Farm Families Moving to Town: An Analysis of Farm Population Declines

Don E. Albrecht
Texas A&M University

FARM FAMILIES MOVING TO TOWN: AN ANALYSIS OF FARM POPULATION DECLINES

By Don E. Albrecht[1]

ABSTRACT

Recent census data indicate that a sizeable proportion of individuals and families operating farms in the United States are choosing to live in urban and rural communities rather than on the farmstead. This phenomena is occurring in all regions of the country. In this paper, hypotheses are developed and tested to help explain and understand this phenomena and the variations that exist from county to county. County-level data from the 1978 and 1987 Census of Agriculture and the 1980 and 1990 Census of Population are analyzed. Results show that counties with larger proportions of farm families living in the community included those where agriculture is less mechanized, where there are high levels of part-time farming, where the total population is smaller, and where gross farm sales are greater. Counties with the most extensive declines in their farm population included those with larger farm sales and smaller total county populations.

INTRODUCTION

Among the most dramatic changes occurring in the United States in the past half century has been the transition of the American farm. Some of the more important historical changes include a major increase in the size of the average farm and a corresponding decrease in the number of farms (Albrecht & Murdock, 1990). More recently, the number of very large and very small farms has increased, while the number of medium-sized farms continues to decline, and production is becoming increasingly concentrated on the very large farms (Albrecht,

---

[1]Don E. Albrecht is an Associate Professor in the Department of Rural Sociology at Texas A&M University.

26   *Southern Rural Sociology*

1992; Stockdale, 1982). With the release of the 1990 Census of Population data, it appears that U.S. farm changes have taken another twist. The data show that the farm population in the United States declined from 5.6 million in 1980 to 3.9 million in 1990, a decline of over 31 percent. This reduction in the farm population was much greater than expected given that the decline in the number of farms during this time was only 8 percent. Further, the increasingly smaller size of the average farm family does not account for such drastic reductions in the farm population, since the size of the average farm family declined from 3.31 in 1981 (Banks & DeAre, 1982) to 3.28 in 1987 (Kalbacher & DeAre, 1988). The logical conclusion is that an increasingly high proportion of the persons who operate American farms are choosing to live in rural communities and urban areas, rather than on the farm.

While recognizing and monitoring this trend is important, it is also critical that efforts be made to understand the causes and consequences of changing farm residential patterns. Residential patterns greatly influence the opportunities and lifestyles of farmers and other family members and also the education and extension programs that can effectively reach producers. In this paper, recent farm population declines are explored by analyzing county-level data from the 48 contiguous states. Since the recent farm population declines have not yet been discussed in the literature, the analysis is admittedly exploratory. The basic premise of this paper is that during previous decades most farm families lived on isolated farmsteads away from cities and towns. This isolation was a consequence of both government policy and efforts by producers to achieve farm efficiency (Smith, 1947). Some recent changes in both agriculture and the rest of society have made living on isolated farmsteads less advantageous to farmers, resulting in a large number who continue to farm but have moved from the farmstead to urban areas and rural communities. In addition, it is presumed that other small and part-time farm operations have been purchased by persons who continue to live in the community, thus resulting in additional farms where the operator does not live on the farmstead.

Purpose

The paper first discusses the census measures of the basic concepts used in this paper. Factors that led to the emergence of

historical farm residential patterns are addressed, as are recent changes likely to result in adjustments to those residential patterns. The paper continues with an empirical exploration of farm population decline and an exploratory analysis of the factors associated with this decline.

The Census and the Farm Population

An understanding of definitions and means of data collection is important to this analysis. Farm population data are obtained from the decennial Census of Population. As defined by the Census of Population, farm population is a residence measure. To be counted as part of the farm population, an individual must live in a rural area and be the occupant of a one-family house or mobile home on a property of one acre or more that qualifies as a farm as defined by the Census of Agriculture. Thus, not all families operating farms are counted as part of the farm population. Prior to 1960, farm population was subjectively determined. That is, people were counted as farm residents simply because they reported to the Census Bureau that they live on a farm (Taylor & Jones, 1964). Since that time, persons potentially qualifying as part of the farm population have been questioned to determine if they meet the same farm qualifications as used in the Census of Agriculture. The Census of Population then reports on the number of people in the farm family, their sex, ages, education, income, and other factors.

