AUTOGRICULTURE

-An Automated Agricultural System

COLLEGE : ST.JOSEPH'S COLLEGE OF ENGINEERING

TEAM NAME:INTELLENS

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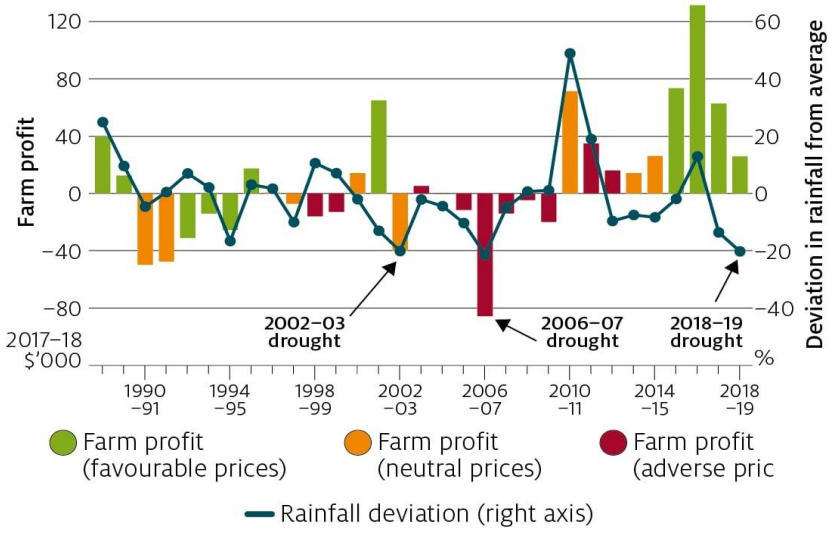
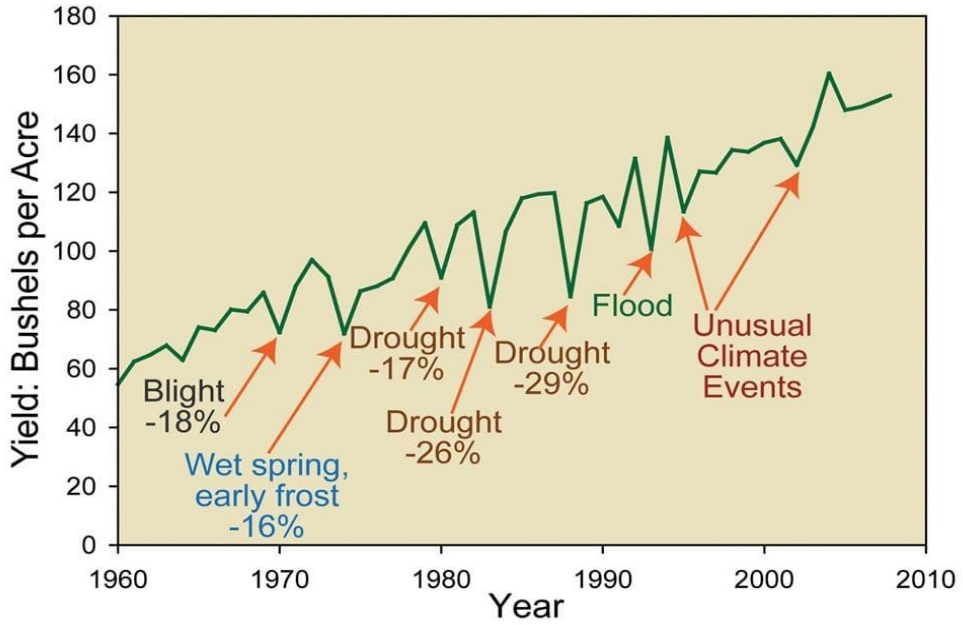
PROBLEMS FACED BY FARMERS





The impact of the 2017 South West Monsoon (SWM)

