

Study of the Benefit Analysis Using Vertical Farming Method in Urban Renewal within the Older City of Taichung

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Abstract : Cities face environmental challenges, including over-urbanization issues, air and water quality issues, lack of green space, excess heat capture, polluted storm water runoff and lack of ecological biodiversity. The vertical farming holds the condition of technology addressing these issues by enabling more food to be produced with finite less resources use and space. Most of the existing research regarding to technology Industry of agriculture between plant factory and vertical greening, which with high costs and high-technology. Relative research developed a sustainable model for construction and operation of the vertical farm in urban housing which aims to revolutionize our daily life of food production and urban development. However, those researches focused on quantitative analysis. This study utilized relative research for key variables of benefits of vertical farming. In the second stage, utilizes Fuzzy Delphi Method to obtain the critical factors of benefits of vertical farming using in Urban Renewal by interviewing the foregoing experts. Then, Analytic Hierarchy Process is applied to find the importance degree of each criterion as the measurable indices of the vertical farming method in urban renewal within the older city of Taichung.

Keywords : urban renewal, vertical farming, urban agriculture, benefit analysis, the older city of Taichung

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