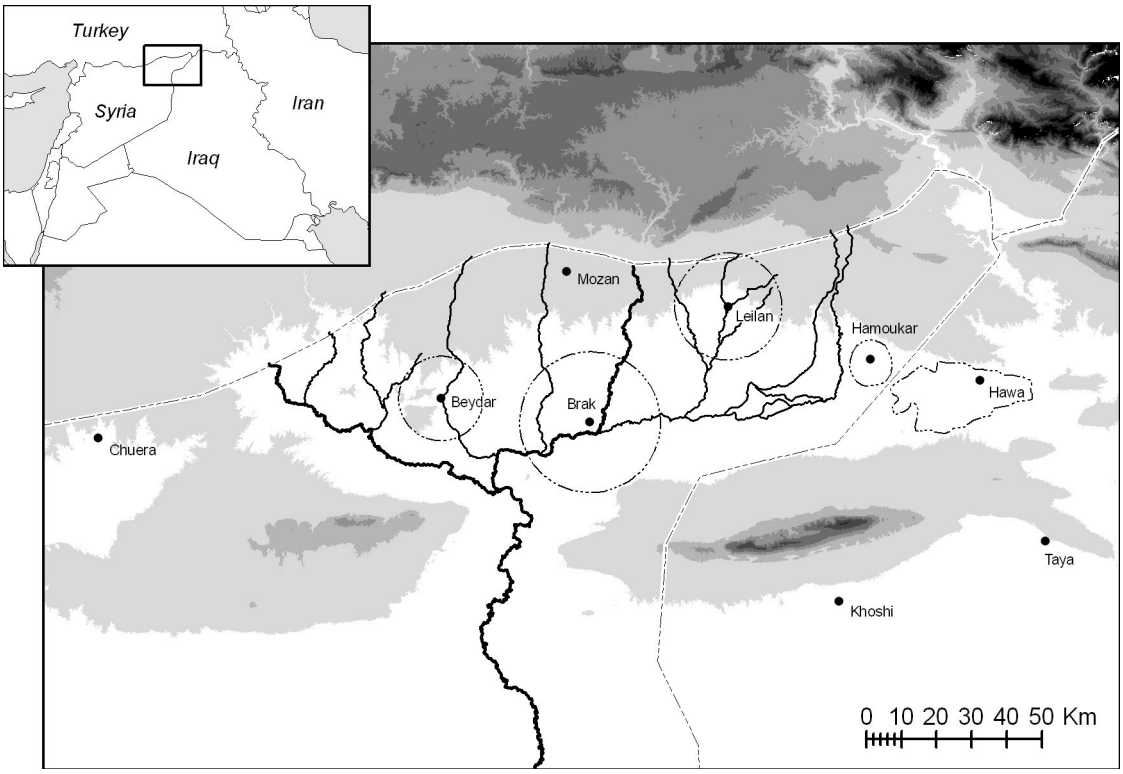

Figure 1. Third Millennium BC Sites with Survey Areas in Northern Mesopotamia

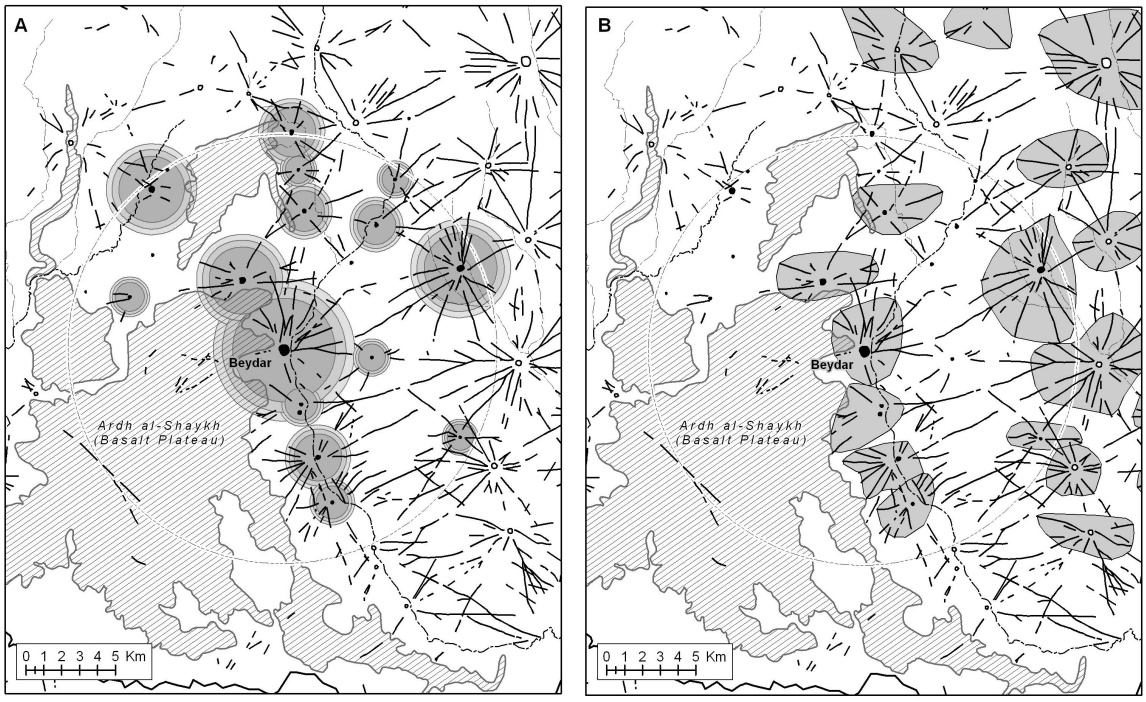

Figure 2. The Immediate Area of Tell Beydar with Estimated Site Sustaining Areas (A) and Inferred Cultivation from Hollow Ways (B)

Tell Beydar with satellites

	Area required to sustain the estimated site population (100–150 persons/ha)	Area estimated from all plow animals administrated by Beydar
Total land allocated (demand?)	2,267–3,400 ha	1,683-3,132 ha

Tell Beydar only

	Area estimated from Hollow Way catchment around Beydar	Area estimated from plow animals working Beydar fields
Arable land around Beydar (supply?)	1,503 ha	1,131-2,097 ha

Figure 3. Sustaining Areas and Cultivation (with Waste and Fallow) Estimated from Plow Teams and Hollow Way Catchments

