Wild and Nutty

Brazil nuts could be the rainforest's best friend

Jeff Bentley
Agricultural Anthropologist
Bentley@albatros.cnb.net

September 2006

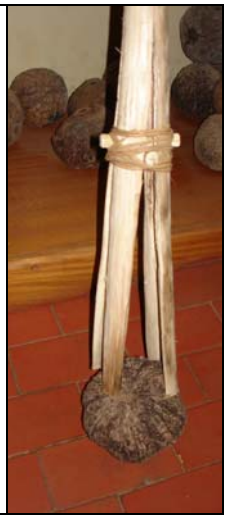
A Brazil nut tree towers above its neighbours

Brazil nuts are one of the few wild forest foods which many of us have ever eaten. The nut grows on a tree (*Bertholletia excelsa*) which rises through the top of the canopy of the Amazonian rainforest. In theory, the Brazil nut can be cultivated, but there are still no commercially significant stands of it. All $90 million worth of the nuts sold on the international market are gathered in the wild. Perhaps Brazil nuts will never be farmed: the tree lives for 300 to 500 years. And it grows up to 50 meters (some 12 stories). Although the nuts are too high to pick they fall by themselves.

When the Brazil nut tree flowers, it is pollinated by orchid bees, bumble bees and other large bees. About twelve months later, the hard, woody fruits mature. They are about the size of a grapefruit, and from December through March when the wind and rain knock them loose, they plummet to earth.

Left. A *panero*, the basket harvesters wear on their backs to collect seedpods in the forest

Right. The *cambito*, a four-pronged wooden fork for picking seedpods off the ground.

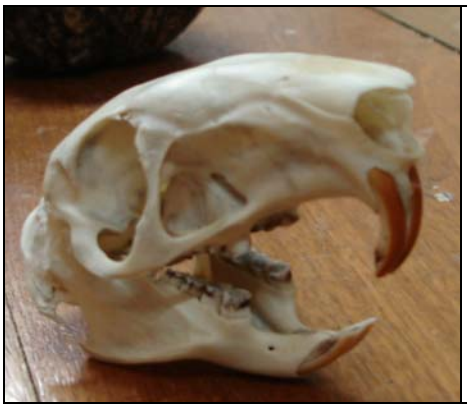


My family and I visited a Brazil nut forest near Cobija, in Northern Bolivia, with Wilson Guzmán, who has lived and collected nuts there all his life. We asked Wilson what happened if a nut fell on a person. "It's fatal," he said simply, "especially if it hits you on the head."

About 25 Brazil nuts nestled in their hard, wooden pod

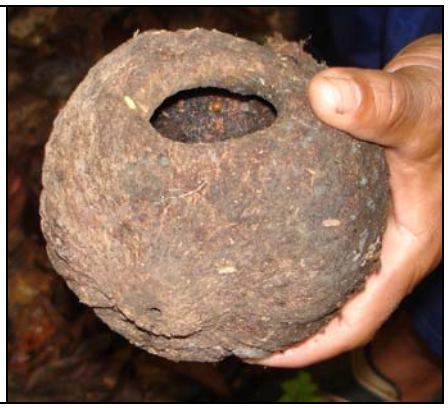
Every year in parts of Bolivia, Brazil and Peru, villagers risk their lives to go into the rainforest carrying large baskets called *paneros*, to pick the nuts off the ground, using a four-pronged stick (called a *cambito*) which looks a bit like a trash collector, and helps to avoid bending over too much. The harvester fills the basket several times, piles the nuts in a comfortable place, then sits down and whacks them open with a machete. Poor aim can cost a finger, and doctors are many miles away. But the rewards are worth the risk. Each seedpod has about 25 of the hump-backed Brazil nuts inside it, which are one of the few products that many rural Amazonians can sell, especially since the rubber market collapsed about 1990. Agoutis (mid-sized rodents) gnaw open the pods that the people miss, and bury the leftover seeds. This is the main way the tree is planted, scattered here and there among the hundreds of other species of trees of the rainforest.

An exceptional Brazil nut tree yields some 200 pods, or two bags of nuts a year. Some years are better than others, but in December in Bolivia, at least 6000 rural families, plus former villagers living in Amazonian towns, trek into the forest to harvest the nuts and sell them to processors.

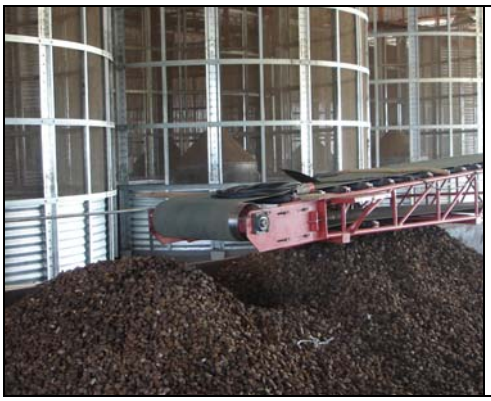


Left. An agouti skull, with teeth specially adapted to opening Brazil nut pods

Right. Seedpod gnawed open by an agouti. The seeds the agoutis bury, and forget, are the main way the Brazil nut tree is planted



Amazonian recipes call for the flour and oil made from Brazil nuts, but nowadays most of the harvest ends up in modern processing plants in Bolivia and Brazil (yet an estimated 60% of the nuts are not harvested at all, either because the trees are widely spaced, or in very remote areas). The factories sort out the rotten and hollow nuts. The good nuts are washed, dried, cleaned and cracked open, either by hand or in large mechanical drums. Brazilian factories tend to sell nuts in the shell, while the Bolivians peel most of their Brazil nuts.



