

Household Earthquake Absorptive Capacity Impact on Food Security: A Case Study in Rural Costa Rica

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Abstract : The impact of natural disasters on food security can be devastating, especially in rural settings where livelihoods are closely tied to their productive assets. In hazards studies, absorptive capacity is seen as a threshold that impacts the degree of people's recovery after a natural disaster. Increasing our understanding of households' capacity to absorb natural disaster shocks can provide the international community with viable measurements for assessing at-risk communities' resilience to food insecurities. The purpose of this study is to identify the most important factors in determining a household's capacity to absorb the impact of a natural disaster. This is an empirical study conducted in six communities in Costa Rica affected by earthquakes. The Earthquake Impact Index was developed for the selection of the communities in this study. The households coded as total loss in the selected communities constituted the sampling frame from which the sample population was drawn. Because of the study area geographically dispersion over a large surface, the stratified clustered sampling hybrid technique was selected. Of the 302 households identified as total loss in the six communities, a total of 126 households were surveyed, constituting 42 percent of the sampling frame. A list of indicators compiled based on theoretical and exploratory grounds for the absorptive capacity construct served to guide the survey development. These indicators were included in the following variables: (1) use of informal safety nets, (2) Coping Strategy, (3) Physical Connectivity, and (4) Infrastructure Damage. A multivariate data analysis was conducted using Statistical Package for Social Sciences (SPSS). The results show that informal safety nets such as family and friends assistance exerted the greatest influence on the ability of households to absorb the impact of earthquakes. In conclusion, communities that experienced the highest environmental impact and human loss got disconnected from the social networks needed to absorb the shock's impact. This resulted in higher levels of household food insecurity.

Keywords : absorptive capacity, earthquake, food security, rural

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