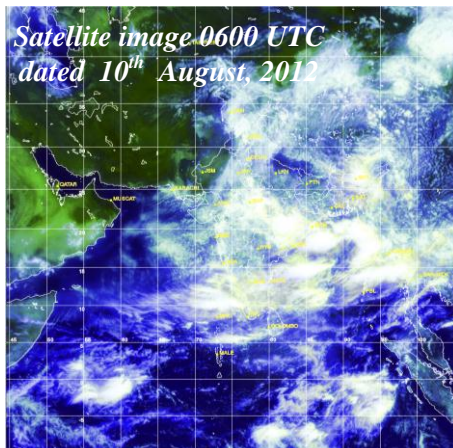


The southwest monsoon remained active over Haryana, east Rajasthan, coastal Karnataka and Kerala during past 24 hours ending at 0830 hours IST of today.



Due to subdued rainfall activities in Interior Karnataka, West Haryana, Delhi, West Rajasthan, Gujarat, Saurashtra & Kutch, parts of Madhya Maharashtra, parts of Marathwada and Bihar during the season, contingent plan for these regions has been prepared for the farming community which is mentioned below:

- South Interior Karnataka:** During last week, as there was good rainfall in Davangere and Hassan districts, conditions are improved for resowing of crops. Select ragi (short duration varieties) instead of groundnut. Also undertake sowing of red gram for vegetable purpose and fodder crops. Undertake sowing of cowpea, green gram, black gram and horse gram and sunflower. As subdued rainfall is continued in the districts like Bangalore Rural, Bangalore Urban, Bellary, Kolar, Chamarajnar, Chichballapur, Chitradurga, Mandya, Mysore, Ramnagara and Tumkur, in the fields where crops have been sown, plant populations in only small area is surviving and they are also not in good condition. Hence, farmers are advised to monitor the crop situation and if the rainfall condition does not revive, the standing crops may be used as fodder; if rainfall is received, resowing may be undertaken later on.
- North Interior Karnataka:** Continue sowing of contingent crops with realised rainfall. Undertake sowing of tobacco, cowpea, sunflower (SB-275), niger, castor, bajra, pigeon pea, horse gram, intercropping like bajra + redgram (2:1), pigeonpea + horsegram (2:1) or chilli + desi cotton).
- Haryana:** For standing crops, if rainfall does not occur, cut alternate rows of bajra crop to reduce intra crop competition for moisture and use it as fodder, so that remaining crops can survive on available soil moisture. Undertake sowing of bajra (short duration variety HHB667), moong (improved variety), urd (T9, Uttara), moth (Jwala, RMO 40, RMO 257), guar (HG 563, HG 365), short duration vegetables and fodder crops.
- Delhi:** Continue sowing / transplanting of short duration vegetables like tomato, cauliflower, radish, sweet corn, baby corn & fodder crops.
- West Rajasthan:** Undertake sowing of fodder bajra and short duration varieties of moth and guar.
- Gujarat:** Due to subdued and insufficient rainfall in Gujarat in 14 districts, crops face moisture stress and also show wilting conditions. To conserve soil moisture, carry out hand weeding and intercultural operation in *kharif* crops. Carry out sowing of castor, fodder sorghum and cluster bean at optimum moisture condition after receiving sufficient rain, if the original crop (pulses) fails due to moisture stress. Carry out sowing of castor up to 15th August in South Gujarat Zone. Most of districts of North Gujarat zone received insignificant rainfall during last 25-27 days (from 11th July to 7th August). Farmers are advised to undertake mulching and thinning practices to conserve soil moisture in the early sown crops. If the original crop has failed due to moisture stress, carry out land preparation and sowing operations for castor, cluster bean, maize, fennel and fodder sorghum after receipt of sufficient rainfall.
- Saurashtra & Kutch:** In Saurashtra and Kutch region, groundnut and cotton crops have been reported to be damaged due to dry conditions. Farmers are advised to grow castor (GAUCH-1, GCH-4 and GCH-7) varieties in the areas that have 2-3 irrigation facility in late season. Intercropping with short duration crops i.e. sesamum (GT-3), green gram (GM-3, GM-4), black gram (T-9, GU-1) and cowpea (Pusa Falguni, GCH-1, GCH-2, GCH-4) may be carried out. In those areas, where monsoon sowing is already over, crops are suffering from moisture stress; carry out thinning, intercultural operations and weeding for conservation of moisture. Farmers may also carry out mulching with wheat straw, groundnut shell, dry leaves of trees in crops like groundnut and cotton and farmers, who have irrigation facilities, should apply lifesaving irrigation under acute moisture stress. In areas where crops failed, carry out sowing of fodder sorghum (Gundari, GFS-4, GFS-5). Farmers of the Bhal and Coastal Zone are advised for sowing of castor. Select the certified hybrid varieties of Castor like GAUCH-1, GCH-5, and GCH-7. Prefer latest high yielding variety of castor like GCH-7. Sowing of these crops is suggested after receipt of sufficient rain.
- Madhya Maharashtra:** In Ahmednagar and Dhule districts, farmers are advised to undertake sowing of fodder crops under contingent plan after receiving sufficient rainfall. Farmers of Pune and Sangli districts are advised to sow crops like sunflower, red gram and intercrop sunflower + red gram, fodder sorghum, fodder bajra and fodder maize.
- Marathwada:** Rainfall is subdued in Aurangabad, Beed and Jalna during last few weeks. Undertake sowing of *kharif* sunflower, bajra, castor, fodder crops as contingency after receiving sufficient rain. Undertake soil moisture conservation practices in the early sown crops.
- Bihar:** Transplanting of rice is halted and transplanted rice is under moisture stress condition. Farmers are advised to apply life saving irrigation to transplanted rice. Where rainfall is highly deficient, sowing of contingent crops like urd (T-9), arhar (Bahar, Narendra Arhar 1, Malviya 13), bajra, toria is advised in upland and medium land areas.



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.indagrmet.gov.in>) of the Division

Executive Summary

Significant rainfall occurred over many districts in Assam, Arunachal Pradesh, Himachal Pradesh, Madhya Pradesh, Chhattisgarh, Uttar Pradesh, Uttarakhand, Bihar, Jharkhand, East Rajasthan, Konkan, Vidarbha, Orissa, West Bengal, Sikkim, Coastal Karnataka and Coastal Andhra Pradesh and Telangana and over a few districts in Jammu & Kashmir, Gujarat region, Madhya Maharashtra and Kerala.

Rainfall is likely to occur at many places over Uttarakhand, Haryana, Chandigarh, Delhi, East Rajasthan, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, West Bengal & Sikkim, Konkan & Goa, Coastal Karnataka, Kerala and Orissa. Farmers are advised to postpone irrigation, intercultural operation and application of fertilizers and plant protection measures in these regions. Heavy rainfall would occur at one or two places over Coastal Karnataka, Madhya Pradesh and East Rajasthan during next 48 hours and over Haryana, Chandigarh, Delhi and West Uttar Pradesh during next 24 hours. Farmers in these regions are advised to arrange for adequate drainage in standing crops.

Due to subdued rainfall activities in Interior Karnataka, West Haryana, Delhi, West Rajasthan, Gujarat, Saurashtra & Kutch, parts of Madhya Maharashtra, parts of Marathwada and Bihar during the season, contingent plan for these regions has been prepared for the farming community which is mentioned below:

