

# **The Adoption and Dis-adoption of improved maize varieties in Tanzania**

**Bethuel Kinyanjui Kinuthia**

**School of Economics, University of Nairobi and the Institute of Research on Economic  
Development (IREED), Nairobi, Kenya**

**&**

**Edward Mabaya**

**Cornell University, Ithaca, USA**

**Draft Paper - 15 Feb2017**

## **Abstract**

In most Sub-Saharan African countries, smallholder agriculture is characterized by low use of purchased inputs pesticides, inorganic and improved seed. Consequently, Africa's agricultural productivity lags behind global averages and most countries are unable to meet the increasing food needs of a growing population. While increased investments in breeding activities has resulted in many new crop varieties suitable for smallholder farmers in Africa, adoption rates remain low, casting doubts on the potential for a green revolution. This paper examines the factors influence the adoption and dis-adoption of improved maize varieties in Tanzania. The study uses both probit and bi-probit model to first look at the factors that influence farmers purchase of certified or quality declared seed (hereafter referred to as improved maize seed). The second part focuses on the factors that influence dis-adoption of improved maize seed. The study uses panel datasets based on the Living Standards Measurement Study-Integrated Surveys on Agriculture for the period 2008 to 2014. The results show that the most important factors that influence adoption of improved maize seeds using the two models age and quantity harvested (yield) in Tanzania. Results indicate that life-cycle plays a significant role in the technology adoption decision in Tanzania. Low yields will cause the farmers to avoid of improved seeds. The continue adoption of improved seeds is related to less education and ownership of animals. Policy makers should encourage adoption of improved seeds as it results in higher yields. They should focus more on younger farmers with incentives to encourage them to use improved seeds compared to older farmers who focus more on traditional seeds. Moreover, farmers need training to understand the important on continue adoption of the improved seeds.

**Keywords:** Improved seed, technology adoption, dis-adoption, Tanzania

---

This paper is based on the PEP-Structural Transformation of African Agriculture and Rural Spaces 'STAARS' Project -01, carried out with financial support from the Government of Canada through the International Development Research Center (IDRC). Other partners of the STAARS consortium include the African Development Bank (AfDB), the African Economic Research Consortium (AERC), the CGIAR Research Program on Policies, Institutions and Markets (PIM), Cornell University and the World Bank. PEP receives core funding from the Department for International Development (DFID) of the United Kingdom (or UK Aid) and the IDRC.