Solar Powered Intelligent Irrigation System

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People in many countries across the world depend on agriculture as a source of sustainability. Agriculture plays a huge part in the world economy so much that agriculture is a 2.4 trillion dollar industry worldwide. Being that agriculture is so valuable to the world it would seem that the agriculture industry would be perfect, but that's not the reality. Most countries actually suffer in the agriculture industry and don’t meet the standards. The biggest agriculture producers in the world are; United States of America, China, India, Brazil, and Indonesia. All of these actors play a huge part in the worldwide agriculture industry, but these actors have a hard time in agriculture due to problems of pollution and drought. The biggest problem of the two is drought. Drought is the result of abnormally low rainfall. Causes of drought are climate change, pollution, etc. Most agriculture depends on annual rainfall for means of irrigation. But there is a more efficient and cheaper way of irrigating crops in countries depleted of rainfall; automatic drip irrigation system. This system of irrigation allows the farmer to be away from his/her crops for an (n) amount of time, without worrying about when to water crops, or when to dig for irrigation. This system also can be used to transport water from far distances (rivers, lakes, streams,etc.) and be used in the irrigation of crops. In my engineering project I have built a system that models the automatic drip system that I have explain above. My engineering project uses an arduino circuit board with a 4 relay module, 12v brushless water pump, soil moisture sensor, and a solar panel to power the system. My project is an efficient way in making sure soil gets enough moisture so that plants can grow efficiently.

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