

# Price Dynamics and Cointegration in the Major Markets of Aquaculture Species in the Philippines

Yolanda T. Garcia

University of the Philippines Los Baños, Philippines

E-mail: [garcia.yt@gmail.com](mailto:garcia.yt@gmail.com)

Nerissa D. Salayo

Southeast Asian Fisheries Development Center, Philippines

E-mail: [ndsalyo@seafdec.org.ph](mailto:ndsalyo@seafdec.org.ph)

## ABSTRACT

*This study explores the interdependencies of aquaculture markets in the Philippines by establishing the price cointegration between the wholesale and retail prices of three major species commonly farmed in the country, i.e., milkfish, tilapia, and shrimp. The co-movements of wholesale prices between and among key markets for each species are also investigated. Moreover, exogeneity in prices is established using the Granger-causation model to determine the existence of price leaders among these markets. These information are crucial because they may provide a better understanding of the efficiency in price formation across production and consumption centers. Thus, aquaculture producers and traders may use these information as basis for more efficient farm management and marketing decisions. Appropriate policies for the development of markets for the three aquaculture species are also identified in this study. Such policies are expected to contribute towards more efficient pricing and distribution of benefits among market players and stakeholders. These benefits are expected to manifest through the system of grading standards for fish traded in local markets, and the choice of cost-effective technologies in grow-out and post-production practices.*

## INTRODUCTION

Aquaculture has always been a major source of food fish and animal protein for many households, especially those belonging to the poorer sector. It has significantly provided income to fish farmers, entrepreneurs and exporters in many developing countries in Asia. The case of Philippine aquaculture is not different from the global trends. As noted by the Food and Agriculture Organization (FAO),

“nearly half of all fish eaten today is farmed, and not caught in the wild”. To illustrate the growth of aquaculture, data from FAO (2009) show that while this industry provided only nine percent of the world food fish in 1980, its share in total fish production had ballooned to around 52 percent by 2006.

In the Philippines, three major aquaculture species have significantly contributed to the overall availability of fish for human consumption in the country and in various export