

How can Ecuador's peanut value chain be strengthened? Challenges, opportunities, and pathways for sustainable development

Background

The peanut is a traditional crop in Ecuador, characterized by its quality and variety diversity. However, its development and exploitation have been limited, largely due to its primarily family-based production system and the historical emphasis on direct consumption (Correa Campoverde & Peña Merino, 2020; Cuenca *et al.*, 2021; Krapovickas *et al.*, 2021). Despite its roots in local agriculture, current peanut production in Ecuador significantly lags behind the main producing countries. It is primarily concentrated in the provinces of Manabí, Loja, El Oro, and Guayas. Currently, between 12,000 and 15,000 hectares are cultivated, with an average yield of 1,000 kg/ha of unshelled peanuts. This relatively low yield does not meet the growing domestic consumption needs. Peanuts consumed in Ecuador are therefore also imported from countries like Paraguay, Argentina, and Bolivia to satisfy national industrial demand (Cuenca *et al.*, 2021; Matailo Ramirez *et al.*, 2023).

The fact that production occurs on small family farms with limited technology and traditional agricultural practices, which impact crop efficiency, productivity and competitiveness, is among the main issues identified. (Variath & Janila, 2017; Vilakazi *et al.*, 2025). Additionally, Ecuadorian peanut culture is characterized by low producer associativity: only 20% of peanuts farmers in the country are organized in associations, which makes it difficult for them to access financing or to invest in shared infrastructure

(collection and/or processing centers), training and markets. Furthermore, investments in production and processing are limited by the absence of suitable financial mechanisms and appropriate machinery and inputs. These limitations hinder farmers' ability to improve productivity and add value to their product, or even transform them into oils, butter, and other snacks.

On the social and environmental front, significant gender disparities persist: women represent only 30% of producers and do not benefit from the same integration as men in decision-making, land ownership, and income distribution. Moreover, the excessive use of agrochemicals and deforestation related to agricultural expansion threaten the sustainability of crops and ultimately these agricultural systems (Variath & Janila, 2017; Vilakazi *et al.*, 2025).

Research approach and intervention methodology

The primary data collection instrument for this study was a 52-question survey covering six thematic sections: general information, land use and crop management, peanut value chain, gastronomy and nutritional value, environmental aspects, and institutional support. This survey was meticulously designed, calibrated, and

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validated through pilot testing and expert consultation, including input from agricultural ministry representatives, local government officials, producer associations, and international researchers from IRD France.

The study successfully collected data from 409 farmers across the 4 selected cantons from each Province (Manabí and Loja). Complementary technical visits to producer associations provided valuable contextual information about post-harvest practices, local knowledge, and commercialization challenges. This mixed-methods approach yielded a robust dataset that enabled researchers to develop an accurate diagnosis of the peanut value chain in these economically significant agricultural regions of Ecuador.

Findings from the participatory diagnostic process: current landscape of peanut production and value chain in Ecuador

The peanut industry in Ecuador presents a complex landscape characterized by significant potential alongside substantial challenges. Based on comprehensive participatory research conducted across Manabí and Loja provinces, involving 409 surveys, technical visits, and stakeholder interviews, we can identify key aspects that define the current state of this agricultural sector.

Natural advantages and traditional knowledge

Ecuador possesses exceptional natural conditions for peanut cultivation. The provinces of Manabí and Loja feature soil compositions and climate patterns ideally suited for peanut production, establishing a solid foundation for industry expansion. This natural potential is enhanced by generations of ancestral knowledge among farmers who have developed sophisticated crop management practices adapted to local conditions. Many producers have implemented sustainable farming systems through crop diversification, associating peanuts with corn, cassava, and cocoa, which strengthens overall agricultural resilience and provides multiple income streams throughout the year.

Institutional support and market initiatives

The peanut sector benefits from growing institutional engagement. Universities, NGOs, and international cooperation agencies have demonstrated increasing interest in strengthening the peanut value chain. The Technical University of Manabí and National University of Loja have emerged as particularly valuable allies, providing research support and technical assistance to producers. Additionally, emerging local marketing initiatives, including agricultural fairs and direct-to-consumer markets, have created alternative commercialization channels that allow producers to capture more value from their harvests.

Structural and organizational limitations

Despite its potential, the industry faces significant structural challenges. Weak associative structures represent a primary constraint, with only 20% of

producers organized in formal associations, limiting their collective bargaining power and access to resources. This organizational weakness is compounded by critical infrastructure deficiencies, particularly inadequate irrigation systems, which makes production highly vulnerable to increasingly unpredictable rainfall patterns. Government technical support remains insufficient, with extension services reaching only a small percentage of producers, leaving most farmers without access to updated agricultural practices and technologies.

