JOURNAL OF ECOINNOVATION AND ENVIRONMENTAL MANAGEMENT - online (2965-9515)

PRÁTICAS DAS EMPRESAS CHINESAS NA GOVERNANÇA AMBIENTAL GLOBAL: UMA ANÁLISE COMPARATIVA DAS POLÍTICAS DE SUSTENTABILIDADE DO COFCO GROUP E DA MENGNIU DAIRY NA CADEIA DE SUPRIMENTO DE SOJA ENTRE A CHINA E O BRASIL

CHINESE ENTERPRISES' PRACTICES IN GLOBAL ENVIRONMENTAL GOVERNANCE: A COMPARATIVE ANALYSIS OF SUSTAINABLE POLICIES OF COFCO GROUP AND MENGNIU DAIRY IN THE CHINA-BRAZIL SOYBEAN SUPPLY CHAIN

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RESUMO

Este artigo analisa as práticas de sustentabilidade do COFCO Group e da China Mengniu Dairy na cadeia de suprimentos de soja entre China e Brasil, mostrando que ambas as empresas convergem amplamente em suas estratégias. A forte dependência chinesa das importações molda a sustentabilidade como uma questão de resiliência da cadeia produtiva. Assim, COFCO e Mengniu priorizam políticas de desmatamento zero, rastreabilidade, auditorias externas e governança de fornecedores. Apesar dos avanços, persistem limitações estruturais, incluindo riscos de desmatamento indireto, a exclusão de pequenos produtores de certificações e tensões regulatórias no Brasil. O estudo conclui que as empresas chinesas adotam um modelo de governança ambiental orientado pelo mercado, que, embora eficaz, depende de maior apoio institucional para alcançar melhorias abrangentes.

Palavras-chave: China; sustentabilidade; cadeia de suprimentos; Brasil; desmatamento zero.

ABSTRACT

This paper examines the sustainability practices of COFCO Group and China Mengniu Dairy within the China–Brazil soybean supply chain, showing that the two firms largely converge in strategy and practice. China's soybean system is highly import-dependent, roughly 80% of crushing demand is met by imports, making soy a cornerstone of the national feed and livestock sector and framing sustainability as supply-chain resilience rather than solely environmental stewardship. Both COFCO and Mengniu have therefore prioritized deforestation and conversion-free (DCF) sourcing, farm-level traceability, third-party verification and supplier governance as core tools to secure long-term supply stability. They have translated these policies into practical cooperation, most visibly through large-scale certified soybean procurement agreements implemented since 2024–2025. At the same time, both firms confront the same structural limits: indirect land-use change (leakage), the exclusion of smallholders from certification pathways, and regulatory–political frictions in Brazil that constrain full implementation of DCF objectives. The study concludes that Chinese corporate sustainability in this sector is best understood as a unified, market-driven governance approach aimed at mitigating supply-risk and meeting rising global expectations, one that yields measurable progress but remains dependent on complementary public policy and inclusive on-farm support to resolve residual sustainability gaps.

Keywords: China; sustainability; supply chain; Brazil; zero deforestation.

1. INTRODUCTION

Against the backdrop of increasingly severe global climate change, the relationship between international agricultural trade and environmental sustainability has emerged as a central issue for the global community. As one of the world's largest importers of agricultural commodities, China faces growing scrutiny regarding the environmental conduct of its enterprises within overseas supply chains, particularly with respect to their responsibility for safeguarding critical ecosystems such as tropical rainforests. Brazil, a primary supplier of key agricultural products, including soybeans to China, exemplifies the complex interplay between agricultural expansion and forest conservation. This makes the China-Brazil supply chain a pivotal case for examining cross-border governance in sustainable development.

This study seeks to investigate how leading Chinese enterprises respond to and implement sustainable governance within this intricate context. By selecting COFCO Group and Mengniu Group as representative cases, and employing comparative analysis and empirical content analysis, this report systematically evaluates the sustainability strategies these companies have adopted in their Brazilian supply chains, the mechanisms underlying their implementation, and the challenges they encounter. The research aims to address the following questions: What governance models have Chinese enterprises adopted? How do these practices align with international standards? What limitations remain? Through this inquiry, the report intends to contribute new insights into the evolving role of Chinese enterprises in global environmental governance and to inform the development of more resilient and responsible global supply chains.

2. METHODOLOGY

This study employs a research methodology that integrates comparative analysis with empirical content analysis to systematically examine the sustainable governance strategies and their effectiveness implemented by Chinese enterprises in the China-Brazil agricultural product supply chain.

The methodological design is grounded in the theoretical frameworks of transnational environmental governance and corporate internationalization within international relations, emphasizing the proactive role of enterprises in internalizing and enacting global sustainability norms. This approach enables the systematic and replicable extraction of both quantitative indicators and qualitative policy statements from publicly disclosed corporate information, which are then benchmarked against established international sustainable development frameworks.