Bay of Bengal, the Nicobar Islands and parts of the north Andaman Sea
The rains begin

Sri Lanka
Record SWM rains cause severe flood damage (WSWS, 2017)

Karimganj, Assam, north-eastern India
Land flooded for over a month and nearly 160,000 people affected (FloodList, 2017a)

Assam
Flooding affects 268,000 people (Times of India, 2017)

Bangladesh
Third of the country underwater, eight million people affected across the country and 600,000 people marooned across the lowland delta region (The Guardian, 2017b; FAO, 2017). At least 134 fatalities (Independent, 2017)

MAY | JUNE | JULY | AUGUST

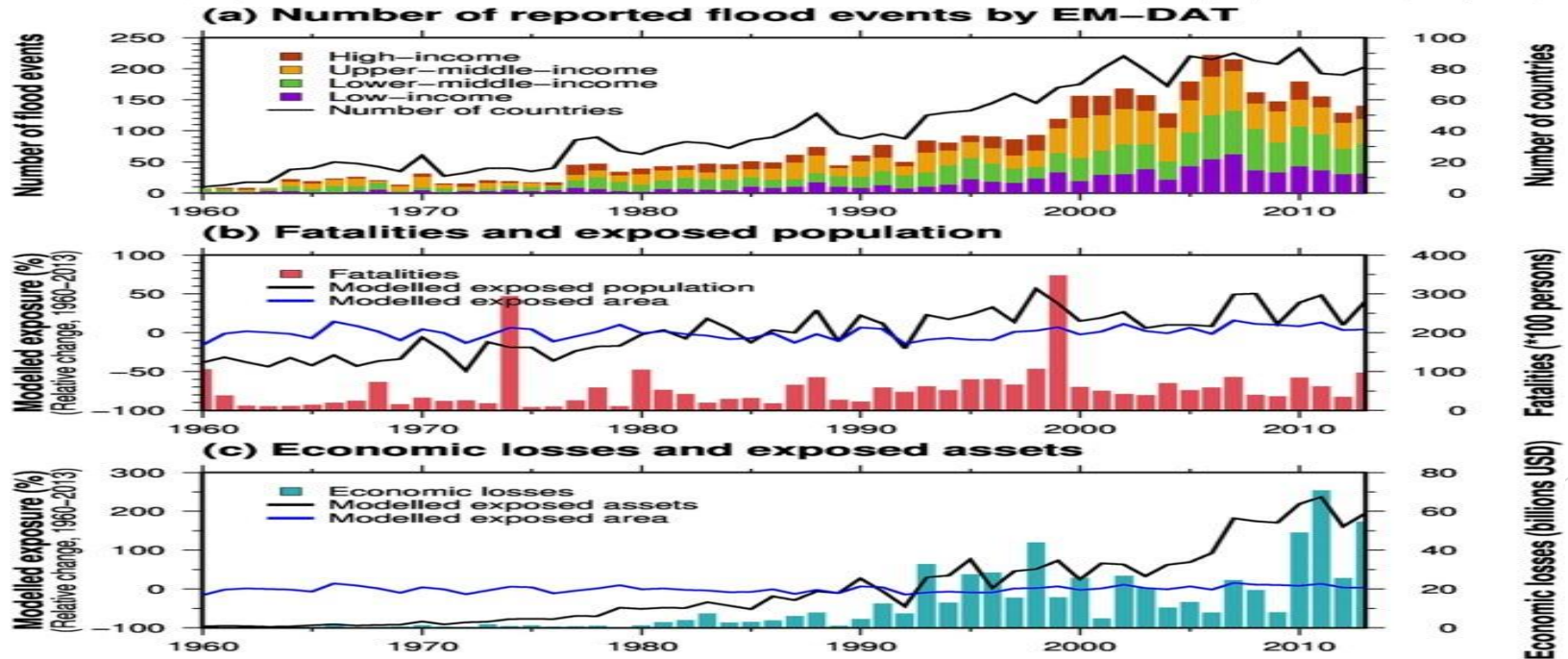
Kerala, southern India, and north-eastern states including Nagaland, Manipur, Mizoram and Arunachal Pradesh
The rains extend their reach (IMD, 2017)

