

## ASSESSMENT OF PRICE VOLATILITY IN THE FISH SUPPLY CHAIN IN UGANDA

Marketing, Economic Risk Assessment, and Trade/Activity/16MER02AU

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The results for this investigation were published in two peer-reviewed journal articles. The full citations, links, and abstracts are included below.

Bukenya, J. O. (2017). Assessment of Price Volatility in the Fisheries Sector in Uganda. *Journal of Food Distribution Research*, 48(1), 81–88.

Publication link: [https://www.fdrsinc.org/wp-content/uploads/2017/03/JFDR\\_48.1\\_18\\_Bukenya.pdf](https://www.fdrsinc.org/wp-content/uploads/2017/03/JFDR_48.1_18_Bukenya.pdf)

### ABSTRACT

This paper examines price volatility in the African catfish (*Clarias gariepinus*) supply chain in Uganda. The volatility process in the catfish markets was analyzed based on monthly price data from January 2006 to August 2013. A GARCH model is used to estimate the volatility parameters. Empirical results revealed that the value of the first-order autoregressive term and the value of the first-order moving average term were significant for both aquaculture and wildharvest catfish supply chains. The observed long persistence of volatility in both supply channels suggests a fundamental level of uncertainty and risk in the catfish subsector over the studied period.

Bukenya, J. O. (2017). Forecasting Farm-Gate Catfish Prices in Uganda Using SARIMA Model.

*Finance and Market*, 2(2), 1–12. <http://doi.org/10.18686/fm.v2i2.1047>

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### ABSTRACT

Stabilization of prices of essential agricultural commodities continues to remain an area of major concern for policy makers; given that price instability affects both producers and consumers, and has macroeconomic implications. This paper examines farm-gate price behavior in the African catfish markets in Uganda, and develops a forecasting model that adjusts for the seasonal fluctuations in the price series. The analysis utilizes monthly catfish real price series for the period January 2006 to December 2013. The model provides good in-sample and out-of-sample forecasts for the eight-year time period. The out-sample predictions based on SARIMA (1, 1, 1) (0, 1, 1)<sub>12</sub> model suggest that the stochastic seasonal fluctuations depicted in the price series are successfully modeled, and that catfish real prices follow an upward trend. The findings can assist policy makers and major stakeholders to gain insight into more appropriate economic and sectorial policies that can lead to the development of reliable market information systems and up-to-date data on catfish supply, demand and stocks.