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ABSTRACT

Findings from current literature form the basis for this examination of five critical elements of change and development within the local community setting which impact on agriculture: population, employment, land, water, and environment. Renewed rural population growth during the 1970's has reversed small farm trends but placed strains on local governments, frequently resulting in higher property taxes. Increased off-farm employment has provided supplementary farm income, resulted in less family labor available to support farm production, increased the number of small farms, and tied farm family living standards to economic conditions in the nonfarm sector. Rural community growth has intensifed the demand for agricultural land for non-agricultural purposes, resulting in high land costs that are a key barrier to entry into farming. The quantity of water required for agricultural purposes and the detrimental influence that agricultural activities are having on water quality are being scrutinized by local governments and residents. Agriculture is being viewed as a major contributor to air pollution through overuse of pesticides. Because affairs of the community and farm sector are intertwined, it is essential that local governments, farmers, and residents work cooperatively in shaping policies and programs that ensure the continued viability of both agriculture and the community. (NEC)

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COMMUNITY CHANGE AND THE FARM SECTOR: IMPACTS OF RURAL DEVELOPMENT ON AGRICULTURE

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COMMUNITY CHANGE AND THE FARM SECTOR

IMPACTS OF RURAL DEVELOPMENT ON AGRICULTURE

Introduction

The relationship between farm structure and community welfare has been a topic of much interest to social scientists since the Goldschmidt study of two rural agriculturally-based California communities in the mid-1940s (Goldschmidt, 1947, 1978; Harris and Gilbert, 1982; Nuckton et al., 1982; Poole, 1981). Buttel (1983) notes that research fashioned along the lines of the Goldschmidt thesis can be characterized thusly: agricultural structure variables are viewed as the independent variables and the effects that these structural components have on various aspects of community life (i.e., population size, employment levels, community viability) serve as the primary foci of the investigations. As a result, "the major available studies tend to see only agricultural structure as the independent variable, despite the obvious fact that agricultural and rural development are mutually interrelated" (Buttel, 1983:109). According to Buttel, this singular direction of inputed causality has proven to be a major deficiency of this body of research.

It is clear that more than ever, agricuture is affected by events and actions taken place outside the borders of farming (Breimyer, 1977). The very viability of agriculture is influenced by growth or decline of the local population, by community economic development activities, by competing demands for land and water resources, and by cries for environmental controls. Collectively, these factors portend significant effects on the local agricultural sector.

In this paper, we examine some of the more critical elements within the local community setting which impact on agriculture. We briefly focus on five key areas: population, employment, land, water,

and environment. Our intent is to draw upon the current literature to guide us in the discussion of these important issues.

Population Growth in Nonmetro Areas

It is well known that over the course of the 1970s, nonmetropolitan areas of the United States expanded at a faster pace than their metropolitan counterparts. The renewed growth was found not only in nonmetro areas adjacent to metro places, but in more remote locales located some distance from metropolitan areas (Beale, 1981; Christenson et al., 1983). While determinants of the rural renaissance have been both economic and noneconomic in nature, noneconomic forces played the more prominent role in migrants' decisions to move to rural communities during this period of time (Murdock et al., 1984). For example, the perceived environmental and quality-of-life attributes available in rural settings served to attract many inmigrants to these areas (Fliegel and Sofranko, 1984; Ploch, 1978).

The actual and anticipated effects of rural population growth on the agricultural community have been varied. For one, issues dealing with land use, water resources, off-farm employment, and environmental quality have taken on added importance in this situation (and these will be discussed in greater detail later in this paper). With rapid growth have come strains on the community's institutional infrastructure (Price and Clay, 1980). For example, demands by inmigrants for added services and facilities have placed severe burdens on local governmental resources. In order to meet these demands, local governments have frequently relied on higher property taxes to generate the needed revenues, resulting in

additional costs for farmers who own and/or rent land in the area (Penn, 1979). Freudenburg (1982:158-9) argues that agricultural pursuits do not comfortably coexist with increasing population densities since such increases result in more crimes being perpetrated against farmers, less access by farmers to the roads for moving livestock, and more farm gates being left open by persons trespassing on the farmer's property.

A more positive aspect of rural population growth has been an apparent reversal in small farm trends. Employing county level data for Illinois, Iowa, Minnesota and Wisconsin, Harper et al. (1980) concluded that counties in the four state area which experienced the most rapid population growth in the 1970 to 1975 time period were more likely to have realized relatively high increases in the numbers of small farms.

