Factors influencing the total factor productivity growth of maize production in Nigeria

ABSTRACT

The study analyzed the maize Total Factor Productivity growth using Data Envelopment Analysis (DEA) based on Malmquist Index in Nigerian. Factors that affect maize total factor productivity growth were also identified using Ordinary Least Square (OLS) method. The study used secondary annual data for the period from 1971- 2010 in order to attain the objective. The result revealed that for the forty-year period of maize production the mean value of TFP was 1.004. This implied a maize total factor productivity growth of 0.4%. In the period of study, the result showed that, the country had registered the total factor productivity growth of $\times$ 1.00 that stood at 43.6%. While 56.4% of the time studied the country had a decrease in maize total factor productivity growth, and that confirmed inputs growth rather than an output growth. From 1971-1975 on average the country registered a regress in total factor productivity growth by -3.5%.However, from 1986-1990 the country had on average registered maize productivity growth of 3.7%. The result further showed that from 1991-1995 the country had on average experienced a 35.7% growth in maize productivity in the country. A double digits productivity growth of 33.4% is also exhibited for the period from 2006-2010.For the determinants of maize total factor productivity growth, research and development spending, net value of production, fertilizer price and labor were identified to have a significant influence on total factor productivity growth .It was recommended that, expanding scope of research and development, net value of production and labor use will help to raise maize productivity growth in the country. Also price of production inputs like fertilizer should be part of government policy priorities.

Keyword: Data envelopment analysis; Maize; Malmquist index; Ordinary least square model; Total factor productivity growth