Productivity and technological gaps

The sector exhibits substantial productivity limitations that hinder its competitiveness. Average yields remain low at approximately 1,000 kg/ha, significantly below international benchmarks for similar growing conditions (for instance, 2t/ha in Colombia or up to 3t/ha in Argentina or Venezuela, according to FAO). This productivity gap stems largely from the use of obsolete varieties limited access to appropriate technologies, particularly for post-harvest processing, where inadequate storage and handling practices lead to substantial quality deterioration and economic losses. The financial landscape presents additional barriers, with most producers lacking access to suitable credit mechanisms that could enable investments in production improvements or value-added processing.

Social and environmental vulnerabilities

The diagnostic revealed important social and environmental challenges. Persistent gender inequalities limit women's participation in decision-making processes and equitable benefit distribution, despite their significant contribution throughout the value chain. Environmental concerns include biodiversity loss through variety reduction and unsustainable agricultural practices that threaten long-term ecosystem health. These issues are exacerbated by youth migration from rural areas, which disrupts generational knowledge transfer and threatens future workforce availability for peanut cultivation.

Market dynamics and competitive position

Market conditions present both opportunities and threats for Ecuador's peanut industry. While domestic and international demand for peanut products continues to grow, offering expansion potential, producers face significant commercialization challenges. Most farmers remain dependent on intermediaries who capture a disproportionate share of value, imposing low farm-gate prices that reduce profitability. Price volatility and increasing competition from imported peanuts exacerbate this situation particularly as producers in neighboring countries benefit from economies of scale and more developed support systems. The absence of clear quality standards and certification mechanisms further limits access to premium markets where Ecuadorian peanuts could potentially command higher prices based on their distinctive characteristics. These findings provide a comprehensive foundation for developing targeted interventions that can address key constraints while building on existing strengths to create a more resilient, inclusive, and competitive peanut industry in Ecuador.

Key results and lessons: recommendations for strength local development

Strengthening productive organization

The study presents a set of key recommendations aimed at strengthening the peanut value chain in Ecuador, particularly in the provinces of Manabí and Loja, with a focus on improving production, fostering social inclusion, and ensuring environmental sustainability. One of the main findings highlights the necessity of strengthening productive organizations to improve access to financing, training, and technology. Encouraging the creation and consolidation of producer associations can facilitate these improvements, while targeted initiatives to enhance women’s participation in such associations are essential to bridging existing gender gaps. Specific training programs and access to resources for women farmers, alongside community leadership development, will contribute to more inclusive and efficient organizational structures.

Improving agricultural practices and infrastructure

Implementing training programs on good agricultural practices and integrated pest management is crucial to improving productivity and sustainability. The adoption of organic inputs and sustainable farming techniques can enhance both the quality and profitability of peanut production. Additionally, the development of efficient and sustainable irrigation systems is necessary to guarantee stable yields, mitigating the effects of climate variability.

Simultaneously, addressing the current technological gap remains a priority, as many producers lack access to essential post-harvest processing machinery. Facilitating investments in technology and equipment through public-private partnerships can improve processing efficiency, while the establishment of community collection and processing centers can help optimize costs and add value to the final product. Furthermore, digital technologies should be promoted to enhance traceability and market positioning, ensuring greater competitiveness in local and global markets (Figure 1).

Enhancing market access and financial support

Market access remains a fundamental challenge for peanut producers in Ecuador. To address this, it is vital to develop marketing strategies that can elevate the presence of Ecuadorian peanuts in both national and international markets. Certification processes that guarantee quality and added value must be encouraged, while awareness campaigns can help promote peanut consumption and its nutritional benefits.

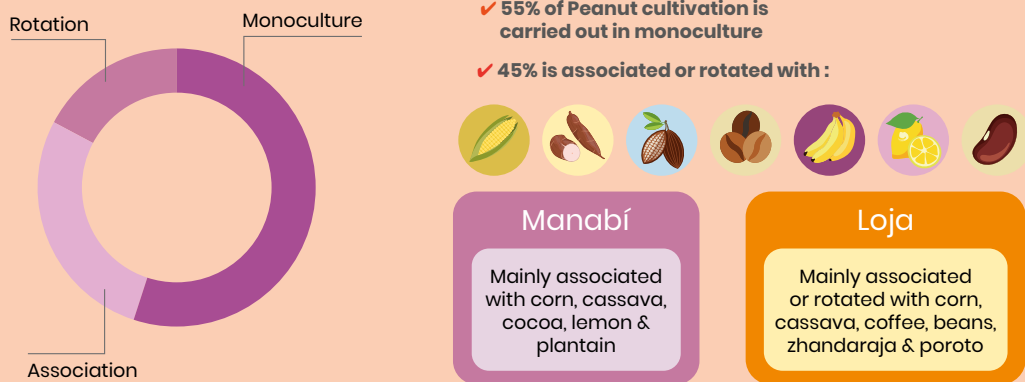
Ensuring access to financing mechanisms tailored to the needs of small and medium producers is equally important. Government policies should support sustainable peanut production through accessible credit programs and incentives that encourage environmentally responsible agricultural practices. Establishing financial support structures will help ensure long-term sector resilience, encouraging investments in technology, improved practices, and sustainable production.

