

Drought management efforts in rainfed areas



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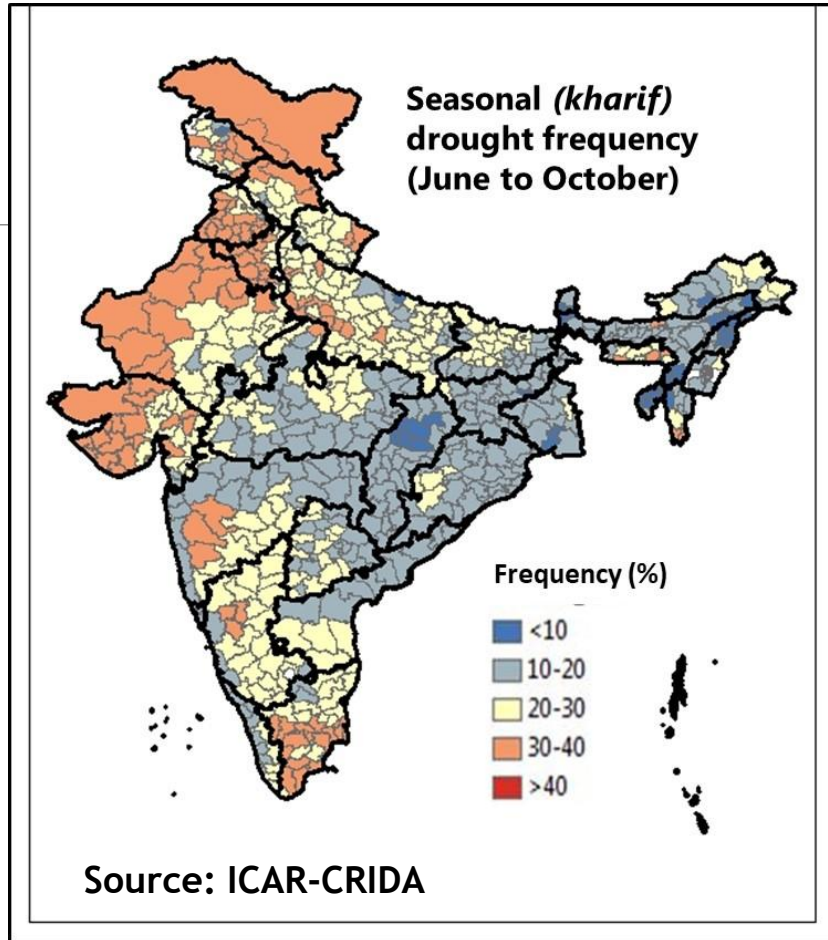
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Rainfed Areas - Overview

- 52 per cent of net cultivated area
- Contributes about 40 per cent of food grain production
- Diverse crop cafeteria-
 - ❖ nutri-cereals(85 per cent),
 - ❖ paddy(40per cent),
 - ❖ pulses(80 per cent),
 - ❖ oilseeds(73 per cent),
 - ❖ cotton(67 per cent),
 - ❖ fodder crops(70per cent)
- Supports two-thirds of livestock population
- Characterized by large number of small and marginal farmers, inadequate infrastructure, lack of access to credit and markets, degraded soils
- Highly vulnerable to climate variability
- Low and undependable farm incomes

