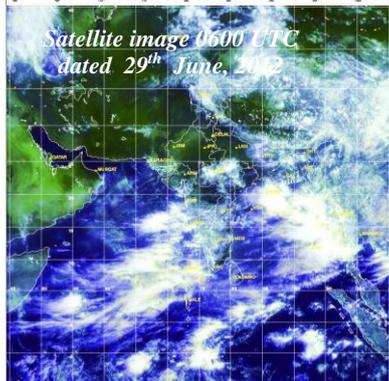
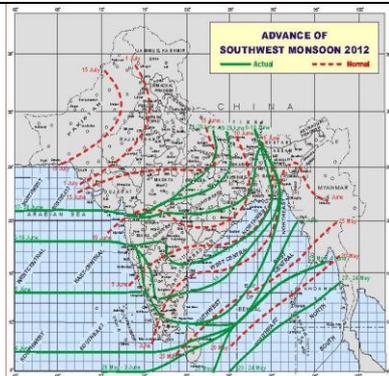


The Northern Limit of Monsoon (NLM) continues to pass through Lat 21.0°N/ Long. 60.0° E, Lat 21.0°N/ Long. 65.0°E, Veraval, Navsari, Malegaon, Betul, Jabalpur, Sidhi, Varanasi, Gorakhpur and Lat 28.0°N/ Long. 83.0°E.



There is no further advancement of southwest Monsoon during last week. However, good rainfall occurred over many districts in Assam, Arunachal Pradesh, Chhattisgarh, Bihar, Jharkhand, Orissa, West Bengal, Sikkim and Coastal Karnataka and over a no. of districts in East Madhya Pradesh, East Uttar Pradesh, Uttarakhand and Kerala.

Agromet Advisories for various States of different regions of the country are as follows:

Southern region

- **Kerala:** Continue sowing of direct seeded rice and nursery sowing / transplanting of *Virippu* rice. Also continue new plantation of coconut seedlings.
- **Karnataka:** Continue nursery sowing / transplanting of rice in Coastal Karnataka and sowing of green gram, black gram, jowar and soybean in North Interior Karnataka. Undertake sowing of ginger, turmeric and drill sown rice in Uttar Kannada district. Take up sowing of cotton, nursery sowing of rice, sowing of hybrid jowar, maize, ragi, sugarcane, sunflower, groundnut, red gram and horticultural crops in South Interior Karnataka.
- **Tamil Nadu:** Undertake nursery preparation and transplanting of *Kuruvai* rice.
- **Andhra Pradesh:** Continue nursery sowing of rice in Chittoor, Cuddapah and Nellore districts. Start sowing of *kharif* crops like cotton, jowar, maize, ragi, castor, groundnut and pulses in coastal Andhra Pradesh, Telengana and undertake sowing of groundnut and castor in Rayalaseema.

Northeastern region

- **Assam:** Continue sowing of *sali* rice.
- **Arunachal Pradesh:** Undertake sowing / transplanting of *Jhum* and WRC rice, sowing of soybean, black gram and green gram.
- **Manipur:** Undertake sowing / transplanting of *kharif* rice, sowing of soybean and groundnut.
- **Mizoram:** Continue sowing of groundnut and soybean and nursery preparation of rice.
- **Meghalaya:** Undertake sowing and transplanting of *sali* rice in low and medium altitude areas.
- **Nagaland:** Continue nursery sowing of rice.
- **Tripura:** Continue nursery sowing of *aman* rice.

Western region

- **Maharashtra:** Nursery sowing of rice and *nagli* has been completed in Konkan region and Sub Montane zone. Undertake direct sowing of *kharif* rice and sowing of *kharif* groundnut, soybean, red gram, green gram and black gram in Kolhapur district of Madhya Maharashtra. In remaining districts of Madhya Maharashtra and the districts of North Marathwada, farmers are advised to undertake land preparation for jowar, groundnut and red gram utilizing recent rainfall and wait for further rain for sowing. Farmers of south Marathwada region are advised to undertake sowing of *kharif* soybean, red gram and cotton. Continue sowing of *kharif* soybean, redgram and cotton in Vidarbha region and undertake nursery sowing of *kharif* rice in East Vidarbha.
- **Gujarat:** Farmers are advised to undertake land preparation for nursery sowing of *kharif* rice and sowing of bajra, maize, pigeon pea and green gram and wait for further rain for sowing.

Eastern region

- **West Bengal:** Undertake nursery sowing of *aman* rice with the help of realized rainfall.
- **Sikkim:** Continue nursery sowing of rice.
- **Orissa:** Farmers are advised for direct seeding of rice, sowing of maize, cotton, arhar, ragi, groundnut and pulses and nursery sowing of *kharif* rice. Also undertake planting of fruit seedlings and *kharif* vegetables.
- **Bihar:** Continue nursery sowing of rice and sowing of *kharif* maize. Field preparation for sowing of arhar, groundnut, sesame, sunflower and castor.
- **Jharkhand:** Start nursery sowing of rice and sowing of maize, urad, arhar, pigeon pea and *kharif* vegetables viz. bhindi, French bean, tomato, cauliflower, cabbage etc.

Central region

- **Madhya Pradesh:** Start sowing of *kharif* crops viz. rice, soybean, maize, jowar, arhar and pulses in most parts of East Madhya Pradesh and undertake land preparation for sowing of *kharif* crops in West Madhya Pradesh and wait for sufficient rain for sowing.
- **Chhattisgarh:** Start nursery sowing of rice and sowing of soybean, maize, jowar, groundnut and urad.



Issued by

National Agrometeorological Advisory Service Centre
Agricultural Meteorology Division
India Meteorological Department, Shivajinagar, Pune.

The bulletin is also displayed in the website (<http://www.imdagrimet.gov.in>) of the Division

Executive Summary

There is no further advancement of southwest Monsoon during last week. However, good rainfall occurred over many districts in Assam, Arunachal Pradesh, Chhattisgarh, Bihar, Jharkhand, Orissa, West Bengal, Sikkim and Coastal Karnataka and over a no. of districts in East Madhya Pradesh, East Uttar Pradesh, Uttarakhand and Kerala.

Rainfall is likely to occur at most places over Kerala, Coastal Karnataka, Konkan and Goa, at many places over Sub Himalayan West Bengal and Sikkim and North Eastern States during next three days and at many places over North Interior Karnataka, Madhya Maharashtra, Marathwada, Telanagana, Coastal Andhra Pradesh, East Madhya Pradesh, Chhattisgarh, Orissa and Gangetic West Bengal after 24 hours. Farmers are advised to postpone irrigation, intercultural operation and application of fertilizers and plant protection measures in these States. Heavy rainfall would occur at one or two places over Assam, Meghalaya, Arunachal Pradesh, Sub Himalayan West Bengal, Sikkim, Kerala, coastal Karnataka and Konkan during next 48 hours. In view of occurrence of heavy rainfall, arrange for adequate drainage in crop fields in these regions to avoid stagnation of water.

Agromet Advisories for various States of different regions of the country are as follows:

Southern region

- **Kerala:** Continue sowing of direct seeded rice and nursery sowing / transplanting of *Virippu* rice. Also continue new plantation of coconut seedlings.
- **Karnataka:** Continue nursery sowing / transplanting of rice in Coastal Karnataka and sowing of green gram, black gram, jowar and soybean in North Interior Karnataka. Undertake sowing of ginger, turmeric and drill sown rice in Uttar Kannada district. Take up sowing of cotton, nursery sowing of rice, sowing of hybrid jowar, maize, ragi, sugarcane, sunflower, groundnut, red gram and horticultural crops in South Interior Karnataka.
- **Tamil Nadu:** Undertake nursery preparation and transplanting of *Kuruvai* rice.
- **Andhra Pradesh:** Continue nursery sowing of rice in Chittoor, Cuddapah and Nellore districts. Start sowing of *kharif* crops like cotton, jowar, maize, ragi, castor, groundnut and pulses in coastal Andhra Pradesh, Telengana and undertake sowing of groundnut and castor in Rayalaseema.

Northeastern region

- **Assam:** Continue sowing of *sali* rice.
- **Arunachal Pradesh:** Undertake sowing / transplanting of *Jhum* and WRC rice, sowing of soybean, black gram and green gram.
- **Manipur:** Undertake sowing / transplanting of *kharif* rice, sowing of soybean and groundnut.
- **Mizoram:** Continue sowing of groundnut and soybean and nursery preparation of rice.
- **Meghalaya:** Undertake sowing and transplanting of *sali* rice in low and medium altitude areas.
- **Nagaland:** Continue nursery sowing of rice.
- **Tripura:** Continue nursery sowing of *aman* rice.

Western region

- **Maharashtra:** Nursery sowing of rice and *nagli* has been completed in Konkan region and Sub Montane zone. Undertake direct sowing of *kharif* rice and sowing of *kharif* groundnut, soybean, red gram, green gram and black gram in Kolhapur district of Madhya Maharashtra. In remaining districts of Madhya Maharashtra and the districts of North Marathwada, farmers are advised to undertake land preparation for jowar, groundnut and red gram utilizing recent rainfall and wait for further rain for sowing. Farmers of south Marathwada region are advised to undertake sowing of *kharif* soybean, red gram and cotton. Continue sowing of *kharif* soybean, redgram and cotton in Vidarbha region and undertake nursery sowing of *kharif* rice in East Vidarbha.
- **Gujarat:** Farmers are advised to undertake land preparation for nursery sowing of *kharif* rice and sowing of bajra, maize, pigeon pea and green gram and wait for further rain for sowing.

Eastern region

- **West Bengal:** Undertake nursery sowing of *aman* rice with the help of realized rainfall.
- **Sikkim:** Continue nursery sowing of rice.
- **Orissa:** Farmers are advised for direct seeding of rice, sowing of maize, cotton, arhar, ragi, groundnut and pulses and nursery sowing of *kharif* rice. Also undertake planting of fruit seedlings and *kharif* vegetables.
- **Bihar:** Continue nursery sowing of rice and sowing of *kharif* maize. Field preparation for sowing of arhar, groundnut, sesame, sunflower and castor.
- **Jharkhand:** Start nursery sowing of rice and sowing of maize, urad, arhar, pigeon pea and *kharif* vegetables *viz.* bhindi, French bean, tomato, cauliflower, cabbage etc.

Central region

- **Madhya Pradesh:** Start sowing of *kharif* crops *viz.* rice, soybean, maize, jowar, arhar and pulses in most parts of East Madhya Pradesh and undertake land preparation for sowing of *kharif* crops in West Madhya Pradesh and wait for sufficient rain for sowing.
- **Chhattisgarh:** Start nursery sowing of rice and sowing of soybean, maize, jowar, groundnut and urad.

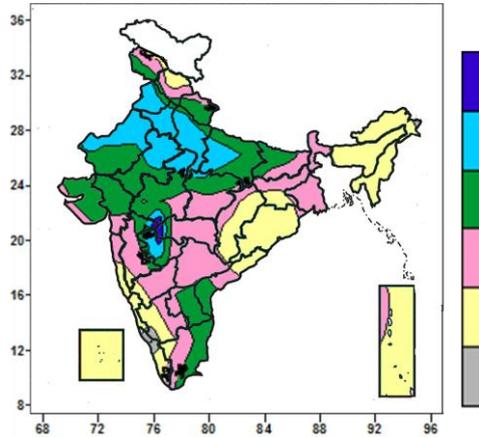
Northwestern region

Farmers are advised to undertake land preparation and sowing of following *kharif* crops as soon as monsoon arrives:

- Nursery sowing / direct sowing of rice and *kharif* pulses in Jammu & Kashmir.
- Nursery sowing / direct sowing of rice, sowing of sugarcane, finger millet, urad, moong, soybean and pulses in Uttarakhand.
- Nursery sowing of rice, sowing of cotton, soybean and urad, sunflower, jowar and bajra in Uttar Pradesh.
- Nursery sowing of rice, sowing of pulses, groundnut, maize, cotton, sorghum, soybean, pearl millet and castor in Rajasthan.
- Nursery sowing of rice and sowing of maize in Himachal Pradesh.
- Sowing of *kharif* rice, pulses, bajra, maize and vegetables in Delhi.
- Sowing of Desi and American cotton and nursery sowing for *kharif* rice and also sowing of maize, bajra in Punjab and Haryana.

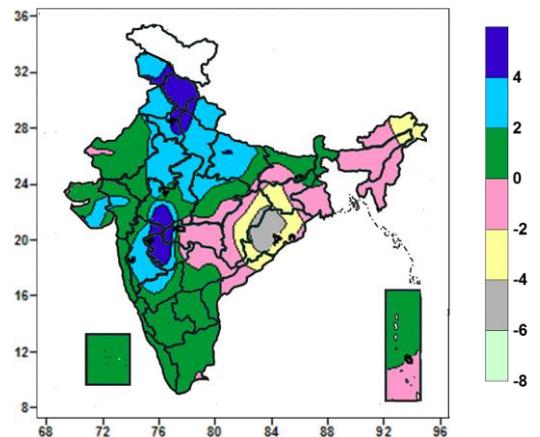
Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 27.06.2012

Actual Mean Maximum Temperature (°C) in India for the week ending 27.06.2012



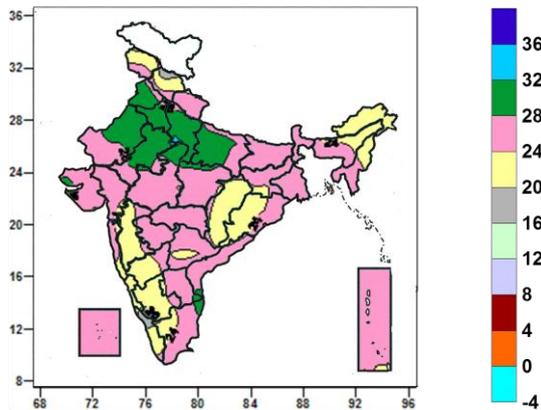
Actual Mean Maximum temperature ranged 40⁰C and above over West Madhya Pradesh, Marathwada, 36 to 40⁰C and above over most parts of Northwest India except (Jammu & Kashmir, Himachal Pradesh, Uttarakhand, South Rajasthan), 32 to 36⁰C over most parts of Uttarakhand, Bihar, Rajasthan, Gujarat, Saurashtra & Kutch, Madhya Pradesh, Coastal Andhra Pradesh, Raylaseema, Coastal Tamil Nadu, some parts of Northwest India, Madhya Maharashtra, Marathwada, Vidarbha and 24 to 32⁰C over remaining parts of the country.

