estate market value was very or moderately helpful in keeping property taxes on farmland in the county at acceptable levels, or if they expected a son or daughter to succeed them as the operator of the farm. The probability decreased if the respondents felt that in controversies between farmers and nonfarmers, the local county government tended to side with nonfarmers.

Section II: Geographic, Historical, Agricultural, and Policy Contexts of Dakota County

Location, Size, and Urban Influence

Dakota County, 365,000 acres in all, is one of seven suburbanizing counties in the rapidly growing Minneapolis–St. Paul metropolitan region. The Minnesota and Mississippi rivers form the northern and eastern boundaries of the county, and the Cannon River forms a portion of the southern boundary. The county's growth, history, and agricultural sector have been greatly influenced by these rivers. In 1990 Dakota County was classified as under a great deal of urban influence: 67% of the county was subject to "high urban influence" while the remaining 33% was subject to "medium urban influence" (Table 1). In 2003 the county was classified as a county that is in a metro area with at least 1 million residents.

Rate and Location of Population Growth, Household Demographics

Dakota County experienced explosive growth from 1990 to 1996, with a population increase of 41% (Table 1). This trend was expected to continue, with a projected population of 460,000 by 2020. The county's median household income in 2006 was $70,502, and the median value of owner-occupied single-family homes that year was estimated to be $247,900.

Table 1: Dakota County—Population Data

Indicators	2006	2000	1990
Population	388,001	355,904	275,227
Percentage increase, 2000–2006	9.0		
Percentage increase, 1990–2000		29.3%	
Median household income (2006)	$70,502		
Median value of owner-occupied single-family home (2006)	$247,900		
County seat	Hastings		
Metro area	Minneapolis–St. Paul, Bloomington, MN, WI metro area		
Extent of urban influence in county: 1990 measure	67% of the county subject to "high urban influence" and 33% to "medium urban influence"		
Extent of urban influence in county: 2003 measure	Large—in a metro area with at least 1 million residents or more		

Sources: U.S. Census Bureau, 2006 American Community Survey; U.S. Census Bureau, American Fact Finder; USDA, Economic Research Service.

Development pressure in Dakota County moves north to south, extending out of the Minneapolis–St. Paul metro area. Ninety-five percent of the county's residents live in the 10 cities in the northern one-third of the county, and the predominant land use in these areas is single-family residential. Six small cities and 13 rural townships total nearly 230,000 acres in the south, and land use in this region is predominately agricultural. Most of these townships have density zoning restrictions of one housing unit per 40 acres (1:40). Of the land cover in Dakota County, 151 square miles are built up or urbanized, 288 square miles are agriculture, 55 square miles are forests, woodland, or shrubland, 48 square miles are grassland, and 20 square miles are open water.[1]

In the 1990s over 3,000 housing units per year were built in the urban areas of Dakota County at densities of approximately two to three units per acre. During the same period, approximately 100 houses per year were constructed in the townships and rural cities of the county, but at much lower densities, with lot sizes typically 5 to 20 acres.[2] Commercial and industrial land uses are also increasing and employment growth in the county exceeded the rate of population growth in the 1990s.

A total of 26% of the county's total area is within the Metropolitan Urban Service Area (MUSA), an area in which urban services will be provided. The MUSA is intended to keep suburban development from leapfrogging into agricultural areas in that development that occurs outside it requires on-site well and septic systems.[3] Some agricultural leaders interviewed for this study spoke of a "line" between the northern and southern portions of the county; this line is the 2040 Municipal Services Boundary in which sewer, water, and transportation funds have not been available. The boundary forms a line between the northern, more developed section of the county and the rural, farmland section in the south.

Brief History of Dakota County

Prior to European settlement, Dakota County was part of an expansive territory of the Dakota tribe of American Indians. Dakota County was established in 1849, one of the first counties in the new Territory of Minnesota. The western boundary of the county was the Missouri River, which is now halfway across the Dakotas. Some of the earliest immigrants to Dakota County were the French-Canadians who came to trade for furs with the Dakota people. Migration to Dakota County continued with people who left the eastern United States, or who were called Old Stock Americans, in the early to mid-1850s. In the latter part of the 19th century, immigrants came from Ireland, Germany, and Norway. By the late 19th and early 20th centuries, immigrants began to come from eastern European nations such as Poland, Romania, and Austria-Hungary (Croatia and Serbia) to work either for the railroads or for the meatpacking houses in South St. Paul. The 20th century has seen immigration from Mexico, Laos, and Somalia in addition to migration from the larger metropolitan areas.

Basic Traits of Agriculture in Dakota County

Dakota County currently has a very strong agricultural sector. However, it is at crossroads because of residential densities bumping up against agricultural land. Dakota County is traditionally a "corn and soybeans" county. According to 2002 Census of Agriculture data, approximately 65% of the county's total land area was in agriculture in 2002. In 2002 there were estimated to be 997 farms. The county's top four types of agricultural products in 2002 were (in order): (1) grains (mainly corn and soybeans); (2) nursery, greenhouse, floriculture, and sod; (3) cattle and calves; and (4) vegetables, melons, potatoes, and sweet potatoes.

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[1] Dakota County Soil and Water Conservation District, 2002, *Land Cover in Dakota County*: http://www.dakotacountyswcd.org/landcoverposter_11x17.pdf.<<AU: make Web site "live">>
[2] Most of these houses were built in plats that were approved before 1:40 zoning and are "grandfathered" uses.
[3] Dakota County Office of Planning, 1999, *Dakota County Comprehensive Plan 2020*: http://www.co.dakota.mn.us/planning/comprehensive_plan.htm.<<AU: make Web site "live">>

Farmers in Dakota County have good access to the Minneapolis–St. Paul markets; the county seat, Hastings, is 30 miles from Minneapolis. Although the surrounding counties include almost 2.5 million residents, they are very diverse in their size—from the rural Pierce County, Wisconsin (with an estimated population of 39,373 in 2006), to Hennepin County with over 1.1 million residents (Table 2).

Table 2: Dakota County—Population of Surrounding Counties	
County and state	**Estimated 2006 population**
Dakota County, MN	388,001
Goodhue County, MN	45,807
Hennepin County, MN	1,122,093
Pierce County, WI	39,373
Ramsey County, MN	493,215
Rice County, MN	61,980
Scott County, MN	124,092
Washington County, MN	225,000
Total	2,499,561

Source: http://factfinder.census.gov/<<AU: make Web site "live">>

In 2002 the average size of farms in the county was 236 acres. The majority of farms in Dakota County fell into three categories: between 10 and 49 acres in size (33% of all farms), between 50 and 179 acres in size (24% of all farms), and between 180 and 499 acres (20%) (Table 3). Only 11% of farms were smaller than these ranges, and 12% of farms were larger. The notable trends in farm size since the 1987 Census of Agriculture also fall within these categories, with the smaller-acreage category (10–49 acres) increasing from 23% of farms in 1987 to 33% in 2002, a decrease in those between 50 and 179 acres (from 30% to 24% in 2002), and a decrease of farms with acreage in the range of 180 to 499 (decreasing from 28% to 20%).

Table 3: Dakota County—Agricultural Land-Use Traits				
Traits	**2002**	**1997**	**1992**	**1987**
Acres in farms	235,763	226,753	221,193	219,920
County's approximate total land area (in acres)	364,532	364,619	364,619	364,619
Percentage of total county's land in farms	64.7	62.2	60.7	60.3
Number of farms	997	962	869	987
Average size of farms (acres)	236	236	255	223
Number of farms 1–9 acres (% of total farms)	110 (11)	116 (12)	68 (8)	76 (8)
Number of farms 10–49 acres (%)	330 (33)	259 (27)	207 (24)	223 (23)
Number of farms 50–179 acres (%)	237 (24)	262 (27)	242 (28)	296 (30)
Number of farms 180–499 acres (%)	203 (20)	194 (20)	232 (27)	275 (28)
Number of farms 500–999 acres (%)	68 (7)	89 (9)	79 (9)	89 (9)
Number of farms 1,000+ acres (%)	49 (5)	30 (3)	41 (5)	27 (3)
Harvested cropland in acres	191,924	185,150	173,179	156,240
Acres in pasture or grazing	4,360	6,229	6,451	7,006
Percentage of total farmland leased into farm operations	44	42	42	39
Per acre average market value of land and buildings ($)	3,453	2,283	1,581	1,219
Per farm average market value of all machinery and equipment ($)	67,770	54,831	70,869	59,106

In terms of the market value for crops and livestock in the county, overall sales of crops increased 124% from 1987 to 2002, while livestock sales remained relatively stable (Table 4). In crops, sales of grains, one of the county's traditional commodities covering many acres, increased 25% from 1987 to 2002, while more marked increases occurred with vegetables (increasing 200% since 1987) and nursery products (increasing 230% since 1987), albeit on a smaller sales base.

Interviews with agricultural leaders supported the fact that Dakota County is primarily a corn and soybean area, with livestock being a major venture as well. There is also production of some fruits and vegetables, some of it marketed fresh. Few new crops are being raised, and direct marketing seems fairly limited. One exception to both of these is a number of Hmong farmers[4] who are producing food (and sometimes very diverse products) on small acreages for direct markets into St. Paul and Minneapolis. In terms of direct markets, interviews with agricultural leaders revealed a strong network of farmers' markets in the area.

At the same time, the percentage of total land in farms that was leased into farm operations remained relatively stable, with a slight increase from 39% of land in 1987 to 44% in 2002. Per acre average market value of land and buildings increased from $1,219 in 1987 to $3,453 in 2002, and per farm average market value of all machinery and equipment has increased from $59,106 in 1987 to $67,770 in 2002.

Eighty percent of Dakota County's farms had gross sales less than $100,000 in 2002 (Table 4). Another 10% had gross sales between $100,000 and $249,999. Seven percent of farms grossed between $250,000 and $499,999, and another 4% over $500,000. Between the 1987 and 2002 censuses of agriculture, farms with gross sales less than $2,500 almost doubled in their share of total operations, increasing from 19% of farms to 35%. Those in sales categories between $2,500 and $249,999 all experienced slight decreases after 1987. Farms grossing over $250,000 also experienced increases, with those grossing over $500,000 quadrupling since 1987, from 11 farms to 44 farms.

[4] Immigrants from Southeast Asia or descendants of such immigrants.

Table 4: Dakota County—Farm Gross Sales and Market Value of Agricultural Products				
Measures of sales	**2002**	**1997**	**1992**	**1987**
Total market value of products—all farms (in thousands)	112,000	103,587	80,253	64,449
Average market value per farm ($)	112,337	107,679	92,351	65,364
Number of farms	997	962	869	987
Number of farms with gross sales less than $2,500 (percentage of farms)	351 (35)	251 (26)	147 (17)	183 (19)
Number of farms $2,500–4,999 (%)	57 (6)	90 (9)	59 (7)	77 (8)
Number of farms $5,000–9,999 (%)	80 (8)	73 (8)	86 (10)	105 (11)
Number of farms $10,000–24,999 (%)	116 (12)	120 (12)	147 (17)	176 (18)
Number of farms $25,000–49,999 (%)	88 (9)	104 (11)	117 (13)	130 (13)
Number of farms $50,000–99,999 (%)	96 (10)	91 (9)	118 (14)	122 (12)
Number of farms $100,000–249,999 (%)	98 (10)	128 (13)	109 (13)	140 (14)
Number of farms $250,000–$499,999 (%)	67 (7)	61 (6)	55 (6)	42 (4)
Number of farms $500,000 or more (%)	44 (4)	44 (5)	31 (4)	11 (1)
Market value of total crops including nursery and greenhouse (in thousands)	*74,480*	*64,756*	*46,865*	*33,231*
Grains	41,471	41,954	46,865	33,231
Vegetables, melons, potatoes, and sweet potatoes	9,239	4,275	3,537	3,064
Fruits, tree nuts, and berries	(D)	360	577	(D)
Nursery, greenhouse, floriculture, and sod	22,140	14,007	11,311	6,706
Hay, silage, and field seeds	1,155	869	985	830
Market value of total livestock, poultry and their products (in thousands)	*37,521*	*38,831*	*33,388*	*31,218*
Poultry and eggs	(D)	38,613	33,388	31,218
Cattle and calves	19,951	15,023	13,802	12,873
Milk and other dairy products from cows	9,202	10,077	10,272	9,741
Hogs and pigs	5,337	6,397	6,337	7,282
Sheep, goats, and their products	97	(D)	(D)	204
Horses, ponies, mules, burros, and donkeys	71	(NA)	(NA)	(NA)
Total value of agricultural products sold directly to individuals for human consumption	870	558	(NA)	(NA)
Market value of recreational services	22	(NA)	(NA)	(NA)

Public Policy Context

Locus of Land-Use Regulatory Powers: The county government in Dakota has limited land-use authority. For the most part, land-use decisions are made by the cities and townships through their zoning and land-use plans, which are influenced by the regional agencies. An exception is that the county administers zoning in floodplain and shoreland districts of the unincorporated areas of the county.[5] There are 13 townships in Dakota County and they hold about two-thirds of the land, almost all of it agricultural land. Most of northern Dakota County is governed by cities with a patchwork of land that is primarily being developed; this area is within the 2040 Municipal Services Boundary.

