

Wireless Plant Health Monitoring and Growth Estimation Utilizing Artificial Intelligence

British Council

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This project represents a strategic initiative with the core aim of strengthening research capabilities and fostering collaboration between Turkish and UK institutions, specifically concentrating on advancing sustainable agriculture through wireless sensing technology. Its primary goal is to enhance food security by optimizing crop monitoring. The project's pivotal activities encompass comprehensive training on gender equality and Equality, Diversity, and Inclusion (EDI). Additionally, it prioritises enhancing communication skills among young researchers, a critical aspect, as it is expected that the project will build up in the development of a collaborative project proposal with a strong focus on innovative product development. Additionally, the communication skills will come in handy during the dissemination of its findings through conferences.

The project's significance lies in both its immediate and long-term impacts. In the short term, it will innovate plant health monitoring with wireless sensors, leading to a wireless biodegradable growth sensor and AI-driven growth projections. This aligns with the Turkish Ministry of Agriculture and Forestry's goal of promoting digital innovation in agriculture. Long-term objectives include technology driven greenhouse plant growth, increasing yields per square metre, and influencing policy making. The project aligns with the UK government's Food Strategy, emphasising innovation, sustainability, and industry collaboration, addressing Sustainable Development Goals.

Economically, the project can improve Turkey's greenhouse farming efficiency, benefiting an industry that employs 15.8% of the workforce and contributes 6.5% to GDP. This enhances food accessibility and promotes sustainability through biodegradable sensors, aligning with responsible production and consumption goals. Overall, the project fosters collaboration, innovation, and sustainability, contributing to economic development, social welfare, and environmental responsibility in both partner countries. The success of the project will be evaluated through measurable objectives and reporting mechanisms, facilitating a more secure and sustainable food future.