RURAL POPULATION CHANGE AND AGRICULTURE IN NEW YORK STATE 1950-1990

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ABSTRACT Since 1950, the number of farms in New York has diminished while farm size has increased. This study describes and analyses rural population and agricultural change since 1950, focusing on relationships between rural population growth and agriculture in metropolitan counties.

The rebound in rural population growth discovered in the 1970s raised concerns over its potential affect on the future of agriculture.[1] However, a recent study by the U.S. Department of Agriculture asserts that even large gains in population consume little space and thus have little effect on agriculture. The study also pointed out that, at present rates of conversion and population growth, farm area could be greater in 2000 than in 1980.[2]

To what extent do these national trends hold true for New York State? What implications do they hold for the continued viability of New York agriculture? This study examines trends in population by residential type and in agriculture since 1950 in New York. Special attention is given to the agricultural trends in the State's metropolitan counties, especially those counties which became metropolitan after 1950.

NEW YORK STATE POPULATION TRENDS

Population in New York increased from 1950 to 1990 (Figure 1), except for 1970-1980, when it declined by 680,000 (mostly the losses in New York City). The urban population decreased only in the 1970s, whereas rural population grew in each of the decades shown. Rural nonfarm population, likewise, increased even more than all rural, if by declining amounts, gaining from over half a million in the 1950s, to over 167,000 in the 1980s. Similar to the national trends, rural farm inhabitants registered an 85.8% loss from 1950 to 1990, falling from 578,000 to 82,000, with almost half the loss occurring in the 1950s.[3]

TRENDS IN NEW YORK STATE AGRICULTURE

New York remains a major agricultural state. In 1991 the state ranked first in corn produced for silage, second in apples, third in cherries, grapes, and sweet corn for the fresh market, and third in milk production.[4]

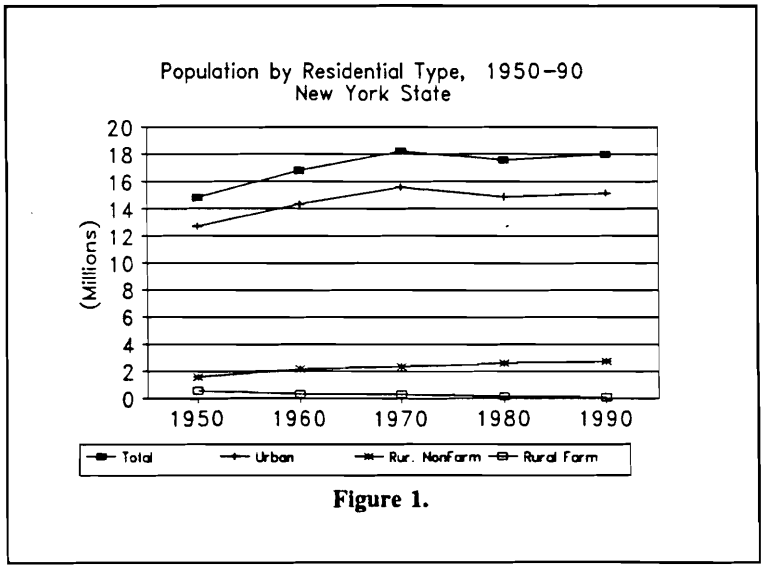

Figure 1.

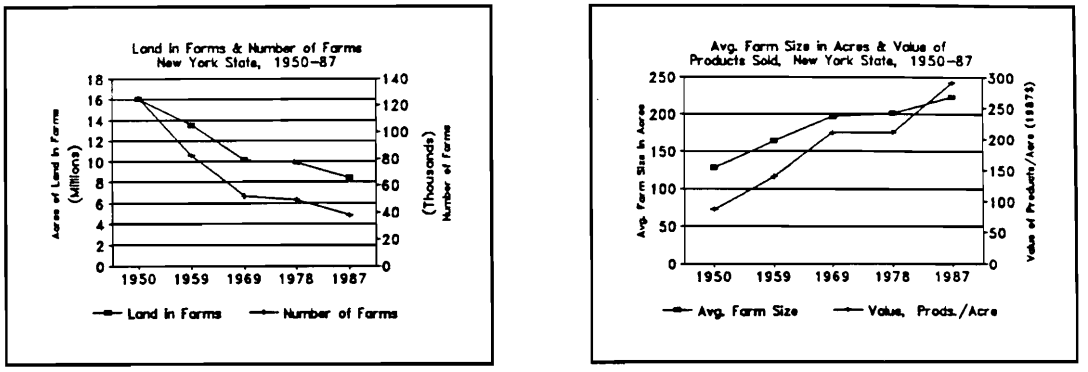

Figure 2.