Maximum Temperature (°C) Anomaly in India for the week ending 27.06.2012



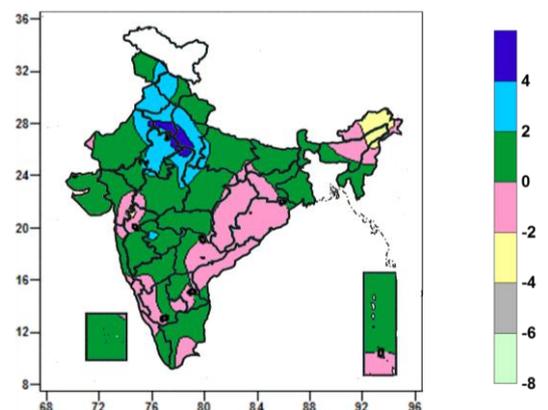
Actual Mean Maximum temperature anomaly ranged between 4⁰C and above over most parts of Himachal Pradesh, Marathwada, some parts of Jammu & Kashmir, Uttarakhand, East Uttar Pradesh, Punjab, Haryana, West Madhya Pradesh, 2 to 4⁰C over most parts of Jammu & Kashmir, Uttarakhand, Punjab, Haryana, Delhi, Uttar Pradesh, East Rajasthan, Madhya Maharashtra, some parts of West Rajasthan, Gujarat, Kutch, Madhya Pradesh, Marathwada, North Interior Karnataka, -6 to 0⁰C over rest of the country.

Actual Mean Minimum Temperature (°C) in India for the week ending 27.06.2012



Actual Mean Minimum Temperature ranged between 28 to 32⁰C over most parts of Punjab, Haryana, Delhi, Uttar Pradesh, Rajasthan, some parts of Madhya Pradesh, Saurashtra & Kutch, Coastal Andhra Pradesh, Rayalaseema, Tamil Nadu and between 16 to 28⁰C over remaining parts of the country.

Minimum Temperature (°C) Anomaly in India for the week ending 27.06.2012



Minimum Temperature anomaly ranged 4⁰C and above over some parts of Haryana, West Uttar Pradesh, Rajasthan, West Madhya Pradesh, 2 to 4⁰C and above over many parts of Himachal Pradesh, Punjab, Haryana, Delhi, West Uttar Pradesh, East Rajasthan, some parts of Jammu & Kashmir, West Rajasthan, Madhya Pradesh, Marathwada, -4 to 2⁰C over remaining parts of the country.

Distribution of rainfall of the country during week ending on 27.06.2012

| State/Districts | Actual (mm) | (% Dep.) | | | |
|----------------------------|-------------|----------|---------------------------|-------|------|
| Arunachal Pradesh | | | Shahdol | 0.0 | -100 |
| Changlang | 118.4 | -30 | Sidhi | 11.6 | -75 |
| East Kameng | 356.0 | 203 | Singrauli | 73.2 | 44 |
| East Siang | 73.5 | -14 | Tikamgarh | 0.0 | -100 |
| Kurung Kumey | 619.0 | 208 | Umaria | 1.8 | -97 |
| Lohit | ** | ** | Chattisgarh | | |
| Lower Dibang Valley | 312.3 | 135 | Bastar | 53.8 | -34 |
| Lower Subansiri | ** | ** | Bijapur | 24.8 | -69 |
| Papumpara | 54.0 | -9 | Bilaspur | 46.5 | -28 |
| Tawang | 379.2 | 128 | Dantewara | 27.8 | -62 |
| Tirap | 130.0 | -25 | Dhamtari | 60.8 | -1 |
| Upper Dibang Valley | 91.9 | -48 | Durg | 122.4 | 69 |
| Upper Siang | 645.5 | 198 | Janjgir | 108.9 | 91 |
| Upper Subansiri | ** | ** | Jashpurnagar | 155.8 | 82 |
| West Kameng | 175.5 | 1 | Kanker | 46.6 | -43 |
| West Siang | 139.0 | 40 | Korba | 54.6 | -18 |
| Assam | | | Koriya | 15.2 | -74 |
| Baksa | 305.3 | 87 | Kawardha | 80.0 | 36 |
| Barpeta | 404.9 | 148 | Mahasumund | 118.3 | 85 |
| Bongaigaon | 615.8 | 347 | Narayanpur | 45.0 | -38 |
| Cachar | 207.1 | 58 | Raigarh | 117.4 | 83 |
| Chirang | 515.9 | 275 | Raipur | 74.1 | 16 |
| Darrang | 192.0 | 79 | Rajandgaon | 43.7 | -39 |
| Dhemaji | 128.0 | -4 | Surguja | 93.4 | 25 |
| Dhubri | 335.0 | 157 | East Uttar Pradesh | | |
| Dibrugarh | 115.4 | 0 | Allahabad | 4.4 | -82 |
| East Garo Hills | 366.0 | 330 | Ambedkar Nagar | 16.5 | -43 |
| East Khasi Hills | 742.2 | 100 | Azamgarh | 14.0 | -53 |
| Goalpara | 350.4 | 155 | Bahraich | 38.3 | -24 |
| Golghat | 111.7 | 82 | Ballia | 34.6 | 15 |
| Hailakandi | 111.8 | 13 | Balrampur | 53.1 | 34 |
| Jaintia Hills | 378.0 | 17 | Banda | 12.7 | -60 |
| Jorhat | 96.7 | 37 | Barabanki | 7.5 | -76 |
| Kamrup(Metro) | 179.8 | 85 | Basti | 30.4 | -16 |
| Kamrup | 230.2 | 137 | Chandauli | 5.4 | -79 |
| Karbi Analog | 122.5 | 129 | Deoria | 6.0 | -83 |
| Karimganj | 199.2 | 34 | Faizabad | 9.3 | -74 |
| Kokrajhar | 556.6 | 170 | Farrukhabad | 0.0 | -100 |
| Lakhimpur | 200.9 | 51 | Fatehpur | 9.5 | -67 |
| Morigaon | 173.8 | 93 | Gazipur | 2.8 | -91 |
| N.C.Hills | ** | ** | Gonda | 24.7 | -50 |
| Nowgong | 85.5 | 13 | Gorakhpur | 37.3 | -25 |
| Nalbari | 297.2 | 127 | Hardoi | 2.2 | -93 |
| Ribhoi | 109.1 | 16 | Jaunpur | 1.2 | -95 |
| Sonitpur | 208.5 | 162 | Kannauj | 0.0 | -100 |
| Sibsagar | 79.4 | 23 | Kanpur City | 0.7 | -96 |
| South Garo Hills | 175.0 | 78 | Kanpur Dehat | 0.0 | -100 |
| Tinsukia | 118.6 | 10 | Kaushambi | 0.0 | -100 |
| Udalgiri | ** | ** | Kheri | 93.1 | 88 |
| West Garo Hills | 269.2 | 173 | Kushi nagar | 16.3 | -67 |
| West Khasi Hills | 518.0 | 163 | Lucknow | 1.5 | -95 |
| East Madhya Pradesh | | | Maharajganj | 21.5 | -59 |
| Anuppur | 18.2 | -74 | Mau | 8.5 | -74 |
| Balaghat | 27.4 | -67 | Mirzapur | 2.3 | -93 |
| Chhatarpur | 2.5 | -93 | Pratapgarh | 0.0 | -100 |
| Chindwara | 8.3 | -85 | RaiBareilly | 8.5 | -63 |
| Damoh | 34.3 | -25 | Sahuji Maharajnagar | 0.0 | -100 |
| Dindori | 6.6 | -92 | Sant Kabirnagar | 33.0 | -34 |
| Jabalpur | 47.5 | -1 | Sant Ravidas Nagar | 0.0 | -100 |
| Katni | 13.0 | -71 | Shrawasti | 112.2 | 122 |
| Mandla | 19.5 | -71 | Sidharthnagar | 38.3 | -9 |
| Narsingpur | 8.9 | -81 | Sitapur | 0.4 | -99 |
| Panna | 18.4 | -58 | Sonbhadra | 38.3 | -21 |
| Rewa | 2.4 | -95 | Sultanpur | 0.0 | -100 |
| Sagar | 7.2 | -86 | Unnao | 0.0 | -100 |
| Satna | 14.7 | -70 | Varanasi | 27.2 | -14 |
| Seoni | 8.9 | -87 | Uttarakhand | | |
| | | | Almora | 12.2 | -76 |
| | | | Bageshwar | 45.3 | -10 |
| | | | Chamoli | 43.4 | 28 |
| | | | Champawat | 10.5 | -88 |
| | | | Dehradun | 49.1 | -21 |
| | | | Garhwal Pauri | 5.8 | -88 |
| | | | Garhwal Tehri | 11.3 | -73 |
| | | | Haridwar | 20.6 | -36 |
| | | | Nainital | 50.5 | -27 |
| | | | Pithorgarh | 65.0 | -28 |
| | | | Rudraprayag | 92.6 | 21 |
| | | | Udham Sing Nagar | 11.4 | -76 |
| | | | Uttarkashi | 28.2 | -49 |
| | | | Bihar | | |
| | | | Araria | 71.9 | 24 |
| | | | Arwal | 53.8 | 93 |
| | | | Aurangabad | 74.8 | 73 |
| | | | Banka | 28.6 | -34 |
| | | | Begusarai | 55.0 | 3 |
| | | | Bhabua | 10.0 | -81 |
| | | | Bhagalpur | 19.8 | -65 |
| | | | Bhojpur | 99.0 | 196 |
| | | | Buxar | 5.4 | -87 |
| | | | Darbhangha | 10.5 | -75 |
| | | | East Champaran | 78.4 | 79 |
| | | | Gaya | 80.9 | 89 |
| | | | Gopalganj | 93.0 | 129 |
| | | | Jahanabad | 41.8 | 53 |
| | | | Kathihar | 24.5 | -54 |
| | | | Khagadia | 14.9 | -73 |
| | | | Kishanganj | 124.3 | 16 |
| | | | Lakhisarai | 60.8 | 50 |
| | | | Madhepura | 37.8 | -30 |
| | | | Madhubani | 20.1 | -59 |
| | | | Monghyar | 45.6 | 13 |
| | | | Muzaffarpur | 18.4 | -57 |
| | | | Nalanda | 78.7 | 74 |
| | | | Nawada | 19.0 | -53 |
| | | | Patna | 5.9 | -87 |
| | | | Purnea | 54.4 | -11 |
| | | | Rohtas | 22.7 | -45 |
| | | | Samstipur | 11.6 | -77 |
| | | | Saran | 29.0 | -20 |
| | | | Sheikpura | 16.0 | -64 |
| | | | Sheohar | 69.0 | 18 |
| | | | Sitamarhi | 42.7 | -27 |
| | | | Siwan | 17.9 | -50 |
| | | | Supaul | 71.2 | 51 |
| | | | Vaishali | 8.4 | -79 |
| | | | West Champaran | 66.8 | 2 |
| | | | Jharkhand | | |
| | | | Bokaro | 67.2 | 12 |
| | | | Chatra | 81.7 | 56 |
| | | | Deoghar | 47.5 | -8 |
| | | | Dhanbad | 56.6 | -9 |
| | | | Dumka | 69.4 | 19 |
| | | | East Singbhum | 115.4 | 66 |
| | | | Garhwa | 0.0 | -100 |
| | | | Giridih | 51.8 | -14 |
| | | | Godda | 53.1 | -5 |
| | | | Gumla | 214.8 | 243 |
| | | | Hazaribagh | 128.5 | 152 |
| | | | Jamtara | 98.0 | 68 |
| | | | Khunti | 113.0 | 72 |
| | | | Koderna | 175.0 | 268 |
| | | | Latehar | 96.4 | 100 |
| | | | Lohardagga | 152.7 | 135 |
| | | | Pakur | 91.4 | 42 |
| | | | Palamau | 38.1 | -19 |
| | | | Ramgarh | 34.6 | -32 |
| | | | Ranchi | 78.6 | 19 |