Much of the other available information about agriculture is obtained from the Census of Agriculture. The Census of Agriculture reports data on every operation that qualifies as a farm, regardless of where the farm operator resides. The census provides data on acreage, commodities produced, and animal inventories, but does not report the residence or the composition of the farm family. Over the years, the definition of "farm" used by the Census of Agriculture has changed nine times, so data from one Census of Agriculture to another may not be directly comparable. Since 1975, a farm has been defined as any place from which $1,000 or more of agricultural products are sold, or normally would be sold, during the census year. Whether or not an operation qualifies as a farm is objectively determined through questions about acreage, farm sales, animal inventories, and crops produced.

Of course, there has always been some discontinuity between the Census of Agriculture and the farm population numbers from the Census

28   *Southern Rural Sociology*

of Population. The two censuses are conducted during different years, and there are farm operators counted in the Census of Agriculture who live in urban areas or rural communities and thus are not a part of the Census of Population's farm population. Historically, these differences were small, and there was always a close correlation between changes in the number of farms as reported in the Census of Agriculture and changes in the farm population as reported in the Census of Population. That the farm population declined more rapidly than the number of farms was considered a function of the increasingly smaller sizes of farm families.

Historical Farm Residential Patterns

        The historical farm residential patterns that emerged in this country resulted from the technological, policy, and environmental constraints that farmers faced at the time of settlement. Specifically, the primary historical patterns of farm residence in the United States was one of the farm family living on isolated farmsteads. This pattern of living on isolated farmsteads was the result of both government policy and decisions made by farmers to achieve greater economic efficiency. Relative to governmental policy, the Homestead Act of 1862 was of particular importance. This act made it possible for a settler, after paying a registration fee of $10 to $25 and working the land for five years, to gain clear title to the land. An additional requirement for ownership, however, was that the settler live on the land. Thus farm families were required to live on their land and away from the community. Even when not required by policy, however, living on the farm made sense from the standpoint of efficiency. With the limited transportation of the day, traveling from the community to the farm would have been very time consuming and the ability to respond to emergencies would have been compromised.
        Of course, there were considerable variations in the proportion of farm operators living on the farmstead from county to county, and there has always been considerable regional differences. In some parts of the country, the commodities being produced made living on the farm less advantageous than in other areas. In particular, living on the farm was especially advantageous where animals were being produced because of the frequent care animals require. The norms and social structures of various groups also had an effect. In the Mormon villages of the West,

Albrecht

for example, farm families were encouraged to live in town and commute to their farms, which surrounded the town (Nelson, 1955). The effects of policy and the time of settlement also had an effect. For example, the Northeast and South were largely settled before the Homestead Act went into effect, so the impacts of the Homestead Act were consequently much greater in the Midwest (Smith, 1947). Also, in the South and West, much of the agricultural development occurred on large land grants, which again reduced the prominence of the isolated homestead.

Agricultural Change and Farm Residential Patterns

Recent changes in agriculture, as well as changes in the rest of society, have resulted in circumstances likely to have major consequences for farm families, specifically for farm people who choose to reside on their farms. Many of the changes have made living on isolated farmsteads less advantageous and, in some cases, less appealing than in the past. Since changes in farm residence patterns have not occurred uniformly from county to county, it is maintained that the reasons for these differences are that there are variations from county to county in the factors causing residential changes. In the discussion that follows, some of the factors causing changes in farm residential patterns are described and hypotheses are developed about the likely relationship between these factors and farm residential patterns. Since there is no literature on this phenomenon, it is necessary to use inferences from a knowledge of farm structure and rural population trends to generate the hypotheses.

Technological developments are the first factor to be considered in attempting to understand changing farm residential patterns. Better vehicles and roads make it possible for the farm family to live in town and enjoy the benefits of community life, and still be able to travel to the farm quickly. In addition, technological advances in agriculture have also drastically altered farming and farm life by reducing the amount of human labor needed (Berardi & Geisler, 1984). Reduced labor needs have several consequences, including making the contributions of women and children less central (Garkovich & Bokemeier, 1988). Consequently, farm wives have increasingly sought off-farm employment (Godwin & Marlowe, 1990), especially since technological advances have also reduced the time required for home tasks (Fink, 1987). In many respects, technology has made farm work more similar to employment in other

Southern Rural Sociology

industries, and the image of the family working together on the farm is becoming less relevant. Thus, as farming becomes more industrialized and commercialized, a greater separation of residence and farm operation would be expected.