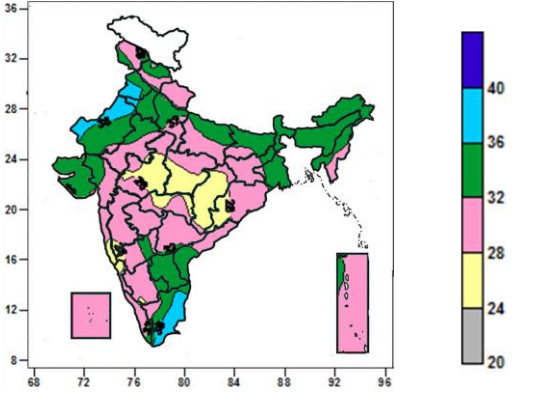
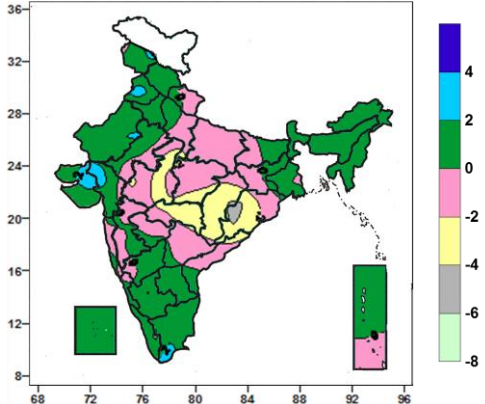
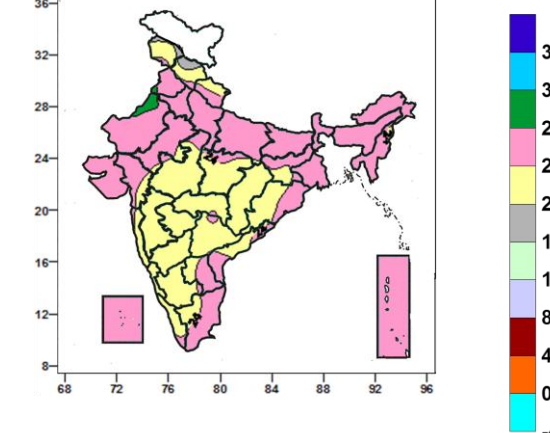
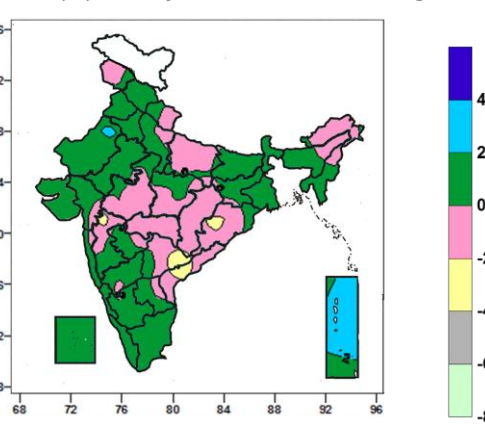
11. **South Interior Karnataka:** During last week, as there was good rainfall in Davangere and Hassan districts, conditions are improved for resowing of crops. Select ragi (short duration varieties) instead of groundnut. Also undertake sowing of red gram for vegetable purpose and fodder crops. Undertake sowing of cowpea, green gram, black gram and horse gram and sunflower. As subdued rainfall is continued in the districts like Bangalore Rural, Bangalore Urban, Bellary, Kolar, Chamarajnar, Chichballapur, Chitradurga, Mandya, Mysore, Ramnagara and Tumkur, in the fields where crops have been sown, plant populations in only small area is surviving and they are also not in good condition. Hence, farmers are advised to monitor the crop situation and if the rainfall condition does not revive, the standing crops may be used as fodder; if rainfall is received, resowing may be undertaken later on.
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14. **Delhi:** Continue sowing / transplanting of short duration vegetables like tomato, cauliflower, radish, sweet corn, baby corn & fodder crops.
15. **West Rajasthan:** Undertake sowing of fodder bajra and short duration varieties of moth and guar.
16. **Gujarat:** Due to subdued and insufficient rainfall in Gujarat in 14 districts, crops face moisture stress and also show wilting conditions. To conserve soil moisture, carry out hand weeding and intercultural operation in *kharif* crops. Carry out sowing of castor, fodder sorghum and cluster bean at optimum moisture condition after receiving sufficient rain, if the original crop (pulses) fails due to moisture stress. Carry out sowing of castor up to 15th August in South Gujarat Zone. Most of districts of North Gujarat zone received insignificant rainfall during last 25-27 days (from 11th July to 7th August). Farmers are advised to undertake mulching and thinning practices to conserve soil moisture in the early sown crops. If the original crop has failed due to moisture stress, carry out land preparation and sowing operations for castor, cluster bean, maize, fennel and fodder sorghum after receipt of sufficient rainfall.
17. **Saurashtra & Kutch:** In Saurashtra and Kutch region, groundnut and cotton crops have been reported to be damaged due to dry conditions. Farmers are advised to grow castor (GAUCH-1, GCH-4 and GCH-7) varieties in the areas that have 2-3 irrigation facility in late season. Intercropping with short duration crops i.e. sesamum (GT-3), green gram (GM-3, GM-4), black gram (T-9, GU-1) and cowpea (Pusa Falguni, GCH-1, GCH-2, GCH-4) may be carried out. In those areas, where monsoon sowing is already over, crops are suffering from moisture stress; carry out thinning, intercultural operations and weeding for conservation of moisture. Farmers may also carry out mulching with wheat straw, groundnut shell, dry leaves of trees in crops like groundnut and cotton and farmers, who have irrigation facilities, should apply lifesaving irrigation under acute moisture stress. In areas where crops failed, carry out sowing of fodder sorghum (Gundari, GFS-4, GFS-5). Farmers of the Bhal and Coastal Zone are advised for sowing of castor. Select the certified hybrid varieties of Castor like GAUCH-1, GCH-5, and GCH-7. Prefer latest high yielding variety of castor like GCH-7. Sowing of these crops is suggested after receipt of sufficient rain.
18. **Madhya Maharashtra:** In Ahmednagar and Dhule districts, farmers are advised to undertake sowing of fodder crops under contingent plan after receiving sufficient rainfall. Farmers of Pune and Sangli districts are advised to sow crops like sunflower, red gram and intercrop sunflower + red gram, fodder sorghum, fodder bajra and fodder maize.

19. **Marathwada:** Rainfall is subdued in Aurangabad, Beed and Jalna during last few weeks. Undertake sowing of *kharif* sunflower, bajra, castor, fodder crops as contingency after receiving sufficient rain. Undertake soil moisture conservation practices in the early sown crops.
20. **Bihar:** Transplanting of rice is halted and transplanted rice is under moisture stress condition. Farmers are advised to apply life saving irrigation to transplanted rice. Where rainfall is highly deficient, sowing of contingent crops like urd (T-9), arhar (Bahar, Narendra Arhar 1, Malviya 13), bajra, toria is advised in upland and medium land areas.

In remaining parts of the country, due to receipt of adequate rainfall, sowing of *kharif* crops continued normally.

1. **Rayalaseema:** Continue sowing of groundnut, castor, cotton, bajra and red gram.
2. **West Uttar Pradesh:** Complete sowing of black gram and sesame. Continue transplanting of rice and sowing of sorghum.
3. **East Uttar Pradesh:** Continue transplanting of medium duration rice and sowing of *kharif* crops like jowar, bajra, urad, moong, soybean, groundnut and til.
4. **Nagaland, Manipur, Mizoram & Tripura:** Farmers in Manipur are advised for sowing of late variety of rice RC Maniphou 7 and short duration variety RC Maniphou-6 in upland area. Complete transplanting of *aman* rice in Tripura and *sali* rice in other States.
5. **Arunachal Pradesh:** Nursery preparation for early cruciferous crops may be done in raised bed. Also complete transplanting of WRC rice.
6. **Assam & Meghalaya:** Undertake transplanting of short duration varieties of rice in the flood affected area, complete transplanting of semi dwarf *sali* rice by 15th August and sowing of early cauliflower, raddish, green gram, black gram etc.
7. **Sub Himalayan West Bengal:** Continue transplanting of rice.
8. **Sikkim:** Undertake transplanting of large cardamom in low and medium hills.
9. **Gangetic West Bengal:** Continue transplanting of *aman* rice.
10. **Orissa:** Farmers are advised to undertake transplanting of *kharif* rice. Complete sowing of green gram, black gram, sesame and vegetables such as cowpea, okra and cucurbitaceous crops in rain fed fallow uplands.
11. **Punjab:** As 97-98% area of the State is irrigated, transplanting of rice and basmati rice has been carried with irrigation facilities along with sowing of cotton. Undertake sowing of mid season varieties of cauliflower and planting of onion.
12. **Himachal Pradesh:** Undertake sowing of French bean and nursery sowing of cauliflower.
13. **Jharkhand:** Sowing of *kharif* crops have been carried out satisfactorily. Farmers who have not sown *kharif* crops till now, may sow kulthi or safflower in upland. In areas, where rain is not sufficient for transplanting operation and seedlings are over aged, farmers may sow the seeds directly in medium land with short duration varieties like Vandana, Birsa Dhan-108, Birsa Vikas Dhan 109, 110 and Lalat etc.
14. **Uttarakhand:** Complete transplanting of rice.
15. **Jammu & Kashmir:** Undertake sowing of vegetable crops.
16. **East Rajasthan:** Undertake late sowing of short duration green gram, moth bean, cluster bean and sesame instead of pearl millet.
17. **East Madhya Pradesh and West Madhya Pradesh:** Sowing of *kharif* crops completed.
18. **Vidarbha:** Continue transplanting of rice in East Vidarbha.
19. **Chhattisgarh:** Good rainfall occurred. Sowing of *kharif* crops carried out in most parts of the State.
20. **Konkan:** Transplanting of rice completed.
21. **South Coastal Andhra Pradesh:** In view of receipt of rainfall, farmers are advised to undertake sowing of medium duration varieties of rice, like Swarna, Chatanya, Krishnaveni, Samba Masuri, Bapatla Sannalu and Amara and for salt-affected areas the rice varieties are Deepthi, Vikal, Vedagiri and Somaseela and varieties for red gram are LRG-41, 38 and Laksmi (ICPL-85063).
22. **Telangana and remaining parts of Coastal Andhra Pradesh:** In Telangana region, farmers may undertake direct seeding of rice under puddled conditions using drum seeder or broadcasting using sprouted seed of short duration varieties after receipt of sufficient inflows into the reservoirs. Farmers are advised to continue direct sowing of rice and red gram due to sufficient rainfall. In coastal Andhra Pradesh, continue transplanting of rice, sowing of *kharif* crops like cotton, jowar, maize, ragi, castor, groundnut and pulses.
23. **Tamil Nadu:** Complete transplanting of *Kuruvai* rice.
24. **Coastal Karnataka:** Complete transplanting of rice.
25. **Kerala:** Transplanting of *viruppu* rice completed.

Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 08.08.2012

<p>Actual Mean Maximum Temperature ($^{\circ}\text{C}$) in India for the week ending 08.08.2012</p> 	<p>Maximum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 08.08.2012</p> 
<p>Actual Mean Maximum temperature ranged between 36 to 40°C and above over most parts of Northwest Rajasthan, Punjab, Coastal Tamil Nadu, some parts of Haryana, 24 to 28°C over most parts of Madhya Pradesh, Chhattisgarh, some parts of Orissa, Vidarbha, Madhya Maharashtra, Konkan & Goa, Karnataka and between 28 to 36°C over remaining parts of the country.</p>	<p>Actual Mean Maximum temperature anomaly ranged between 2 to 4°C and above over some parts of Jammu & Kashmir, Punjab, West Rajasthan, Gujarat, Saurashtra & Kutch, Tamil Nadu, -4 to -2°C over most parts of Orissa, Chhattisgarh, Vidarbha, some parts of Madhya Pradesh, Coastal Andhra Pradesh, Telengana, -6 to -4°C over some parts of Orissa, Chhattisgarh, -2 to 2°C over rest of the country.</p>
<p>Actual Mean Minimum Temperature ($^{\circ}\text{C}$) in India for the week ending 08.08.2012</p> 	<p>Minimum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 08.08.2012</p> 
<p>Actual Mean Minimum Temperature ranged between 28 to 32°C over some parts of West Rajasthan, Punjab, 16 to 20°C over some parts of Jammu & Kashmir, Himachal Pradesh, 20 to 24°C over most parts of Jammu & Kashmir, Himachal Pradesh, Orissa, Central India, Maharashtra, Karnataka, Telengana, Kerala, some parts of Uttarakhand, East Rajasthan, Jharkhand, Gujarat, Coastal Andhra Pradesh, Rayalaseema, Tamil Nadu and between 24 to 28°C over remaining parts of the country.</p>	<p>Minimum Temperature anomaly ranged 2 to 4°C over most parts of Andaman & Nicobar Islands, some parts of West Rajasthan, -4 to -2°C over some parts of Orissa, Madhya Maharashtra, Telengana, Coastal Andhra Pradesh, -2 to 0°C over most parts of Jammu & Kashmir, Uttarakhand, East Uttar Pradesh, Arunachal Pradesh, Nagaland, Orissa, Central India, North Madhya Maharashtra, Andhra Pradesh, some parts of West Uttar Pradesh, East Rajasthan, Jharkhand, Assam & Meghalaya, Gujarat, Marathwada, North Interior Karnataka and 0 to 2°C over remaining parts of the country.</p>

Distribution of rainfall of the country during week ending on 08.08.2012

State/Districts	Actual (mm)	% Dep.
Arunachal Pradesh		
Anjaw	**	**
Changlang	55.7	-2
East Kameng	48.0	75
East Siang	8.6	-82
Kurung Kumey	56.2	-65
Lohit	**	**
Lower Dibang Valley	47.2	-50
Lower Subansiri	**	**
Papumpara	36.0	-50
Tawang	180.6	42
Tirap	45.0	-63
Upper Dibang Valley	32.9	-66
Upper Siang	83.0	38
Upper Subansiri	60.0	142
West Kameng	183.9	52
West Siang	107.0	92
Assam		
Baksa	64.8	-24
Barpeta	59.3	-30
Bongaigaon	48.3	-40
Cachar	59.9	-51
Chirang	57.4	-29
Darrang	18.0	-71
Dhemaji	121.0	34
Dhubri	25.1	-74
Dibrugarh	91.2	-1
East Garo Hills	111.0	7
East Khasi Hills	86.2	-64
Goalpara	33.4	-45
Golghat	88.1	55
Hailakandi	43.4	-54
Jaintia Hills	39.0	-80
Jorhat	85.8	5
Kamrup(Metro)	117.2	133
Kamrup	86.0	71
Karbi Analog	7.1	-88
Karimganj	34.4	-63
Kokrajhar	35.7	-70
Lakhimpur	134.8	49
Morigaon	33.0	-57
N.C.Hills	8.3	-80
Nowgong	23.7	-65
Nalbari	76.0	-5
Ribhoi	28.4	-60
Sonitpur	54.1	-11
Sibsagar	93.5	20
South Garo Hills	184.0	89
Tinsukia	135.5	83
Udalgiri	48.6	-21
West Garo Hills	30.2	-69
West Khasi Hills	81.0	-45
Himachal Pradesh		
Bilaspur	42.6	-54
Chamba	80.6	-4
Hamirpur	49.8	-52
Kangra	147.4	-15
Kinnaur	21.0	139
Kullu	58.3	50

Lahaul and Spiti	8.0	-75
Mandi	95.1	-16
Shimla	32.3	-45
Sirmaur	60.3	-57
Solan	28.6	-68
Una	33.4	-56
Punjab		
Amritsar	0.8	-98
Barnala	9.6	-73
Bhatinda	2.8	-92
Faridkot	23	3
Fatehgarh Saheb	2.3	-95
Ferozpur	0.0	-100
Gurdaspur	80.3	16
Hoshiarpur	5.7	-91
Jalandhar	10.9	-76
Kapurthala	9.0	-73
Ludhiana	6.7	-85
Mansa	18.3	-43
Moga	4.0	-87
Muktesar	0.0	-100
Nawashahar	1.8	-97
Patiala	13.8	-70
Ropar	10.0	-85
Sangrur	0.4	-99
Mohali	2.0	-96
TarnTaran	1.8	-96
Haryana		
Ambala	5.0	-91
Bhiwani	15.3	-66
Chandigarh	2.5	-90
Faridabad	14.4	-70
Fatehabad	11.3	-61
Gurgaon	7.4	-77
Hissar	2.3	-94
Jhajjar	6.8	-84
Jind	3.5	-92
Katihah	8.8	-76
Karnal	0.0	-100
Kurukshetra	53.2	25
Mahendragarh	16.2	-64
Mewat	1.0	-99
Palwal	4.1	-90
Panchkkula	0.0	-100
Panipat	0.0	-99
Rewari	4.7	-69
Rohtak	0.4	-99
Sirsa	13.5	-81
Sonepat	6.3	-91
Yamunanagar	20.0	-79
New Delhi	12.1	-83
Jammu & Kashmir		
Anantnag	37.7	74
Badgam	11.4	-23
Bandipore	**	**
Baramula	11.4	-55
Doda	20.2	-29
Ganderwal	28.0	47
Jammu	28.1	-68
Kargil	0.4	-89
Kathua	62.8	-43
Kistwar	**	**
Kulgam	36.6	69

Kupwara	35.9	104
Ladakh(Leh)	1.1	-60
Poonch	67.0	-13
Pulwama	27.2	25
Rajouri	65.3	-3
Ramban	77.9	173
Reasi	159.4	3
Samba	7.8	-91
Shopian	0.0	-100
Srinagar	24.0	26
Udhampur	118.3	-24
East Madhya Pradesh		
Anuppur	119.2	17
Balaghat	58.7	-43
Chhatarpur	197.6	84
Chindwara	130.2	70
Damoh	145.4	27
Dindori	82.3	-27
Jabalpur	73.4	-33
Katni	216.0	97
Mandla	87.3	-23
Narsingpur	156.4	62
Panna	165.5	61
Rewa	165.7	98
Sagar	99.7	-14
Satna	167.6	97
Seoni	90.3	6
Shahdol	92.0	-11
Sidhi	87.8	11
Singrauli	114.4	72
Tikamgarh	114.5	36
Umaria	88.8	-10
West Madhya Pradesh		
Alirajpur	76.4	12
Asoknagar	86.0	5
Badwani	9.7	-81
Betul	318.7	274
Bhind	74.3	12
Bhopal	299.5	214
Burhanpur	24.0	-64
Datia	118.6	40
Dewas	98.7	13
Dhar	17.0	-76
Guna	55.0	-41
Gwalior	217.2	167
Harda	220.5	120
Hosangabad	364.3	202
Indore	83.8	16
Jhabua	54.1	-22
Khandwa	84.1	14
Khargone	52.5	-19
Mandsaur	76.2	3
Morena	56.8	-23
Neemuch	28.2	-55
Raisen	138.4	28
Rajgarh	100.0	2
Ratlam	108.3	36
Sehore	170.7	64
Shajapur	65.5	-30
Sheopur Kalani	20.0	-69
Shivpuri	133.4	70
Ujjain	76.9	-4
Vidisha	120.8	28

