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THE GREAT PLAINS TRANSITION AREA REVISITED

A REVIEW ESSAY

HOWARD W. OTTOSON

Land and People in the Northern Plains Transition Area. By Howard W. Ottoson, Eleanor M. Birch, Philip Henderson, and A. H. Anderson. Lincoln: University of Nebraska Press, 1966. 352 pp.

I feel somewhat like Rip Van Winkle as he returned to his village from his nap. Twenty years have passed since *Land and People in the Northern Plains Transition Area* was published and thirty since the studies on which it was based were begun. I have not been napping, but I feel like a stranger to a geographical area to which I once committed much time working with others to understand some of the economic and social phenomena of the late 1950s.

Land and People in the Northern Plains Transition Area focuses on the region of physical and economic transition between the

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[GPQ 6 (Fall 1986): 276-282.]

intensive corn belt agriculture in the eastern fringe of the Great Plains and the wheat and ranching regions of the High Plains. The book is divided into three parts. The first provides a historical analysis of the factors conditioning the development of the plains-corn belt transition area and involves the review and synthesis of a substantial body of literature. The second part is based on field studies in the Nebraska pilot area between 1956 and 1965 and includes substantial analyses of these studies. The third part extrapolates into the future the trends discerned in the two earlier parts. It makes predictions about the size, nature, and viability of farms, small towns, small cities, and public services for the last decade of this century.

The study had several roots. First, the 1930s work of T. S. Thorfinnson in Hand County, South Dakota, and Boone County, Nebraska, was the basis for developing a hypothesis about a transition area. Coauthor Anton Anderson applied the concept of an institutional lag to the transition area—the notion that social institutions imported from eastern regions proved inadequate as they were transplanted to the west. The practical farming experience of coauthor Philip Henderson in

the transition area, coupled with the broadened perspective he gained as an extension farm management specialist, added another dimension to our thinking. Finally, the drought of 1954 and 1955, coupled with the indifferent price-cost relationships that had developed in agriculture starting in 1950, gave us specific incentives to conduct a study of resource adjustments in the Nebraska portion of the plains-corn belt transition area. We were encouraged by Dean W. V. Lambert, and by Chancellor Reuben G. Gustafson, who had left Nebraska to assume the presidency of Resources for the Future. From that organization we received a substantial grant toward financing our study.

For the purposes of our study, we defined the transition area as lying between the 98th parallel (roughly the 20-inch rainfall boundary) on the east and the 100th parallel to the west.¹ This belt is roughly the boundary between the native tallgrass and the shortgrasses in the northern plains states of North Dakota, South Dakota, Nebraska, and Kansas. We confess to having been significantly influenced in our thinking by Carl Frederick Kranzel, who developed the idea of the transition zone with a "subhumid" as opposed to "semiarid" designation, and Walter Prescott Webb, who suggested the concept of an institutional "fault" along the 98th meridian.²

Our study actually occurred in two segments, one being a general examination of socioeconomic variables operative in the four-state transition area, utilizing secondary data available from the United States Department of Agriculture, the Census Bureau, and Experiment Station sources, as well as a rather imposing body of literature produced by historians, geographers, economists, sociologists, and agronomists about the Great Plains. A second, more intensive effort was centered on a five-county pilot area—the central Nebraska counties of Custer, Valley, Sherman, Greeley, and Howard—for which we gathered rather voluminous primary data using field surveys aimed at testing a number of socioeconomic hypotheses.

Chronologically, our efforts fell into three parts. First, we examined the history of settlement and development, primarily agricultural, of the four-state transition area, against the background of the Great Plains region. Second, we examined more intensively the state of economic and social development of the Nebraska pilot area in the 1950s, considering it as representative to a certain extent of the four-state transition area. We looked at such things as the farm organization (these terms are used in the economic, not political, sense), size, efficiency, and income. We also examined capital accumulation, credit, and finance. We then considered population dynamics, public services, and the situation of the small towns.