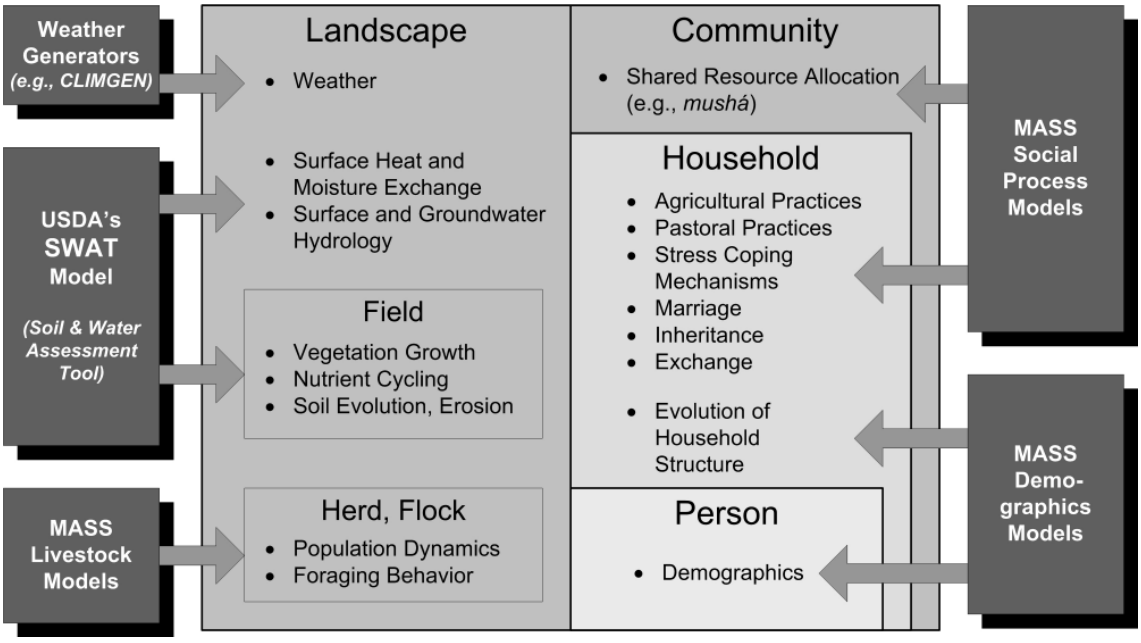

Figure 4. Simulation Entities and Dynamic Behavior Models for a Bronze Age Mesopotamian Simulation Framework

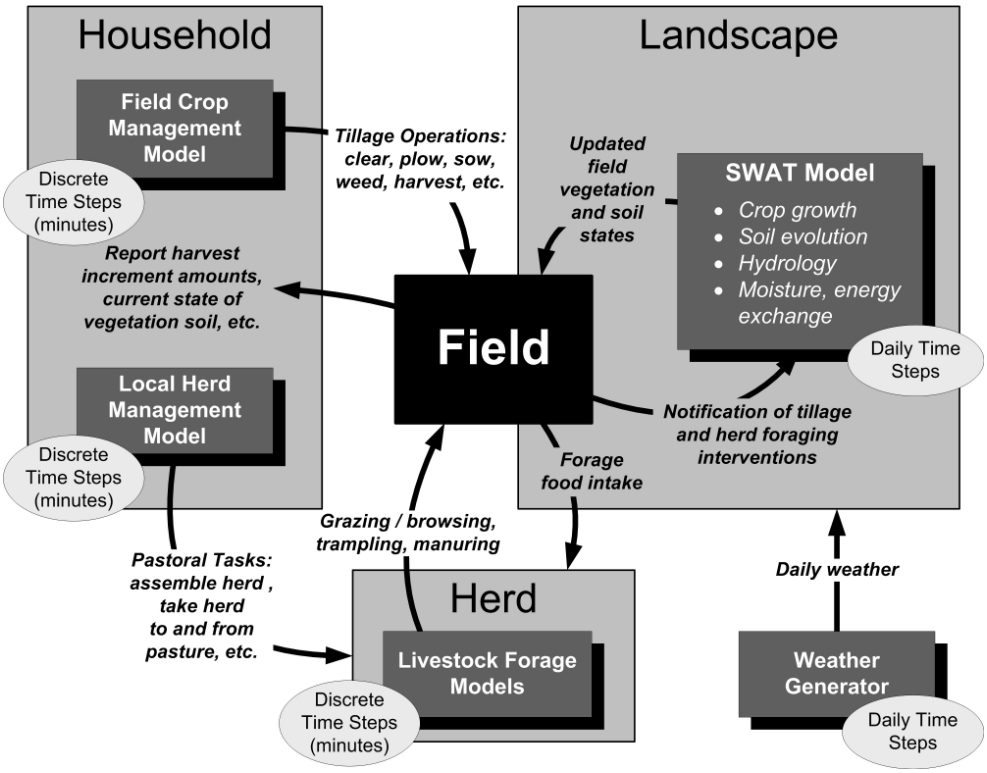

Figure 5. Modeling Representation of a Nexus for Natural / Social Process Interaction: An Agricultural Field.