Since 1950, agriculture in New York has been characterized by fewer but larger, more productive farms occupying less aggregate acreage. For example, despite 37% fewer dairy cows, New York produced 30 percent more milk in 1987 than in 1950 because production per cow doubled. Hay and corn for silage, New York's leading crops by acreage, show similar trends--production per acre up, despite a loss of acreage harvested.[5] Indeed, the continuing loss of the State's farm population may be the clearest indication of agriculture's robust gains in productivity.[6]

As shown in Figure 2, trends in farmland usage are consistent with agriculture's productivity gains. The number of farms has declined since 1950 by almost 70%, to 37,000, and land in farms has decreased by more than 7,600,000 acres (47.5 percent) to less than 8,500,000 in 1987. Cropland, too, has diminished--by 1,900,000 acres, one-third of that category. On the other hand, average farm size has increased from 128 acres to 223 (74%), and value of products sold (adjusted for inflation) has increased by about a billion dollars (75%).

METROPOLITAN AND NONMETROPOLITAN TRENDS IN POPULATION AND AGRICULTURE IN NEW YORK STATE

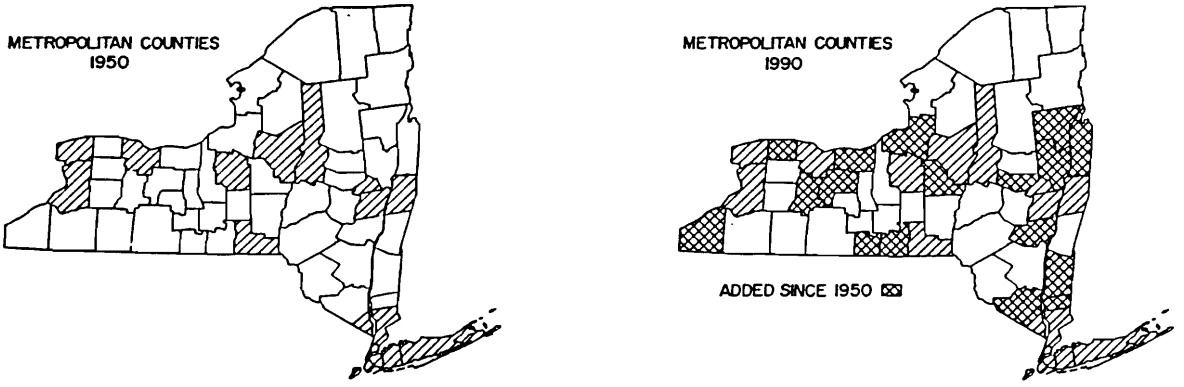

Figure 3.

Given the proliferation of metropolitan counties since 1950 (Figure 3), it is not surprising that metropolitan agriculture has gained scholarly attention. Yet, changes in the criteria used to define metropolitan areas create a misleading picture of metropolitan growth in New York State. The official 1990 metropolitan enumeration implies that, between 1950 and 1990, growth occurred in suburbs or urban fringes, when many of these growth areas are actually rural. For example, of the 17 counties reclassified as metropolitan since 1950, 12 had a majority of rural inhabitants, seven of which were two-thirds rural. Further, as demonstrated in Figure 4, the 17 "new" metropolitan counties were substantially less urban than those counties designated metropolitan in 1950.[7]