Chattisgarh		
Bastar	130.5	44
Bijapur	132.1	0
Bilaspur	110.3	37
Dantewara	213.6	104
Dhamtari	183.6	141
Durg	182.3	123
Janjgir	114.9	13
Jashpurnagar	126.5	25
Kanker	146.0	30
Korba	150.6	40
Koriya	106.0	11
Kawardha	60.0	-19
Mahasumund	286.3	225
Narayanpur	188.6	84
Raigarh	134.5	44
Raipur	162.9	95
Rajandgaon	95.3	9
Surguja	118.5	54
East Uttar Pradesh		
Allahabad	129.9	105
Ambedkar Nagar	77.0	15
Azamgarh	41.0	-40
Bahraich	117.3	95
Ballia	36.2	-42
Balrampur	109.4	85
Banda	81.4	4
Barabanki	80.8	36
Basti	118.1	73
Chandauli	62.0	3
Deoria	71.5	23
Faizabad	149.2	116
Farrukhabad	34.8	-36
Fatehpur	85.3	24
Gazipur	52.8	-37
Gonda	176.5	122
Gorakhpur	121.6	39
Hardoi	63.3	11
Jaunpur	108.1	92
Kannauj	63.8	-1
Kanpur City	63.2	7
Kanpur Dehat	77.8	10
Kaushambi	59.8	6
Kheri	93.4	44
Kushi nagar	85.3	11
Lucknow	68.9	9
Maharajganj	51.0	-34
Mau	70.0	22
Mirzapur	78.5	-1
Pratapgarh	58.7	2
RaiBareilly	35.4	-30
Sahuji Maharajnagar	185.0	159
Sant Kabirnnagar	120.0	64
Sant Ravidas Nagar	125.0	108
Shrawasti	221.0	268
Sidharthnagar	86.7	43
Sitapur	90.2	73
Sonbhadra	83.0	4
Sultanpur	119.8	100
Unnao	83.8	27
Varanasi	71.3	10
West Uttar Pradesh		
Agra	36.6	-49
Aligarh	26.7	-61
Auraiya	84.5	29

Badaun	11.3	-85
Baghpat	2.5	-96
Bareilly	48.4	-36
Bijnor	113.2	30
Bulandsahar	22.3	-62
Etah	11.7	-79
Etawah	26.4	-66
Firozabad	28.6	-48
GBNagar	0.0	-100
Ghaziabad	22.3	-66
Hamirpur	68.1	-15
Jalaun	69.9	-16
Jhansi	97.6	31
Jotirba Phule Nagar	158	161
Kanshiramnagar	36.5	-42
Lalitpur	33.5	-63
Mahamaya Nagar	21.7	-61
Mahoba	118.6	49
Mainpuri	15.1	-74
Mathura	16.5	-72
Meerut	69.2	-2
Moradabad	87.8	18
Muzzaffarnagar	76.6	14
Pilibhit	51.2	-39
Rampur	62.0	-22
Saharanpur	66.7	-12
Shahjahanpur	36.2	-49
Uttarakhand		
Almora	109.3	62
Bageshwar	193.2	186
Chamoli	138.1	71
Champawat	119.5	33
Dehradun	218.0	23
Garhwal Pauri	167.3	34
Garhwal Tehri	143.7	43
Haridwar	196.9	103
Nainital	150.9	37
Pithorgarh	134.8	1
Rudraprayag	109.4	-26
Udham Sing Nagar	136.5	70
Uttarkashi	151.5	63
Bihar		
Araria	25.9	-69
Arwal	63.5	8
Aurangabad	88.7	14
Banka	19.4	-66
Begusarai	97.5	41
Bhabua	59.8	-28
Bhagalpur	27.6	-58
Bhojpur	23.5	-58
Buxar	2.4	-95
Darbhanga	23.5	-65
East Champaran	41.3	-21
Gaya	189.4	113
Gopalganj	135.2	145
Jahanabad	47.3	-29
Jamui	15.4	-77
Kathihar	36.5	-33
Khagadia	37.6	-61
Kishanganj	59.6	-32
Lakhisarai	90.0	46
Madhepura	49.3	-21
Madhubani	57.7	1
Monghyar	14.3	-77

Muzaffarpur	89.1	54
Nalanda	60.7	-2
Nawada	45.4	-44
Patna	49.9	-8
Purnea	8.6	-87
Rohtas	104.9	37
Saharsha	84.4	62
Samstipur	59.9	-2
Saran	68.8	7
Sheikpura	62.4	1
Sheohar	55.0	8
Sitamarhi	77.5	52
Siwan	26.9	-55
Supaul	11.0	-79
Vaishali	74.6	29
West Champaran	81.7	17
Jharkhand		
Bokaro	123.6	70
Chatra	63.3	-31
Deoghar	36.7	-46
Dhanbad	78.3	-2
Dumka	41.6	-50
East Singbhum	101.9	8
Garhwa	103.1	15
Giridih	129.6	66
Godda	5.8	-89
Gumla	147.4	56
Hazaribagh	115.1	38
Jamtara	42.1	-51
Khunti	107.0	30
Koderna	43.6	-44
Latehar	45.8	-51
Lohardagga	52.3	-37
Pakur	55.9	-23
Palamau	116.0	33
Ramgarh	174.2	109
Ranchi	119.2	45
Sahebganj	65.4	19
Saraikela	104.2	9
Simdega	121.3	11
West Singbhum	64.9	-32
East Rajasthan		
Ajmer	17.4	-46
Alwar	35.6	-33
Banswara	53.7	-30
Baran	33.4	-58
Bharatpur	77.0	29
Bhilwara	26.3	-47
Bundi	17.5	-69
Chittorgarh	47.3	-20
Dausa	61.0	3
Dholpur	88.5	33
Dungarpur	43.0	-21
Jaipur	38.0	-21
Jhalawar	33.6	-61
Jhunjhunu	9.3	-75
Karauli	71.7	3
Kota	14.2	-78
Pratapgarh	78.4	17
Rajsamand	26.0	-35
Sawai Madhopur	61.7	-12
Sikar	12.3	-64
Sirohi	53.0	-36
Tonk	31.0	-41
daipur	30.4	-38

West Rajasthan		
Barmer	8.2	-68
Bikaner	0.6	-97
Churu	8.5	-68
Hanumangarh	10.8	-52
Jaisalmer	1.7	-86
Jalore	3.3	-91
Jodhpur	15.0	-34
Nagaur	8.3	-65
Pali	27.7	-32
Sri Ganganagar	7.3	-51
Gujarat Region		
Ahmedabad	5.2	-89
Anand	4.7	-92
Banaskantha	5.4	-88
Baroda	15.8	-79
Broach	2.5	-96
DNH	41.0	-76
Dahod	31.9	-60
Daman	16.5	-90
Dangs	44.5	-71
Gandhinagar	3.8	-94
Kheda	9.2	-85
Mehsana	4.1	-92
Narmada	14.9	-83
Navsari	20.2	-84
Panchmahal	33.0	-60
Patan	7.7	-81
Sabarkantha	28.8	-53
Surat	8.0	-91
Tapi	7.4	-94
Valsad	38.0	-72
Saurashtra, Kutch & Diu region		
Amreli	2.0	-93
Bhavnagar	2.0	-94
Diu	0.0	-100
Jamnagar	0.9	-97
Junagarh	3.1	-93
Kutch	0.2	-99
Porbandar	1.3	-97
Rajkot	1.0	-97
Surendranagar	0.0	-99
Maharashtra		
Konkan & Goa		
Goa	201.9	3
Mumbai	55.8	-56
Raigad	236.0	8
Ratnagiri	218.8	-6
Sindhudurg	263.8	37
Thane	84.6	-55
Madhya Maharashtra		
Ahmednagar	5.1	-74
Dhule	3.1	-92
Jalgaon	8.4	-84
Kolhapur	175.0	24
Nandurbar	21.7	-68
Nasik	37.8	-46
Pune	67.8	4
Sangli	28.7	-8
Satara	166.2	232
Solapur	9.0	-58
Marathwada		
Aurangabad	2.6	-93
Beed	8.4	-66
Hingoli	4.5	-92







Jalna	1.1	-97
Latur	22.0	-53
Nanded	16.5	-68
Usmanabad	15.9	-50
Parbhani	4.2	-90
Vidarbha		
Akola	18.5	-69
Amraoti	61.2	-14
Bhandara	109.1	4
Buldhana	11.7	-79
Chandrapur	69.1	-32
Gadchiroli	123.5	8
Gondia	142.6	30
Nagpur	116.4	46
Wardha	63.7	-15
Washim	11.3	-83
Yeotmal	14.2	-78
Orissa		
Angul	80.4	-16
Balasore	62.7	-34
Bargarh	160.9	77
Bhadrak	63.4	-38
Bolangir	94.4	14
Boudh	103.2	11
Cuttack	105.8	23
Deogarh	95.1	-26
Dhenkanal	103.7	7
Gajapati	51.6	-1
Ganjam	11.4	-77
Jagatsingpur	39.8	-61
Jajpur	81.9	-22
Jharsuguda	138.5	22
Kalahandi	176.7	114
Kandhamal	105.4	14
Kendrapara	16.8	-83
Keonjhar	110.5	14
Khurda	24.4	-70
Koraput	211.9	108
Malkangiri	251.4	141
Mayurbhanj	114.5	10
Nawapara	125.2	98
Nawarangpur	189.3	111
Nayagarh	36.2	-48
Puri	71.2	-7
Rayagada	105.4	81
Sambalpur	189.0	48
Sonepur	126.8	12
Sundargarh	161.2	73
West Bengal		
GWB		
Bankura	100.2	47
Birbhum	43.1	-45
Burdwan	80.1	2
East Midnapore	56	-40
Hooghly	64.4	-3
Howrah	26.5	-75
Kolkata	21.5	-77
Murshidabad	15.4	-76
Nadia	21.5	-61
24 Pargana (N)	50.1	-42
Purulia	91	14
24 Pargana (S)	43.8	-62
West Midnapore	48	-40
SHWB		
Cooch Behar	60.3	-65

