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Oral sessions | Farming System | O22: Crop Production System

## [O22] Crop Production System

Chair: Koki Homma (Tohoku University, Japan)

Chair: Roel Suralta (Philippine Rice Research Institute, Philippines)

Thu. Sep 9, 2021 2:30 PM - 4:30 PM Room 2 (Oral) (Farming System)

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3:25 PM - 3:40 PM

### [O22-04] Vertical Farming: Improving Food and Nutrition Security by Integrating Agriculture into the Built Environment of Dhaka City

\*Nominated for Presentation Awards

○Shamma Tabassum Haque<sup>1</sup>, Md. Z. H. M. Monjur Murshed<sup>1</sup>, Muhammad Shahidul Haque<sup>2</sup> (1.Department of Architecture, Rajshahi University of Engineering and Technology, Bangladesh, 2.Department of Biotechnology, Bangladesh Agricultural University, Bangladesh)

A city will always rely on rural farmers for food and nutrition. Farms inside the city provide an opportunity to take advantage of using the unused roof spaces to enhance sustainability by promoting urban farming. This paper focuses on the present conditions of vertical farming and different phases that can be implemented according to climate change and sustainable developments of Dhaka. As Dhaka is rapidly urbanizing into a mega-city, areas available for agriculture within the city are becoming infeasible for mass production. To support the skyrocketing population and the rising requirement of quality food, vertical farming can be a solution which not only can meet the growing demand for food in cities, but also enhance the ecosystem. This study was conducted from established data collection according to a survey to get a better understanding of the potential of rooftop farming. The target area for this research was Dhaka city. The selection criteria of high rise buildings were stated by limited food access, low, medium-income households, infrastructure surrounding, and also natural resources. The possible solutions and ideas have been shown in a proposed high rise through some diagrams and charts. The paper aims to inspect the existing practices and identify the possibilities and applicable methods of vertical farming in high rise buildings of Dhaka. If the utilization of vertical farming could be conceived as social practice and implemented properly with architectural techniques and applications, the food and nutrition security will be at a whole new sustainable peak.