**LITERATURE REVIEW**

**INTRODUCTION:**

Smart Agriculture has been a major issue where water level in the ground is decreasing day by day and everybody wants to take proper measures to prevent intrusion. In addition, there is need to automate farming so that the user can take the advantage of technological advancement. This project presents a model that will provide the farmer to operate the motor in the residing position without travelling to the farm etc via SMS and email using GPRS technology. Keeping in view the rapid growth of wireless communication we are inspired to work on this project. The idea behind this project is to meet the upcoming challenges of the modern practical applications of wireless communication and to facilitate our successors with such splendid ideas that should clear their concept about wireless communication and control system. The applications of SMS/GPRS Based system are quite diverse. There are many real life situations that require control the level of water. There will be instances where a wired connection between a remote appliance/device and the control unit might not be feasible due to structural problems. In such cases a wireless connection is a better option. Basic Idea of our project is to provide GPRS based system even if the owner is away from the restricted areas. For this we adopted wireless mode of transmission using GPRS. Beside this there are many methods of wireless communication but we selected GPRS in our project because as compared to other techniques, this is an efficient and cheap solution also, we are much familiar with GSM technology and it is easily available.

**SURVEY:**

The researchers gathered information from different sources which give appropriate ideas or what parts to be used in every circuitry involved in this project. Keypad interfacing to microcontroller using embedded C was the hardest part ever encountered during the development stage. From a step by step process, researchers started from writing simple code to more complex. After everything is fixed and tested in virtual simulation, the

researchers soldered everything for implementation stage. Researchers faced many problems on hardware such as fine tuning every sensor to work simultaneously with the burnt program inside the microcontroller. By eliminating those problems gives good andaccurate anticipated result. Same project could have been designed with:

1)8051 microcontroller

2)ARDUINO

We are using Arduino for this project because, Using an Arduino simplifies the amount of hardware and software development you need to do in order to get a system running. The Arduino hardware platform already has the power and reset circuitry setup as well as circuitry to program and communicate with the microcontroller over USB. In addition, the I/O pins of the microcontroller are typically already fed out to sockets/headers for easy access (This may vary a bit with the specific model).On the software side, Arduino provides a number of libraries to make programming the microcontroller easier. More useful are things such as being able to set I/O pins to PW Mat a certain duty cycle using a single command or doing Serial communication. The greatest advantage is having the hardware platform set up already, especially the fact that it allows programming and serial communication over USB.

**CONCLUSION:**

After reviewing the possible solutions, my team decided to use ARDUINO to make this project. According to the advantage of ARDUINO over other Microcontrollers, we made this decision.