

## Abstract

Food security is a pressing global concern, particularly in developing countries such as Tanzania, where rural areas, predominantly inhabited by smallholder farmers, bear the brunt of its adverse effects. This study looks into the determinants of food security among smallholder farmers in Tanzania, utilizing data from the agriculture sample census survey of 2019/20 conducted by the National Bureau of Statistics (NBS). Employing a Non-experimental research design, the study used a probit regression model to estimate key factors influencing food security. The results underscore the significance of factors such as irrigation (-0.906,  $p < 0.01$ ), extension services (-0.040,  $p < 0.05$ ), crop storage (-1.473,  $p < 0.01$ ), land ownership (-0.070,  $p < 0.01$ ), and female land ownership (-0.909,  $p < 0.01$ ) as crucial determinants of food security in Tanzania. The study advocates prioritizing community-based irrigation for reliable water sources, expanding targeted extension programs, investing in modern crop storage, ensuring secure land tenure, implementing comprehensive seed subsidies, and adopting a holistic approach to soil fertility management. Policymakers are urged to support these measures to enhance food security among smallholder farmers in Tanzania, promoting resilience, productivity, and sustainability.

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<https://doi.org/10.51867/scimundi.4.1.2>