SUPPLY RESPONSE OF PERENNIALS: THE CASE OF COCONUT SECTOR IN SRI LANKA

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Coconut (*Cocos nucifera* L) is one of the most essential tree crops, providing lots of benefits in both economically and non-economically. The inadequacy of supply has become a serious problem in the coconut industry in Sri Lanka. This study attempted to capture the perennial dimensions of coconut estimating supply response using Sri Lanka as the case. The study used time series secondary data for the period from 1990 to 2019 developing three econometric models; short-run, long-run, and a new planting model to analyze the supply response. The short-run model used yield as the dependent variable with a series of independent variables; real wholesale price, rainfall, technology, and one-year lagged yield. The long-run model used coconut production as a function of a series of lagged variables including real price, rainfall, new planting, production, technology, land extent, and fertilizer applied. The total variations explained by the short run model, long run model and new planting model are 60%, 66%, and 83% respectively. The analysis revealed that the one year lagged yield, the real price ($p<0.05$) and rainfall ($p<0.01$) are the most influential factors that determine the short-run supply response. In the long run, one year lagged real price, land extent and rainfall were significant at 10% level while technology, three years lagged production and fertilizer subsidy were significant at 5% level. The one year lagged new planting ($p<0.01$) is the most significant factor in the new planting model confirming the necessity of improving the productive capacity in planting decisions. Furthermore, the yield risk factor ($p<0.05$), expected yield ($p<0.1$) were also significant explanatory variables of the new planting model. The estimated short-run and long-run supply price elasticity values were 0.22 and 0.18 respectively suggesting a high degree of inelasticity. This indicates that Sri Lankan coconut growers show less responsiveness to price incentives.

Keywords: Coconut, Long run, Perennials, Short run, Supply response