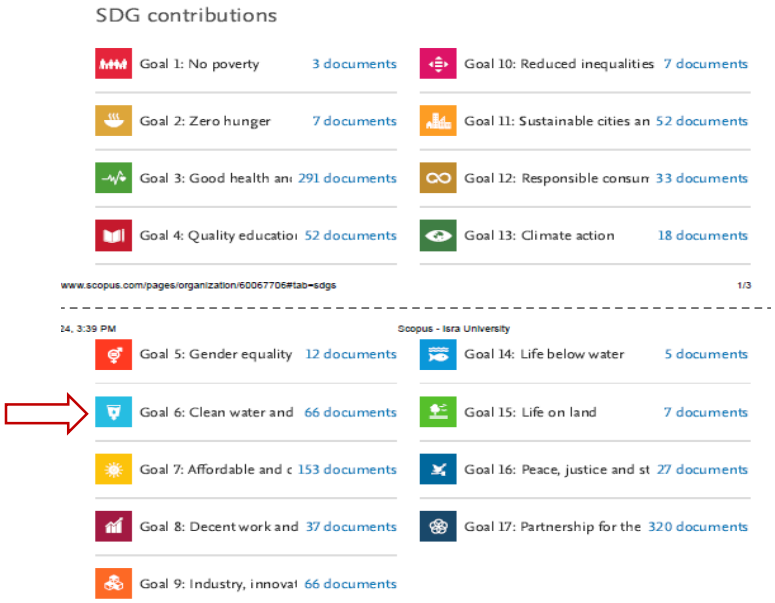
6.1.3 Clean Water and Sanitation: publications

Water is essential for both our agriculture and aquaculture. A significant amount of freshwater is used for crop irrigation, making water-efficient practices essential. Effective solutions include using less water-intensive crops, drip irrigation, precision fertigation, and reusing drainage water. There is a growing demand for IoT-based automatic irrigation systems to further reduce water usage. Moreover, there is a growing demand for IoT-based automatic irrigation systems to further reduce water usage. According to Scopus, there are a total of 66 publications related to Sustainable Development Goal 6, with 21 of those published between 2020 and 2023.

Moreover, the Smart Vertical Farming Hub at Isra University in Jordan is a project funded by the National Center for Research and Development (NCRD) and Isra University, both based in Jordan. This initiative has successfully cultivated various types of leafy greens, green peppers, and strawberries.



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A Smart Vertical Farming Hub at Isra University, Jordan: Toward the Development of Resilient Cities

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Abstract. The UN projects that 80% of the world's population will be living in urban areas by the year 2050. The big rise in urbanization is anticipated to happen in Asia and Africa, and Jordan is no exemption. Dietary shifts and changes in food, energy and water nexus demands are all associated with rapid urbanization and population growth.These ramifications could even exacerbate the stress already existing on natural resources. Concerns about food security had been highlighted in 2020 and most recently in 2022 in the Jeddah Security and Development Summit, by His Majesty King Abdullah II, as the country suffered from food insecurity resulted from the COVID-19 pandemic.The pandemic had brought extra burden to an already battered economy in Jordan. It also has forced ~55% of households in Jordan to resort to the crisis by food-related survival strategies such as reducing number of meals to make ends meet. Different researchers have called to a transformation in the way the cities are planned and governed to value them in the "post-pandemic era", to enhance future-proof models that are in harmony with local conditions and planetary boundaries, such as a "regenerative city" model aiming for greater resilience and to achieve SDGs the country pledged to. This paper highlights such facts and associated challenges through examining different literaturesto find that research on vertical farming is currently noticeable. It is believed that such method wouldestablish better understanding scholarly base of vertical farming's theory and practice. Accordingly, the examined literatures proofed to legitimate the urgent need for the "Smart Vertical Farming Hub" at Isra University (Jordan). It successfully produced different types of greenery leaves, green pepper, and strawberry. To the best of the authors' knowledge, the nature of this project in Jordan is considered as a unique initiative aiming towardsdeveloping resilient Jordanian cities.

Keywords: Vertical-farm, COVID-19, Sustainability, Resilient city, Food-security, Amman, Jordan, SDGs

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