Role of Metro Council and State Government: The Metropolitan Council, the regional planning organization for the seven-county Twin Cities area (http://www.metrocouncil.org/<<AU: make

[5] *Dakota County Comprehensive Plan 2020*.

Web site live>>), has identified growth management policies areas for Dakota County and the rest of the metro area. The policy areas are intended to direct metropolitan growth through the year 2040. At the time of writing of the 2020 land-use policy plan, the council's policy area is in conflict with local land-use plans. The council has designated areas of Randolph, Empire, Eureka, and Marshan townships for higher residential densities (1:10) than indicated in their own plans (1:40).[6]

Each unit of general government (city or township) in the seven-county Twin Cities metropolitan area is required to complete a comprehensive plan for approval by the Metropolitan Council per the Metropolitan Land Planning Act of 1995. This comprehensive plan must include a depiction of current and future boundaries of the Urban Service Areas (typically, to 2020, with some areas to 2030), a 2040 urban reserve, and permanent rural and agricultural areas.

[6] Ibid.

Section III: Viability of Dakota County's Agricultural Sector (2005–2006): Results of a Survey of Agricultural Landowners and Interviews with Agricultural Leaders

This section focuses on information obtained from interviews with agricultural leaders and surveys of landowners in Dakota County, as well as ancillary information. Since the survey was completed in the winter of 2006 and all the interviews were conducted before the end of that year, we are describing the county's agricultural economy and the perceptions of farmers and nonoperator owners of agricultural land before the significant increases in commodity prices that began afterward.

Interviews with Experts: Interviews with 24 agricultural leaders were completed from June 2005 through March 2006. Interviews included personnel from all the major USDA offices in the county (Extension Service, Farm Service Agency, Natural Resources Conservation Service); from the county's Office of Planning; the County Assessor's office; the Soil and Water Conservation District, Minnesota Department of Agriculture; personnel from the private-sector agricultural input and marketing service businesses (including consultants), such as for livestock, machinery and equipment, agricultural chemicals, and agricultural credit; representatives from the County Commissioners; University of Minnesota; Community School; the Metropolitan Council; and Land Trust and environmental groups.

Survey Respondents: In the survey of farmland owners, 136 people responded that they owned land that was farmed in Dakota County during 2005.[7] The mean number of acres owned by the respondents was 281 acres, with a median of 175 (the minimum was 10 acres and the maximum was 3,000 acres). Gross farm sales in 2005 varied quite a bit among these respondents: while 41% reported gross sales below $100,000, 27% reported sales between $100,000 and $249,999, 14% between $250,000 and $499,999 and 18% reported farm sales above $500,000 (see Appendix). These higher sales categories are at higher rates than those found in the 2002 Census of Agriculture (as outlined in Table 4).

Of the total 136 landowners, 84 (or 62%) were operators of at least some of the owned farmland, another 30 (22%) were not operators but said that they had "detailed information" about how their farmland was operated. Most of the survey information provided in this case study is based on the responses of these 114 respondents. The other 22 respondents said they were neither operators of the land nor had detailed knowledge about how the farmland is operated; their answers are reported for demographic characteristics, opinions about policy tools that affect agriculture and farmland, and opinions about the future of agriculture in the county.

[7] The landowners to whom we mailed the nine-page questionnaires were randomly selected from a county list of owners of parcels that qualified for property-tax assessment based on their productivity in agricultural or horticultural use. We removed from those lists owners who lived outside Dakota County because we were seeking to survey persons likely to know about agricultural operations on their land in the county. The response rate for Dakota was 63.6%, that is, 136 usable questionnaires returned divided by 214 landowners eligible for the survey. The "non-eligibles" included persons who informed us by mail that their land had not been used for agriculture in 2005 or who could not be surveyed because our mail to them came back to us marked as the addressee having moved and left no forwarding address.

Demographics of Survey Respondents: Two-thirds of respondents were between the ages of 45 and 74, while another 20% were 75 years old or above (Census of Agriculture reported that the average age of farm operators in Dakota County in 2002 was 53); 78% were male; 35% had completed high school, while another 54% had at least some college experience. Of those responding to the question, 38% indicated that farming was their principal occupation (much below the 2002 ag census of 60% for the county); 62% reported farming full-time, while 38% reported farming part-time. Almost a fifth (19%) reported that 100% of the household income came from the farm operations; 8% reported zero household income. The most (30%) reported between 1% and 24% of the household income came from the farm (see Appendix).

A. Marketing Outlets for Dakota County Agricultural Products

Not surprising given the production systems of the county, respondents reported using wholesale markets for the vast majority (87%) of total farm gross sales (Table 5). These markets overwhelmingly included private grain elevators (59%) and processors (14%). The respondents used direct-to-consumer markets much less, with only 11% of total farm gross sales coming from these markets, with a focus on direct on-farm, farmstand, or U-pick (6%). Other agricultural enterprises made up 7% of total gross farm sales. In addition, 94 respondents reported selling 83% of their products within a one-hour trip from the farm, while 13% was sold more than one hour away.

Table 5: Dakota County—Marketing Avenue Reported by Survey Respondents

Type of market (*n* = 114)	**Average percentage of farms' total gross sales**
Wholesale markets (total)	87
Private grain elevator	59
Processor	14
Livestock feed company	2
Grower's cooperative	2
Distributor, broker, or handler	1
Other wholesale markets	8
Consumer-direct (total)	11
Direct on-farm, farmstand, U-pick	6
Farmers' market	1
Other consumer direct	3
Direct-to-retail (total)	1
Other agricultural enterprises (e.g., ag tourism, horseback riding)	7

Note: Total does not equal 100% because not all respondents totaled answers to 100%.

Satisfaction with Dakota County Marketing Outlets

When asked about their satisfaction with marketing outlets, survey respondents overall seem very satisfied with the accessibility of marketing outlets (80% were very satisfied or moderately satisfied, while only 6% were not satisfied at all) (Table 6). Respondents also seemed satisfied with the markets' competitiveness (59% very satisfied or moderately satisfied, while only 12%

were not at all satisfied). However, respondents were less satisfied with the profitability of the markets (35% very or moderately satisfied, and over a quarter were not satisfied at all).

Table 6: Dakota County—Respondent Satisfaction with Accessibility, Competitiveness, and Profitability of Marketing Outlets			
Response options	**Accessibility (*n* = 105)**	**Competitiveness (*n* = 100)**	**Profitability (*n* = 103)**
	Valid percentage		
Very satisfied	37	15	7
Moderately satisfied	43	44	28
Somewhat satisfied	9	23	28
Not at all satisfied	6	12	28
Not sure	6	6	9

Analysis of Survey Results: Accessibility

We used logistic regression analysis to look for determinants of these measures of satisfaction with marketing outlets.[8] Our hypotheses included that respondents' evaluations of their markets' *accessibility* varied with the percentage of their total 2005 sales achieved through direct marketing, with the percentage of total sales transported to points of sale "within a one-hour trip from your farm," and with the respondents' ages. We also used total acres being farmed, overall gross farm sales, the types of marketing outlets used in 2005, and the farm products raised on owned land that year. The statistically significant regression findings[9] were that, other things being equal:

- Respondents with their owned acreage only in hay or other forage crop production were less likely to be "very satisfied" or "moderately satisfied" with the accessibility to markets.
- Respondents with a higher percentage of total gross sales marketed within a one-hour trip from their farm were more likely to be "very satisfied" or "moderately satisfied" with the accessibility of markets; that is, as the percentage goes up, so does the likelihood of satisfaction.
- Respondents who experienced at least one complaint in the previous five years from nonfarm neighbors about agricultural operations on land they owned were less likely to be "very satisfied" or "moderately satisfied" with the accessibility to markets.

Analysis of Survey Results: Competitiveness

In our analysis of the likelihood of being at least "moderately satisfied" with the markets' *competitiveness*, we used the same hypotheses outlined above. The statistically significant relationships are as follows:

- Respondents with a higher percentage of farm products marketed within a one-hour trip from their farm were more likely to be "very satisfied" or "moderately satisfied" with the

[8] Logistic regression—see Scott Menard, 2002, *Applied Logistic Regression Analysis*, 2nd ed. (International Oaks, CA: Sage Publications), 111 pp.

[9] To qualify as a significant determinant of the likelihood of the respondent being at least "moderately satisfied," an independent variable had to be statistically significant in a Wald test at the 0.1 level or better.

competitiveness of markets; that is, as the percentage went up, so did the likelihood of satisfaction.

- Respondents who experienced at least one complaint from nonfarm neighbors about agricultural operations on land they owned were *less* likely to be “very satisfied” or “moderately satisfied” with the competitiveness of markets.
- Respondents who had a succession plan or were considering one for the farm were more likely to have been “very satisfied” or “moderately satisfied” with the markets’ competitiveness, as well as those who found their nonfamily farm labor needs met always or most of the time.

Analysis of Survey Results: Profitability

For explaining the likelihood of being “very satisfied” or “moderately satisfied” with the *profitability* of market outlets, we tested for the effects of the same hypothesized causal variables. In this round of regression analysis, we found a number of statistically significant relationships:

- Respondents who marketed more than half of their total sales through direct markets were much more likely to be satisfied with the profitability of their markets.
- Respondents who raised only beef cattle and calves on their owned land were *less* likely to be satisfied.
- Those respondents who found their water for livestock or crop irrigation needs met most or all of the time, as well as those who thought that leased land was “very affordable” or at least “affordable” in 2005, were more likely to be satisfied with profitability.
- Respondents who were considering or had developed a succession plan for the farm were more likely to be “very satisfied” or “moderately satisfied” with the profitability of markets.
- Finally, more likely to be satisfied also were those who felt that in controversies between farmers and nonfarmers, county local authorities tend to be even-handed.

Table 7 presents the satisfaction levels of some of the groups of respondents that the above analysis indicated were more or less satisfied, contingent to the percentages for all surveyed owners asked to evaluate the marketing outlets for their farm goods.

In terms of choice and access to markets, the interviewed experts generally mirrored the survey results. Most reported good access to and a choice of markets for grains. Ethanol outlets were mentioned specifically for corn producers. Profitability of these markets, however, was not thought of as highly. They also reported good access to urban markets. However, dairy was seen as particularly challenging:[10]

[10] Since these interviews were not recorded electronically (and then transcribed), the material presented here represents the authors’ best efforts to capture what was said, based on the notes they took during the interviews.

