Paving the way for gender-responsive FLR: Enhancing cultural identity, livelihoods, and ecosystems
INTRODUCTION:
Licuri, a drought-resistant palm tree, is found in semi-arid regions of Brazil, areas that are vulnerable to climate change and in need of forest landscape restoration (FLR)—an important strategy for enhancing environmental integrity and improving the wellbeing of local populations. The licuri tree and its fruit are important both traditionally and culturally to the local people and offer a variety of uses, including that the fruit can be consumed raw, manufactured to produce coconut sweets, biscuits and liqueurs, and used in cosmetics. Licuri milk is often incorporated in local Bahia cuisine and is considered a “delicacy” often found in gourmet restaurants. Its seed extract can be used to produce vegetable oil and its leaves are often used for crafts. Licuri is also an important source of fiber for animals’ diets, especially during the dry season.

The International Union for Conservation of Nature (IUCN) is committed to providing guidance and support to ensure a gender-responsive Forest Landscape Restoration (FLR) approach. IUCN has been paving the way for gender-responsive efforts to ensure efficient, inclusive, and equitable FLR and will continue this work into the future.

This case study is part of a series of global examples highlighting possible entry points for mainstreaming gender in FLR. These case studies are not comprehensive, but instead provide concrete examples of the integral role that gender considerations can and should play in FLR efforts.
IMPORTANCE OF LICURI:

Today, only 30 percent of the biome where licuri grows remains intact—and yet its value to the region is profound. Considered to be an especially beautiful tree to local people—one that inspires song and poetry, licuri is of essential ecological importance for several species of birds and different types of wild rodents that feed on licuri nuts, (e.g., macaws, maracanãs, parrots and parakeets, as well as agoutis, cavies, guinea pigs and punarés). The interdependent flora of the region likewise rely on the licuri: many species of cacti, grasses, vines, Croats, imbés, hollyhocks, orchids, pine nuts, ferns, and other plants, grow at the feet of licuri trees and, in the rainy season, lichen (algae and fungi) grow between sheaths on the trunk of the tree.

Given its significance to local people, economies, and ecosystems, concrete efforts are now underway via a multi-stakeholder partnership to enhance and manage sustainable use of licuri, including by promoting women’s leadership in the sector and cultivating an understanding of its powerful potential for FLR.

Although the price of licuri is fairly high compared to other nuts, the revenue generated is quite low, with an average individual net of about USD 5 per person, per day. In this region, where the average income is 4,500 USD annually, USD 5 per day is a very low wage from a disproportionate amount of work, in some cases deepening women’s poverty. Most often, licuri fruit is collected, peeled, and processed through artisanal and manual methods by women. This method has several disadvantages, as it does not allow women to supply enough fruit and related products to the market. Through current manual methods, women manage to peel one to two kilograms of licuri per day on average.

Modernizing the collection and peeling processes, which would include ensuring women have access to modern technology and tools, would increase women’s revenue streams—especially in an area where improved livelihoods is so important.

The use of licuri by the cosmetic sector as an essential oil for soap and perfume production represents a way to increase the chances of licuri conservation, since the oil has useful chemical characteristics and an appealing natural aroma.

Appropriately reconsidering traditional activities, such as the harvesting methods of licuri, presents a crucial opportunity. Enhancing local understanding and ownership of sustainable practices, linked with the potential for greater economic benefit, would offer multiple benefits to FLR and livelihoods alike.

A multi-stakeholder partnership across various sectors has brought unique perspectives on how to tackle licuri conservation by strengthening the value chain of its associated products—making its conservation commercially attractive to farmers and landowners, as well as consumers. The main objective of the partnership, focused on sustainable licuri use and management, has been to mechanize the production process, which reduces the manual labor of women, increases their quality of life, generates greater revenue streams, and brings more products to market. By highlighting the economic and nutritional benefits of licuri, as well as maintaining the tradition and honor of women in the harvesting and production process, deforestation of licuri has been prevented and FLR benefits have been realized in the region.
WHY GENDER MATTERS:
Every day in their roles as farmers, foresters, caretakers, household providers, and more, women use and manage natural resources. Women have unique experiences and knowledge with respect to their environments and offer important perspectives in natural resources governance. Given their responsibility for meeting food and energy needs for the household, depletion of natural resources especially increases burdens on women. Not only does women’s equitable participation and representation in FLR uphold commitments to women’s empowerment and gender equality, it also makes for better development, more effective climate change solutions, and stronger sustainability and livelihood outcomes.

PROJECT OVERVIEW:
In 2005, COOPES (Production Cooperative of the Piedmont Diamantina Region) was created specifically with the objective of preserving the licuri tree and its products. COOPES has its headquarters in the Capim Grosso municipality of Brazil. Currently COOPES has 234 members, 90 percent of which are women from 30 communities engaged with licuri harvest, fruit opening, and turning the fruit into several products (e.g., cookies, candy, milk, licuri oil, and crafts). COOPES determines the rules for processing fruit harvests and organizes the entire value chain, from collection to production and selling of licuri products to retail shops, as well as institutional clients and final consumers. In addition to identifying market opportunities, COOPES strives to combat deforestation of licuri, enhancing understanding of its importance as a palm tree especially resilient in times of drought.

In 2012, COOPES began collaborating with Slow Food, a foundation linked to a worldwide movement to rescue food and “endangered” food varieties, known as the “Presidia.” By nominating licuri as a “Slow Food Presidia,” Slow Food developed concrete projects to preserve licuri and to improve the quality of the products so that they could become fully sustainable over time. Through the engagement of local communities and organizations, COOPES also manages to organize the licuri value chain. Currently, there are more than 20 local key field project partners.

