



➔ Remote Sensing Application in Agriculture



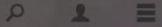
Dipankar Mandal
M.Tech (Geoinformatics)

"Galvanizing Agriculture."

dipankar_mandal@iitb.ac.in



Can you find broccoli with an IP !!! 10.1.1.12



Open Agriculture Initiative (OpenAg)

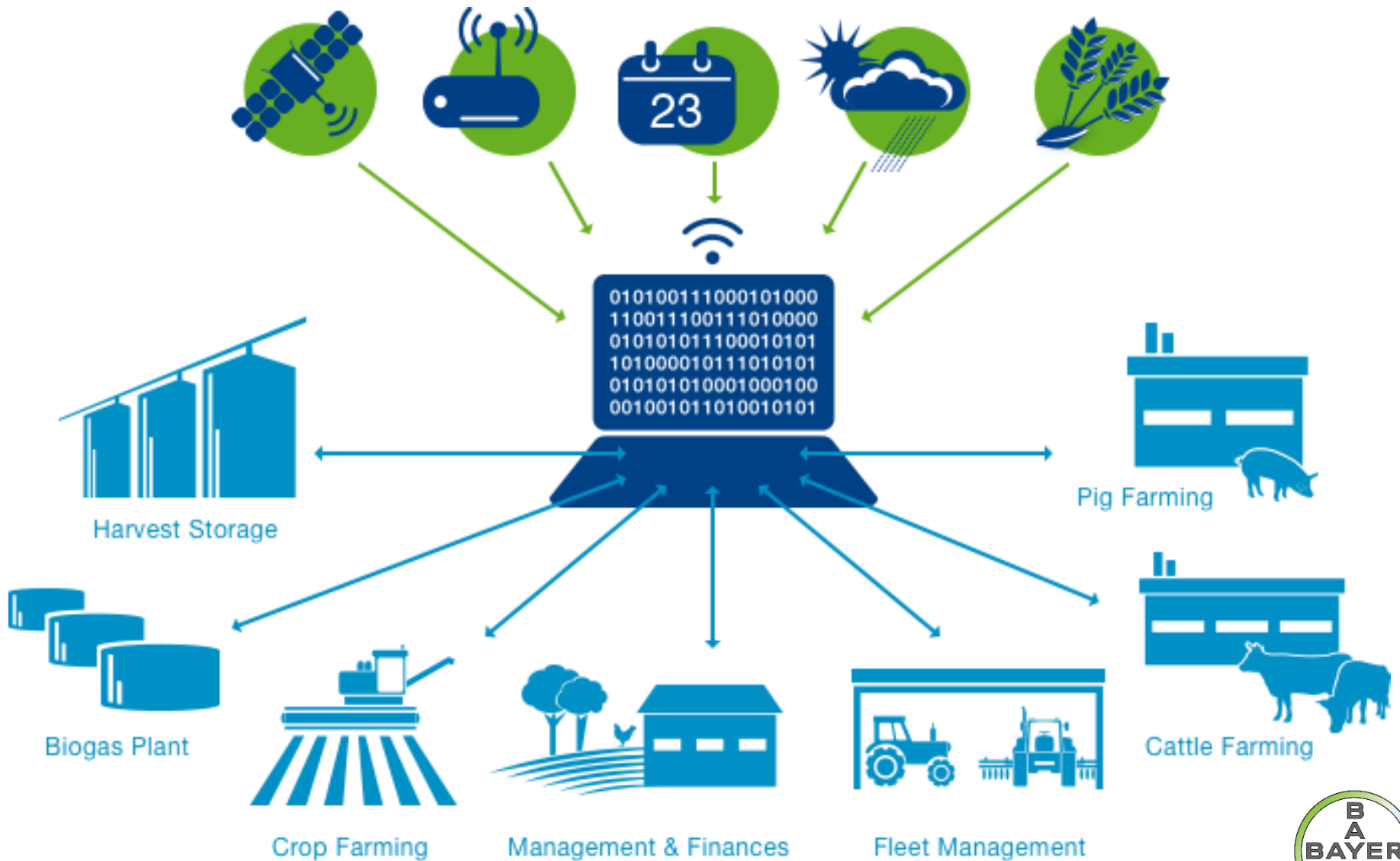


© Urban Crops



Massachusetts Institute of Technology