Table 7. Satisfaction with the Accessibility, Competitiveness, and Profitability of Marketing Outlets for Surveyed Owners' Farm Goods			
Dimensions evaluated and groups of respondents	**Very satisfied**	**Moderately satisfied**	**Either very or moderately satisfied**
	Percentage		
Accessibility of markets			
All respondents (*n* = 106)	35.8	42.5	78.3
Only hay was raised on owned land (n=8)	0.0	50.0	50.0
Experienced at least one complaint about farm operations on land in the past 5 years (*n* = 23)	21.7	39.1	60.8
Competitiveness of markets			
All respondents (*n* = 106)	14.2	40.6	54.8
Found nonfamily labor needs met always or most of the time (*n* = 31)	29.0	35.5	64.5
Had or was considering a succession plan for the farm (*n* = 51)	21.6	45.1	66.7
Experienced at least one complaint about farm operations on land in the past 5 years (*n* = 23)	4.3	26.1	30.4
Profitability of markets			
All respondents (*n* = 106)	6.6	26.4	33.0
Had or was considering a succession plan for the farm (*n* = 51)	11.8	33.3	45.1
Raised only beef cattle and calves for livestock (*n* = 18)	0.0	16.7	16.7
Found water needs (for livestock or irrigation) available always or most of the time (*n* = 77)	9.1	27.3	36.4
More than half of all sales were marketed directly to consumer (*n* = 12)	25.0	25.0	50.0
Believed that in controversies between farmers and nonfarmers, the local authorities in the county tended to be even handed (*n* = 28)	0.0	46.4	46.4
Believed that leased land was "very affordable" or at least "affordable" in 2005 (*n* = 31)	12.9	38.7	51.6

Yes, [the county's farmers] have choices—they are close to the Mississippi River—there are plenty of opportunities. [Profitability of markets] is hard to gauge. They cannot buy more land or rent land because the value is too high.

The farmers have an adequate choice of markets; we are within 40 minutes of two public livestock markets. For grain, there are plenty of buyers in the area, including elevators, feed plants, and ethanol facilities. We are within 40 minutes of Minneapolis and St. Paul. Almost all the communities have a farmers' market, and they are well accepted.

Grain is still tough because it has narrow margins, and there is the need to be so efficient and take advantage of government programs and future programs.

We have some contract growers for turkeys, which is new to the area. That is an increasing outlet for corn. Right now, in fact, no corn goes to the river: everything is going to ethanol and feed.

> The large acreage farms have enough places to market. They just take it to an elevator, but I think those prices are horrible. Some are doing direct-market grain to places that process it—not a lot, but you do hear about it. I don't think the farmers overall have adequate markets.
>
> We've seen a decrease in dairy farmers in Dakota County for at least the last 15 years, but it has been most dramatic the last 10. We had about 50 dairy farmers in Dakota County 25 years ago. Now we might have seven or eight. We lost about half of those over the last 10 years to the competition, and the other half left because they sold their land. We still have a processing facility there, and it used to be that they produced more milk in the county than the facility could handle. Now the processor draws milk from all over, including Wisconsin. I have no optimism for dairy in Dakota County. They have lost the infrastructure that would keep it there. There is no incentive for them to continue to farm there if they know development is coming.

Development of the area could to some extent drive changes in direct marketing, given access to urban markets. However, there was little indication that many farmers are taking advantage of the opportunities in the area or adding new products to diversify. The exception of Hmong farmers doing direct marketing to the metro area was noted earlier. Organic production and farmers' markets are also exceptions to this.

> The markets are adequate but different today. One thing that seems to be gaining momentum is farmers' market–type farms and organic farms. People really are promoting organic beef, milk, and vegetables.
>
> Some farmers have picked up other enterprises like corn mazes. The dairy farmers are particularly slow to adopt new stuff. I have seen some changes, but it is very slow. The farmers are more focused on the traditional type of farming.
>
> There are opportunities for farmers to process, but the problem is when they don't want to deal with the people side. There are opportunities for vegetables and specialty items, but it is a lot of work to do the marketing. You need to be knowledgeable. The question also is how deep are these markets? Maybe one guy can do organic milk, but how many consumers are really willing to pay those premiums?
>
> There are opportunities for organic—and a population that is probably interested. Or there could be those that are bottling their own milk. North of the area, they have a large market. But I don't know if anyone is developing something marketable. I haven't seen the entrepreneurship yet. Most are staying with traditional farming.

Marketing Programs Operating in Dakota County

According to interviews with agricultural leaders in the county, there were almost no public programs that promoted or assisted with marketing. USDA Cooperative Extension no longer had a presence in the county for marketing assistance; due to restructuring in mid-2000, regional extension centers were developed and counties were asked to provide money for extension staff who would work exclusively on county services. Dakota County provides money for extension staff to work on 4-H, master gardener programs, outreach for disadvantaged communities, and nutritional programs (not agricultural marketing or production). According to interviews at the time, it was felt that the majority of the farms in the county were large and they were getting their marketing information from other advisors, such as private input companies. Smaller farmers were viewed as "hobby farms" that did not warrant the use of limited funds on agricultural marketing assistance. Interestingly, though, in an extension survey of farm families completed a few years ago, the top assistance requested was help with marketing. One interviewee provides a summary of how extension is thought about in terms of marketing programs in the county:

> Minnesota Extension used to [provide marketing assistance]. But most producers are now tuned into their feed, crop, and fertilizer service people. Extension has taken a back seat and I don't think that will change. Most agricultural producers will say they don't get their help from extension.

One program of note is run through a small school district in which—at the time of the interviews—110 high school students took part in an agricultural program. It also runs a young farmer program that includes marketing as a key component. As noted above, private companies (such as Dairy Farmers of America and the Fruit Growers Association) also provide marketing assistance to their farmers.

Although not specifically a program per se, farmers' markets were mentioned by a number of agricultural leaders in their interviews. The farmers' markets in the county and in the metropolitan area were seen as very strong, and some experts noted that they probably have more demand for farmers to participate than farmers willing to participate. Interviewees also noted some programs provided by the Minnesota Department of Agriculture, including "Minnesota Grown" signage and training in organic farming.

Another indication of the availability and use of marketing programs in the county is revealed in the survey of landowners. Agricultural landowners were asked about their perceptions and use of possible marketing assistance programs in the county (Table 8). The large percentages of respondents who are "not sure" or did not respond to the questions about marketing programs provided (ranging from 48% to 59%), along with those who reported not using the programs (ranging from 9% to 12%), suggest that these programs are not broadly provided to the farmers in the county. Of the marketing programs that were operating in the county, survey respondents found programs focused on marketing to wholesale consumers and those for processing crop or livestock products to be the most useful (24% each said they were either very useful or moderately useful). No other program was rated very useful or moderately useful by more than 15% of respondents. These numbers seem to indicate that few, if any, programs are running in the county that would assist farmers in taking advantage of the close urban markets (e.g., programs to help farmers market directly to consumers or develop other agricultural enterprises).

When asked whether these same marketing programs should be provided to assist farmers (regardless of whether or not they are currently provided), the highest response from survey respondents was for programs that assist farmers in marketing to wholesale markets and processing crop or livestock products (38%) (Table 9). More than a third (35%) also supported programs to help farmers diversify or add new products. No other program received support from over a third of the respondents.

Table 8: Dakota County—Agricultural Landowners' Perceptions of Assistance Programs						
Possible assistance program	**Not operating in county**	**Very useful**	**Moderately useful**	**Somewhat useful**	**Not at all useful**	**Not sure or did not answer**
N = 114	——— *Percentage* ———					
Marketing directly to consumers	10	7	7	12	8	56
Marketing directly to retail markets (stores, restaurants)	12	4	7	8	15	54
Marketing to wholesale markets	9	9	15	8	7	53
Developing other ag enterprises (e.g., ag tourism)	12	5	4	6	14	59
Diversifying or adding new products	10	3	8	9	14	57
Developing value-added products (bagging, packaging, bundling, precutting, etc.)	12	2	3	7	12	64
Processing crop or livestock products the farmer raises	9	9	15	8	11	48

Table 9: Dakota County—Agricultural Landowners' Preferences for Whether Assistance Programs Should Be Operating in Dakota County				
Assistance programs	**Yes**	**Maybe**	**No**	**Not sure or no response**
N = 114	——— *Percentage* ———			
Marketing directly to consumers	31	31	11	28
Marketing directly to retail markets (stores, restaurants)	32	32	12	25
Marketing to wholesale markets	38	27	11	24
Developing other ag enterprises (e.g., ag tourism)	21	26	18	34
Diversifying or adding new products	35	30	11	25
Developing value-added products (bagging, packaging, bundling, precutting, etc.)	22	25	15	39
Processing crop or livestock products the farmer raises	38	26	10	26

*Text of question: "Whether or not these programs are operating in the county or functioning effectively, do you believe that in Dakota County there *should* be programs to assist farmers with [type of assistance program]?"

Opinions about the Future Adequacy of Market Outlets in Dakota County

Finally, we asked agricultural leaders their opinion of how adequate agricultural marketing outlets will be 10 years from now, or in 2015. All but one of those interviewed felt that marketing outlets would remain adequate, and that there may be slight changes to focus on urban markets. Dairy was one of the weak points mentioned.

> I think they [markets] will be adequate. There are plenty of grain elevators and two livestock auctions near us. There will be opportunities for direct marketing. My only worry is the dairy sector.

[Markets] will probably be adequate. Clearly agriculture will continue to the south of here, and there will be access to those markets. There will also be more market opportunities in the metro area.

I think they [markets] will be adequate. They may switch to different types of marketing, but we are so close to hubs and markets. We will be fine.

That is an easy question—[agricultural markets] will be adequate. All the big companies are close by. I don't see a huge change.

For the little guy, the livestock market will be problematic. For grains, it won't be such a problem—they are already bypassing the local elevators to get their stuff out.

The markets will be adequate. But, for instance, the loss of the alcohol plant in St. Paul weakened the market. I would hate to see more of those go away. With being near the river, though, we will always have markets. The question is whether they will be profitable and competitive.

Markets will continue to be adequate. We are well positioned with the waterways and the highways.

B. Inputs for Agricultural Production in Dakota County

Current Adequacy of Inputs for Agricultural Production in Dakota County

Another area of interest for farm viability is the issue of non-land inputs (e.g., credit, chemicals, machinery) for agricultural production and whether they are readily available for producers in the county. Among survey respondents using various inputs outlined below, few landowners seemed to have problems with the availability of production inputs in general (Table 10). The most-used inputs were goods and services from implement dealers (80% of respondents) and seed suppliers (79%), with most respondents reporting that these were available most or some of the time (93% and 95%, respectively). Following close behind in terms of most used were farm chemicals (74%) and family labor (70%). While 95% of farm chemical users responded that the input was available always or most of the time, only 71% reported the same for family labor.

Table 10: Dakota County—Availability and Use of Agricultural Production Inputs

Type of input	Percentage of respondents (*N* = 136) using input in 2005	Availability			
		Always	Most of the time	Some of the time	Rarely or never
		—Percentage among users—			
Bank or other credit	64	76	16	3	5
Family labor	70	45	26	20	8
Nonfamily labor	51	24	29	33	14
Seasonal labor	38	25	24	33	18
Year-round labor	26	51	23	14	11
Farm chemicals	74	81	14	5	0
Water for livestock or crop irrigation	63	88	7	5	0
Services of a large-animal veterinarian	51	74	16	4	6
Goods and services from implement dealers	80	77	16	6	2
Goods and services from seed suppliers	79	85	10	4	1

Other labor (nonfamily, seasonal, and year-round labor) had the highest percentages of respondents reporting that it was available only some of the time, rarely, or never (47%, 51%, and 25%, respectively). Agricultural census data from 2002 show that approximately 34% of farms in the county had at least one hired worker. However, few farms had many hired workers; 11% had at least three hired workers, and only 2% had at least 10 workers.