Research Design

The study adopts a qualitative case-based comparative design, focusing on Mengniu Group and COFCO Group as primary case studies. These enterprises were selected due to their representative roles in the China-Brazil soybean and livestock supply chains. Mengniu, as a privately owned dairy enterprise, exemplifies a market-driven model of sustainable governance that aligns business strategies with international standards. In contrast, COFCO, a state-owned agribusiness, reflects a hybrid model integrating national strategic objectives with market mechanisms. By comparing these two enterprises in terms of policy objectives, implementation mechanisms, international collaboration, and challenges encountered, the study elucidates the behavioral patterns and strategic distinctions of Chinese firms in governing cross-border sustainable supply chains.

Data Collection and Content Analysis

The research relies primarily on publicly available primary and secondary textual sources for empirical content analysis. These include corporate policy documents such as Forest Protection Policies, Responsible Agricultural Standards, and Codes of Conduct, alongside sustainability reports and corporate social responsibility (CSR) disclosures. Additional materials encompass third-party certification records (e.g., RSPO, FSC), documents from international organizations and industry initiatives (e.g., the Tropical Forest Alliance, Green Value Chain Task Force), as well as media coverage, non-governmental organization (NGO) assessments, and academic publications, which serve to cross-validate corporate claims and external evaluations.

Content analysis is conducted through thematic coding and policy discourse analysis, focusing on corporate engagement with key sustainability issues such as "zero deforestation," "traceability," "social inclusion," and "alignment with international standards." Particular attention is paid to identifying discrepancies between corporate narratives and actual performance.

Analytical Framework

A two-level analytical framework is employed. The first level examines internal corporate governance mechanisms, including policy formulation, supply chain oversight, adoption of certification schemes, and monitoring systems. The second level assesses external embeddedness, encompassing enterprises' participation in global standard-setting processes, whether as standard adopters or potential shapers and their interactions with domestic sustainability policies in China and Brazil. By situating corporate behavior within the interplay of global, national, and firm-level dynamics, the study aims to uncover the agency and structural constraints faced by Chinese enterprises in global climate governance and green trade.

Research Limitations

The study is constrained by its reliance on publicly available textual data, which may be subject to limitations in completeness and potential bias in corporate disclosure practices. For instance, in the case of Mengniu, the only empirical sources are the company's annual ESG Reports and Forest Protection Policy documents published consecutively from 2020 to 2024. All PDF versions were retrieved directly from the official corporate website. The research does not include interviews, surveys, or field investigations. Consequently, all numerical data (e.g., the proportion of FSC-certified packaging, the share of "zero deforestation" soybean meal procurement) and policy commitments (e.g., achieving "zero deforestation" by 2030) are derived exclusively from these disclosures and may present a partial view. Future research could enhance validity by incorporating interviews with supply chain stakeholders or conducting on-site assessments to evaluate the local socio-ecological impacts and actual implementation of sustainability policies.

3. RESULTS AND DISCUSSION

China Mengniu Dairy Company Limited (Mengniu)

As a private enterprise, Mengniu has implemented a dual-track strategy to advance sustainability within the China-Brazil trade corridor. Internally, the company has established robust corporate governance mechanisms to drive sustainable development across its supply chain, resulting in measurable outcomes. Externally, Mengniu actively engages with international sustainability frameworks by aligning its production standards with globally recognized certification systems, thereby embedding itself within broader multi-stakeholder initiatives and global sustainability norms. Since 2020, Mengniu has developed a comprehensive, multi-tiered sustainability policy framework centered on the principle of "zero deforestation" along the China-Brazil supply chain.

This dual-track approach has yielded significant achievements. Under this framework, Mengniu has instituted stringent internal policies, including its Forest Protection Policy, which mandates that the raw material procurement department clearly define requirements and standards for achieving zero deforestation throughout the supply chain and requires suppliers to comply with relevant control measures (Mengniu, p. 3, 2023). Guided by these procurement policies, Mengniu has achieved 100% traceability for soybeans directly sourced from the high-deforestation-risk region of Matopiba in Brazil (Mengniu, p. 87, 2021) and committed to full traceability across all Brazilian soybean sourcing farms by 2023 (Mengniu, p. 91, 2022). Furthermore, through collaboration with China Shengmu, Mengniu reduced its soybean meal consumption by 230,000 tons in 2024 and fulfilled the industry’s first "zero deforestation" soybean purchase order (Mengniu, p. 74, 2024). The company has also integrated supplier ESG governance into its core sustainability strategy, establishing a series of supplier management guidelines. By 2023, the Supplier Code of Conduct had been disseminated to 100% of Mengniu's suppliers (Mengniu, p. 86, 2023), while the Sedex platform was utilized to conduct ESG risk assessments, aiming to mitigate environmental, social, and governance risks across the supply chain (Mengniu, p. 87, 2022). These efforts reflect Mengniu’s commitment to fulfilling its zero deforestation pledge and strengthening supplier accountability through structured corporate governance.