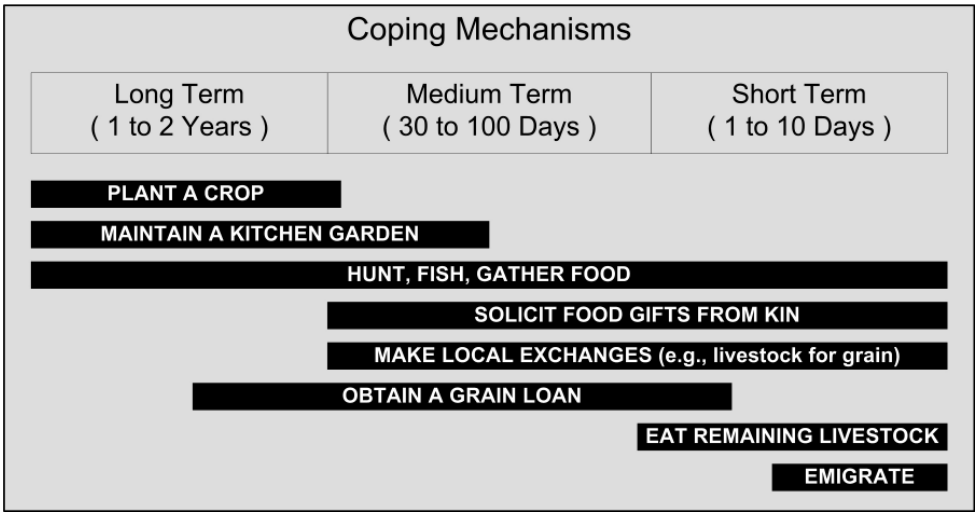

Figure 6. Modeled Household Food Stress Coping Mechanisms

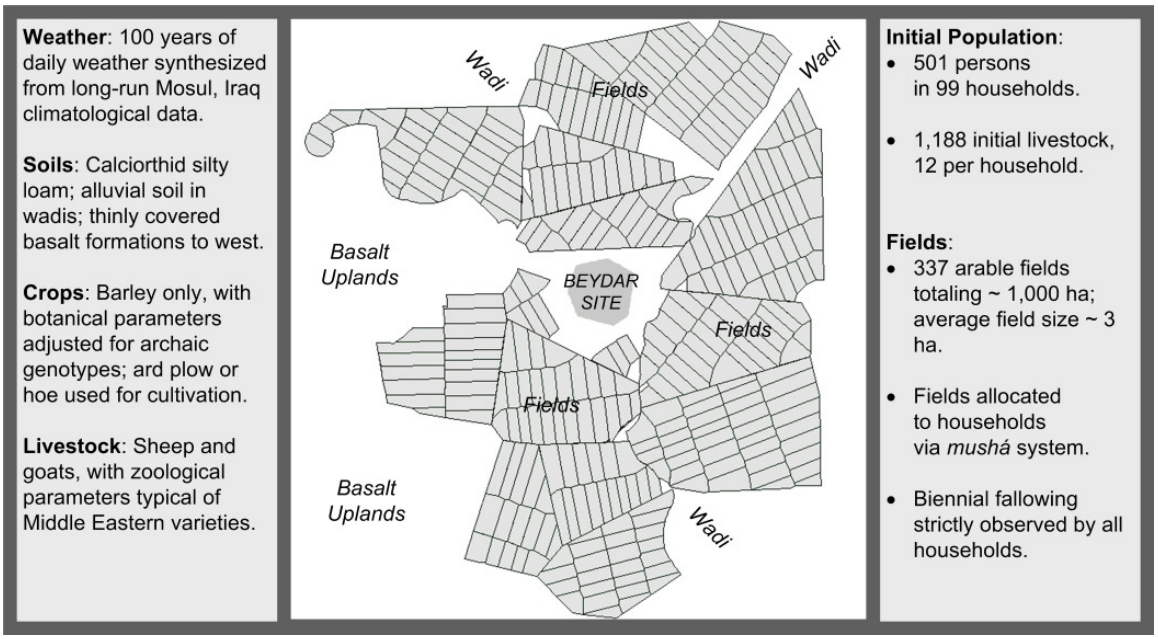

Figure 7. Spatial Layout and Initial Conditions for Beydar Settlement Simulations

