Leather Making Beyond Sustainability - Perspective for a New Paradigm of the Future

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New Paradigm of the Future

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Abstract

For decades, the concept of sustainability has been the guiding principle for responsible development, essentially, “do less harm.” It emphasizes reducing resource use, lowering emissions, and maintaining balance. However, this approach often results in a neutral impact, which is insufficient in the face of escalating climate change, biodiversity loss, and social inequities. Moreover, sustainability alone cannot reverse the existing damage.

Therefore, it is time to think “Beyond Sustainability, that is, creating a positive impact to restore what has been lost. The Regenerative Approach goes beyond sustainability, with its core principle being to restore, renew, and enhance natural systems, societies, and economies, rather than merely preserving them.

This perspective paper provides insights into the Regenerative-Net Positive (RNP) approach and its principles. It further explores how the leather sector, one of the most resource-intensive manufacturing industries in terms of water, chemicals, and waste, can align with the RNP approach.

The paper outlines possible technological solutions, policy frameworks, and supply chain strategies to transform the leather sector from being merely sustainable to truly regenerative.

Keywords: Leather, Beyond Sustainability, NetPositive, Regenerative, Resilience

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1. Introduction:

The concept of sustainability has evolved significantly over centuries, progressing from early necessity-driven resource management to a comprehensive global development framework. Sustainable development was formally defined in 1987 by the Brundtland Commission’s report Our Common Future, which integrated economic growth, social equity, and environmental protection. This holistic approach was further institutionalized at the 1992 Rio Earth Summit through Agenda 21 and the establishment of international conventions, including the UN Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity. Subsequent agreements, such as the Kyoto Protocol (1997), reinforced global commitments to environmental governance. In the 21st century, sustainability has been embedded in global development agendas, with the Millennium Development Goals (2000) and the United Nations Sustainable Development Goals (2015) establishing integrated frameworks for achieving environmental, social, and economic well-being by 2030. Recent initiatives, including the Paris Agreement, the European Green Deal, and national sustainability policies, further reflect the deep integration of sustainability principles into governance, industry, and global supply chains. Despite its long-term benefits, sustainable development faces several challenges that hinder effective implementation. Outcomes are typically slow and incremental, reducing political commitment and public support. Technological and knowledge gaps further constrain efficiency and scalability. While sustainability has served as the guiding principle for responsible

development—essentially “doing less harm”—its emphasis on reducing resource use, lowering emissions, and maintaining balance often results in neutral impacts. This is insufficient in the face of escalating climate change, biodiversity loss, and social inequities. Moreover, sustainability alone cannot reverse the damage already inflicted.

2. Beyond Sustainability –

The Regenerative-Net Positive Approach (RNP)

In response to these limitations, the concept of beyond sustainability has emerged, emphasizing active regeneration and net-positive outcomes for both ecological and social systems. This paradigm shifts the focus from merely maintaining resources or reducing harm to restoring and revitalizing ecosystems and communities, leaving socio-ecological systems healthier and more resilient.

The RNP approach relies on systems thinking, transformative change, and a shift in consciousness and values to foster care, responsibility, and long-term stewardship. It prioritizes net-positive impacts, ensuring that economic and development activities generate measurable social and ecological value, while moving away from scarcity-driven models toward principles of flourishing, abundance, and universal well-being.

Unlike net-zero frameworks, RNP focuses on generating greater environmental and societal benefits than the impacts incurred, fostering the co-evolution of human and

natural systems. Central to RNP are systems thinking, stakeholder inclusivity, and continuous adaptive improvement, implemented through strategies such as regenerative agriculture, biodiversity restoration, carbon sequestration, water remediation, and socially responsible initiatives that advance workforce equity and community well-being.

3. Core Objectives

Net-Positive Impact: The primary goal is to

contribute more to environmental and social systems than is taken, creating a “more good” outcome rather than just “less bad”.

Systemic Restoration: Actively repairing

damage to ecosystems, such as restoring soil health, capturing carbon, and reversing biodiversity loss.

Social and Economic Value: Beyond environmental benefits, RNP goals include enhancing social equity, supporting local communities, and improving human health and well-being.

Continuous Improvement: RNP is not a fixed

target but a flow state of continuous improvement, where processes are adapted to enhance vitality, health, and abundance (sometimes referred to as “thrivability”).

4. RNP in the Leather Sector

To shift the leather sector from conventional sustainability to beyond sustainability, five guiding rules are proposed:

4.1 Reduction in Reliance on Virgin Resources

Move beyond generic sustainability goals by focusing on Reducing Virgin Material Reliance (RVMR). This strategy emphasizes lowering the intake of new raw materials by maximizing the use of secondary, recycled, or renewable inputs—anchoring the leather industry in circular economy principles.

4.2 Movement from Centralized to Decentralized Manufacturing

Traditional centralized manufacturing often prioritizes efficiency and uniformity, which can lead to neutral or even negative impacts while the decentralized manufacturing has the following net positive advantages.

 Environmental: Reduced transportation lowers carbon footprint; localized facilities can integrate renewable energy and circular practices. Social: Empowers local artisans, SMEs, and communities by creating jobs and skills development. Economic: Builds resilience against global supply chain disruptions, while fostering innovation tailored to local needs.

4.3 Caters to customization

In a Net Positive framework, customization isn’t just about meeting consumer preferences—it actively creates positive outcomes for people, communities, and the environment.

Impact

 On-demand production reduces waste by avoiding mass overproduction. Customized, localized manufacturing can integrate sustainable materials and renewable energy. Products designed for specific needs often last longer, reducing resource consumption.

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4.4 Bio-Economy

Adopting bio-based inputs and processes reduces

reliance on fossil-derived materials, fosters innovation in renewable alternatives, and strengthens alignment with regenerative principles.

4.5 Infinite Circular Economy – Land to Leather

to Land (3L)

The 3L concept envisions a closed-loop supply

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chain: soil animal leather leather product soil. This regenerative cycle ensures that leather production not only minimizes harm but actively contributes to ecological restoration and resource renewal.

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5. Conclusions:

The evolution of sustainability has laid a critical foundation for responsible development, but its incremental and harmreduction focus is no longer sufficient to address the scale of today's ecological and social crises. The Regenerative–Net Positive (RNP) approach represents a transformative shift—moving beyond neutrality to actively restore ecosystems, empower communities, and generate lasting social and economic value.

In the leather sector, adopting RNP principles through reduced reliance on virgin resources, decentralized manufacturing, customization, bio-economy integration, and circular "Land to Leather to Land" models can redefine industry practices. This transition not only minimizes environmental impact but also creates regenerative cycles that contribute positively to society and nature.

Ultimately, the Net Positive vision challenges industries to become agents of renewal rather than depletion. By embedding regeneration, inclusivity, and continuous improvement into their core strategies, businesses can ensure that their legacy is one of resilience, abundance, and thriving socio-ecological systems. The leather sector, with its deep cultural and economic significance, has the opportunity to lead this paradigm shift—proving that industry can be both profitable and profoundly restorative.

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