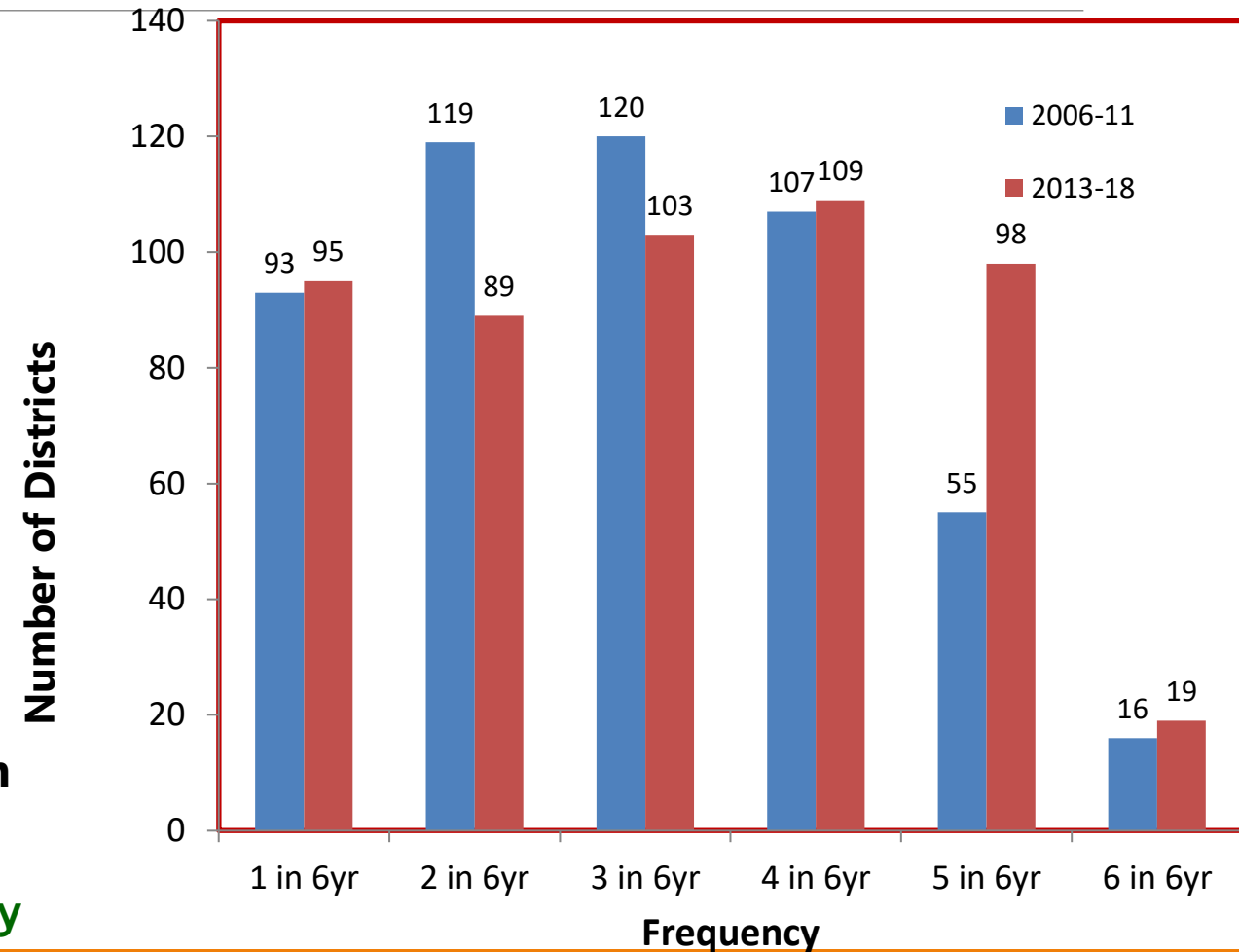
Rainfed Areas- Encounter Frequent Droughts



- About 55% of districts,- Less than 1000 mm rainfall during *monsoon* season.

Low rainfall regions associated with high frequency

Analysis of drought frequency in last two 6 yr cycles (2006-11 and 2013-18) (MNCFC)



