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**BSc (Hons) in Business Information Systems
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Agri Aid: A smart solution that empowers novice urban protected-house farmers by providing reliable farm information, insights, and forecasts

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Abstract

Protected Agriculture (PA) serves as a crucial pillar of Sri Lanka's agricultural industry, offering a lifeline by overcoming the challenges faced by traditional farming methods. However, the recent convergence of COVID-19 lockdowns, socioeconomic unrest, and rapid urbanization has caused a concerning surge in food inflation and debilitating shortages. These pressing issues not only endanger the livelihoods of the population but also exacerbate the risks of urban poverty, food insecurity, inflation, and malnutrition.

Fortunately, urban farming has emerged as a rapidly growing trend, providing a contemporary solution to address household consumption, nutrition, and income needs. This trend has given rise to a new generation of inexperienced urban protected-house farmers in Sri Lanka. With the increasing popularity of urban farming, the accessibility of accurate and reliable agricultural information and insights has become crucial. The success of the PA sector heavily relies on the availability of precise agricultural information, insights, and forecasts, as they empower novice protected-house farmers with the necessary knowledge to make informed decisions, optimize farm efficiencies, and maximize profits.

Regrettably, ensuring access to reliable agricultural information remains a significant challenge in Sri Lanka. The currently available information fails to meet the required standards of quality and substance, hampering evidence-based farming interventions. This dearth of reliable information undermines farmers' confidence, leading to misguided decisions and suboptimal outcomes, such as significant wastage, harvest losses, and financial setbacks. These outcomes are particularly detrimental to farmers during these challenging times.

Against this backdrop, this project aims to analyse and identify the factors contributing to the deficiency of reliable information and insights in the novice urban protected-house farming community. The goal is to design, develop, and evaluate a farm management software application that would provide novice urban protected-house farmers with accurate agricultural information, insightful farm data, and precise farming forecasts in a timely manner. Thorough literature research and stakeholder analysis have been conducted to validate the problem and identify the requirements for designing and developing the proposed solution. The implemented solution was subjected rigorous testing for quality

assurance and user evaluations by domain and technical experts to ensure its viability and feasibility in achieving its intended purpose.

The lack of farm management solutions in Sri Lanka has been identified as a significant factor causing disruptions in the PA sector. Agri Aid was therefore introduced and implemented to address this market disparity by empowering novice urban protected-house farmers with reliable agricultural information, insights, and forecasts. This enables the adoption of effective interventions and evidence-based strategies that optimize farm resource allocations, efficiencies, harvests, and profit schemes at a granular level. By unlocking the full potential of Sri Lanka's PA sector, Agri Aid aims to address broader issues such as food security, malnutrition, poverty alleviation, and sustainable urban development on a larger scale.

Keywords: Agriculture Industry, Protected Agriculture (PA), Protected Houses, Urban Farming, Novice Farmers, Agricultural Information, Insights and Forecasts