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Status of monsoon and agromet advisories/ contingency plans for some deficit/excess rainfall areas

During 1 June -30 Aug 2015, the country as a whole received 625 mm rainfall, which is 12% less than the normal (707 mm). The region-wise Southwest Monsoon rainfall status is: East and Northeast India: 4% deficit, Northwest India: 9% deficit, Central India: 15% deficit and South peninsula: 20% deficit. Out of 36 meteorological sub divisions in the country, 15 are facing deficit rainfall condition; 18 are under normal rainfall condition and 3 are with excess rainfall condition. Districts which received rainfall less than 50% of normal during 1 June to 30 August were identified and depicted in figure 1. Rainfall received during 1 June - 30 August, progress in *kharif* sowing and contingency measures that are to be followed for deficit/excess rainfall conditions and the crops/cropping systems in different states/regions are mentioned as under:

A) Deficit rainfall areas

1. Maharashtra

Rainfall status**:** Marathwada region is reeling under drought conditions with 50% deficit rainfall. Madhya Maharashtra, Konkan and Vidarbha regions are also facing deficit rainfall of 39%, 32% and 13%, respectively.

Progress of *kharif* sowing: As on 29 August, 92% of normal kharif crop area of the state has been sown under different crops. Cotton and oil seed crops recorded highest sowing area of 114 and 119%, respectively (compared to normal sown area) and sugarcane recorded the lowest (47%) sowing due to deficit rainfall conditions.

Agromet advisories

Marathwada

Due to deficit rainfall in the region, following measures are recommended,

- For sowing of fodder maize, select well drained, medium to heavy soil. Use a seed rate of 15 to 20 kg/ha. Recommended varieties are: Maharaja, African tall etc.
- Provide newly germinated fodder in low quantity to avoid various diseases in animals.
- Continue weeding in cotton and soybean fields.
- In cotton, use Acetamatide, 2 gm/10 litres of water for control of sucking pests.

Vidarbha

- Pigeon pea (C-11 or ICPL 87119 (Asha)) or sesame (N-8) can be sown up to September 15.
- In case of moisture stress symptoms in earlier sown cotton/soybean, particularly in deficient areas/lighter soil types, protective sprinkler irrigation is advisable. Otherwise undertake light hoeing to create soil mulch to conserve profile soil moisture.
- Priority should be given for *in situ/ex situ* rainwater harvesting during the remainder of the season.
- Undertake timely plant protection in standing *kharif* crops.
- Apply top dressing of N fertilizer in cotton and sorghum if soil moisture is adequate.

2. Karnataka

North Interior Karnataka

Rainfall status: The region has received 42% deficit rainfall so far. Among the districts, Bidar has received scanty rainfall (77% deficit).

Progress of kharif sowing: The total area sown in North Interior Karnataka is 28.40 lakh ha (As on 18th August 2015) and this accounts for 82% of the normal sowing area of 34.25 lakh ha till date

Agromet advisories

- There is no scope for taking up any sowing operation in view of forecast of poor rainfall.
- Thinning may be done by removing alternate rows, as the moisture stress is severe.
- Take up repeated inter-cultivation and earth up the rows.
- Top dressing may be kept in abeyance till soil moisture conditions improve.
- Keep the crops free from weeds.
- Open conservation furrow after two rows in wider spaced crops and after every 8th row in narrow spaced crops.
- Fodder crops should be given preference over regular crops.
- In view of highly deficit rainfall so far, it is essential to conserve soil moisture before the start of *Rabi* season. Compartment bunds, ridges & furrows and conservation furrows may be taken up in these soils.

3. Uttar Pradesh

Rainfall status: Both East & West UP are facing a rainfall deficit of 35% and 33%, respectively.
Progress of kharif sowing: Total area sown in Uttar Pradesh is 95.91 lakh ha as on 14 August as against 95.17 lakh ha.

Agromet advisories

- Arrangement of seed of Toria (T-30,PT-303 and T-9), early potato (Kufri chandra mukhi and Kufri ashoka) and vegetable pea (Azad-P-2 and P-3) may be undertaken for sowing

as catch crop in place of damaged *Kharif* crop from first week of September due to deficit rainfall and high temperature condition prevailed during last week of august.

Due to deficit rainfall in the region, following measures are recommended

- Gap filling in transplanted paddy crop if plants are died.
- Spraying of 2% Urea in transplanted paddy in below normal rainfall regions.
- Undertake intercultural operation and mulch with crop residue to conserve soil moisture
- Apply protective irrigation in standing crops in view of water stress condition.
- Undertake weeding in green gram and black gram.

B) Excess rainfall areas

1. West Bengal

Rainfall status: Gangetic West Bengal has received 25% excess rainfall so far. But, Sub-Himalayan West Bengal is facing 8% deficit rainfall.

