

IRRIGATION FARMING  
IN THE  
HAVANA STRATH LOWLAND  
1953 - 1972

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Supplemental well irrigation in the humid eastern United States is practiced with considerable success in those areas having sandy soils with excellent permeability and low water holding capacity. One of these areas is the Havana Strath Lowland of the Middle Illinois Valley South of Peoria and adjacent to the Illinois River. Introduced into the region in 1953 by a single innovator, supplemental irrigation had been adopted by 109 operators by 1972.

The first objective of this work was to describe those spatial processes by which these innovations assumed their present patterns. The second objective was to discover the relations between the innovations and the pre-existing physical and cultural variations. A basic assumption of this study was that both mass communications and personal observation may have combined to be the most important single reason bringing about an adoption. Hypotheses were also made that took into account differences in soil permeability, water retentiveness, accessibility to groundwater, capital availability and ethnic variations in farmers.

Correlation and regression analysis permitted the examination of variables in relation to the dependent variable and the partial correlations developed in step-wise programs provided additional information to guide the analysis.

It was found that the diffusion process at this micro-scale appears to play the major role in bringing about a geographical change. However, distortions exist which may result in underestimating the

effects of this diffusion process. The sampling of potential innovators was small and thus the random error could be large. Familial relationships among adopters is present and affects a large percentage of the present adopters. While in the earlier period the developing pattern of irrigation adoption seems clearly to have reflected diffusion from the point of initial adoption, the publicizing of advantages after 1966 through mass communications led to an increasingly random pattern of adoption.