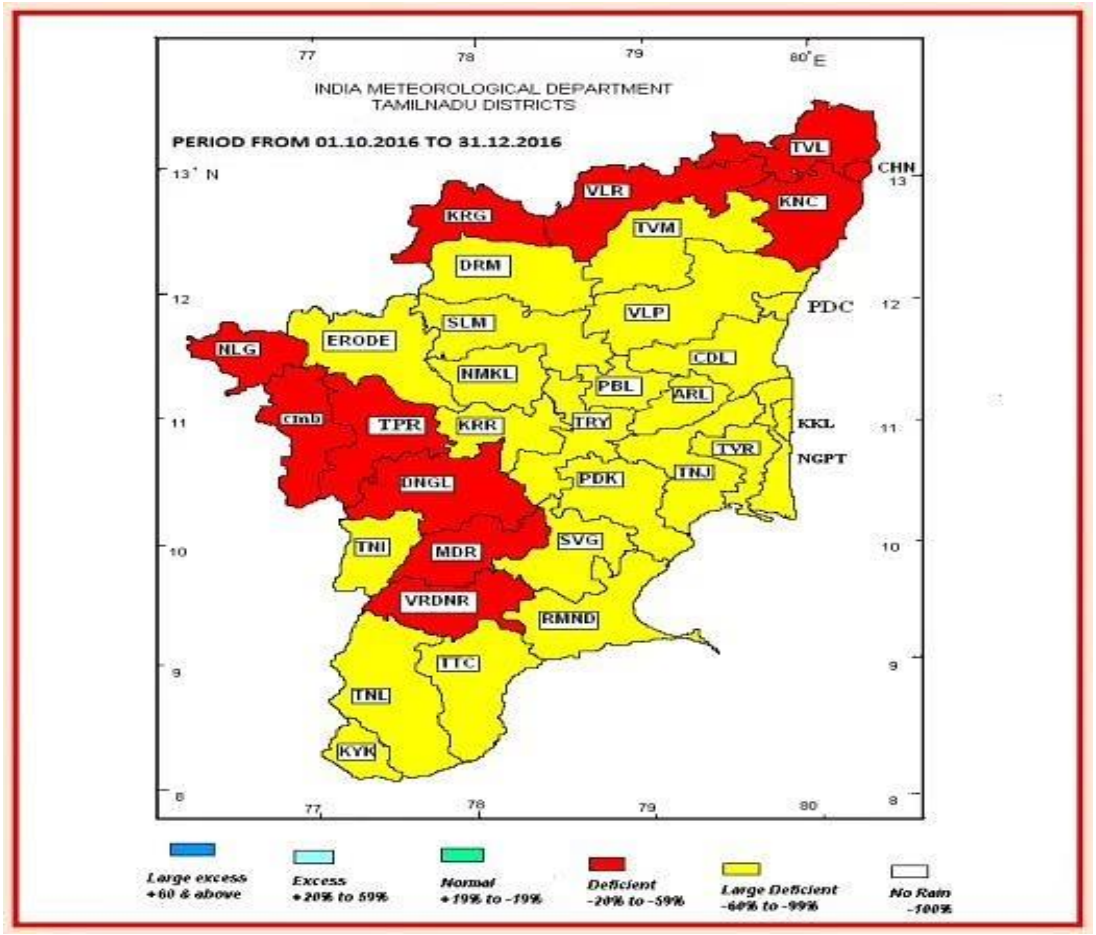
Himalayas
Flooding begins to rapidly increase

The Lakhimpur district, Assam
Nearly 82,000 people displaced by flood (FloodList, 2017a)

