ABSTRACT

Climatic variability and change continue to militate against efforts to increase agricultural productivity and food and nutrition security in many developing countries. Several studies propose crop diversification as a climate risk management strategy to increase production and food security. Most of the empirical studies are based on cross-sectional data that do not account for unobserved factors that may affect crop diversification. A disaggregated analysis of the influence of climatic variability and change on crop diversification by agroecological profiles is less explored. Panel studies also do not combine more than one climatic variability and change indicator as we do. We employ panel data models on farm household and 31-year rainfall and temperature data to analyze the effects of climatic variability and change on crop diversification among small-scale farmers disaggregated by agroecological zones in Kenya. We find widespread crop diversification among small farms in warmer regions as a risk management strategy. Results further show that smaller farm size, limited use of inorganic fertilizer, low household incomes, and limited access to off-farm livelihood options influence the decision to diversify crop production. However, crop diversification is not a one-size-fits-all strategy and should be adopted in situations where it gives maximum benefits, consistent with existing land use policies and known benefits of a specified crop portfolio. Crop diversification should not crowd-out specialization, particularly among resource-endowed farmers.