For this paper, it is hypothesized that in counties where agriculture is more mechanized, the proportion of the farm population living on the farm will be lower, and farm population declines will be greater. The basis of this hypothesis is that in counties that produce commodities where human labor can be replaced by technology, producers and their families will likely have more time for off-farm employment and interests. Such employment and interests are expected to lead to more ties in the community, and thus to residences in the community rather than on the farmstead.

Another consequence of the technological developments that have reduced labor needs is that more farmers and their spouses have obtained off-farm employment (Albrecht & Murdock, 1984; Coughenour Swansom, 1983; Paarlberg, 1980; Singh, 1983; Wimberly, 1983). With more farm families depending on nonfarm employment, living in the community that is often the source of such employment, rather than on the farm, increasingly makes sense. It is therefore hypothesized that counties with higher levels of part-time farming will have a lower proportion of the farm population living on the farm and also have greater declines in the farm population.

It is also hypothesized that the proportion of the farm population living on the farm will be smaller and the decline in the farm population will be greater in counties where the total population is larger. Counties with large populations are more likely to provide employment opportunities for the farm operator as well as other family members. Further, such counties may provide other advantages and opportunities that would entice the farm family to move to town.

The emergence of the multi-parcel farm is another factor that has made living on the farm less advantageous. The movement toward larger farm sizes has occurred largely through a process of farm consolidation in which one farmer will take over the operation of another person when that person retires or otherwise leaves agriculture (Albrecht & Murdock, 1990). Also, many farm operators today lease farmland from others. This leased land is then farmed in addition to the land in the existing operation. Often these added units are not connected, and the result is a

multi-parcel farm. On such a farm, the advantages of living on the farm are again diminished, since the other parts of the farm may be miles away. In such cases, moving to town may even result in the farmer achieving greater centrality for his farm operation. Since many of these added parcels are rented, the proportion of the agricultural acreage in tenant and part-owner farms may be one viable indicator of multi-parcel farms. Thus, it is expected that the proportion of the farm population living on the farm will be lower and farm population declines will be greater in counties where the proportion of farmland in tenant and part-owner farms is greater.

It is also expected that the relative importance of agriculture in a county is another factor that may influence the location of the farm residence. Where farm families are few or where agriculture is but a minor factor in the local economy, it is expected that farm families will be more likely to choose to live in the community. Thus, the ratio of the farm population to the number of farms is expected to be greater and farm population declines less extensive where agriculture is more important. In such areas, lower numbers of farm people make it less likely that social, occupational, or other types of interest groups will emerge, and thus farmers will seek to meet these needs in the community.

Finally, it is expected that there will be substantial regional variation in the extent of farm population decline. Specifically, it is expected that the declines will be most extensive in the Midwest region. As a result of initial settlement patterns and the pervasive effects of the Homestead Act, the Midwest was the region where the isolated farmstead was most common. The recent changes resulting in farm population declines are likely to make the Midwest more similar to the other regions, and thus lead to greater farm population declines.

METHODS

Data

The analysis is based on county-level data from all counties in the 48 contiguous states. County-level data have the advantages of being convenient, easily accessible, and consistent from the Census of Agriculture to the Census of Population. County-level data are also consistent from one time period to another. This allows for comparisons

32   *Southern Rural Sociology*

across time and across regions. On the other hand, the geographic unit is somewhat arbitrary, and it can only be indirectly inferred what has occurred in the county. For this analysis, Alaska and Hawaii are eliminated because the agriculture in these states is unique.

Census of Population data are taken from the STF3C files for both the 1990 and the 1980 censuses, while Census of Agriculture data are taken from the 1978 and 1987 censuses. For several of the measures, the 1978 Census of Agriculture data are used in conjunction with the 1980 Census of Population data, while 1987 Census of Agriculture data are used in conjunction with the 1990 Census of Population data. A total of 3,109 counties with farms are used in the analysis. After the deletion of counties with data missing on any of the variables, 2,927 counties are used in the regression analysis.