Initiatives on Drought Management

- Real time Management
- Long term measures

- ❖Federal Government
- ❖State Government

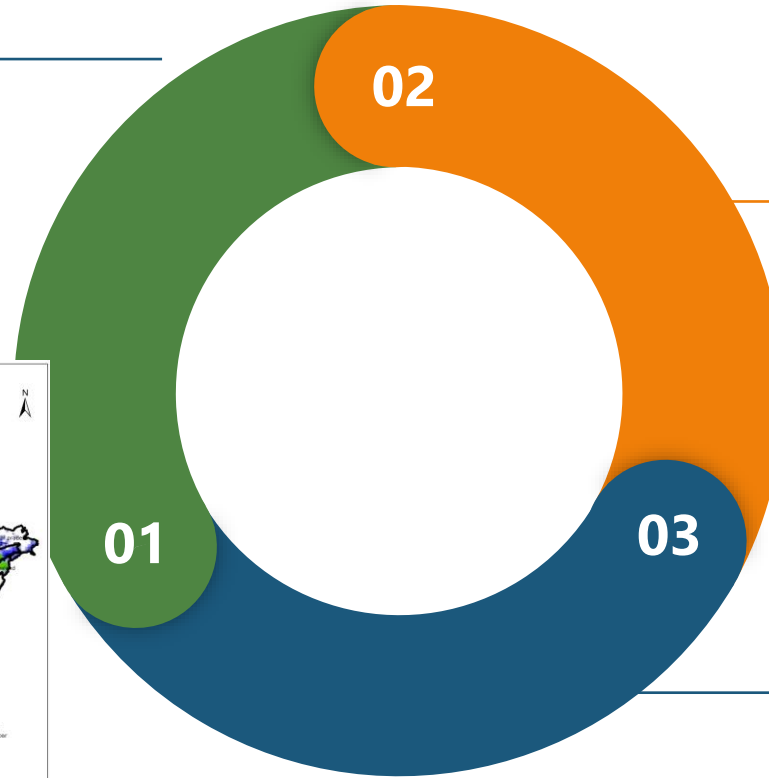
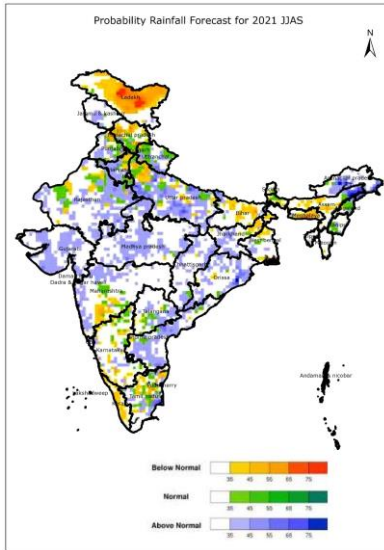
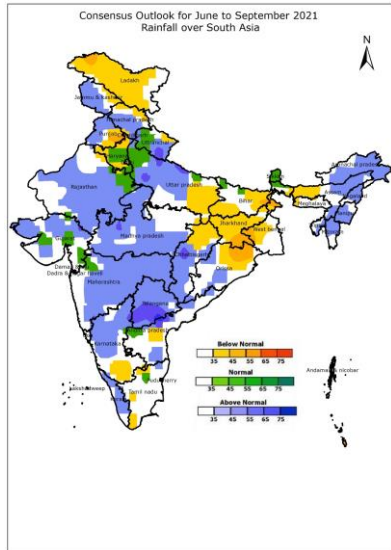
Focus is to work with long term measures for drought proofing

During the periods of severe drought, short term measures were implemented to provided sufficient work to water storage infrastructure

Drought Management- Realtime

Pre season

- ❖ Seasonal forecast
- ❖ Interface meeting- Federal initiative
- ❖ Inputs supply arrangement
- ❖ Mobilisation of farming communities.



During season

- ❖ Rainfall monitoring- Sub divisional, District, sub district level etc
- ❖ Crop sown status monitoring
- ❖ Dryspells, Deficient rainfall
- ❖ Advisories to Dept and farming community

Post rainy season

- ❖ Groundwater recharge prospects
- ❖ Crop choices identification
- ❖ Need based water management interventions

Drought Management- Long term measures

Infrastructure development for monitoring- More in drought prone areas


Major programmes

- ❖ National Mission for Sustainable Agriculture
- ❖ Mahatma Gandhi National Rural Employment Guarantee Scheme
- ❖ Pradhan Mantri Krishi Sinchay Yojana (PMKSY)-
 - ❖ Accelerated Irrigation Benefit Program- Augmenting Water Storage
 - ❖ Integrated Watershed Management program
 - ❖ Micro Irrigation

Major departments which were involved include

- Department of Rural Development
- Department of Agriculture and allied departments
- Department of irrigation

Major initiatives include

- Food for work
 - Dryland Horticulture
 - Micro Irrigation Project
 - Rural Livelihoods Program
 - Synergy between IWMP and MGNREGA
 - Fodder banks program
 - Ground water efficient utilization
 - River Linking Program
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Drought Adaptation Initiatives

- ❖ Maharashtra- Dryland Agriculture Mission
- ❖ AP – Water and Development
- ❖ Karnataka- Krishi Bhagya
- ❖ Telangana- Mission Kakatiya
- ❖ Rajasthan- Mukhya mantri Jala Swabhilamban Program
- ❖ Madhya Pradesh- Farm Ponds Program
- ❖ Orissa- Initiative on drought management Program

