

# **A review of vertical farming technology: a guide for implementation of building integrated agriculture in cities**

## **ABSTRACT**

Recently, the application of Vertical Farming into cities has increased. Vertical farming is a cultivating vegetable vertically by new agricultural methods, which combines the design of building and farms all together in a high-rise building inside the cities. This technology needs to be manifest both in the agricultural technique and architectural technology together, however, little has been published on the technology of Vertical Farming. In this study, technology as one of the important factor of Vertical farming is discussed and reviewed by qualitative approach. In the first, identifying existing and future VF projects in Europe, Asia, and America from 2009 to 2016. Then a comprehensive literature reviewed on technologies and techniques that are used in VF projects. The study resources were formed from 62 different source from 2007 to 2016. The technologies offered can be a guide for implementation development and planning for innovative and farming industries of Vertical Farming in cities. In fact, it can act as a basis for evaluating prospective agriculture and architecture together. The integration of food production into the urban areas have been seen as a connection to the city and its residents. It simultaneously helps to reduce poverty, adds to food safety, and increases contextual sustainability and human well-being.

**Keyword:** List the vertical farming; Technology; Farming methods; Food production; Controlled environment agriculture