

SBSTA-42
In-Session Workshop (Agriculture)-I

Early Warning Systems and Contingency Plans

in relation to extreme weather events and its effects such as desertification, drought, floods, landslides, storm surge, soil erosion and saline water intrusion

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Strong link between Food Production and Weather in India

- Small land holdings, fragile ecosystems
- Weather aberrations such as droughts (various kinds), cyclones, unseasonal rainfall, floods, heat wave, hailstorms etc. have become frequent, impacting Indian agriculture.
- Contingency plans prepared by ICAR-CRIDA and SAUs ; Guide to manage with aberrations, for reducing productivity losses and stabilizing food security.
- What Actually Needed : Real time implementation coupled with preparedness at ground level !

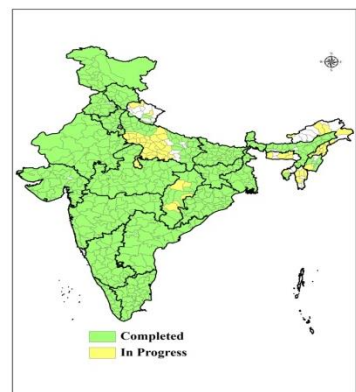
1) Monsoon/Extreme events and Food security of the country is strongly inter-dependant in tropical developing countries. Extreme events and climate change are largely determining the national food production and food security levels.

2) Early warning systems coupled with contingency plans contribute immensely to Adaptation of Agriculture systems in developing countries particularly in small holding farming of India where about 60% agriculture is rainfed (monsoon dependant agriculture).

3) Government of India has initiated two programmes 1) National Mission for Sustainable Agriculture (NMSA) and 2) National Initiative for Climate Resilient agriculture (NICRA), where development of climate resilient technologies and implementation available technologies to develop "**Climate Friendly Villages**" across agro ecosystems of various extreme events'

4) India has got some progress in technology of early warning systems, but need to take forward towards downsizing the warning systems to make them actual usage. Lot of research and technology modules are needed in this endeavour.

5) India has made Technical modules of District Agriculture Contingency Plans for Agriculture covering field crops, horticulture, livestock, poultry and fishery sectors for extreme events such as droughts (various kinds Early season, mid-season drought), cyclone, floods, hailstorms, heat wave, cold wave and sea water salinization).



Food Grains
Horticulture
Livestock
Poultry
Fisheries

Plans Cover:

- 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 and cyclone

Approach: Bottom-up involving district level scientists of ARS and KVKs of SAUs

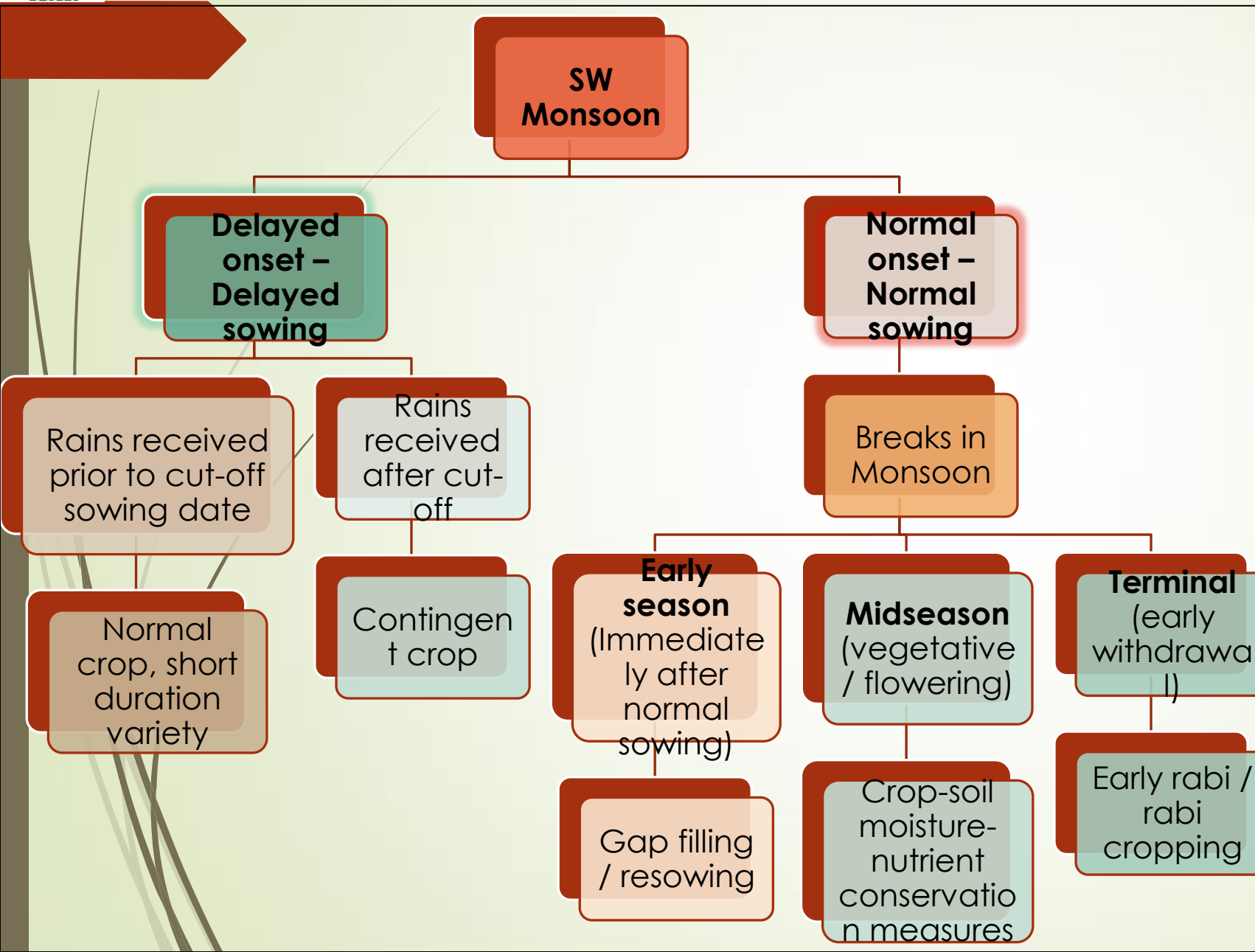
Organizations involved:

- CRIDA - Nodal Institute
- 46 State Agricultural Universities (SAUs)
- 7 ICAR –NRM institutes (NBSS& LUP, CAZRI, PDFSR, CSWCRTI, DWM, ICAR RCER, ICAR RC-NEH)

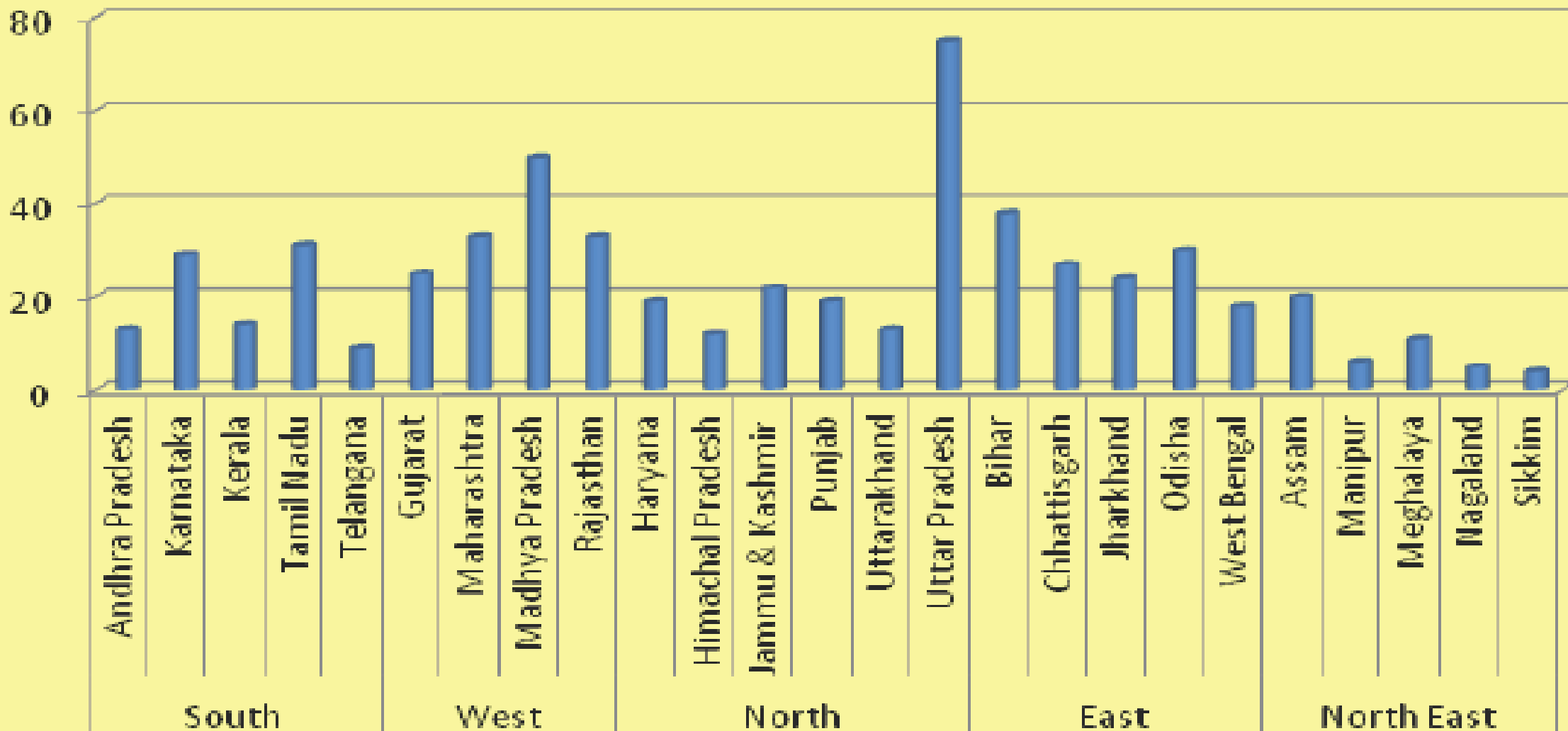
Access to District level Contingency Plans in Farmers' portal (<http://farmer.gov.in>)



Web based Contingency Crop Planning tool for Monsoon Aberrations



India: District Agriculture Contingency Plans (580)



6) However, due to diversity of agro-ecosystems, small holdings, supporting institutions and taking them to the ground level needs huge investments and large scale implementation strategies. If these plans are implemented, with supporting capacity building at regional and sub-region level; adaptive capacity of Agriculture Systems can be strongly enhanced.



Thanks