The third part of this study was an attempt to look ahead, starting with the farms and working from there. We conjectured about the size of future farms, changes in farm enterprises, emerging farm technologies, population adjustments, the future course of public services, and the private sector at the level of the small town and its economic area. It is this third part that I have revisited in the present writing. After the completion of the study in the early 1960s, the authors were soon dispersed by reasons of retirement, migration, and change in assignment. I have not had other than casual contact with the transition area since the early 1960s. Time and events have moved on, and it is almost as a stranger that I reexamined some of the important features of our study in this essay.

One thing that was reemphasized for me in looking back to our earlier study was the role of outside factors. When a social scientist conjectures about future events there is a tendency to assume stability in the macrovariables that make up the institutional environment in which the projections or predictions are cast. Thus, in 1960 we had no way of foretelling the economic impacts of the war in Vietnam, the dramatic increases, beginning in 1973, of exports of farm products, with the attendant burst of farm prosperity, nor the inflation of the late 1970s and 1980s, which

was accompanied by rapidly increasing farm debts and rising real rates of interest. Neither could we foresee the rather precipitous decline in agricultural exports of more recent years that is the major cause of the present travail of the agricultural industry and farm communities. Our crystal ball was cloudy indeed.

I would now like to make an inventory of some of the major findings and conclusions that we drew in our study of the transition area—particularly of the Nebraska pilot area—indicate some of our projections, and assess them against what has actually happened. Obviously, neither my time nor knowledge permit more than a cursory review.

Our projections of farm size were right on the money. We predicted an average size of farm in the pilot area of 700 acres by 1980, compared to 500 acres in 1959 (p. 273). Actually, the average size was 744 acres in 1982, five years ahead of schedule! We estimated there would be 4,100 farms in the area by 1982 (p. 274); in fact, there were 200 fewer by that time, compared with 5,800 in 1959, a decrease of 33 percent.³ The present average size of farm in the pilot area approaches that which our analysis of 1959 suggested as able to produce a minimum acceptable level of income for the farm family of that period.

We suggested that farms of the future would raise fewer acres of grain and more grass (p. 268). We were wrong! In particular, we predicted a decrease in corn acreage. Since the time of the study, corn acres in the central Nebraska cropping district (roughly the pilot area) have increased by 58 percent; total grain acreage has increased by 40 percent, while the acres of hay have decreased by one third.⁴ The large factor behind these shifts obviously was irrigation development at a rate that we did not foresee.

We suggested in 1966 that the economically desirable irrigation possibilities had been exploited and that development would subsequently proceed at a slower pace (p. 285). Our prediction was too conservative. Between 1961 and 1982 the number of irrigation wells almost doubled, and the irrigated acres more than

doubled in central Nebraska. But perhaps our projection was more sound technically than the data suggest. Considerable irrigation development took place on land which we regarded as marginal or submarginal for tillage at that time. Larger, more powerful equipment was used in leveling rough lands so that sprinklers could be used on them.

As we had expected, average crop yields per acre increased during the twenty-year period, particularly for irrigated corn, winter wheat, and alfalfa (p. 277). The fact that four and a half times as many acres were fertilized, rather than higher rates of fertilizer application per acre, largely explains this increase.

The specialization that we had predicted in livestock production (p. 285) materialized to a degree. We had suggested the development of fairly intensive cattle feeding and hog feeding, including some factory-type enterprises. In fact, the cattle on feed increased two and a half times; total cattle on farms increased by one-third while the number of hogs increased by one-fourth. Cattle feeding has tended to concentrate to a degree, as we had expected, with smaller farms tending to "background" cattle, rather than feeding them out. Hog feeding has moved toward more confinement. In the meantime dairying has greatly diminished, and poultry production has largely disappeared.

Corporate farming is a topic that excites not only the thoughts but the emotions of plains people. There may have been as many as five corporation farms in the Nebraska pilot area at the time of the study. Out of the roughly 3,900 farms today there may be fourteen "other than family" corporation farms. We had expected perhaps a few more than this. A more significant development that we predicted was the appearance of family corporation farms in the interim—124 at the time of the last census. We also suggested the development of farm partnerships; by 1982 there were 310 of these in the pilot area.⁵ Interestingly, while half of all the farms during the time of the study were operated by tenants, only one-fifth of the farms were tenant-oper-

ated in 1982, a decrease of two-thirds in the tenure form. Incidentally, there is apparently a move back to crop-share leasing from cash leasing at this time.