Measurement of variables

The dependent variable for data analysis is farm residential patterns. Since neither census provides a direct measure of farm residential patterns, two different dimensions of this phenomena are used. The first is an examination of the extent to which the farm population lives on farms as opposed to living in town. This is measured by determining the ratio of the farm population from the Census of Population to the number of farms as measured by the Census of Agriculture.[2] Where the ratio of the farm population to the number of farms is small, there is evidence that high proportions of the farm families are choosing not to live on the farm. In contrast, if the ratio is large, it indicates that high proportions of the farm families retain on-farm residence. Regional differences in the size of the average farm family are small, which supports the claim that this variable measures what it intends to measure. For this measure, farm population numbers for each county are taken from the 1980 and 1990 Censuses of Population, and then divided by the number of farms in the county as reported by the 1978 and 1987 Censuses of Agriculture, respectively.

The second measure of farm residential patterns is the percent change in the farm population from 1980 to 1990. For this measure, farm

_____

[2]It is assumed that the average size of a farm household remains essentially the same over time.

population numbers are obtained from the Census of Population for 1980 and 1990, and then the percent change between the two years is determined. This measure provides an indicator of counties that had varying levels of farm population retention during the 1980s. A positive value on this measure indicates that the farm population in a county increased, while larger negative numbers indicate greater levels of farm population decline. Of course, a direct measure of whether the family operating the farm lives on the farm or in a community would be ideal, but such measures are not available. While there are obvious weaknesses with these measures, they should be sufficient to provide insights for this exploratory analysis.

Several independent variables are utilized to allow the hypotheses of this study to be tested. The first hypothesis is concerned with the relationship between technology usage and the residential patterns of the farm population. The measure of technology used in this paper is the value of machinery and equipment per dollar value of sales. By controlling for farm sales, this measure determines those counties where agricultural production is the most and least dependent on technology. Measures for this variable are taken from the 1978 and 1987 Censuses of Agriculture. In 1978, the mean score on this measure for the average county was .94, while the median score was .90. By 1987, the mean score had declined to .92, while the median score was .82. For the two years, scores ranged from .07 to 4.79.

For the second hypotheses, a part-time farmer is defined as a producer with 100 or more days of off-farm employment, and the measure determines the proportion of all farms in the county where the operator is a part-time farmer. This measure is derived from both the 1978 and 1987 Censuses of Agriculture. In 1978, 43 percent of the producers in the average county were part-time farmers, while by 1987 this proportion had increased to 47 percent.

The total population is the total number of people living in the county as determined by the 1980 and 1990 Censuses of Population. To avoid problems of heteroscedasticity, the log of county population is used in the analysis. This measure is used to test the third hypothesis. The fourth hypothesis deals with the proportion of farmland in tenant and part-owner farms. A tenant farm is defined as a farm where the operator rents all of the land in the operation, while a part-owner farm consists of a farm where the operator owns part of the land that is being farmed and

34   *Southern Rural Sociology*

rents the remainder. Measures are derived from the 1978 and 1987
Censuses of Agriculture to determine the proportion of all farmland in the
county that is either in tenant farms or part-owner farms. In both 1978
and 1987, about 60 percent of the farmland in the typical county was in
part-owner or tenant farms.

       The fifth hypothesis concerns the relationship between farm
population residential patterns and the importance of agriculture in the
county. Gross agricultural sales per county is used as the indicator of this
concept. In 1978, gross farm sales were over $22 million in the median
county and increased to nearly $27 million in 1987. Again, a log
transformation of this variable is used in the analysis. This measure is
taken from the 1978 and 1987 Censuses of Agriculture.

       The final hypothesis deals with the effect of region. This is
operationalized by coding each county into one of four census regions
(South, West, Midwest, and Northeast). In the regression analysis, three
dummy variables are created and used[3].

       In addition to the independent variables described above, the
percent change in the number of farms is used as a control variable when
the percent change in the farm population is the dependent variable.
Since farm population changes could be strongly influenced by the extent
of change in the number of farms, it is essential that such changes be
statistically controlled. It should be noted that an inter-item correlation
analysis indicates that there are no problems of multicollinearity.

