Abstract

Roads and Rural Development: Evidence from a Longitudinal Household Survey in Kenya

by: **Kiprono Philemon**

Dissertation Director: **Prof. Tomoya Matsumoto**

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Agricultural productivity continues to dwindle in Sub-Saharan Africa (SSA) countries, and, coupled with the high rate of population growth and the ever changing climatic conditions, these nations are exposed to extreme poverty. Unless drastic measures are undertaken to reverse the trend, food production will continue to decrease eventually setting the countries into poverty traps. Hardest hit will be the rural areas, where the majority of the vulnerable poor live. To avert this looming crisis, researchers have proposed a number of measures, including improving road infrastructure to aid market accessibility and integration, which is thought to have a larger and sustainable impact. Market accessibility and integration as a result of road infrastructure improvement is pertinent to the process of economic development, especially in rural areas, as commodity prices is linked to transport cost. High transportation costs are always reflected in high input prices and low output prices, thus forbidding smallholder farmers to engage in profitable agricultural investment. Documented evidence of the benefits of road infrastructure improvement have remained scarce, concentrating in Asia with a few studies in Africa.

In the recent past, there have been sizeable cash flows (in terms of concession loans and grants) to the African continent to support the improvement of road infrastructure, yet a few studies have been carried out to asses the impacts of such a massive investment.

Using longitudinal data collected in Kenya between 2004 and 2012, and supplementary data for roads infrastructure, this study finds the positive impact of road improvement on a number of our outcome variables. Specifically, land allocated to hybrid maize, organic manure application, the yield of maize and market participation for milk increased in areas experiencing better road access. Although the use of inorganic fertilizer increased, it was not significantly associated with improved roads. Furthermore, this study finds that in areas experiencing road improvement, smallholder farmers' income, in particular farm income, livestock income and non-farm income have increased. It also finds increased household expenditures in areas receiving road improvement, especially expenditures on food.

Lastly, this study evaluates the determinants of the road improvement by combining longitudinal dataset collected in Kenya between 2004 and 2012 together with secondary election dataset and night-light dataset for the same period. The study finds that during the period between 2003 and 2012, there was no undue influence by politics on the allocation of Constituency Development Funds (CDF) as well as on road rehabilitation. We find that between 2004 and 2012, the areas represented by Members of Parliament (MPs) allied to the government did not receive more rural road improvement than areas represented by the opposition. In fact, there has been a significant reduction in the improvement of infrastructure in areas where cabinet members hail from. Similarly, the areas that voted for the winning presidential candidate did not receive more rural road improvement that other areas. For the road improvement to nearby big town, there is a positive association between road infrastructure improvement with our political variables, but may be a contemporaneous.

Using these findings, a number of policies geared towards the improvement of agricultural productivity and development have been suggested.