What of hired labor? As a matter of fact, the use of hired labor per farm increased from slightly less than one month per year in 1959 to two and a half months per year in 1982—less than the state average.⁶ This increase appears modest in view of both the intensification of farming and the increase in farm size. However, larger, more powerful, and faster machinery has apparently been substituted for labor during this time.

In our study we dealt at some length with farm finance; we noted that the drought and price/cost relations of the 1950s had aroused some concern about farm finance but that depression did not last long enough to provide a real test of the farm credit system of the northern Plains. Though there had been some evidence of stress, transition area farmers generally remained in good financial shape, at least in comparison to farmers in the 1930s. We were concerned with the increased capital requirements associated with mechanization. Although we identified some unsolved problems as far as the various credit agencies were concerned, in general our observations called for tinkering with the system rather than for any revolutionary measures. A look at the present situation in the light of our observations of 1966 shows we were probably most off base in our ideas about future farm finance. We did suggest that agriculture would be relying more on borrowed capital than in the past. Right so far! We suggested that there would be more financial planning between borrowers and their creditors—whether bank, cooperative credit agency, or Farmers Home Administration, with more farm management specialists employed by these agencies and a greater degree of tailoring farm credit to the needs of clients on a continuing, long-term basis (Chapter 18). We missed the mark there!

Viewed from here, the late 1950s appear to be a rather peaceful, healthy period for farmers, financially speaking. Farmers who bor-

rowed paid off their operating loans every year. Long-term loans, borrowed from a variety of sources, were very manageable, representing only 10 percent of the farm capital on the average. For a sample of 135 farmers, the largest long-term loan was only \$21,500, this occurring in a group of 1,280-acre farms averaging \$90,000 in total capital (Chapter 12). What happened to bring the massive farm debt of the 1980s? Some agricultural historian, interested in farm finance, should write a history of farm finance and capital from 1970 to 1985.

After the time of our study there occurred a mechanical revolution of sorts with the replacement of post-World War II equipment with larger harvesters, larger tractors, larger tillage equipment, and larger, more powerful pickups. Easy credit facilitated this trend; the promise of farming more land, performing operations in more timely fashion, and even the instinct to “keep up with the Joneses” provided the incentives. Similarly, the development of pivot irrigation on the marginal lands, at higher cost, was facilitated by the availability of credit.

However, the dramatic events of the last fifteen years have played havoc with the orderly course of farm finance of the earlier postwar period. It is not my purpose to analyze this history at this time, but let me mention some of the factors:

1. Expanding agricultural exports and increasing farm prices of the 1970s
2. Inflation of the late 1970s and early 1980s
3. Rapidly increasing prices of farmland
4. Ebullience in the farm sector
5. Increasing farm income
6. Rapidly increasing farm debt during the late 1970s and early 1980s, with increased leveraging
7. Increased interest rates in the early 1980s
8. Dampening farm prices and fall-off of farm incomes in the 1980s
9. Decreasing prices of farmland in the

1980s, associated with the shrinking returns to the land

10. Financial crises in a substantial part of the farm sector reminiscent of the 1930s⁷

The air of low-key problem-solving that characterized our discussion of adjustments in farm finance at the time of the study seems almost ironic now; the topics we covered do not seem as relevant now as they did then. Perhaps we should have known better; we had reviewed sufficient agricultural history to be sensitive to the cyclical nature of the farm economy and to know that financial crises could occur again. However, today's situation too will pass; perhaps our review of farm finance alternatives is actually more applicable to the 1990s than to the present decade.

In our discussion of farm finance at the time of our study we were fairly critical of commercial banks for their conservatism in their farm lending operations. We should comment that apparently the small, conservative, rural banks are better surviving the present period of stress than credit agencies following more liberal lending policies.

I turn now to the rural community, particularly to the connections between agriculture and community variables, another important part of our inquiry in the transition area. First, we looked at population; we posed a population decline of 25 percent in the pilot area by 1980 simply by extrapolating past trends (p. 307). The population of the pilot area at the time of our study was composed of slightly larger numbers of nonfarm people than farm people; we projected a 50-50 ratio by 1980. We also made a second, alternative projection based on adjustments in farm size and farm numbers, coupled to community employment multipliers; this resulted in a projected decline in total population of 26 percent in the same period, very close to our simple extrapolation (pp. 308-10).