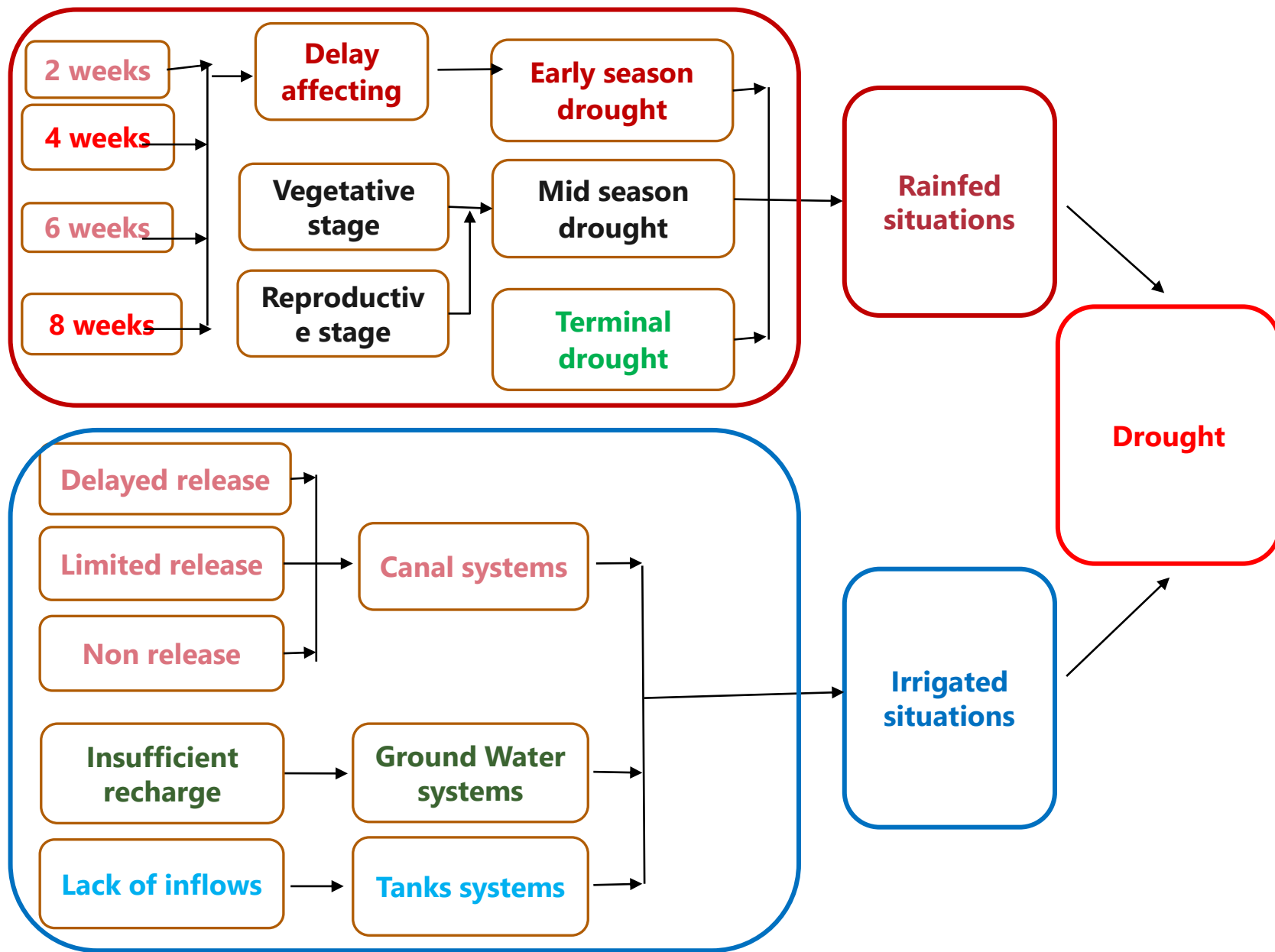
The District Agricultural Contingency Plans

- Delay in monsoon onset
- Breaks in monsoon leading to early, mid and late-season droughts
- Delayed or limited release of water for irrigation
- Floods
- Unseasonal rains
- Extreme weather events: Heat wave, Cold wave, Frost, Hailstorm, Cyclone

District - **Administrative unit for operationalization** of any action plan

Approach:

Bottom-up involving district level scientists of Agricultural Research Stations and KVKs of SAUs
46 State Agricultural Universities (SAUs) and 8 ICAR institutes



Status of District Agricultural Contingency Plans



District Agricultural Contingency Plans

All the **650** district plans are placed in the 'farmer portal' of the Ministry of Agriculture, Government of India (<http://www.agriccop.nic.in>) and also in the ICAR / CRIDA website (<http://www.crida.in>) for downloading the full plan by stakeholders for operational use.

