

**All India Coordinated Research Project on Agrometeorology (AICRPAM)  
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**Status of monsoon, Progress in *Kharif* Sowing and Agromet Advisories for Some Deficit/Excess Rainfall Areas**

**1. Status of southwest monsoon**

Southwest monsoon has covered the entire country on 13 July (two days ahead of normal date, ie. 15 July). During June 1- July 17, country as a whole received 325 mm rainfall, which is 2% more than the normal rainfall of the country for the same period (318 mm). Districts which received rainfall less than 50% of normal during 1 June to 17 July were identified and depicted in Figure 1 and table 2.

**2. Progress in *kharif* sowing (Source: Press Information Bureau, Govt of India)**

- The total sown area of crops as on 15<sup>th</sup> July, 2016 as per reports received from States, stands at 559 lakh hectare as compared to 548 lakh hectare, as on this date last year (Table 1).

Table 1: Progress in kharif sowing in India as on 15<sup>th</sup> July 2016 (Source: Press Information Bureau & Ministry of Agriculture, Govt of India)

<b>Crop</b>	<b>Area sown in 2016-17</b>	<b>Area sown in 2015-16</b>
Rice	123.93	122.99
Pulses	71.07	51.12
Coarse Cereals	105.98	101.45
Oilseeds	130.12	127.13
Sugarcane	45.78	44.80
Jute & Mesta	7.47	7.67
Cotton	75.41	93.22
Total	559.76	548.38

(Area in Lakh hectare)

### **3. Agromet Advisories**

The following Agromet advisories may be followed for the crops/cropping systems of the above mentioned states.

#### **Kerala**

The state so far has received 917 mm rainfall, which is 15% deficit compared to the normal (1076 mm).

- Paddy: Due to high relative humidity, there is a chance of sheath blight and sheath rot. Water soaked lesions and drying of leaves are the major symptoms. This will adversely affect the emergence of panicle and results in chaffy grains. Spray Bavistin 200 gm/Tilt (Propiconazol) 150 ml/ 200 litre of water, as a control measure.
- Coconut: Water logging in the field will adversely affect yield. Take necessary steps to avoid water logging and ensure field sanitation. Eryophid mite attack was noticed in the coconut plantations. Spray neem oil – garlic emulsion (20 ml neem oil+ 20 g garlic paste in 1 litre of water) as prophylactic measure. Spraying on young inflorescence to be avoided.
- Black pepper: As a prophylactic measure spray 1% Bordeaux mixture for quick wilt /fungal diseases.

#### **Tamilandu**

The state has received 85 mm rainfall (7% surplus).

- If sowing was not taken up due to insufficient rainfall even upto third week of July 2016, sowing of sorghum+ pulses (black gram/ green gram/ cowpea) is advocated instead of groundnut + pulses (red gram) + castor in Erode district.
- Pure crop of pearl millet/ green gram can be sown instead of dry rice /Ground nut for Tiruvallur district.
- Sorghum/pearl millet/horse gram can be sown instead of groundnut + pulses intercropping for Tiruppur district.
- Fodder sorghum / Minor millets/ fodder pearl millet/ fodder cowpea are advocated in the place of Pearl Millet / sorghum / gingelly /groundnut crops for Vellore district.
- If dry spell occur immediately after sowing, conserve soil moisture by mulching for dryland crops. Thinning may be done at 15 and 30 DAS.

#### **Karnataka**

South Interior Karnataka received 276 mm (5% surplus), North Interior Karnataka received 194 mm (12% surplus) and Coastal Karnataka received 1460 mm (3% deficit) during June 1- July 17.

#### **South Interior Karnataka**

- Postpone sowing operation until soaking/sufficient rainfall is received.
- Wherever, the long duration crops like Pigeon pea and Castor were sown, undertake earthing up operation in addition to the normal agronomic measures. Earthing up facilitates better availability of soil moisture to the crop rows through conversion of the land into ridges and furrow system.

- Make use of farm pond water and this may be used for protective irrigation during the prevailing dry spell.
- In case wind speed is high; Protection to tomato and other vegetables through staking are important.

### **North Interior Karnataka**

- To reduce effects of extreme weather situations/ to reduce crop loss risk, the following intercrops are advised.
  - ✓ Pearl millet + Pigeon pea (2:1); Maize + Pigeon pea (4:2), *Kharif* sorghum + Pigeon pea (5:1), Pigeon pea + Sesame (1:2 or 2:4); Pigeon pea + Horse gram (2:1) or Chilli + Desi Cotton.
  - ✓ In the already sown areas, if the crop is 15 to 20 days old, remove the excess and weak seedlings and take up repeated intercultivation so as to conserve the soil moisture.
  - ✓ Soil and moisture conservation techniques such as compartment bunds, ridges and furrows across the slope are suggested for deep black soils earmarked for rabi crops.