Nepal
Worst rains in 15 years, with severe flooding in Terai and more than 940,000 people affected (WFP, 2017)

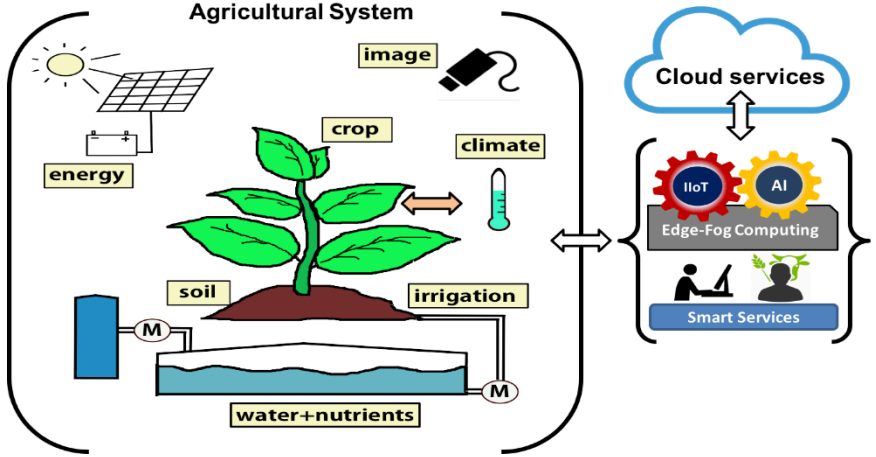
Bihar, India
13 districts within the state impacted by flood water, with 17 million people affected, 700 villages flooded and more




INDIA METEOROLOGICAL DEPARTMENT
TAMILNADU DISTRICTS
PERIOD FROM 01.10.2016 TO 31.12.2016
77
78
79
80° E
13° N
12
11
10
9
8
TVL
CHN
VLR
KNC
KRG
TVM
DRM
PDC
VLP
SLM
ERODE
NLG
CDL
NMKL
PBL
ARL
CMB
TPR
KRR
TRY
KKL
TVR
NGPT
TNJ
PDK
DNGL
SVG
TNI
MDR
VRDNR
RMND
TTC
TNL
KYK
Large excess
+60 & above
Excess
+20% to 59%
Normal
+19% to -19%
Deficient
-20% to -59%
Large Deficient
-60% to -99%
No Rain
-100%

SIGNIFICANCE OF AGRICULTURE

- *Agriculture domain plays an important role in a supply chain which is expected to rise in the forthcoming years and in turn in the technological development for supporting agriculture.*
- *Agriculture originates from desperate human needs; the domain proves to be an utmost importance to facilitate modern complex business processes related to agriculture.*



IMPACT IN AGRICULTURAL INDUSTRY

- *With the growth in technological advancements, the monetary growth from agriculture can also be revived.*
- *It is possible for farmers to utilize scientific data and technology to improve crop yields and keep themselves updated with innovative methods of farming.*

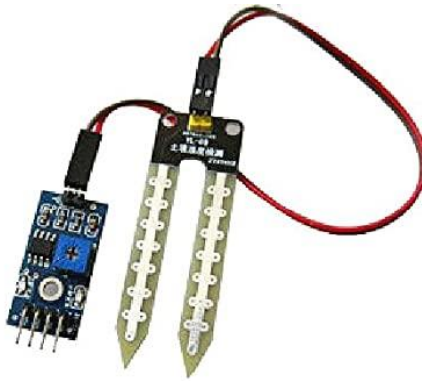
PROBLEMS FACED BY FARMERS

- *Farmers are facing increasing pressures from climate change, soil erosion, and bio diversity loss and from consumers changing tastes in food.*
- *The objective of this project is to prevent damage of crops during monsoon, fire and from excessive drought.*

NATURAL CAUSE AND ITS SOLUTION

- ***During flood:***

Due to excessive rains during monsoon, crops get damaged due to stagnation of water in the fields. Hence an moisture sensor is employed to get rid of this problem.



