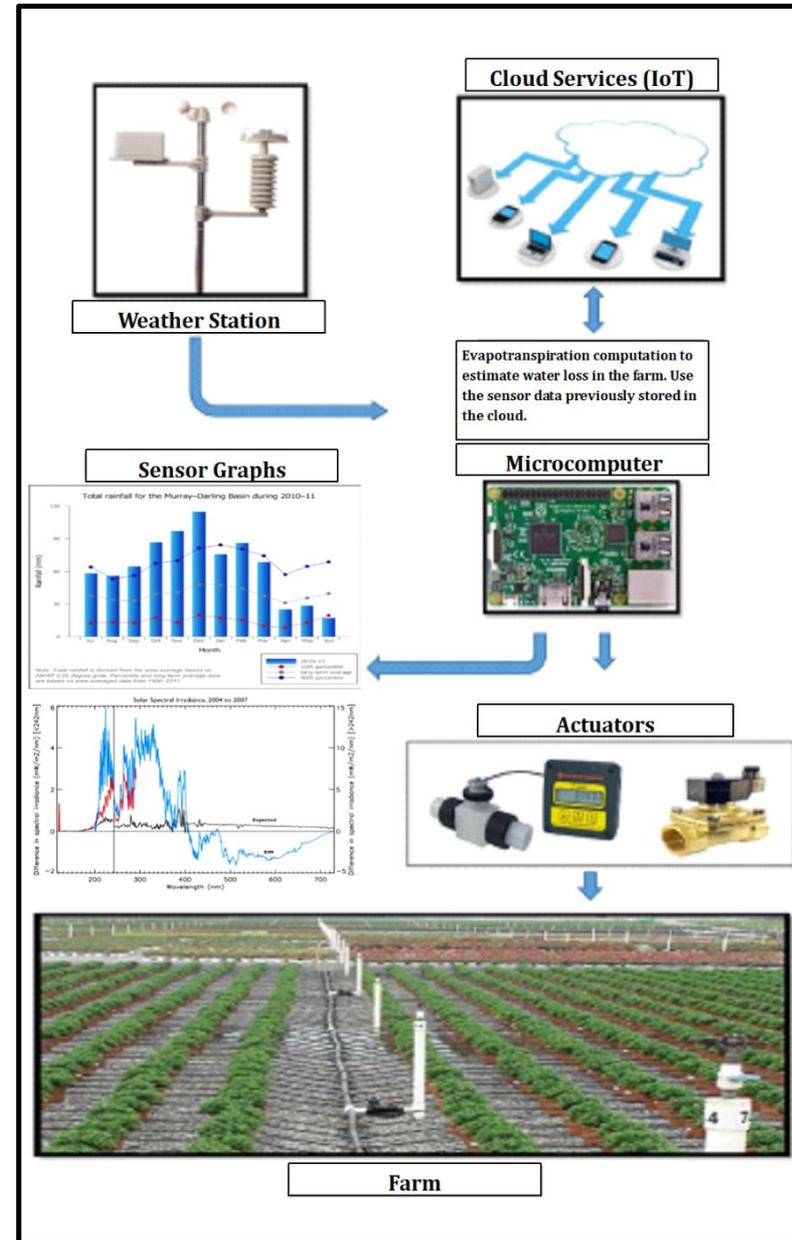


Evapotranspiration (ET)-Based Irrigation System with IoT Integration for Smart Farming Application Addressing the ASEAN Impending Water Crisis

Agricultural irrigation is the largest user of fresh water in Philippines accounting for 82% of the overall fresh water withdrawals. In order to meet industrial water needs, reducing water used for irrigation is actually predominant not just in other countries but also here in the Philippines. The motivation for this type of water savings is usually not an absolute shortage of water but a desire to use the available water not for irrigation but for other purposes.

The objective of this project is to evaluate the suitability of evapotranspiration (ET)-based irrigation scheduling technologies for agricultural applications, specifically, the ability of the technologies to: apply the appropriate amount of water at the appropriate time, using the estimated reference ET (ET_o) in a particular field. The figure shows the block diagram of the proposed project. The main controller of the system is the microcomputer which serves as the heart and brain of the system. It controls the storage of sensor data from the sensor module to the cloud storage. The sensor data will then be used in the estimation of water loss in the farm by the computation of the evapotranspiration and will then be the basis for control of the actuators to irrigate the farm based on the computed amount of water loss.



Name	Position/Degree	Name	Position/Degree
Dr. Jennifer C. Dela Cruz Mapua Institute of Technology, Philippines	Project Leader	Dr Sevia M. Idrus UTM, Malaysia	Professor, Department Of Communication Engineering
Meo Vincent C. Caya Mapua Institute of Technology, Philippines	Senior Researcher/ PhD Candidate	Dr Muhammad Al FarabiMuhammad Iqbal UTM, Malaysia	Senior Lecturer, Department Of Communication Engineering
Febus Reidj Cruz Mapua Institute of Technology, Philippines	Senior Researcher/ PhD Candidate	Dr Nadiatulhuda Zulkifli UTM, Malaysia	Senior Lecturer, Department Of Communication Engineering
Joseph Bryan Ibarra Mapua Institute of Technology, Philippines	Senior Researcher	Dr. Khin Than Mya UCSY, Myanmar	Head of Embedded System Lab./ Associate Prof./ Ph.D
Dr. Ireneo C. Agulto Central Luzon State University, Philippines	Dean, College of Engineering	Eiji Kawai NICT, Japan	Head of Research on Testbed R&D Promotion