Off-Farm Employment

As noted earlier, the sizable migration of individuals to nonmetropolitan areas has been fueled by both quality of life and economic considerations. It is no accident that the rise in the number of nonfarm job opportunities in rural America during the 1960s and 1970s facilitated the rural population expansion. Of the 13 million jobs created over the 1970 to 1977 period of time, better than 40 percent were located in nonmetropolitan locales. In fact, employment opportunities in the nonfarm sector increased by approximately 22 percent during this time period, a rate two times that of metropolitan areas (Penn, 1979; USDA, 1981). Of particular interest is the negligible role that agriculture played in this recent rural job growth.

Nonfarm job opportunities in rural areas have proven significant

for agriculture. For example, Coughenour and Swanson (1983:24-25) note that in 1965, off-farm income constituted 44.2 percent of the total income of families with less than $40,000 in gross farm sales, and 19.6 percent of those with farm sales in the $40,000 to $99,999 category. As of 1979, these figures had swelled to 63.4 percent and 30.7 percent, respectively. This sizable shift toward off-farm work by farm families is one of the most dramatic changes that have taken place in U.S. agriculture (Carlin and Ghelfi, 1979).

For many farmers, particularly those at the lower end of the farm size scale, off-farm employment provides the needed economic resources to finance the farm operations and to supplement the limited income being generated from the farm. Currently, nonfarm income of farm families exceeds that received from farming. Thus, the economic well-being of most farm families is closely linked to the nonfarm sector (Crecink, 1979). "Where once small communities existed because of the agricultural economy, today's small farms exist because of the community's economy (Hobbs, 1984:13).

What are the consequences of off-farm employment for the farming sector? Some of the key interrelated effects are as follows. For one, there is less family labor available to support the production activities of the farm, thereby affecting the farm operation. Oftentimes, farm enterprises are having to adjust to the off-farm labor requirements by adopting less labor intensive farming activities (Carlin and Ghelfi, 1979; Coughenour and Swanson, 1983). Second, off-farm employment often is providing the financial resources needed to help family operations remain in farming (Deseran et al., 1984) In many instances, off-farm generated income is

supplying the capital to finance the family's agricultural enterprise (Heffernan et al., 1981). Third, access to off-farm jobs is serving to increase the numbers of small farms, reversing the trends of the 1950s and 1960s (Buttel, 1983; Coughenour, 1980). Fourth, realization of an adequate standard of living for farm families is being inextricably tied to economic conditions in the nonfarm sector. Without off-farm income, farm poverty would increase significantly (Carlin and Ghelfi, 1979). Fifth, off-farm employment could be serving to facilitate entry into farming by providing individuals with the capital necessary to begin farming (USDA, 1981).

Perhaps the most pervasive impact associated with the increasing dependence of farmers on local nonfarm employment opportunities is the emergence of a dualistic agricultural structure. On the one hand, local specialized markets are being served by a large cadre of farmers who operate their farm enterprises on a part-time basis. On the other hand, national and international markets are being served by small, capital intensive industrialized farms (Deseran et al., 1984).

Land Use

One of the crucial factors associated with rural community growth is the intensified demand for agricultural land for non-agriculture purposes. During the 1967 to 1977 period, the inventory of agricultural lands in the United States was estimated to have dwindled by nearly 31 million acres (Gordon and Clouser, 1981). Zeimetz et al. (1976), for example, note that for every unit increase in the nonmetro population, approximately .17 acres of rural land get converted to urban uses.

A number of important elements have precipitated conversion of

prime agriculture land for urban-type uses. With population growth has come demands for housing. Over 40 percent of the housing constructed in the 1970s were built on agricultural land (Gordon and Clouser, 1981). Moreover, rural areas adjacent to larger cities have proven attractive as second homes for urban residents, thus intensifying recreation home land sales (Blobaum, 1978). Land needs required to support rural economic expansion activities have proven to be significant. More often than not, business and industries locating in nonmetropolitan communities have sought land with good physical characteristics (i.e., flat, good drainage, low sand content). These are typically the features associated with prime agricultural lands (Garkovich, 1982; Lapping, 1975; Prunty, 1979).