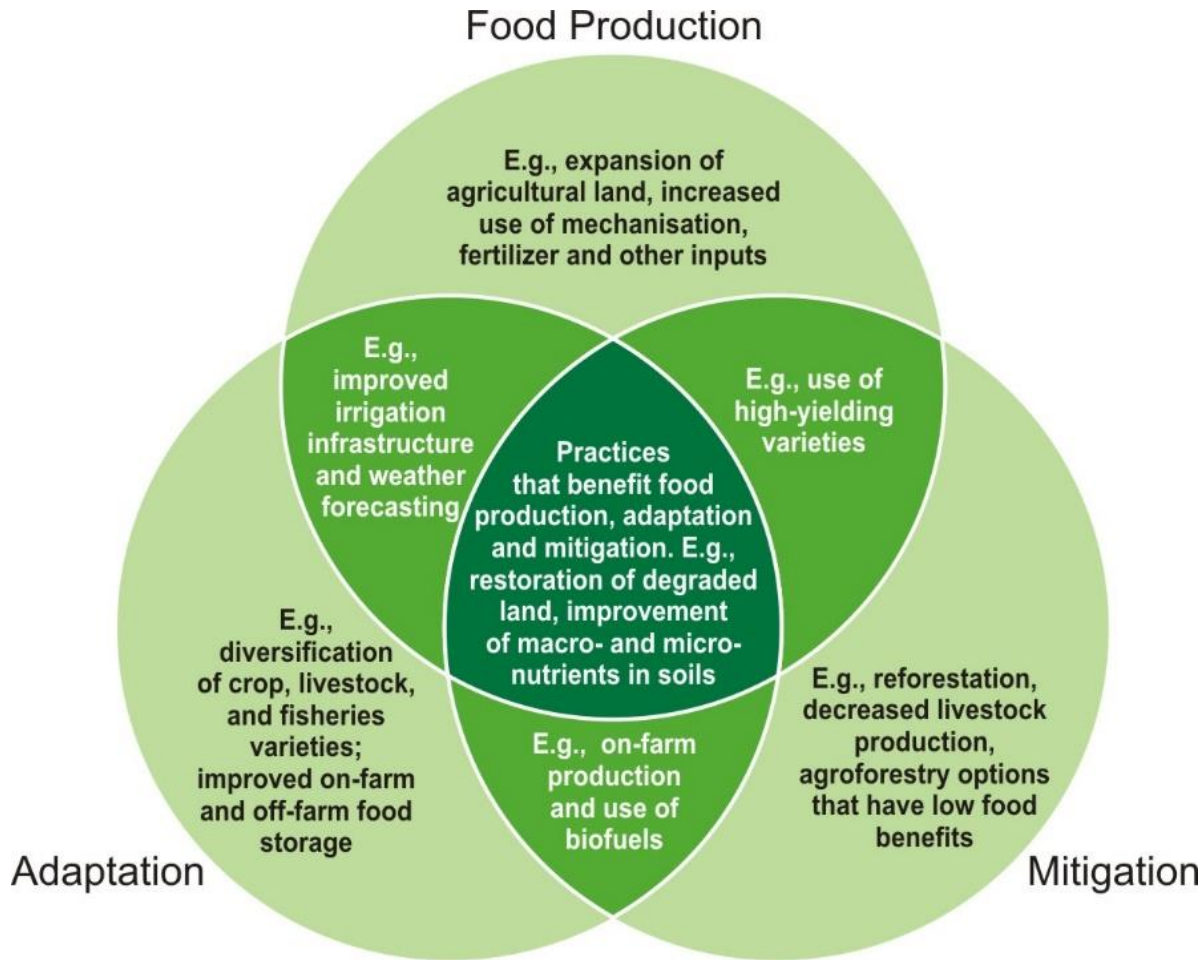
Concept of digital farming



- Right now, farmers can't adopt such fascinating things in INDIA.
- However, in field situations are quite hard to be accepted by them.
- We have more challenging environment: drought, unseasonal rain, floods, environmental degradation, farmers suicides....
- The statistics are starling..
- So, How do we solve the problem