### **Maharashtra**

Rainfall received in major meteorological sub-divisions of the state are as follows:

Vidarbha – 495 mm (47% surplus); Marathwada – 287 mm (23% surplus); Madhya Maharashtra- 339 mm (23% surplus) and Konkan- 1541 mm (17% surplus)

As all meteorological sub-divisions have received excess rainfall in Maharashtra, there is no need for any crop contingency plans. Farmers should avoid water stagnation in the fields and ensure proper drainage.

### **West Bengal**

Gangetic West Bengal has received 375 mm rainfall (12% deficit), while Sub-Himalayan West Bengal received 858 mm (3% surplus).

Due to sufficient rainfall occurred in the region, following measures are recommended

- Weeding and intercultural operations to minimize the loss of moisture due to competition and capillary action.
- In-situ moisture conservation measures covering both soil and land management practices to be practiced. They include field bunding, ridges and furrows, conservation furrows, broad bed and furrow systems, mulches etc.
- SRI method of rice cultivation is suitable for uplands in the region.
- Do not irrigate the crops like jute, gram and sesame in view of rainfall forecast.
- Due to humid and warm weather, infestation of blight in vegetable crops is likely to increase; spray Mancozeb @ 2 g per liter of water.

### **Chattisgarh**

The state so far has received 399 mm rainfall (3% surplus).

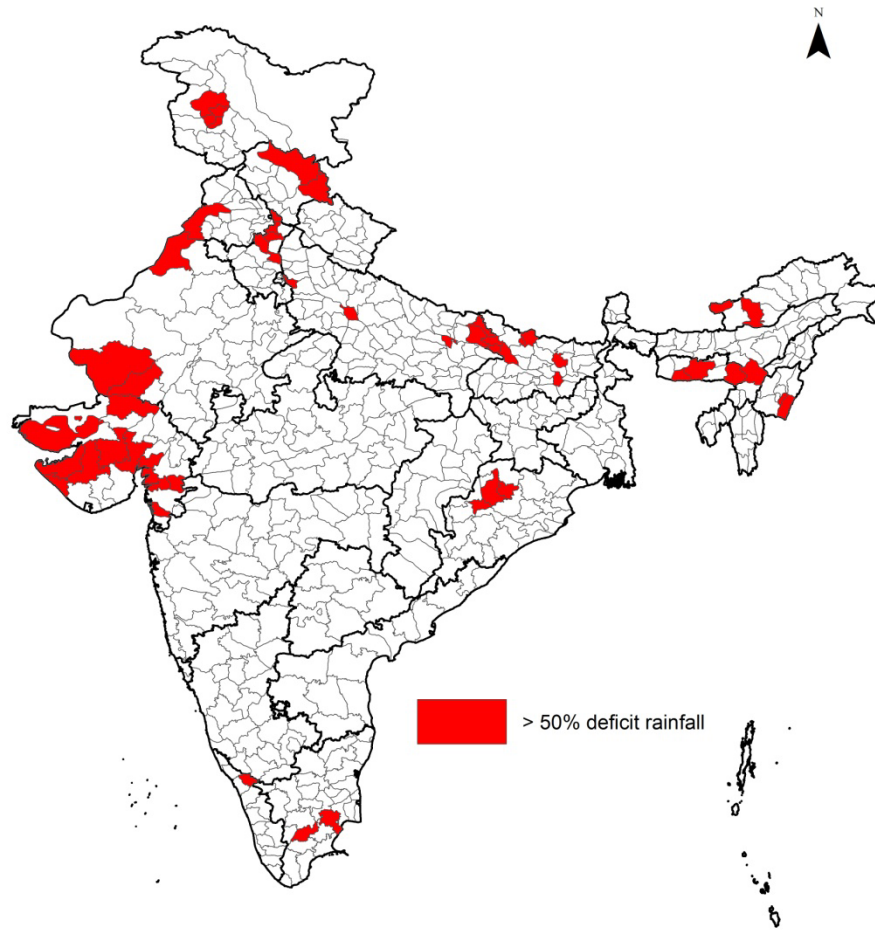
- Farmers of Soybean belt (Bemetra, Mungeli, Rajnadgaon, Kawardha, Durg districts) should not undertake Soybean sowing in present situation as there are no chances of widespread rainfall in the coming week. Farmers should undertake sowing only after receiving assured rainfall and availability of assured irrigation.

## **Rajasthan**

East Rajasthan has received 275 mm rainfall so far (60% surplus) and West Rajasthan has received 74 mm (12% deficit).

