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The broiler industry may be an instructive case. Arguably, consumers view broiler products as one of the best values in the meat case, if not the whole effects; and (3) that industrialization marks a diminution in the decision-making independence of the family farm.

Agricultural Industrialization and Environmental Quality

by David E. Ervin and Katherine R. Smith

Whether agricultural industrialization will ultimately improve or degrade environmental quality depends upon how shifting farm structure interacts with three sets of forces: pollution processes, technology innovation and adoption, and environmental regulation.

Pollution from agriculture has been characterized by nonpoint sources diffused across many farms and, often, large geographic areas. Under an increasingly industrialized sector there will be fewer firms, so it will be easier to track environmental performance. However, if industrialization leads to more geographically concentrated operations and greater amounts of waste per unit area, it becomes more likely that threshold levels of pollution will be exceeded in various localities.

Agricultural source pollution can be prevented by the development and use of environmentally friendly technologies. The question arises, then, whether firms under an industrialized agricultural sector will be more or less likely to innovate and adopt such technologies. Evidence from other sectors suggests that more industrialized firms adopt profitable new technologies earlier and at a faster pace. In addition, one might hypothesize that industrialized firms, if subject to less competition, will earn larger profits and have greater capacity to invest in research and development of pollution prevention technologies. On the other hand, if a significant portion of the stewardship behavior exhibited through current adoption of environmentally friendly production practices is related to farmers' autonomy and their majority ownership of capital assets, then loss of empowerment through consolidation, coordination, and integration may also mean a loss of motivation for farm-level actions that conserve natural resources or enhance environmental quality.

The course of environmental regulation of agricultural activities will obviously affect technology adoption and innovation, and industrialization can be expected to shift that course. Production agriculture now experiences less environmental regulation than do other major sectors, due, in part, to the diffusion of its nonpoint sources of environmental problems and also due to public sentiment for family farmers. The largely voluntary agroenvironmental programs now in place assume that farmers possess both the independence to make changes in production practices and the financial means to contribute to these encouraged practices. As the bimodal distribution of farm types that Drabenstott predicts for an industrialized sector occurs, we will see one set of farmers whose production practices are to some extent dictated by their coordination with other firms, and another set that will lack the financial resources to make substantial changes. Thus, current policy approaches could prove increasingly ineffective. Furthermore, the political economy of agroenvironmental regulation may be transformed as public interests find it easier to apply punitive measures to vertically integrated corporations than to individual farmers, and as contracting food and fiber companies join the melee of rent-seekers in that regulatory arena.

Given the projected pace of agricultural industrialization, more thorough investigation of the environmental implications of farm structure is not merely warranted, it is imperative.

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