Progress of kharif sowing: Transplanting/re-transplanting of Aman rice has been completed in more than 90 % of area under rice cultivation. 12 districts in Bengal is flood-hit with heavy rain hitting the state in July and early August. Total area under cultivation damaged by the flood is 12 lakh hectares. Widespread damage to standing paddy crops occurred in Bardhaman, Murshidabad, East and West Midnapore districts. Total 243 blocks have been affected due to the floods.

Contingency crop plans

Post Flood Crop Contingency Plan:

- Take up transplanting of short duration rice varieties after jute harvesting.
- Adopt transplanting of extra early duration rice varieties (75-80 days) like Kalyani, Kalinga, Hira etc. or early duration rice varieties (100-115 days) like Rasi and Satabdi (IET-4786) in up and medium lands.
- Plant pulse crops like black gram, pigeon pea and horse gram in mid and uplands.
- Plant short duration oil seeds crop like *kharif* ground nut.
- Grow vegetables like cucurbits, ladies finger, brinjal, tomato etc.
- Grow maize, cow pea, sorghum hybrid napier, etc. for fodder.

2. Assam

Rainfall status: The state as a whole has received 3% deficit rainfall so far. But, many parts of the state are flood affected.

Progress of kharif sowing: Transplanting of *Sali* rice has been completed in almost all the districts of Assam. Crop is in tillering stage.

Crop contingency plans

- If the need arise, share the seedlings among the community members.
- Repair the bunds in paddy field to retain standing water.
- Perform weeding to check excessive/unnecessary loss of water.
- Apply life saving irrigation from farm ponds.
- Apply mulching material in upland crops to reduce evaporative loss of soil moisture.
- Suitable paddy cultivars
    - ✓ For flood prone area: Luit
    - ✓ Suitable paddy cultivar for submergence tolerance of 15 days: Swarna Sub-1, Jalashree, Jalkunwari, Plaban
    - ✓ Suitable paddy cultivar for delayed transplanting with aged seedlings: Padumoni, Prafulla, Gitesh
    - ✓ Suitable paddy cultivar for normal planting: Ranjit, Bahadur, Maniram, Kushal, Piolee, Pankaj, Lakhimi
    - ✓ Suitable paddy cultivars with medium duration: Satyaranjan, Basundhara
- As time is not yet over for sowing/transplanting of Sali paddy, go for replanting in the flood affected areas with medium to short duration cultivars of rice.
- If Sali paddy is in active tillering stage (30-35 days after sowing) go for 1st split application of nitrogenous fertilizer.

Note: The above is a general overview for the states. However, ICAR (CRIDA) has prepared district level contingency plans (covering all farming situations within the district) and placed in the websites of the Ministry of Agriculture & Cooperation, Government of India (www.agricoop.nic.in) and CRIDA (www.crida.in) for further details.

- The following map was generated by AICRPAM, CRIDA (with the data provided by IMD), Hyderabad to identify the districts experiencing more than 50% deficit condition.