Externally, Mengniu leverages international certification systems as a key mechanism to substantiate its sustainability commitments across its product supply chain. In 2021, 100% of Mengniu's palm oil purchases were certified by the Roundtable on Sustainable Palm Oil (RSPO) (Mengniu, p. 88, 2021), and all paper packaging materials met the Forest Stewardship Council (FSC) certification standards (Mengniu, p. 88, 2021), ensuring credible assurance of sustainable sourcing for consumers and investors. Additionally, Mengniu actively participates in global standard-setting platforms. In 2022, the company engaged in collaborative exchanges with international organizations such as the World Economic Forum and the Rainforest Alliance to assess and map commodities associated with deforestation risks in its bulk procurement processes (Mengniu, p. 88, 2022). These engagements reinforce Mengniu's integration into global sustainability governance and support its overarching goal of achieving zero deforestation.

China National Cereals, Oils and Foodstuffs Corporation (COFCO)

Under the dual-plan framework of corporate strategy and international environmental governance, COFCO's sustainable development approach in Brazil is anchored in three core pillars: supply chain traceability, zero deforestation and zero vegetation conversion (DCF) commitments, and cross-sectoral collaboration. This strategic orientation underscores COFCO's proactive role as a Chinese state-owned enterprise in advancing sustainability within global agricultural trade. With regard to traceability, COFCO committed in 2020 to achieving 100% farm-level traceability for its directly sourced Brazilian soybeans by 2023. By 2023, third-party verification confirmed that 99% of its Brazilian soybean purchases met DCF criteria, reflecting a significant transition from policy commitment to operational implementation (COFCO, 2020; COFCO, 2023). In terms of goal ambition, COFCO has accelerated its timeline for full supply chain compliance with DCF standards, advancing the target year from 2030 to 2025, demonstrating a clear commitment to expedite its green transformation. At the collaborative level, COFCO not only partners with domestic firms such as Mengniu to promote zero-deforestation soybean procurement but also collaborates with Brazilian meat producer Maffre Group to establish a "forest-friendly" beef traceability system, thereby extending sustainable practices beyond soy into other critical commodity sectors (Mengniu, 2023).

The strategic rationale behind this initiative lies in COFCO's recognition of sustainability as a key lever for mitigating supply chain risks, enhancing market credibility, and securing international financing. By embedding environmental compliance into its trading operations, COFCO aims to ensure the long-term stability of China's imported soybean supply while responding to growing global expectations regarding sustainable sourcing (COFCO, 2024).

COFCO Group has also implemented concrete measures to support the development of a sustainable soybean supply chain in Brazil. In May 2024, the first shipment of 50,000 metric tons of certified "zero-deforestation" Brazilian soybeans arrived at Tianjin Port, a milestone event representing the first grain cargo in global trade to include a contractual zero-deforestation clause. This achievement was realized under the Green Value Chain Task Force framework led by COFCO International. Throughout the logistics process, COFCO ensured end-to-end traceability through rigorous quality oversight and the application of the "mass balance" model. Furthermore, in February 2025, COFCO International signed an agreement with Mengniu Group and Shengmu in São Paulo, Brazil, to jointly procure 1.5 million metric tons of third-party-verified zero-deforestation Brazilian soybeans. These soybeans must comply with COFCO International's Responsible Agriculture Standards and undergo audits assessing water resource management and biodiversity conservation at their origin. This initiative not only addresses rising consumer demand in China for environmentally responsible agricultural products but also strengthens international cooperation to incentivize sustainable farming practices.

Nevertheless, the current sustainability efforts of these two major Chinese enterprises face substantial challenges. First, while direct suppliers are subject to stringent monitoring, oversight of indirect supply chains remains limited. Instances have been documented where COFCO sourced soybeans from farms previously penalized for illegal deforestation or from producers violating the "Brazilian Soy Moratorium," indicating persistent gaps in supply chain surveillance. Moreover, both Mengniu and COFCO currently employ a relatively flexible procurement model that does not fully align with the strict physical segregation requirements mandated by the European Union and other regulatory bodies. Their ability to meet increasingly rigorous international traceability standards remains uncertain.

These key constraints, including risks associated with indirect deforestation, limitations in certification inclusivity, and discrepancies between national regulations and corporate sustainability goals, represent significant barriers to the comprehensive greening of COFCO's supply chain.