Interviews with agricultural leaders supported these results overall, with some disagreement on labor. Credit and choice of credit sources were generally viewed as adequate, although with qualifiers. Some vulnerability was seen for younger farmers that had already maxed out on credit, and possibly producers of niche products. Equipment dealers, chemical dealers, and other services (such as large-animal veterinarians and services specifically for livestock operations) were also reported as adequate, although with some transition in the nature of their businesses.

> Private credit is adequate if you can get it. If you have assets (land) you can get it.
>
> The other part is that people feel more comfortable going online and going farther to get what they need (in equipment). Taking time away from the farm for this stuff was hard 25 years ago because there was so much livestock on the farm. Now there is not as much livestock on the farm and they have more time to drive places to do it. They are also drawn to the larger implement dealers, just like a consumer who is drawn to the larger department stores. There are no less parts and service, just fewer dealers. It may be a hard change to think about, but people are not going without.

Interviewees, although they saw a change in the labor force for agriculture, thought the labor market was adequate; one exception in dairy is noted below. These interviewees deviate a bit from the farmers' opinions in the survey.

> Labor is available. Of course, some of it is immigrant and a lot of milking is done by immigrants. There is a ready workforce here. In the suburbs there are a lot of young people in affordable housing. These people are in the service industry and some of the first to be laid off and so sometimes they find themselves milking cows.
>
> I've seen changes in this, especially in dairy. They are not using family labor anymore to do the milking, they are hiring labor. Even in row crops you are seeing more hired labor.
>
> The [labor force] seems pretty good. Some dairies have trouble finding enough milking labor. And labor is expensive here because it competes with the urban market for labor.

One important input for farming operations not asked of survey respondents was the number of new or young farmers entering the sector. Although most interviewees felt generally that the number of new farmers was adequate, some concern was raised about the future generation of farmers.

> There are only a few younger farmers entering that I know of. A couple of kids have gone through the two-year agriculture technical training and come back. But I don't know if they will be able to make it. Will they be able to support a family or the farm?
>
> [The adequacy of new farmers] is pretty low—you have to be a descendant, really.

> [For new farmers] I do believe that with the land prices, the capital purchases are too much. If a farmer is not going through the family to get the farm, someone looking to start up is going to have steep costs.

> I don't see it as much as years ago, but the area still has a strong agricultural background and the generation coming up has an interest and desire. They may not see it as profitable, however.

> Yes, we have younger farmers: Lots of continuation of farms to the next generation.

Opinions about the Future Adequacy of Inputs for Agricultural Production in Dakota County
Although we did not ask survey respondents about their opinion of the future adequacy of the agricultural inputs in 10 years (or in 2015), we did ask agricultural leaders for their opinion. Below is a synopsis:

(1) Equipment, chemical, and other dealers providing inputs and services to the county's farmers were seen overall as being adequate in 10 years, although with some qualifiers by interviewees. Some noted that they would be adequate in the southern portion of the county where most felt agriculture would still be viable. A couple of interviewees felt that they would be struggling.

> They will still be adequate but will start diminishing at that point.

> They will be adequate on the southern end of the county.

> They are in good shape. I anticipate they would be adequate.

> Most will be adequate. One area I am most worried about is the large-animal vets. The whole state already has a problem.

> In terms of the inputs, in the transition areas we will have less and less support for agriculture overall. As you move farther south, inputs will be adequate.

> The policies of most of the manufacturers now is that they would like to have as many service locations out there as there are now, but they only want to deal with a dealer that is running multiple locations. It may come to a point where we have fewer dealers than before and someone might have to drive a few extra miles. It is not a hardship, I think. I think they will be fine.

(2) Most interviewees felt that labor would be adequate, although they questioned both the expense and skill of labor and the impact on dairies especially.

> There is a large Hispanic population in Northfield now and dairies use that labor. It will be adequate. Maybe the quality won't be great, but it will be adequate.

> I think it will be fine. I think labor will become much more expensive, though.

> This has been an issue in milking. I don't know. There are plenty of people available but whether they'll want to work as farmers? Migrant labor seems available. If that keeps coming, we will be fine.

That has changed a lot. A lot of the farmers are running bigger equipment because they cannot find the labor. The big dairies have Mexicans doing the milking. This will continue to be tight.

I think it will be adequate. We will have less livestock and more crops and the new machinery makes it less labor intensive.

(3) Credit was overwhelmingly seen as being adequate into the future.

(4) There were mixed answers as to whether there would be new or young farmers willing to be farm operators 10 years from now. Some thought it would adequate, while others felt that only those who were next-generation farmers would be successful. Interviewees were very split on this question.

I don’t know. There are guys my age (50) who are wondering who will take over their farm. You won’t see a lot of new people. Farms will just get bigger, and you won’t need as many farmers. To begin in farming now is just too expensive.

Although the age of farmers is in the late 50s, I think it will be adequate. Families here have two incomes because of the urban areas. That is the advantage to this area. They can farm and have the amenities and benefits of an urban area. Farms that are viable in the area are attractive to new farmers.

No one that hasn’t been a farmer will be one. It will have to be intergenerational.

When I look at farming here—if you asked me about whether it would be the only source of income, I’d say no. But dual income with a hobby farm, yes.

They will be adequate. There will be more people interested than will be able to.

I have been teaching for 35 years. There are more kids who want to farm than can. There is a desire there, but a lot will depend on the economics. Mom and Dad will have to help with money. Land prices are too much. And it’s getting to be a dog-eat-dog world. It used to be if you rented land for 15 years, no one would have taken that away from you. Not today. If someone offers more, they will rent to them. And those renting often don’t even live here.

This will greatly diminish over time. There has been a steady decline of people owning farms. We will continue to see them as managers, but ownership will decline.

There still seem to be kids going into it. It is almost impossible for someone without a relative because it is too capital intensive.

C. Land for Farming and Agricultural Land Preservation Programs in Dakota County

Current Situation: Land for Farming in Dakota County
In 2002 Dakota County had almost 236,000 acres in farmland, and about 44% of land was leased. From the survey, it is clear that the county’s farmland owners felt that purchasing county farmland was not affordable; only 4% said it was affordable and a full 61% found it not at all affordable (Table 11). In terms of rented land, more survey respondents found that affordable,

but the responses were still overall negative: Only 30% found rented land either very affordable (only 2%) or affordable, while another 53% found it not very affordable or not at all affordable.

Table 11: Dakota County—Survey Respondents' Assessment of the Affordability of Farmland to Buy and Rent in 2005					
	On the whole very affordable	Affordable	Not very affordable	Not at all affordable	Not sure or no response
N = 114	——————Percentage——————				
Farmland to purchase	0	4	24	61	12
Farmland to rent	2	28	35	18	18

Interviews with agricultural leaders reinforced the survey responses. At that time agricultural land seemed to average between $6,000 and $11,000 an acre for lands outside the area being developed in the north. One number provided was $7,000 for an acre of land that would not have sewer or water for at least 40 years. Land in the north of the county was being sold for anywhere between $30,000 and $100,000 an acre. In terms of leased land, one interviewee noted that irrigated land is going for $130–$200 an acre depending on contracts and specialty crops, while dry land is going for $85–$130 an acre.

Here are some comments agricultural leaders made about the current availability and affordability of farmland (the adequacy of farmland for farmers). Particularly notable is how 1031 exchanges[11] are impacting prices for agricultural land in the southern portion of the county.

> There isn't a lot of farmland for sale. I don't think it is adequate. The younger people cannot get into it because of either the cost or the availability. I know some people who have left and gone to Wisconsin where land prices are affordable. There isn't a lot of annexation going on, but some cities are starting to develop. People are being bought out for $70,000 an acre. Those people need to reinvest and they are moving 10–12 miles into southern Dakota County or to other counties. Land eight miles outside the city limits is getting $25,000 an acre and you cannot buy that and produce enough corn to cover the costs.
>
> There is no such thing as adequacy of farmland. The urban sprawl has such an influence on farmland. It is nearly impossible for people to buy land for commodity production, unless they are already established, and then probably as an investment in land more than for production sake.
>
> Farmland isn't adequate at all. Anything available is either scooped up by a neighbor or a developer. Of course, this depends on where it is and how pristine it is. No one could start farming here.
>
> Because we are so close to a metro area, it is not viable in terms of land costs. It is three times higher than in other parts of Minnesota. People are willing to commute to the metro area so they buy land out here. This really makes a difference because it is almost impossible for the next generation to buy land.

[11] 1031 exchange is a transaction under U.S. law that specifies that if an asset (usually some form of real estate such as land or a building) is sold and the proceeds of the sale are then reinvested in an asset of a similar kind (*like kind* asset), then no capital gain or loss is recognized, allowing the deferment of capital gains taxes that would otherwise have been due on the first sale. This law is defined under section 1031 of the IRS Code, 26 U.S.C. §1031.

> The adequacy of farmland depends on where the land is located. Near the fringe—on the north—the farmers have millions of dollars. They can buy many more farms. It is more of a challenge in the south because of the expense of the land.
>
> It is very hard because of the competition (we have very competitive farmers in the county) and the land costs for new farmers to start. It really isn't a reality. The 1031 exchanges are screwing up everything. They don't care. Land should really sell for what the land can produce, but with the 1031 exchanges, this is not going to happen.

Programs to Support Farmland in Dakota County

Since 1982, local governments in Dakota County have been using a variety of programs to protect farmland. Local zoning laws in Dakota County townships are the most notable and have to this point seemed to slow down urban sprawl. Agricultural tax incentive programs have also been used to lower the cost of business for farming. Unlike many of the counties in the study, the agricultural easement program is new to Dakota County, having started in July 2003.

(1) *Agricultural Easements*: Dakota County's farmland easement program is young compared to many of the counties in this report. County leaders established the Dakota County *Farmland and Natural Areas Program* (FNAP), which was funded by a $20 million county bond referendum passed by voters in 2002 and matched with funds from other sources. The program covers easements for both farmland and natural areas land. A citizens' advisory committee plays a significant role in the program. Recently, the county approved using some FNAP funds to acquire permanent easements and restore agricultural lands in conjunction with the Minnesota Conservation Reserve Enhancement Program (CREP II).

The FNAP program targets farmland within one-half mile of Department of Natural Resources' rivers and streams outside the areas planned for extension of city sewer and water by cities (the Metropolitan Council's 2040 Municipal Services Area). Eligibility also includes that the land be in an area zoned for a maximum of 1 unit per 40 acres (1:40). The agricultural land must also be consistent with the township or city land-use plan policies. At least 75% of the area with a history of agricultural use must have soils classified as category I or II by NRCS or have irrigation infrastructure. There are other eligibility requirements.[12] Dakota County staff have identified about 36,000 acres of natural areas and 42,000 acres of farmland that are eligible for protection under the program. The goal of the program is to protect 5,000–10,000 acres of priority farmlands and natural areas in Dakota County over the next 10 years.

By January 2008 the county had negotiated 20 permanent agricultural easements for a total of 2,216 acres, with another eight projects in various stages of completion (approximately 1,500 acres).[13] In addition, 14 natural area projects totaling 888 acres with many more in various states of completion.

[12] See Dakota County Office of Planning, n.d., *Farmland—Land Owner Fact Sheet*: see http://www.co.dakota.mn.us/planning/fnap/F_Fact_Sheet_web.pdf for more details.

[13] Dakota County: http://www.co.dakota.mn.us/CountyGovernment/Projects/FarmlandNaturalArea/News+and+Program+Updates.htm (accessed February 29, 2008).<<AU: make Web site "live">>

(2) *Zoning*: In Dakota County, the townships are responsible for zoning rural areas, and 12 of the 13 townships have zoned the land at one dwelling unit per 40 acres. However, townships administer zoning differently. Some administer it simply with one house per quarter of a quarter section (i.e., one-fourth of 160 acres). Some have 1:40 districts, but owners are allowed to cluster (approximately four townships allow clustering), while others do not allow clustering.