Analysis

       Three regression models are computed to test the hypotheses.
The first is with the ratio of the farm population to the number of farms
in 1980 as the dependent variable, the second with the ratio of the farm
population to the number of farms in 1990 as the dependent variable, and
the third with the percent change in the farm population as the dependent
variable. The independent variables for each regression model include

---

[3]For the first, counties in the South region are coded 1, while other counties are coded 0; for the
second variable, counties in the West region are coded 1, while other counties are coded 0; and for the
third variable, counties in the Midwest region are coded 1, while other counties are coded 0. The
creation of a fourth dummy variable would have resulted in all coefficients being uniquely estimated
because collinearity is present.

the variables developed to test each of the hypotheses, as well as the control variable (percent change in the number of farms) when the percent change in the farm population is the dependent variable. Independent variables are taken from the 1978 Census of Agriculture and the 1980 Census of Population when the ratio of the farm population to the number of farms in 1980 and the percent change in the farm population are dependent variables. Likewise, independent variables are taken from the 1987 Census of Agriculture and the 1990 Census of Population when the ratio of the farm population to the number of farms in 1990 is the dependent variable.

The significance and magnitude of the regression coefficients (beta) are used to test the hypotheses. This shows the relationship between each independent variable and the dependent variable when controlling for the other independent variables as well as the control variable. The regression analysis also allows a determination of the extent to which the entire model is able to explain variations in the dependent variables and the relative importance of the various independent variables. All of the regression models are weighted by the number of farms in the county so that counties where agriculture is but a minor endeavor do not carry as much importance in the analysis as do counties where agriculture plays a more central role.

FINDINGS

The information in Table 1 presents an overview of farm population changes in the continental United States from 1980 to 1990, by region. Farm population declines were extensive during the 1980s, ranging from about 22 percent in the West region to over 33 percent in the Midwest region. Overall, the farm population declined by 31 percent during the 1980s. Thirteen percent of the study counties had a farm population decline of over 50 percent, 44 percent of the counties had a decline of 33 percent or more, and 64 percent of the counties had a decline of 25 percent or more. In total, 88 percent of the study counties had farm populations that were smaller in 1990 than in 1980. In comparison, the number of farms declined by less than 8 percent, and there was an increase in the number of farms in the West region. The data presented in Table 1 also show that in the average county the ratio of the farm population to the number of farms declined from 2.29 in 1980

36   *Southern Rural Sociology*

to 1.79 in 1990, a decline of about 22 percent. While there were substantial variations in this ratio from region to region, every region did have a significant decline. Despite extensive farm population declines, it seems that the proportion of farm families living on the farm remains highest in the Midwest region.

Table 1. Data showing changes in the farm population, number of farms, and ratio of the farm population to the number of farms by region from 1980 to 1990.

Variable	1980	1990	Percent Change
Total farm population			
South (N=1,425)	1,776,962	1,216,751	-31.5
West (N=412)	600,021	469,704	-21.7
Midwest (N=1,055)	2,878,280	1,916,923	-33.4
Northeast (N=217)	357,295	260,768	-27.0
Total (N=3,109)	5,612,558	3,864,146	-31.2
Number of farms			
South	897,046	823,851	-8.2
West	249,185	273,000	9.6
Midwest	975,225	861,982	-11.6
Northeast	131,505	123,482	-6.1
Total	2,252,961	2,082,315	-7.6
Mean ratio of the farm population to the number of farms			
South	1.94	1.63	-16.0
West	2.16	1.54	-28.7
Midwest	2.77	2.09	-24.5
Northeast	2.39	1.88	-21.3
Total	2.29	1.79	-21.8

In Table 2, the results of the three regression models are presented. Overall, the models were able to explain a relatively large share of the variation in the dependent variables, especially for the ratio of the farm population to the number of farms. For the 1980 model, the independent variables were able to explain 49 percent of the variation, while this proportion was reduced to 31 percent in 1990. The variables used were able to explain only 16 percent of the variation in the percent change in

Table 2. Regression analysis showing regression coefficients (betas) between the ratio of the farm population to the number of farms and percent change in the farm population to independent variables (N=2,927).