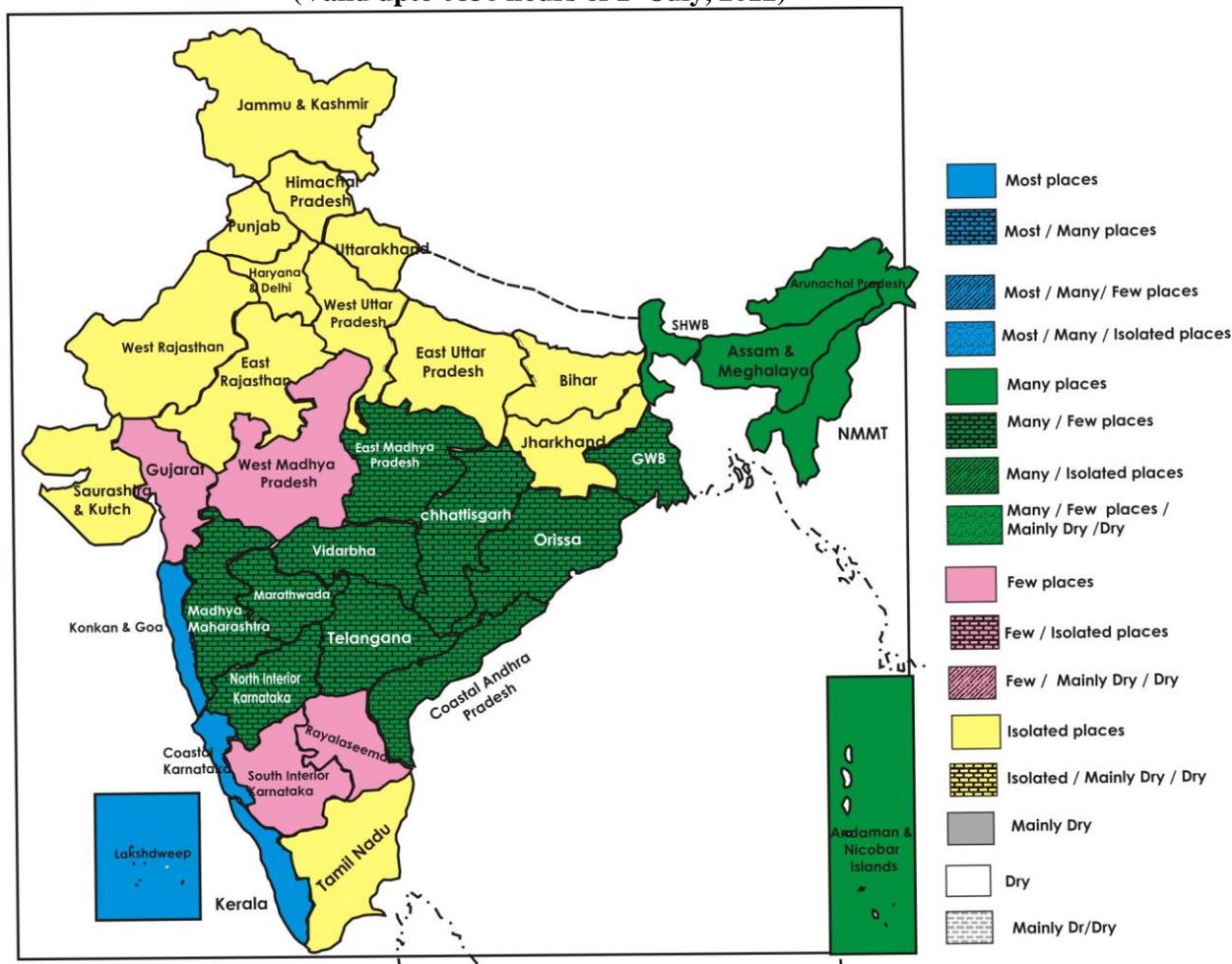
| | | |
|---------------------------|-------|------|
| Sahebganj | ** | ** |
| Saraikele | 78.9 | 27 |
| Simdega | 147.5 | 112 |
| West Singhbhum | 98.8 | 67 |
| Maharashtra | | |
| Konkan & Goa | | |
| Goa | 247.3 | 0 |
| Mumbai | 57.9 | -68 |
| Raigad | 90.7 | -60 |
| Ratnagiri | 142.7 | -47 |
| Sindhudurg | 217.6 | -18 |
| Thane | 70.8 | -56 |
| Madhya Maharashtra | | |
| Ahmednagar | 1.9 | -93 |
| Dhule | 0.2 | -99 |
| Jalgaon | 0.9 | -98 |
| Kolhapur | 49.5 | -56 |
| Nandurbar | 0.4 | -99 |
| Nasik | 13.3 | -73 |
| Pune | 20.0 | -59 |
| Sangli | 3.7 | -86 |
| Satara | 24.6 | -37 |
| Solapur | 5.9 | -73 |
| Marathwada | | |
| Aurangabad | 0.5 | -99 |
| Beed | 10.0 | -67 |
| Hingoli | 2.8 | -96 |
| Jalna | 0.0 | -100 |
| Latur | 10.2 | -75 |
| Nanded | 3.8 | -92 |
| Usmanabad | 5.4 | -83 |
| Parbhani | 1.8 | -96 |
| Vidarbha | | |
| Akola | 0.0 | -100 |
| Amraoti | 0.6 | -99 |
| Bhandara | 19.4 | -72 |
| Buldhana | 0.3 | -99 |
| Chandrapur | 19.4 | -72 |
| Gadchiroli | 34.3 | -55 |
| Gondia | 21.8 | -68 |
| Nagpur | 8.0 | -88 |
| Wardha | 16.4 | -76 |
| Washim | 1.0 | -98 |
| Yeotmal | 5.4 | -91 |
| Orissa | | |
| Angul | 79.0 | 20 |
| Balasore | 68.5 | 6 |
| Bargarh | 196.7 | 237 |
| Bhadrak | 14.0 | -78 |
| Bolangir | 133.7 | 79 |
| Boudh | 129.1 | 106 |
| Cuttack | 35.0 | -49 |
| Deogarh | 83.7 | -5 |
| Dhenkanal | 54.0 | -27 |
| Gajapati | 81.0 | 81 |
| Ganjam | 41.0 | -3 |
| Jagatsingpur | 22.7 | -69 |
| Jajpur | 25.0 | -64 |
| Jharsuguda | 120.4 | 46 |
| Kalahandi | 105.3 | 10 |
| Kandhamal | 140.2 | 124 |

| | | |
|---------------------------------|-------|-----|
| Kendrapara | 8.2 | -85 |
| Keonjhar | 41.9 | -37 |
| Khurda | 45.8 | -25 |
| Koraput | 56.0 | -21 |
| Malkangiri | 29.6 | -68 |
| Mayurbhanj | 68.8 | -18 |
| Nawapara | 54.1 | -20 |
| Nawarangpur | 61.0 | -27 |
| Nayagarh | 55.6 | -16 |
| Puri | 36.7 | -30 |
| Rayagada | 90.1 | 104 |
| Sambalpur | 170.0 | 93 |
| Sonepur | 188.8 | 286 |
| Sundargarh | 128.7 | 80 |
| West Bengal | | |
| GWB | | |
| Bankura | 79.5 | 24 |
| Birbhum | 41.0 | -43 |
| Burdwan | 63.8 | 2 |
| East Midnapore | 48.9 | -23 |
| Hooghly | 76.7 | -11 |
| Howrah | 84.6 | 27 |
| Kolkata | 71.5 | -4 |
| Murshidabad | 46.2 | -28 |
| Nadia | 50.3 | -23 |
| 24 Pargana (N) | 46.3 | -34 |
| Purulia | 78.4 | 11 |
| 24 Pargana (S) | 76.6 | -2 |
| West Midnapore | 92.3 | 35 |
| SHWB | | |
| Cooch Behar | 207.7 | 41 |
| Darjeeling | 191.5 | 27 |
| East Sikkim | 137.1 | 1 |
| Jalpaiguri | 315.5 | 88 |
| Malda | 46.8 | -28 |
| North Dinajpur | 109.4 | -12 |
| North Sikkim | 195.9 | 63 |
| South Dinajpur | 180.8 | 165 |
| South Sikkim | 75.8 | -44 |
| West Sikkim | 143.0 | 19 |
| Karnataka | | |
| Coastal Karnataka | | |
| Dakshin Kannada | 145.8 | -47 |
| Udupi | 243.3 | -19 |
| Uttar Kannada | 170.0 | -18 |
| North Interior Karnataka | | |
| Bagalkote | 13.8 | -19 |
| Belgaum | 12.3 | -65 |
| Bidar | 14.7 | -62 |
| Bijapur | 7.7 | -61 |
| Dharwad | 14.9 | -45 |
| Gadag | 10.2 | -39 |
| Gulbarga | 27.0 | -5 |
| Haveri | 19.3 | -32 |
| Koppal | 16.3 | 6 |
| Raichur | 13.0 | -43 |
| Yadgir | 29.4 | -23 |
| South Interior Karnataka | | |
| Bangalore Rural | 9.9 | -17 |
| Bangalore Urban | 3.0 | -73 |
| Bellary | 11.9 | -20 |

| | | |
|-------------------------------|-------|-----|
| Chamarajnaragar | 0.9 | -91 |
| Chichballapur | 2.4 | -79 |
| Chickmagalur | 45.4 | -62 |
| Chitradurga | 5.9 | -34 |
| Davangere | 15.9 | -5 |
| Hassan | 6.5 | -79 |
| Kodagu | 37.4 | -76 |
| Kolar | 13.6 | 29 |
| Mandya | 0.7 | -92 |
| Mysore | 4.9 | -70 |
| Ramnagara | 1.0 | -92 |
| Shimoga | 78.8 | -23 |
| Tumkur | 2.8 | -71 |
| Kerala | | |
| Alappuzha | 21.4 | -83 |
| Kannur | 103.0 | -53 |
| Ernakulam | 45.8 | -72 |
| Idukki | 85.5 | -52 |
| Kasaragod | 93.1 | -65 |
| Kollam | 32.3 | -71 |
| Kottayam | 29.0 | -81 |
| Kozhikode | 99.8 | -53 |
| Malappuram | 86.1 | -46 |
| Palakkad | 85.1 | -31 |
| Pathanamthitta | 29.3 | -77 |
| Thiruvananthapuram | 17.6 | -73 |
| Thrissur | 83.8 | -54 |
| Wyanad | 45.4 | -77 |
| Andhra Pradesh | | |
| Coastal Andhra Pradesh | | |
| East Godavari | 34.0 | -14 |
| Guntur | 25.2 | 6 |
| Krishna | 39.2 | 6 |
| Nellore | 10.6 | -34 |
| Prakasam | 7.0 | -56 |
| Sirkakulam | 85.8 | 119 |
| Visakhapatnam | 25.6 | -32 |
| Vizianagram | 39.4 | 4 |
| West Godavari | 25.9 | -34 |
| Telangana | | |
| Adilabad | 8.5 | -86 |
| Hyderabad | 38.7 | 3 |
| Karimnagar | 5.8 | -87 |
| Khammam | 42.7 | -14 |
| Mehabubnagar | 15.3 | -39 |
| Medak | 45.0 | 6 |
| Nalgonda | 7.9 | -74 |
| Nizamabad | 16.0 | -65 |
| Rangareddy | 42.3 | 26 |
| Warangal | 34.2 | -25 |
| Rayalaseema | | |
| Anantapur | 4.4 | -50 |
| Chittoor | 7.8 | -41 |
| Cuddapah | 12.6 | -20 |
| Kurnool | 9.6 | -52 |

| | | | |
|---|----------------------------------|---|--------------------------------|
|  | (20% or more) excess rainfall |  | (-60 to -99 %) scanty rainfall |
|  | (-19 to +19%) normal rainfall |  | (-100%) no rainfall |
|  | (-20 to -59%) deficient rainfall |  | ** Data not available |

Weather Forecast (Valid upto 0830 hours of 1st July, 2012)



Major Feature of Weather Forecast up to 0830 hours IST of 1st July, 2012

- Rain/thundershowers would occur at most places over West coast and Lakshadweep.
- Rain/thundershowers would occur at many places over Sub-Himalayan West Bengal & Sikkim, Northeastern states and Andaman Nicobar Islands.
- Rain/thundershowers would occur at a few places over Orissa, Gangetic West Bengal, Chhattisgarh, Madhya Pradesh, interior Maharashtra, south Gujarat region, Andhra Pradesh and interior Karnataka during next 24 hours and increase thereafter.
- Rain/thundershowers would occur at one or two places over rest east India, Northwest India and Tamilnadu.

Weather Warning

- Heavy rainfall would occur at one or two places over Assam & Meghalaya, Arunachal Pradesh and Sub-Himalayan West Bengal & Sikkim, Kerala, coastal Karnataka and Konkan & Goa during next 48 hours.

Weather Outlook for subsequent 4 days up to 0830 hours IST of 5th July, 2012

- Rain/thundershowers would occur at many places over west coast and Northeastern states.
- Rain/thundershowers activity would continue at many places over Central, East and adjoining North peninsular India.
- Rain/thundershowers would occur at one or two places over remaining parts of the country.

Zonewise Agromet Advisories

NORTHEAST INDIA [ARUNACHAL PRADESH, NMM&T, ASSAM, MEGHALAYA]

- **Realised Rainfall:** Significant rainfall occurred in all the districts of the States of the region.
- **Rainfall Forecast:** Rain / thundershowers would occur at many places over the states of the region.
- **Warning:** Heavy rainfall would occur at one or two places over Assam & Meghalaya and Arunachal Pradesh during next 48 hours.
- **Advisories:**
 - As significant rainfall occurred over the States of the region during last week and rainfall is likely to occur at many places over the region during the period, farmers are advised to postpone irrigation, intercultural operation and application of pesticides and fertilizers to the standing crops. In view of occurrence of heavy rainfall at one or two places over Assam & Meghalaya and Arunachal Pradesh during next 48 hours, farmers are also advised to arrange for adequate drainage facilities to avoid stagnation of water.
 - Farmers of Assam are advised to continue nursery sowing of *sali* rice utilizing realized monsoon rainfall.
 - Farmers in the Central Brahmaputra Valley Zone of Assam are advised to continue land preparation and sowing of arhar.
 - Farmers in the Upper Brahmaputra Valley Zone of Assam are advised to continue sowing of vegetables utilizing realized rainfall.
 - Farmers of Barak Valley Zone of Assam are advised to apply the final top dressing of nitrogen in the standing *ahu* rice at the panicle initiation stage after removing all the weeds.
 - Farmers in Sub Tropical Hill Zone of Arunachal Pradesh are advised to continue transplanting of rice and sowing of black gram and green gram, soybean utilizing realized monsoon rainfall.
 - Farmers in Mild Tropical Hill Zone of Mizoram are advised to continue nursery preparation of rice and sowing of pigeon pea, soybean etc. utilizing realized monsoon rainfall.
 - Farmers in Mild Tropical Plain Zone of Tripura are advised to complete sowing of groundnut at the earliest and continue nursery sowing of *aman* rice.
 - Farmers in Temperate Sub Alpine Zone of Meghalaya are advised to continue transplanting of *sali* rice in low and medium altitude areas. Continue sowing of *sali* rice and soybean in high altitude region utilizing realized monsoon rainfall. The farmers, who could not be able to sow the seeds of early varieties of *sali* rice, can make arrangement to raise the seedlings by adopting 'Mat nursery' technique. Seedlings of such nursery become suitable for transplanting earlier and transplanting becomes easier using Drum Seeder etc. Otherwise, farmers can use late varieties for cultivation.
 - As maize at flowering stage is very susceptible to water logging, farmers in Mild Tropical Hill Zone of Nagaland are advised to arrange for adequate drainage to avoid water logging in the field.
 - Farmers of Sub tropical Plain Zone of Manipur are advised to continue sowing of *kharif* rice and complete sowing of soybean and groundnut.
 - Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
 - Due to congenial weather conditions, there is chance of attack of blast disease in *ahu* rice in Upper Brahmaputra Valley Zone of Assam; farmers are advised to monitor *ahu* rice and spray Bavistin @ 1 g per litre of water, if infestation is noticed above ETL.
 - As pesticide application is not feasible in rainy weather, farmers in the Central Brahmaputra Valley Zone of Assam are advised arrangement of Bamboo perch as an effective measure to control the hairy caterpillar and semi-looper in jute through predatory birds on jute.
 - Due to prevailing weather conditions there is chance of attack of leaf miner on *kharif* maize, French bean, rice bean and moong in Mild Tropical Hill Zone of Mizoram; farmers are advised to spray neem oil - garlic mixture.
 - Due to prevailing weather conditions, there is chance of attack of stem borer in upland rice in Mild Tropical Plain Zone of Tripura; farmers are advised to monitor the crop and spray Rogor or Monocrotophos @ 2 ml per litre of water, if infestation is noticed above ETL.
 - Apply plant protection measures in these States after current spells of rain.
 - Stages of major crops are mentioned in Annexure I.

