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Monetary and non-monetary poverty alleviation impact of system of rice intensification in Zamfara State, Nigeria

FRANCOIS SIÉWÉ¹, ADUNNI SANNI¹, BENJAMIN AHMED¹, HENRY EGWUMA¹, SUNDAY T. ABU²

¹*Ahmadu Bello University, Zaria, Dept. of Agricultural Economics, Nigeria*

²*Ahmadu Bello University, Zaria, Dept. of Soil Science, Nigeria*

Abstract

Empirical evidence of the quantitative impact of system of rice intensification on poverty is still practically unknown today despite its widely accepted yield-enhancing effects, especially in developing economies. To bridge this gap, data from 40 users of SRI and 260 users of farmers' practices (FP) were considered for the assessment of the impact of SRI on both monetary and non-monetary poverty using the endogenous switching regression and probit models. The findings revealed that the mean per capita income of SRI users was ₦370,770 (\$807 USD) per annum, which was 37 % higher than that of FP. The headcount ratio among the users of SRI and FP was 15 % and 41 %, respectively. On the other hand, 14 % of SRI users were multidimensionally poor in education, health and level of living compared to 28 % of FP users. Rice farming households were quite polarized by income and the impact of SRI on monetary and non-monetary poverty was significant, heterogeneous and mixed. SRI use increased mean per capita income by 3-4 %. Although, SRI users experienced an average of 66-91 % and 22-87 % decline in monetary and non-monetary poverty incidence, the monetary poverty gap and squared poverty gap increased, on average, by 76-134 % and 16-27 %, respectively. Moreover, even though SRI caused a reduction in nonextreme poverty by 65-98 %, the impact of SRI on extreme poverty was positive. Poverty was dominant among FP users and the use of SRI significantly contributed to poverty alleviation in the study area globally. However, for improved income distribution and further reduction in headcount ratio, careful targeting is required in subsequent testing and promotional SRI programmes in the country which would ensure that extreme poor and marginalized farm households are not left behind.

Keywords: Impact, poverty alleviation, system of rice intensification