Darjeeling	134.7	-6
East Sikkim	156.6	46
Jalpaiguri	53.5	-62
Malda	10.9	-81
North Dinajpur	18.2	-69
North Sikkim	103.7	29
South Dinajpur	13.5	-73
South Sikkim	172	60
West Sikkim	173	115
Karnataka		
Coastal Karnataka		
Dakshin Kannada	223.8	2
Udupi	350.5	54
Uttar Kannada	322.4	74
North Interior Karnataka		
Bagalkote	15.5	-7
Belgaum	56.1	45
Bidar	20.4	-53
Bijapur	7.9	-54
Dharwad	33.3	21
Gadag	10.4	-38
Gulbarga	27.7	-12
Haveri	29.9	-4
Koppal	7.6	-55
Raichur	3.3	-87
Yadgir	22.2	-33
South Interior Karnataka		
Bangalore Rural	16.2	-29
Bangalore Urban	16.2	-41
Bellary	18.7	2
Chamarajnar	4.6	-73
Chichballapur	6.6	-70
Chickmagalur	227.8	83
Chitradurga	19.8	39
Davangere	25.4	19
Hassan	67.3	87
Kodagu	210.1	33
Kolar	5.3	-74
Mandya	5.3	-54
Mysore	15.1	-12
Ramnagara	7.7	-65
Shimoga	297.6	152
Tumkur	10.2	-42
Kerala		
Alappuzha	15.2	-82
Kannur	117.2	-23
Ernakulam	50.1	-55
Idukki	101.5	-27
Kasaragod	130.7	-27
Kollam	18.1	-70
Kottayam	49.4	-47
Kozhikode	90.4	-35
Malappuram	90.9	-18
Palakkad	86.2	1
Pathanamthitta	13.1	-85
Thiruvananthapuram	5.1	-85
Thrissur	82.9	-32
Wyanad	178.4	1
Tamil Nadu		
Ariyalur	1.6	-93
Chennai	2.5	-92
Coimbatore	8.3	-4
Cuddalore	19.3	-20
Dharmapuri	4.9	-72
Dindigul	4.9	-62

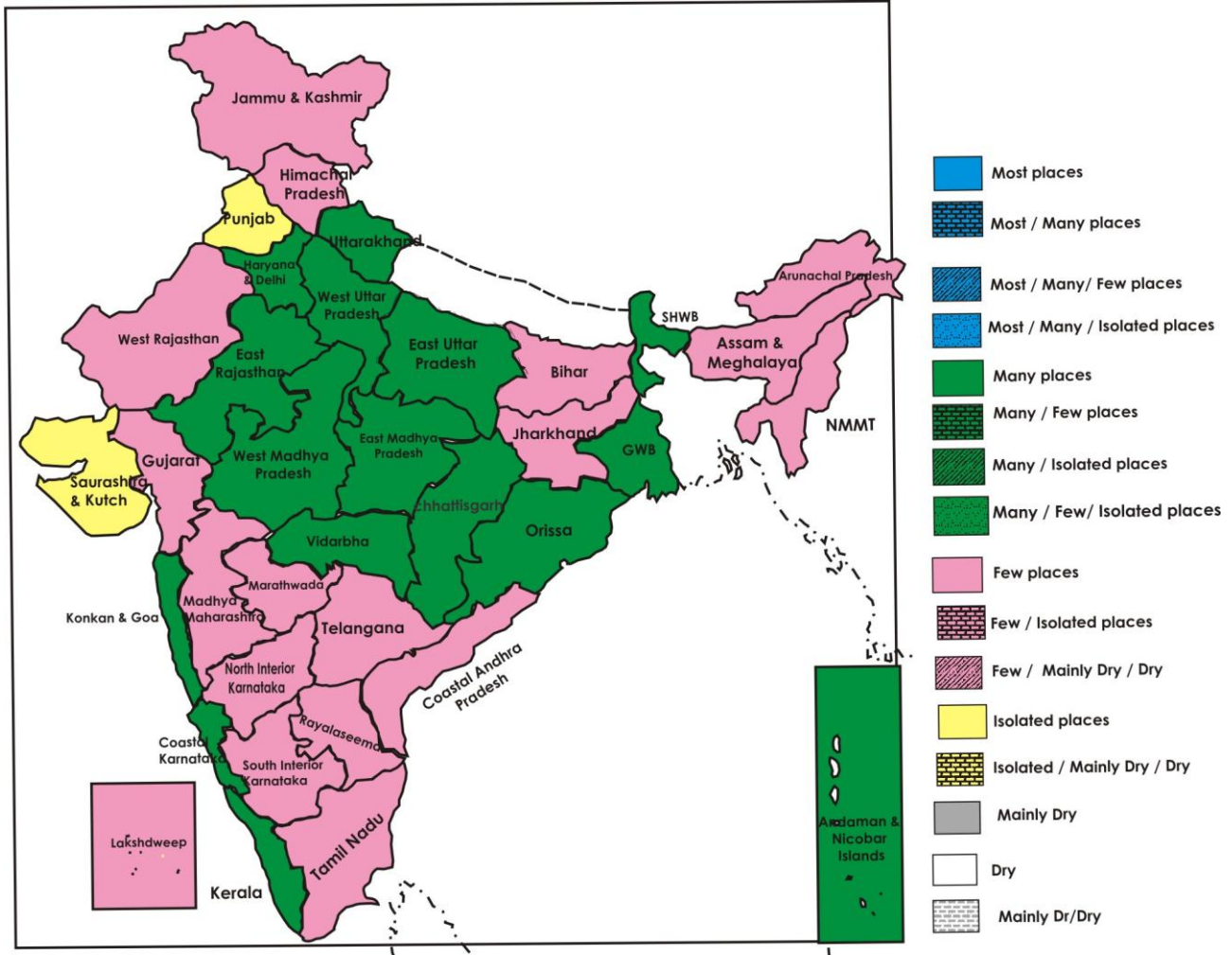
Erode	1.3	-87
Kanchipuram	18.8	-37
Kanyakumari	5.4	-71
Karikal	0.3	-99
Karur	0	-100
Krishnagiri	1.4	-92
Madurai	0.4	-97
Nagapattinam	2	-88
Namakkal	5.5	-70
Nilgiris	24.5	-44
Perambalur	1.8	-79
Puducherry	1.7	-94
Pudukottai	4.3	-74
Ramanathapuram	0.3	-94
Salem	8.6	-60
Sivaganga	4.2	-80
Thanjavur	3.4	-78
Theni	4.5	-33
Tirunelveli	1	-86

Tirupur	0	-100
Tiruvallur	9.2	-63
Tiruvannamalai	4.4	-85
Tiruvarur	1.2	-92
Toothukudi	0	-100
Trichy	1.7	-85
Vellore	2.2	-92
Villupuram	5.5	-76
Virudhunagar	5.7	-37
Andhra Pradesh		
Coastal Andhra Pradesh		
East Godavari	94.9	123
Guntur	45.8	63
Krishna	128.6	240
Nellore	20.9	12
Prakasam	30.6	82
Sirkakulam	37.4	-12
Visakhapatnam	28.3	-23
Vizianagram	26.5	-28

West Godavari	142.1	191
Telangana		
Adilabad	31.8	-52
Hyderabad	20.9	-49
Karimnagar	42.9	-19
Khammam	140.2	130
Mehabubnagar	44.4	31
Medak	20.2	-59
Nalgonda	26.1	-7
Nizamabad	31.0	-54
Rangareddy	33.5	-3
Warangal	81.8	66
Rayalaseema		
Anantapur	7.5	-44
Chittoor	7.2	-73
Cuddapah	15.8	-30
Kurnool	32.5	39

	(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 12th August, 2012)



Major Feature of Weather Forecast up to 0830 hours IST of 12th August, 2012

- Rain/thundershowers would occur at many places over Uttarakhand, Haryana, Chandigarh, Delhi, east Rajasthan, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, West Bengal & Sikkim and Odisha.
- Rain/thundershowers would occur at many places over west coast.
- Rain/thundershowers would occur at a few places over rest parts of the country outside Punjab and Saurashtra & Kutch where it would be at one or two places.

Weather Warning during next 3 days

- Heavy to very heavy rainfall would occur at one or two places over coastal Karnataka during next 48 hours.
- Heavy rainfall would occur at one or two places over Madhya Pradesh and east Rajasthan during next 48 hours and over Haryana, Chandigarh, Delhi and west Uttar Pradesh during next 24 hours.

Weather Outlook for subsequent 4 days up to 0830 hours IST of 16th August, 2012

- Increase in rainfall activity over Rajasthan and Gujarat.
- Scattered to fairly widespread rainfall would occur over rest parts of the country outside southeast peninsular India where it would be isolated.