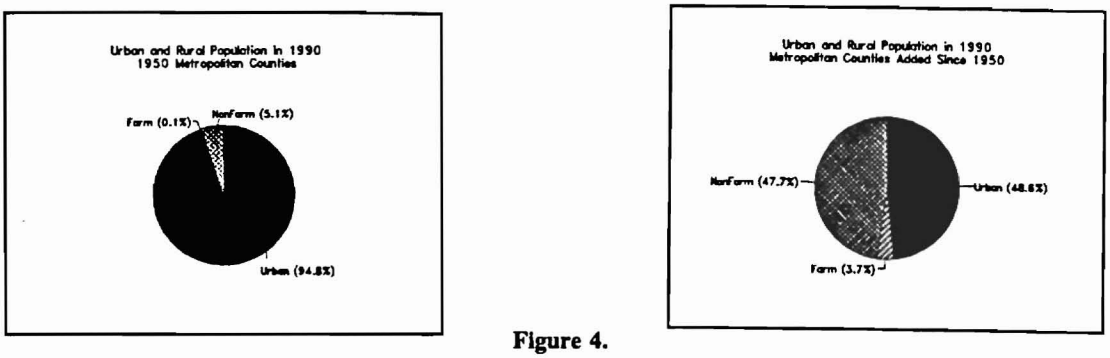

Figure 4.

The change in the criteria for metropolitan counties also creates a false impression regarding the viability of agriculture on the urban fringe. For example, the increase in farm acreage for metropolitan counties from 1950 to 1990 is based largely on the 17 counties reclassified since 1950. (Indeed, land in farms in metropolitan areas decreased when the counties are reaggregated to include only the 19 counties deemed metropolitan in 1950). Thus, the belief in a vigorous metropolitan agricultural sector may be based more on a statistical artifact than actual experience.

THE PROSPECTS FOR AGRICULTURE IN "URBANIZING COUNTIES"

Is agriculture alive and well in New York's metropolitan areas? The work of Heimlich and others asserts that only the most productive farmland and the most enterprising farmers will remain "in the city's shadow." This suggests that, in urbanizing counties, land in farms and the number of farms will decline, whereas farm size and value of products per acre should rise.[8]

We examine the effect of urbanization on agriculture by dividing New York into traditionally urban counties, the metropolitan counties in 1950; urbanizing counties, the nonmetropolitan in 1950 which have been subsequently reclassified as metropolitan; and traditionally rural counties, the nonmetropolitan counties in 1990. As expected, the population of New York's traditionally urban counties grew at a rate considerably below the statewide average, 1950 to 1990. The population of counties classified as urbanizing grew almost three times faster than the state. The same relative trends hold true for the urban population of the traditionally urban and urbanizing counties.

Consistent with the research cited above, one would expect greater loss of agriculture in urbanizing counties. Not so--land in farms declined in the urbanizing counties by 43% from 1950 to 1987, below the percentage lost statewide and 9% below the loss experienced by the traditionally urban counties. Most surprising, the loss experienced by urbanizing counties is 4% below the loss registered by traditionally rural counties.

Again, consistent with the research on metropolitan farming, average farm size for the traditionally urban and the urbanizing counties increased above the statewide average from 1950 to 1987, but the nonmetropolitan counties' increase was below the state average. However, trends in agricultural productivity from 1950 to 1987 run contrary to expectations. While the traditionally urban counties show the greatest increase in real value of products sold per acre, the increase for the urbanizing counties trails traditionally rural counties.

What accounts for this inconsistency between expectation and reality in urbanizing areas? It can be partially explained by the fact that the urbanizing counties--reclassified as metropolitan since 1950--contain sizeable rural populations (see Figure 4). This suggests that the rate of conversion of all land to urban purposes is much lower in the urbanizing counties than in the traditionally urban counties. Consequently farmers in the urbanizing counties may be under less pressure to remove marginal land from production, consolidate holdings and increase productivity.

