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(57) Abstract :  
VERTICAL FARMING SYSTEM FOR SUSTAINABLE URBAN AGRICULTURE ABSTRACT This paper examines the growing importance of vertical farming as a solution to emerging global challenges in food security, urbanization, and environmental sustainability. With conventional farming facing constraints like land shortages, increased greenhouse gas emissions, and food miles, vertical farming emerges as a promising alternative. By stacking crops in protected indoor environments using methods like hydroponics and aeroponics, vertical farming optimizes resource use, minimizes water consumption, and reduces reliance on pesticides. The technology offers significant advantages such as efficient space utilization, shorter growing cycles, and the potential for hyper-localized production, mitigating issues related to food access and supply chain disruptions. However, obstacles such as lack of expertise, economic viability, and regulatory hurdles pose challenges to widespread adoption. Nevertheless, with ongoing technological advancements and the urgent need to address food insecurity exacerbated by events like the COVID-19 pandemic, vertical farming presents a compelling solution for sustainable food production in the future.

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