



World’s First FSC® Certification for Non-Timber Products: Candelilla Wax from the Semi-desert of Coahuila, Mexico

This pioneering project achieved the world’s first FSC® certification for the sustainable management and chain of custody of candelilla wax in the semi-arid scrubland ecosystem of Coahuila, Mexico. It represents a strategic, community-driven model that advances sustainable rural development in arid regions through a holistic approach that integrates community governance, rural entrepreneurship, intergenerational succession in ejidos, and fair market access for non-timber forest products (NTFPs).

By strengthening local governance, promoting environmental restoration, empowering women and youth, and ensuring social justice and legal traceability, the project connects producers with responsible national and international markets. FSC® certification is positioned as a key tool to ensure sustainability, legality, and access to differentiated markets, consolidating a replicable model for other arid regions in Latin America facing challenges related to poverty, desertification, and social marginalization demonstrating that non-timber forest products can become a driver of economic, social, and environmental transformation when managed collectively and responsibly.



Scope

This initiative focuses on the **sustainable management and FSC® certification of non-timber forest products**, with particular emphasis on **candelilla wax**, within the **semi-desert ecosystem of northern Mexico**, specifically in the state of **Coahuila**. The project spans more than **84,605.17 hectares** across three ejidos: **Piedritas (51,899.40 hectares)**, in the municipality of Ocampo **Las Coloradas (28,120.89 hectares)**, in the municipality of Ramos Arizpe **Bajío de Ahuichila (4,584.88 hectares)**, in the municipality of Viesca In addition, **FSC® Chain of Custody certification** was granted to the **world’s first community-operated candelilla wax refinery**, managed by the **Community Forestry Enterprise "Ejidos Unidos del Cañón de Hipólito Alto de Norias SPR de RL"**, which brings together **15 ejidos from the region**. This infrastructure marks a milestone in value-added processing within the territory, operating under principles of **legality, sustainability, and traceability**. Candelilla (Euphorbia antisyphilitica) is a shrub endemic to the semi-arid regions of northern Mexico. Its wax is highly valued in **international markets** and is used in a wide range of industries, including **cosmetics, pharmaceuticals, food, automotive, textile, and technology**.

Main Objectives

- **Strengthen community governance and capacity building** by training ejidatarios, women, youth, and technical staff in sustainable forest management, FSC® certification standards, and value-added production.
- **Ensure sustainable and legal harvesting** of non-timber forest products, especially candelilla, promoting traceability and compliance with FSC® standards.
- **Promote ecological restoration and biodiversity conservation** through candelilla wax planting activities, protection of biological corridors, and recovery of endangered species.
- **Empower women and youth** by fostering entrepreneurship and inclusion in decision-making processes and business development.
- **Enhance local economies** by supporting rural enterprises and generating sustainable employment opportunities.
- **Modernize production infrastructure** to improve efficiency, safety, and product quality while maintaining environmental integrity.
- **Facilitate market access** by linking certified producers directly with national and international buyers committed to sustainable sourcing.
- **Build strategic partnerships** with governmental agencies, NGOs, academic institutions, and private sector stakeholders to ensure long-term project sustainability and scalability.



Conclusions

The pioneering FSC® certification of candelilla wax production in the semi-desert ecosystem of Coahuila marks a groundbreaking achievement, demonstrating that sustainable management of non-timber forest products (NTFPs) in arid regions is not only feasible but also highly beneficial. This project exemplifies how environmental conservation can be successfully integrated with socio-economic development to create resilient rural communities. By strengthening community governance and empowering local stakeholders – particularly women and youth – the initiative has set a replicable model that addresses both ecological and social challenges in fragile semidesert ecosystems.