Left. Brazil nuts entering a state-of-the-art processing plant in the Bolivian Amazon

Right. A pile of Brazil nut shells behind the factory. The shells are burned as fuel to dry more nuts

Figures vary, but perhaps 85% of the nut harvest comes from the Bolivian Amazon. Families who collect the nuts make $1000 to $1500 a year, which may not sound like much, but it may be half of their annual income. Several thousand people also work in the processing plants, and a few more earn money trucking the nuts to the Chilean port of Arica. We met an independent truck driver in Cobija who had spent a week driving in hardware supplies from Arica. He was about to start looking for a load to take back, and Brazil nuts were his first option. In 2005, Bolivia exported 46,000 tons of the nuts, worth $73.7 million. For the Bolivian national economy, that was equal to are 45% of all forest exports, and 2.9% of all exports for the entire country.

There is a healthy debate about the role of Brazil nuts and local communities in saving the rainforest. As new roads open more of the backwoods to more people, it is doubtful that unregulated gathering alone will conserve the forest. Hunting by nut collectors is a serious problem. Many harvesters shoot all the animals they see, from tapirs to parrots. Nut gatherers also damage some of the other trees in the forest, as they make huts and baskets. For example, to make twine, they may strip so much bark from *miso colorado* trees (*Couratari macrosperma*) that the trees die. To gather vines to make the *panero*, some harvesters simply chop down the host trees, instead of climbing the trees for the vines. Littering is also a problem, as gatherers toss out plastic bags, alkaline batteries and other rubbish. While these problems are real, they are also manageable, through education and community organisation. Various museums, projects and municipalities are working on just that. More research is also needed on the long-term effects of harvesting and forest ecology (e.g. does harvesting destroy tree seedlings.) But so far, Brazil nuts are by far the best option to earn a living from the rainforest, for thousands of poor families, but also for local industry. Because Brazil nuts are exported, they are part of the 'formal' economy, which governments like. So economically, Brazil nuts keep many people happy. Most other ways of making money in the Amazon involve logging out the trees and moving in cattle. Brazil nuts pay for standing forest.

Brazil nut processors have worked hard to ensure that their product meets European and international health standards. That is crucial, but incredibly, the Brazil nut gets no price reward for conservation. It simply competes on price, trying to be as cheap as all the other mixed nuts in the can, even though the hazelnuts, cashews and macadamias are all just orchard crops. If Brazil nuts could earn more than other nuts, it would be one way of keeping the chainsaws out of the forest. So now we all have a chance to save a bit of the rainforest, and all we have to do is eat a nut.

Priscilla Mayna packaging candy-coated Brazil nuts for the local market. Cottage-industry like this is rare, but it provides a few more jobs and helps promote the nut within Bolivia

Further reading

Mori, Scott A. 1992 "The Brazil Nut Industry—Past, Present and Future," in M. Plotkin and L. Famolare (Eds). *Sustainable Harvest and Marketing of Rainforest Products.* Washington DC: Island Press.

Ortiz, Enrique 1995 "The Brazil Nut Tree: More than Just Nuts" *Américas.* Sep/Oct. http://www.bertholletia.org/bertholletia/benefits/body_benefits.html

Stoian, Dietmar 2004 "Cosechando lo que Cae: La Economía de la Castaña (*Bertholletia excelsa* H.B.K.) en la Amazonía Boliviana," in M. N. Alexiades and P. Shanley (eds.) Productos Forestales, Medios de Subsistencia y Conservación. Vol. 3 América Latina. CIFOR: Bogor, Indonesia.

Taylor, David 1999 "Tasty Brazil Nuts Stun Harvesters and Scientists." *Smithsonian Magazine.* April. http://www.smithsonianmagazine.com/issues/1999/april/object_apr99.php

Where to see a Brazil nut forest

Brazil nuts grow in Peru, Bolivia and Brazil, in the dryer parts of the rainforest. Various reserves and parks are often open to visitors. One easy place to see a wild Brazil nut forest is at Los Laguitos Nature Reserve, 22 km from Cobija, in northern Bolivia.

For more information, contact the Fundación José Manuel Pando:

phone/fax 00591-3-842-3421
fjmpando@entelnet.bo
Mailing address: Casilla Postal 313, Cobija, Pando, Bolivia

Acknowledgments

Thanks to Wilson Guzmán at Los Laguitos Nature Reserve, to Elien Vaca and Hailín Calderón, biologists at the Museo de Historia Natural Pedro Villalobos, to Nicolás Piérola, production engineer at the Tahuamanu processing plant, to Marcia Regina Victorino Lima, municipal forester, Porvenir, Pando, to Rubén Franco Tuno, manager of the Manutata processing plant, to the Helman Mayna family, candy makers, for information on the biology and economics of Brazil nuts in the Bolivian Amazon. Special thanks to Daniel Priest, of the Fundación José Manuel Pando and to Rodolfo Peralta, forester, for their insights, and their valuable comments on an earlier draft. I'm grateful to my wife Ana González, who enthusiastically suggested that we go to the Pando, and who knows how to ask all the right questions.

Photos

All photos are by Jeff Bentley.