Soil Moisture Smartphone Application

about project

R04

Budget
Undefined

Municipal contribution
Cooperation with Computer Science Students for the design and implementation of the application. Secure the distribution of the application to the farmers living and undertaking agricultural activities in the rural areas of Tirana, through the help of Administrative Units

Municipal sectors/ directorates
Agricultural Sector

PROJECT DESCRIPTION

Through a direct collaboration with Computer Science students of the Polytechnic University of Tirana, the Municipality of Tirana will design and create an application that will help farmers measure soil moisture, through some sensors that will be distributed in agricultural land by the Municipality.
These sensors will be distributed to some pilot areas and farmers, through an application that can be downloaded to their smartphones can measure the moisture of the soil and calculate the exact amount of water that soil needs for irrigation.

OVERALL OBJECTIVE

Irrigation is one of the main factors that enhances crop production. Worldwide experience has shown that proper irrigation practices have always been beneficial to agricultural land, while serious failures have been caused by irrigation mismanagement.
On the other hand, as water supplies are scarce, efficient water management practices are of vital importance. Agriculture must obtain “more crops from less water” and with less environmental impact. That is a significant challenge, and implies that water management for sustainable crop production intensification will need to anticipate smarter, precision agriculture. It will also require water management in agriculture to become much more adept at accounting for its water use in economic, social and environmental terms.
The introduction of an application that measures soil humidity will increase the efficiency of water management and increase quality of crop production by irrigating them according to soil needs and specifications.

PRELIMINARY IMPACTS

As “Water Conservation” is a main objective – good agronomy is a direct result of good agricultural process. When irrigation is managed correctly, soil moisture is maintained in an optimum condition for the creation of the best possible crop/plant health. Production can be maximized. Quality can be enhanced. Pests and disease are mitigated. Nutrients are efficiently utilized and not wasted. Energy is conserved, and, usually water use is decreased. The elimination of excessive irrigation also protects our water quality. Soil moisture measurement has been proven for almost eight decades to be a very important and productive tool for managing and scheduling irrigation.

BETTER RURAL LIFE