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“Reconcile land system changes
with planetary health”

Reconciling land system changes with planetary health. case study: Sunrise cooperative-poultry farms and services in Cameroon

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Abstract

The intensification of agriculture has long been associated with adverse environmental consequences, including biodiversity loss, soil degradation, water contamination, and greenhouse gas emissions. These changes to land systems pose a growing threat to planetary health defined as the interdependent vitality of human civilisation and the natural systems on which it depends. In this context, the Sunrise Cooperative Poultry Farms initiative represents a novel, systems-based approach to reconciling agricultural productivity with environmental stewardship through the creation of an Integrated Organic Poultry Hub in a rural agrarian setting. This project challenges conventional industrial poultry models by implementing regenerative land-use practices, closed-loop nutrient cycles, and decentralised value chains that prioritise ecological integrity alongside socioeconomic empowerment. Rather than contributing to land degradation and pollution, the Sunrise model restores soil fertility through organic feed sourcing, rotational grazing, and agroforestry integration. Crucially, Sunrise Cooperative takes a holistic approach to planetary health by situating its operations within the wider context of community well-being. By enabling smallholder farmers and rural women to become stakeholders in the poultry value chain, the project contributes to food sovereignty, rural livelihoods, and public health outcomes. Reduced reliance on antibiotics, minimised chemical inputs, and enhanced biosecurity protocols further underscore the project's commitment to healthier ecosystems and communities alike.

The Sunrise model also addresses the broader political economy of land use change. Through cooperative governance, fair trade practices, and integrated supply chains, the initiative offers a counter-narrative to extractive agri-business models that often displace people and degrade land. Instead, it supports participatory planning, land tenure security, and agroecological literacy all of which are crucial for long-term sustainability and justice. Technology is employed as an enabler of transparency and traceability, with digital platforms used to monitor animal welfare, environmental impact, and supply chain ethics.

Ultimately, this abstract argues that reconciling land system changes with planetary health is not only desirable but feasible when underpinned by community-led innovation, agroecological principles, and systems thinking. Sunrise Cooperative Poultry Farms provides an actionable framework for reimagining land-based food systems in a way that regenerates both human and ecological health.

Keywords: Biodiversity, ecosystems, integration, livelihood, resilience

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