### 1

**Define your problem statement**

**Before you collaborate**

A little bit of preparation goes a long way with this session. Here’s what you need to do to get going.

**10 minutes**

#### What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

**5 minutes**

***Systems for collecting, processing, storing, and sharing data in a suitable form to carry out a farm’s operations and functions.***

SmartFarmer - IoT Enabled Smart Farming Application

IoT-based agriculture

system helps the farmer in monitoring different parameters of his field like soil moisture,

### 2

**Brainstorm**

#### Write down any ideas that come to mind that address your problem statement.

**10 minutes**

### 4

**Prioritize**

**3**

**Group ideas**

Take turns sharing your ideas while clustering similar or related notes as you go. In the last 10 minutes, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you and break it up into smaller sub-groups.

**20 minutes**

#### Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

##### 20 minutes

Resource optimization.

Improved data collection driving farming efficiency. The agricultural sector is in a race today.

Due to lack of awareness regarding new farming techniques and over- adherence to old traditional ways of agriculture, farmers in India have not been successful in widely adopting new farming techniques.

**A**

**Team gathering**

Define who should participate in the session and send an invite. Share relevant information or pre-work ahead.

###### Temperature, humidity using some sensors. Farmers can monitor all the sensor parameters by using a web or mobile application even if the farmer is not near his field. Watering the crop is one of the important tasks for the farmers.

**Learn how to use the facilitation tools**

Use the Facilitation Superpowers to run a happy and productive session.

**C**

**Set the goal**

Think about the problem you'll be focusing on solving in the brainstorming session.

**B**

***Weather stations are formed with the combination of several smart farming sensors. They are placed across the field to gather data from the environment and send the same to the cloud. The parameters measured are used to understand climate conditions, select appropriate crops, and then respond appropriately for improvement.***

**Babukanna B**

Management of the vagaries of weather, soil and other environmental conditions as well as demand scenarios to improve economic returns following the use of inputs and reduce environmental impact

**Ajith R**

***One of the key factors influencing agricultural productivity in India is the unpredictable behavior of monsoons.***

***This problem is aggravated due to the lack of irrigation facilities across India***

**Naveen kumar G**

**TIP**

You can select a sticky note and hit the pencil [switch to sketch] icon to start drawing!

Farm mechanization in India is low despite growth over the decades. A good measure to gauge mechanization is power availability per hectare, which is low in India.

## Social impact

***Business Model/ impact***

[**Open article**](https://support.mural.co/en/articles/2113740-facilitation-superpowers)

### Key rules of brainstorming

End-to-end production control.

There is lack of systematic financing provisioning for farmers. Co-operatives and other financial institutions have not been able to eliminate village money lenders who lend money at exorbitant interest rates, thereby making finance unaffordable for farmers.

***Increasing pressure on agricultural land in India has led to overuse of fertilizers, increase in tillage, abandonment of traditional organic soil revival techniques, and insufficient rotation of crops. This has resulted in soil degradation and loss of fertility.***

**Community based solution by FAO'S**

**solution through**

To run an smooth and productive session

**Tamilarasan M**

**Devarajan M**

Remotely monitor farm equipment and their performance.

Analytics to monitor farm processes and improve efficiency. Predictive Analytics for accurate weather forecast

Predictive Analytics for crop yield forecast

Analytics for determining farmers’ credit score or possible crop insurance payout based on crop yield predictions

***In addition to gathering data, greenhouse automation systems can automatically adjust conditions according to set parameters.***

***Examples areFarmapp, Growlink, GreenIQ,***

***There is lack of efficient ways of water supply for irrigation. Groundwater supplies more than half of India’s demand for irrigation mostly by flooding through open channels. This, however, is an inefficient means of water supply as it leads to depletion of the water table.***

***39% of wells in India are already showing decrease in groundwater levels.***

***Water sources are not effectively linked to fulfill demand for irrigation to all farming areas.***

# Benefits

***Improve the productive saves the life of farmers.***

## contract

###### Stay in topic.

Defer judgment.

###### Encourage wild ideas.

Listen to others.

***The day-to-day monitoring and control of crop and environmental parameters affecting the crop, plus the regular data-driven crop***

**Importance**

The IoT related equipment allows the farmer to understand the use of technology and to learn.

***Increased business efficiency through process automation***

If each of these

Go for volume. If possible, be visual.

***planning is classified into the core SmartFarm operations, while other ancillary activities associated with the farm such as marketing, inbound/outbound logistics, and crop finance and insurance are bucketed into ‘other Smart Farm operations’.***

tasks could get done without any difficulty or cost, which would have the most positive impact?

***There are IoT devices placed in the field to collect data specific to crops, such as temperature, moisture content, leaf water potential***

**Recommended Technology Stack**

***The day-to-day monitoring and control of crop and environmental parameters affecting the crop, plus the regular data-driven crop planning is classified into the core SmartFarm operations, while other ancillary activities associated with the farm such as marketing, inbound/outbound logistics, and crop finance and insurance are bucketed into ‘other Smart Farm operations’.***

# causes

TIP

***Enhanced product quality and volumes***

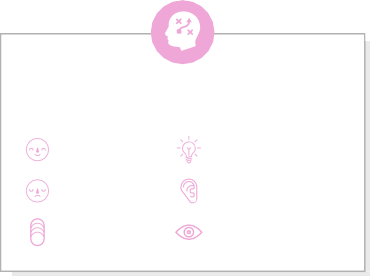
Participants cursors to p sticky notes the grid. The confirm the s the laser po **H key** on th

can use their oint at where should go on

facilitator can pot by using inter holding the e keyboard.

Given any security measures, the system offers little power and can lead to various kinds of network attacks.

oT – smart farming continually requires internet connectivity.



Advantages

Disadvantages

**Feasibility**

***sensors networks,IBM watson IOT,IBM***

***cloud,Whether***

***API's,Analytics***

***1.Green house automation 2.Crop management 3.Precision farming***

Regardless of their importance, which tasks are more feasible than others? (Cost, time, effort, complexity, etc.)