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Thesis Title: - Does Crop Diversification Increase Agricultural Productivity and Mitigate Negative Rainfall Shock? Evidence from Ethiopia

Abstract

Agricultural productivity is very essential for poverty eradication and improving living conditions of farmers in Ethiopia. However, agriculture in Ethiopia is in subsistence level, highly rely on rainfall and more sensitive to climate change so variability of rainfall and other climatic factors during the growing season can induce food shortages and famine. Indeed, the most commonly cause of crop damage reported during 2015/16 Ethiopia socio economic survey is too little rain, approximately 46% of household report exposure to this cause of crop. Thus does farmers adaptation particularly crop diversification increase land productivity and reduce adverse impacts of negative rainfall shock on land productivity is critical policy issue in Ethiopia.

Hence, I examined the impact of crop diversification on land productivity and in mitigating adverse impact of negative rainfall shock on land productivity in six regions of Ethiopia using 2015/16 Ethiopia socio economic survey to give policy direction. I used IV estimation approach to address the objective of this paper. I had two endogenous variables in the estimation model that is crop diversification and interaction of crop diversification with negative rainfall shock. I instrumented my first endogenous variable with household distance to parcel and second endogenous variable with the interaction of household distance to parcel and negative rainfall shock.

The IV estimation result revealed that crop diversification has a significant and positive impact on land productivity. However regarding to mitigating adverse impact of negative rainfall shock, the result asserts that crop diversification couldn't significantly mitigate the adverse impact of negative rainfall shock on land productivity. Therefore, the government should promote scientific based method of crop diversification through expanding agricultural extension program and creating awareness about the properties of each crop in order to utilize and maximize the advantage of crop diversification for mitigating the adverse impact of negative rainfall shock on land productivity.