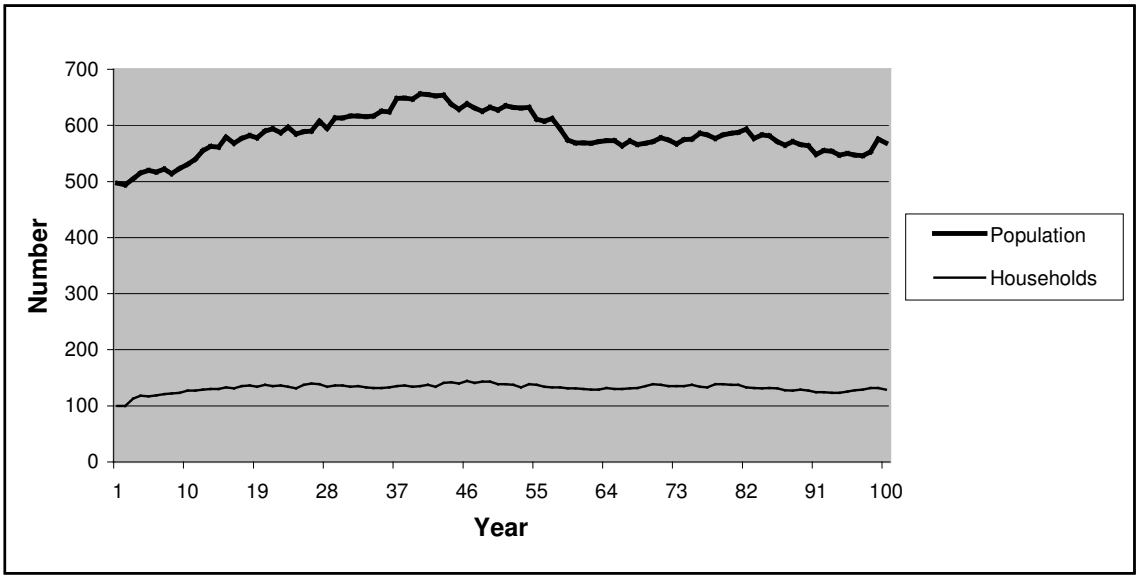

Figure 8. 100-Year Baseline Run: Total Population and Number of Households

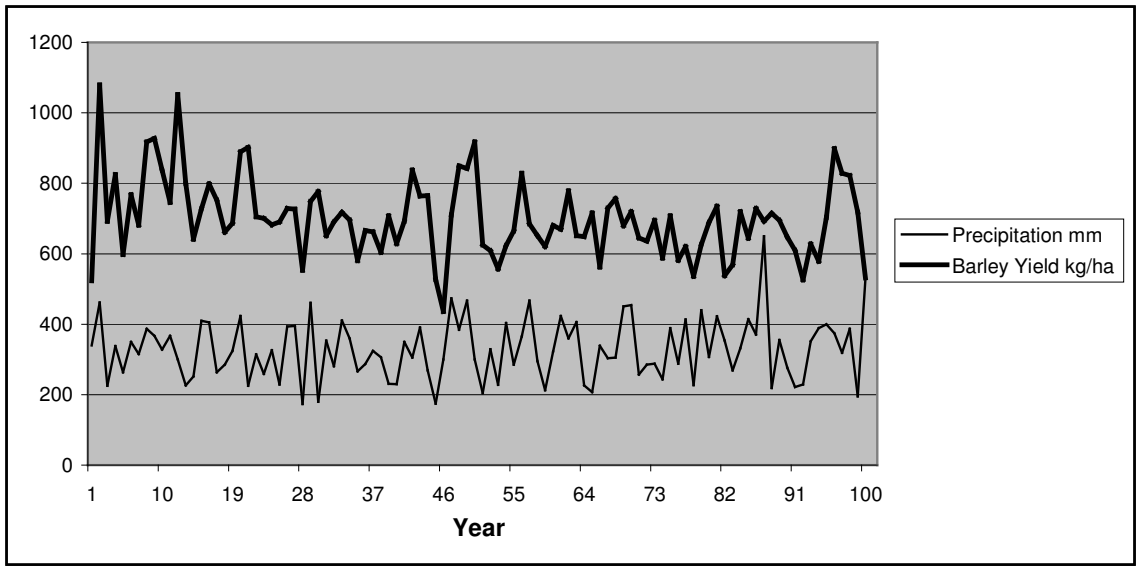

