Circular Economy and Food Systems Nexus: Transforming Pakistan's Dairy Sector for a Sustainable Future

Pakistan's dairy industry — contributing nearly 11% to GDP and supporting over 10 million farming households — sits at the intersection of food security, climate action, and waste management. Pakistan is producing approximately 2.8 million tonnes of plastic waste each year, of which 86% is mismanaged and only ~3% recycled. Much of this comes from single-use and multilayer packaging that remains difficult to recycle. As climate shocks intensify, applying circular economy principles (CE) offers an opportunity to safeguard food systems while reducing waste — directly supporting SDG 2 (Zero Hunger) and SDG 12 (Responsible Consumption and Production).

Pakistan is drafting its first *National Circular Economy Policy (2025)*. The Ministry of Climate Change has identified Extended Producer Responsibility (EPR) as a key instrument to reduce packaging waste. At a 2025 consultation, co-hosted by SDPI and SWITCH-Asia, stakeholders urged the government to establish a mandatory EPR framework, noting its potential to attract investment, create formal recycling jobs, and reduce imports. Meanwhile, multinationals like Tetra Pak and the CoRe Alliance have proposed fiscal incentives such as tax breaks for PROs and zero import duties on recycling machinery to strengthen Pakistan's recycling capacity. Over 90% of Pakistan's milk is sold unpackaged, exposing consumers to adulteration and post-harvest losses. Packaged milk ensures hygiene and extended shelf life, but the sector still faces challenges around end-of-life management. Unlike conventional multilayer plastic sachets, Tetra Pak cartons are fully recyclable — made primarily of paperboard (about 70% fiber), with thin layers of polyethylene and aluminum that protect the product and can be separated during recycling. These cartons can be repulped into paper products and the recovered polymers and foil reused in construction materials or molded goods. A circular economy approach can, thus, strengthen collection, recycling, and recovery systems, enabling large-scale material reuse rather than disposal. Public-Private Partnerships (PPPs), supported by fiscal incentives, can turn these recyclable cartons and other packaging waste into economic opportunity, helping Pakistan cut down the projected 42 million tonnes of solid waste by 2030.

The 18% GST on packaged dairy, introduced in 2024, has led to a 20% drop in formal milk sales and worsened affordability, with 92% of consumers still dependent on loose milk. Most countries exempt or zero-rate milk; Pakistan's high GST undermines formalisation, food safety, and investment in sustainable packaging. Reducing or removing the tax could simultaneously promote nutrition security and recycling investment.

The session will explore how CE principles can drive transformation in dairy through EPR implementation, packaging redesign, inclusive recycling models, and policy coherence with trade and climate frameworks. As the UN Global Plastics Treaty advances, Pakistan has a pivotal opportunity to position its dairy sector as a model of circular innovation, led by industry partners such as Tetra Pak Pakistan in collaboration with SDPI and policymakers. Key questions will include:

- How can CE models be embedded in Pakistan's dairy and food systems to enhance sustainability?
- What regulatory and fiscal enablers are required for sustainable packaging?
- What structure should Pakistan's EPR framework adopt to ensure accountability and inclusion?
- How can waste valorisation (e.g. dairy farm residues to biogas) strengthen resilience?
- What innovations or technologies can scale circular packaging locally?
- How can consumer awareness promote both recycling and preference for packaged milk?
- What solutions exist for multilayer packaging recovery and recycling?
- How can sales tax reforms (e.g. removal of 18% GST) improve consumer access and circular investment?
- What leadership role can Tetra Pak Pakistan play in scaling sustainable packaging?
- What infrastructure investments are needed to expand recycling capacity nationwide?
- How can Pakistan align dairy packaging with the UN Plastics Treaty outcomes?
- What are the co-benefits for nutrition and food safety from circular packaging?
- Could deposit-return or refill schemes work for dairy in Pakistan?
- How can inclusive models integrate women and waste-pickers in CE value chains?
- What priority actions should the National Circular Economy Policy (2025) set for dairy packaging?

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