

Environmental Integration: Connecting Natural and Business Ecosystems

Challenge

In the Cordillera Azul National Park buffer-zone community of Chipaota de Santa Rosa, indigenous people extract palm fiber to make brooms; some do so illegally, going inside the new park to harvest these stiff wiry fibers. The National Park encompasses a 3-million-acre (Connecticut-sized) biodiversity hotspot along one of Peru's easternmost ranges between the Andes and the Amazon Basin. The community often cut down the palm to obtain the frond fibers. To help a Peruvian non-governmental organization develop a land-use management plan, we needed to design more sustainable methods of production, harvest, use, and sale of piassaba palm fiber.

Solution

Our research revealed the potential for repeated harvesting from the same individual palms. We demonstrated that harvesting at five-year intervals over a 30-year period would yield the maximum amount of fiber per harvest, while minimizing the negative effects on each palm. A rotating harvest strategy also added dependability. After each harvest, the palms would produce leaves and fiber for a five-year period before enduring the next harvest. Meanwhile, by not harvesting all the available palms at once, fiber would be available for harvest each year. This would enable the *fibreros* to harvest fiber when they needed cash income without overharvesting this renewable resource.

Result

The new sustainable management plan inspired community members to create a community-owned business. Based on our model, which included harvesting practices and business development, they produced piassaba-palm fiber brooms for market. As an added bonus, selling their handcrafted brooms significantly increased income from simply selling the raw fiber. The new rotating-harvest techniques minimized uncertainty, increased revenue, and help protect the population of local piassaba palm species.