Nonetheless, the pressures on farmers in the urbanizing counties appear to vary considerably. For example, Figure 5 shows the relationship between loss of farmland and urban growth for the 17 urbanizing counties. Figure 6 displays the relationship between

urban growth and agricultural productivity. The counties in the lower left-hand quadrant of Figure 5 had losses in farmland disproportionate to their urban growth, suggesting a weakness in agriculture in those counties. Similarly, the counties in the lower right-hand quadrant of Figure 6 may be at risk of losing farmland due to low productivity gains in the face of rapidly growing urban

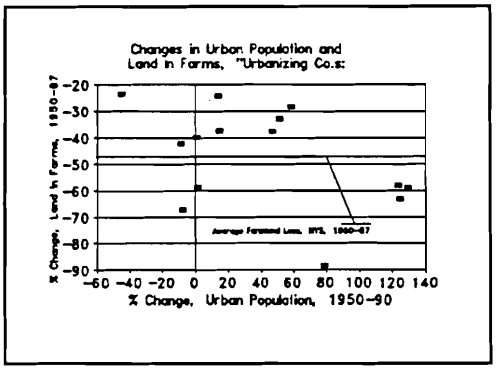

Figure 5.

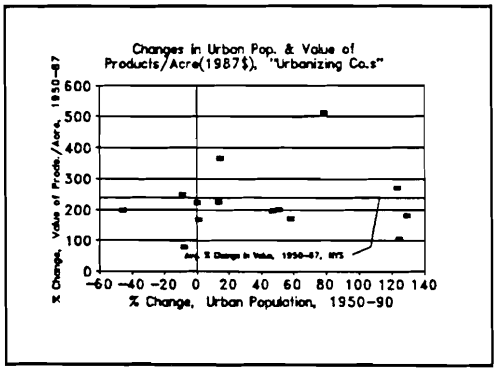

Figure 6.

population. In both of these cases, further investigation would be required to determine if these results actually reflected problems in the counties' respective agricultural sectors.

CONCLUDING REMARKS

This review of agriculture in New York State suggests a mixed picture regarding the relationship between population growth and the viability of agriculture. In the traditionally urban counties, agriculture has diminished substantially. Yet, in many of the urbanizing counties, agriculture remains significant. Indeed, this examination suggests that the relationship between metropolitan growth and agriculture varies quite considerably among counties, apparently affected by local conditions related to product markets, natural conditions, development pressures and farming practices. Therefore, efforts to maintain agriculture in New York should focus on local rather than statewide conditions.

REFERENCES AND NOTES

1. See, for example, Rinaldi, G., et al. (1980) "Rural Rebound." California Agriculture. Vol. 34, pp. 6-8; and Schnell, G.A. and M. Monmonier. (1981) "Population Turnaround in the Northeast: A Cartographic Analysis." Proceedings of the Middle States Division, Association of American Geographers. Vol. 15, pp. 80-85.
2. Heimlich, R.E. (1991) Urbanizing Farmland: Dynamics of Land Use Changes in Fast-Growth Counties. Economic Research Service, U.S. Department of Agriculture. Agricultural Bulletin No. 629, pp. 2, 3, 4-9, 13-15, and 40-41.
3. U.S. Bureau of the Census, Current Population Reports, Series P-20, No. 457 (1990) Residents of Farms and Rural Areas: 1990. Washington, D.C.: U.S. Government Printing Office.
4. In addition the state placed in the top ten in the nation in 27 of 46 products listed. New York State Department of Agriculture and Markets, (1992) New York Agricultural Statistics 1991-1992, July, p. 12.
5. Data for 1950 are from various issues of New York Crop Reporting Service, New York State Department of Agriculture and Markets; data for 1987 are from New York State Department of Agriculture and Markets, (1992) New York Agricultural Statistics 1991-1992, July.
6. In 1810, more than 80 percent of all workers were agricultural. Since the 1970s, the percentage has been 4% or less. Spangler, J.J. (1975) Population and America's Future. San Francisco: W.H. Freeman and Co., pp. 48-52.
7. For the most recent criteria for defining metropolitan statistical areas, see Office of Management and Budget, (1990) "Revised Standards for Defining Metropolitan Areas in the 1990s." Federal Register, Part VI. Vol. 55, No. 62, March 30, pp. 12154-12160.
8. See, Heimlich, R.E. (1989) "Metropolitan Agriculture: Farming in the City's Shadow." APA Journal. Autumn 1989, pp. 457-466; and Lawrence, H.W. (1988) "Changes in Agricultural Production in Metropolitan Areas." Professional Geographer. Vol. 40, No. 2, pp. 159-175.