Zero Lost Drop

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The biggest problem the world faces today is the water shortage. Agriculture consumes water more than domestic and industrial fields usage by ratio 70:30 It wastes much of that through inefficiencies due to the ordinary and careless ways of immigration which lead to over watering the plants and drown the soil. However, agricultural technologies have evolved, such as drip irrigation to reduce these lost but it wasn't efficient enough. So, we integrate a complete system to reach the least usage of water without affecting the quality of agricultural crop and with a minimum cost on the farmers. Our project divided into 2 main parts. The first one is the chemical-based part, we used CaCl2 (aq) to decrease the ratio of the water vaporized because of the heat shocks and used Carboxymethyl cellulose (CMC) in storing the rain falls. The second part is the electronics-based system, we built a smart irrigation system based on the integration of three sensors: Air temperature, Humidity Soil moisture and Plant relative humidity This system sends the data through mobile application which make us able to provide the best and most sustainable soil phenomena for the plant. We reach the same stunning results after we had tested the system twice on to different crops Mint & Wheat The results were 90% save water with higher quality crop and financial profits.

Awards Won:
Second Award of $1,500