

The impact of research and development investment on Agricultural sector performance in Kenya

ABSTRACT

The study assesses the impact of R&D investment/expenditure on the agricultural sector performance in Kenya. Food security has been an important concern for the Kenyan government. In order to achieve this, the agriculture sector has been pinpointed by various sessional papers as the sector that can make food security possible. However, the performance of agriculture sector and consequently the state of food security has been dismal. The study argued that R&D investment in the sector would enhance its performance and solve the food security concern. A review of literature indicated that impact assessment can take three forms, direct product impact, intermediate products impact and people impact. The study took the peoples impact direction. The data for this study was collected from various government agencies such as KARI, ASTI, Kenya Agricultural Sector Data compendium website, FAOSTAT, WOrld Bank among others. Our statistical analysis was based on a conceptual model adapted from Suphannachart and Warr (2009) in which the determinants of TFP include agricultural research on agricultural production as well as other economic and non-economic factors such as, infrastructure and weather conditions. Error correction modeling method was used in analyzing the data for this study. Error correction modeling (ECM) offers an improved method to estimate the long-run dynamic relationship among time series economic variables. Cointegration results for both the parsimonious and non parsimonious model indicated that that there is a long-run relationship among the variables in the agriculture performance in Kenya. However, findings in this study indicated that the variables under study were insignificant determinants of the long run Total Factor Productivity of the agricultural sector. Meanwhile, Trade openness was the only significant determinant of the short run agricultural Total Factor Productivity. The positive but insignificant error correction term obtained from this study implied that there is no gradual adjustment (convergence) to the long run equilibrium. As an area of further study, this study recommends the estimation of the required rate of return derived from R&D investment in the agricultural sector.