



Alliance *for* Tompotika Conservation  
Aliansi Konservasi Tompotika

## AITo Update September 2024: How We're Connected: The Coconut Connection

by Cliff Rice, PhD

*This update is another in an occasional series focused on illuminating the ways that AITo's conservation efforts in Tompotika, Indonesia are linked to global consumer habits.*

Did you know that Indonesia is the world's leading producer of coconuts? Also, plenty of this production comes from Sulawesi, the island where AITo works. In this update, we will explore the connections between growing coconuts in the tropics and the consumption of various coconut products elsewhere.

### **Coconut: embedded in everyday life**

For a decidedly tropical plant, the coconut has a remarkably global reach. Nearly everyone knows what coconuts are (even if they don't know what they look like when fresh), and their meat is featured in many dessert and cookie recipes. For those in temperate latitudes, coconut palms along the shore are a quintessential image of a tropical setting.



Photo: Vyacheslav Argenberg

But if the coconut also features in cultures everywhere, where they grow, coconuts are a pervasive element in people's lives – to the extent that in many such places, they are called “the tree of life.” People have found uses for just about every part of the coconut plant. When green, the coconut fruit is full of clear juice. As the fruit ripens, the juice becomes a milky liquid – coconut milk, which is widely used in cooking. At the same time, coconut ‘meat’ is deposited on the interior cavity which can be eaten raw or dried for cooking. Oil extracted from the meat is used for frying and baking, and also in soaps, cosmetics, and massage oil. Tapping the sap from the flowering stem can provide a fresh thirst-quencher on the spot, or set it aside and it will ferment into an intoxicating drink. Or, distill it and make an even more intoxicating drink! Once one is sober again, there are even more uses for other parts of the coconut tree. The shells make excellent charcoal, or may serve as vessels, and have been known to provide the soundtrack for cantering horses! The husks can be processed into coir to make ropes, mats, doormats, brushes, sacks, and stuffing fiber for mattresses. Coconut fronds can be used for thatch or in weaving baskets or mats. Finally, the roots can be used in dyeing fabric, and are also used in traditional medicine.

### **Coconut farming: a comfortable livelihood for the average family**

On the Tompotika Peninsula, AITo's home base, growing coconuts for all these uses is perhaps the single most common livelihood for local people. Many families have a kebun or plantation of one or more hectares in which they grow coconuts in blocks of varying ages. A newly-planted coconut tree will yield a harvest in as little as five years, and keep producing for 40 or more. Because local people can process the coconut themselves, without expensive equipment or complicated procedures, most of the income stays in the household. Thus, with only modest amounts of land, investment, and labor, families throughout Tompotika can earn a sufficient living as coconut farmers.



**Coconut trees growing on Tompotika Peninsula, Sulawesi, Indonesia.**

Photo: [Google Earth](#)

Coconut farming is such a central part of everyone's lives in Tompotika that most young men know how to throw a cloth loop around their ankles and shimmy up the smooth

trunk of the tree to harvest the mature nuts. Whole coconuts may be sold to a factory for extraction of the milk. But more often, neighbors join together to help each other hull, halve, and smoke a big pile of nuts over a fire. This loosens the meat from the shell, after which the meat, shell, and hull are each collected and sold separately, winding up in the wide range of products described above. Or, increasingly, a coconut may not make it to maturity. In growing numbers, the international community is learning what locals have always known: if you climb the tree, cut down a nut while it's still green, and use a machete to make a small hole in the shell, the “young coconut” juice inside is unsurpassed for health and refreshment. Though perhaps missing out on the romance of its natural shell, for about \$3.50 a consumer in the USA can now buy this same juice in a can at the local supermarket.



**Tropical refreshment at its best!**

Photo: meshamanth

In this way, Tompotika is typical for tropical climates; where suitable conditions exist, coconuts are locally common, and globally traded. They are found on every tropical continent. The coconut itself is adapted for ocean, rather than terrestrial, dispersal, so most naturally occurring coconut trees are close to the coast, where they will grow in sandy soil which may not be suited for other human crops. Where cultivated, coconuts are often grown in combination with other crops such as bananas, pineapple, legumes, vegetables, cocoa, coffee, cashew nuts, papaya, mangoes, or even teak—many of these crops grow better in the shade provided by coconut trees. As a consequence, coconut growing areas are often more structurally and biologically diverse than monocultures of crops such as oil palm. And unlike oil palm, coconuts are most often grown in small-holdings—family farms, rather than vast agribusiness plantations. Also, importantly, coconuts require zero inputs of fertilizers, pesticides, or other growth aids, which, in addition to being best for biodiversity, keeps their cultivation inexpensive and safe for farmers.

