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Livestock farming in Honduras: Adoption levels, challenges, and gender gaps in the transition toward sustainable systems

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Abstract

The transition toward sustainable livestock systems is crucial for mitigating global warming and meeting the growing demand for food, particularly in Latin America and the Caribbean (LAC), where rural areas face significant economic and social challenges. Sustainable practices such as pasture management, silvopastoral integration, efficient water use, and balanced livestock feeding contribute to environmentally responsible production, animal welfare, and climate resilience. Honduras represents a critical case where livestock farming, while central to the agricultural economy, is associated with deforestation, land grabbing, biodiversity loss, and social inequalities. This study analysed 450 producers across four municipalities in Olancho to understand the adoption dynamics of sustainable livestock practices promoted by Heifer International through Field Schools. Using descriptive analysis and an adoption model, the study constructed adoption profiles to better understand transition processes and identify key influencing factors. Results show that project participation, producer age, and environmental interest significantly affect the likelihood of adopting sustainable practices. Adoption levels varied according to the number and types of practices implemented, revealing the most accepted technologies and combinations among producers. Gender differences were notable: 54 % of women were classified as non-adopters compared to 39 % of men, and only 13 women reached the highest adoption level versus 39 men. The econometric analysis confirmed that being male significantly increases the probability of adoption. These findings highlight barriers faced by women, including limited access to technical assistance, information networks, financing, and productive resources. Although women and men share similar educational levels, women are more often linked to smaller farms and have lower participation in agricultural networks. Despite a high perception of participation in development initiatives, women showed lower uptake of sustainable livestock practices. The study emphasises that adoption is a gradual process, involving experimentation and combination of technologies, rather than a discrete shift. These insights provide crucial guidance for policymakers seeking to foster inclusive and sustainable livestock transitions in LAC countries facing comparable challenges.

Keywords: Adoption, Climate Change, Gender, Livestock Farming, Sustainable Systems