

**Ideation Phase**  
**Brainstorm & Idea Prioritization Template**

Date	19 September 2022
Team ID	PNT2022TMID46736
Project Name	IoT Based Smart Crop Protection System for Agriculture
Maximum Marks	4 Marks

**Brainstorm & Idea Prioritization Template:**

Crop protection combines strategies, tools and products that protect against various wild animals. There are various ways to crop loss from wild animals, in some areas farmers burn elephant dung or other materials that smolder and create heavy smoke, that repels rabbits and deer. Develop smart and affordable solution to protect crops from wild animals is an ultimate objective of this work. Agricultural fences are quite an effective wild animal protection technology. The fences are like Wire fences, Electric fences, Plastic fences. Wire fences are constructed of metal wires forming a physical barrier that protect their crops from animals. Electric fences are constructed to inflict an electric shock to animals that come with the fences, thus preventing animals from crossing the fences. Plastic fences are generally less expensive and effectiveness in areas with a higher possibility of wild animals crop damage.

Natural repellents is a resources instead of mechanical or chemical protective practices. The natural repellents are smoke, fish or garlic natural emulsion and chilli peppers. Smoke in some area is due to, farmers burn elephant dung or other materials that smolder and create heavy smoke. Fish or garlic natural emulsion that repels rabbits and deer. Chilli peppers hot an excellent repellent against elephant, monkeys, squirrels and some other wild animals. Biophysical barriers is similar to traditional fences, but made of natural easily renewable materials. The renewable materials like bamboo sticks, coconut tree bunches or some other available shrubs. Electronic repellent is an effective and eco-friendly method. This method is used to protection that repels animals without harming them. Ultrasonic electronic repellent is silent to humans, high frequency sound waves repels wild animals. Sonic electronic repellent audible loud noise that scares animals.

## Step-1: Team Gathering, Collaboration and Select the Problem Statement



### Brainstorm & idea prioritization

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

🕒 10 minutes to prepare

🕒 1 hour to collaborate

👤 2-8 people recommended



#### 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

A

#### Team gathering

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

B

#### Set the goal

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

C

#### Learn how to use the facilitation tools

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

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#### Define your problem statement

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

PROBLEM

How might we [your problem statement]?



#### Key rules of brainstorming

To run a smooth and productive session



Stay in topic.



Encourage wild ideas.



Defer judgment.



Listen to others.



Go for volume.



If possible, be visual.

## Step-2: Brainstorm, Idea Listing and Grouping

2

### Brainstorm

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

🕒 10 minutes

**TIP**

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

#### JOTHIKA R

**Agricultural fences.** It is quite an effective wild animal protection technology.

**Wire fences** are constructed of wire mesh forming a physical barrier that protect their crops from animals.

**Electric fences** are constructed to send an electric shock to animals that come in contact with the fence. It is a warning animal from crossing the fence.

**Plant fences** are generally less expensive and require less electricity and possibility of soil erosion (due to damage).

#### DURGA SRI R

**Natural Repellents:** This technique instead of mechanical or chemical protective products.

**Smoke:** In some areas, farmers burn animal dung or other materials that smolder and create heavy smoke.

**Fish or garlic natural emulsion:** That repels rabbits and deer.

**Chill peppers:** Not an excellent repellent against elephants, Indian elephants and some other wild animals.

#### SOUNDHARYA R

**Biophysical barriers:** It is similar to traditional fences, but made of natural easily renewable materials.

**The renewable materials** like bamboo sticks, coconut tree bunched or some other available herbs.

**It is low cost practice** in protecting crops against wild animals.

**But it is also low efficiency** in protecting crops against wild animals.

#### SURIYA C

**Electronic Repellents:** It is an effective and eco-friendly method.

**This method** is used for crop protection that repels animals without harming them.

**Ultrasonic electronic repellent** emit to humans, high frequency sound waves repel wild animals.

**Some electronic repellent** audible sound make bad sounds animals.

## Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you can break it up into smaller sub-groups.

 20 minutes


To protect crop damage are by incorporating integrated pest and insects management.

Spraying insecticides, pesticides help to minimize the crop damage.

The farmer can protect their crops by analyzing temperatures, humidity and soil conditions.

Some ways to protect crops from wild animals like agricultural fences, Natural repellents, etc.

### TIP

 Add customizable tags to sticky notes to make it easier to find, browse, organize, and categorize important ideas as themes within your mural.

### Step-3: Idea Prioritization