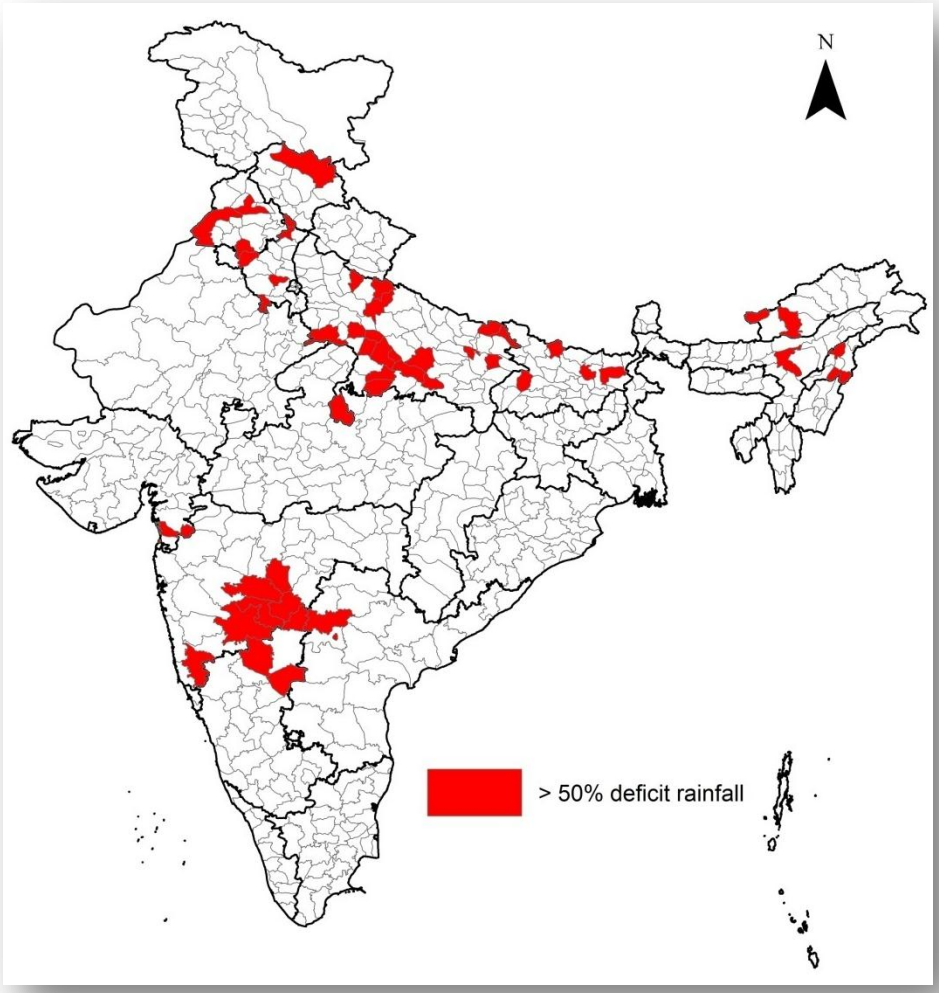

Figure 1: Districts (52) experiencing more than 50% rainfall deficit (From 1 June - 30 August, 2015)

Table 1 depicts the details of districts experiencing more than 50% rainfall deficit

Table 1. Details of the districts experiencing more than 50% rainfall deficit from 01 June to 30 August 2015

s.no	State	District	Actual (mm)	Normal (mm)	Deficit (%)	Category
1.	Arunachal Pradesh	East Kameng	340.4	964.1	-65%	S
2.		Tawang	911	1976.8	-54%	D
3.	Assam	Nagaon	439.7	896.4	-51%	D
4.	Nagaland	Mokokchung	470	1436.6	-67%	S
5.		Phek	135	1040.2	-87%	S
6.	Bihar	Bhojpur	343.5	711.8	-52%	D
7.		Buxar	702.3	653.8	7%	N
8.		Purnia	459.4	1006.1	-54%	D
9.		Saharsa	540	1107.7	-51%	D
10.		Sitamarhi	367.8	899	-59%	D
11.	Uttar Pradesh	Ambedkar Nagar	118	695.5	-83%	S
12.		Fatehpur	95.8	625.3	-85%	S
13.		Kannauj	295.8	609.4	-51%	D
14.		Kanpur Nagar	214.2	546.8	-61%	S
15.		Kanpur Dehat	163.3	590.2	-72%	S
16.		Kaushambi	138.8	593.3	-77%	S
17.		Kushinagar	234.4	905	-74%	S
18.		Maharajganj	396.9	972.6	-59%	D
19.		Mau	352.7	769	-54%	D
20.		Rae Bareli	215.9	577.6	-63%	S
21.		Shahjahanpur	321.4	668.4	-52%	D
22.		Agra	189.4	554	-66%	S
23.		Auraiya	223.7	549.6	-59%	D
24.		Hamirpur	299.1	627.3	-52%	D
25.		Lalitpur	314.8	754.6	-58%	D
26.		Mahoba	227.8	618.1	-63%	S
27.		Mainpuri	228.8	512.9	-55%	D
28.		Pilibhit	360.1	775.1	-54%	D
29.		Rampur	329.8	754.4	-56%	D
30.	Haryana	Ambala	349.4	734.9	-52%	D
31.		Fatehabad	97.9	230.7	-58%	D
32.		Mahendragarh	160.7	341.4	-53%	D
33.		Panchkula	365.2	771.5	-53%	D
34.		Rohtak	190.5	434.1	-56%	D
35.	Punjab	Firozpur	90.5	283	-68%	S

s.no	State	District	Actual (mm)	Normal (mm)	Deficit (%)	Category
36.		Jalandhar	137.4	435.9	-68%	S
37.		Mansa	83.9	263.4	-68%	S
38.	Himachal Pradesh	Lahul & Spiti	87.8	353.2	-75%	S
39.	Daman and Diu	Daman	689.4	1898.7	-64%	S
40.	Gujarat	The Dangs	709.7	1580.8	-55%	D
41.		Navsari	670.1	1503.9	-55%	D
42.	Daman and Diu	Diu	415.2	575.6	-28%	D
43.	Maharashtra	Kolhapur	747.5	1542.7	-52%	D
44.		Solapur	133.3	298.6	-55%	D
45.		Bid	164.1	394.3	-58%	D
46.		Latur	216.9	575.7	-62%	S
47.		Osmanabad	197	434.7	-55%	D
48.		Parbhani	196.5	580.5	-66%	S
49.	Telangana	Hyderabad	229.4	471.2	-51%	D
50.		Medak	226.4	573.2	-60%	S
51.	Karnataka	Bijapur	131	272.5	-52%	D
52.		Raichur	119.7	309.7	-61%	S

D- Deficit; S- Scanty