Attachment 3

Ongoing sustainable projects and graduate research studies:

1. Drought Assessment and Simulation in accordance with Climate Oscillation and Land Cover Changes, Methods and Applications- Amman Zarqa Basin- Jordan
2. Ambient Air Pollution in Jordan- Examine Emissions of Air Pollutants and Compare with Different CMIP5 Models under Concentration-Driven Projections and Changing Land-Use Patterns
3. Climate Change-Driven Crop Production in Jordan: Insights on Wheat and Olive Sensitivity to Climate Extremes - CMIP5 Multi-Model Ensemble under two climate scenarios RCP4.5 and RCP8.5.

Publications:

Nivin Abdelrahim Hasan, Yang Dongkai, and Fayha Al-Shibli. A Historical–Projected Analysis of Land Use/Land Cover in Developing Arid Region Using Spatial Differences and Its Relation to the Climate. Sustainability 2023, 15, https://doi.org/10.3390/

Awards in Sustainability:

DIYA -Dutch Youth Innovation Award – FCA (Finn Church Aid)

For the project: Women leveraging small-scale Biochar production as an economic, carbon-sequestering, waste-reducing, agricultural terra (soils) enhancing (ExWASTE) opportunity in Rural Jordan-Jerash

Team members:

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2. Farah Asem Tawfeq Tantawi
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Mentor Name:

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Summary:

Project aims to investigate the potential for women's involvement in small-scale biochar production in rural Jordan to address solid waste management, environmental, socio-economic, climate, and energy-related challenges. The project proposes the integration of solid waste back into the socio-ecological system as a valuable resource, focusing on women's roles emerging small-businesses capabilities. The project suggests producing black carbon from plant residues for substantial effects on the economic, carbon-sequestering, waste-reducing, and soil-enhancing opportunities. Collaborating with Jerash Women Association through Carbon Storage and Sequestration (CSS) technique. Jerash is 409 $x10^3$ Donum that includes 91530 forest trees and 134645 cultivations and crops. This area must have an abundance of feedstocks and residues that should be utilized efficiently.

The initial results prove how efficient biochar production is in carbon storage and sequestration. The analysis shows high carbon capture through biochar production and very low sulfur content.