Updated periodically

Research Initiatives

National Innovations in Climate Resilient Agriculture (NICRA)

- ❖ Strategic Research
- ❖ Competitive grants Research
- ❖ Technology Demonstration Component- Proven technologies demonstration on NRM, Crops, Livestock, Farm machinery

To develop short/medium term solutions to long term ones

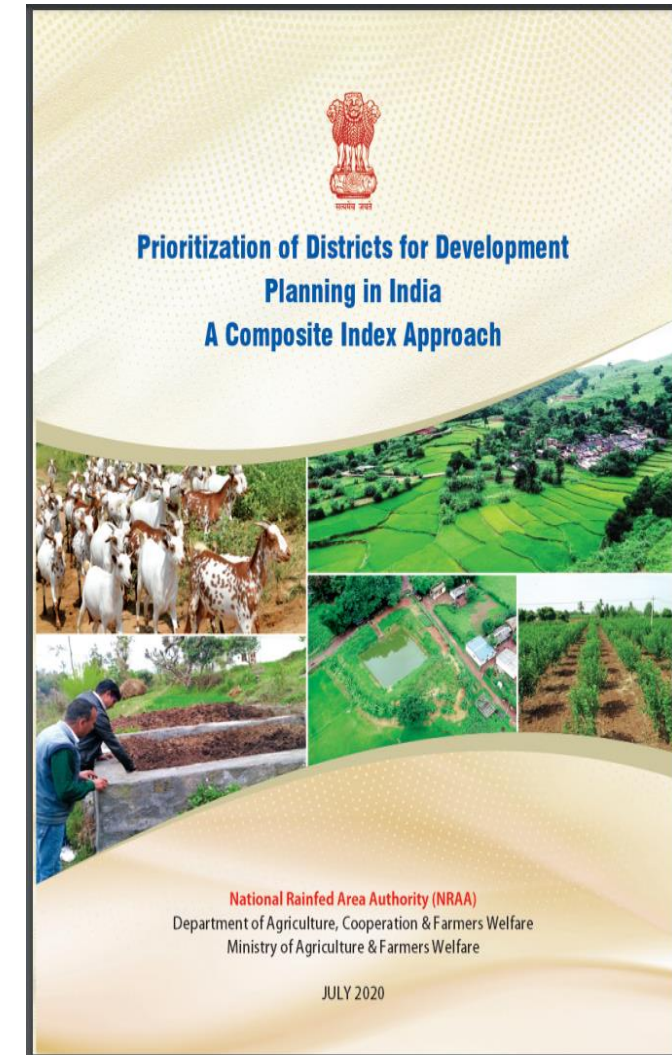
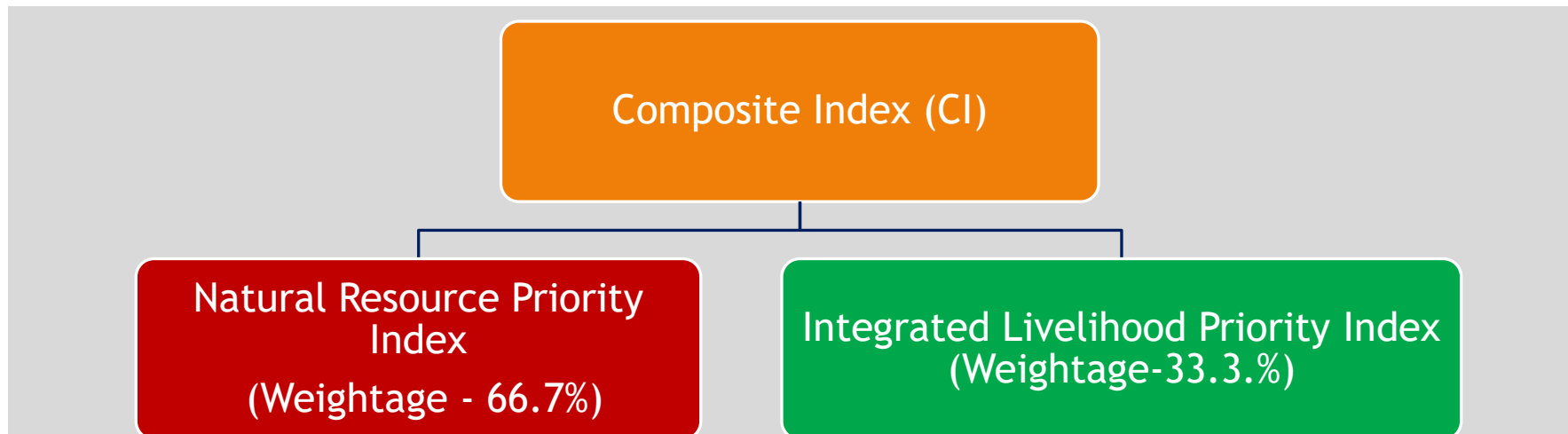
- ❖ Feedback to National and state developmental programs