Our projections did not materialize; the decline in population in the pilot area amounted to 14 percent during the interim period rather than 25 percent.⁸ The farm/

nonfarm structure of the decline is even more surprising. Thus, the decline in the farm population was nearly 50 percent while the nonfarm population increased 19 percent.⁹ How could we have missed so badly in this case? Several hypotheses can be suggested. First, some farmers may have moved to town but continued to operate their farms. We predicted such a tendency in our study. Second, an increasing portion of nonfarm population may be made up of local people retiring and retaining residence in the area, as well as of people who originally left the area but chose to return upon retirement. Irrigation development or other factors may have been positively reflected in the number of people employed in service establishments. Changes in census definition of farms and farm residents may have affected the data. With the aging of farm operators taking place since the study, the number of members of farm families actually living on farms has decreased. Other data which we have examined suggested that the employment multipliers have increased somewhat from the levels we identified during the study. However, employment alone does not explain the nonfarm population levels presently in the pilot area.

In our study we also considered rural services. First we looked at the counties. We suggested that if county lines were redrawn to meet minimum criteria of population, maximum distance to the courthouse, operating efficiency, and value of taxable property, Nebraska could end up with fifteen counties instead of the present ninety-three. One can easily guess the outcome of that idea. We actually did draw a state map with the fifteen counties indicated (pp. 318-22). Somewhat to our surprise, one of the state departments redrew its regional boundaries to coincide with those indicated on our map.

In 1960 there were 242 school districts in the pilot area. Enrollment criteria suggested that eight modern K-12 districts could serve the student population of 9,600 in the pilot area at that time (pp. 325-26). Presently there are 53 districts in the pilot area serving 6,300

students, representing a decrease of student population of 35 percent. School consolidation will likely come more slowly in the pilot area than in other areas because the roads are poor and the distances long.

We looked at rural churches. In 1960 there were 106 churches in the pilot area. Efficiency criteria were employed to judge a minimum church size; on the basis of these criteria we posited a maximum of 45 congregations for the area (pp. 328-29). Today there are 118 churches in that area. So much for efficiency criteria!

Rural housing was another topic of our attention. In 1966 we suggested that rural housing would improve substantially, perhaps with federal assistance. This has come to pass. The countryside exhibits an impressive number of new, ranch-style dwellings. Unfortunately, some of these have been built recently with short-term credit, now a source of concern on the part of rural lenders.

In 1966 we devoted considerable attention to the smaller towns. We suggested that towns of fewer than 500 people did not seem to have much hope for the future; those between 500 and 2,500 in population appeared to be changing their roles. Recent work by Larry Swanson has tended to substantiate our thinking of 1966¹⁰. With the decreases in farm population, and consequently of total population of rural counties, the number of retail stores has declined, but the number of service establishments has increased somewhat. The towns of 800 people have apparently held their own; in some cases a hospital has been instrumental. In others, the consolidation of schools has helped. In one case the town became a bedroom community for the county seat. The single town approaching city status has benefited from the development of a manufacturing plant, improvement of recreational facilities, and provision of a new city hall, fire hall, and hospital.

Road systems have apparently shown more stability than we expected at the time of our study. The local roads have remained at about the same quality, with less consolidation than we had expected.

I now make some final, random observations about other aspects of the transition area. Resource policy, and particularly land use, has been a subject dear to the hearts and minds of observers and leaders of Great Plains agriculture for a long time. In our study we took soil conservation, and the activities of the Soil Conservation Service, almost for granted, as part of the accepted institutional framework of the area. Now, ironically, national debate is taking place concerning the very existence of the Soil Conservation Service. Despite a great deal of discussion about land-use planning and a county-level approach to soil conservation, not much has actually been done, although the public consciousness may be higher today than formerly.

