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Hog CAFOs and Sustainability

The Impact on Local Development and Water Quality in Iowa

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Iowa, like the Midwest in general, has experienced chronic population loss in most farming-dependent counties since the 1930s, with a brief reprieve in the 1970s. Many farmers feeling the pinch of farm consolidation during and after the farm crisis of the 1980s turned to industrial livestock — especially hog — production. Many state and community leaders, seeking to spur economic development, also embraced industrial livestock production and processing.

These developments raise important questions for policy makers:

- How realistic is it to view industrial hog production as a vehicle for the sustainable development of Iowa's rural communities?
- More specifically, how is the growth of Concentrated Animal Feeding Operations (CAFOs) related to change in local educational levels and quality and degree of experience of the workforce?
- How does this growth affect individual and community-level financial well-being? Civic engagement?
- How does this growth contribute to contamination events and pollution levels in the county?

Our results help determine whether Iowans can consider such “hog lots” a form of sustainable local development.

This report systematically analyzes impacts of hog CAFOs on indicators of these community impacts by examining natural, financial, human and social capital in Iowa's 99 counties. We used multivariate statistical analysis to define associations over the decade of the 1990s (when hog CAFOs grew most rapidly in Iowa) between change in the various types of capital, on the one hand, and CAFOs on the other. In other words, did measures of sustainability and hogs in CAFOs change in relation to one another? Our statistical technique allowed us to examine the impact of hogs in CAFOs, holding constant the effects of other types of CAFOs (dairy, poultry and beef) and indicators of urban influence and agricultural structure.

Results

Social scientists and ecologists generally regard three elements as essential for sustainability: social equality and well-being, economic viability, and environmental soundness.

Social equality and well-being. Counties with expanding hog numbers in CAFOs also experienced significant private-sector employment growth. That expansion, however, made no positive contribution in terms of population retention, in-migration, employment of residents, or school enrollments. While industrial hog expansion may contribute to private-sector regional employment, it does not appear to have any relation to demographic growth *in the county in which the hog expansion occurs*, considering other changes in agricultural structure and the effects of urban influence. As regards quality of life for residents, the only measure with even a modest relation to CAFO-hog expansion is the growth in the proportion of non-school age adults *without* a high-school education.

Regarding social capital, an increase of hogs in CAFOs is unrelated to changes in civic engagement. CAFO expansion relates quite modestly to reduction in crime, and to increases in home ownership and numbers of religious adherents. Contrary to what others found in case studies focused on the issue, growth of hogs in CAFOs seems *not* to have depressed the level of social capital. Perhaps in Iowa, because state law prevents localities from

regulating CAFOs, mobilization against CAFO expansion has been focused on the state level, thereby defusing local conflict around the issue.

Economic viability. Hog CAFO expansion is associated with reduced core poverty, but largely unrelated to changes in median county income levels, housing values, and the share of near-poor households. Whether we measured economic development in terms of growth in retail sales, pay by local firms, or by an increase in the number of firms in the county, the effect of hog CAFO expansion was anemic. Selling prices of homes that were on the market in the 1990s declined significantly in counties where hog confinement operations were expanding most rapidly, although homeowners' assessment of the value of their homes remained steady. The relative decline in the value of houses sold in hog-CAFO-expansion counties may be due to the decline in housing prices near CAFOs and/or to increased movement in the affordable or low-value housing market as new workers move into the county.

It is important to remember that over the past quarter century, a rather constant number of hogs produced in Iowa have been concentrated geographically, increasing the density in some counties and decreasing density in many. That concentration has not generated local economic development in the counties where it occurred, suggesting there may be a countervailing effect of concentration: integrated or contract-feeding CAFOs often do not purchase inputs from within the county. Alternatively, one might argue that throughout much of the 1990s, the oversupply of market hogs kept prices low, and hog farmers had little to spend in the local economy, but it is not likely that the hog production industry as a whole substantially reduced its purchased inputs.

Environmental soundness. Finally, manure production from hog CAFOs strongly and positively related to three of the four contamination measures: manure spills, fish kills, and impaired waterways (lakes, streams and rivers).

Conclusion

Together, these data raise serious questions as to whether the growth of hog confinement operations in the 1990s in Iowa has generated sustainable local development. Indeed, in certain parts of Iowa, the opportunity costs may have been substantial. Their growth may have hampered rural tourism, recreation and destination retirement development in certain counties of northeast and southeast Iowa that have natural amenities as well as a high density of hogs.

The economic, social and human development impacts of CAFOs are, at best, modest. Research on counties of Iowa and the surrounding states indicates that although growth in livestock sales has a modest positive effect on county income growth, the contribution of outdoor recreation amenities is more than five times as great (Monchuk, et al, 2005: 17-18). Because of the odor of concentrated hog manure, and the negative impacts of hog CAFOs on surface water quality, recreational amenities and CAFOs cannot exist cheek by jowl. Our results show clearly that Concentrated Animal Feeding Operations are negatively associated with surface water quality in Iowa and beyond its borders.

The Iowa Policy Project

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