

INTEGRATING TRADITIONAL FARMING PRACTICES WITH MODERN LAND-USE PLANNING FOR SUSTAINABLE AGRICULTURE IN BORALANDA DIVISIONAL SECRETARIAT DIVISION SRI LANKA

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Traditional farming practices have long been the backbone of Sri Lanka's rural agriculture, particularly in rural areas like Boralanda Divisional Secretariat Division (DSD), Sri Lanka. However, increasing challenges such as resource scarcity, climate change, and land fragmentation threatening their sustainability. This research investigates the potential of integrating traditional farming methods with modern land-use planning techniques to develop sustainable agricultural solutions. Methodology of the study combines statistical analysis methods, such as the weighted mean, Chi-square test, and SWOT analysis, with comprehensive primary and secondary data collection through surveys, interviews using 50 size of sample and field observations. The study highlights the limitations of traditional farming, including poor planning, significant soil erosion, and ineffective water management practices by contrasting contemporary approaches like crop rotation, water-efficient irrigation systems, and the application of Geographic Information Systems (GIS) for optimal land use. The results revealed that modern techniques, particularly GIS and efficient irrigation systems, significantly improve land allocation and resource management compared to traditional methods. Integrating these approaches with traditional practices boosts agricultural productivity and enhances resource efficiency, providing a balanced, adaptable solution to rural farming challenges. This study provided a sustainable land use planning model that can be implemented by Sri Lanka's rural farmers with valuable insights that can be applied to other regions with similar agricultural challenges. The proposed model is designed to increase agricultural output, optimize resource use, and ensure the long-term sustainability of rural landscapes in the face of evolving environmental pressures.

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