Additionally, the broader institutional environment in Brazil presents structural impediments to sustainable cross-border trade for both Mengniu and COFCO. As Garrett and Rausch (2015, p. 482) observe, existing certification systems inadequately cover smallholder farmers in Brazil, many of whom lack access to certification due to financial or procedural barriers. This exclusion hinders their integration into formal supply chains and contributes to a "funnel effect," wherein compliant and non-compliant commodities become commingled. Furthermore, tensions exist between national legislation and corporate sustainability commitments. For example, Brazilian law permits the clearance of up to 80% of native vegetation in the Cerrado biome, which directly contradicts the principle of "zero deforestation." On the Chinese side, institutional support for sustainable sourcing remains limited. Sustainability initiatives are predominantly driven by individual enterprises rather than government mandates. This is partly because Chinese policy prioritizes reducing import dependency through domestic production increases, such as the "Soybean Revitalization Plan" , or feed efficiency improvements such as the three-year action plan for reducing and eeplacing feed soybean meal, rather than enforcing sustainability criteria on imported commodities. The absence of strong governmental incentives or regulatory frameworks further complicates enterprises' efforts to achieve and maintain sustainability certifications.

4. CONCLUSIONS

This study examines the core tensions inherent in global agricultural trade under the pressures of climate change. Through an analysis of COFCO Group and Mengniu Group's operations within the China-Brazil supply chain, it demonstrates how Chinese enterprises are transforming external environmental expectations, such as the "zero deforestation" commitment into internal supply chain governance priorities.

The findings indicate that, despite occupying different positions in the value chain (COFCO as an upstream trader ensuring supply security, and Mengniu as a downstream brand shaping market demand), both enterprises advance zero deforestation through a dual strategy combining internal control mechanisms with external collaboration. This convergence underscores a growing recognition among leading Chinese firms that long-term supply chain resilience and international credibility are intrinsically linked to their environmental stewardship in key production regions like Brazil.

Nevertheless, significant challenges persist. Gaps in indirect supply chain oversight, the exclusion of smallholder farmers from certification systems, and conflicts between multinational corporate policies and local regulatory frameworks highlight the limitations of voluntary corporate initiatives. While such commitments are essential, they are insufficient to address systemic issues independently. Achieving zero deforestation will require not only sustained corporate investment in traceability technologies and collaborative partnerships but also the establishment of more inclusive international regulations and enhanced cross-border policy coordination.

Consequently, the experiences of COFCO and Mengniu reflect not only the expanding engagement of Chinese enterprises in global environmental governance but also signal the emergence of a practice-oriented, market-driven governance model. The future construction of sustainable supply chains will inevitably be a complex and multifaceted endeavor, necessitating coordinated efforts among businesses, governments, and international institutions to balance commercial imperatives with ecological protection and equitable development.

ACKNOWLEDGEMENTE

This research was conducted as an extension of the broader project led by Professor Niklas Weins at Xi'an Jiaotong-Liverpool University. I am deeply indebted to Professor Weins for his intellectual guidance, rigorous scholarly input, and continuous support throughout the conceptualization and development of this manuscript. His contributions significantly informed the analytical direction and academic refinement of this work.

REFERÊNCIAS

COFCO International. (2020). 2020 Sustainability Report. COFCO International. https://www.cofcointernational.com/sustainability/sustainability-reporting/2020-sustainability-report/

COFCO International. (2023). 2023 Sustainability Report. COFCO International. https://www.cofcointernational.com/sustainability/sustainability-reporting/

COFCO International. (2024). 2024 Sustainability Report. COFCO International. https://www.cofcointernational.com/sustainability/sustainability-reporting/

Garrett, R. D., & Rausch, L. L. (2015). Green for gold: social and ecological tradeoffs influencing the sustainability of the Brazilian soy industry. The Journal of Peasant Studies, 43(2), 461–493. https://doi.org/10.1080/03066150.2015.1010077

Mengniu (2021). Mengniu 2021 ESG Report. China Mengniu Dairy Company Limited. https://img.mengniu.com.cn/Uploads/Mnnew/File/2023/08/16/u64dc9b2bbd960.pdf

Mengniu (2022). Mengniu 2022 ESG Report. China Mengniu Dairy Company Limited. https://img.mengniu.com.cn/Uploads/Mnnew/File/2024/01/08/u659bc9aaf205b.pdf

Mengniu (2023). Mengniu 2023 ESG Report. China Mengniu Dairy Company Limited. https://img.mengniu.com.cn/Uploads/Mnnew/File/2025/04/30/u6811cd5b33e1b.pdf

Mengniu (2024). Mengniu 2024 ESG Report. China Mengniu Dairy Company Limited. https://img.mengniu.com.cn/Uploads/Mnnew/File/2025/04/30/u6811cdc0c9726.pdf

Mengniu Dairy. (2023). Mengniu Sustainability Report 2023. China Mengniu Dairy Company Limited. https://img.mengniu.com.cn/Uploads/Mn/File/2023/04/26/u6448d0bf7ac9c.pdf