ANALYSIS OF SUPPLY RESPONSE OF COCONUT CULTIVATION IN SRI LANKA

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Coconut (*Cocos nucifera*) is a major plantation crop grown in Sri Lanka. The output has been used as local consumption of fresh nuts (59%). coconut based industries within the country (11%) and coconut exports (30%) in 2016. The instability of coconut supply seriously affects local as well as export market potential. Identification of various factors and the extent to which they affect to the current coconut supply have not been examined in the recent empirical work. Using the Nerlovian Partial Adjustment model, this study examines the supply response of coconut in Sri Lanka. The study used time series data of total coconut production. output price. rainfall, fertilizer amount, land extent, and the presence of fertilizer subsidy for a period of 30 years (1985-2015) for the analysis. Among the different types of functional forms tested, the linear model was selected as the best fit model (R^2=0.897). The model was tested for autocorrelation and heteroscedasticity using Durbin-Watson statistic and the Breusch-pagan test respectively. The results revealed that the variables, i.e. one year lagged price, two years lagged price. four years lagged price, one year lagged rainfall, two years lagged rainfall, and two years lagged fertilizer amount affect the coconut production significantly ($p<0.05$). The short run and long run price elasticities were estimated for one year lagged, two years lagged and four years lagged output prices respectively. The magnitudes of these elasticity values range from 3.54 to 5.5. The output price is the most influential factor (with β = 0.83-1.13 for the three lagged price variables considered) followed by rainfall (β = 0.32-0.4) that determine the coconut production in Sri Lanka. The study concludes that coconut production in the country tends to change as a response to the changes in coconut price both in short run and long run.

Keywords: *Cocos nucifera*, Nerlovian partial adjustment model, Supply response