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Evaluating the Performance of Maize Farmers in Nigeria using Stochastic Distance and Stochastic Production Frontiers

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ABSTRACT This study estimates the technical, allocative and cost efficiency of farm households using stochastic distance and stochastic production frontiers. Further, the study examines determinants of efficiency. Data was collected from a random sample of 240 maize farmers in Benue State Nigeria using structured questionnaires. Results from both distance and production frontiers show that farmers in the area are inefficient. Although the efficiency measures from the two frontiers are quantitatively different from each another, the overall consistency check shows that the farm households were ranked similarly by both approaches. This is particularly robust to allocative and cost efficiency. Improved maize seed, inorganic fertilizers, conservation practices, size of farm holdings, education, and access to extension services, credit and market were found to have significant impact on efficiency. Thus, investment in agricultural research coupled with complementary policies is an effective instrument for revamping agriculture and poverty reduction in Nigeria.