

**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

During 1 June – 6 August, country as a whole received 496 mm rainfall, which is 2% deficit compared to the normal rainfall of the country for the same period (508 mm). Districts which received rainfall less than 50% of normal during 1 June – 6 August were identified and depicted in Figure 1, Table 2 & 3.

2. Progress in *kharif* sowing (Source: Press Information Bureau and Ministry of Agriculture and Farmers' Welfare, Govt. of India)

The total sown area of major crops as on 4th August, 2017 (as per reports received from states), stands at 878 lakh hectare as compared to 855 lakh hectare, as on this date last year (Table 1). Except oil seeds and Jute & Mesta, all other crops recorded either on par or excess sown area in 2017 compared to 2016.

Table 1: Progress in *kharif* sowing in India as on 4th August 2017 (Area in Lakh hectare)

| Crop | Area sown in 2017 | Area sown in 2016 |
|----------------|--------------------------|--------------------------|
| Rice | 280.03 | 266.93 |
| Pulses | 121.28 | 116.95 |
| Coarse Cereals | 156.95 | 156.81 |
| Oilseeds | 148.88 | 165.49 |
| Sugarcane | 49.71 | 45.64 |
| Jute & Mesta | 7.04 | 7.55 |
| Cotton | 114.34 | 96.48 |
| Total | 878.23 | 855.85 |

3. Agromet Advisories

A. Excess rainfall condition

Assam

The state has received 905 mm rainfall so far during the season (20% deficit). Dry conditions as well as flood conditions are prevailing in parts of the state.

Agromet advisories for post-flood condition are:

- Late and staggered planting with the old seedlings (50-60 days old seedlings) of the varieties like Profulla and Gitesh (If the field is heavily damaged) of Sali rice.

- Direct seeding with the photo insensitive short duration varieties like Luit, Kapilee (90-95 days). The sprouted seeds of these varieties can be directly seeded in the field by broadcasting method
- Post flood management of sugarcane: Hoeing between lines for aeration in root zone after flood
- Control measures should be taken against attack of armyworm in flood affected areas using insecticides as well as bird trapping

For areas experiencing long dry spell condition:

- Repairing of bunds in paddy fields for standing water retention
- Weeding to avoid unnecessary water loss
- Applying of mulching material in upland crops to reduce evaporative loss of soil moisture.
- Spraying of 2% urea once water stress is eased for quick revival of the crop.

Gujarat

Gujarat region has received 760 mm rainfall so far (41% surplus) and Saurashtra & Kutch region has received 454 mm rainfall (50% surplus) so far during the season. Flooding and water logging condition due to heavy rainfall has vastly damaged early sown crops mainly in Saurashtra, Kutch and North Gujarat regions. Only Tapi district has deficient rainfall condition compared to its normal rainfall.

If the first crop failed due to flood or water logging condition, following crops can be considered for sowing.

- Bajra: GHB-538, GHB-719, GHB-757
- Sesame: Sesamum Guj-1, 2, 10
- Sunflower: Modern, EC-68414, Guj sunflower-1,
- Jowar: Jowar grain GJ-35,36,37
- Green Gram: GM-4, K-851, MEHA
- Bidi Tobacco: GT-1, 4, 5, 9

Rajasthan

West Rajasthan has received 306 mm rainfall (101% surplus) and East Rajasthan has received 390 mm rainfall (16% surplus) so far during the season.

- Drain out excess rain water where water logging condition prevailed in the field due heavy rainfall.
- In the paddy growing region, if top leaves of plants turned yellow and bottom leaves remained green, farmers may spray zinc sulphate solution (2.5 kg zinc sulphate dissolved in 500 litres of water / ha).
- Top dress urea in maize @ 55 kg/ha where the crop of at 25-30 days, as there is sufficient soil moisture available.

- In soybean, weed management should be done where the crop is at 15-20 days by manual weeding or apply herbicides. The recommended herbicide for the control of weeds in soybean are Imazethapyr @ 100g/ha or Quizalofop ethyl @ 50g/ha.

The area which have received rains during last week can go for:

Sowing of cluster bean, sesame and fodder crop, where sowing could not done so far.

B. Deficit rainfall condition

Kerala

The state as a whole has received 1082 mm rainfall so far during the season, which is 27% deficit compared to the normal rainfall during the season.

- Paddy: Chances of stem borer in paddy. Place 10 pieces of 2 CC trichocards in different corners of field under leaf. In severe condition apply Flubendamide @ 2 ml/10 L.
- Coconut: As rainfall is forecasted during next two weeks, there is a chance for incidence of bud rot. As a prophylactic measure to control bud rot, apply 1% Bordeaux mixture in the tender leaf axils.
- Banana: There is a chance of sigatoka disease incidence in banana. As a precaution, Spray Pseudomonas 20g/L In case of severe attack spray 1 g Bavistin by mixing it with gum in 1 litre of water on lower surface of leaf.
- Coffee: Leaf rust disease may become severe due to increase in relative humidity. Apply 0.5% Bordeaux mixture as a prophylactic measure or plantvax 20 EC @ 1-2 ml per litre to control the disease.

