

Food is a key and basic human need, and technology has improved to supply it. More than 80% of Bangladeshis rely on agriculture, either directly or indirectly. However, efficient irrigation by water pump cannot be maintained due to frequent power outages, the inaccessibility of grid lines in rural places, and the scarcity/cost of fuel to drive pumps. This drip irrigation system is proposed to create a sustainable irrigation system. IoT is used to control and monitor the irrigation system in this system. Sensors of various types are used. This paper describes a fully automated drip irrigation system that is managed and controlled by the "Thinkspeak Cloud Server." The soil's temperature and humidity content are constantly monitored. The NRF module is used for monitoring and controlling purposes. The system notifies the user of any abnormal conditions such as low moisture content, temperature rise, or water concentration by sending data via the NRF wireless module. Data can be seen through Virtuino app, which is connected with the Thinkspeak server.