Zonewise Agromet Advisories

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

- **Realised Rainfall:** Significant rainfall occurred in most of the districts of the States of the region during last week.
- **Rainfall Forecast:** Rain / thundershowers would occur at a few places over the States of the region.
- **Advisories:**
 - As significant rainfall occurred over most of the districts of the States of the region during last week, farmers are advised to postpone irrigation to the standing crops.
 - Farmers in the areas where flood water has been receded, are advised to raise community nursery for late transplanting with old seedlings of the varieties like Profulla and Gitesh (if more than 50% area damaged) or nursery raising of the photo insensitive short duration variety like Luit for re-transplanting (in case of total damage). Farmers may also sow traditional varieties of *sali* rice, which can be transplanted late up to the end of August. Adopt submergence tolerance varieties like Jalashree and Jalkuwari for repeatedly flood prone areas. In partially affected fields, drain out excess water and apply 1/3rd N + 50% K₂O as top dressing during the tillering stage of *sali* rice. Provide aeration in root zone by hoeing in between lines after flood for sugarcane and pulses.
 - In flood affected areas of Hill Zone of Assam, after receding of flood water, the short duration varieties of rice like Luit, Kapilee, Dichang etc. can be sown directly in puddled field with sprouted seeds up to middle of September. Farmers can also sow sesamum in August or green gram and black gram up to mid-September in medium and upland situation. Farmers can also raise community nursery, if individual farmer does not have suitable land for nursery due to inundation by flood water.
 - Farmers in Hill Zone and lower Brahmaputra Valley Zone of Assam are advised to undertake transplanting of *sali* rice and gap filling with seedlings of *sali* rice within 7-10 days of transplanting. Continue land preparation and sowing of sesame and nursery sowing of cauliflower. Adequate drainage should be provided to drain out excess water from the plot. Farmers in Lower Brahmaputra Valley Zone of Assam are also advised to undertake planting of litchi, betelvine and seedbed preparation of winter vegetable.
 - Farmers in Upper Brahmaputra Valley Zone of Assam are advised to continue sowing of *sali* rice. Farmers can select suitable long duration high yielding varieties for typical lowland areas. But in medium lowland areas, farmers can select medium duration varieties which may facilitate to grow toria or mustard after harvest of *sali* rice. Farmers can also undertake transplanting of one year old seedlings of coconut.
 - Farmers in North Bank Plain Zone of Assam are advised to undertake land preparation and sowing of early cauliflower, radish, green gram and black gram. Farmers are also advised to transplant short duration HYV rice in the main field of flood affected area.
 - Farmers in Central Brahmaputra Valley Zone are advised to undertake sowing of black gram and intercultural operation of *kharif* sesame and arhar on a non-rainy day. Harvesting of early and timely sown *Olitorius* jute may be started.
 - Farmers in Barak Zone of Assam are advised to complete transplanting of semi dwarf *sali* rice by 15th August. Select upland sandy loam soil for the cultivation of *Dolichos* bean (locally known as sheem). Start land preparation for the cultivation of *Kharif* sesamum under upland situation.
 - Farmers in Sub Tropical Hill Zone of Arunachal Pradesh are advised to complete transplanting of rice (upland WRC) at the earliest. Farmers are also advised to undertake nursery preparation of early cauliflower and cabbage.
 - Farmers in Mild Tropical Hill Zone of Mizoram are advised to complete transplanting of rice. Farmers are also advised to undertake land preparation for nursery sowing of tomato.
 - In Mild Tropical Hill Zone of Nagaland continue harvesting of matured maize cob. Good drainage is important in papaya plant as water logging is harmful for the plant.
 - Farmers in Sub Tropical Plain Zone of Manipur are advised to sow late variety of rice i.e. RC Maniphou 7. Farmers are also advised to sow short duration variety of rice i.e. RC Maniphou-6 in upland area. Land preparation for nursery sowing of cauliflower, onion and pea may be undertaken.
 - In Temperate Sub Alpine Zone of Meghalaya, farmers are advised for sowing of *Dolichos* bean and French bean and planting of pineapple.
 - In Mild Tropical Plain Zone of Tripura sowing of *kharif* vegetables must be completed by the end of this month. Prepare land for sowing of sesame and banana.
 - Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
 - In Hill Zone and Lower Brahmaputra Valley Zone of Assam, infestation of rice hispa may occur in crops, which are in tillering stage. Spraying with Quinolphos @ 2 teaspoonful / 5 litres of water may be carried out, if the infestation is noticed.
 - In early sown *sali* rice field, at tillering stage, stem borer infestation may occur in Central Brahmaputra Valley Zone of Assam and Sub Tropical Plain Zone of Manipur; farmers are advised to apply Chloropyriphos (20%) @ 2 ml / litre of water.

- Present weather condition may favour the occurrence of Phytophthora leaf & root rot in betelvine in Upper Brahmaputra Valley Zone of Assam. Farmers are advised to apply four drenches and eight sprays of Bordeaux mixture @ 1% and 0.5%, respectively.
- In Mild Tropical Plain Zone of Tripura, due to prevailing weather conditions, there is chance of attack of sheath blight in upland rice and leaf blight in maize. To control rice sheath blight, spray Surf @ 1 g per liter of water and to control leaf blight in maize, spray Zineb @ 3 g per liter of water for leaf blight. Combined attack of Downy mildew and Mosaic may be seen in bitter gourd and pointed gourd. Redomil–MZ @ 2 g per liter may be applied to manage the attack.
- In Mild Tropical Plain Zone of Tripura, due to cloudy and humid weather, there may be attack of yellow vein mosaic virus in ladies finger. White fly is the vector of the disease. To manage the attack, Prosper or Cypermethrin @ 1.5 ml per liter of water may be applied 3 times at an interval of 7 days.
- In Sub Tropical Plain Zone of Manipur tikka disease may occur in groundnut. To control tikka disease, apply Carbendazim @ 0.5 g / litre of water.
- Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**
 - Farmers in the areas where flood water has been receded are advised to feed concentrate and green grasses along with vitamins and mineral supplements to cattle. If grass is not available then supply the leaves of edible tree like banana, bamboo, mango, jack fruit etc. and supply adequate pure and clean drinking water to prevent bacterial disease in livestock and poultry.
 - In Central Brahmaputra Valley Zone and North Bank Plain Zone of Assam and Sub Tropical Plain Zone of Manipur, farmers are advised to vaccinate cattle and buffaloes against FMD, HS and BQ, pigs against swine fever. Farmers are advised to vaccinate poultry against Ranikhet and Gamboro diseases. Deworm goat and sheep.
 - In Lower Brahmaputra Valley Zone, farmers are advised to vaccinate poultry against Ranikhet and Gamboro diseases.
 - In Mild Tropical Hill Zone of Mizoram, farmers are advised to deworm cattle against Fascioliosis, vaccinate poultry against Ranikhet and Coccidiosis, deworm pig and vaccinate against swine fever.
 - In Mid Tropical Plain Zone of Tripura, due to congenial weather, there is chance of infection of coccidial and gastrointestinal parasite in poultry and pig. Farmers are advised to maintain clean sanitary conditions of poultry sheds.
 - Farmers in Sub Tropical Hill Zone of Arunachal Pradesh are advised to deworm poultry, goat, sheep and pig.
 - In Mild Tropical Hill Zone of Nagaland, farmers are advised to vaccinate pigs / piglets against swine fever.
- **Pisciculture**
 - Farmers in Upper Brahmaputra Valley Zone of Assam are advised to release spawn in their fisheries. Clean up the pond well before releasing spawn. Cow dung @ 500 g per sqm may be added at least 15 days ahead of releasing fingerlings into the ponds.
 - Farmers of Barak Valley Zone of Assam are advised to supply feed in adequate amount to help the fingerling to grow well. Necessary precautionary measures should be adopted so that embankments of the ponds are not submerged during flood.
 - Farmers in Manipur and Arunachal Pradesh 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. Well balanced feed fortified with vitamins and minerals should be provided as supplementary feed.

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

- **Realised Rainfall:** Significant rainfall occurred in most of the districts of Jharkhand (except Godda), West Bengal (except Kolkata and Nadia district in Gangetic West Bengal and Malda, North, South Dinajpur districts in Sub Himalayan West Bengal), Orissa (except Ganjam, Kendrapara and Khurda districts) and in many districts of Bihar (except Araria, Banka, Bhagalpur, Bhojpur, Buxar, Darbhanga, Jamui, Monghyar, Purnea, Siwan Supual) during last week.
- **Rainfall Forecast:** Rain / thundershowers would occur at many places over Orissa, West Bengal & Sikkim and at a few places over Jharkhand and Bihar.
- **Advisories:**
 - As there was Significant rainfall in most of the districts of Jharkhand (except Godda), West Bengal (except Kolkata and Nadia district in Gangetic West Bengal and Malda, North and South Dinajpur districts in Sub Himalayan West Bengal), Orissa (except Ganjam, Kendrapara and Khurda districts) and in many districts of Bihar (except Araria, Banka, Bhagalpur, Bhojpur, Buxar, Darbhanga, Jamui, Monghyar, Purnea, Siwan Supual) during last week, farmers are advised to postpone irrigation to the standing crops.

