

# POP SCIENCE

## Coconuts and the Filipino Diaspora

by Augustine Doronila

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### Niyog, Lubi (*Cocos nucifera* L.)

The common coconut tree *niyog* in tagalog or *lubi* in my parents' longo has given me a strong sense of my roots to the Philippines. It may be argued that strictly speaking it is not an indigenous tree as it is grown far and wide in the tropical regions of the world. Its geographical distribution in fact has been so intimately connected with the major waves of human migration around the tropical regions of the Pacific, Indian and also the Atlantic oceans. We are taught from an early age that it is the "*The Tree of Life*" because of the abundant number of products and by-products derived from its various parts. To the 1<sup>st</sup> seafaring migrants from the Indo-Malay (including the Philippines) region and further afield it was a portable source of food, water, fuel and building materials.

Today, the Philippines, the 2<sup>nd</sup> largest coconut grower in the world provides livelihood to one-third of the country's population. Among the well-known products for food, fuel and shelter derived from the different parts of the tree are: coconut fruit for milk, copra, and oil; leaves for thatch roofing and baskets; trunk for timber; flowers for lambanog - a nectar base alcoholic spirit, etc. There are also new beneficial products being discovered, for example, extracts from the roots have been made into medicinals, beverages and dyestuffs. Cold pressed coconut oil has been demonstrated to retard the effects of aging and degenerative diseases of the heart, pancreas, liver and the intestines. Activated carbon made from coconut shell charcoal is a high value product. It is utilized in the industrial recovery of gold, which has been liberated through chemical extraction. Moreover, it is effective at removing a larger number of contaminants in air filtration (eg, domestic air conditioners and industrial gas purification systems) and water purification systems.

My mother was one of the 1<sup>st</sup> people from her town in Negros to migrate to Manila after the war in order to become an analytical chemist. Her upbringing on a farm made her quite adept on growing all sorts of plants. The 1<sup>st</sup> 9 years of my childhood were spent in highly urbanized San Juan. In 1968 we moved to our home in a new subdivision near Libis. At that time all you could see was a very wide expanse of talahib, quite different to the recently constructed concrete jungle of Eastwood. My mother planned to create a lush and productive garden, which would garland the house. I helped her plant many ornamental species and fruiting trees but the ones I particularly remember were the 3 young coconut seedlings, which were planted in our front of yard. These were put there for each of us three siblings. The many blisters I got in the palm of my hands were a result of digging holes, which had to be done to my mother's satisfaction. She wanted to make sure that these trees were going to live out the term of their natural life.

In 1970, these young coconuts survived in a span of a month the battering of 3 successive super typhoons Sening, Titang and Yoling, which left the neighbourhood with the debris from many new houses with torn and twisted roofs, collapsed walls and upended electricity poles. As they were less than 3 meters in height they were not so exposed to the roaring winds but nonetheless were battered by all the flying objects as well being scorched by a bolt of lightning.

However, the difficult political situation of the 70's forced us to leave the country for Australia. Our home was eventually sold and demolished by the new owners and my mother's beautiful garden was gone forever. Serendipity came in when my mother's older sister was moving into a new house in Mandaluyong. She was able to provide a new dwelling place for quite a number of ornamental shrubs but most important of all was she wanted to shift the three sibling coconuts into her garden. Over these past 40 years of occasionally visiting the Philippines I cannot but be overjoyed by the sight of that flourishing, mature, tree that has withstood the trials of life.

Recent genetic research<sup>1</sup> has produced strong evidence that the coconut palm was not domesticated once, but twice: in India and on the Malay Peninsula. Dr. Kenneth Olsen and his team investigated the coconut's domestication history and its population genetic structure as it relates to human dispersal patterns. According to Olsen "the lack of universal domestication traits together with the long history



Lithograph of *Cocos nucifera* L. from Blanco F.F. Flora de Filipinas 3rd edition.

of human interaction with coconuts, made it difficult to trace the coconut's cultivation origins strictly by morphology". They performed DNA analysis of more than 1,300 coconuts from around the world that revealed the coconut was brought under cultivation in two separate locations, one in the Pacific basin and the other in the Indian Ocean basin. They discovered that despite the coconut's complicated history, the underlying genetic structure of coconut populations is simple. Most coconuts belonged to one of two genetically distinct groups. One population traces back its ancestry to palms on the coasts of India, the other group descended from palms in Southeast Asia. The coconut palms that were domesticated in India spread westwards. They demonstrated that coconut genetics also preserve a record of prehistoric trade routes and of the colonization of the Americas.

The great voyages of Austronesian seafarers throughout the open expanses of the Pacific Ocean originated in the Philippines and Indonesia approximately 5000 years ago. In domesticating the coconut, our ancestors, these sea faring migrants would have taken the *Niyog* to the Polynesian islands (*Niu* in most Pacific islander languages), and eventually to the Pacific coast of Central America.



I have a feeling that my mother planted these coconuts not just for aesthetics or for its fruit but to plant something enduring in my psyche and of my siblings. It worked for me as every time, I see those coconut trees it happily jogs my mind not to forget where I come from. The story of the coconut travelling so far across the sea to germinate and establish on a new shore is certainly one I can identify with as it is an analogy of the vitality of our rich Filipino culture which has allowed me to dig deep and flourish in a new land.

**"My coconut tree after typhoon Glenda 2014."**

<sup>1</sup>Gunn, B.F., L. Baudouin, and K.M. Olsen (2011). Independent origins of cultivated coconut (*Cocos nucifera* L.) in the Old World Tropics. PLoS ONE 6: e21143. DOI: 10.1371/journal.pone.0021143