In this paper we take advantage of a 5-year panel data set from two villages in rural India to examine the potential role of spillovers and coordination failures as a source of inefficiency due to fragmentation. We first develop a model based on a simple characterization of the spatial structure of land fragments that illustrates how spillover effects impact input use and productivity. Our results suggest that spillover effects are, for the most part negative and that there are significant failures in coordination. The estimates also suggest that, consistent with the model, the surprising absence of a diversification effect may be attributed to higher levels of input variance arise in farmers with more fragmented holdings.