Climate resilience agriculture



Crop loss due to unseasonal rain



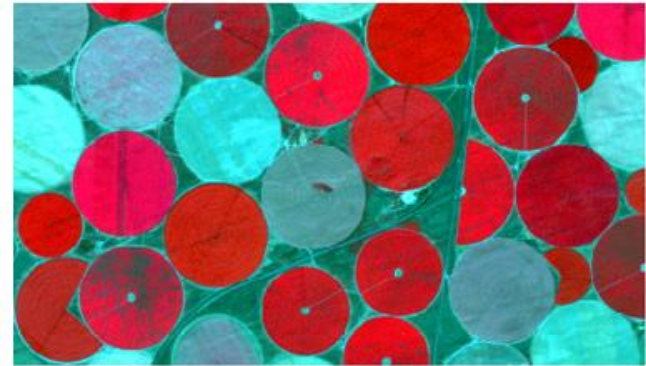
Crop loss due to drought



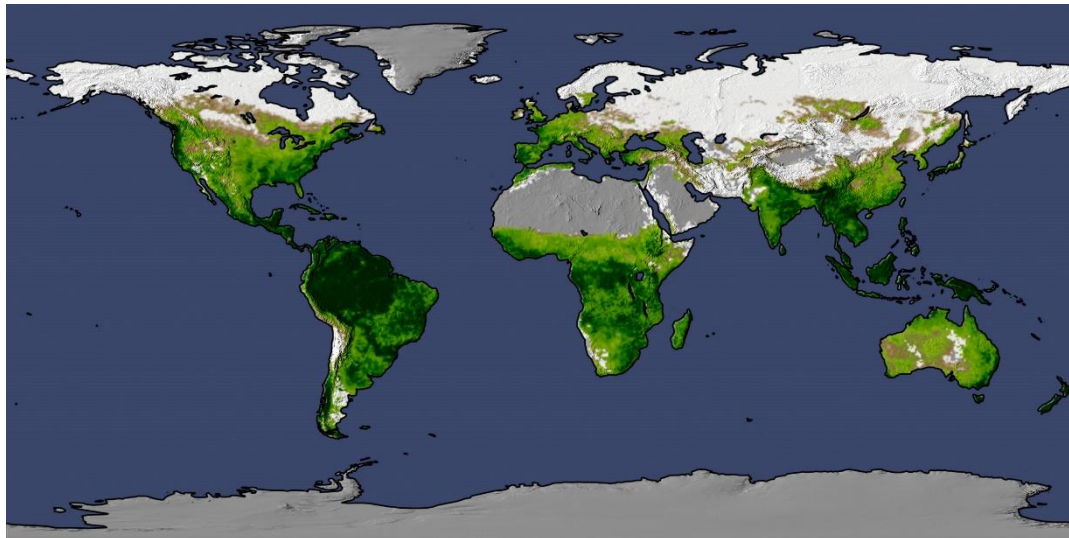
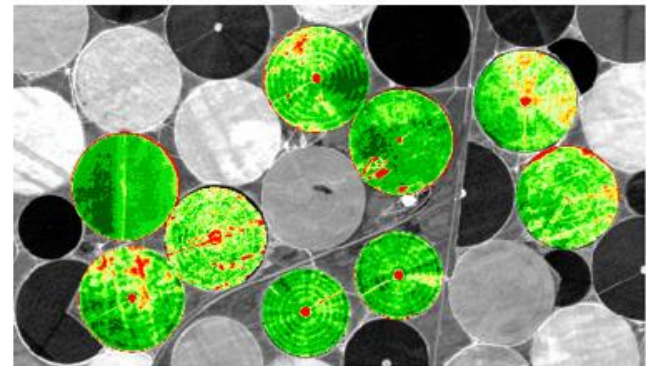
How remote sensing helps to monitor crop growth?

Optical remote sensing provides easy and cost effective way for monitoring crop.

- Normalized difference vegetation index (NDVI) mapping
- Chlorophyll map
- LAI and biomass mapping
- Water stress map
- fAPAR and Net Primary Production maps



planet.



Net primary Production Map, 2012 (NASA)

Uprooting uncertainty in crop yield

- LAI, biomass, crop biophysical parameters from remote sensing data fosters the in-season prediction of crop yield.
- Optical as well as microwave remote sensing assures the yield prediction
- Integrated framework for crop yield forecasting e.g. FASAL-India, ICCYF-Canada