(3) *Tax Benefits Program*: The *Metropolitan Agricultural Preserves Program* (APP) started in 1980, and it allows farmers to participate in the program for tax benefits. The APP program is a voluntary program funded by a $5.00 county-level fee on mortgage registrations and deed transfers. The program is implemented by the local governments that have planning and zoning authority. Land eligible for APP must be zoned for long-term agricultural use and 1:40. There is at least an eight-year commitment on the part of the landowner (an eight-year expiration period). Those enrolling in the APP program have their land valued as agricultural land, rather than its market value, and landowners are provided with a $1.50 credit per acre. Special assessments are prohibited for public improvement projects including sanitary sewer systems, storm water sewer systems, water systems, roads, and other improvements. Farm management practices are protected because the law prohibits local governments from enacting or enforcing ordinances or regulations that restrict normal farm practices. In Dakota County almost 60,000 acres (or about 29% of farmland acres) were in the APP in 2007 (peak enrollment was almost 65,000 acres in 1998).[14]

The *Green Acres Program* was created in 1967 and greatly amended in 1969. In this program, farmland owners who maintain certain agricultural practices (which can provide minimal agricultural income but needs to be on their homestead) pay taxes on the land as agricultural value. However, landowners are also given a market value, and when they leave the program, they have to pay the difference between what would have been their taxes based on market value and what they paid based on agricultural value for the last three years. They may also have special assessments deferred (such as water and sewer), but these also need to be paid when they leave the program. In the APP program, local areas cannot assess improvements to farmland. In Green Acres, assessments can be made but payments are postponed until they leave the program. The benefit to the farmer of the Green Acres program is the lack of the eight-year commitment of time as there is in the APP. In addition, farmers apply to the county, and they do not need to go through the local community. In Dakota 117,000 acres were in the Green Acres program at the end of 2004. The northern area and cities have more acres in Green Acres than APP.

(5) *Right-to-Farm*: All the townships have nuisance ordinances and have adopted the right-to-farm ordinances.

Opinions about Farmland Programs in Dakota County

The surveyed farmland owners were asked their opinions of the various policy tools in Dakota County affecting agriculture and farmland in the survey. The *purchase of development rights program* received the support of a little over 50% of the respondents, with only 16% “strongly”

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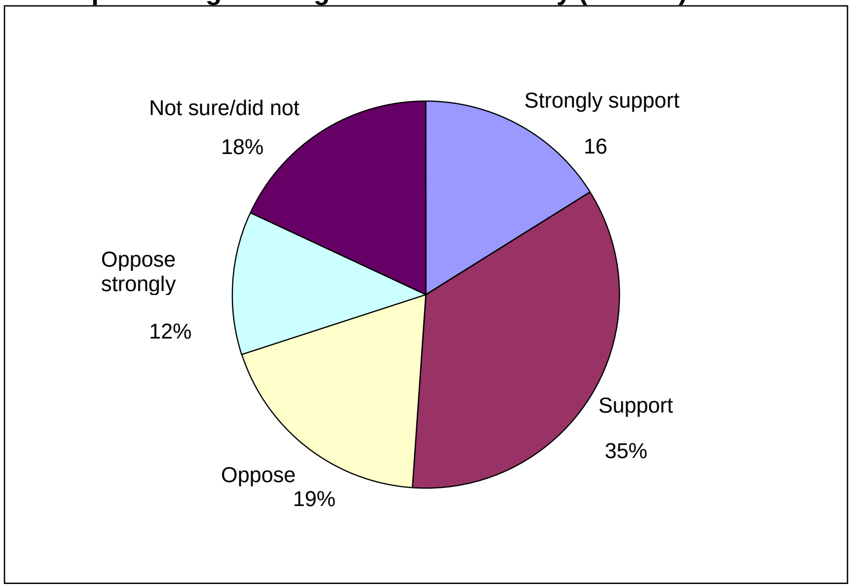
[14] See State of Minnesota, Office of the Legislative Auditor, 2008, *Evaluation Report: “Green Acres” and Agricultural Land Preservation Programs*, for a recent assessment of both the Metropolitan Agricultural Preserves Program and the Green Acres Program: http://www.auditor.leg.state.mn.us/ped/pedrep/greenacres.pdf (accessed April 21, 2008).

supporting the program and 35% supporting it (Figure 1). Almost a third opposed or strongly opposed the program. The program is still fairly new compared to some of the other case-study sites, and this level of support by farmland owners in the county suggests such.

Figure 1: Dakota County: Survey Respondents' Support of Purchase of Development Rights Programs in the County (*n* = 136)



Agricultural leaders were asked their opinion of the effectiveness of the agricultural easement program to assist in keeping agricultural viable in the county. As noted earlier, the program is still relatively new compared to those operating in other counties covered in this study. The comments reflect the newness of the program and the major concerns of those in the county.

> I believe that the people who currently have sold their easements will be able to maintain agriculture on their land. There are opinions either way as to whether they will stay in agriculture or whether it will just be open space. But those people are continuing to farm. Dakota County is the only county in Minnesota with a PDR program. Others are starting to get interested in it. But we have a phenomenal tax base—that is why we were able to do the $20 million bond. The northern end has lots of money and the density is huge.
>
> I think that the program fits the area—it addresses natural resource protection as well as farm protection. The strength is the design: It isn't just protecting farmland but also other things the general population is interested in (natural resources).
>
> Will it really make a difference? That is yet to be seen. We only have 10 farms that have participated thus far. The philosophy is to get contiguous segments of land for a geographic barrier.
>
> It is very well grounded in citizen involvement and well promoted. There was a solid citizen process. Because of the booming economy, the development was very apparent to the public.
>
> To preserve farming, we really have a need to preserve large blocks of land from development. Other programs, like those in Pennsylvania, are set up so that the programs are picking up key

parcels that will help preserve other parcels. This would be helpful here. But the approach that Dakota County took, with one-half of farmland and one-half of natural resource lands, to sell the program to the public, it means that further down the criteria list is the ability to protect other tracts of farmland. So there is a question as to whether it will, in the long run, block development. I think that in the long run, you still need a program such as the Agricultural Preserves Program.

This is the question that everyone wants to know—how effective the program will be in providing a viable agriculture sector. I wish I knew. In 2002 I wasn't so sure. Now we are finishing the third round and we have the potential to have 2,500–3,000 acres in easement. Fifty years from now, maybe agriculture won't look like it does now, but it will still be here. There will be viable agriculture, and this land will help. Even if the land isn't in soybeans and livestock, it could be hobby farms, vegetable crops, or horses. Land use may change, but it will be agriculture.

In terms of its importance to agricultural viability, if we had an unlimited checkbook, I'd say yes. But we don't. One-half of the money goes to the natural areas. Ten million dollars won't go far. I wish we were buying easements at the land values of 20 years ago. Some think Dakota County is already lost, but I don't like to think that way. If we can continue to get money from the federal and state sources, we will bump along, but we won't be saving thousands of acres. The 3,000 acres we might save won't save agriculture here.

The program is so new, it is hard to tell how effective it will be in keeping agriculture viable. There are opportunities there, but I'm not sure of its long-term effectiveness. It will take a few years to see how well it works. It is an interesting question. The idea started out trying to preserve farmland, and then there was buy-in from the public and it moved to natural resources. Those farmers who are part of the program seem to be happy. Those outside the eligible area are not as happy because they cannot take part in the program. There is some debate among farmers as to which lands were put in and which were not, and whether it is viable. For instance, some say some of the lands that are allowed to be part of the program are too close to the metro area and these should just be developed.

We were not sure how it would be accepted here. Farmers are a conservative group. The suburbs voted for it more heavily than the rural areas. Yet we had people sign up and those people really amazed me—2003 was a good year because we had a lot of applicants. There were 10 applicants. In 2004 there were 8, and in 2005 there were 35, with 14 being farms. And there were some naysayers who signed up this year. It is catching on. They are feeling it is enough money for them—these are people who don't want the development value but want to continue farming and they feel it is enough. And some large acreage, too. Some said it wouldn't work, but it is starting to look like some viable stuff may be going on.

These easement programs just touch on the land that is needed; they don't protect a lot of the land that needs to be protected. These programs are expensive—you cannot protect very much land with $2 million a year. On top of that, people want to access the land that they protect through the public program. The urban people who wanted the money to go to the program want it to go to natural areas that they can then use. It is really more of a natural areas protection program than a farmland protection program.

I think it is important. There seems to be more interest in the program than I thought there would be. I'm not sure if 35–40 years from now whether those that are signed up in the program will be able to remain viable—will they be sitting in the middle of development? I sure hope the generations that follow will be able to continue to make a living on the land.

[How effective do you think the easement program will be in helping keep a viable agriculture sector in Dakota County?] That is THE question. The only way to guess is to look at where it has been successful out east. If a dedicated group of people end up on the land and the farming continues, it will be more successful. But it is hard to know right now. It will be the forces of what the people want—those that want to maintain the rural character versus people who want to tap into the high value of the agricultural land. I think that they can set up some areas in Dakota County that become stable rural areas, but they cannot have it all.

Table 12: Dakota County—Survey Respondents' Assessment of Policies Affecting Agriculture and Farmland

Type of policy and goal	Never heard of policy	Policy not helpful	Policy somewhat helpful	Policy moderately helpful	Policy very helpful	Not sure or did not answer
N = 136	———Percentage———					
Agricultural tax assessment	2	4	15	13	60	5
Right-to-farm law	13	3	26	15	28	16
Zoning restrictions	1	15	26	13	41	4

Of the policy tools, a*gricultural tax assessment laws* (specifically the Green Acres and Metropolitan Agricultural Preserves programs) were seen by survey respondents as being the most helpful, with 73% reporting them as either "very helpful" or "moderately helpful" in keeping property taxes at acceptable levels (Table 12). Only 4% said they are not helpful. A few agricultural leaders knowledgeable about the programs were asked their assessment of the different programs.

I think up until the last five years the Ag Preserves Program/Planning and the zoning have been very effective at preserving the agriculture sector. In the absence of this, it would look very different—there would be less acreage to preserve in PDR.

The APP has been very valuable. The townships are designating it as long-term agriculture and they are serious about keeping it in agriculture. But much of the southern area is still preserved and I think much of that is due to APP. It has made an impact, and that comes as much from the program and the elected officials that are committed to protecting farmland. I expect this to change over time, though. There is a distinct line right now between townships that want to stay rural and those to the north. I don't see any changes to the APP program except possibly an increase in the credit (the $1.50 credit).

We are seeing a lot more requests for expiration of the APP in Dakota County. Expirations on properties on the edge of the urban area are starting to show up. My perception is that we are absolutely seeing more expiration than before. It used to be that farmers put in their expiration notice as soon as they signed up. They would come out and then re-enroll. This seems to be changing a bit. I think enrollments will really be in decline in the next decade. Some landowners that have been in APP will likely move to Green Acres because it does not have the eight-year expiration.

One strength of the APP is the required local planning—this establishes the basis of land use. It is an advantage over other programs in the nation. It sets and guides land-use decisions. The fact that the lands are designated in the plan may actually protect them from rezoning. There are many disadvantages to the plan. A top disadvantage is the funding formula to calculate and provide voluntary enrollees with the property-tax benefit. Currently they look at either the local tax rate or

> 105% of the statewide tax rate outside the metro area. They take the lowest. In the 1980s, the statewide was much lower and the average property-tax savings per acre was about $10.00. This started to decrease in the 1980s. Then the local was the lowest, and it was basically no different and there were no tax savings. In the 1990s the APP was amended so that there would be a minimum $1.50 per acre tax benefit. That is what they are getting now. It is not much of an incentive.