Drought Proofing Plans- 24 districts as pilot -ICAR-CRIDA

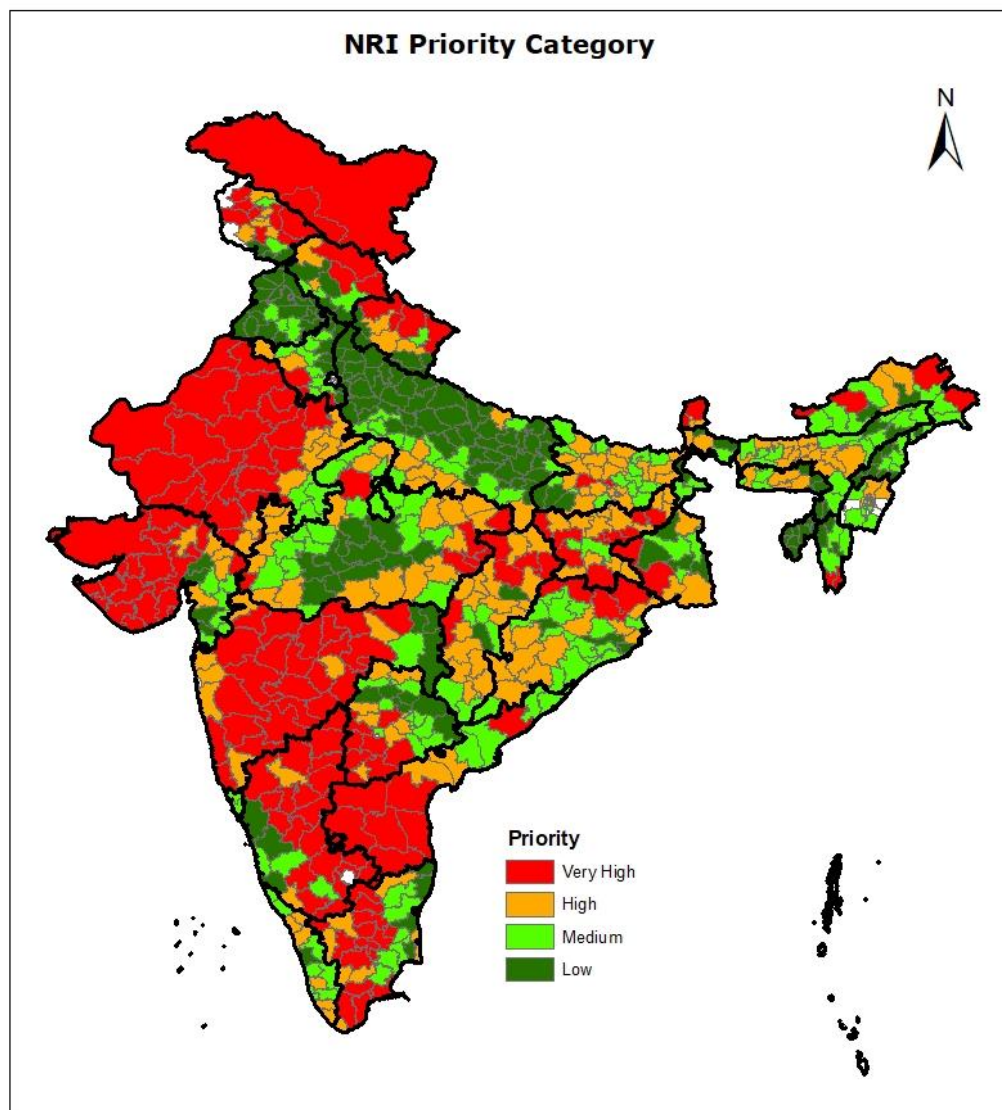
Prioritization of Districts for Developmental Planning in India

A Composite Index Approach

National Rainfed Area Authority &
ICAR-Central Research Institute for Dryland Agriculture (CRIDA)



Priority districts based on NRI



168 districts of Very high priority are recommended for drought proofing

Thanks