

## Abstract

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South Africa, although a food secure country, still experiences household food insecurity and has high child malnutrition rates. It is well documented that climate change will have a negative impact on both of these, however, there is limited research on the impact of short-term changes. The main aim of this study was to therefore measure and assess the impact of climate variability on household food insecurity and child malnutrition in the district of iLembe, KwaZulu-Natal. Household food insecurity was measured using an adapted coping strategies index that was informed through four focus group discussions. Two cross-sectional household surveys were carried out collecting information on household demographics, food and water, and coping strategies used during food shortages. Anthropometric data was collected for all children under-five years in the sampled households. Climatic data was collected from the South African Weather Service. Data collection took place in November 2016 while the district was experiencing a severe drought, and in November 2017 when average rainfall had increased. The study therefore followed a natural ‘during and after’ quasi-experiment. The coping strategies carried out by households during food shortages varied between rural and urban areas, with those in rural households more likely to rely on natural resources. Although the prevalence of food insecurity decreased slightly after the drought, the frequency some households carried out a number of the coping strategies increased. As a result, the prevalence of high and severe food insecurity significantly increased after the drought. A positive association was found between increasing rainfall and food insecurity during both rounds of data collection. This was attributed to the increase in severe and high food insecurity, but also indicated that the effects of a drought are prolonged and delayed. The poorest households and those located in urban areas were disproportionately affected by the drought, and were more likely to be food insecure. This suggests that they are the most vulnerable to the delayed economic effects such as increasing food prices. After the drought, child malnutrition increased for all forms, including that of over-nutrition, with the largest increases being in stunting and obesity. Child stunting was found to be strongly associated with increasing food insecurity but only after the drought, indicating a strong link between chronic under nutrition and chronic food insecurity. The study highlights that climate variability is a contributing factor to food insecurity and child malnutrition. Both short- and long-term interventions that improve household food insecurity in iLembe are required and they may also have a positive impact on chronic child malnutrition in the district. Future research should conduct a longitudinal analysis to better understand the relationship between household food insecurity, child nutrition and climate variability.