

Chapter 6


Green and Renewable Energy–Related Financial Literacy as the Driver of Sustainable Food Security and Sovereignty in México

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ABSTRACT

This research investigates the crucial link between green and renewable energy-based financial literacy and its effects on promoting sustainable food sovereignty and security in México. The principal findings indicate that farmers who possess higher renewable energy financial literacy are more likely to adopt solar-powered irrigation systems, biomass energy services, and energy-efficient agricultural practices. This adoption not only reduces the cost of operations but also enhances climate change resilience and food production sustainability. The paper concludes that investments in targeted green energy financial literacy programs, coupled with revved-up financing mechanisms for renewable energy technologies in agriculture, can significantly advance México towards its goals of sustainable food security with environmental stewardship. These findings have important policy implications for the development of policy, educational curricula, and financial institution strategy that aim to facilitate México's agricultural transition.

INTRODUCTION

México stands at a fork in the road regarding its agriculture and energy development trajectory. As the fourth-largest food producer globally and a nation endowed with abundant renewable energy resources, México is uniquely positioned to lead the way in sustainable food systems while addressing climate change challenges (García-López *et al.*, 2023). However, the nation faces significant challenges in achieving food security and sovereignty, particularly in rural regions where access to modern energy infrastructure and financial services is limited.

Food security, as the availability, accessibility, utilization, and stability of food systems, has become more complex in the context of climate change and energy transition (FAO, 2022). México's agriculture produces approximately 3.8% of the nation's GDP and employment for over 6.5 million people but is facing rising pressure from climate variability, soil degradation, water scarcity, and increased energy costs (SAGARPA, 2023). Simultaneously, the country has committed to generating 35% of

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