Indeed, there have been other influential factors. For one, land developers and speculators have purchased agriculture lands located and the periphery of urban centers with the hopes of selling the land at a substantial profit once urban expansion reaches these areas (Garkovich, 1982). In the meantime, they have allowed these lands to remain idle. In addition, the accelerated demand for rural lands has increased land values, proving more lucrative for farmers to sell their land than to maintain it in agriculture (Prunty, 1979). Lastly, the relatively unregulated land market has made farmland attractive for nonfarm investors seeking to avail themselves of the tax advantages associated with speculative investments (Buttel, 1983).

Collectively, these factors signal significant effects on the agricultural sector. Continued conversion of prime agricultural land could seriously impair the production capacities of the farming community. It is estimated that over 17 percent of the U.S. farms,

producing about 21 percent of the value of all agricultural products sold, are within Metropolitan Statistical Areas, placing them directly in the path of urban expansion (Blobaum, 1978). To compensate for the loss of prime lands to nonagricultural uses, farmers will have to rely on marginal lands to meet their needs. However, the economic and environmental costs associated with such activities are expected to be overwhelming (Lapping, 1975; USDA, 1981). Moreover, there are a number of structural constraints that are becoming obvious in this milieu. For one, larger farmers are gaining a comparative edge over smaller farm enterprises in the purchase of land. In an environment where intense competition for land is present, land costs are beyond the means of smaller farmers. However, larg farms generally have the needed capital to expand their land holdings. Thus, more and more agricultural lands are becoming concentrated into fewer and fewer hands (Penn, 1979; USDA, 1981). The high cost for land is also plaguing tenant farmers who are feeling the pinch of escalating rents. In addition, the interplay of competition for available farmland and high land costs are proving to be the key barriers to entry into farming. Most young persons simply cannot gain entry because of the capital requirements needed for purchasing and/or renting land (Coffman, 1979).

No doubt, land use decisions being made at the local level have, are, and will continue to influence the viability of agriculture. Although land use management is generally guided by state laws, most states have empowered local governments with the authority to control land use decisions via zoning, land use maps, etc. And as Raup (1975:376) notes, the implementation of land use de sions has been jealously guarded as a primary responsibility of local government.

There remains some question, however, as to whether local governments have the skills or financial resources to effectively administer land-use controls in a situation of rapid population growth (Boles and Rupnow, 1979). A most telling indication of this is reflected in a study conducted by staff members of the Florida House of Representatives on agricultural lands in the state. Part of the House study involved the collection of information from individual units of local government regarding activities being carried out to encourage retention of agricultural lands. Several respondents stated that specific measures had not been initiated for the purpose of preserving agricultural land (Gordon and Clouser, 1981).

Water

The importance of water to the agricultural sector in the United States is undeniable. It is estimated that over 70 percent of the water utilized in this country is being employed for agricultural uses, mostly to irrigate agricultural lands (Framji, 1983). However, with rural growth has come greater competition for the use of water for purposes other than agricultural. Serious conflicts are becoming more apparent as to the best and highest use of water for various purposes (Evans, 1978; Pierce, 1979).

Central to the debate regarding the use of water is the effects that agricultural enterprises are having on both the quantity and quality of water resources. There is some concern that the withdrawal rate of water for agricultural production is seriously depleting groundwater levels, thereby impairing domeste water supplies (Aucoin, 1979). Even more troublesome, however, is the influence that agricultural activities are having on the quality of water. Farming has been a major source of point and nonpoint

pollution of ground and surface waters. Feedlots constitute one source of point pollution, while rainfall and irrigation that carry fertilizer nutrients, farm chemical residues, and other farm substances into the aquifers contribute to nonpoint pollution (Groth, 1975; Magleby and Gadsby, 1979).

While limited controls have been placed to date on the activities of farmers in regards to nonpoint pollution, there is greater likelihood that local governments and citizens will participate more actively in water use and control initiatives. For example, the 1972 amendments to the Federal Water Pollution Control Act (P.L. 92-500), particularly Section 208 of the amendments, profess a strengthened role for the public in formulating and initiating strategies to control point and nonpoint pollution in their respective areas (Godschalk and Stiftel, 1981; Magleby and Gadsby, 1979). Moreover, criticisms of the unresponsiveness of the water policies process to the preferences of the general public are surfacing. Calls are being made to increase public involvement in the water resource policy arena (Pierce, 1979). And because much of the rural growth is occurring in unincorporated portions of counties, it is county officials who are being pressed to resolve matters affecting both the quantity and quality of water resources (Thomas and Baker, 1976).

