



**P 05 Forecasting retail and wholesale prices of bean in Sri Lanka using seasonal ARIMA model**

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Sri Lankan per-capita consumption of bean is 4.07kg/yr and production is 42691Mt/yr (Department of Census and Statistics 2010). Bean is seasonal produce and the price is determined by demand and supply. Forecasting of vegetable prices is useful for farmers, governments, and agribusiness industries. They can adjust their cropping-calendar while deciding the crop mixture to be cultivated in the given season. Government policy makers can decide when to apply or reduce tariff according to the market price fluctuation. The objective of the present study was to develop a quantitative model for forecasting bean retail and wholesale price in Sri Lanka by using the Box-Jenkins (ARIMA) methodology. Monthly average prices of bean were collected from Hector Kobbakaduwa Agrarian Research and Training Institute for the period from January 2007 to November 2012. The study found that the ARIMA model is the best model for forecasting of prices of bean compared to decomposition, and moving averages as it gives lowest MSD and MAPE values. MAPE values of estimated ARIMA models were 9.6%, and 14.2% for retail prices and wholesale prices respectively. The best model ARIMA (1,0,0) (1,1,1) for both retail and wholesale prices. Estimates show that the model can be used to forecast future prices of bean.

**Keywords:** seasonal ARIMA model, forecasting, bean prices, Sri Lanka