



# Bala Janaagraha

OUR CITY, OUR VOICE

*Bhavan's Bhagwandas Purohit  
Vidya Mandir, Trimurti Nagar,  
Nagpur*

*Farm Protection Project -  
Bala Janagraha 2021-22*





*Team Members : [From Left to Right]  
Dhwani G, Sanvi T, Ashay C, Goransh S, Sarthak B*



*Team Name - Crop Cops*

*Project Name - Farm Protection Machine*

*Guide Name - Smt. Pranali Deshmukh Mam*

## Poster



**Crop Cops**

**SMART  
SCARECROW  
HAVE YOU  
HEARD ABOUT  
IT!?**

- 1 Team Crop Cops has designed such mechanism for better protection of farm in a secured and less costly manner.
- 2 It has 21st century features such as Solar Panel, Buzzer, Sprayer etc.
- 3 Visit our website now!  
<https://cropcops.godaddysites.com>



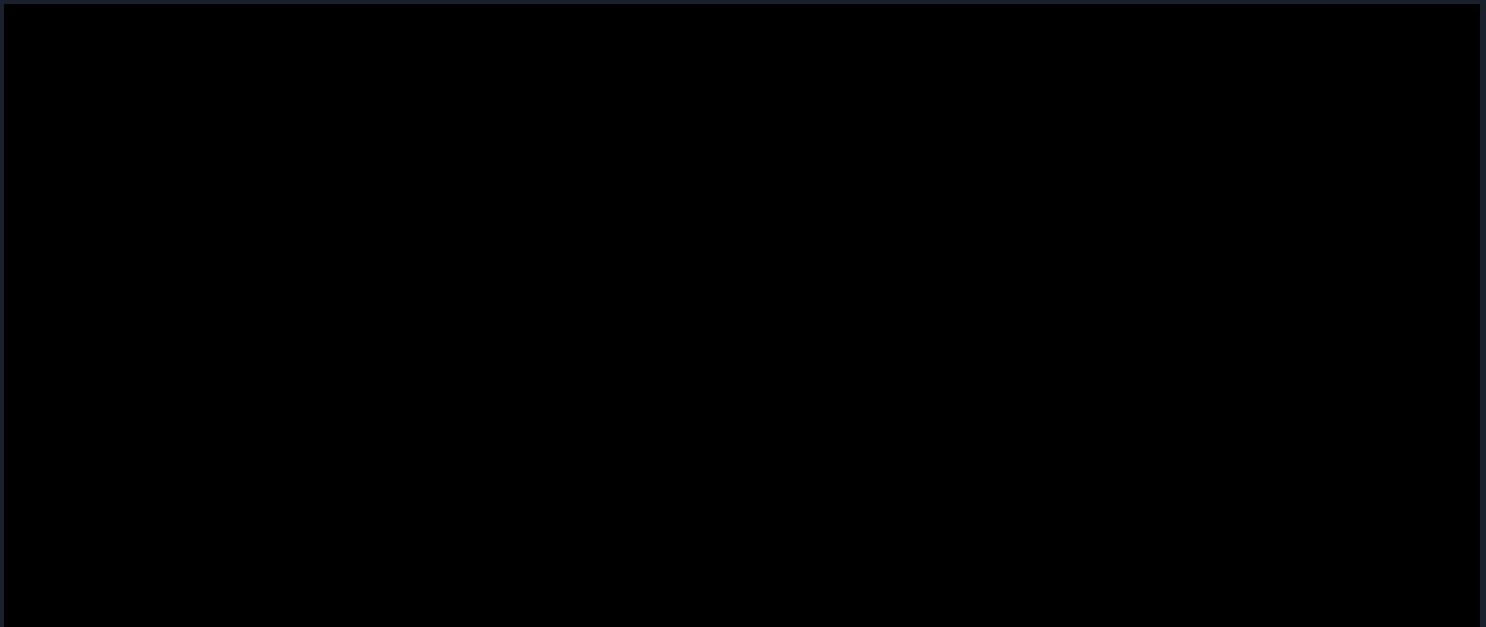
भारतीय विद्या भवन  
अमृतं तु विद्या  
नागपुर



