

## **DETERMINANTS OF CATTLE MARKET PRICES IN MAASAILAND: A GARCH-M APPLICATION**

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### **Abstract**

Livestock marketing provides an avenue to improving pastoral livelihoods and food security. However, little is known regarding the factors that influence livestock market prices particularly in Maasailand in Kenya. Knowledge of those factors could assist in designing market-based incentives to promote cattle trade among the Maasai whose livelihood is solely dependent on livestock. Cattle prices were collected in Oldonyonyokie, Olkiramatian, Shompole, and Ewaso Ngiro livestock markets once weekly for 12 months between 2004 and 2005. The aim was to assess the factors that influence cattle market prices in Maasailand. A generalized autoregressive conditionally heteroscedastic-in-mean (GARCH-M) estimator was used because of autocorrelation and heteroscedasticity problems inherent in such data sets. Four separate models were fitted to the data, one for each market. The results indicate that animals with good to excellent body condition fetched a premium price in all the four markets. Relative to crossbreeds, Maasai zebu fetched significantly lower prices in Ewaso Ngiro and Oldonyonyokie markets. The period when school fees are due in May was associated with significantly higher prices in all the four markets ( $p < 0.05$ ). The Easter holiday put upward pressure on cattle prices in all the four markets. Trekked cattle sold at a discount relative to trucked ones. Rainfall was significantly associated with higher cattle prices in Ewaso Ngiro market. The time trend had no relationship with cattle market prices. In order to take advantage of high market prices, the Maasai pastoralists should time their offtake to coincide with reopening of schools and public holidays especially Easter. Supportive marketing infrastructure as well as introduction of cattle auctions could go a long way to improving cattle marketing in Maasailand.

**Keywords:** Cattle market prices, Maasailand, GARCH-M, Kenya