- As the districts like Godda in Jharkhand and Araria, Banka, Bhagalpur, Bhojpur, Buxar, Darbhanga, Jamui, Monghyar, Purnea, Siwan Supual in Bihar did not receive significant rain during last week and rain is also likely to occur at a few places, farmers are advised to apply irrigation in these districts.
- As there is possibility of rainfall at many places in Orissa, West Bengal & Sikkim, farmers are advised to postpone intercultural operation and application of fertilisers and plant protection measures to the standing crops in the districts of these States.
- There were subdued rainfall activities in many districts of Bihar during earlier part of the season. Even though, there was rainfall during last couple of weeks in Bihar, due to inadequacy of moisture, transplanting of rice is halted in many districts and transplanted rice is under moisture stress. Farmers are advised to apply life saving irrigation to transplanted rice. Where rainfall is highly deficient, sowing of contingent crops like urd (T-9), arhar (Bahar, Narendra Arhar 1, Malviya 13), bajra, toria is advised in upland and medium land areas.
- In view of likely occurrence of fairly widespread rainfall, farmers of Western Undulating Zone of Orissa are advised that necessary arrangement should be made to drain out excess water from the fields of maize, arhar, cotton and SRI transplanted rice.
- The farmers of North Central Plateau Zone of Orissa are advised to complete sowing of green gram and black gram in rain fed fallow uplands, complete sowing of vegetables like lady's finger, cowpea and cluster bean and raise vegetable nurseries for early cauliflower, brinjal, tomato and chillies in uplands.
- Farmers of East and South Eastern Coastal Plain Zone of Orissa are advised to undertake sowing of non-rice crops like green gram and black gram, sesame and vegetables, such as cowpea, okra and cucurbitaceous crops in fallow upland. The farmers are also advised for puddling and transplanting of rice.
- The farmers of North Eastern Plateau Zone of Orissa are advised for sowing of rainy season vegetables like bhindi, bean, French bean, tomato, cauliflower, cabbage etc.
- In Central and North Eastern Plateau Zone of Jharkhand, farmers are advised to complete sowing of upland rice and undertake short duration varieties of arhar, groundnut, rice, urad, turmeric, jowar, soybean and okra for inter cropping.
- In Western Plateau Zone of Jharkhand, farmers are advised to complete sowing of different *kharif* crops at an early date with early duration varieties; undertake sowing of short duration varieties of different *kharif* crops like rice, urad, groundnut, arhar, maize and rainy season vegetables like bhindi, bean, French bean, tomato, cauliflower, cabbage, brinjal, chilli etc. Farmers, who have not sown *kharif* crops in upland till now, may sow kulthi or safflower.
- Farmers in Coastal Saline Zone of West Bengal are advised to undertake sowing of nursery bed for short duration rice. Farmers are also advised to start transplanting of water chestnut as waste land crop.
- Farmers in New Alluvial Zone of West Bengal are advised to complete transplanting operation of *aman* rice and complete the harvesting operation of already matured jute crop. Farmers are also advised to start cultivation of Mushroom.
- Farmers in Laterite and Red Soil Zone of West Bengal are advised to undertake transplanting of *aman* rice using realized rain. If there is delay in the sowing, farmers are also advised to take short to medium duration varieties of rice.
- Farmers in Old Alluvial Zone of West Bengal are advised to complete the transplanting operation of *aman* rice and also harvest already matured jute crop and start retting. Farmers are also advised to sow short duration varieties of rice, if *aman* rice is not yet sown, after harvesting of jute.
- Farmers in Hill Zone of West Bengal are advised to transplant the seedlings of rice.
- Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
- Weather is favourable for infestation of fruit and shoot borer in the brinjal in North west Alluvial Plain Zone of Bihar; spray Sevin @ 0.2 %.
- In Puri and Kendrapara districts in East and South Eastern Coastal Plain Zone of Orissa, fruit and shoot borer in brinjal has been found; install pheromone trap and spray 4 g Sevin WP or 2 ml Malathion in 1 litre water. Root rot in pointed gourd, thrips in chilli has also been found; spray 10 g Plantomycine along with 20 g Blitox 50 in 10 litres of water for pointed gourd and spray 300 ml Ethion or 400 ml Carbosulphan or Chloropyrifos in 200 litre water / acre for chilli.
- In Nayagarh district in East and South Eastern Coastal Plain Zone of Orissa, infestation of early shoot borer in sugarcane has been found. Release 50,000 *Trypoglyptus chilonis* parasite to control the borer. Otherwise install 4 to 5 pheromone traps per acre to attract the borer or spray 400 ml Monocrotophos or Quinalphos in 200 litres of water per acre.
- In North Central Plateau Zone and North Eastern Ghat Zone of Orissa, fruit and shoot borer in brinjal has been found. Farmers are advised to install Pheromone traps and spray 4 g Sevin WP or 2 ml Malathion in 1 litre water alternatively.

- Incidence of *alternaria* blight and bacterial leaf spot on cotton crop has been reported in some places of Western Undulating Zone of Orissa. Farmers are advised to spray Mancozeb @ 2.5 g per litre of water for *alternaria* blight and Steptocycline @ 0.1 g with copper oxychloride @ 2.5 g per litre water for bacterial leaf spot.
 - Due to heavy rainfall in Laterite and Red Soil Zone of West Bengal, caterpillar may attack the *aus* rice; use Acephate 75% or Methyl parathion 50%. Semilooper may attack jute; spray Carbaril 50% (2.5 gm per litre of water). Cut worm may cause damage the stem and root of *khariif* maize, sweet corn etc.; apply methyl parathion 2% or Chlorpyriphos 1.5%.
 - Under prevailing weather situation in New Alluvial Zone of West Bengal, combined attack of downy mildew and mosaic may be seen in bitter gourd & pointed gourd. There may also be attack of gundhi-bug in *aus* rice. For downy mildew, apply Ridomil–MZ @ 2 g per litre of water and for gundhi-bug, apply Malathion or Dichlorovos @ 1 ml per litre of water.
 - Stages of major crops are mentioned in Annexure I.
 - Farmers of North Eastern Plateau Zone of Orissa are advised to provide clean and concentrate feed to the cattle, and mix with dry and green fodder. Ensure for enrich diet having protein, carbohydrate, fat, vitamins. Arrange for vaccination to prevent from Foot and Mouth disease. Use potassium permanganate @ 5 ml per liter of water to clean the infected parts of the animals, as a precautionary measure. Vaccinate cattle against Anthrax disease, and arrange medicine against worm infection during rainy season.
- **Pisciculture**
 - Farmers of North Eastern Plateau Zone of Orissa are advised to apply Mahua Oil cake @ 1 ton / acre to kill the predator fishes, where the pisciculture activities are to be taken in new water bodies. Collect 4000 no. of spawns / acre in the ratio of 4:3:3 (Catla : Rohu : Mrigal). For pH correction of water, add 250 kg of Lime / 1 hamt of water.
 - Farmers of North Eastern Coastal Plain Zone of Orissa are advised to purchase fish seeds from a reliable fish seed producer and stock 3000 nos. of advance fingerlings of more than 8 cm size per one acre of water area. In case of three species combination, the stocking numbers should be 900 for Catla, 1200 for Rohu and 900 for Mrigal. In case of six species combination, the stocking numbers should be 800 for Catla, 1200 for Rohu, 500 for Mrigal, 300 for Common carp, 100 for Grass carp and 100 for Silver carp. In any situation, the average water depth of the pond should not be less than 5 ft level.

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

- **Realised Rainfall:** Significant rainfall occurred in many districts of Himachal Pradesh, Uttar Pradesh, Uttarakhand, East Rajasthan, Anantanag, Kathua, Kulgam, Kupwara, Poonch, Rajouri, Ramban, Reasi and Udhampur districts in Jammu & Kashmir received significant rainfall during last week. No significant rainfall occurred in remaining region during last week.
- **Rainfall Forecast:** Rain / thundershowers would occur at many places over Uttarakhand, Haryana, Chandigarh, Delhi, Uttar Pradesh and East Rajasthan and at a few places over West Rajasthan, Himachal Pradesh and Jammu & Kashmir. Rain / thundershowers would occur at one or two places over Punjab.
- **Warning:** Heavy rainfall would occur at one or two places over East Rajasthan during next 48 hours and over Haryana, Chandigarh, Delhi and west Uttar Pradesh during next 24 hours.
- **Advisory:**
 - As significant rainfall occurred over many districts in Himachal Pradesh, Uttar Pradesh, Uttarakhand, East Rajasthan, Anantanag, Kathua, Kulgam, Kupwara, Poonch, Rajouri, Ramban, Reasi and Udhampur districts in Jammu & Kashmir and rain / thundershowers would occur at many places over Haryana, Chandigarh, Delhi and Uttar Pradesh, farmers in are advised to postpone irrigation, weeding, intercultural operation and application of fertilisers to the standing crops. In view of occurrence of heavy rainfall in one or two places over East Rajasthan during next 48 hours and over Haryana, Chandigarh, Delhi and West Uttar Pradesh during next 24 hours, arrange for adequate drainage in standing crops to avoid stagnation of water. Farmers in Punjab and West Rajasthan are advised to provide irrigation to the standing crops as mainly dry weather prevailed during last week and no significant rainfall is likely during next three days.
 - Farmers in Flood prone Eastern plain zone in East Rajasthan are advised to undertake late sowing with early maturing varieties of green gram, moth been, cluster bean and sesame instead of pearl millet, nursery sowing of marigold, planting of ber, mulberry, aonla, pomegranate, lime, orange and phalsa and sowing of tomato, brinjal and cucumber, cucurbits like bitter gourd, water melon, pumpkin, cucumber, round gourd, ridged gourd and bottle gourd etc. utilizing realized rainfall during last week. Carry out weeding and maintain plant population by thinning in timely sown crops like maize, sorghum, cluster bean, pearl millet, sesame, moong and groundnut. Spray 0.5 % solution of thiourea in pearl millets crop for more tillering. Cut jowar before emergence of inflorescence for fodder.