Moisture sensor

damaged crops due to flood

- ***During crop fire:***

✓ *Incase of crop fire,a gas sensor is employed in our project to detect the smoke quickly.*

✓ *Once it is detected, the water pump motor starts to spray the water from the tank directly on the crops,using a shower like structure to control the fire.*

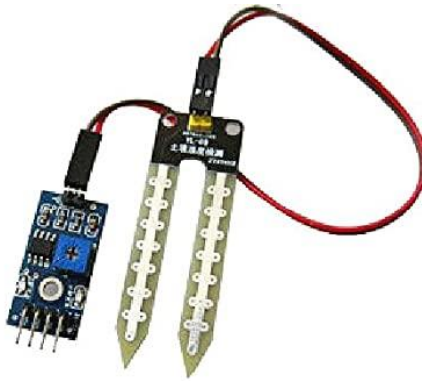
water shower

pump motor

crop fire

- ***During water scarcity:***

During water scarcity,the crops gets affected,therefore the moisture sensors are employed to get rid of this problem.



MOISTURE sensor

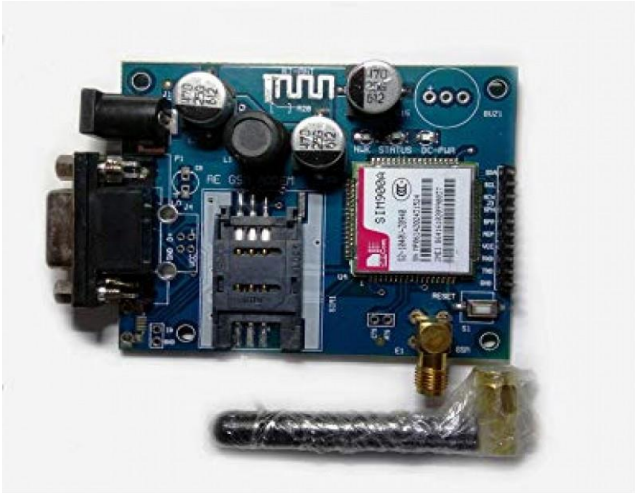
(used to detect the moisture of the soil)