- **Animal Husbandry**

- In North Bank Plain Zone of Assam, farmers are advised to vaccinate cattle & buffaloes against FMD, HS and BQ, pigs against swine fever.
- Farmers in Manipur are advised to deworm cattle, buffalo against *Fasciola spp.*, poultry against Ranikhet / Coccidiosis disease and pig against swine fever. Deworm goat against Fascioliasis.
- In Mild Tropical Hill Zone of Mizoram, due to congenial weather, there is chance of infection of gastrointestinal parasites disease in poultry and pig. Farmers are advised to maintain proper sanitary conditions of poultry sheds.
- As, during monsoon season, there is chance of infection by worms in calves in Mild Tropical Hill Zone of Nagaland, farmers are advised to take proper preventive measures against worms in calves.
- Farmers in Mild Tropical Plain Zone of Tripura are advised to vaccinate poultry against Ranikhet disease and maintain proper sanitary conditions of poultry sheds.

- **Pisciculture**

- Farmers of Upper Brahmaputra Valley Zone and Central Brahmaputra Valley Zone of Assam are advised to release spawn in their fisheries. Clean up the pond well before releasing prawn. Cow dung at the rate of 500 g per sq m. may be added at least 15 days ahead of releasing fingerlings into the ponds.
- Farmers of Barak Valley Zone of Assam are advised to release spawn in their fisheries. Necessary precautionary measures should be adopted so that embankments of the ponds are not submerged during flood.
- Farmers in Manipur and Mizoram are advised to keep pond free from unwanted vegetation and insects. During heavy shower, water should not drain directly into the pond. It should be passed through a bed of sand before draining.

EAST INDIA [JHARKHAND, BIHAR, ORISSA, WEST BENGAL & SIKKIM]

- **Realised Rainfall:** Significant rainfall occurred in most of the districts of West Bengal, Sikkim, Jharkhand (except Garhwa), Orissa (except Bhadrak, Jagatsingpur, Jajpur, Kendrapara and Malkangiri) and many districts of Bihar (except Banka, Bhabua, Bhagalpur, Buxar, Darbhanga, Kathihar, Khagadia, Madhubani, Muzaffarpur, Nawada, Patna, Rohtas, Samstipur, Saran, Sheikpura, Siwan and Vaishali).
- **Rainfall Forecast:** Rain / thundershowers would occur at many places over Sub-Himalayan West Bengal & Sikkim and at one or two places over Bihar and Jharkhand during the period. Rain / thundershowers would occur at a few places over Gangetic West Bengal and Orissa during next 24 hours and increase thereafter.
- **Warning:** Heavy rainfall would occur at one or two places over Sub-Himalayan West Bengal & Sikkim during next 48 hours.
- **Advisories:**
 - As Significant rainfall occurred in most of the districts of West Bengal, Sikkim, Jharkhand and Orissa and many districts in Bihar, farmers are advised to postpone irrigation in these districts. In view of occurrence of rainfall at many places in West Bengal, Sikkim and Orissa, farmers are advised to postpone intercultural operation and application of fertilizers and plant protection measures to the standing crops in these districts. As there is possibility of heavy rainfall at one or two places in Sub-Himalayan West Bengal & Sikkim, farmers are advised to arrange for adequate drainage facilities in the crop fields to avoid water stagnation.
 - Farmers of East and South Eastern Coastal Plain Zone of Orissa are advised to undertake sowing of maize, groundnut, arhar, ragi, cotton, direct seeded rice and nursery sowing of rice and commercial cultivation of fruit crops.
 - Farmers of Western Undulating Zone of Orissa are advised to complete sowing of direct seeded rice and continue sowing of maize, cotton, arhar etc.
 - Farmers of North Eastern Plateau Zone and North Central Plateau Zone of Orissa are advised to undertake planting of ginger and turmeric, sowing of rainy season vegetables like bhindi, French bean, tomato, cauliflower, cabbage etc.
 - Farmers of North Eastern Ghat Zone of Orissa are advised to undertake planting of turmeric, sowing of maize, arhar, ragi, cotton and commercial cultivation of fruit crops.

- Farmers in North West Alluvial Zone of Bihar are advised to undertake nursery sowing of long duration rice varieties, sowing of arhar in upland, *kharif* maize, bhindi, brinjal and also sowing of sorghum, bajra and maize as fodder. Intercropping of meth, lobia and rice bean with these crops will enhance the quality of the fodder.
- Farmers in South Bihar Alluvial Zone are advised to undertake nursery sowing of *kharif* rice and sowing of *kharif* arhar, til, sunflower, groundnut, castor and *kharif* fodder crops like jowar, bajra, meth, maize, kalai, boda and dinanath grass.
- In Central and North Eastern Plateau Zone of Jharkhand, farmers are advised to complete sowing of upland rice till 30th June and undertake short duration varieties of arhar, groundnut, rice, urad, turmeric, jowar, soybean and okra for inter cropping.
- Farmers in Western Plateau Zone of Jharkhand are advised to undertake sowing of different *kharif* crops like rice, urad, groundnut, arhar, maize and rainy season vegetables like bhindi, bean, French bean, tomato, cauliflower, cabbage etc.
- Farmers in New Alluvial Zone, Old Alluvial Zone, Terai Zone and Red Laterite Zone of West Bengal are advised to undertake nursery sowing of *aman* rice.
- Farmers in Terai Zone of West Bengal are advised to prepare seedbed for early cauliflower and use white polythine shed in the seedbed to protect from heavy rain and also transplant the seedlings of marigold (3-4 weeks of age and six leaf stage) into the main field utilizing recent rain.
- Farmers in Hill Zone of West Bengal are advised for nursery sowing of rice, planting of ginger and sowing of chirota.
- Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
- Fruit and Shoot borer in brinjal has been found in Jagatsingpur district in East and South Eastern Coastal Plain Zone and also in North Eastern Ghat Zone of Orissa. The farmers are advised to install Pheromone traps and spray Sevin WP @ 4 g or Malathion @ 2 ml per litre of water. Thrips in chilli has been found in North Eastern Ghat Zone of Orissa; spray Ethion @ 300 ml or Carbosulphan @ 400 ml or Chloropyrifos @ 400 ml in 200 litres of water / acre.
- Under prevailing weather situation, collar-rot and powdery mildew diseases may be seen in yam and sweet gourd in New Alluvial Zone of West Bengal. To control collar-rot, apply Carbendazim @ 1 g and Thiram @ 2 g together per litre of water. To control powdery mildew apply Tridomorf @ 1 ml or Dinocap @ 1 ml per litre of water.
- Under the present weather situation, attack of hairy caterpillar and mites in jute may be enhanced in Old Alluvial Zone of West Bengal. To control mite, farmers are advised to apply Dicofol @ 2 ml / litre of water and to control caterpillar, apply Monocrotophos @ 1 ml / litre of water.
- Stages of major crops are mentioned in Annexure I.

NORTHWEST INDIA [JAMMU & KASHMIR, HIMACHAL PRADESH, UTTARAKHAND, PUNJAB, HARYANA, DELHI, UTTAR PRADESH & RAJASTHAN]

- **Realised Rainfall:** No significant rainfall occurred in the region except Sirmaur in Himachal Pradesh, Kathua in Jammu & Kashmir, Bahraich, Ballia, Balrampur, Basti, Gorakpur, Kheri, Sant Kabirpur, Shraswati, Siddarth Nagar and Sonabadra in East Uttar Pradesh, Bageshwar, Chamoli, Dehradun, Nainital, Pithorgarh and Rudraprayag district in Uttarakhand.
- **Rainfall Forecast:** Rain/thundershowers would occur at isolated places over the region.
- **Advisory:**
 - As there was no significant rainfall occurred in the region except Sirmaur district in Himachal Pradesh, Kathua in Jammu & Kashmir, Bahraich, Ballia, Balrampur, Basti, Gorakpur, Kheri, Sant Kabirpur, Shraswati, Siddarth Nagar and Sonabadra in East Uttar Pradesh, Bageshwar, Chamoli, Dehradun, Nainital, Pithorgarh and Rudraprayag district in Uttarakhand, farmers are advised to apply irrigation to the standing crops. Farmers in the above mentioned districts are advised to postpone irrigation to the crops.
 - Farmers in East Rajasthan are advised for sowing of *kharif* crops like pearl millet, sorghum, cow pea, castor, irrigated groundnut, maize, cluster bean, jowar, soybean, moong, til, urd, arhar, moth (matki) etc. utilizing the rainfall realized during last two weeks. Farmers are also advised to complete sowing of groundnut as early as possible. Undertake field preparation for sowing of rice nursery and sowing can

be done upto 3rd week of July. In Flood Prone Eastern Plain Zone (Bharatpur) of Rajasthan, farmers are advised to raise nursery for monsoon season marigold using 700 g seed at 6 cm spacing and 2cm depth. Undertake pruning operation in ber. Pruning is necessary because as flower develop in axils of new shoots only.

- Farmers in West Rajasthan are advised to arrange farm inputs in advance so that timely sowing of these crops can be done at the onset of monsoon. Continue sowing of cucurbits like bitter gourd, water melon, pumpkin, cucumber, round gourd, ridged gourd and bottle gourd etc.
- In Sub Tropical Zone of Jammu and Kashmir, farmers are advised to complete transplanting of early varieties of brinjal, chilli and cauliflower crop. Farmers are advised to continue sowing of direct seeded rice crop and start transplanting of rice in main field, farmers are also advised to undertake sowing of maize crop in irrigated condition. Harvest grapes, phalsa, plum, peach and litchi crops timely.
- In Cold Arid Zone of Jammu & Kashmir, farmers are advised to harvest Pakchoi, Chinese cabbage, kale, lettuce, broccoli, coriander, Methi, turnip, radish and mints etc. utilising relatively dry weather likely during next three days.
- In Intermediate zone of Jammu & Kashmir, farmers are advised to undertake nursery sowing of bhindi, pumpkin, bittergourd, bottlegourd and sponge gourd. It is also advised to sow radish, carrot, turnip, spinach, beans, methi, knol-khol and cabbage and to start transplanting of brinjal, Knolkhol, chillies, cabbage, cauliflower in Intermediate Higher Zone. Farmers are advised to transplant seedlings of rice at 4-6 leaf stage and sowing of maize.
- In Valley Temperate zone of Jammu & Kashmir, farmers are advised to undertake top dressing in rice, maize and *kharif* pulses after weeding. Harvest onion and also *rabi* vegetable crops and collect the seeds for next season.
- Farmers in East Uttar Pradesh are advised to irrigate standing crops (viz. sugarcane, vegetables etc). If irrigation facility is not there then advised to mulch the crops to conserve moisture. Also advised to prepare field utilizing realized rainfall during last week and continue sowing of urad, maize, soyabean, arhar, cotton, sunflower, jowar, bajra and vegetables like okra, cucumber, pumpkin, tomato, cabbage, chilly, bhendi, (maize, lobia, Sanai and Dhaincha) as a green fodder purpose. Also start land preparation and nursery sowing of rice and onion with irrigation facilities. Apply top dressing, weeding, hoeing may be done in sugarcane, vegetables in East Uttar Pradesh. Farmers in West Uttar Pradesh are advised to prepare field utilizing realized rainfall during previous weeks and arrange inputs like seed, fertilizer and fertilizer to take up sowing of *kharif* crops on onset of monsoon.
- In High Hill Temperate Dry Zone of Himachal Pradesh, farmers may continue sowing of peas, potato, vegetables only in valley (cauliflower / cabbage / lettuce), capsicum / tomato planting in polyhouse and also advised to irrigate daily or at least in alternate day.
- In Himachal Pradesh, farmers are advised for continue land preparation/sowing of rice nursery and maize with available irrigation facilities. Direct sowing of rice and maize, soybean as an intercropping with maize may be completed. In high hill dry temperate zones improved grasses and legumes may be planted and also peas, potato, french bean, turnip, radish, carrot, sugar beet, palak, opla and phafra sowing may be completed and also undertake sowing of rajmash, ragi, phafra and amaranthus. Hybrid chari may also be planted in lower region. It is time for transplanting of vegetables like tomato, brinjal, capsicum, chillies and sowing of bhindi, khira, bitter gourd, tori and pepper.
- In Uttarakhand, farmers are advised to maintain shallow water level in rice nursery for proper seedling establishment. Do bunding all around the field in order to store rainwater in the field. Due to expected rainfall during this week and favourable temperature conditions, farmers are advised to start sowing of soybean with improved varieties. Also advised to continue nursery sowing/transplanting of rice seedlings, sorghum, millets, groundnut, pigeon pea, urad, moong, soyabean, rajma, okra, finger millets and arhar. Remove weeds from early sown crops. Also, advised to continue sowing of maize and ginger in Hill Zone of Uttarakhand.
- In view of present weather conditions, farmers in Delhi are advised to provide irrigation to vegetable crops in evening hours. Farmers without irrigation facilities are advised to wait for sufficient rainfall to transplant paddy seedling. Conserve rain water in the field by proper bund making. Prepare nursery for early cauliflower and brinjal. Farmers are advised for field preparation for sowing of guar, bajra, maize, cluster bean, spinach, amaranthus and ladyfinger. Sow cucurbits crops in raised bed. Undertake sowing of baby corn (HM-4) and sweet corn in this week.