- **Key Lessons Learned**
A primary lesson from this project is the critical importance of strong community organization and leadership. The ability of ejidos (communal landholders) to coordinate, lead, and collectively commit to sustainable management practices underpins the success of obtaining and maintaining FSC® certification. Furthermore, capacity building tailored to local needs and contexts has proven essential. Training programs enhanced the technical skills of community members and improved governance mechanisms, enabling compliance with the rigorous FSC® standards and fostering local ownership of the process. Inclusivity emerged as another crucial factor. By actively engaging women and youth through entrepreneurship programs and inclusive governance structures, the project has ensured a richer decision-making process and continuity across generations. Such inclusiveness also contributes to social equity and strengthens community resilience. The project also underscores the value of multi-stakeholder collaboration. Partnerships involving government agencies, NGOs, academia, and the private sector provided a robust support network that facilitated technical assistance, financing, and improved market access. This collaborative approach greatly enhanced the project’s impact and sustainability. Infrastructure modernization was identified as a direct contributor to improved production efficiency, product quality, and worker safety. Upgrading roads, processing facilities, and equipment reinforced sustainable practices while enabling economic growth within the community.
- **Way Forward**
Looking ahead, expanding this FSC® certification model to additional ejidos and arid regions across Mexico and Latin America is a priority. Adaptation to the specific social and ecological contexts of each region will be necessary for success. Strengthening market access and promotion of certified products remains critical to ensuring fair pricing and long-term economic viability for producers. Continuous improvement through enhanced monitoring and adaptive management will allow the project to respond effectively to environmental and social changes. Promoting entrepreneurship initiatives focused on value-added NTFPs, especially those led by women and youth, will further diversify income sources and empower marginalized groups. Sustained financial and institutional support will be vital to scaling restoration and sustainable management activities, ensuring the project’s long-term impact.
- **Why This Matters**
This initiative establishes a global precedent for the responsible use of semidesert ecosystems by combining biodiversity conservation with rural development. It addresses pressing challenges such as poverty, desertification, and social marginalization by empowering communities and facilitating their access to sustainable markets. The project contributes to climate resilience and supports sustainable livelihoods, offering a hopeful path forward for other dryland regions facing similar issues.
- **Recommendations**
To build on this success, policies must be supported that recognize and incentivize the sustainable management of NTFPs in drylands. Gender and youth inclusion should be central to forest governance and rural development programs. Encouraging replication of this model through knowledge exchange and capacity-building networks will help scale its impact. Moreover, strengthening partnerships across sectors will enable the pooling of resources and technical expertise essential for success. Finally, investing in infrastructure and technology will continue to improve sustainability and market competitiveness, ensuring that communities thrive economically while stewarding their natural resources responsibly.

Author

Yamel Guadalupe Anaya Olguín
Director of FSC® Value Chains at Reforestamos México



Innovative approach

- **First FSC® Certification in Semi-desert Ecosystem:** The project achieved the world’s first Forest Stewardship Council (FSC®) certification for sustainable management and chain of custody of candelilla wax in semi-desert shrublands, pioneering a new standard for non-timber forest products in arid environments.
- **Community-Led Governance and Enterprise:** Strong emphasis on empowering ejidos through capacity building, fostering leadership, and establishing community-run enterprises such as the 'Ejidos Unidos del Cañón de Hipólito' wax refinery, ensuring local ownership and direct economic benefits.
- **Integrated Conservation and Development Model:** Combines environmental restoration (planting over **81,250** candelilla plants), biodiversity conservation, and sustainable livelihoods, balancing ecological health with social and economic progress.
- **Inclusive Participation:** Actively involves women and youth through targeted entrepreneurship programs and inclusive governance mechanisms, promoting gender equity and intergenerational succession in ejidal rights.
- **Infrastructure Modernization:** Upgrading of productive infrastructure and logistics including roads, processing facilities, equipment, and safety measures to optimize production and improve working conditions while maintaining sustainability.
- **Strategic Multi-Stakeholder Collaboration:** Partnerships with government agencies, NGOs, private sector, and academia create a robust support network facilitating technical assistance, financing, and market access.

Results

- Certification of forest management of **84,605.17** hectares across three ejidos and operation of the first community-owned wax refinery with FSC® chain of custody.
- Training of over 200 community members, including women and youth, enhancing skills in governance, restoration, and certification processes.
- Establishment of three rural enterprises generating sustainable income streams.
- Planting of **81,250** candelilla plants over 130 hectares supporting ecological restoration.
- Creation and maintenance of more than 60 local jobs.
- Rehabilitation of 40 km of roads and modernization of processing infrastructure, increasing production efficiency and safety.
- Recognition and dissemination of the project model at international forums, increasing visibility and replicability.

It is important to highlight that this project was driven by four active FSC international members:

- **Yamel Anaya - Reforestamos México**
 - **Timothy Synnott**
 - **Unión Nacional de Organizaciones de Foresteria Comunal**
 - **Carlos Ortega**
- in collaboration with FSC México



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