damaged crops due to drought

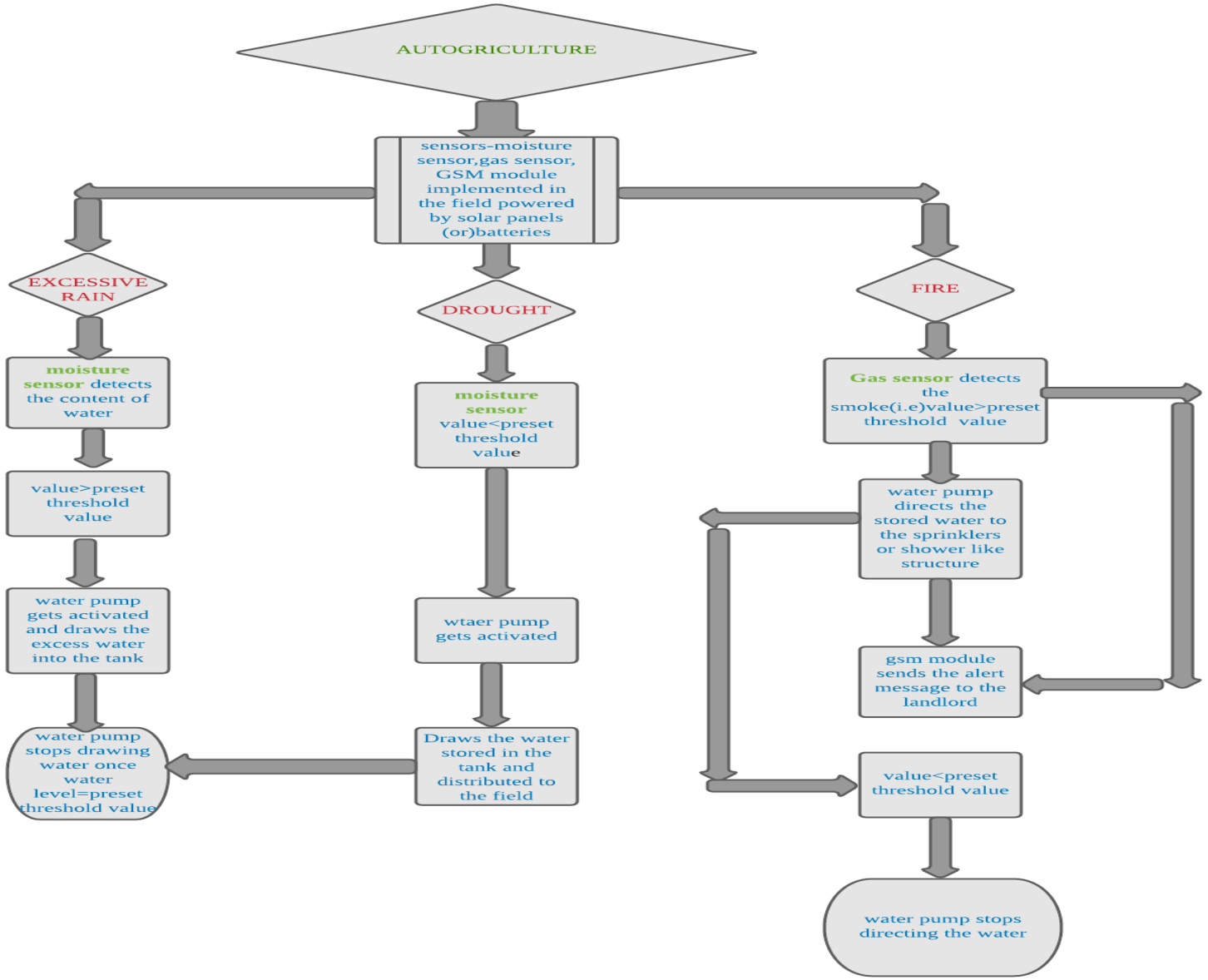
- A water level sensor is also been employed in our project which acts as a backup option when the moisture sensor fails to work.

ALERT THE LANDLORD

- *Further, the greater loss is being avoided by sending a message or initiating a voice call to the registered owner's mobile as well as to the landlords of adjacent fields using GSM Module.*
- *The amount of energy required to power the sensors and to drive the motors can be obtained by a solar panel installed in the agricultural land or using a battery.*



FLOWCHART

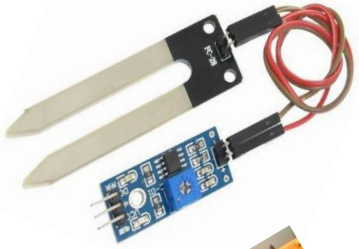

AUTOGRICULTURE
sensors-moisture sensor,gas sensor, GSM module implemented in the field powered by solar panels (or)batteries
EXCESSIVE RAIN
DROUGHT
FIRE
moisture sensor detects the content of water
value>preset threshold value
water pump gets activated and draws the excess water into the tank
water pump stops drawing water once water level=preset threshold value
moisture sensor value<preset threshold value
wtaer pump gets activated
Draws the water stored in the tank and distributed to the field
Gas sensor detects the smoke(i.e)value>preset threshold value
water pump directs the stored water to the sprinklers or shower like structure
gsm module sends the alert message to the landlord
value<preset threshold value
water pump stops directing the water