Karnataka

All the three meteorological subdivisions of the state have received deficit rainfall so far during the season [South interior Karnataka: -35%; North Interior Karnataka and Costal Karnataka: -19%].

South Interior Karnataka

- Postpone sowing operation until soaking/sufficient rainfall received.
- Wherever, the long duration crops like red gram, and castor were sown, undertake earthing up operation in addition to the above agronomic measures.
- Since there was a deficit rainfall during last two months, make use of farm pond water for protective irrigation

Costal Karnataka

Coconut:

- Infestation of rhinoceros beetle and red palm weevil is noticed in Uduppi district. Treat the affected plants with Carbaryl solution at 4 g/litre to bored holes and later fill with mud.

- As rainfall is forecasted during 11-17 August, there is a chance for incidence of bud rot. Scrape the infected part and apply a mixture of metalaxyl plus mancozeb at 2 gram per liter

Maharashtra

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

Vidarbha – 406 mm (26% deficit); Marathwada – 267 mm (27% deficit); Madhya Maharashtra- 484 mm (12% surplus) and Konkan- 1996 mm (exactly equal to normal)

Vidarbha

- With prevailing rainless weather, undertake timely weeding/hoeing in earlier sown kharif crops.
- After the receipt of soaking rainfall, delayed sowings/unsown areas can be accommodated with suitable crops/crop varieties/intercropping (as mentioned below) in the western/central Vidarbha districts (Akola, Buldana, Amravati, Washim, Yavatmal, Wardha and Nagpur)
 - Pigeonpea: PKV- Tara, BSMR-736, Asha (ICPL 87119) and C-11 with 60x20 cm spacing.
 - Under delayed sowing condition, intercropping systems include pearl millet + pigeonpea (2:1 or 4:2), sunflower+pigeonpea (2:1).
 - Alternative crops include pearl millet (PKV Raj, Shradha, Saburi, Pratibha), sesame (AKT64), sunflower(PDKVSH-952, KBSH-44, KBSH-1, DRSH-1, PKV SF-9, PKVSH-27) and castor (AKC-1, GCH-4, GCH-5, Dipti (DCH-32), Deepak (DCH-177)).
- Application of protective irrigation (sprinkler) is advisable in areas where crops are under moisture stress due to subdued rainfall activity causing midday wilting symptoms, particularly in shallow soils.
- Foliar spray of 2% KNO₃ (potassium nitrate) is advisable in soybean crop.

Marathwada

- Cotton: Mulching should be done in cotton crop. During water stress condition in cotton crop a spray of Potassium Nitrate @ 200 gm per 10 liter of water is advised.
- Pigeonpea: During water stress condition in pigeonpea crop, take a spray of *Potassium Nitrate* @ 200 gm per 10 liter of water.
- Apply irrigation with the help of drip irrigation system in orchards.

Note: The above is a general overview for the states. However, for further details, district level contingency plans prepared by ICAR-CRIDA [covering all farming situations within the district] and placed in the websites of the Department of Agriculture Cooperation & Farmers' Welfare, Government of India (www.agricoop.nic.in) and CRIDA (www.crida.in)] may be referred.