- Farmers in Punjab and Haryana are advised to continue transplanting of rice with available irrigation facilities. Apply light irrigation in rice nursery as per the requirement of the crop. As weather is expected to remain dry in coming days, farmers are advised to irrigate the sugarcane crop at 7-12 days interval. Start sowing of maize and okra varieties. Start the sowing of guar and bajra crop with certified seed in irrigated areas. Farmers are advised to apply the irrigation to cotton as per the requirement. Conserve the moisture in the cotton crop by intercultural operations and hoeing.
- Undertake sowing of *kharif* fodders at regular intervals for continuous supply of sufficient green fodder. Irrigate the fodder crops regularly. Irrigate the standing vegetable crops once in a week, however, in light soils, the interval may be reduced to 4 to 5 days. The newly planted young and tender plants should be protected from hot weather by giving white-washing or wrapping over the exposed trunk portions.
- Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**
 - In Sub humid sub tropic of Uttarakhand, it is advised to vaccinate the animals for various diseases as they are more prone to diseases in this weather. For the control of cough use piperazine citrate @50-30 ml/animal.
 - In Sub-Tropical Zone of Jammu & Kashmir, farmers are advised to go for vaccinate the animal against foot and mouth diseases. In Valley Temperate Zone of Jammu & Kashmir, it is advised to provide cool and fresh drinking water to the livestock as there is increase in the day temperature, ventilation within the shed should be improved. Low energy diets should be provided to animals.
 - In Himachal Pradesh, it is high time for vaccination of animals against FMD as animals are shifting from plain to higher reaches. Weather is conducive for ticks and mites attack on animals for control spray Butox @ 2.0 ml per litres of water. Sprinkle water on animals to reduce the heat stress and ensure proper drinking water.
 - In Flood Prone Eastern Plain Zone (Bharatpur) of Rajasthan, there are chances of fruit fly attack in cucurbits. Farmers are advised to spray Melathion 50 EC@15 ml /10 litre water during morning hour or evening hours at 15 days interval. Prepare insect trap by mixing 10 ml Melathion 50 EC in 1 litre solution. Keep several traps at random places.
- **Floriculture :**
 - In valley temperate zone of Srinagar in Jammu & Kashmir, farmers are advised to complete transplanting of summer and autumn blooming flower crops. Start harvesting of flowers of tulip and other spring flowering bulbs. Propagate chrysanthemum and dahlia by stem cuttings and also remove growing tips to encourage side growth. Continue mowing and keep the lawn edges in trim. House plants should be watered liberally.
 - In Mid-Hills Sub-Humid Zone of Himachal Pradesh, apply mulching in the crops planted in open fields like marigold, chrysanthemum and gladiolus. Irrigate the fields thoroughly in the evening.
- **Apiculture :**
 - In Sub Tropical (Chatha) and Intermediate (Pahalgam) Zone of Jammu & Kashmir, it is advised to provide clean water during these days due to increase in temperature. Keep bee colonies in shade or cover with wet gunny bags. Provide ventilation by placing a small stock in between brood chamber. Kill wasps with a wooden flapper and also by dusting or spraying with insecticides. Keep hives on stands to avoid ant attack.

SOUTH INDIA [TN, AP, KERALA, KARNATAKA, LAKSHADWEEP, ANDAMAN & NICOBAR ISLANDS]

- **Realised Rainfall:** Most of the districts in Kerala except Alapuzha and Thiruvananthapuram, all the districts in Coastal Karnataka, Chickmagalur, Kodagu and Shimoga districts in South Interior Karnataka, East Godavari, Krishna, Sirkakulam, Vizianagram districts in Coastal Andhra Pradesh, Hyderabad, Khammam, Medak, Rangareddy and Warangal in Telangana and Kanyakumari and Nilgiris districts in Tamil Nadu received sufficient rainfall. No significant rainfall occurred over the remaining parts of the region.
- **Rainfall Forecast:** Rain/thundershowers would occur at many places over Kerala and Coastal Karnataka, at a few places during next 24 hours over Rayalaseema, North Interior Karnataka and at many

places thereafter. Rainfall is likely at a few places over South Interior Karnataka, Coastal Andhra Pradesh and Rayalaseema and at one or two places over Tamilnadu. Heavy rainfall would occur at one or two places over coastal Karnataka and Kerala during next 48 hours.

● **Advisories:**

- Agromet advisories for these region are as follows:
 - Kerala: Continue sowing of direct seeded rice and nursery sowing / transplanting of Virippu rice. Also continue new plantation of coconut seedlings.
 - Karnataka: Nursery sowing/transplanting of rice in Coastal Karnataka and sowing of green gram, black gram, jowar and soyabean in North Interior Karnataka. Undertake sowing of ginger, turmeric and drill sown paddy in Uttar Kannada district. Take up sowing of cotton, nursery sowing of rice, sowing of hybrid jowar, maize, ragi, sugarcane, sunflower, groundnut, red gram and horticultural crops in South Interior Karnataka.
 - Tamil Nadu: Nursery Preparation and transplanting of Kuruvai rice.
 - Andhra Pradesh: Start sowing of kharif crops like cotton, jowar, maize, ragi, castor, groundnut and pulses.
- Farmers in the Coastal Zone of Karnataka are advised to undertake land preparation for transplanting paddy seedlings, drain out excess of water from SRI transplanted paddy field and undertake planting of cashew, mango, papaya and coconut as rainfall is likely at most places along with heavy rainfall at one or two places during next 48 hours.
- Farmers in the North East Transition Zone of Karnataka are advised to take up sowing of black gram, green gram, jowar and soybean first and then sowing of pigeon pea and also take up fresh plantation of fruit trees, teak, neem, tamarind, acacia or other trees which are useful to prepare the agricultural implements on the bunds, uncultivated and marginal land and make basins and give chemical fertilizer to the fruit crops.
- Farmers in the Southern Transition Zone of Karnataka are advised to go for transplanting of vegetable crops based on moisture conditions, undertake transplanting of arecanut seedlings with recommended spacing, prepare the land and raise the nursery beds and provide proper drainage for sowing of ginger and turmeric.
- As there was sufficient rainfall last week, farmers in the Central Dry Zone of Karnataka are advised to go in for sowing of paddy and maize.
- Farmers in the Cauvery Delta Zone of Tamil Nadu are advised to plough samba paddy fields and sow green manure crops by using the rainfall received in the last few days.
- Farmers in the South Zone of Tamil Nadu are advised to provide adequate irrigation to groundnut crop at pod development stage and in places where irrigation is available, raise green manure crops such as sunnhemp and daincha and incorporate at 50 % flowering stage.
- Farmers in the North Western Zone of Tamil Nadu are advised to undertake land preparation for planting of castor (YRTS-1) and red gram (CO-7).
- Farmers in the High Rainfall Zone of Tamil Nadu are advised to apply fertilizer on rubber clove nutmeg and banana, undertake planting of banana and provide latex shade to protect the quality of rubber.
- Farmers in the North Coastal Zone of Andhra Pradesh are advised to undertake sowing of green manure crops preceding to paddy and rainfed crops like groundnut and redgram and land preparation for rainfed sugarcane.
- Farmers in the Scarce Rainfall Zone of Andhra Pradesh are advised to undertake inter cropping of groundnut with red gram and cowpea and sowing of castor.
- Farmers in the Krishna Godavari Zone of Andhra Pradesh are advised to go for sowing of dry land crops, utilizing the realized rainfall. Farmers are also advised to go for medium duration varieties in view of slightly delayed *kharif* season (varieties mentioned in Annexure-I).
- Farmers in the Southern Telangana Zone of Andhra Pradesh are advised to take up sowing of rainfed crops like cotton, jowar, maize, groundnut, pigeonpea, greengram, etc., raise rice nursery of medium to long duration varieties. Take up sowing of sunhemp and dhaincha as in-situ green manure crop preceding rice and sow green gram as catch crop or green manure preceding rice in tanks and command areas where late release of water is expected.

- Farmers in the Northern Telangana Zone of Andhra Pradesh are advised to plough the field to allow the rainwater infiltration and incorporate green manures, green leaf manures, paddy stubble to decompose, taking the advantage of rainfall that occurred during last fortnight.
- Farmers in the Southern Zone of Kerala are advised to apply top dressing of fertilisers in transplanted rice after current spells of rain. Undertake planting of banana, turmeric, ginger, amorphophallus, fodder grasses etc. as intercrop in coconut gardens. Since there is a chance of strong winds, farmers in the Southern Zone of Kerala do propping for those banana plants in bunched stage.
- Farmers in the Problem Area Zone of Kerala are advised to undertake weeding and intercultural operations after current spells of rain. Land preparation for planting of brinjal, chilli and bhindi and inundate fresh water into the field wherever possible in order to reduce soil acidity.
- Farmers in the Coastal Zone of Karnataka are advised undertake plant protection measures to prevent leaf spot disease incidence in the paddy nursery and koleroga in arecanut, since high relative humidity favours attack of pests.
- Due to prevailing weather, sucking pest is noticed in cotton in the Southern Dry Zone of Karnataka. Coconut plants are also affected by stem bleeding. Farmers are advised to spray one month old cotton crop with 1.7 ml Dimethoate 30 EC or 2.0 ml methyl demeton in one liter of water to protect against sucking insects in coconut. Remove infected bark in coconut by sharp knife and apply 1% Bordeaux past to the cut portion to prevent stem bleeding.
- Farmers in the South Zone of Tamil Nadu are advised to spray streptomycin 50g and 150g copper oxy chloride/ hectare in 500 litre of water using hand sprayer and to control canker disease in citrus.
- In Southern Telangana Zone of Andhra Pradesh, incidence of shoot and fruit borer is noticed in brinjal and chaenophora blight is noticed in chillies. Farmers are advised to undertake plant protection measures to control it.
- Incidence of mealy bug in cotton and early blight in tomato is noticed in the Southern Zone of Andhra Pradesh. Farmers are advised to undertake plant protection measures.
- **Animal Husbandry**
 - Farmers in the Eastern Dry Zone of Karnataka are advised to take up silkworm and poultry rearing houses to maintain optimum room temperature and take care against the rapid increase in air temperature and decrease in relative humidity.
 - Farmers in the Problem Area Zone of Kerala are advised to vaccinate animals against Pasteurellosis (Bacterial infection) and undertake precautionary measures against Mastitis.
 - In the North Western Zone of Tamil Nadu, with the monsoon activity being low and increase in temperature and decrease in wind speed may cause heat stress in poultry, to reduce heat stress in birds farmers are advised to use foggers during the day time and use vitamin C and sodium bicarbonate salt in the poultry feed.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** All districts of Konkan, Kolhapur district of Madhya Maharashtra and Gadchiroli district of Vidarbha in Maharashtra and Tapi district in Gujarat received significant rain during last week.
- **Rainfall Forecast:** Rain is likely to occur at most places over Konkan, at a few places over Gujarat region and at isolated places over Saurashtra and Kutch region. Rain / thundershowers would occur at a few places over interior Maharashtra during next 24 hours and increase thereafter.
- **Warning:** Heavy rainfall would occur at one or two places over Konkan & Goa during next 48 hours.
- **Advisories:**
 - As rain is likely to occur at most places over Konkan and at many places over interior Maharashtra, farmers are advised to postpone irrigation, intercultural operation and application of fertilizers and plant protection measures.
 - Farmers in Konkan region are advised to complete remaining work of ploughing and puddling for transplanting of rice and finger millet, complete sowing of *kharif* groundnut, undertake sowing of vegetable crops like okra, cucumber, snake gourd, ridge gourd etc. and new plantation of mango, cashew, coconut and areca nut after current spells of rain.
 - Farmers in Kolhapur region are advised to complete drill sowing of *kharif* rice and continue sowing of *kharif* groundnut, soybean, red gram, green gram and black gram.

- In remaining districts of Madhya Maharashtra, farmers are advised to undertake land preparation for pearl millet, groundnut and red gram utilizing recent rainfall and wait for sufficient rain for sowing.
 - Farmers in Vidarbha region are advised to undertake nursery sowing of *kharif* rice in East Vidarbha utilizing recent monsoon rain. Farmers are also advised to continue sowing of *kharif* soyabean, redgram and cotton.
 - Farmers of Marathwada region are advised to undertake sowing of *kharif* soybean, red gram and cotton with the help of realized rainfall during last fortnight except Aurangabad, Beed, Jalna and Osmanabad districts. Farmers of above districts are advised to undertake land preparation and undertake sowing of *kharif* crops after receipt of sufficient rainfall.
 - As monsoon onset is yet to take place in most parts of Gujarat, farmers are advised to prepare land and keep the inputs ready and wait for sufficient rain for sowing.
 - Farmers in Middle Gujarat Zone are advised to prepare the soil for tobacco, cotton and castor nursery.
 - Farmers in Bhal and Coastal Zone of Gujarat are advised to prepare nursery for medium and late maturing varieties of *kharif* rice and prepare land for pearl millet and pigeon pea.
 - Farmers in North West Zone of Gujarat are advised to prepare land and arrange farm inputs for sowing of *kharif* crops like maize, sorghum, lucern-bajra, cowpea for green fodder.
 - Farmers in South Saurashtra Zone of Gujarat are advised to procure farm inputs for timely sowing of *kharif* crops. Undertake intercultural operation / hand weeding in irrigated groundnut crop.
 - Farmers in North Saurashtra Zone of Gujarat are advised to complete the premonsoon sowing of cotton and *kharif* groundnut with irrigation. Also prepare land for *kharif* cotton, bajra, groundnut, sesame, pulses and pigeon pea etc. and keep inputs ready for sowing. For new cultivation of horticulture crops dig out pits of proper size.
 - Taking advantage of prevailing weather conditions, farmers in South Gujarat Heavy Rainfall Zone are advised to carry out sowing of pearl millet, sesamum, hybrid cotton and black gram. Prepare nursery for *kharif* rice.
 - Farmers in North Gujarat Zone are advised to prepare the nursery for vegetables and apply light irrigation in already prepared nurseries to avoid moisture stress. Dig out the pits for horticultural crops before starting of regular monsoon. Procure farm inputs for *kharif* crops and carry out sowing on receipt of sufficient rainfall. As there is less possibility of rainfall, apply light irrigation and complete the gap filling if required to achieve higher yield in early sown irrigated cotton and groundnut crops.
 - Varieties of *kharif* crops are mentioned in Annexure II.
 - Due to subdued rainfall there may be wilting in irrigated cotton in North Madhya Maharashtra; infested plants may be uprooted and destroyed.
 - Stages of major crops are mentioned in Annexure-I.
- **Animal Husbandry:**
 - Vaccinate the animals in North Gujarat Zone and in South Gujarat Heavy Rainfall Zone for different diseases before onset of rainy season. Spray phenyl in the animal shed to avoid flies, mosquitoes etc.
 - Give Anthrax vaccination and give tablet for controlling karamia in North Saurashtra Zone.
 - Due to cloudy sky forecast in South Gujarat Heavy Rainfall Zone, make arrangement for artificial light in poultry to maintain egg production.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Significant rainfall occurred in Damoh, Jabalpur, Singrauli districts of East Madhya Pradesh and most of the districts of Chhattisgarh except Bijapur, Dantewara and Koriya. Mainly dry weather prevailed over rest part of the region.
- **Rainfall Forecast:** Rain/thundershowers would occur at a few places over West Madhya Pradesh. Rainfall is likely at a few places during next 24 hours over West Madhya Pradesh and Chhattisgarh and at many places thereafter.
- **Warning:** Nil.
- **Advisories:**
 - As significant rainfall occurred in Damoh, Jabalpur, Singrauli districts of East Madhya Pradesh and most of the districts of Chhattisgarh and rainfall is likely at many places in Chhattisgarh, postpone irrigation to the crops. As there was no significant rainfall in the remaining districts of East Madhya

Pradesh and no significant rainfall is likely, apply irrigation to the crops. Postpone irrigation to the crops in West Uttar Pradesh as rainfall at many places is likely after 24 hours.

