

ANALYSIS OF AGRICULTURAL PRODUCTIVITY GROWTH, INNOVATION AND TECHNOLOGICAL PROGRESS IN AFRICA

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ABSTRACT

Over the last 5 decades agricultural research in Africa has made substantial progress in the development of new technologies. However, due to ineffective technology transfer mechanisms and a poor linkage between agricultural research and the farmers, the impact on the ground has been so far minimal. This paper reviews the evolution and the present state of agricultural productivity and technology in Africa; drivers of technology adoption in agriculture in Africa; and the impact of this technology on the performance of the agricultural sector. Utilizing data envelopment analysis (DEA) for time series data for a 39-year period (1971-2009), the study measures Malmquist Index of total factor productivity and examines changes in agricultural productivity in African countries in the context of diverse institutional arrangements, human capital, natural factors and food price volatility. The total factor productivity is further decomposed to determine whether the performance of factors productivity is due to technological change or technical efficiency change over the reference period and it was observed that technological change contributes more to the productivity growth than efficiency change which showed a decline. The findings suggests that the slow growth in agricultural productivity experienced by the continent lies with the institutions, human capital development, policies and natural factors such as access to the sea and land quality

KEYWORDS: Data Envelopment Analysis, Innovation, Productivity, Africa