Figure 9. 100-Year Baseline Run: Barley Yield and Precipitation

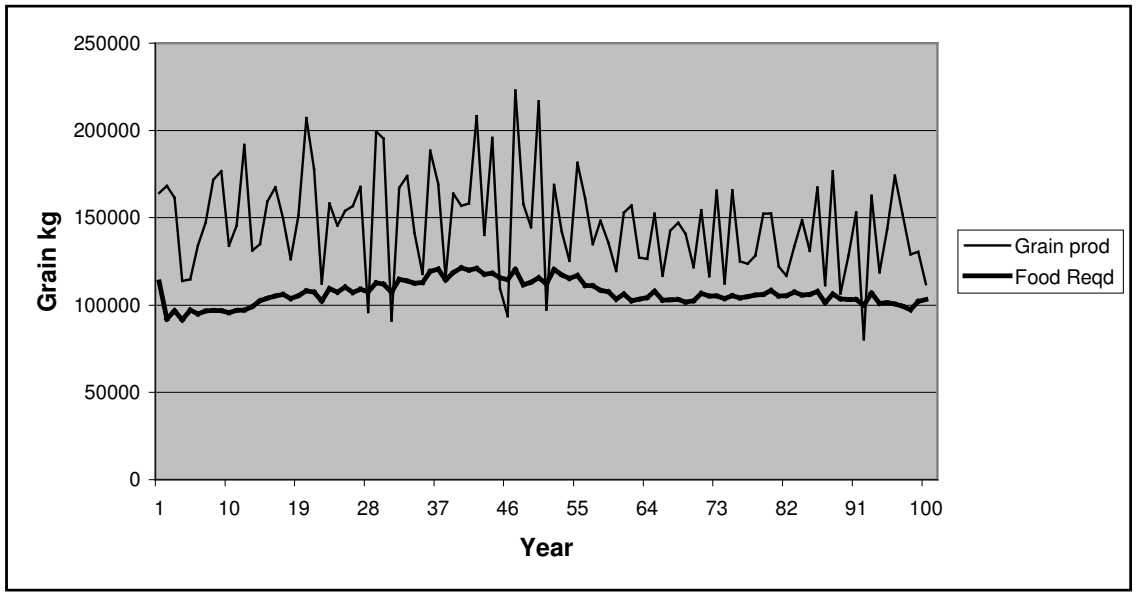

Figure 10. 100-Year Baseline Run: Trends in Settlement Food Production and Consumption