COMPONENTS REQUIRED

- *Arduino UNO*
- *Sensors:-*

  A)Gas sensor

  B)Moisture sensor
- *Sprinkler or shower*
- *Solar panel and solar cells*



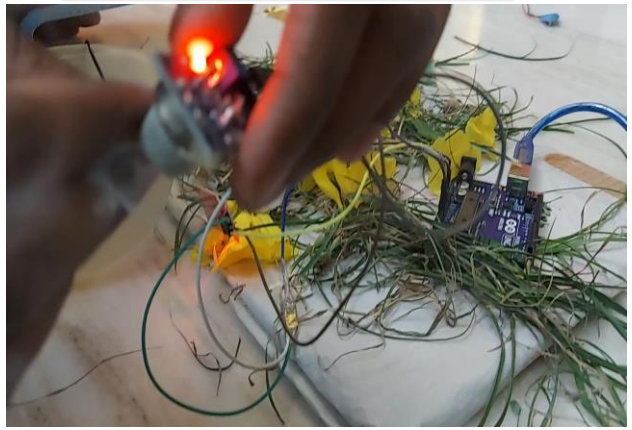
BASIC REQUIREMENTS

- *Tanks OR wells*
- *Pipes*
- *Wires*
- *motors*

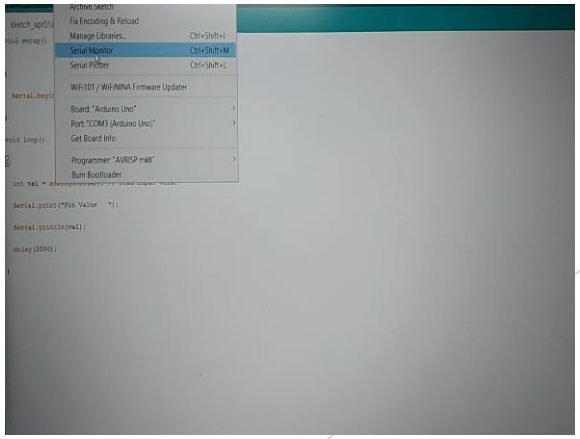
VIDEO TAPE

WORKING OF WATER SHOWER

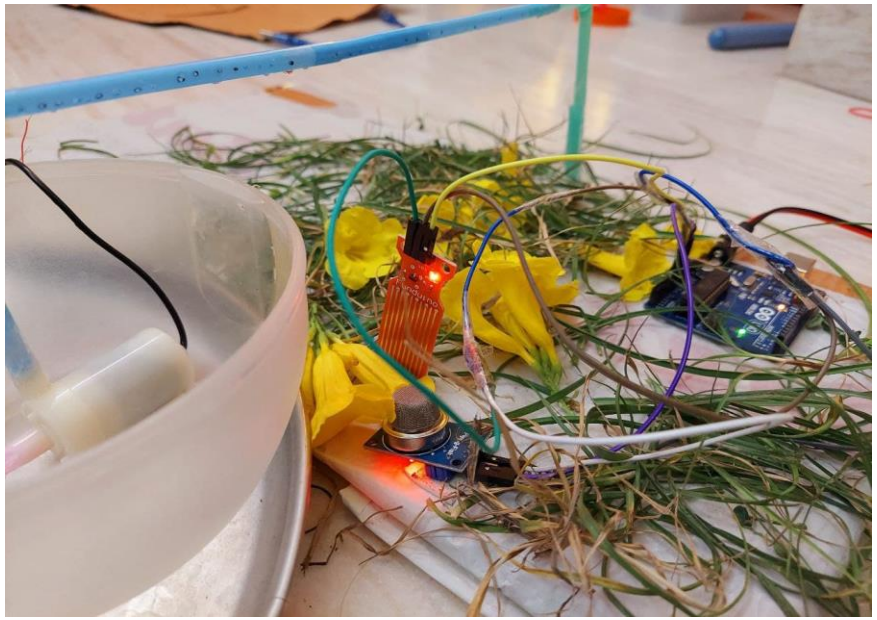
WORKING OF GAS SENSOR

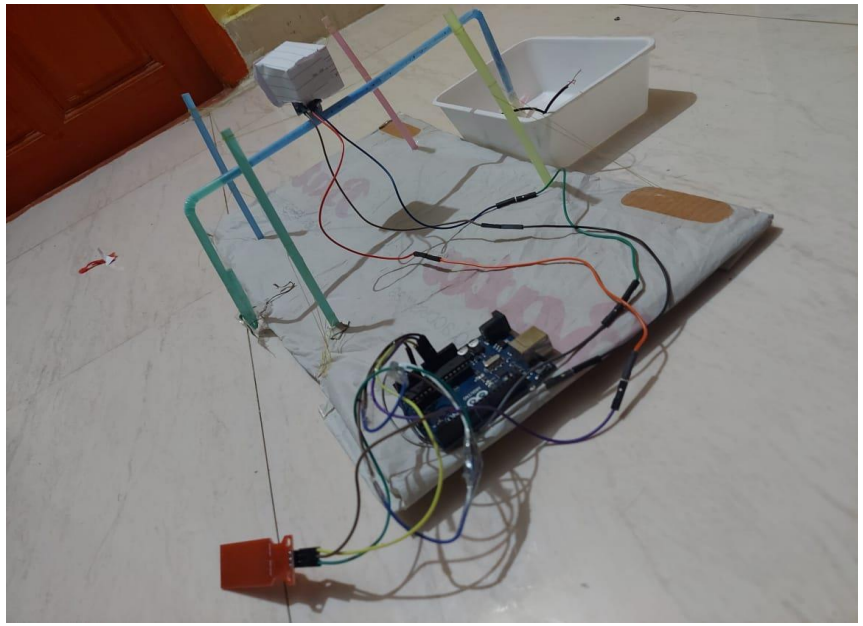


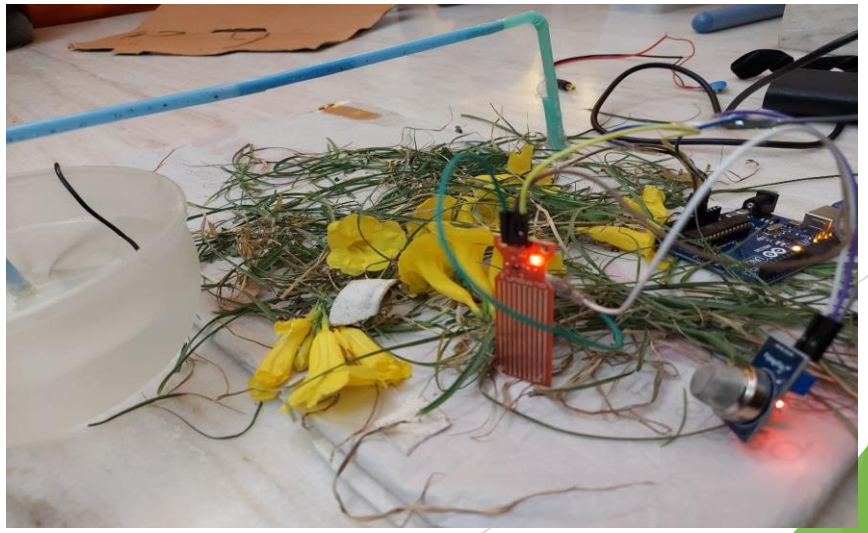
working of water level sensor



SNAPSHOTS







CONCLUSION

- *Farmers are the backbone of our nation.We are indeed greatful in helping them by our immense idea which will be user-friendly for farmers.*
- *By using our idea we can prevent the farm land from getting affected by various calamities like fire,drought and flood.*
- *The idea which we are implementing is cost efficient and more over the farmers will surely be benefited by our idea.*

REFERENCES

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Once in your life you need a doctor,a lawyer,a policeman and a preacher,but everyday,three times you need a farmer.

Respect farmers 

THANK YOU!!