- Farmers are advised to start sowing of *kharif* crops like rice, soyabean, maize, jowar, arhar and pulses in East Madhya Pradesh. Farmers in West Madhya Pradesh are advised to wait for sufficient rainfall to undertake sowing. Undertake sowing of rice, soyabean, maize, jowar, groundnut, urad, pigeonpea, black gram, green gram and prepare raised nursery beds for nursery sowing of *kharif* vegetables like tomato, brinjal and chilli in Chhattisgarh utilizing realized rainfall during last week.
 - Farmers in Kymore Plateau and Satpura Hills region of Madhya Pradesh are advised to prepare field for direct sowing of rice and raise nursery for paddy in irrigated conditions. Farmers are advised for sowing of *kharif* crops after first flash of monsoon rainfall of at least 4 inches. Nursery sowing of tomato, brinjal, onion, chilli, and cauliflower is also advised.
 - Farmers in Gird Zone of Madhya Pradesh are advised to prepare nursery for *kharif* onion and sow when there is sufficient moisture up to 8-10cm depth.
 - Farmers in Jhabua Hills of Madhya Pradesh are advised to prepare nursery for transplanted paddy, *kharif* onion, tomato and chilli. They are also advised to irrigate and give RDF in summer vegetables i.e. okra, cilli, tomato, brinjal etc. at proper time.
 - Farmers in Central Narmada Valley Zone of Madhya Pradesh are advised to provide irrigation in cucurbitaceous crops, okra, cowpea, and other vegetables. Farmers are advised for picking of okra and spinach. They are also advised to raise nursery for paddy in irrigated conditions.
 - Farmers in Vindhyan Plateau of Madhya Pradesh are advised to procure improved late sown varieties of seeds to take up sowing of soyabean, tur and rice. Undertake sowing when there is sufficient moisture up to 8-10cm depth.
 - Farmers in Nimar Valley of Madhya Pradesh are advised to prepare nursery for vegetables i.e. onion, brinjal, chilli, tomato and cauliflower etc.
 - Rainfall is received during last week in Bundelkhand Zone of Madhya Pradesh hence farmers are advised to plough their fields, for sowing of *kharif* crops.
 - Farmers in Satpura Plateau of Madhya Pradesh are advised to do field operations like weeding, intercultural, earthing, plant protection and irrigation in sugarcane crop. They are also advised to prepare nursery of vegetable crops like brinjal, tomato, cauliflower and onion etc.
 - Farmers in North Hill zone of Chhattisgarh are advised to prepare field and undertake sowing of maize upto 15th July utilizing the realized rainfall during last week. Farmers are advised to undertake sowing of arhar, maize, groundnut, jowar, ginger, turmeric and arbi. Farmers are advised to prepare the nursery for sowing of rice with irrigation facilities.
 - Farmers in Bastar plateau zone in Chhattisgarh are advised to prepare field and undertake sowing of *kharif* vegetables like bottlegourd, bittergourd, okra and short duration beans, cabbage, cauliflower utilising the realised rainfall during last week.
 - In Chhattisgarh plains zone, heavy to medium rainfall was recorded at many places during the week. In view of that, farmers are advised to prepare the fields and undertake sowing of *kharif* crops is advised undertake soybean, pigeon pea and other pulses in heavy soils (*Bharri khet*) and sowing of groundnut, black gram and green gram etc. in upland fields of light soils.
 - Farmers are advised for prepare seed bed and undertake sowing of rice with assured irrigation facilities (in tube well or canal irrigated areas). Provide drainage channels to drain out excess water in case of heavy rainfall.
 - Farmers are advised to provide adequate support to standing sugarcane crop of 5-6 feet height by tying them together to protect the crops from high winds during monsoon season.
 - Weather conditions are suitable for sowing of *kharif* vegetables. Farmers are advised for sowing of seeds of tomato, brinjal, chilli etc. in about 6” raised nursery beds.
- **Animal Husbandry & Poultry**
- Farmers in Kymore Plateau and Satpura Hills region, Satpura Plateau, Grid Zone, Central Narmada Zone and Malwa Plateau Zone of Madhya Pradesh are advised to provide plenty of cool potable water and fresh green fodder to the cattle.
 - Farmers in Central Narmada Valley Zone and Satpura Plateau regions are advised to vaccinate cattle against Anthrax disease, and arrange medicine against worm’s infection during rainy season.

Annexure I

Major Crops

NORTHEAST INDIA [ARUNACHAL PRADESH, NMM&T, ASSAM, MEGHALAYA]

- Sugarcane (vegetative), early *ahu* rice (direct seeded) (maturity / harvesting), *ahu* rice (transplanted) (tillering / panicle initiation), *sali* rice (nursery preparation / sowing), *olitorius* jute (vegetative), *capsularis* jute (vegetative / harvesting), cucurbits (vegetative / flowering / fruiting), ginger / turmeric (planting / vegetative), arhar (sowing), banana (planting) in Assam.
- *Jhum* and WRC rice (transplanting / early tillering), okra, cucurbitaceous vegetables (fruiting / harvesting), soybean (sowing / early vegetative) and green gram and black gram (sowing) in Arunachal Pradesh.
- *Kharif* rice (sowing), soybean, groundnut (sowing / early vegetative), *kharif* maize (early vegetative / vegetative), chilli (fruiting / harvesting), okra (fruiting / harvesting), soybean, groundnut (sowing), brinjal (sowing) in Manipur.
- *Sali* rice (nursery sowing/ transplanting), *ahu* rice (tillering / panicle initiation), soybean (sowing / vegetative), turmeric, ginger (vegetative / rhizome formation), jute (vegetative / branching), banana (planting) and vegetables like bottle gourd, ash gourd (fruiting / maturity), cauliflower, cabbage etc. (head formation / maturity) in Meghalaya.
- Rice (nursery preparation), soybean, pigeon pea (sowing / vegetative), *khasi* mandarin (flowering / fruiting), *kharif* maize (vegetative), French Bean, rice bean, moong (vegetative / flowering), okra (vegetative), *kharif* cucurbits (vegetative) and ginger / turmeric (planting) in Mizoram.
- Rice (nursery sowing / transplanting / vegetative), ginger, turmeric (vegetative), maize (vegetative), brinjal, chilli (vegetative) and banana (fruiting / harvesting) in Nagaland.
- *Aus* rice (tillering), upland *kharif* rice (tillering), *aman* rice (nursery preparation), groundnut (sowing), arhar (vegetative), maize (tasseling / silking), cucurbits (flowering / fruiting), okra (flowering / fruiting), summer vegetables like ridge gourd, bitter gourd, sweet gourd, gourd, etc. (fruiting) in Tripura.

EAST INDIA [JHARKHAND, BIHAR, ORISSA, WEST BENGAL &SIKKIM]

- Sugarcane (vegetative), fodder crops like sorghum, bajra, maize, meth, kalai, boda and dinanath grass (sowing), *kharif* rice (nursery sowing), *kharif* maize, *kharif* arhar, til, sunflower, groundnut, castor (sowing), bhindi, brinjal (sowing) in Bihar.
- Sugarcane (tillering), banana (vegetative), jute (early vegetative / vegetative), maize, groundnut, arhar, ragi, cotton, direct seeded rice, pulses, sunflower (sowing), transplanted *kharif* rice (nursery sowing), ginger and turmeric (planting), onion (nursery sowing), *kharif* vegetables like okra, French bean, tomato, cauliflower, cabbage etc. (sowing) and fruit crops (planting) in Orissa.
- *Aus* rice (sowing / tillering), *aman* rice (nursery sowing), jute (early vegetative / vegetative), Guava, mango, litchi (fruiting / harvesting), cauliflower (seedling), Marigold (seedling), okra and cucurbits (sowing) in West Bengal.
- Ginger (germination / early vegetative), orange (transplanting), large cardamom (vegetative / primary flowering / secondary flowering), vegetables (vegetative), rice (transplanting) in Sikkim.

NORTHWEST INDIA [JAMMU & KASHMIR, HIMACHAL PRADESH, UTTARAKHAND, PUNJAB, HARYANA, DELHI, UTTAR PRADESH & RAJASTHAN]

- Vegetables (bhindi, cucurbits), peas (sowing / germination), potato (planting / sprouting), mirch, brinjal (nursery sowing/ transplanting), cucurbits viz. cucumber, summer squash, khira, bitter gourd, bottle gourd (nursery sowing/transplanting), tur, Shimla mirch, and tomato (transplanting / seedling), apple and other temperate fruits (vegetative), radish, arbi, amaranthus, turmeric, maize, dhaincha, chari, bajra, barley, red and white clover, bell pepper, garlic, ginger, coriander, knolkhol, cabbage, cauliflower, lettuce (sowing / planting / germination), soybean (sowing), rice (nursery sowing) in Himachal Pradesh.
- Rice (Nursery sowing), late onion (vegetative), chilli, tomato, brinjal, spinach, tomato and cucurbits (vegetative and fruiting), French bean, cluster bean, summer radish, summer green gram (vegetative and fruiting), ladies finger (fruiting / maturity / harvesting), guar, maize, bajra, cluster bean as fodder crops (sowing), pigeon pea, cotton (sowing) in Delhi.

- Chilli, capsicum, cauliflower, broccolli (vegetative), sugarcane (planting), papaya (planting), sunflower (germination), Chaitee dhan, maize, lobia, sunhemp, cowpea, jowar for green fodder (early vegetative), garlic, cucurbits, okra(seedling), French bean, maize (seedling), rice (Nursery sowing / direct sowing / early transplanting), summer fodder (maize + cowpea + jowar) (sowing/ vegetative), maize (sowing / emergence / vegetative), turnip, cruciferous crop (viz. cabbage, cauliflower, knolkhol, kale, broccoli), radish, carrot, beet root, coriander and fenugreek (sowing), leafy vegetables like celery, Parsley and Leek, solanaceous crops viz. tomato, onion, brinjal and chilli, capsicum (nursery sowing/transplanting), Pakchoi, Chinese cabbage, Kale, Lettuce, Broccoli, Coriander, Methi, Turnip, Radish and Mints (harvesting in Leh), Horticultural crops (various stages) viz. [peach, plum & mango (flowering/fruited), ber, orange & guava (fruiting)], *kharif* pulses (sowing), radish, carrot, turnip, spinach, beans, methi and cabbage(sowing), brinjal, Knolkhol, chillies, cabbage, cauliflower (transplanting) in Jammu & Kashmir.
- Rice(transplanting), finger millets (sowing), groundnut, sorghum, millets, pigeon pea, urad, moong, soyabean, rajma, arhar, maize and ginger (land preparation/sowing) in Uttarakhand.
- Rice (land preparation / nursery sowing), sugarcane (vegetative growth), sunflower, fodder maize, lobia, (sowing / germination), Sanai, Dhaincha (sowing / early vegetative), summer sugarcane (tillering), cotton, soyabean and urd (sowing), sunflower, jowar, bajra, maize, arhar, (sowing), vegetables [cucumber, pumpkin, tomato, brinjal, cabbage, lady's finger, chilly](sowing) in Uttar Pradesh.
- Rice (Nursery sowing / transplanting), spring sugarcane (sprouting / tillering), radish (sowing), carrot, turnip, cauliflower (transplanting / vegetative), tomato, sunflower (sowing), cotton (sowing / early vegetative), okra, chilli, brinjal (sowing / transplanting) in Punjab.
- Rice (Nursery sowing / transplanting), Sugarcane (spring season) (early vegetative), barseem (vegetative / last cut), fodder ((maize + cowpeas) (vegetative)), moong, mash, pigeon pea (vegetative), cauliflower, cabbage, carrot, potato (transplanting), radish, cotton (sowing), turnip (sowing) in Haryana.
- Cauliflower, cabbage, onion (transplanting / germination), sugarcane (new planting), cotton (Desi kapas, B.T. kapas, Narma kapas, American Cotton) (land preparation / sowing), pearl millet, jowar and bajra mixed with guar, Sudan grass, oats, maize, sorghum etc. for green fodder (vegetative), mirch, simla mirch, guar, vegetable (tinda, water melon, pumpkin, cucumber, coriander, bhendi, ridge gourd) (sowing), *kharif* onion (nursery planting), *kharif* groundnut, rice (land preparation/sowing) other *kharif* crops viz. pearl millet, sorghum, maize, green gram, cowpea (field preparation / sowing) in Rajasthan.

SOUTH INDIA [TN, AP, KERALA, KARNATAKA, LAKSHADWEEP, ANDAMAN & NICOBAR ISLANDS]

- Sugarcane (ratooning), rice (nursery sowing/land preparation/transplanting), maize (land preparation/sowing), arecanut (flowering/maturity/ new transplanting), vegetables (transplanting), coconut (flowering/maturity), turmeric, ginger, green gram, black gram, tur, cowpea, bajra, sorghum (sowing), and horticultural crops (fruiting) in Karnataka.
- Sugarcane (vegetative / ratooning), vegetables (fruiting), rice (Nursery preparation), Cotton (vegetative), maize (sowing/vegetative), castor (sowing), *kharif* groundnut (sowing), ragi (sowing) and early sown groundnut (vegetative) in Andhra Pradesh.
- Pepper (flowering/new planting), ginger (planting/vegetative), rubber (tapping), irrigated banana (harvesting/ planting), cardamom (nursery/planting), sugarcane (grand growth), vegetables (nursery sowing/planting/seedling), *virippu* rice (nursery sowing/transplanting), cashew, coconut (new planting) in Kerala.
- Kuruvai rice (nursery sowing/transplanting), rice (tillering), cotton (maturity), groundnut (maturity), sugarcane (maturity), vegetables (flowering/fruited/harvest) in Tamil Nadu.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- Sugarcane new *adsali* (active tillering / elongation), sugarcane new pre-seasonal (active tillering), sugarcane new *suru* (early vegetative in Madhya Maharashtra and Marathwada), *kharif* rice (seedling in Konkan, Kolhapur division and germination / early seedlings in Pune division & East Vidarbha), cotton (sowing / germination in Marathwada and Vidarbha), soyabean (sowing / germination in Kolhapur

division and sowing in Marathwada and Vidarbha), groundnut (sowing / germination in Kolhapur division) in Maharashtra.