> [How effective is the Agricultural Preserves Program (APP) in staving off development?] Quite effective. Maybe half the farms in Dakota County are in the program. The reason there are not more farmers is because there is also the Green Acres Program that shelters the land but does not have the eight-year commitment. You also do not need the 1:40 zoning for Green Acres, so it is more flexible. You can sell your land at a moment's notice. More people would be in the APP if it were not for the Green Acres program. If you are looking at models to use, the APP is a great program from an agricultural preservation standpoint. The city and townships must also agree to put the land into the program. From my perspective there is the community buy-in then. It also protects farmers from assessments for sewers and improvements. Another small element of the APP that used to be important is the $1.50 per acre tax credit. It used to be a larger incentive many years ago. But they haven't increased it for inflation. If you were looking for recommendations, mine would be that it should be a tax payment that would be more meaningful.

Survey respondents also felt that the *right-to-farms laws* have been helpful in protecting farmers against unfair nuisance complaints, although at a lower rate than the agricultural assessment laws (Table 12): 43% reported them as either "very helpful" or "moderately helpful" and only 3% said they are not helpful at all. Among agricultural leaders interviewed, there weren't strong feelings about the regulations, although some saw the regulations as supportive of the agricultural sector, while others saw them as untested.

> There was a right-to-farm ordinance that went out to the townships and each one I think adopted them. I cannot tell you which townships have them—at least 5–6 of them state that this is an agricultural community, that you might smell odors if you are coming to live here, etc., and that you should be prepared for that. I don't know how effective it has been to keeping a viable agriculture sector. It isn't meant to keep a viable agricultural sector, but more for the protection of the townships and farmers from lawsuits.

> I think that all the townships have the right-to-farm regulations. I'm not sure if they would hold up in the court of law. They do put people on notice who are moving into the area that there is agriculture in the area. But I'm not sure how effective they are at mitigating complaints.

> Some of the townships have passed right-to-farm ordinances. I think they are okay. Most townships, though, are ruled by agricultural producers. So when people complain, they are shown the door. Most pro-development people who get on the board are usually voted off in one term.

> It would be hard to measure the effectiveness of the state provision. In 1999 we had an evaluation of agricultural programs, including agricultural preservation programs, differential taxation, and the nuisance provision. They found that hard to measure. But I have gotten more and more calls from farmers doing livestock with subdivisions going up around them. And the right-to-farm or notifications are the only thing they have to hold onto. There is a lot of stock in right-to-farm because there isn't much else to hold onto. But how do you measure the effectiveness?

> The right-to-farm ordinances are common. People who have moved out here do seem to understand the issues. It has been more of a morale boost for farmers. But I don't see a lot of complaints coming in.
>
> They appear to be pretty successful, but they are not tested. It really isn't a major issue here.

Finally, in terms of whether the *zoning restrictions* are helpful in maintaining an adequate supply of land for farming (Table 12), 54% of survey respondents reported them as either "very helpful" or "moderately helpful," 26% said they were "somewhat helpful," and 15% said they are not helpful. All the agricultural leaders interviewed felt that the 1:40 agricultural zoning has been and is a very effective tool to preserve land in Dakota County. However, many of the leaders mentioned the pressure that is building from development and questioned the long-term sustainability of the zoning.

> The 1:40 has stuck amazingly well since 1980. The integrity is quite high with some exceptions. But the reason we did the PDR program is because we saw the writing on the wall. The pressure is getting too high. The agricultural zoning is just a temporary measure. The inside story is that we know that growth is going into the townships and it is just a question of when, not whether, the pressure will happen.
>
> So far it has been very good. It actually surprises me that townships have kept to their guns. I don't see it changing immediately. But there are a lot of external pressures coming. Each township does it differently.
>
> I think up until the last five years the Ag Preserves Program and the 1:40 zoning has been very effective at preserving the agriculture sector. In the absence of this, it would look very different—there would be less acreage to preserve in PDR. But we've gotten to where 1:40 is less attractive—it is less effective due to the density. There is still 1:40, but you see parcels sized much smaller and people are starting to fill in. So if you are putting in a livestock operation, you are going to find it hard to put it in with that type of density.
>
> It really depends. What we are seeing is that the zoning is good but there are too many exemptions granted. Farmers want to maintain farmland and farming, but as they get older, they also want to have the right to sell their farmland. Some of them have sold some land and have run into conflicts with neighboring farmers because of what was developed next to that farm's land. Maybe 1:40 is not enough?
>
> We don't have land-use authority except for floodplain areas. The townships are determining their destinies. But they are facing incredible pressure, especially the land on the edges. For example, the Metropolitan Council is expanding their sewage lines. They are going to pump through two townships in Dakota County—this part is difficult and the townships are not ready for this. Some of the piping is proposed to go through farmland that is currently applying to the easement program. Some townships are holding well with the agricultural zoning, but not all the pressure is coming from Minneapolis. Some [of the pressure] is coming in the south from those jumping over the middle area and buying land in the south.
>
> Three townships were asked to break the 1:40 zoning to 1:20 or something like that by some landowners, but they have held the line and I have to give them that. Are they going to be able to continue? Some people say you are only one election away from those kinds of changes. Most

town boards, though, have good agricultural representation. I think they will be able to hold the line, but the pressure will become more of an issue.

1:40 is always called a minimum, and that is true here. Some say if you don't do 1:60, you won't save farms. And that seems true. I think houses are close together in Eureka—it has the feeling of big house developments. In the south, they still have large tracts of farmland left. 1:40 is an indicator of the mindset of the township—they have not been used up in the south, but they have been used closer to the north. It has been successful until the last few years.

[In terms of farmer support] it has a good 20- to 30-year track record. As communities gear up for the next planning cycle coming up, it remains to be seen if this will change. I know that the communities I am working with now will be happy to have it stay at 1:40—even Empire Township, the most urbanizing township. Empire has put a line down to protect agriculture around them. And one of the biggest threats is cities annexing land. This is only going on a little bit on the edge communities. The majority will likely stay with the 1:40. Twenty years ago, the biggest concern from farmers was the length of commitment for the Agricultural Preserves Program. Folks said they would be retiring, for instance, and didn't like the longer commitment to get the credit. But once you get past the area where there is land speculation, farmers want the program with credits so they can preserve the land in agriculture. And these lands are being turned over to the next generation. It is the area with land speculation that is problematic.

Townships are holding the line with the agricultural zoning. There is less conflict in the southern area. The success of agricultural zoning has been extraordinary in the southern communities. Those near the line of growth—they don't see as much agricultural preservation.

It has been effective. If the land was not zoned 1:40, we'd have developers really in our faces. We do see one unit per 40 popping up everywhere—some are going into corners of land that has not been able to be irrigated. Some of these two-acre sites in rural areas are going for $150,000–190,000 per two acres—people want the rural landscape where they know that people won't be right next to them. Farmers seem supportive of the zoning right now, and they do not seem interested in overturning them in the elections.

As a summary I'd say, then, the mandatory planning requirement and the 1:40 zoning must be doing something dramatic in absence of the county support systems in Dakota County.

It has been hugely effective. Without it, it would be very different. And there are two programs connected to it—Green Acres and the Agricultural Preserves Program. I think the zoning is what has kept it. But you can see the pressures there now.

If different people get elected to the boards, it could make it go faster toward urbanization. I think it will be a slow change—but in 20 years I would expect it to be different. It works now, though, because the people who come and live out here don't want anyone else coming out after them.

Opinions about the Future Adequacy of Farmland in Dakota County

Agricultural leaders were asked their opinion about whether they thought farmland would be adequate 10 years from now, or in 2015. Most people interviewed thought that the land would not be adequate, although a few interviewed felt that the farmland would be adequate in 10 years.

A number of agricultural leaders described the 1031 exchanges[15] being done in the county, and the movement of farmers into other counties or even states.

> There are not enough total acres for someone who wants to farm on their own. Land is now being purchased by developers. Big farmers are selling their land and moving to southern Minnesota. It will not be viable for a new farmer.
>
> It will be adequate, but it’s hard to say. It is so polarized right now. You have the development at the top and then you hit total agriculture. There will be less land as it heads south. But the northern farmers have so much money, they are purchasing the farmland in the south for farming.
>
> There will not be enough available. I think it won’t be feasible for people to buy land.
>
> Yes, definitely it will be adequate. Attrition is happening, but at the margins, not in the main agricultural area. The implement dealers, creameries, and elevators will still be there. Farmers may have to change the way they get things and orient themselves more to the south (Iowa). Development is happening north to south.
>
> It is not going to be adequate. There is going to be increasing development pressure.
>
> There won’t be any available—only family land will be available.
>
> It won’t be in Dakota, unless something happens to the 1031 money. The only land being bought in 10 years will be with 1031 money. People won’t be able to add to their land base in the south. Land is already getting scarce.
>
> It won’t be adequate. It isn’t adequate now, so I don’t think it will be 10 years from now. Many are moving now to southern Minnesota or leasing land down there instead.
>
> This will continue to decline. It is a tough one to answer—both yes and no. The number of farms will be less and they will have enough land, but there will not be enough land for everyone that will want to farm. Those folks may need to relocate.
>
> For those who want to stay, there will be land. A lot of the land that is there now won’t change hands but will be developed, and those people will buy land elsewhere to farm.
>
> In our county, it depends on what the townships do with the restrictions. If removed, there will be huge demand for housing. I don’t think it will happen, but it could.

Section IV: The Future of Agriculture in Dakota County: Results of the Survey of Landowners and Interviews with Agricultural Leaders

We asked the survey respondents and the interviewees a number of questions to gauge optimism or pessimism about the future of agriculture in the county and their own plans for farming.

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[15] Internal Revenue Service, U.S. Department of the Treasury, Internal Revenue Bulletin: 2004-33: “Section 1031(a) provides that no gain or loss is recognized on the exchange of property held for productive use in a trade or business or for investment if the property is exchanged solely for property of like kind that is to be held either for productive use in a trade or business or for investment”: http://www.irs.gov/irb/2004-33_IRB/ar13.html#d0e16763 (accessed February 22, 2008).<<AU: make Web site "live">>

Survey Respondents Plans for the Future in Dakota County

When asked about plans for farming into the future, 40% of survey respondents said they were planning to be farming in the county 10 years from now, 27% were not planning to be farming, while 32% either were not sure or did not respond to the question. Of those who responded and were below 55 years of age, 81% said they were planning to be farming in the county 10 years from now.

Most respondents do not have plans for changing much about their farm operations over the next five years (Table 13), although there are indications that there will be a net increase in farm acres owned (20% increase versus 7% decrease), the number of livestock (25% plan to increase versus 16% planning to decrease), and the number of separate crops grown (12% plan to increase versus 5% to decrease). Overall, the number of livestock is the area in which most respondents plan to make any change, with only 60% reporting that they plan to keep their numbers about the same. Approximately 57% of the respondents were making at least one type of investment (e.g., farm buildings, irrigation facilities) on their property over the next five years.

Table 13: Dakota County—Plans to Change Aspects of the Farm Operation over the Next Five Years

Aspects of farm operation	Increase	Decrease	Stay about the same
	Percentage		
Farmed acres owned	20	7	73
Farmed acres rented	15	12	73
Numbers of livestock	25	16	60
Number of separate crops grown	12	5	83
Number of separate kinds of livestock	9	10	80
Change in at least one of the five ways above	32		18
	Percentage making changes (*n* = 136)		
Erecting, replacing, or enlarging farm buildings	34		
Building or extending farm fences	22		
Installing or improving conservation or irrigation facilities	40		
Other investments	2		
At least one type of investment	57		

Analysis: Characteristics about the Likelihood to Be Farming in 10 Years

We used regression analysis again to look at what conditions would increase the likelihood that a respondent would continue farming at least 10 years from the time of the survey. The results show that, other things being equal:

- Those surveyed farm operators who transported relatively a lot of their agricultural products (reported as a percentage of gross sales) “to points of sale” more than one hour away from the farm, as well as those who reported a higher number of separate crops being grown on their owned land, were more likely to expect to be farming in the county 10 years from 2005. That is, as the percentage of sales or number of crops increases, so does the likelihood to be farming in the county in 10 years.
- Not surprisingly, as age of the respondent increased, the respondent was less likely to be farming in the county 10 years hence.

