

Chapter 5

Brazil–Inspired Vertical Hive Technology for the Philippine Version

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ABSTRACT

*The Bicol Region is the birthplace of meliponiculture in the Philippines using the native stingless bee species, *Tetragonula biroi* Friese. Mr. Rodolfo Palconitin of Guinobatan, Albay, started the traditional method of stingless beekeeping using indigenous material, the coconut shell, which he called bao tech or coconut shell technology. It is a form of natural hive duplication wherein coconut shell halves are gradually mounted on top of each other as the colony grows. In this technology, hive product harvesting and colony splitting are done when the stingless bees have filled up the coconut shell halves. Inspired by the visit to the University of Los Baños (UPLB) Bee Program in 2010, the Grajo's Farm started using bao technology with several experimental hives upon return to home.*

INTRODUCTION

The Bicol Region is the birthplace of meliponiculture in the Philippines using the native stingless bee species, *Tetragonula biroi* Friese Belina-Aldemita et al. (2019) of Abante (2020), started the traditional method of stingless beekeeping using indigenous material – the coconut shell, which he called Bao Tech or Coconut shell technology (Fig. 1). It is a form of natural hive duplication wherein coconut shell halves are gradually mounted on top of each other as the colony grows. In this

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technology, hive product harvesting and colony splitting are done when the stingless bees have filled up the coconut shell halves. Inspired by the visit to the University of Los Baños (Baroga-Barbecho & Cervancia, 2019), Grajo's Farm started using Bao Technology with several experimental hives upon return home. Cervancia (2018), former Director of the UPLB Bee.

The program encouraged them to raise stingless bees instead of *Apis mellifera*. At the beginning of their stingless beekeeping journey, it was very challenging due to a lack of technical knowledge, mentor, and dependence on bee hunters for feral colony supply. Some of the feral colonies bought were damaged, while others were drowned in honey, resulting in robbing and infestation. This incident has led to the colony collapse of their stingless bees. But these trials did not discourage them from continuing but motivated them more instead.

Three years later, they came across the name of Dr. Giorgio Venturieri while doing online research on meliponiculture, specifically hive design. Dr. Venturieri was a senior research scientist of Empresa Brasileira de Pesquisa Agropecuária (EMBRAPA) or the Brazilian Agricultural Research Corporation who spent his sabbatical years in Australia (Fig. 3). He shared his expertise and greatly influenced Grajo's Farm to embrace the concept of vertical hive design. He later migrated to Australia and upgraded his design to suit Australian stingless bee species and is currently the business owner of Nativo Bees (Venturieri, 2008).

Figure 1. Traditional method of stingless beekeeping using coconut shells.
Source: The Colony by Grajo's Farm



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