Independent Variable	Ratio of farm pop. to number of farms (1980)	Ratio of farm pop. to number of farms (1990)	% change in farm pop. (1980-90)
Mechanization	.15*	.03	-.07*
% part-time farmers	-.21*	-.16*	-.00
Total county pop.	-.02	.11*	.17*
% acreage in part-owner & tenant farms	-.11*	-.04	-.05
Gross farm sales	.42*	.19*	-.24*
% change in number of farms	---	---	.24*
Region dummy (South)	-.35*	-.29*	-.02
Region dummy (West)	-.16*	-.18*	.07
Region dummy (Midwest)	.03	.11*	.02
F-Value	343.7*	161.2*	60.2*
R-Square	.49	.31	.16

*Statistically significant at the .01 level.

Southern Rural Sociology

the farm population. Utilizing the region variables contributed significantly to understanding variations in the ratio of the farm population to the number of farms. The dummy variable for the South region was especially prominent. With the region variables removed, the other independent variables were able to explain 35 percent of the variation in the ratio of the farm population to the number of farms in 1980 and 18 percent of the variation in this variable in 1990.

The region variables were less important for explaining the percent change in the farm population, as none of them were statistically significant. As expected, however, the control variable (percent change in the number of farms) was significantly and positively related to the percent change in the farm population. If both region and the control variable were removed, the remaining independent variables were able to explain only 8 percent of the variation in the percent change in the farm population.

Tests of the hypotheses are provided by examining the regression coefficients for each independent variable. The first hypothesis explored the relationship between agricultural mechanization and farm population residential patterns. It was expected that greater levels of agricultural mechanization would result in lower proportions of the farm population living on the farm and greater reductions of the farm population. For all three regression models, relationships with this variable were weak, and in the case of the ratio of the farm population to the number of farms in 1990, the relationship was not statistically significant. Contrary to expectations, counties where agriculture was more mechanized were found to have a higher ratio of farm population to the number of farms in 1980. As expected, farm population declines were greatest in counties where agriculture was the most mechanized.

The second hypothesis predicted that where the proportion of farm operators that are part-time farmers was greater, the ratio of the farm population to the number of farms would be smaller and farm population declines would be greater. The data provided only partial support for this hypothesis. As expected, counties with high proportions of part-time farmers had a low ratio of the farm population to the number of farms in both 1980 and 1990. The relationship between the level of part-time farming and the percent change in the farm population, however, was not statistically significant.

The third hypothesis posited that the extent to which the farm population lives on farms would be less and farm population declines would be greater in counties where the total population was larger. The data did not support this hypothesis. The ratio of the farm population to the number of farms was not statistically significant in 1980, while for 1990 and for the percent change in the farm population, the relationships were opposite of what was predicted by the hypothesis.

The fourth hypothesis predicted that where there were higher proportions of tenant and part-owner farmland there would be a lower ratio of the farm population to the number of farms and farm population declines would be greater. Again, the data provided only weak support for this hypothesis, as the relationship between the proportion of land in part-owner and tenant farms and the ratio of the farm population to the number of farms was significant but weak in 1980, while the other two relationships were not statistically significant.

The fifth hypothesis predicted that the ratio of the farm population to the number of farms would be smaller and farm population declines would be greater in counties where agriculture sales were lower. The data again revealed only partial support for this hypothesis. As expected, the ratio of the farm population to the number of farms was greatest in counties where gross farm sales were more extensive for both 1980 and 1990. In 1980, this was the strongest relationship in the model. Contrary to expectations, however, counties with more extensive farm sales had greater declines in their farm population.

The final hypotheses predicted regional variations in changes in the residential patterns of the farm population. Although extensive declines were prevalent throughout the country, there were substantial variations among regions. As expected, farm population declines were most extensive in the Midwest. In the regression analysis, however, the dummy variable representing the South had the strongest effect on changes in the farm population. Apparently, when the effects of the other independent variables are taken into account, changes in the residential patterns of the farm population are most extensive in the South.

SUMMARY AND CONCLUSIONS

Between 1980 and 1990, there was a dramatic decline in the farm population in the United States. This decline occurred extensively

throughout the country, although regional variations were apparent. In this paper, hypotheses were developed to help explain the variations from county to county in the extent to which the farm population lives on the farm and the rate of decline in the farm population. Those counties where the ratio of the farm population to the number of farms was low included counties where agriculture is less mechanized, where a large proportion of farms are part-time, where the total county population is smaller, and where gross farm sales are greater. Counties with the most extensive declines in their farm population included those with larger farm sales and smaller total county population.

