

# Managing a Weed Rich Nation

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# Weeds!

**A weed is any plant, native or non-native, that interferes with crop production by doing more harm than good and encroaches where it is not wanted**

**A successful weed has closely adapted to the life-cycle of the crop and farming practices**

**Weeds compete with the crop for Sunlight, water, nutrition there by**

- **Lowering yields of the crop**
- **Reduced crop quality**

# Weeds!

## **What makes weeds stronger?**

Weeds generally have high seed productivity.

Weeds often germinate under a variety of conditions and some portion of the population remains dormant.

Weed seeds in the soil are insurance against conditions that might destroy the active population.

Even though weed seeds in the soil are reduced by 95% due to germination and mortality, the seed bank can often recover in a single year.

Many weeds develop rapidly, are able to self-pollinate, have well developed seed dispersal mechanisms and tolerate a wide range of environmental conditions.

Shorter life span in many cases

Allelopathic effect in some cases eg. Parthenium (Congress Ghas, Carrot Ghas)

Multiple propagation methods eg. Cynodon Dactylon (Doob Grass, Bermuda Grass, Durva) reproduces through seeds, stolons, and rhizomes

# Weeds are not all BAD!

- Enhance soil structure and water penetration
- Capture nutrients that would otherwise be lost
- Provide habitat for beneficial insects
- Indicator plants
- Cover bare soil after harvest keeping beneficial soil microorganism communities alive through their root exudates of sugars and proteins
- Generates Biomass
- Provide fodder for animals
- Provide food
- Medicinal use
- Helps in developing Ecology
- Fix Nitrogen
- Helps in releasing mineral nutrients, making them in available form.
- Roots adds to soil carbon, very much necessary for soil biota
- Helps in creating micro-climate like reducing soil and ambient temperature and increasing humidity in harsh conditions.

# Paddy

- Paddy – Largest cultivated crop in India
- 4.4 crore hectares of paddy in India in 2019
- 30% of the 16 crore hectares of total cultivated area.
- Paddy is mostly a wetland crop. Wetlands in general are high productivity ecosystems, so its natural for all kinds of biodiversity to flourish here, which we call weeds.

4.4 crore hectare Paddy = 4.4 crore hectare weeding



# Weeding



# Weeding

## Spraying Weedicide





# From Weeding to Weed Management

1. Knowing your field ecosystem- paddy wetland
2. Seeds – cleaning, suitable variety
3. Land-soil preparation – ploughing, bunds
4. irrigation – timing, quantity, duration
5. Planting – traditional, SRI, SSP
6. Weeding – kono weeder, hand weeding

# Weeding



# Weed management-Transplanting methods



# Value and Cost of weeds

Ecological,  
Nutritional,  
Medicinal,  
Fodder  
Economical  
Employment



Cost of weed  
elimination,  
yield decrease of crop  
of interest  
Revenue loss for the  
farmer

# Employment Guarantee!!

4.4 crore hectare paddy cultivation

=

110 crore women working days to weed

(Total employment generated in

NREGS was 265 crore person days in  
2018-19 )

**THANK YOU!**