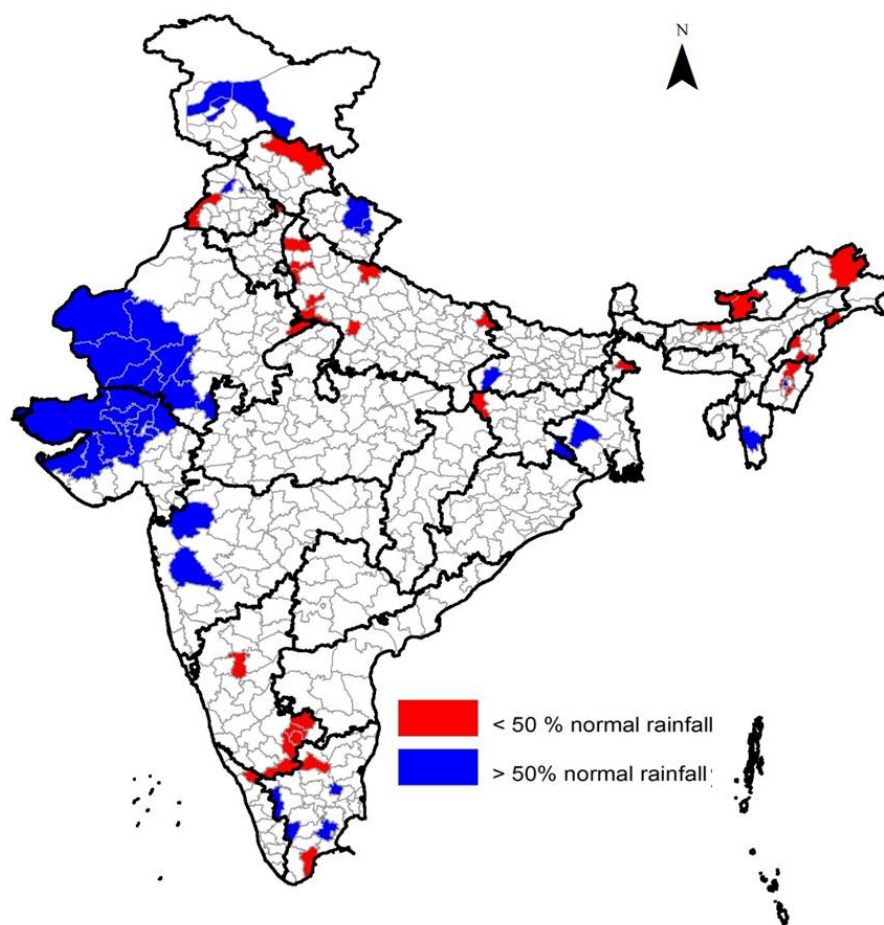


Figure 1: Districts received > 50% deficit and excess rainfall compared to normal during 1 June - 6 August 2017 (Prepared by AICRPAM based on the data provided by IMD)

Table 2: Districts which received more than 50% deficit rainfall compared to normal (1 June to 6 August 2017) (Source: IMD)

| Sl. No. | Meteorological Subdivision | District | Rainfall during 01-06-2017 to 06-08-2017 | | |
|---------|----------------------------|------------------|--|-------------|---------------|
| | | | Actual (mm) | Normal (mm) | Deviation (%) |
| 1 | Arunachal Pradesh | Dibang Valley | 120 | 671.1 | -82 |
| 2 | | Tawang | 202 | 1519.8 | -87 |
| 3 | | Tirap | 659.6 | 1550.2 | -57 |
| 4 | | West Kameng | 605.6 | 1519.8 | -60 |
| 5 | Assam & Meghalaya | Baksa | 701.9 | 1536.6 | -54 |
| 6 | N M M T | Phek | 342 | 739.7 | -54 |
| 7 | | Wokha | 330 | 991.1 | -67 |
| 8 | | Senapati | 171 | 805.9 | -79 |
| 9 | | Thoubal | 114 | 555.6 | -79 |
| 10 | | Saiha | 154 | 904.7 | -83 |
| 11 | SHWB & Sikkim | Dakshin Dinajpur | 338.8 | 702.3 | -52 |
| 12 | Jharkhand | Garhwa | 206.9 | 485.8 | -57 |
| 13 | East Uttar Pradesh | Amethi | 212.1 | 433.5 | -51 |
| 14 | Pradesh | Kushinagar | 300.4 | 619.7 | -52 |

| Sl. No. | Meteorological Subdivision | District | Rainfall during 01-06-2017 to 06-08-2017 | | |
|---------|----------------------------|-----------------|--|-------------|---------------|
| | | | Actual (mm) | Normal (mm) | Deviation (%) |
| 15 | West Uttar Pradesh | Agra | 131.3 | 338.8 | -61 |
| 16 | | Auraiya | 162.2 | 340.8 | -52 |
| 17 | | Gautambudhnagar | 105 | 274.8 | -62 |
| 18 | | Ghaziabad | 115.4 | 315.2 | -63 |
| 19 | | Mahamayanagar | 152.5 | 312 | -51 |
| 20 | | Muzafarnagar | 124 | 386.8 | -68 |
| 21 | | Pilhibhit | 161.9 | 513 | -68 |
| 22 | Har. Chd. & Delhi | Panchkula | 184.4 | 510.4 | -64 |
| 23 | Punjab | Ferozpur | 45 | 192.4 | -77 |
| 24 | Himachal Pradesh | Lahul&Spiti | 84.2 | 245.9 | -66 |
| 25 | East Rajasthan | Dholpur | 155.5 | 320.6 | -51 |
| 26 | Tamil Nadu & Pondichery | Dharampuri | 70 | 145.5 | -52 |
| 27 | | Tuticorin | 9.5 | 24.9 | -62 |
| 28 | N. I. Karnataka | Gadag | 75.1 | 171.7 | -56 |
| 29 | S. I. Karnataka | Bangalore Rural | 67.8 | 183.1 | -63 |
| 30 | | Banglore Urban | 79.9 | 189.9 | -58 |
| 31 | | Chamarajanagar | 51.1 | 145.2 | -65 |
| 32 | | Chikballapur | 84.2 | 172.4 | -51 |
| 33 | | Ramnagar | 71.4 | 178.6 | -60 |
| 34 | Kerala | Wayanad | 815.4 | 1962.1 | -58 |