- Those respondents who felt they made changes to the farm operations due to nonfarmers living nearby, and that these changes were "for the worse," were less likely to be farming in the county in 10 years.

Another indicator for farm turnover is whether the county's farmland owners have succession plans developed for their agricultural land in Dakota County. In our survey, 30% said they had plans, 18% reported that a plan was under consideration, and 52% said no plan had been developed. Owner-operator respondents were also asked who would likely farm the land in Dakota County once they retired from farming: less than half (43%) said some close relative would be farming the land, and this would be a son, daughter, grandson or granddaughter (39%) or "some other relative" (4%); another 13% said someone outside the family would be farming the land, while 29% were "not sure."

We also asked survey respondents about their plans for developing their farmland 10 years from now (Table 14). Only 39% of those responding said they had no plans to develop any of their lands; over half of these farmers are small acreage farms (1–179 acres). Another 13% said that only 1%–24% of the land would be developed, including almost half of the largest farms (500+ acres) responding to the survey. Fourteen percent said that between 24% and 74% of the land would be developed (with three of the largest-sized farms of over 1,000 acres reporting that they were expecting to develop 50%–74% of their farmland), three respondents reported that they expected to develop between 75% and 99% of the land (all with operations between 50 and 179 acres in size), and a total of 11 respondents responded that 100% of the land would be developed (most were very small acreage operations, but one farm was between 500 and 999 acres, and two are between 180 and 499 acres). Thirteen percent of respondents were not sure whether any land would be developed.

Table 14. Dakota County—Farmland Development Expectations by 2015 Among Respondents

Percentage of farmland expected to be developed	1–49 acres	50–179 acres	180–499 acres	500–999 acres	1,000+ acres	All farms
N = 135	——Number of operations——					
0%	13	18	17	4	1	53
1%–24%	2	8	12	6	3	31
24%–49%	3	2	3	2	0	10
50%–74%	1	2	3	0	3	9
75%–99%	0	3	0	0	0	3
100%	7	1	2	1	0	11
Not sure	1	7	9	1	0	18
Total	27	41	46	14	7	135

Analysis: Likelihood of Farmland Development

Regression analysis was used to see if plausible causal factors made a difference in whether respondents expected at least some of their owned land to be developed. Other things being equal:

- Respondents reporting that they were full-time farmers were less likely to believe that any of their farmland would be developed in the next 10 years.

- Respondents with relatively a lot of total acres owned in Dakota County were more likely to believe that any of their farmland would be developed in the next 10 years (that is, as the acres increase, so does the likelihood).
- Respondents who strongly supported the county purchase of development rights (PDR) program, or who felt that the agricultural zoning polices were “very helpful” in maintaining an adequate supply of farmland, were less likely to believe that any of their farmland would be developed in the next 10 years.
- Respondents who found their seasonal labor needs met at least “most of the time” were more likely to believe that any of their farmland would be developed in the next 10 years. Perhaps this group, using a relatively unreliable source of labor, tended to feel more vulnerable.

<u>Opinions on the Long-Term Viability of Farming in Dakota County</u>

Agricultural leaders were asked what the county’s agriculture might look like 10 years from now, or in the year 2015. Overwhelmingly, respondents felt that agricultural products would change little; many stated they expected it to remain a “corn and soybean county.” Many also noted that while farming would be in the southern end of the county only, it would be good in that section. Overall, respondents felt that there would be little change in terms of farming, other than some continued encroachment by the Minnesota–St. Paul metro area.

> Ten years from now, we won’t see much change. The stability will be there. We have so much farmland in this country, we pay people not to farm. We have more farmland than we need. It is not being consumed at the alarming rate that some want us to believe. The farm economy is suffering because it is overly competitive. We have a lot of farmland in Minnesota. Competition for farmland is internal to agriculture; it is not external.

> In 10 years, there will be no big difference. The reason I say that is because there are thousands of acres in APP [Agricultural Preserves Program] that have to stay in it. I haven’t seen a big influx of requests for expiration of the APP, and until that expiration starts in a big way, there won’t be major changes. There will be changes in some areas bordering cities and there has been some talk of annexation, but I think it will be orderly. The cities still have area to grow. The south should remain in agriculture. Agricultural products will not change in the majority of the county. We will see some more specialized stuff—I know that nurseries and greenhouses are looking for land. We are also seeing an increase in horses/equine industry—but will it sustain if the economy goes south? Grains, soybeans, and corn won’t change. We do not have many dairy farmers anymore. Some are going into beef, but not much. Not many hog feedlots left—those are down to a handful.

> I would say that the older folks who try to hang on to the traditional grain are going to find it tough because the margins are too thin. In 10 years, they will be exiting if their kids are not there to help. In grains, it is hard for someone to come in new. The margins are thin and the capital needs are high. Possibly those who inherit 100–200 acres will do it as a hobby farm. These also might be sold off to the bigger farmers. Some farms will transition to the next generation and be held onto by the kids. If trained in marketing as well as production, they will be successful. The preservation areas will build. I don’t know what will happen though to the land once the farmers exit—what will happen to the 1:40 land? We will see some entrepreneurial farms—the Hmong are growing vegetables, for example. There will be farmettes on the urban fringe supplying the farmers’ markets, typically on smaller acres and done by immigrants. Grains will maintain and some of the bigger farms will absorb some of the smaller acreage.

That is a simple answer. The Metropolitan Council updated the regional policy. The framework looks out to 2010, 2020, 2030. Based on plans sent in from the townships, areas that are now agriculture will be agriculture in 2008. However, some townships are “forgetting” or interpreting incorrectly some of the information. If a township puts 1:40 into development, the council will find that as inconsistent with the comprehensive plan. The council’s long-term site map is based on this—and this maps the infrastructure (water resources, sewage, etc.). The council is currently meeting with local areas to tell them what infrastructure the council is planning or has planned. Townships are getting ahead of themselves with development because the council hasn’t planned for the infrastructure. It should be good for agriculture in the next 10 years because the infrastructure won’t be there for anything else. Those areas have been designated as long-term agriculture and the council will remind them.

For me, the changes will be good. I see patterns starting to form. We see farm families in the northern area—third and fourth generation—who said they’d never sell. But now they are selling and making a lot of money. They are buying in the southern half from people that are ready to retire and maybe they’ve been renting land for 10 years. They get three times the amount of money they would have. Those who were renting are moving out even farther. This is a slow movement. The new money coming into the county—it is good because it is not coming from government programs, but coming from developers. This is not awful. It is letting people improve their lives. The displaced farm families are continuing to farm in the south and with newer machinery. Some young folks that said they didn’t want to farm before are looking now like they might want to do it. Farming is moving gradually away from the metro area.

Agricultural products won’t change much. We will be corn and soybeans. We will see some increase in vegetable and nursery but it won’t be large. There will be an increase in bigger and better-quality country homes. I see us as a corn-and-soybean-raising county.

It is going to be a gradual change with probably a few less farmers. Some acres will be developed—this depends on how much townships allow development. The townships still have acreage limits. Some are having problems—like Hastings—as they cannot develop anymore without improving their watershed and having to address Environmental Protection Agency concerns. They may not be able to do that, so they probably won’t develop right now. There probably won’t be a lot of change in agricultural products. We are mostly corn and soybeans here and that won’t change.

There will be very little or no livestock here—there isn’t much now. The average farm will be larger, but that is really hard to say because it could also be a bunch of small farms. We will still be in corn and soybeans. The farmers will be younger and probably more computer literate. They will also be more credit dependent. Direct marketing probably will grow. The farmers’ markets we have now are growing. Organic has grown in the last five years, but I don’t know where that will go.

Really, I guess I see status quo because farmers are already quite large and agriculture is so strong. I do not think that farms will get much bigger, and probably not much smaller, unless zoning changes, which I don’t see happening. I don’t see a huge change in agricultural products, either. The land prices are too high for hobby farms.

Farms will be getting larger and operating more like businesses. There will be fewer small farms. This is a corn and soybeans area and there are no indications that it will change. It is just part of the Midwest farm base.

We will still continue to see big dairies; we have the processors here. I don’t think we’ll see the 25- to 40-cow operations because these folks are old. And we already do not have a lot of beef. We’ll see cropland but also see an increase in farmers working off-farm for income. We will see townships caving in and doing cluster development. We won’t see $1 million houses on the gravel roads we have—the gravel roads are stopping some of the development. We will continue to see hobby farming.

There will be a very viable agriculture economy. It will look similar and be in corn and soybeans. There will be a trend toward more truck farming, I think, and local food supply. One of my many goals is to keep that option open to supply food for the metro area.

Well, I suspect that there is going to continue to be a lot of pressure on land in Dakota County. If there continues to be good resolve among the leaders (where there seems to still be a lot of support for agriculture), then agriculture will still be good and viable in the southern end of the county. Up north, the land will continue conversion. The wild card is the effect that the PDR program will have on it. I do wonder, however, if livestock operations will be viable over the long run due to the density.

I think the next Farm Bill will really affect the future. The trend toward larger farms and rented land will continue. But it will be more people who have retired or who are working off the farm and moving out to 20 acres or less and farming as a hobby. More houses will be popping out in rural areas. A lot of renters, as people will own land and rent it out.

Currently we have 200,000 acres of good farmland left. Due to development, road expansion, and other things, we are losing about 3,000 acres a year. For the next four to five years, I think you’ll see the trend continuing. Then we’ll have to see a slowdown. There won’t be the demand that you see today for housing.

It will not change much. Some smaller owners will be bought out by bigger landowners. There are currently not many farms under 500 acres. I don’t see massive development into the 13 townships. Some are on the fringe of the growing cities, but the cities have many acres of their own to expand into. In fact, some of the farmers that have requested annexation have been turned down.

The urban areas will continue to slowly expand. There will still be significant farming in the southern area 20 years and beyond. Farming will continue to shift to part-time, except for the large farms. The middle will be squeezed out. There will be opportunities for small farms. There may be some changes in agricultural products, but there will still be a lot of corn and soybeans. We may see a shift to hay because of the increase in horses in the county.

I don’t think it will look a lot different than it does now. In Eureka, there will be big changes. A lot more houses. There are sewer lines coming in. A lot of changes in government will happen. One thing the Metropolitan Council is doing is trying to develop little spokes of development around the area. It looks to me like a battle plan to divide and conquer. There are a lot of developers in that group. The Federal Impaired Water Act will also affect things greatly. It may have an impact of slowing things down a bit.

I don’t see a huge change. Development pressures will slowly decrease the number of acres farmed. We see huge land prices because we see fewer sellers; there are not a lot of people selling their farms right now. How fast or slow development happens will be dictated most by economic

> growth in the county. In terms of agricultural products, in the last 10 years we have seen more vegetable crops for farmers' markets, and we may see more increases in that. It seems like those people are doing pretty well, but they are very hard workers, too. Other than that, I don't see much change.

> We will continue to see steady encroachment on agricultural lands from commerce and industry—mostly residential. Farmers of retirement age are feeling pressures to take the money. Their offspring are not interested in staying. In terms of change in agricultural products, I'm not sure it is enough to say it is a trend, but some farmers are interested in organic and vegetable farming for fresh markets. There is an interest in horses. I think we will continue to see the small-acreage hobby farming with horses.

> There will still be some farming in the southern end. The north, and especially the northwest area, will be all metro area. Farmington and Lakeville will become one city. Farm products won't change. There will be larger farms in both land and milking. The smaller farms will quit farming.