## Logo

*But, how do the birds slowly cause damage to the field?*

*Here is a footage shot in central India- Madhya Pradesh state shows parrots tearing apart poppy seed pods to feed their strange opium habit. Local farmers say they are on near constant alert to stop the birds getting high and stealing their most lucrative crop. The opium is believed to give the birds instant energy, much like when a human drinks tea or coffee.*








AGRICULTURE

## Birds impacting agricultural crops a major concern

Many avian species damage crops during sowing, seedling and ripening stages, leading to economic losses to farmers



## Crop Depredation by Birds in Deccan Plateau, India

Manoj Ashokrao Kale <sup>1</sup>, Nandkishor Dudhe <sup>2</sup>, Raju Kasambe,<sup>3</sup> and Prosun Bhattacharya <sup>1</sup>

[Show more](#)

## Erode farmers watch helplessly as peacocks destroy their crop

C P Sajit / TNN / Updated: Aug 9, 2012, 05:18 IST

# India: Opium-addicted parrots 'wreak havoc' for farmers



TIRUCHIRAPALLI

## Peacocks damage crops

# Peafowls feasting on crops perennial problem for farmers in Perambalur

D Vincent Arockiaraj / TNN / Aug 21, 2019, 12:10 IST

Research Article Crop Depredation by Birds in Deccan Plateau, India.

September 2014



- ❑ *Birds are causing drastic decrease in crop yields by destroying them.*
- ❑ *According to a report, which calls this an emerging concern in Indian agriculture.*
- ❑ *Crop damage occurs at various stages of crop production due to birds i.e. seeds may be removed after sowing, seedlings may be pulled out, grains in milky stage or at the ripening stage may be fed upon under uprooted conditions.*





## *How will our project benefit the farmers?*

- *According to the various surveys conducted by Agricultural Department Of India , we found that the ancient method for the protection of fields i.e. person like scarecrow wasn't functioning because birds were now too familiar with scarecrows*
- *Hence , we identified this problem and designed a mechanism of a mechanized scarecrow which will have better efficiency and protection of farms .*





## *What is the aim of our Machine-*

*The aim of our project is to protect the damage of a field caused by birds and animals on an easy low cost system.*

## *What are the materials required-*

*The materials required in our project are-*

- *Solar Panel*
- *Motion Sensor*
- *Spray*
- *Buzzer*
- *LED Flash-Winged Lights*
- *Wooden/Iron stand*
- *Wires*
- *Pole*
- *Switch*

## *How our machine “Protects Farms”-*

- *During the day time the motion sensor and the LEDs installed in the circuit - connected to the battery will get charged .*
- *With the help of the motion sensor FPM will sense the bird or animal and a buzzer will ring or the tigers roar will be heard creating a sound in whole field which will scare the animals away and prevent any damage that may happen to the field .*
- *During the night time ,with the help of motion sensor it will sense the movement and this time instead of sound sensor the LED wing lights (flashlights) will flash and give off light scaring the birds or animals away. Or the smell of the tiger will be sprayed.*

## *A new modification to the machine-*

*After testing our FPM out, we were suggested that we should*

*-*

- *Add a tiger's roar to the machine.*
- *Build in a mechanism that will spray the scent of the tiger*



- *This model will cost around INR 5000 - INR 6000 RS*
- *Farmers can take help of subsidy given by GOI.*



