


# Chapter 1

# Agroecological Transformation Through Farmers' Empowerment and IP Reform: A Human Rights–Based Approach

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## ABSTRACT

*The transition to agroecology is essential for achieving sustainable food systems, biodiversity conservation, and climate resilience. However, dominant intellectual property (IP) regimes often marginalize small-scale farmers by restricting seed sovereignty and traditional knowledge systems. By recognizing farmers' rights to seeds, knowledge, and fair market access, IP policies can shift from corporate-driven monopolization to collective stewardship models. The chapter advocates for a multi-stakeholder approach that integrates legal, economic, and ecological dimensions, ensuring that farmers' empowerment is at the core of agroecological transitions. By embedding human rights in IP governance, policymakers can foster more just, resilient, and biodiversity-rich food systems, ultimately advancing the global movement for agroecological transformation. This chapter argues that a human rights-based approach to IP reform can empower farmers as key agents of agroecological transformation.*

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## INTRODUCTION

Modern food and agricultural systems successfully meet worldwide demand for food. However, high-external input, resource-intensive agricultural systems have resulted in widespread deforestation, water scarcity, biodiversity loss, soil depletion, and significant greenhouse gas emissions (Calicioglu et al, 2019). Despite recent advancements, hunger and extreme poverty remain major worldwide concerns. Poverty reduction efforts are hampered by persistent inequities. Agroecology combines ecological and social principles to design and manage food and agricultural systems (Food, 2018). The goal is to optimize interactions among plants, animals, humans, and the environment, while also considering social factors for a sustainable and equitable food system (Prabhu et al., 2015). Agroecology is not a recent invention. This concept has been present in scholarly literature since the 1920s and is reflected in family farming techniques, grassroots sustainability initiatives, and global public policy (Gallardo-López et al., 2018). Recently, agroecology has gained attention from international and UN entities. Polyculture, crop diversity, and integrated pest control are all agroecological principles that contribute to increased food security and nutrition. Agroecology promotes carbon sequestration, soil health, and greenhouse gas reductions, resulting in more climate-resilient farming systems (Vikas & Ranjan, 2024).

Agroecological farming, which is unknown to individuals who view agriculture and ecology as different subjects, refers to farming for the purpose of creating food, employment, and economic benefits, as well as cultural, social, and environmental benefits (Bisht et al., 2022). Furthermore, agroecology empowers farming communities as change agents, addresses the core causes of issues in unsustainable agricultural systems in an integrated manner, and provides holistic and long-term solutions to alter the food and agricultural systems (Fiore et al., 2024). Indigenous seeds have traditionally been passed down through the generations by farmers. Their protection of native seed varieties is essential to preserving agricultural biodiversity and advancing ecological sustainability (Clancy & Vernooy, 2016). The production of native seeds has decreased as a result of the broad use of hybrid and genetically modified seeds, which are frequently pushed by big agribusinesses. Despite the fact that these commercial seeds necessitate high-input farming systems, they are frequently promoted as being more productive. Significant obstacles include laws that prioritize commercial seed production above the preservation of native seeds and a dearth of financial incentives for farmers to cultivate native crops. In light of the above perspective, the author links agroecological transformation to human rights and intellectual property reforms. It also advocates for a human rights-based framework for farmers' empowerment.

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