- Cotton (sowing), groundnut (sowing), *kharif* rice (nursery sowing), sugarcane (vegetative / elongation), vegetables (nursery sowing / seedling), black gram (sowing) in Gujarat.

CENTRAL INDIA [M.P., CHHATTISGARH]

- Rice (nursery sowing), maize, jowar, Arhar and soyabean (sowing) summer vegetables (fruiting), *kharif* vegetables i.e. tomato, brinjal, chilli etc (nursery sowing), fodder crops (sowing), onion (nursery sowing) in Madhya Pradesh.
- Sugarcane (planting/vegetative), groundnut (pod filling), sesame (late vegetative), ginger, turmeric, papaya, mango and guava (vegetative), onion (planting), vegetables (land preparation / sowing / vegetative), millet (sowing), tapioca, ginger, colocasia, discorea, elephant foot yam (planting) in Chhattisgarh.

Annexure II
List of Varieties

Assam

Sali rice: Ranjit, Bahadur, Peoli, Moniram, Pankaj, Kushal (**for typical lowland rice area**), Satya and Basundhara (**for medium lowland area**).

Ginger: Nadia, Karkai, Maran, Jorhat, Chaina.

Turmeric: Shillong type, CL-24, PTS-38, PCT-13, VK-145.

Pigeon pea : T-21.

Meghalaya

Soyabean: Clark-63, Bragg, Hill, Punjab-1, Hardee, Lee

Banana: Cheni Champa, MalBhog, Jahaji, Kaskol, Kaitkhun , Cavaendish.

Sali rice : RCPL-1-412, Bhalum, Shah Sarang

Mizoram

Rice : Buhsakei, Bhusanghar, Biahzin, Khairawal, Wonder Rice, IR 64, Ranjeet, PHB-71, IR 50, RCM-9

Manipur

Soybean : JS 335.

Groundnut : ICGS-76.

Tripura

Aman rice :Swarna Masuri, Naveen, Puja, Krishnahamsa.

Orissa

Okra: Utkal Gourav, Arka Anamika, Varsha Uphar, Parvani Kranti and all available hybrid varieties.

Ginger: Suprava, Suruchi and Suravi.

Kharif rice:

Early maturing varieties: Parijat, Khandagiri, Vandana, Jogesh, Siddant.

Medium maturing varieties: Pratikshya, Manaswini, Tapaswini MAS, Konark, Surendra, Lalata, Kharavela, Naveen, Surendra, MTU-1001, MTU1010, Abhisek.

Late maturing varieties: CR-1009, CR-1018, Ranidhan, Mrinalini, Swarna, RGL-2837, Ketakijoha, Moti, Padmini, Kanchana, Mahanadi, Jagabandhu.

For flash flood areas: Swarna Sub-1, Barsadhan.

Hybrid varieties: CRHR-32, Ajay, Rajalaxmi, BS6444G, JKRH-401, ARIZE 6444G, JKRH-3333.

Maize: Navjot, Shakti, Decan-107.

Arhar:

Early duration: Prabhat, Upas-120, ICPL-86012.

Medium duration: Asha, Visakha.

Fruit Crops:

Mango: Banganpalli, Totapuri, Subarnarekha, Nilam, Langrah, Dasher, Amrapalli.

Banana: Kabuli, Robusta, Patakapura, Champa, Gaja bantala, Batisha bantala.

Guava: Allahabad Safed, Lucknow -49, Banarasi Seedless.

Papaya: Kurg Honeydew, Coimbatore-1 & 2, Pusa Delicious, Pusa Majesty.

Coconut: Eastcoast Tall, Westcoast Tall, Andaman, Lakhsadeep, Java, Fiji.

Pine apple: Que, Queen, Simachalan and Maricius.

Cashew nut: Vengrulla 1.4, BPP-4.

Jackfruit: Kadua, Khajra and Singapor.

Cotton: MCU-5 and Sabita.

Ragi: Divyasingh, AKP-2, AKP-3, AKP-7, Godavari, Neelachal, Bhairavi, Shubhra, and Chilika.

Green gram: PDM-11 & 54, K-851, Blackgram-PU-19 & 30.

Groundnut: TMV-2, TAG 24, Smruti, Devi.

West Bengal

Aman rice: IET-4094, 2233, Ratna, Bikash, Kitish, Sasya-shree, IR-42, Swarna, Mashuri, IET-8002.

Jharkhand

Ginger: Vardhaman, Nadia.

Turmeric: Rajendra, Sonia.

Okra: Pusa A-4, Prabhani Kranti, Arka Anamika, Versha Uphar & Hybrid varieties like Sonal and Sarika.

Maize: Birsa Makka-1, Birsa Makka-1, Sawan-1 (Hybrid), HQPM (Hybrid).

Arhar: Birsa Arhar-1, Narendra Arhar-1, Bahar, ICPH-2671.

Upland rice: Vandana, Birsa Vikas Dhan -109 & Birsa Vikas Dhan -110.

Medium land rice: Anjali, Sahbhagi, Naveen, Lalat, Birsamati, Sugandha, BR-10, Pro-Agro 6444, IR-36, IR-64 etc.

Low land rice: Swarna (MTU-7029), Rajshree, Sambha Mahsuri (BPT-5204), Birsa Dhan- 202, Birsamati, Pro-Agro 6444.

Bihar

Kharif Rice: Rajshree, Rajendra Sweta, Rajendra Mansuri, Swarna Sub -1, MTU1001, MTU1010, Satyam, Kishori, BPT-5204, MTU7029, Hybrid, Sita, Sahbhagi Dhan.

Kharif maize: Suwan, Deoki, Shaktiman 1, Shaktiman 2, Sunkar makka 3, Ganga 11, Rajendra Mahsuri, DHM-117.

Himachal Pradesh :

Brinjal: Arka Nidhi, PPC

Shimla mirch: California wonder

Agetibhindi: P-8, Prabhnikranti, Arkaanamika,

Frenchbean: Contender

Pepper : Surjmukhi,

Rajmash: Triloki, Jwala, baspa Kailash

Raddish: japani white and early mino white,

Turnip: PTWG-1.

Cabbage: Himsona Cabbage Varun, Bahar, Bajrang, Green challenge.

Knolkhol : White Bina,

Cauliflower: Pride of India, Shweta, Madhuri, Himrani.

Peas: Angoori, PS1100/Azad1.

Cucumber : Kiyana seedless/243, Matgaura, Maliniseeded

Tomato : Naveen2000plus, Avtar, Solan hybrid 1 and 2,

Red capsicum : Natasha, Tanvi

Yellow capsicum : California wonder, bharat, solan sankar 1, Indira, Orivelle

Summer squash : Pusa Alankar Jacuni types.

Sarson : KBS3

Bhindi: P-8, Prabhini kranti, Arka anamika.

Soybean : Shivalik, Lee, Bragg and harit Soya.

Cowpeas : Himachal Lobia-1.

Jammu & Kashmir

Vegetable crops

Radish (var. Pusachetki, Japanese white & Pusareshmi), **carrot** (var. Pusakesar), **turnip** (var PTWG), **garlic** (var. local, large segmented), **spinach** (prickly seeded) and **methi** (P.E.B.K methi), **Cauliflower** (var. PusaDipali), **knolkhol** (White Vienna), **Broccoli** (Early green),

Bottle gourd (Pusa Summer Prolific Long, Punjab Komal, Punjab Round, Pusa Summer Prolific Round), **Sponge gourd** (Pusa Chikni, Pusa Supriya), **Ridge gourd** (Pusa Nasadar, Swaran Manjari, Pant Tori-I), **Bitter gourd** (Pusa Domousmi, Pusa Vishesh, Coimbatore Long, Pusa Hybrid- Kalyanpur Baramasi), **Cucumber** (Japanese Long, Straight Eight Poinsette), **Pumpkin** (Arka Suryamukhi, Arka Chandan), ginger (Local), **Knolkhol** (W. Vienna).

Brinjal : PPL, PPC, PPPR, **Chillies :** NP-46A, Pusa jawala

Beans : Contender, Pusa Parvati, Arka Komal

Field crops

Maize (unirrigated) : Super Composite (Mansar), C-6, Vijay, Him-123, Local Tall, [GS-2, Vijay, Mansar, C-5 and C-8 in mid to high altitude area (intermediate region)].

Rice (Irrigated): IET-1410, K-39, Ratna, PC-19, Jaya RR-8585, Basmati 370 and Ranbir Basmati, Hybrid: KRH-2, PHB-71, direct seeded rice crop (var. Jaya, RR-8585, PC-19, IET-1410 & Ratna)

Bhindi :Varsha Uphar, Pusa A-4 and Prabhani Kranti),Pumpkin (Arka Suryamukhi and Arka Chandan), Bittergourd (Pusa Domousami & Pusa Vishesh), Bottlegourd (Pusa Summer Prolific Long, Pusa Summer Prolific Round), Spongegourd (Pusa Chikni and Pusa Supriya)
Radish (var. Japanese white), Carrot (var. Nantes), Turnip (var. Purple Top White Globe), Spinach (var. All green),Beans (var.Contender, Pusa Parvati and Arka komal), Methi (var. Pusa Early Bunching and Kasuri methi).
Knol-khol (White Vienna and Purple Vienna) and Cabbage (Golden Acre and Pride of India). Brinjal (Pusa Purple Long, Pusa Purple Cluster), Cauliflower (Pusa Snowball, Pusa Snowball K-I)
Rice (var. IET – 1410, K-39, Ratna, China-1039, PC-19, Basmati, Jaya and RR-8585)
Intermediate higher zone (K-39, K-448, Giza-14, K-78 and K-332), K-84, K-39.

Punjab & Haryana

Punjab : Paddy : PR 118, PR 116, PR 114, PR 113, PR 111, PR 115.

Haryana : Paddy : PAU 201, PR 120, PR 118, PR 116, PR 114, PR 113, PR 111, PR 115.

Onion: Agri Found Dark Red, N 53

Okra: Pusa Sawani , PunjabPadmini ,Punjab 7 or 8.

Groundnut: SG 99 or M 522/SG 84

Radish: Pusa, chetki , Punjab Ageti

Maize: PMH 1, Prabhat , sweet corn , PMH 2, JH 3459, Kesri and Pearl Pop Corn.

Delhi

Paddy

Hybrid varieties: - K. R. H 2, PHB 71, Pant hybrid Dhan1, Narendra hybrid dhan 1, P R H 10, High yielding varieties- Pusa 44, Pant Dhan-4, Pant Dhan-10, Narendra Dhan-359, Pusa-834, Pusa basmati-1, Pusa improved basmati, Pusa sugandha-5, Pusa sugandha-4 (Pusa 1121), Ranvir basmati and Taravadi basmati.

Green gram: Pusa-9531, PusaVisal, PusaVaisakhi, PDM-11, SML-32, Pusa Ratna, Samrat

Black gram : Pant Urd 19, Pant Urd 30, Pant Urd 35, PDU1.

Maize: African Tall

Cluster bean: PusaKomal, PusaSukomal.

Radish: Pusa Chetki and R.R.W.T

Pigeon pea: Pusa-2001, Pusa-991 and Pusa-992.

Cotton: H-777, H-974, H-1098

Baby corn: HN-4

Uttarakhand

Rice : Saket-4, Govind, Narendra-80, Pant Dhan-6 & also the Scented Rice varieties like Pant Sugandh Dhan-15, Taravadi Basmati, Pusa Basmati-1, Pusa Basmati-1401, Type-3, Basmati-370 etc, VL-Dhan -154, Vivek Dhan -62, Vivek Dhan-65, VL Dhan-81, Vivek Dhan-82 or VL-Dhan-85, VL-163, 221, Vivek Dhan-154, Pusa-44, Jaya, Serju-52, NDR-359, Pant Dhan-4, PR-113, PR-114, Pant Dhan-18, Pant Dhan-19, Pant Sankar Dhan-1, Pant Sankar Dhan-3, Narendra Sankar Dhan-2 etc. in nursery.

Millets : long duration (105 to 110)VL- Mandua-124 and VL-149, short duration (95 to 100 days) varieties like VL- Mandua-204, Pant Mandua-3, PES-176, PES-110, VL- Mandua-146.

Groundnut: G-201, Kausal, JL-24.

Maize: Him-129, Navin, Sartaj, VL makka 16.

Urd: Pant urd-19, 30, 35,

Moong: Pant moong-2, 4, Narendra moong-1

Okra : VL Bhindi-1.

Sorghum grain : CSV-10, 13, 15, 16, 17 and 19. The main hybrid varieties of sorghum are CSH-09, 10, 13, 18 and 19.

Finger millets(Ragi): PRM-1, PRM-2, VL-149.

Soyabean:RS-1, PS-1092. **Pant Soybean-1024, Pant Soybean-1042, Pant Soybean-1092, PK-262, PK-472, PK-416, PS-564, Soybean-1347 etc.**

Uttar Pradesh

Sugarcane : KS-8436, KS-88230, KS-95255

Sunflower : K.P.S.H. 1, Divyamukhi, Jwalamukhi

Moong : Type-44, Pant Moong-1,2, Narendra Moong-1, PDM-11, MUM-2, MalviyaJagruti, Samrat, PusaVaishakhi K. , K-851, JM-721 etc.

Urad : Azad Urd-1,2, Bhokhar-1,2, Type-9, Uttara etc. JT-9, pant u-19, Narendra ;, pant U-35

Arhar : U.P.A.S.-120 and T 21.

Rajasthan

Kharif paddy : P.R.106, B.K.190, Mahi Sugandha (Basmati), Ratna, B.K.79, Jaya Basmati 370, Tarauri, Basmati, P.H.B.-71, Improved Pusa Basmati, Pusa Sugandha-4, 5.