Table 3: Districts which received more than 50% surplus rainfall compared to normal (1 June to 6 August 2017) (Source: IMD)

| Sl. No. | Meteorological Subdivision | District | Rainfall during 01-06-2017 to 06-08-2017 | | |
|---------|----------------------------|---------------------|--|-------------|---------------|
| | | | Actual (mm) | Normal (mm) | Deviation (%) |
| 1 | Arunachal Pradesh | Lower Dibang Valley | 1863.5 | 671.1 | 178 |
| 2 | | Upper Subansiri | 878.8 | 468.9 | 87 |
| 3 | N M M T | Dimapur | 840.8 | 433.3 | 94 |
| 4 | | Imphal West | 1346 | 613.8 | 119 |
| 5 | | Lunglei | 2249 | 1068.1 | 111 |
| 6 | Gangetic West Bengal | Bankura | 942.9 | 576.1 | 64 |
| 7 | Jharkhand | Purbi Singhbhum | 961 | 595.4 | 61 |
| 8 | | Ramgarh | 1186.5 | 599.4 | 98 |
| 9 | Bihar | Rohtas | 663 | 422.2 | 57 |
| 10 | Uttarakhand | Bageshwar | 777.5 | 491.1 | 58 |
| 11 | | Chamoli | 761.3 | 472.5 | 61 |
| 12 | Punjab | Kapurthala | 458.2 | 234.1 | 96 |
| 13 | Jammu & Kashmir | Bandipore | 231 | 90.4 | 156 |
| 14 | | Baramula | 299.4 | 149.2 | 101 |
| 15 | | Ganderwal | 218.6 | 107.5 | 103 |
| 16 | | Kargil | 43 | 20 | 115 |

| Sl. No. | Meteorological Subdivision | District | Rainfall during 01-06-2017 to 06-08-2017 | | |
|---------|----------------------------|----------------------|--|-------------|---------------|
| | | | Actual (mm) | Normal (mm) | Deviation (%) |
| 17 | | Pulwama | 173.6 | 79 | 120 |
| 18 | | Riasi | 1397.1 | 667.4 | 109 |
| 19 | | Srinagar | 167.1 | 107.5 | 55 |
| 20 | West Rajasthan | Barmer | 414.7 | 137 | 203 |
| 21 | | Jaisalmer | 204.9 | 89.8 | 128 |
| 22 | | Jalor | 840.8 | 229.6 | 266 |
| 23 | | Jodhpur | 336.9 | 157.9 | 113 |
| 24 | | Pali | 662.5 | 253.5 | 161 |
| 25 | East Rajasthan | Pratapgarh | 740.6 | 458.7 | 61 |
| 26 | | Rajsmant | 538 | 278.5 | 93 |
| 27 | | Sirohi | 1665.7 | 481.3 | 246 |
| 28 | | Udaipur | 593.6 | 327.8 | 81 |
| 29 | Gujarat Region | Ahmadabad | 581.8 | 362.6 | 60 |
| 30 | | Aravalli | 691.8 | 456.2 | 52 |
| 31 | | Banaskantha | 1018.7 | 330.7 | 208 |
| 32 | | Gandhinagar | 989.9 | 416.3 | 138 |
| 33 | | Mahesana | 715 | 373.4 | 91 |
| 34 | | Patan | 792.7 | 301.8 | 163 |
| 35 | | Sabar Kantha | 762.9 | 428.7 | 78 |
| 36 | | Dadar & Nagar Haveli | 2086.1 | 1335.3 | 56 |
| 37 | Saurashtra & Kutch | Jamnagar | 506 | 326 | 55 |
| 38 | | Kachchh | 354.5 | 220.1 | 61 |
| 39 | | Morbi | 738 | 306.5 | 141 |
| 40 | | Rajkot | 589.2 | 365.9 | 61 |
| 41 | | Surendranagar | 690.3 | 295.3 | 134 |
| 42 | Madhya | Nasik | 827.3 | 532.8 | 55 |
| 43 | Maharashtra | Pune | 806.6 | 525.9 | 53 |
| 44 | Chhattisgarh | Sukma | 991.2 | 652.6 | 52 |
| 45 | Tamil Nadu & Pondichery | Coimbatore | 157.4 | 87 | 81 |
| 46 | | Perambalur | 136.8 | 88.2 | 55 |
| 47 | | Sivaganga | 253.7 | 129.7 | 96 |
| 48 | | Teni | 93.4 | 60.9 | 53 |
| 49 | | Puduchery | 232.1 | 150.7 | 54 |