In the meantime new issues have emerged. There is much more discussion of water and water supplies at the local level than there was during our study period. Water quality, particularly related to chemigation and greatly expanded irrigation development, has emerged as an issue of wide concern and growing importance. In fact, the whole range of environmental concerns about which we are conscious today in both rural and urban areas has come into being in the years since our study. I do not find that we even used the word *environment* in our study report. The emergence of the Natural Resource Districts with their own taxing authority and assertive leadership has been a most significant development in the area of natural resources. It is the means of tying rural and urban interests together with respect to natural resources and environmental concerns; it probably represents the focus of most of the future action at substate level with respect to land use and resource conservation.

Rural development was a term that focused public policy attention on the problems of rural communities and economies at the time of our study. In recent years we have had in a sense a withdrawal; federal funds for rural development programs have been cut. Federal and state rural development activities have diminished. One problem with the rural

development programs probably was that they did not focus on specific enough targets. There is a sense of running out of ideas and leaders. Perhaps one can be overly critical. The importance of overall economic development plans established by local communities can be underestimated. Recreational facilities have been developed or improved. Other community facilities have benefited from such planning. I hear that it may be more difficult to recruit volunteer rural leadership now than at the time of our study. First, there are fewer people; also, they are perhaps more preoccupied with their private economic problems.

Having made this rapid visit to the midcentury transition area, I conclude that our analyses and projections were directionally valid for the most part. The adjustment process that we visualized is still continuing, and the end is not in sight. Our focus was on opportunities for people of an area to "bootstrap" their own future. Today I am more impressed than I was then with the impact of outside events and macroeconomic variables to the outcome of rural community development.

NOTES

I am indebted to a number of University of Nebraska colleagues for ideas and suggestions they provided me in the preparation of this paper. They were Professors Ronald Hanson, George Pfeiffer, Roy Frederick, and Duane Olson of the Department of Agricultural Economics; Professor Wanda Leonard of the Southeast Extension and Research Center, and William R. Pedersen, county extension agent at Broken Bow, Nebraska. Philip Henderson, professor emeritus of agricultural economics, gave me many suggestions and also read a draft of the manuscript.

1. Howard W. Ottoson, Eleanor M. Birch, Philip Henderson, and A. H. Anderson, *Land and People in the Northern Plains Transition Area* (Lin-

coln: University of Nebraska Press, 1966) pp. 3-4. References to this source are hereafter cited in parentheses in the text.

2. Carl Frederick Kraenzel, *The Great Plains in Transition* (Norman: University of Oklahoma Press, 1955); Walter Prescott Webb, *The Great Plains* (Boston: Ginn, 1931).

3. U.S. Census of Agriculture. 1982.

4. The crop and livestock comparisons in this section utilize data in Nebraska Agricultural Statistics, 1982.

5. Data on form of ownership from U.S. Census of Agriculture. 1982.

6. Based on data in U.S. Census of Agriculture. 1982.

7. Two unpublished papers by Emanuel Melichor, senior economist, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, D.C., 1984, mimeo; Peter J. Hefferman, "Financial Stress among Farmers," in Agricultural Letter of the Federal Reserve Bank of Chicago, 21 December 1984; Bruce Johnson, Trends in Farm Real Estate Values, Remarks presented to Nebraska Chapter of Farm Managers and Rural Appraisers Annual Meeting, Lincoln, Nebraska, 1 February 1985; Harold Breimeyer, "Agriculture's Troubles, Internal and External." University of Missouri Cooperative Extension Service, *Economic and Marketing Information* vol. 27, no. 5 (May 1984); Bruce Johnson, "A Perspective on Agricultural Debt in Nebraska," University of Nebraska Bureau of Business Research, *Business in Nebraska*, vol. 40, no. 485 (February 1985); "The Current Financial Condition of Farmers and Farm Lenders," U.S.D.A. Economic Research Service Agricultural Information Bulletin 490 (March 1985); Emanuel Melichor, "Farm Wealth Origins, Impact, and Implications for Public Policy." W. I. Meyers Memorial Lecture, Cornell University, 26 October 1983, published as A. E. Res. 83-40.

8. Based on data in University of Nebraska Bureau of Business Research, *Business in Nebraska*, vol. 63, no. 475 (April 1984).

9. Based on U.S. Census of Population, 1980.

10. Larry D. Swanson, "The Implication of Changing Farm Structure in Nebraska for its Rural Communities" (Center for Great Plains Studies, University of Nebraska, Lincoln, 1984, mimeo).