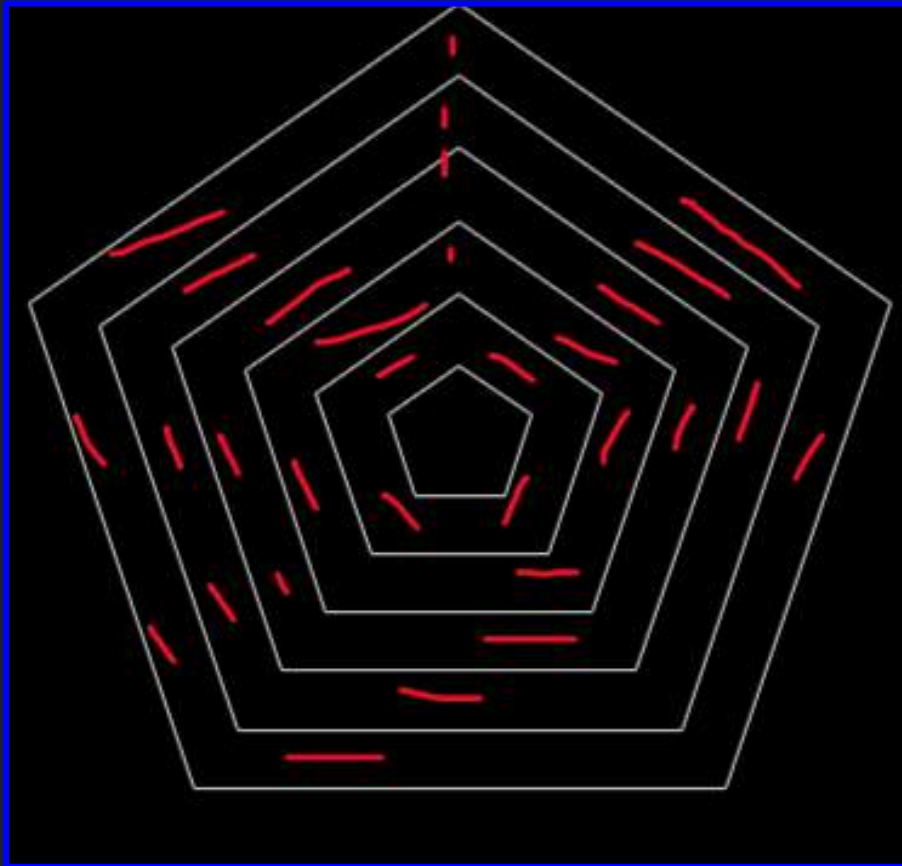
## *The modification will help us enhance the performance of our machine...*

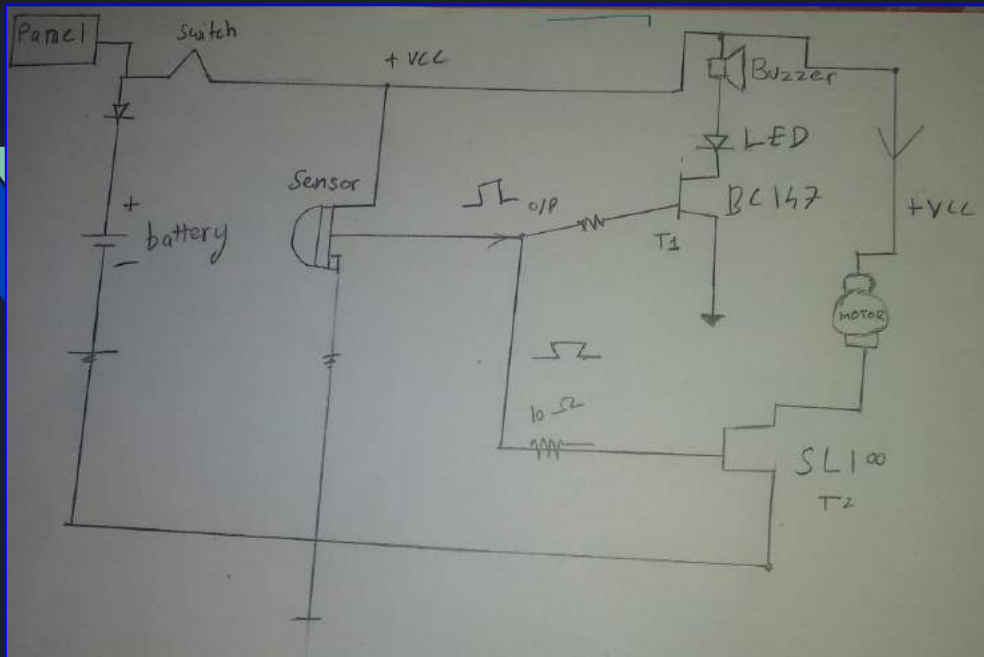
- *Birds are intelligent animals that will not be scared away by methods that they know will not harm them.*
- *Since birds can be a major problem and do not consistently respond with fear to anti-bird products, what can scare birds away and keep them away?*
- *Strong like pepper or even essential oils may deter birds*



