

# **Impact of Public Expenditure on Yam Productivity and Its implication on Food Security in Nigeria**

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## **Abstract of the Paper to be Presented at the African Economic Research Consortium (AERC) Nairobi, Kenya**

Regarding the prevalent natural resources, there is no reason why Nigeria should be a net importer of large quantities of food. However, Nigeria's total food and agricultural imports are growing, and it is estimated at more than \$10 billion in 2015 (USDA<sup>1</sup>, 2016). Despite the huge amount of money spent on food importation, Nigeria was ranked 40th out of 79 countries on the 2012 Global Hunger Index (IFPRI<sup>2</sup>, 2012). Recent evidence shows that the proportion of the Nigerians who are undernourished has increased from 9 million in 2008 to 13 million in 2016 (FAOSTAT<sup>3</sup>, 2018). This is challenging if we consider the fact that the percentage of the "food insecure" is declining globally in recent time (FAOSTAT, 2017). For instance, the proportion of the undernourished has declined globally from 11.9% in 2008 to 10.7% in 2016 (FAOSTAT, 2018). Sanginga (2015) had demonstrated that yam is a versatile staple to address food and nutrition security and that it produces more food per unit area of land compared to many other crops.<sup>4</sup> He indicated that yam is also capable in efficiently converting natural resources into a more usable product, as its caloric energy content is the highest of all major arable crops, being almost double that of wheat and rice. Sanginga (2015) had demonstrated that yam yield in Nigeria has been depressed to a mere 14 percent of potential yields of harvests. However, as pressure on agricultural land increases, improved productivity of yam will be needed urgently in Nigeria.

Based on the foregoing discussion, some empirical questions readily come to mind. Firstly, can increases in yam productivity (yield) address food insecurity in Nigeria? Secondly, will increases in agriculture public expenditures in Nigeria take place and will such expenditures reverse the declining trend in the productivity of yam in Nigeria? Therefore, this study intends to measure the impact of public agriculture expenditures on yam yield and to establish the implications of increased yam yield on food security in Nigeria. Data for the study will come from FAOSTAT, from the Central Bank of Nigeria (CBN) Statistical Bulletin, from the Annual Abstract of Statistics of the National Bureau of Statistics, and from state government ministries of agriculture and finance. The study will be carried out at two (2) levels. The first stage is at the national level. At this level, the recurrent and capital federal government expenditures will be considered. The other variables that will be considered are

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<sup>1</sup> See on USDA: <https://www.usda.gov/>

<sup>2</sup> See on IFPRI: <http://www.ifpri.org/>

<sup>3</sup> See on FAOSTAT: <http://www.fao.org/faostat/en/#home>

<sup>4</sup> See on the author: [https://www.researchgate.net/scientific-contributions/2120209508\\_Nteranya\\_Sanginga](https://www.researchgate.net/scientific-contributions/2120209508_Nteranya_Sanginga)

the national average yam yield, national average rainfall, prevalence of undernourishment (%), and national agricultural credit. The national data range will be from the years 1978 to 2016. At the second stage, the focus will be on eight (8) out of fourteen (14) major yam-producing states in Nigeria. Granger causality tests will be carried out for the entire sample to establish the direction of causality between the percentage of the undernourished in Nigeria (food insecurity) and the yam productivity at the national level. We shall employ a generalized method of moments (GMM) to estimate the impact of public agriculture expenditures on yam productivity at the national level and at the yam-producing states levels, having controls for annual variation in rainfall, agricultural credit, and food insecurity or headcount poverty. In order to make the public agriculture expenditures' net dynamic effects clearer, we shall compute impulse response functions to depict the time path of yam productivity responses to a one-year increases in public agriculture expenditures. This will be done at the national level and for yam producing states.

Policy conclusions for the national level and for the level of yam-producing states will follow as well as an Agenda for Action.

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