



I. BASIC INFORMATION

Program/Project/Study Title: Extrapolation of Abaca Production in Leyte and Southern Leyte Using Seasonal Autoregressive Integrated Moving Average (SARIMA) Modelling: A Box-Jenkins Approach

Program/Project/Study Leader(s): Mary Cris F. Pleños

Implementing Unit: National Abaca Research Center

Cooperating/ Collaborating Agency: None

Location: NARC, VSU

Duration: 6 months

Proposed Budget: PHP 70,000

Discipline: Statistics, Economics

Classification (Basic, Applied, Socioeconomics, Development, Extension): Basic Research

II. TECHNICAL INFORMATION

A. Rationale

Abaca (*Musa textilis*) is a close relative of the banana. Abaca is a leaf fiber, composed of long slim cells that form part of the leaf's supporting structure. This plant is native to the Philippines and widely distributed in the humid tropics. It is also cultivated in other Southeast Asian countries with Ecuador as the second largest producing country next to the Philippines (FAO, 2021).

The Philippine abaca industry was a key player in the global abaca market (Research ad Markets, 2015). The industry contributes USD80.6 million to the country's gross domestic product (NARC 2008). According to the International Natural Fiber Organization, the Philippines supplies 80 percent of the world's abaca need. It has become a source of employment for more than 1.5 million Filipinos who rely on it for a living, either directly or indirectly (Far Eastern Agriculture, 2020).

Abaca has variety of uses. According to Food and Agriculture Organization (2021), abaca is prized for its great mechanical strength, resistance to saltwater damage, and long fiber length. It is used for specialty papers such as currency notes, tea and coffee bags, vacuum bags, cigarette filter paper, sausage casing paper, and high-quality writing paper. It is also used to make twines, ropes, and fishing lines and nets. Abaca has a high potential to substitute glass fibers in multiple automotive parts.

Almost all abaca produced is exported, primarily to Europe, Japan, and the United States. With this, there is a growing demand for abaca on the global market. Current production levels, however, are insufficient to meet this need. In fact, in 2019, the demand-supply gap is estimated to be 25,000 metric tons (Waller & Wilsby, 2019). Weather disturbances and the threat of bunchy top disease, which has wiped out the abaca sector, are among the reasons for the low production. With the rising demand for abaca fiber and the existing challenges being faced by the abaca sector, proper planning by responsible agencies is required to improve its production and be able to meet the global demand for abaca. Appropriate planning is required to organize their work and provide the resources they will need in the future. With this, production estimates should be known through statistical