A recent article carried by the Associated Press in Florida is reflective of the mood of some public agencies regarding nonpoint pollution from agricultural areas. The article deals with a fish kill in the St. Johns River resulting from nutrient-rich runoff from farms and citrus groves in the area. One regional government official notes, "There's no question about where this is coming from. The (farmers) have got to realize they just can't keep doing this continuously like they have been" (Associated Press, 1984).

Thus, it appears very likely that the activities of the agricultural sector with regards to water quality and quantity will be more closely scrutinized by local governmental officials and residents in the years ahead. Policies influencing the availability and quality of water will very likely affect farm structure. Unfortunately, in what manner such policies will specifically influence structure remains unclear (Penn, 1979; Magleby and Gadsby, 1979).

Environment

Closely tied to the issue of water resources is that of environmental quality. As Breimyer (1977:19) asserts, "of all the influences felt upon farming in the 1970s, the most newly prominent one was that of environmental concerns." This is a result of the fact that farming activities are operating as a major source of environmental degradation (Magleby and Gadsby, 1979). In rural areas, public concern over problems of environmental pollution are being focused on the agricultural sector (Blackwell, 1974).

Aside from contributing to the impairment of water quality (as outlined in the previous section), agriculture is being viewed as a major contributor to air pollution through its overuse of pesticides, as well as from the odors that emanate from fertilized fields and commercial feeding operations (Blackwell, 1974). Pimental et al. (1979) states that the increased use of biochemical inputs in the agricultural production process are resulting in toxicity in animals and humans. To some, significant changes in agricultural production methods are needed in order to preserve environmental quality (Groth, 1975).

Clearly, the public has taken, and is continuing to take, a more involved role in the environmental quality debate. Buttel (1980)

claims that efforts to initiate change in rural environmental quality are taking place at the local community level. For communities experiencing a large influx of inmigrants, this issue is bound to b. of central importance since a large proportion of the inmigrants are moving to nonmetropolitan areas for environmental and quality of life reasons (Fliegel and Sofranko, 1984). Active involvement of the local citizenry in rural environmental problems will likely bring about changes in agriculture. In fact, societal pressures to date have brought about some restrictions on farmers, restraining use of yield increasing chemicals and other environmentally sensitive farming techniques (Breimyer, 1977; Magleby and Gadsby, 1979).

> (I)t is becoming increasingly apparent that the environmental problems of agriculture are not merely the results of inappropriate "agricultural practices" that can be changed within the context of the present structure of agriculture. Indeed, these problems are clearly rooted within that structure, sharply reducing the possibilities of environmental inprovement without major social change in the agricultural sector (Buttel, 1980:47).

Conclusions

In his book, Farm and Food Policy: Issues of the 1980s, Paarlberg (1980:5) states that the most important event that has happened to agriculture in his lifetime is that agriculture is in the process of losing its uniqueness. Among other things, Paarlberg outlines the esteemed status that farmers traditionally held in the community, the central role they played in the local economy, the influence they commanded in the political arena, and the preferred

status they enjoyed in the use of land and water. However, the uniqueness of the farm sector has been significantly depleted in recent years. Farm people are entering the mainstream of American economic, social and political life.

> Politically and institutionally, agriculture must accommodate to these economic and social changes.... One by one, agriculture is being deprived of its extraordinary advantages: preferred access to land and water, immunity from social legislation.... Farmers, traditionally independent, are increasingly subjected to the rules of an increasingly regulated society (Paarlberg, 1980:9).

Consistent with Paarlberg's comments, our paper has detailed some of the current issues which are illustrative of the influences that local communities are having on agriculture. Be it population growth, generation of nonfarm sector employment opportunities, land use decisions, improvements in the quality and management of water resources, or environmental preservation, important decisions on these matters are being hammered out at the local level. The outcome of these deliberations are having, and will continue to have, significant impacts on the farm sector. Because the affairs of the community and farm sector are intertwined, it is essential that local government officials, farmers and residents work cooperatively in shaping policies and programs that ensure the continued viability of both agriculture and the community.

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