The results of this analysis leave numerous questions unanswered. The hypotheses are not strongly supported, leaving researchers with only a limited understanding of where farm population declines are most extensive and the factors causing these declines. This analysis is exploratory, and only a few of the many potentially important variables were analyzed. Perhaps the use of various theoretical perspectives, such as political economy and human ecology, could be utilized to gain insights and to suggest relevant variables for future analyses. Also, an effort to develop and use variables that better measure the concepts under consideration should be pursued. For example, in this paper there was no direct indicator of farm residential patterns, and the measure of multi-parcel farms needs to be improved. The "broad-brush" used in a national analysis such as this may miss details and insights that could be obtained from studies of more narrow geographic regions. Also, tremendous insights could be gained from analysis at the individual level. Individual level research could provide an understanding about which farm families are choosing to move and the specific reasons why they are making this decision.

The findings of this paper are especially relevant for researchers and policy-makers in the South. In the South, as in the rest of the country, the farm population declines were extensive. The information from the analysis also revealed that when the other independent variables are controlled, the effect of the dummy variable representing the South is extensive. In the South, the pattern of isolated farmsteads was never as strong as in other parts of the country such as the Midwest. With the changes occurring in agriculture, however, the movement of southern farm families to rural communities and urban areas appears to be especially prominent.

This pattern of change in the residential patterns of farm operators could have far-reaching consequences for those involved in all aspects of the agricultural community. For example, extension and other educational programs may have to adjust to reach those producers who are the target of their efforts but who now live in town. Likewise, those aspects of farm policy that are based on farm families living on isolated farmsteads may need to be reconsidered. It appears that these changing residential patterns are another step in agriculture becoming less different from other occupations. The historic picture of the family working together on the farm is being replaced by a picture that resembles nonfarm families in many ways. That is, the family lives in town, and while one spouse drives to work on the farm, the other goes to a nonfarm job. In many cases, the spouse that is working on the farm may also have a nonfarm job. Agriculture is in transition, and it is critical that scientists keep abreast of the changes that are occurring.

REFERENCES

Albrecht, D. (1992). The correlates of farm concentration in American agriculture. *Rural Sociology* 57(4), 512-520.

Albrecht, D., & Murdock, S. (1984). Toward a human ecological perspective on part-time farming. *Rural Sociology* 49(3), 389-411.

Albrecht, D., & Murdock, S. (1990). *The sociology of U.S. agriculture: An ecological perspective.* Ames, Iowa: Iowa State University Press.

Banks, V., & DeAre, D. (1982). *Farm population of the United States: 1981.* Current Population Reports, Series P-27, No. 55, U.S. Bureau of Census, jointly with the U.S. Department of Agriculture. Washington, DC: U.S. Government Printing Office.

Berardi, G., & Geisler, C. (1984). *The social consequences and challenges of new agricultural technologies.* Boulder, Colorado: Westview Press.

Coughenour, C., & Swanson, L. (1983). Work statuses and occupations of men and women in farm families and the structure of farms. *Rural Sociology* 48(1), 23-43.

Fink, D. (1987). Farming in Open Country, Iowa: women and the changing farm economy. In M. Chibnik (Ed.), *Farm work and field-work* (ch. 4). Ithaca, N.Y.: Cornell University Press.

Garkovich, L., & Bokemeier, J. (1988). Agricultural mechanization and American farm women's economic roles. W. Haney & J. Knowles (Eds.), *Women and farming: Changing roles, changing structures* (ch. 12). Boulder, Colorado: Westview Press.

42   *Southern Rural Sociology*

Godwin, D., & Marlowe, J. (1990). Farm wives' labor force participation and earnings. *Rural Sociology 55*(1), 25-43.

Kalbacher, J., & DeAre, D. (1988). *Rural and rural farm population: 1987.* Current Population Reports, Series P-27, No. 61, U.S. Bureau of the Census, jointly with the Department of Agriculture. Washington, DC: U.S. Government Printing Office.

Nelson, L. (1955). *Rural sociology* (2nd ed.). New York: American Book Company.

Paarlberg, D. (1980). *Farm and food policy: Issues of the 1980s.* Lincoln, Nebraska: University of Nebraska Press.