

## The Nexus between Downstream Supply Chain Losses and Food Security in Nigeria: Empirical Evidence from the Yam Industry

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**Abstract :** Food insecurity is a global problem, and the search for food security has assumed a central stage in the global development agenda as the United Nations currently placed zero hunger as a goal number in its sustainable development goals. Nigeria currently ranks 107th out of 113 countries in the global food security index (GFSI), a metric that defines a country's ability to furnish its citizens with food and nutrients for healthy living. Paradoxically, Nigeria is a global leader in food production, ranking 1st in yam (over 70% of global output), beans (over 41% of global output), cassava (20% of global output) and shea nuts, where it commands 53% of global output. Furthermore, it ranks 2nd in millet, sweet potatoes, and cashew nuts. It is Africa's largest producer of rice. So, it is apparent that Nigeria's food insecurity woes must relate to a factor other than food production. We investigated the nexus between food security and downstream supply chain losses in the yam industry with secondary data from the Food and Agricultural Organization (FAOSTAT) and the National Bureau of Statics for the decade 2012-2021. In analyzing the data, multiple regression techniques were used, and findings reveal that downstream losses have a strong positive correlation with food security ( $r = .763^*$ ) and a 58.3% variation in food security is explainable by post-downstream supply chain food losses. The study discovered that yam supply chain losses within the period under review averaged 50.6%, suggestive of the fact that downstream supply chain losses are the drainpipe and the major source of food insecurity in Nigeria. Therefore, the study concluded that there is a significant relationship between downstream supply chain losses and food insecurity and recommended the establishment of food supply chain structures and policies to enhance food security in Nigeria.

**Keywords :** food security, downstream supply chain losses, yam, nigeria, supply chain

**Conference Title :** ICMAPFS 2023 : International Conference on Multifunctional Agricultural Policies and Food Security

**Conference Location :** London, United Kingdom

**Conference Dates :** September 18-19, 2023