

## **Tinkering lab – Innovative Project**

**Project Title: Timer-Based Irrigation System with Nutrient Detection of Soil**

**Team Members:**

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**Abstract:**

It is estimated that over 70 percent food grain production relies on irrigation, in which groundwater plays a major role. Frequent power cuts in villages lead to improper irrigation causing soil salination, waterlogging and a degraded water table. The farmers are neither well- informed about the nutrient content in the soil where they grow crops, nor do they know where to sell their produce, once the harvest is complete.

Our device carries out irrigation for a certain amount of time, automatically, by studying the nature of the soil. Based on analysis of the nutrients, it will predict about the fertilizers that farmers can employ in their fields. Based on nutrient-content analysis, the farmer can plan for crop rotation. An interface of these data will be provided to both the website and the app, so that the farmer can access this information. Online presence of these data will not only eliminate the presence of middlemen but also save farmers money.

