#### 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

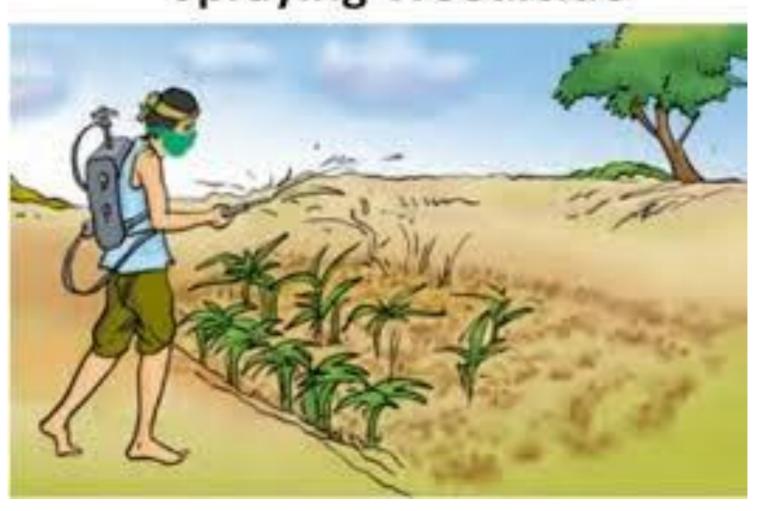


# Weeding



# 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!