Kharif onion : N-53 & Agrifound dark red

Kharif groundnut : RG-382, R.S.-1, M-13, RG-141, TG 37-A & Girnar-2, J – 38, TG – 37 – A, Pratap mungphali – 1, Pratap mungphali – 2, etc. are improved varieties

Guar : R.G.S- 936, R.G.S- 986, R.G.S- 1002, R.G.S- 1017, H.G- 365, H.G 563, H.G 2 & 20. R.G.C. 1066 (Lathi)

Pearl millet: Composite: Raj-171, **Hybrid:** RHB-121, HHB-67 (Improved), RHB-173, RHB-177

Sorghum:CSV-15 (105-110 days), CSV-23 (110-115 days), Pratap Chari-1080 (105-120 days)

Maize: Mahi Kanchan (75-80 days) & Pratap Makka-5 (85-95 days), RMG-62, RMG-268. RMG-492 & RMG-344,SML-668 are improved varieties of green gram. FS-68, RC-19 and RC-101 are improved varieties of cowpea. Him – 129, Aravali Makka, PEHM-1, PEHM- 2, Pratap Makka-1, Pratap Makka-3, etc.

Improved varieties of bottle guard are Pusa Naveen, Arka Bahar for pumpkin - Pusa Vishwas, Arka Chandan, Pusa Alankar, Arka Suryamukhi for bitter guard - Arka Harit Pusa Vishesh, Priya and for round gourd- Arka tinda, Bikaneri green, Punjab-48.

Bajra : Raj 171, H.H.B. 67 High yielding varieties : R.H.B.-177, H.H.B. 67-2, I.C.T.P.-8203, R.H.B.-121, R.H.B.-173, R.H.B.-154, G.H.B.-538, H.H.B.-67 (improved).

Til : R.T. 46

Moong (Green gram): Ganga-1 (Jamnotri), Ganga-8(Gangotri), S.M.L. 668, M.U.M.-2

Improved varieties : RMG-62, RMG-268. RMG-492 & RMG-344,SML-668

Cowpea : FS-68, RC-19 and RC-101

Moth bean: R.M.O.-40

Karnataka

Green gram : BGS-9, Selection – 4 , PS-16,TAP-7,Pusabisaki,Chinamoong,Sel-4,

Black gram : TAU – 1, DU – 1

Soybean : JS - 335

Red gram : BSMR 736, TS-3R

Bajra : WCC-75,MH-179,ICTP-8203(@5Kg/Ha)

Pigeon pea:PT-221,GS-1,HCPL-87,WRP-1,TS -3 R,BSMR-76 and Maruti(for wilt prone areas)

Groundnut:S-206,KRG-1,R 2001-3,JL-24(for early sowing),R-8808,R-9251,S-220(Spreading type)

Sunflower : Morden,BSH-1,KBSH-1,RSFH-130

Sesame :E-8,TMV-4,DSH-1 or Local

Cotton: DCH-32, DHH-11, NHH-44 etc.

Lowland paddy: Intan, Abhilash, I.R.-57773 or basmathi variety like I.E.T 13549. Upland paddy: Amrut or Prasanna

Kharif Sorghum: CSH-14, CSH-5, CSH-16,CSH-18 and DSV-1,SSV-74

Cowpea: C-152

Horsegram: GPM-6

Groundnut : R-2001-3,R-2001-2, R-8808, R-9251 (150K/ha),S-206,TMV-2, 125K/ha)

Castor : 48-1,GCH-4 @5.0-7.5 Kg/ha

Niger: No-71(High yielding), RCR-18

Sesame: E-8, DS-1 (White)

Bajra :ICTP-8203

Kharif Sorghum Hyb/ Var : CSH-14,CSH-5,CSH-16,CSH-18 and DSV-1,SSV-74

Fodder Bajra: DFB-1,DRSB-2(Short duration around 50 days)

Coriander: DWD-3

Mesta : AS-73-CP-560,HS-2,HC-583

Kerala

Ginger: Wayanad local, Rio-De Janero, Varada,Mahima

Turmeric: Suguna, Sobha, Suvarna, Kanthi, Sona

Tamil Nadu

Rice: ADT 36, ADT 43, ADT 45 and ADT 47

Andra Pradesh

Castor: GCH-4, PCH-111, PCH-222

Rice : Swarna, chatanya, krishnaveni, sambamasuri, bapatlasannalu and amara for salt effected areas: deepthi, vikal, vedagiri and somaseela

Pulses: Blackgram: LBG-20, 623, 752, T-9 and PU-31, **Greengram:** LGG-460, 450, TM96-2, **Redgram:** LRG-41, 38 and Laksmi (ICPL-85063)

Gujarat:

Hybrid cotton: G. Cot. 4, 6, 8, 10.

Cotton: Digvijay, Sanjay (CJ-73), Gujarat Cotton-10, Gujarat Cotton-11.

Rice: GR-101, 102, 103, 104, Masuri, Narmada, IR – 28.

GR-3, 4, 6, 7 and 12 (early maturing varieties).

GR-11, Jaya, IR – 22, Gurjari, Dandi (mid late maturing varieties).

Maize: Gujarat Maize-4, Ganga Safed-2, Farm Sameri, Ganga-11.

Groundnut: GG 2, GG-5, TG-26, TPG-41, TAG 37 for bunch and GG-20 for semi spreading type.

Sesamum: GT-2 or GT-3.

Bajra: GHB-558, 577, 538, 719, 732, 744, 528, 316, 183.

Green gram: GM-3, GM-4, K-851.

Black gram: T-9, GU-1.

Cowpea : Gujarat Cowpea-1, 2, 4, Pusa Falguni.

Pigeon pea: GT-1, GT-100, GT-101, T-15-15, BDN-2, IPCL_87-Pusa Ageti, GTH-1.

Tobacco: Anand 119, Anand 2, GT 5, GT 9, GTH 1 and ABT 10.

Castor: GCH -6, GC -3, GAUCH -1.

Maharashtra:

Jowar:

Hybrid variety: CSH-5, CSH-9, 13, 14, 16, 17, 18, 21, 23 and SPH 1567.

Improved variety: SPV-462, CSV-13, 15, 17, 20, 23 and PVK-801.

Bajra:

Hybrid variety: Shraddha, Saburi, Phule Shanti.

Improved variety: ICTP 8203, ICMV – 155.

Groundnut: SD 11, Phule Pragati, Phule Vyas, Phule Unap, TPG 41, TG 26.

Sunflower: EC-68414, SS-56 and Bhanu for Madhya Maharashtra and LSF-8 and LS-11 for Marathwada.

Soyabean: JS-335, Phule Kalyani (DS-228), PK 1029, MACS 450 for Madhya Maharashtra and MASU-47, JS-335 and MAUS-71 for Marathwada.

Rice: PKVHMT, PKV Khamang, Sindewahi 2001, Sindewahi-5, Sindewahi-75 for nursery swing in East Vidarbha and Ambika, Prabhavati (Parbhani-1), Sugandha, Parbhani Avishkar for drill sowing in Marathwada.

Black gram: BDU-1, TAU-1 for Marathwada.

Red Gram: ICPL 87, Vipula, BSMR-853, BSMR-736 for Madhya Maharashtra and for Central Vidarbha – ICPL-87119 (Asha), C-11.

Kharif Cotton: AKA-5, AKA-7, AKA-8, American improved variety – AKH-081, PKV-Rajat, AKH- 8828 for Central Vidarbha Zone.

Madhya Pradesh

Paddy: a. Medium: IR-36, IR-64, Pusa sugandha-5, MTU-1001

b. Late: Mahsuri, Safari-17, Syamla, Swarna

Maize: a. Medium: navjot, Arun, H-216, Jm-13, Sartaj, Daccan 107

b. Late: Ganga-11, Prabhat, Trisulta, Daccan 103, Daccan 105

Jowar: JJ-741, JJ-938, JJ-1022, JJ-1041 and CSV-15

Arhar: Laxmi, Pragti, Asha, Jagrati, JKM-7 and JKM-189

Soybean: JS-95-60, JS-93-95, JS-97-52, JS-80-21, JS-335, NRC-37

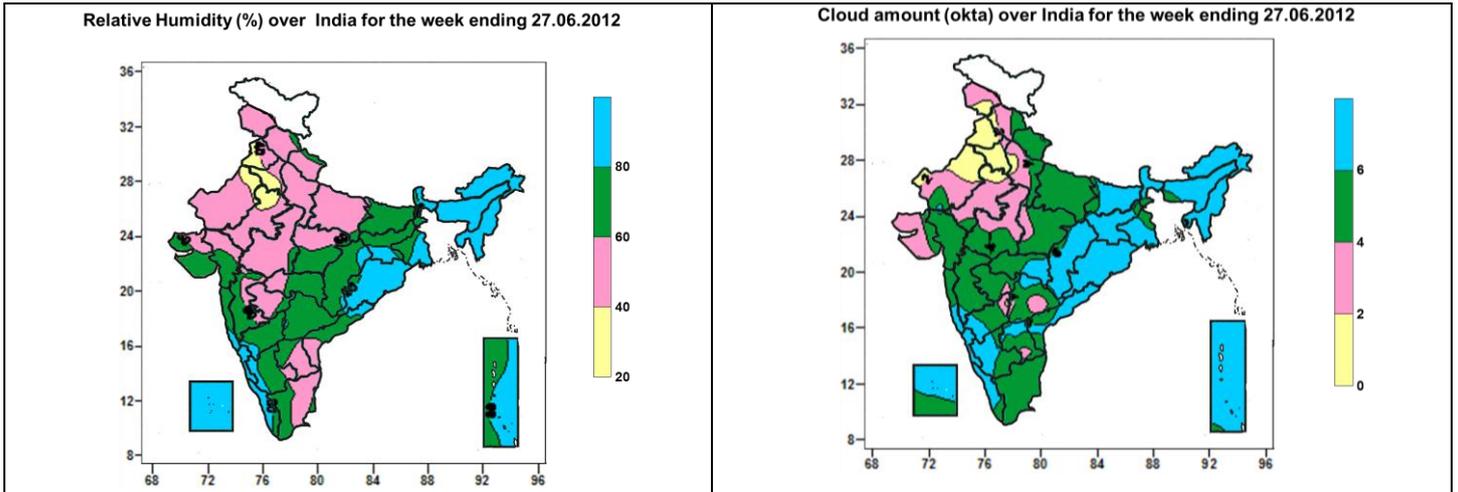
Chattisgarh

Millet: High Yielding : PR 202, HR 374, VR 708, RAU 08, GPU 45, VC 149 and for kodo millet GPUK-3, RVK-155 and for Kutki JK08.

Maize: Proagro-4640, 4212, Pusa Hybrid -42, MH-10, MH-11, Navjyot, HM-9

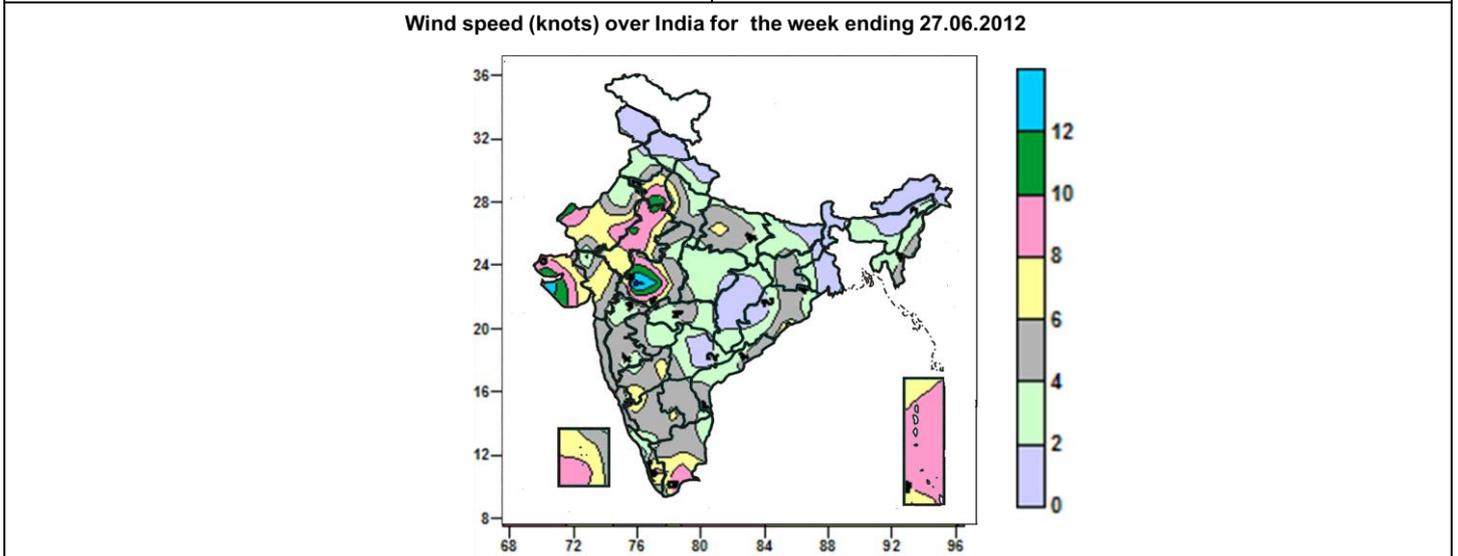
Annexure III

Contour maps for Relative Humidity, Cloud Amount and Wind speed for the week ending on 27.06.2012



Relative humidity ranged between 80% and above over most parts of West Bengal & Sikkim, Northeast India, Orissa, Kerala, Coastal Karnataka, Lakshdweep, Andaman & Nicobar Islands, some parts of Interior Karnataka, Chattisgarh, Jharkhand, 20 to 40 % over most parts of Punjab, Haryana, some parts of Rajasthan and 40 to 80 % over remaining parts of the country.

Cloud amount 6 okta and above over most parts of Northeast & East India, Chattisgarh, Kerala, Coastal & South Interior Karnataka, Goa, Lakshdweep, Andaman & Nicobar Islands, some parts of Vidarbha, Andhra Pradesh North Interior Karnataka, Konkan, Madhya Maharashtra, and below 6 okta over remaining parts of the country.



Wind speed ranged between 10 to 12 knots and above over some parts of Haryana, Rajasthan, Saurashtra, Kutch, West Madhya Pradesh, 8 to 10 knots over most parts of Andaman & Nicobar Islands, some parts of Haryana, Rajasthan, Saurashtra & Kutch, West Madhya Pradesh, Tamil Nadu, Lakshdweep Islands and below 8 knots over remaining parts of country.