Flood disaster effect on smallholder farmers' food security in Kelantan: an ordered logistic regression analysis

ABSTRACT

Food security of smallholder farmers especially those living in the coastal areas and floodplains is becoming increasingly threatened by disaster occurrence globally, since majority of them depends on agriculture as their sole source of food and income. However, flood disaster effect on smallholder farmers was paid little attention in the literature. Hence, understanding flood disaster effect on small-scale farmers' food security is critical for planning and flood disaster management. The aim of this study is to determine the potential effects of 2014/2015 flood disaster on smallholder farmer's food security in the Kelantan state of Malaysia. Data from a sample of 344 affected smallholder farmers was collected and analyzed using ordered logistic regression analysis. Based on the USDA categorization of food security levels, the findings reveal that 44.5% has high level food security after flood disaster, 30.5 % were very low food secured while 17.4% and 7.6% were at marginally and low food secured levels respectively. Additionally, smallholder farmers income ($\beta = 0.987$ p = 0.001, marital status ($\beta = 1.130$, p = 0.009), sex ($\beta = 0.563$, p = 0.012) and recovery resources ($\beta = 1.030$, p = 0.002) were all found to be significant and positively related to their food security. The implication of this study help policy makers to facilitate consistent and comprehensive long-term cost-effective strategies for flood management even though smallholder farmer's food security was not adversely affected to avoid cascading effect in the future. In addition this study will further give an insight to the academicians on flood disaster on other smallholder livelihood outcomes in the future research.