

Using the Past to Create a Sustainable Future for Agriculture: The Impact of Federal Farm Policy on Environmental and Social Landscape Change in Iowa (29)

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There is growing recognition that intensive rowcrop agriculture's predominantly uniform landscape lacks both environmental resilience and socioeconomic sustainability. As global agriculture charts a new course in a new century, policy initiatives must consider historical outcomes of previous policies, current socioeconomic and environmental issues, and a future vision related to agricultural and rural sustainability. We propose an interdisciplinary research project that uses a combination of ecological and social techniques to examine how U.S. federal farm policies have affected rural Iowa landscapes between 1933 and 2002.

The objective of this project is to quantify how federal farm policies have affected the environmental and social landscapes of rural Iowa over the past 70 years. U.S. federal farm policy initiatives have generally attempted to ameliorate the impact of chronic overproduction caused by revolutionary technological change, influence the economic and social well-being of rural society, and protect the natural environment. Yet, despite the vast amounts of money being invested in federal farm programs, rural populations, land ownership patterns, and environmental quality (e.g., soil, water, and biodiversity) have continued to change in ways that are often contrary to policy objectives. Because the number of farms continues to decline, soil-depleting annual crops are produced on the majority of the cropland, environmental degradation is attributed to agricultural practices, and natural ecosystems continue to deteriorate, the American taxpayer is beginning to seriously question their return on investment.

Whereas general linkages between farm policy and environmental and social functioning have previously been made, this study is the first to provide quantitative links between agricultural policy and the homogenization of rural Midwestern landscapes. We do this by assessing environmental and social landscape change over a 70-year period in three townships representing three primary physiographic regions in Iowa. Homogenization is assessed in terms of land cover types and configuration, stream sinuosity, parcel size, land use, land ownership and farm tenancy, rural housing and demographics, farm income, and community vitality (e.g., number

and types of civic groups, numbers and types of businesses). In assessing landscape change, we expect to reveal the extent to which past agricultural policy has achieved its intended goals as they relate to landscape heterogeneity; the unintended consequences of past federal farm policy will also be assessed. The knowledge gained through this research will assist policy makers in formulating sound decisions regarding sustainable agriculture practices and systems, exploring policy proposals and alternatives, and identifying potential barriers to more sustainable policies.

In assessing the intended and unintended consequences of past federal farm policy, this will provide new information that will aid policy makers as the future Farm Bills are debated, and it will assess the impact of policy on the future sustainability of Iowa's rural economies, communities, and natural resources. Although the focus of our work is on U.S. federal farm policy and the changing landscapes of rural Iowa, its impacts are potentially broad-based, given the sizable global footprint of agriculture and its trend toward the industrialization and top-down control.