## **Coconut farming from a conservation perspective**

But how does coconut rate overall, from a biodiversity and environmental perspective? In the Great Coconut Kerfuffle of 2020, five researchers, all with experience in tropical forests, co-authored an article in which they estimated that the negative biodiversity impact from coconuts was nearly five times that of oil palm. This caused something of a furor because it contrasted starkly with the general perception of palm oil as a grave threat to tropical biodiversity. How could this be? This could be in part because of particular choices the authors made in assessing coconuts' impact. But it could also be that while some ultimately felt that the paper's claim was "stuff and nonsense", others pointed out that its conclusion, rather than exonerating oil palm, simply highlighted the fact that coconut, while enjoying an "eco-friendly" reputation, has also had profound long-term negative impacts on biodiversity.

The greatest impact of coconut farming is probably simply its overwhelming ubiquity. Coconut farming is so widespread in places like Indonesia, and people are so used to its presence, that it is easy to forget that things were not always this way. While conversion of lands for industrial-scale coconut farming continues to this day, it began fully centuries ago in Sulawesi, and now dominates an enormous amount of the land area. In a classic example of the so-called "shifting baselines syndrome," many people accept the current state of things as "normal" and forget that today's coconut-dominated landscapes once hosted natural ecosystems with abundant populations of now-threatened species. This is especially true in coastal and lowland areas, where coconut is easy to grow, but where its presence has meant the destruction of native forests which can grow nowhere else. As human populations—and their plantations—have grown, these forests now survive only in ever-smaller fragments, and the myriad non-human species they once harbored slide, in most cases, steadily toward extinction.

So, coconuts are not just a benign presence in Sulawesi—they displace irreplaceable ecosystems and species. That said, loss of natural areas to coconut farming may be less destructive to biodiversity—and is friendlier to the well-being, sustainability and self-determination of low-income local communities—than would be many other land-converting alternatives, such as logging, mining, oil palm, and many others.

### **From tree to table: implications for global consumers**

Coconut products are increasingly popular among the Global Consumer Class, and recently have been touted as healthier and more environmentally friendly than alternatives such as palm oil. As consumer demand has increased for coconut oil for cooking, cosmetics, and use in food products, there has also been an increase of consumption of packaged coconut water and continued use of coconut 'meat' as well as coir products. Some have pointed out that for environmental impact, the main thing is

not whether a product is derived from coconut palm or oil palm, but how each is grown. Hence, there have been calls for a supply chain certification process to help manufacturers and consumers make responsible choices – similar to those already in development for cocoa, palm oil, and rubber. On the other hand, the standardization and documentation that the producer needs to do for certification may not be feasible for small producers, so they might be excluded from such markets.

The can of coconut milk from my pantry (product of Thailand), says nothing about this on the label, but there is a QR code which leads eventually to a list of the certifications for that product – namely, that it is kosher. Maybe in the future, this link may include certifications for responsibly produced coconuts. In the meantime, Fair Trade USA has certified several coconut products. In another approach, the Rainforest Alliance has a coconut farm certification program and this carries through to some products which sport the Rainforest Alliance logo of a tree frog.



Also, The Sustainable Coconut Partnership is a collection of industry players working to promote better production methods through the Sustainable Coconut Charter. How this all plays out remains to be seen, but conscientious consumers can check and keep checking for indications that coconut products they use have been responsibly produced.

There is a great deal of overlap between uses in consumer products for palm oil and coconut. If you use these products, from both ecosystem and human welfare perspectives, coconut is the clear winner. Although coconut plantations have displaced natural biodiversity, much of this happened long ago, and is continuing more slowly—in stark contrast to oil palm. Coconut cultivation also usually benefits local family farmers, not mega-corporations. And, if you ever get the chance to have a drink of young coconut juice fresh off the tree, I strongly recommend that you do so!

Cliff Rice  
US Board President, Alliance for Tompotika Conservation (AITo)

**Alliance For Tompotika  
Conservation**

21416 86th Avenue SW

Vashon WA, 98070

United States of America

[www.tompotika.org](http://www.tompotika.org)

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