Additionally, the Network for Human Development (REDEH - Rede de Desenvolvimento Humano and Adapta Sertão), a Brazilian NGO, and the Adapta Sertão coalition, a group formed with the purpose of identifying, developing, and disseminating technologies and strategies that make local farmers more resilient to climate change, have been working together to help small-scale producers of the Brazilian semi-arid region enhance yields in high climate-variability periods through the use of efficient technologies, agro-ecological methods that do not pollute or extinguish the local ecosystem, facilitating access to markets and, more generally, strengthening and empowering rural communities in the region. These activities need to be made more efficient as, in current conditions, they are time-consuming and limit the opportunity for farmers—especially women who are responsible for much of the agricultural duties—to participate in other livelihood activities. The Adapta Sertão has made strengthening the licuri value chain one of its key areas of focus. In 2014, the Inter-American Bank (IDB) financed Adapta Sertão activities with the specific objective of bringing business ventures within the coalition with strong linkages to climate change adaptation to full sustainability. The licuri and indigenous fruits value chains became two of the four Adapta Sertão production lines receiving IDB funding.
Strategies employed for successfully improving and sustaining licuri forests include:

- Increasing the speed of the peeling and nut extraction process by mechanization to bring more licuri to market;
- Aggregating value by producing high-quality products;
- Signing contracts for larger volumes of high-quality licuri;
- Building capacity in the local community on sustainable harvesting and processing; and
- Building capacity of local women on business principles and value chain management.

Strategies employed for successfully improving and sustaining the licuri production process to increase volume of processed products include:

- Mechanical harvesting of licuri with vacuum-like equipment;
- Mechanical peeling and breaking of the shell; and
- Mechanical pressing of the nut for oil extraction.

Each of the mechanical processes requires a different type of machinery. The peeling and shell breaking can be done by communities through small-scale processing units, however, the pressing process is more complex and costly, so it must be centralized in order to lower production costs. Specific micro-credit lines to capitalize the entire licuri value chain is also an important element, as they have a vast impact on production—from farmers who need mechanical equipment to improve their harvesting efficiency, to the cooperatives that require working capital.
CHALLENGES:
Challenges for enhancing licuri conservation and value alike include a lack of basic management skills within the technical team responsible for processing, transportation of products and limited distribution networks. In addition, with the mechanization of harvesting, peeling, and processing licuri, it is likely that there will be an increasing number of men, as well as women, becoming interested in participating in these processes. Ensuring that women’s livelihoods are not, in the end, overlooked or diminished will be an important aspect for the project to consider in the future.

From a technical perspective, building local skills that can manage the entire production chain in such a way that becomes profitable for all actors involved requires the development of business, marketing and managerial skills. Many local people in the Piedmont Diamantina Region do not have these skills due to a lack of access to quality education. Project partners have been working with local youth to train them specifically on all aspects related to the business side of the value chain.

The population density in the Piedmont Diamantina Region is low (about 34 inhabitants/km2), which makes transportation costs for people and raw materials costly. Additionally, access to markets still represents a challenge because clients, especially the larger industrial customers for licuri oil, require large volumes and a steady supply of product. Outsourcing licuri from different regions with low population density, poor infrastructure, and high transportation costs is an extremely limiting factor in a competitive market—and has environmental ramifications, in addition.

With some specific edible products, such as the licuri cookies, it is necessary to supply markets with standardized products. This has been difficult to achieve with licuri cookies because the biscuits have been produced by women farmers with differing recipes. COOPES is in the process of standardizing all products and recipes.

Figura 2. The Licuri peeling (a) and crushing (b) machines and the little trailer (c) that is used to bring around the peeling and crushing machines.
Source: Daniele Cesano

Figure 3. The semi-arid region of Brazi is divided in 3 regions: 1. Meio-norte; 2. Sertão which is the real semiarid region; 3. Agreste, a transition zone between the Atlantic forest and the semiarid region. The Atlantic forest (4) is a climatic area located between the equatorial Amazon and semi-arid hinterlands.

Figure 5. The municipality of Capim Grosso where the project is located.
CONCLUSION:
Licuri is a highly valuable tree species, both to local ecosystems and in traditional cultural uses, with a clear commercial niche. Its productive and sustainable uses are directly linked to ecosystem conservation and women’s empowerment—which is being further developed to great success. Project partners are working together to increase the mechanization of the licuri harvesting and production process, aiming to lessen the time-burden on women and enhance their livelihood potential. Fostering a more comprehensive understanding of the licuri’s value has also led women and local communities to stop cutting down the trees and instead ensure forests remain intact. Restoring licuri forests is then further leading to the strengthening of the licuri market, making them more attractive to farmers and landowners, not to mention consumers.

Recognizing and integrating gender concerns and efforts toward advancing gender equality makes a difference in the success of the licuri value chain, as today licuri is still mostly manually harvested and processed by women—not only because this work is traditionally viewed as a woman’s duty, but because women understand its great nutritional and economic value. Women are taking ownership over its ecosystem value, as well. Restoring licuri forests for nutritional and economic reasons results in a key opportunity to incentivize licuri conservation for longer-term sustainable use, as well as for ecosystem benefits. Rather than removing trees for short-term gain, long-term wellbeing is being cultivated.

The importance of gender-responsive FLR is evident, as women have much to contribute and benefit from when they participate in forest landscape restoration. However, further work needs to be done in order to define a clear way forward and to establish best practices for mainstreaming gender in FLR. IUCN invites policy makers and practitioners to share their knowledge with the broader community to enhance gender equality and effective FLR strategies.

For more information or to join this effort and share your learning, please contact the IUCN Global Gender Office.

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