Impact of USAID-MARKETS II Intervention on Productivity of Rice Farming Households in Eastern Nigeria. Adunni Sanni, Cordelia Nwahia, Zakari Abdulsalam

Introduction

Nigeria is blessed with climatic, vegetation and soil conditions suitable for rice production. Nigeria is the highest importer of rice in West Africa, and the second largest rice importer in the world, after Indonesia (Onyekwena, 2016).

Despite policies made by Nigerian government in the rice sector, rice production is still lower than domestic demand as a result of low rice productivity. Low rice productivity in Nigeria has been attributed to the prevalence of rainfed rice growing systems, low inputs use and farmers not using improved varieties (Onyekwena, 2016).

USAID MARKETS II is one of the efforts made by Nigerian Government to increase rice productivity. The project was initiated to assist rice producers with adequate knowledge and skills to enhance rice productivity, income and their well-being.

This study assessed the impact of USAID-MARKETS II on productivity of rice farming

Table 2: Impact of USAID-MARKETS on Productivity.

Sample	Treated	Control	Differ	Std.err	t-stat
TFP unmatched	2.822	2.415	0.407	0.126	3.23**
ATT	3.144	2.069	1.075	0.544	1.98*
ATU	2.265	3.321	1.056		
ATE			1.178		
Estimation	Parameter		R.std.err		Z-value
LATE by WALD	0.396		0.143		2.77***
mean difference					
Participants	2.821		0.123		22.90***
Non-participants	2.415		0.033		72.54***
Observed difference	0.406		0.128		3.18***



households in Ebonyi state, Nigeria.

Methodology

The study was conducted in Ebonyi State in Eastern Nigeria.



Total Factor Productivity (TFP) showed that output of the participants are more than double.

The Treatment Effect on the Treated (ATT) showed an increase in productivity of the participants by 1.075 (38.1%).

The LATE estimate showed an increase in rice productivity by 0.396 (14%). This is the average change in total productivity brought about by the participation in **USAID-MARKETS II.**

Non-participants



Broadcasting planting method



Participants



Line planting



MAP OF EBONYI STATE SHOWING STUDY AREAS

Multi-stage sampling procedures were used to select 239 participating rice farming households from the list of USAID-MARKETS II participants in 12 sampled villages. In order to control for spill-over effect, 252 non-participating rice farming households were selected from the list of 6 sampled villages from non-participating USAID-MARKETS II area. Data were collected from primary source with the aid of structured questionnaire and field observations.

Data collected were analyzed using inferential statistics such as Propensity Score Matching (PSM), Local Average Treatment Effect (LATE) and Total Factor Productivity (TFP) model as used by Coelli, (1996).

Results

Table 1: Logit Model on Determinants of USAID-MARKETS II Participation

variables	coefficient	Std. err.	Z
Age	-0.151	0.065	-2.33
House size	0.424	0.195	2.17
Farm size	0.331	0.719	0.46



Matured yellowish rice plant



Threshing manually done

Conclusion

Matured greenish rice plant



Threshing manually done

Extension visit	1 277	0 000	4.04
Extension visit	4.277	0.005	4.84
Years of coop	0.806	0.131	6.17
Education	-0.230	0.115	-1.99
Sex	-0.756	0.898	-0.84
Yrs of exp.	-0.212	0.068	-3.11
Credit amount	2.2e-06	5.7e-06	0.37
Constant	0.331	0.230	1.44
No of obs=476			
LR Chi2(9) = 95.23			
Prob > chi 2 = 0.0000			
Pseudo R2 = 0.4022			
Log likehood = 62.257			

This study concluded that USAID-MARKETS II had impact on the productivity of rice farming households by 38.1 % (PSM) and 14% (LATE).

The study therefore recommend that government should intensify agricultural empowerment programmes by strengthening the public private partnership linkages that will address sustainable development along the rice value chain in Nigeria.

References

Onyekwena, .C. (2016). Towards Rice Self-Sufficiency in Nigeria: Comtemporary Issues and Challenges. A Power Point Presentation to Centre for the Study of the Economies of Africa (CSEA).

Coelli, T. J. (1996). A Guide to Frontier Version 4.1: A computer program for stochastic frontier and cost function estimation. CEPA Working Paper 96/7.

The likelihood of participation in USAID-MARKETS II increases with household size, extension visit and years in cooperative but decreases with age, education and years of rice farming experience.

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