# ELASTICITY ESTIMATES FOR THE AGRICULTURAL SECTOR IN SRI LANKA: A SURVEY

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In quantitative policy analysis, knowledge on the elasticities, which show the response of supply or demand to different variables, is of immense importance. The objectives of this study were (i) to document the elasticity estimates available in the Sri Lankan agricultural sector and (ii) to suggest the areas where further research is necessary.

Econometric results on elasticity estimates were collected from the journals, dissertations and unpublished reports. Agricultural economists in Sri Lanka were personally contacted requesting the lists of their publications on elasticity estimates.

The study revealed that consumer demand elasticities have been estimated for a large number of food items such as cereals (rice and wheat), pulses, livestock products (milk, eggs, meat, and fish), and other crops (tea, coconut and sugar). Furthermore, export demand and import demand elasticities were available for tea and milk, respectively. Supply elasticities have been estimated for a number of annual crops (vegetable, chillie, pulses), perennial crops (tea, rubber and coconut) and livestock products (egg, chicken meat and milk). Estimates on input demand elasticities could be found for fertilizer and seed. Production functions have been developed for rice and tea. A few studies have reported elasticities with respect to research, advertising, credit, and irrigation.

Even though a variety of functional forms have been used, only a few studies have obtained elasticity estimates through flexible functional forms. Elasticities based on translog quadratic and Almost Ideal Demand System (AIDS) functions to estimate production, profit and demand systems, respectively were available.

In many cases, aggregated functions were estimated using either time series or cross sectional data. In some studies on demand analysis dis-aggregated functions were specified for urban, rural, and estate sectors. In production function estimations, region specific functions were specified. The most common econometric technique used for single equation estimation was ordinary least squares. SUR and MLE were used for system estimation.

It is evident from the survey that elasticity estimates are not widely available for the export crop sector and horticultural crop sector. Estimates based on alternative assumptions regarding producer behavior other than profit maximization, imperfect competition and product heterogeneity by country of origin are limited. Technological change in production, and structural change in food consumption have rarely been investigated. Future econometric research is needed in these areas using the latest econometric methods and recent data.