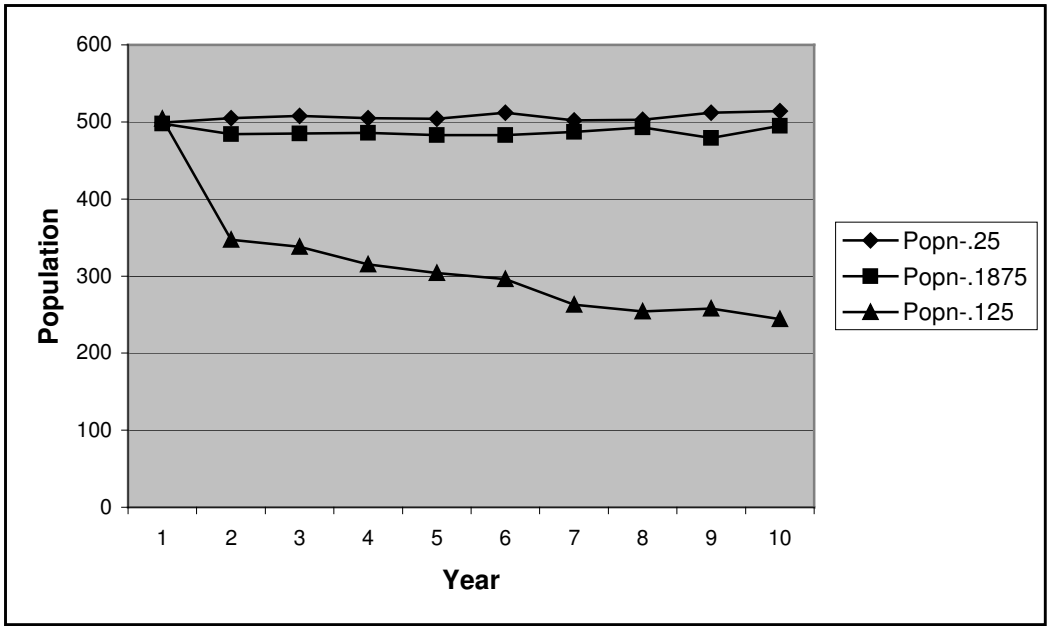

Figure 11. Effects of Varying Household Access to Plow Teams on Settlement Population Sustainability

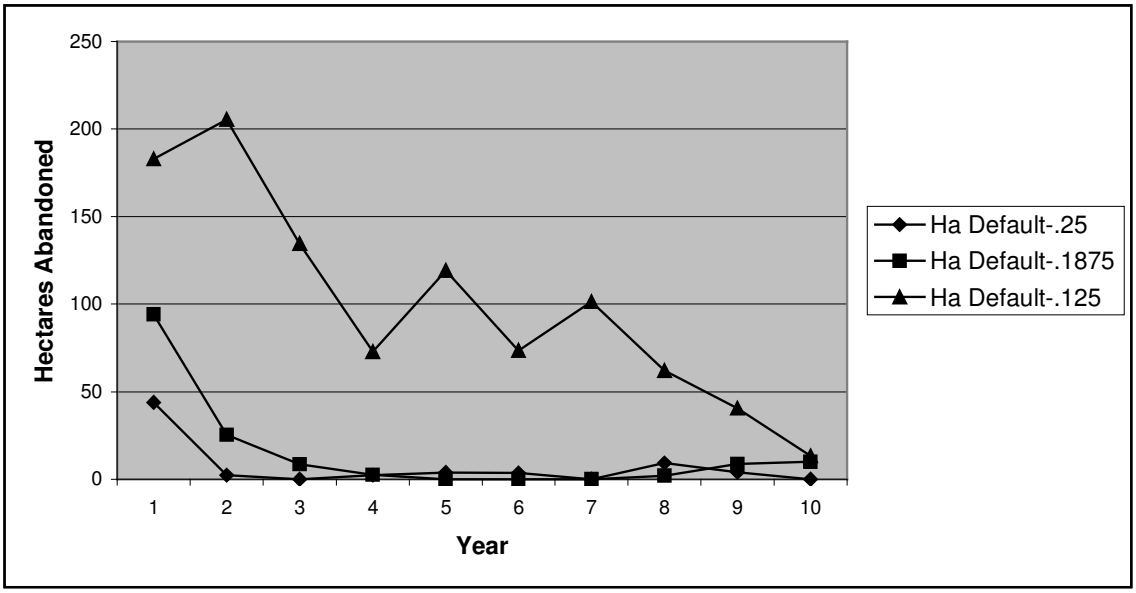

Figure 12. Effects of Varying Household Access to Plow Teams on Tillage-Related Crop Failures

