

## An Estimation of Rice Output Supply Response in Sierra Leone: A Nerlovian Model Approach

**Authors :** Alhaji M. H. Conteh, Xiangbin Yan, Issa Fofana, Brima Gegbe, Tamba I. Isaac

**Abstract :** Rice grain is Sierra Leone's staple food and the nation imports over 120,000 metric tons annually due to a shortfall in its cultivation. Thus, the insufficient level of the crop's cultivation in Sierra Leone is caused by many problems and this led to the endlessly widening supply and demand for the crop within the country. Consequently, this has instigated the government to spend huge money on the importation of this grain that would have been otherwise cultivated domestically at a cheaper cost. Hence, this research attempts to explore the response of rice supply with respect to its demand in Sierra Leone within the period 1980-2010. The Nerlovian adjustment model to the Sierra Leone rice data set within the period 1980-2010 was used. The estimated trend equations revealed that time had significant effect on output, productivity (yield) and area (acreage) of rice grain within the period 1980-2010 and this occurred generally at the 1% level of significance. The results showed that, almost the entire growth in output had the tendency to increase in the area cultivated to the crop. The time trend variable that was included for government policy intervention showed an insignificant effect on all the variables considered in this research. Therefore, both the short-run and long-run price response was inelastic since all their values were less than one. From the findings above, immediate actions that will lead to productivity growth in rice cultivation are required. To achieve the above, the responsible agencies should provide extension service schemes to farmers as well as motivating them on the adoption of modern rice varieties and technology in their rice cultivation ventures.

**Keywords :** Nerlovian adjustment model, price elasticities, Sierra Leone, trend equations

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