Ecological Dimensions of Appalachian Agricultural Diversity, 1880–1910

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This research uses aggregate statistical sources to describe agricultural diversity in a 31 county area of Appalachian Kentucky over the period 1880–1910. In particular, it considers the distribution and duration of forest farming in this region. It examines the causes of agricultural diversity by testing a series of hypotheses conceptually based in ecological theory. For 1880, counties differed in the degree to which they had the characteristics expected for forest farming. This variation was geographically patterned. While there was still geographical variation in county agricultural characteristics in 1910, sufficient change had occurred so that none of the counties continued to closely conform to the pattern expected for forest farming. Variation and change in county agricultural characteristics were found to be related to population density and growth, soil quality, the presence of railroads, and the development of commercial coal mining.

KEY WORDS: agriculture; forest farming; social history; Appalachia.

INTRODUCTION

The need to include an historical perspective in human ecological theory and research is an acknowledged but rarely fulfilled goal (Moran, 1984;

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Netting, 1981, is an important exception). The lack of documentary data, particularly for individual communities, often makes historical ecological analysis an impossible task. This paper explores the use of aggregate statistical data in developing an ecological explanation of historical variation in regional agricultural patterns. The vehicle for this research is an analysis of agriculture in Appalachian Kentucky for the period 1880–1910. Within this context, the regional distribution and duration of forest farming is of particular interest.

Conceptual Framework

There are several human ecology models which inform this historical examination of regional agricultural patterns (Bennett, 1976, 1982; Duncan, 1964; Hawley, 1986; Moran, 1982; Netting, 1977, 1981). However, given the aggregate data used in this analysis, one model is especially important: the POET Model presented by Duncan (1964; Duncan and Schnore, 1959) and used in recent agricultural research by Albrecht and Murdock (1984). Basic to the model is the presentation of human activity patterns as occurring within parameters set by the domains of human biology, especially demography, social organization, the physical environment, and technology. Due to its sociological focus, the major orientation of this model has been the effects of population, environment, and technology on social organization. However, social organization can and does affect each of the other three domains. Depending on the problem being studied any of the domains might be considered dependent, and there is potential or actual feedback between the domain being examined and the others.

This basic model must be expanded in order to provide a conceptual framework that better reflects the real world. First, it is necessary to include the domains of history and of values, beliefs, and attitude. Values influence the decisions actors make when confronted with changes in any of the four domains. Similarly, history is important as it determines the circumstances in which actions occur. The history of a particular form of social organization limits or directs the choices actors make.

A second consideration is that social organization exists on a continuum from micro to macro, from the household and the local neighborhood and community, through to the nation and the world (Bennett, 1969; Dewalt and Pelto, 1985). The larger society is a part of the environment in which the small-scale social group exists. Like the natural environment, this social environment has a causal influence on local human action through introducing options and limits.

Finally, within this ecological framework, the physical environment includes natural and human-made or -modified components. Not only does the presence of a navigable river influence the commercial potential of a