- Provide adequate drainage in heavy rainfall areas.
- Complete the sowing of groundnut, pearl millet, sorghum and maize.
- Avoid sowing of maize after 15<sup>th</sup> July.
- Take up sowing of pulses and sesame where sowing was not done so far. The improved varieties of Green gram: K-851, RMG-62, RMG-268, SML-668, ML-267 and GM-4; Black gram: PU-31, Pratap urd-1, T-9 and Barkha(RBU-38); Clusterbean: RGC-936, RGC-986, RGC-1017, RGC-1038 and RGC-1055 etc are recommended.

*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](http://www.agricoop.nic.in)) and CRIDA ([www.crida.in](http://www.crida.in)) for further details.*



**Figure 1: Districts (55) with > 50% rainfall deficit (From 1 June - 17 July 2016)**

**Table 1: Districts with > -51% rainfall deficit (1 June to 17 July 2016)**

	State/District	ACTUAL (mm)	NORMAL (mm)	% DEP.	CAT.
	<b>Arunachal Pradesh</b>				
1.	East Kameng	198.4	556.9	-64%	S
2.	Tawang	555.0	1125.2	-51%	D
	<b>Assam</b>				
3.	N.C Hills	216.9	484.5	-55%	D
	<b>Meghalaya</b>				
4.	Jaintia Hills	49.0	2277.5	-98%	S
5.	South Garo Hills	89.0	760.5	-88%	S
6.	West Khasi Hills	195.0	1291.5	-85%	S
	<b>Manipur</b>				
7.	Chandel	33.0	917.9	-96%	S
8.	Thoubal	58.0	435.5	-87%	S
	<b>Odisha</b>				
9.	Deogarh	176.9	452.3	-61%	S
10.	Sambalpur	207.3	452.3	-54%	D
11.	Subarnapur	182.4	377.6	-52%	D
	<b>Bihar</b>				
12.	Gopalganj	165.7	339.9	-51%	D
13.	Munger	15.0	350.7	-96%	S
14.	Saharsa	204.5	565.1	-64%	S
15.	Saran	147.4	333.2	-56%	D
16.	Sheohar	72.6	402.2	-82%	S
17.	Sitamarhi	174.7	402.2	-57%	D
18.	Siwan	124.7	334.7	-63%	S
	<b>Uttar Pradesh</b>				
19.	Ambedkarnagar	88.0	265.8	-67%	S
20.	Deoria	145.1	305.8	-53%	D
21.	Farrukhabad	78.8	211.6	-63%	S
22.	Kushinagar	107.5	392.1	-73%	S
23.	Gautambudhnagar	59.0	136.3	-57%	D
	<b>Haryana</b>				
24.	Ambala	112.2	273.4	-59%	D
25.	Kaithal	50.5	110.8	-54%	D
26.	Kurukshetra	38.4	182.2	-79%	S
27.	Panchkula	114.3	272.5	-58%	D
28.	Panipat	57.2	159.7	-64%	S
29.	Yamunanagar	408.8	264.3	55%	E

	<b>Delhi (Ut)</b>				
30.	East Delhi	3.0	179.3	-98%	S
31.	North East Delhi	31.0	179.3	-83%	S
	<b>Punjab</b>				
32.	Ferozpur	29.6	97.0	-70%	S
	<b>Himachal Pradesh</b>				
33.	Kinnaur	29.2	74.3	-61%	S
34.	Lahul & Spiti	20.2	133.0	-85%	S
	<b>Jammu &amp; Kashmir</b>				
35.	Badgam	29.1	60.8	-52%	D
36.	Baramula	41.1	97.7	-58%	D
37.	Pulwama	18.2	47.0	-61%	S
38.	Srinagar	19.7	64.9	-70%	S
	<b>Rajasthan</b>				
39.	Barmer	23.0	76.0	-70%	S
40.	Ganganagar	15.2	65.4	-77%	S
41.	Jalor	45.2	120.5	-63%	S
	<b>Gujarat</b>				
42.	Ahmadabad	96.3	212.6	-55%	D
43.	Anand	70.6	269.8	-74%	S
44.	Banaskantha	77.6	181.8	-57%	D
45.	Bharuch	80.4	292.7	-73%	S
46.	Narmada	146.0	386.6	-62%	S
47.	Navsari	333.0	713.3	-53%	D
48.	Jamnagar	87.9	195.9	-55%	D
49.	Kachchh	24.3	128.1	-81%	S
50.	Porbandar	160.6	328.7	-51%	D
51.	Rajkot	92.3	210.1	-56%	D
52.	Surendranagar	84.4	187.4	-55%	D
	<b>Tamil Nadu</b>				
53.	Madurai	37.2	82.0	-55%	D
54.	Pudukkottai	42.6	89.0	-52%	D
	<b>Kerala</b>				
55.	Wayanad	643.3	1348.9	-52%	D

[D- Deficit (-20 to -59%); S- Scanty (-60 to -99%)]