Starting off from the main part, we used DHT11(temperature sensor), humidity sensor, agricultural light sensor, YL – 69 (soil moisture sensor), water level sensor, electro-chemical sensor. These sensors take readings and send their data into the nodemcu which has an inbuilt Wi-Fi module, the readings are sent to the app for statical overview, which will later help with the agricultural sector of Sri Lanka.

There are two ways that this system can be run on, the first method would be fully automated. If for example, at an instance where the temperature, moisture and humidity readings are not appropriate it would send signals to the system, and the system would eventually send signals to the sensors that are blocking the water supply to unblock them and for the water to start flowing into the paddy fields to maintain sensor readings at its best.

The next method would be manual, which means for example, the readings in sensors are not up to pare, therefore it would send a notification to the user to take an action and if the user can either choose an option to analyse the situation and get the situation under control or the user has the option of ignoring the notification. If the user decides to get the situation under control, then he/she can unlock needed pipelines to get the water flowing to maintain needed sensor readings.

After the user uses the system for more than a month, monthly statistics is sent to the agricultural department which they can use to analyse and get needed information for betterment and improvement of the agriculture sector of Sri Lanka.

Part B: Paddy Field Watering System.

1.Sensor Readings:

Paddy Field Watering System uses sensors which will be sending readings to the inbuilt Wi-Fi module, all these readings will play a major role on the proposed system. These readings will later be used in the monthly and daily statistics, which will be sent to the agriculture department for future needed evaluations and decisions to be made for the betterment of the agriculture sector as one.

Requirements:

Hardware:

* DHT11(temperature sensor)
* Humidity sensor
* Agricultural light sensor
* YL – 69 (soil moisture sensor)
* water level sensor
* electro-chemical
* Nodemcu
* Pipelines

Software:

* Arduino complier
* Java programming language
* Android Studio

Circuit diagram of the system