A SYSTEMATIC REVIEW OF ENVIRONMENTAL SUSTAINABILITY IN COCOA PRODUCTION IN GHANA

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Abstract - Cocoa production in Ghana encounters several challenges, including socioeconomic constraints, climate change impacts, limited global market access, and increasing demand for high-quality cocoa. It has also experienced deforestation, soil degradation, low productivity, pest and disease outbreaks, and fluctuating global market prices. These challenges persist despite concerted efforts by the Food and Agriculture Organization (FAO), Ghana's Ministry of Food and Agriculture (MoFA), and the Ghana Cocoa Board (COCOBOD) that haveprovided technical, financial, and economic support to cocoa farmers. This study aims to assess cocoa farmers' perceptions of environmental sustainability challenges in cocoa production in Ghana. A systematic review of peer-reviewed articles published between 2010 and 2024 was conducted using JSTOR and ScienceDirect databases. Of 1,045 articles initially retrieved, 25 articles meeting well-defined inclusion criteria were selected for analysis. The study adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to identify recurring themes and insights related to environmental sustainability in cocoa farming. Findings indicate that education and age significantly influence farmer's perceptions of environmental sustainability. A major barrier to sustainable practices is the limited awareness of climate change impacts and the environmental consequences of unsustainable farming. Climate change has led to yield fluctuations and increased susceptibility to pests and diseases. Declining yields due to aging and diseased trees have prompted the Ghanaian government to implement large-scale rehabilitation and replanting programs, providing farmers with improved planting materials, pesticides, and fertilizers. Adaptation strategies such as agroforestry, improved cocoa varieties, and crop diversification show potential for mitigating these challenges. However, the current conditions for sustainable cocoa production remain insufficient. Structural reforms in the cocoa sector are necessary to enhance the economic viability of smallholder farms, promote efficient land management, and reduce the environmental impact of farming practices. This study concludes that area-specific programs targeting these structural changes are essential for achieving socially, economically, and environmentally sustainable cocoa production on less land.

Keywords - Cocoa Production, Environmental Sustainability, Sustainable Agriculture, Climate Change, Ghana.