- *Since birds can be a major problem and do not consistently respond with fear to anti-bird products, what can scare birds away and keep them away?*
- *To get rid of birds completely with smells, you would have to consistently spread the scents all over their roosting and nesting spots to make the habitat unliveable.*
- *Birds hate strong smells. Predatory cries also help in driving away birds. The birds will get alerted by the roar of the tiger and flee to a safe spot.*

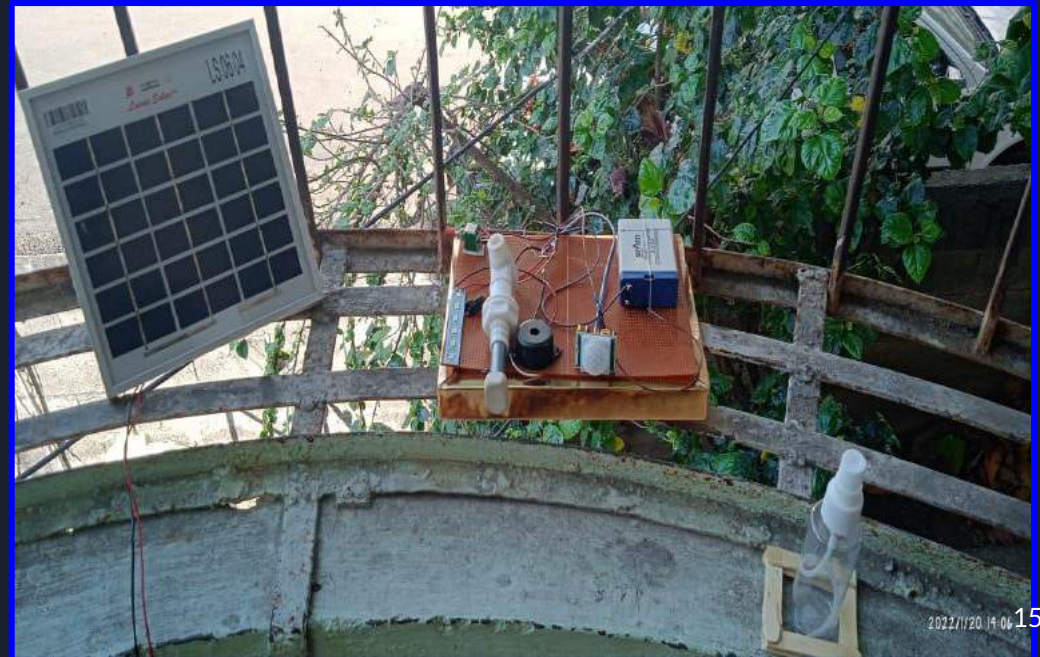
## *Radar Map of Farm Protection Machine*





*Sketch of our prototype*

*Mini (Resembling)  
Prototype of our  
project.*



## *How our machine benefits the world-*



- *Farm Protection Machine has been designed specially for farmers.*
- *It is the economical solution for protection of farms.*
- *From Low scale Farmers to High Scale Farmers Everyone can afford this machine.*
- *For example: In a land of 3 to 4 Acres one FPM will be sufficient to protect the field .*
- *Cost of the machine on a large scale will be from Rs 5000 to Rs 6000. Our machine has the ability to protect fields from birds and small animals without harming them!*



# **A presentation by Team - Crop Cops**

***Email us at : [cropcopscare@gmail.com](mailto:cropcopscare@gmail.com)***

***Our official Website***

***<https://cropcops.godaddysites.com>***

*We hope you enjoyed our project!*

THANK  
YOU