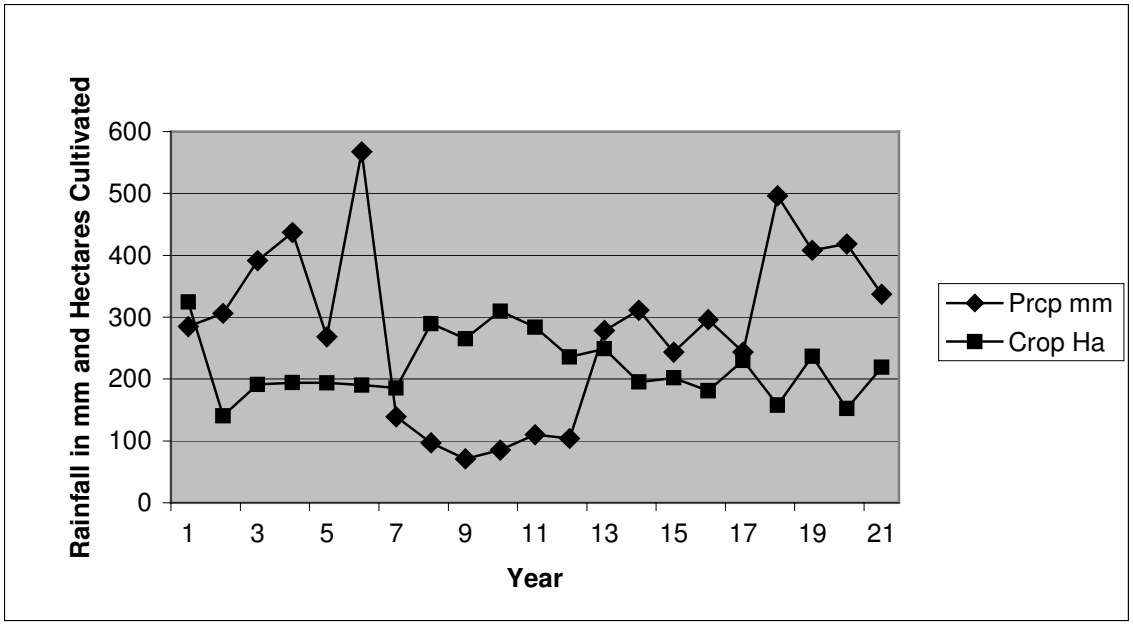

Figure 13. Settlement Cropping Response to a Five-Year Drought

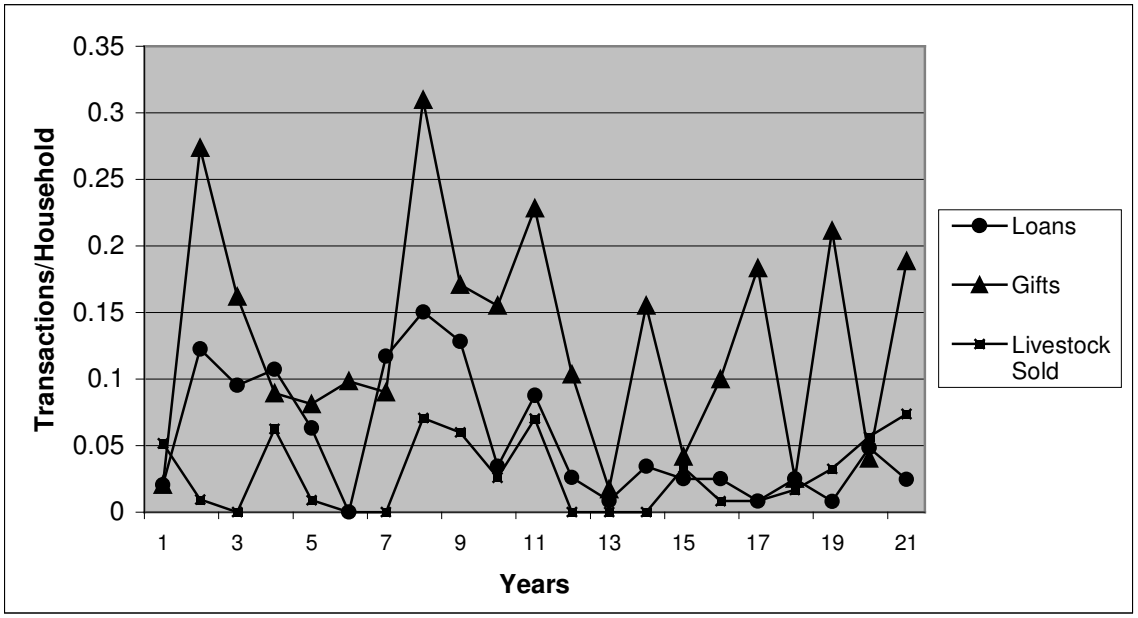

Figure 14. Volume of Household Grain Gifts, Livestock Sales, and Grain Loans for a Five-Year Drought Scenario