

The IBM logo is displayed in white text on a blue arrow-shaped background, which is part of a larger blue horizontal bar. A dark blue vertical bar is on the left side of the page, and some thin, curved lines resembling grass are at the bottom left.

# LITERATURE SURVEY

IOT ENABLED SMART  
FARMING APPLICATION

## TEAM DETAILS:

TEAM ID: PNT2022TMID20566

TEAM MEMBERS:

1.SOWNDHARYASREE.S

2.SHREEYAZHINI.A

3.SWETHA.P

4.RIDANYA.K

# Literature Survey on “IOT Enabled Smart Farming Application”

Reference	Technologies used	Advantages	Disadvantages
[1]	Microcontroller: CC3200 Chip, MCU Communication Technologies: MMS, Wi-Fi Module Sensors: Camera, Temperature Sensor, Humidity Sensor	<ul style="list-style-type: none"> <li>Sends the information about humidity and temperature in air of field to farmer.</li> <li>Uses MMS technology to send captured images.</li> </ul>	<ul style="list-style-type: none"> <li>MMS adds extra cost</li> <li>No automatic support system</li> </ul>
[2]	Microcontroller: ATMEGA328P Cloud server: Adafruit Server Communication Technologies: Wi-Fi Sensors: Soil Moisture Sensor	<ul style="list-style-type: none"> <li>Controlling the actions of motor pump (ON/OFF) based on the threshold value.</li> </ul>	<ul style="list-style-type: none"> <li>No sprinkles</li> <li>No smart drains</li> <li>No automatic support system</li> </ul>
[3]	Microcontroller: Arduino Cloud server: ThingSpeak Sensors: Light Intensity, pH, Electrical Conductivity, Water Temperature, Relative Humidity	<ul style="list-style-type: none"> <li>Hydroponic System</li> <li>Bayesian Network Model</li> <li>System has manual and automatic mode</li> </ul>	<ul style="list-style-type: none"> <li>Extremely computationally expensive model</li> </ul>
[4]	Microcontroller: Arduino UNO Cloud server: ThingSpeak Communication Technologies: Wi-Fi Sensors: Water Level Sensor, Moisture Sensor	<ul style="list-style-type: none"> <li>Farmers can monitor their fields remotely</li> <li>Irrigation control system</li> </ul>	<ul style="list-style-type: none"> <li>Lack of automated decision support system</li> </ul>
[5]	Microcontroller: Arduino Sensors: Temperature Sensor, Humidity Sensor, Soil Moisture Sensor	<ul style="list-style-type: none"> <li>Data regarding sensors stored on server and user can view via GUI application.</li> </ul>	<ul style="list-style-type: none"> <li>Decision making is rely on user or farmer</li> <li>No automatic support system</li> </ul>

## REFERENCES :

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- [3] Alipio M., Dela Cruz A., Doria J., and Fruto R. (2019). On the design of Nutrient Film Technique hydroponics farm for smart agriculture. Engineering in Agriculture, Environment and Food, 12(3), pp.315- 324. doi: 10.1016/j.eaef.2019.02.008.
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- [5] Kiani F., and Seyyedabbasi A. (2018). Wireless Sensor Network and Internet of Things in Precision Agriculture. International Journal of Advanced Computer Science and Applications, 9(6). doi: 10.14569/ijacsa.2018.090614.