The agricultural sector is the source of food and livelihoods for the majority of poor and food insecure population in Sub-Saharan Africa (SSA). Improved soil nutrient management is essential for sustainable development of the agricultural sector especially in the SSA where soil quality has been severely depleted. Several African countries have introduced Input Subsidy Packages (ISPs) to improve crop yields and target food insecurity. The Tanzanian ISP called the National Agricultural Input Voucher Scheme (NAIVS) provides subsidized fertilizer and hybrid seeds. This study is an impact evaluation of the NAIVS on crop yields and food security. The analysis is based on non-experimental survey data from the Living Standards Measurement Survey in Tanzania. The methodology is a combination of econometric methods and simulations using the Tradeoff Analysis Model for Multi-Dimensional Impact Assessment (TOA-MD) model. The TOA-MD model is a relevant tool for impact evaluation using non-experimental data since it is based on the logical structure of economic policy evaluation (the Roy Model) to simulate policy impact on economic as well as non-economic factors. The preliminary results of our study finds that the NAIVS leads to significant improvement in maize yields by 20%–43% depending upon their agro-ecological conditions. However, its impact on food security, measured in terms of household food expenditure is limited. This shows that improvements in crop yields might not lead to improvements in food consumption. Further analysis will include other measures of food security such as Food Insecurity Experience Scale and anthropometric measures. This study has at least four major contributions. First, it uses a structural household model to critically evaluate a widely adopted agricultural policy in SSA. Second, the proposed methodology identifies causal impact with non-experimental data which captures the package structure of ISPs for joint adoption of fertilizers and improved seeds. Third, this study evaluates food security in its multidimensional nature using at least three indicators mentioned before. Finally, this study design can be used to evaluate different policy scenarios of the NAIVS on agricultural and food security indicators. Broadly, this study is an evaluation of a widely adopted agricultural policy that targets multiple Sustainable Development Goals.