Analysis: Likelihood of a Positive Outlook for Agriculture in the County

To get directly at the issue of the long-term future of agriculture in the county, we asked both survey respondents and the interviewees the question, "Thinking ahead 20 years, what kind of future do you see for agriculture in Dakota County? Would it be bright, modest, dim, or none at all." Overall, survey respondents seemed less than optimistic about the future of agriculture in the county: only 8% responded that the future was "bright," while 40% said it was "modest." Forty percent said the future looked "dim," while only 2% said "none at all" (10% did not respond or responded "not sure").

Regression analysis was used to examine respondents with a more "positive" outlook; we combined the "bright" and "modest" respondents to form a relatively positive group and then hypothesized various causes for their positions. We found that, other things being equal, the likelihood of being in this group tended to

- *increase* if the respondent was very satisfied or moderately satisfied with the profitability of his/her marketing outlets in 2005;
- *decrease* if the respondent felt that in controversies between farmers and nonfarmers, the local county government tended to side with nonfarmers;
- *increase* if the respondent expected a son or daughter to succeed as the operator of the farm;
- *increase* if the respondent felt that the programs to assess farmland for property-tax purposes at its farm-use value rather than at the higher real estate market value was very helpful or moderately helpful in keeping property taxes on farmland in the county at acceptable levels.

All of the agricultural leaders prompted with this question reported dim to bright prospects for farming. The vast majority (11 out of 15) that responded directly to the question believed the future would be modest, while two each believe it will be dim or bright. A few others responded with a qualifier that it would be bright for the farmers who remain.

> Modest. I think if the economy stays strong. We will see more diversification. If agriculture is willing to diversify, it will look fine in the future.

Dim to modest in 20 years, simply because we would have lost 40,000 acres of land by then. The support services will move away. All the land will be very expensive. That is the biggest challenge—how to get the next generation in farming at the high price of land.

I would continue to say bright. I think agriculture is here for many years.

Modest. It really depends on whether they enforce zoning or not. If they do, there will be opportunities for farming.

Modest at best. I think the easement program may have an impact on this

Modest. There will continue to be agriculture for those who are smart enough to find the right markets, and those that can be cost effective. But the encroachment will continue.

Bright for those left. But the metro area will continue to increase and land values will continue to increase. Small farms will be absorbed. It will be the same amount of agricultural production happening today, but it will be on less land with fewer farmers.

Modest—I think it is bound to change because of the growth in the county. There will be pressure on farmers who are getting older—Will the young people be able to keep it up and be profitable?

For existing farmers, things will be good. No one will be starting out from scratch. For example, in Washington County where I also work, they don't get any new farmers and they are about 15 years ahead of here.

Modest, I would say, mainly because of the impact of development. If we continue to grow like we are, we'll look like California.

If a farmer is in agriculture now, I think it is very bright. That would mean staying put or selling for development even.

Modest. I wouldn't want to say dim. Dakota and Carver will be the bright spots for agriculture in the metro area.

In the business perspective, I know people who will be very successful in 20 years—they are entrepreneurial in spirit and they are diversified. As time goes on, the smaller guys will have it harder. We will continue to lose farmers. Every time there is a technological breakthrough, it just puts more pressure on the farmer. The issue is what will be happening globally. Like Brazil producing cheaper goods. I think the challenges will just continue to grow. It will be bright for some people but we will have some people who will lose (traditional corn and soybeans). It will be bright for the entrepreneurs willing to adapt.

I think modest. It does appear that more growth will occur northwest of Minneapolis—that section is growing faster than in the south. And they are talking about putting a commuter train line that way. But unless policies change, sprawl will continue. There is not much confidence in the Metro Council planning, at least during this administration. Much has to happen at the county and local level. We need to have regulation pieces in place (e.g., keep zoning, conservation development) as well as PDR. These need to remain in place.

> Modest. The competition for the land is key. Twenty years from now, the big-money developers may have won out in some cases. The housing market might also change depending on what the economy does.

Another way of getting at the question of future viability of the farming sector in the county was to ask agricultural leaders interviewed whether they would recommend that "a smart, hard-working young person with an agricultural background be a farm operator in Dakota County." Of those who answered the question, the majority qualified that they would recommend it if the person had access to agricultural land (e.g., expected to inherit land or be otherwise helped by family) or had a "bucketful of money" to be able to purchase the land. The qualifiers provide a pessimistic view for the next generation of farming in Dakota County, regardless of how farmers and interviewees feel about the future of agriculture in Dakota County.

> Never. Never. I have two children who would love to. No way. Ten acres are selling for $850,000 with a small home and barn. Now, a county away, that is a different story.

> Yes, but there is limited opportunity for that, though. It is very difficult to own any land. Depending on lease rates, etc.

> I hate to answer I wouldn't, because I have a lot of respect for what Dakota County has done. But it is an urbanizing area and not where a new farmer should go.

> Probably not if they had to buy their own land. If they had their own land, then they could work with it.

> Sure. No hesitation. As long as they have a pocketful of money.

> Yes, I would recommend it. It is a wonderful investment. But you need to be smart about commodities and handle the risk management.

> That is a tough one. I think because of the prices of startup—to try to start up from scratch, it would be too expensive. If someone's the kid of a farmer, I would say, YEAH!

> Yes, if they can find a spot to do it. If they are not from the area, it will be hard to find land to rent or buy.

> Yes, because we are close to cities, and thus the markets. The opportunity is there if you are willing to be creative. You have to be a businessperson first, though, and a farmer second. That is what I think the secret to success is.

> Yes, I would, but only after they thought it over. They are not going to be able to do 5,000 acres of soybeans and corn—after buying the land—and make money. You can't do that for what it costs per acre here. The exception to this would be a young person whose grandfather owns land in the north—sell that land and granddad gets money and the kid buys land in the south. You cannot do this as an outsider and take a loan and buy land.

> In the right spots of Dakota County, yes—that being the southern and eastern parts. They would have to have a lot of money to get into it if they don't have relatives in it. Also, not much land really ever goes up for sale. The 1031 exchanges are limiting the amount of land available.

> No. I am 51, and I hope that the agriculture lasts 12 years here so that I can retire. And this is something that really bothers me, having grown up on a Minnesota farm myself. I wonder if it will last.
>
> How could they afford it if they weren't already doing it? Without deep pockets, it is not a matter of whether I would recommend, but whether they could do it. There is good farmland here but . . . [How about on inherited land?] Yes, but you need to get business savvy if you are going to do it because it is challenging to be successful. So I would say yes with reservations to that.
>
> It depends on his/her capital structure. Profitability and capital are key. Unless he has that resource (from a family standpoint) or someone willing to sell or rent land at a reasonable price, it won't be lucrative. It is a very competitive market here—competitive farmers. And high rents.
>
> No, I don't think I would. They could do the same thing in another county and do better. What I see for the future of agriculture is short—especially in northwest Dakota County.
>
> Depends on their financial status with money or relatives to help. There are young farmers here now that love it, but I'm not sure they will be able to make it work in the future unless they have land to sell in the north and can buy in the south. If it were one of my boys, I'd tell them it wouldn't work.

Opinions about Future Program Emphasis for Support of Agriculture in Dakota County

We also asked the survey respondents to tell us what they thought interested citizens should do about the viability of farming in Dakota County over the next 20 years (Table 15). The results were fairly mixed. About a fifth (21%) said that activities should be undertaken to protect the land from development through actions such as PDR or zoning. Another fifth (18%) said that equal emphasis should be given to the goals of farmland protection and more profitable farming. Thirteen percent said, "Do nothing and let the private market guide things," while another 8% said actions should be taken to help farmers to farm more profitably.

Table 15: Dakota County—Options for Support of Agriculture over the Next 20 Years

Options	Percentage
N = 136	
Do nothing: let the private market forces guide things	18
Help to protect land from development through purchases of development rights or zoning	29
Help farmers to farm more profitably	11
Give equal emphasis to the objectives of farmland protection and more profitable farming	24
Not sure or did not respond	16
Do something else or in addition	3

Finally, we asked the agricultural leaders about any governmental or private programs, beyond those we spoke with them about, that they thought would likely make a difference in the nature of agriculture in the county 10 years from now. A few of the respondents provided answers to this question. In general, the federal programs, including subsidies and the environmental programs, were viewed as very important to the county.

The CRP [Conservation Reserve Program] program will have an impact as well as loan deficiency payments. Disaster payment will—from the 2003 disaster. It was huge, and I cannot give you the numbers but that money was very important here.

The CSP [Conservation Security] program—but I don't know how much money will come to farmers. It is the only program people are talking about.

We are dealt the hand we have to play from government programs. They are sitting with a program where the only way to make money is to overproduce. But to think that the government would get out of the farming programs is insane. Do I think it would be good for them? Yes. But they won't. They could make the programs simpler, though.

The federal farmland protection program. An increase in that would provide value for Dakota County. It is hard for counties to come up for money for PDR programs.

If the government eliminates subsidies, that would shake things up. We don't have a lot of the really big guys here though—like the 5,000 acres. Nothing else I can really think of.

Yeah, we have a lot of farmers here that talk about the EQIP [Environmental Quality Incentives Program] program more and more—they are more interested in it. It is a good way to cut erosion and fuel costs. We also have an excellent CRP program.

Appendix
Survey Respondent Demographics

Appendix Table 1: Dakota County—Gross Farm Sales and Owned or Leased Land of Survey Respondents Who Were Owner-Operators						
Gross sales categories	**1–9 acres 10–49 acres**	**50–179 acres**	**180–499 acres**	**500–999 acres**	**1,000+ acres**	**All farms**
	Number of operations					
Less than $10,000	9	2	0	1	0	12
$10,000 to $49,999	2	4	6	0	0	12
$50,000 to $99,999	2	1	6	0	0	9
$100,000 to $249,999	1	1	12	7	0	21
$250,000 to $499,999	0	1	5	3	2	11
$500,000 and above	1	1	0	3	9	14
Total	15	10	29	14	11	69

Appendix Table 2: Dakota County—Production Acreage and Animal Numbers			
	Average acres	**Maximum acreage reported**	**Percentage of respondents reporting this type of production (*n* = 136)**
*Type of acreage (*n = *113)*			
Vegetable, melons, sweet corn, potatoes	13	200	17
Fruits, nuts, and berries	0.2	15	2
Nursery, greenhouse, floriculture, sod, and mushrooms	8	650	3
Grains (corn, soybeans, wheat, barley, oats, etc.)	319	2,500	73
Hay and other forage crops	39	1,500	40
Woodland crops (e.g., Christmas trees)	1	36	4
Pasture, livestock yards, paddocks, stables	10	150	32
Aquaculture	0	0	0
CRP and other acres not in production in 2005	4	90	16
Other use	4	105	12
1 crop grown on land			36
2 separate crops grown on land			35
3 separate crops grown on land			10
4 or more separate crops grown on land			4
	Average number	*Maximum number reported*	
*Typical number of animals (*n = *64)*			
Hog and pigs	79	1,700	6
Dairy cattle and calves	50	600	10
Beef cattle and calves	114	2,500	28
Poultry for meat or eggs	1,181	75,000	7
Horses	2	50	13
Sheep	3	50	4
Fish	0	0	0
Other	21	1,300	4

Appendix Table 3: Dakota County—Gross Farm Sales	
Gross farm sales categories	**Percentage**
N = 79	
Less than $10,000	15
$10,000 to $49,999	15
$50,000 to $99,999	11
$100,000 to $249,999	27
$250,000 to $499,999	14
$500,000 and above	18

Appendix Table 4: Dakota County—Percentage of Household Income from Farm Operation	
Percentage of household income	**Percentage of farms**
N = 79	
Zero	8
1% to 24%	30
25% to 49%	15
50% to 74%	11
75% to 99%	14
100%	19
Not sure	4