Addressing demographic and social challenges

Beyond these structural improvements, demographic and social factors must also be considered. The study identifies an aging workforce and significant youth migration as pressing issues, necessitating the creation of employment opportunities and financial support for entrepreneurial ventures in peanut processing and value-added products. These patterns underscore the need to implement strategies aimed at engaging younger generations in peanut production and commercialization. Establishing mentorship and training programs is crucial to ensuring effective knowledge transfer and the continuity of this vital agricultural activity.

The predominance of independent producers, mainly men, highlights the necessity of fostering cooperative models that can provide a platform for farmers to share resources and collectively address challenges. Encouraging the formation of cooperatives through incentives and support programs will strengthen the sector, while policies that promote women’s leadership within these associations are needed to create a more equitable industry.

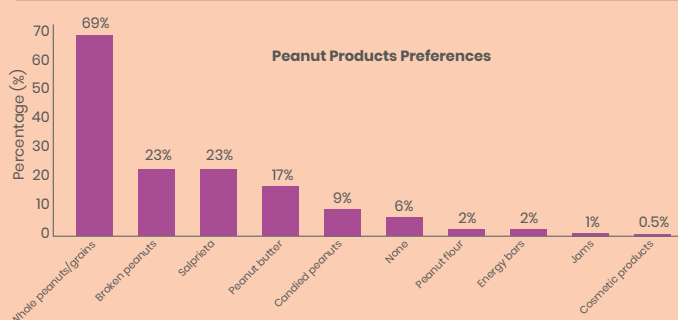
Figure 1 – Peanut production systems in the provinces of Manabí and Loja, Ecuador.



Promoting agricultural diversification

The study reveals a high dependency on monoculture, with 55% of producers relying solely on peanut cultivation. To enhance resilience and sustainability, diversification strategies should be promoted, integrating peanut production with other complementary crops. Technical assistance and guidance on sustainable farming practices will be essential to achieving a more robust agricultural system. Additionally, the lack of adequate post-harvest equipment and technology among peanut producers further emphasizes the urgency of investing in agricultural infrastructure. Establishing financing programs and credit mechanisms will facilitate access to modern technologies, ultimately improving efficiency in harvesting, processing, and commercialization (Figure 2).

Figure 2 - Value Generation in the Peanut Industry in Ecuador.



Study limitations and future considerations

While these recommendations offer valuable insights into strengthening the peanut value chain, it is important to recognize the limitations of this study. Due to financial constraints and the short timeframe of the study, it was not possible to conduct a comprehensive diagnosis that included all peanut-producing regions, producer associations, and key stakeholders. The exclusion of certain geographic areas and actors may have limited the scope of the findings, as different production zones face unique challenges and opportunities

that were not fully explored. Additionally, producer associations and other stakeholders could have provided critical insights into best practices and potential solutions, enriching the recommendations presented in this report.

Despite these limitations, the study provides a solid foundation for future initiatives aimed at enhancing the peanut value chain in Ecuador. However, for a more comprehensive understanding and effective planning, further research is required to incorporate all relevant production areas and ensure the active participation of all stakeholders. An integrated approach will help inform future actions, ensuring that efforts to strengthen the peanut sector are inclusive, sustainable, and economically viable for producers in Manabí, Loja, and beyond.

Final reflections

This study serves as a valuable reference for identifying key challenges and opportunities in the peanut value chain in Ecuador. It highlights the importance of strengthening productive organizations, improving agricultural practices, enhancing market access, and addressing demographic shifts affecting the sector. The findings and recommendations presented offer a roadmap for stakeholders, policymakers, and academia to support and expand the peanut industry in a sustainable and inclusive manner.

Ensuring a thriving peanut sector requires long-term commitment, investment, and collaboration among producers, local governments, academic institutions, and private enterprises. By fostering cooperative efforts and knowledge-sharing platforms, the sector can become more resilient and competitive. Future initiatives should focus on expanding research, integrating innovative technologies, and ensuring financial mechanisms that sustain small and medium producers. With a shared vision and coordinated actions, the peanut value chain in Ecuador can grow into a model of economic development, environmental responsibility, and social inclusion.

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