- Farmers in Sub Humid Southern Plain and Aravali Hill Zone in East Rajasthan, are advised to sow pulses (urd, red gram and green gram), groundnut and sesamum utilizing the realized rainfall.
- In Transitional plain zone of luni basin in East Rajasthan, farmers are advised to undertake sowing of hybrid pearl millet, urd and sesame.
- Farmers in Semi Arid Eastern Plain Zone (Jaipur) in East Rajasthan are advised to undertake hoeing and weeding and top dressing in pearl millet, maize and sorghum and also in early sown irrigated groundnut. Continue sowing of short duration varieties of urd, red gram and moong and planting early radish, okra and spinach.
- In East Rajasthan, farmers are advised to apply vegetative mulch in between rows to conserve soil moisture and control weeds.
- In West Rajasthan, farmers are advised to undertake hoeing and weeding in groundnut and soybean. Earthing may be done in spreading type of groundnut of one month old. Sowing of urd and sesamum may be done with improved varieties.
- In Transitional Plain Zone of Inland drainage (Fatehpur) of West Rajasthan, farmers are advised for continue sowing of rainy season crops like bajra, guar, cowpea, moth etc. and cucurbits like khira, bottle gourd, ridge gourd, bitter gourd and cucumber utilizing the realized rainfall during previous weeks.
- In Arid Western Plain Zone (Jodhpur) in West Rajasthan, farmers are advised to undertake sowing of short duration varieties of moth bean, guar and intercropping of fodder bajra with moth or guar instead of bajra for food purpose. Provide irrigation to the early sown crops where irrigation facility is available.
- Farmers in West Rajasthan are advised to undertake sowing of fodder bajra and short duration varieties of moth and guar.
- In (Chatha(Jammu))Sub Tropical Zone of Jammu and Kashmir, farmers are advised to go for applications of 2nd dose of nitrogenous fertilizer as top dressing in normal transplanted rice crop if the crop is 25-30 days old and 2nd dose of nitrogenous fertilizer as top dressing in maize utilising realised rainfall during last week.
- In Cold Arid Zone of Jammu & Kashmir, farmers are advised to undertake sowing of legumes as fodder or pea mixed with maize and millets to enrich the soil.
- In Intermediate zone of Jammu & Kashmir, farmers are advised to undertake nursery sowing / transplanting of knol-khol, cabbage and cauliflower and sowing of bhindi, radish, pumpkin, bittergourd, bottlegourd, sponge gourd, carrot, turnip. Also advised to undertake top dressing in rice, maize, bajra and pulses.
- In Valley Temperate zone of Jammu & Kashmir, farmers are advised to undertake transplanting of seedlings of cole crops (cauliflower and cabbage).
- Farmers in East Uttar Pradesh are advised continue transplanting of medium duration rice and sowing of *kharif* crops like jowar, bajra, urad, moong, soybean, groundnut and til. Complete sowing of vegetables like okra, cucumber, pumpkin, tomato, cabbage and chilly and undertake planting of early cauliflower, brinjal, tomato, onion as early as possible. Top dressing of fertilizers and weeding, hoeing in sugarcane and vegetables in East Uttar Pradesh after current spells of rain.
- Farmers in West Uttar Pradesh are advised to complete sowing of black gram and sesame. Continue transplanting of rice and sowing of sorghum upto 10th August. It is also advised to continue nursery sowing of brinjal, chilli, tomato, cauliflower, lady's finger and cucurbits (lobia, gourd, taroi, bitter gourd, cucumber).
- In High Hill Temperate Dry Zone of Himachal Pradesh, farmers are advised to complete sowing of cauliflower, capsicum, squash, cabbage and lettuce and planting of capsicum / tomato in poly house. In Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh, farmers are advised to undertake sowing of French bean, continue planting of evergreen fruit plants like mango, litchi, guava, citrus, loquat and amla. Also continue sowing of ginger, arbi, amaranthus and turmeric and continue direct sowing of medicinal plants like Ashvagandha and kalmegh may be done.
- In (Seobagh) Mild Hills Sub Humid Zone of Himachal Pradesh, farmers are advised to undertake nursery sowing of cauliflower and planting of mango, litchi, citrus, loquat, amla and new plantation of tea.
- In Bhabar and Tarai Zone of Uttarakhand, farmers are advised to go for sowing of urd due to favourable weather. There has been heavy rainfall in the area, farmers are advised not to go for irrigation in rice crop during this week. Instead remove weeds from crop, bunds and channels. Make bunds more stronger for storing more rainwater. If rice crop is of 20 to 25 or 40 to 45 days old then top-dress 25 kg Urea per acre for enhancing tillering. Rice fields in which more rainwater has stagnated, then remove it for avoiding adverse effect on tillering. Farmers are advised to maintain proper drainage in soybean, pigeon pea, millets, mung, urd etc. crops.
- In (Roorki) Sub humid sub tropic Zone of Uttarakhand, rice transplanting should be completed to improve water conservation in sugarcane, maize, bajra and jowar apply mulching or light harrowing in between the rows may be done.
- In view of deficient rainfall, farmers in Delhi are advised to conserve rain water in the paddy fields by making broad and elevated bunds. Weeding and hoeing should be done in all crops and vegetables followed by application of split dose of nitrogen for optimum growth. Farmers are advised to undertake transplanting of onion,

prepare nurseries of cauliflower for mid season (Nov. - Dec.). Nurseries should be prepared in raised bed. Water logging should be avoided in nursery by doing proper drainage. Transplanting of chrysanthemum, marigold and sowing of gladiolus may be done on raised bed.

- Farmers in Punjab and Haryana are advised to give irrigation to rice crop two days after the ponded water infiltrated into the soil but should not be allowed to develop cracks. Apply top dressing of nitrogen through 35-40 kg urea, if already not given. Sow leguminous and non-leguminous crops in mixture i.e. maize + cowpea, sorghum + guara. Start sowing of cauliflower and transplanting of *khariif* onion both with bulbsets as well as seedlings. Undertake sowing of rainy season vegetables and give frequent light irrigation in existing crops.
- 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. Vaccination for Ranikhet disease in poultry should be done.
 - In Himachal Pradesh, weather is conducive for spread of FMD and galgotu so, farmers are advised for vaccination of animals against FMD. Also for ticks and mites attack on animals for control spray Butox @ 2.0 ml per litres of water. Ensure proper drinking water. Feed pregnant and lactating cows and buffaloes with balance feed including mineral mixture. Put uromin bricks for licking to animals for 5 minutes in morning and evening.
 - 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. Low energy diets should be provided to animals. Adult animals should be dewormed. Animal sheds should be properly cleaned and disinfected. Cow dung should damp away from animal sheds to avoid spread of infection. Any injury on animal should be properly attended to avoid collection of maggots. As weather is conducive for ticks and mites attack on animals in Intermediate Zone (Rajouri) of Jammu & Kashmir, it is advised to spray Butox @ 2.0 ml per litres of water.
 - In view of present weather farmers in Delhi are advised to monitor vegetable crops like brinjal, cauliflower, cabbage, tomato etc. against fruit borer and diamond back moth, paddy crops against leaf folder or stem borer, sugarcane against shoot borer and lady finger, chilli and cucurbitaceous crops against attack of mite, jassid and hopper. Take proper plant protection measures to control above pest and disease.
 - In view of present weather there is a heavy chance of attack of sucking pests on cotton in Western Plain Zone of Haryana. To control whitefly attack, spray 600 ml Triazophos or 800 ml Ethion in the early hours of morning alternatively in two consecutive sprays.
- **Horticulture :**
 - In Himachal Pradesh, give support to the branches of apple so that branches should not break due to fruit load in Sub mountain and low hills sub tropical zone. In high hills temperate wet zone, temperate fruits (Apple, pear plum etc.) are in the fruit development stage. So, maintain the moisture in the soil, apply irrigation if possible. Remove all the bushes from the orchards and also keep the tree basins neat and clean. Picking may be done of the early maturing varieties of the apple and pear.
- **Apiculture :**
 - In Sub Tropical (Chatha) Zone and Intermediate (Pahalgam) Zone of Jammu & Kashmir, farmers are advised to check ants by placing leg of bee hives stand in water pots & feed the colonies with sugar water solution in the ratio of 2:1. Check ectoparasitic mite infestation by dusting sulphur, 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.
 - In Sub humid sub tropic of Uttarakhand, to control mango mall formation cut and destroy the affected parts away from the orchard. Spray NAA 200 ppm 90ml/200 litres of water for better flower and fruiting.
- **Floriculture :**
 - In Subtropical and Intermediate lower zone of Jammu & Kashmir, Chrysanthemum can be propagated through rooting of stem cuttings which are taken from healthy mother stocks.
 - 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.

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

- **Realised Rainfall:** Most of the districts in Coastal Karnataka, Belgaum , Dharwad, Gulbarga, and Haveri in North Interior Karnataka, Chickmagalur, Devangree, Hassan, Kodagu and Shimoga districts in South Interior Karnataka, all the districts in Coastal Andhra Pradesh, Kurnool in Rayalaseema, most of the districts in Telangana except Medak and Hyderabad, Nilgiris in Tamil Nadu and most of the districts in Kerala except Alapuzha, Kollam,

Pathanamthitta and Thiruvananthapuram received good rainfall. No significant rainfall occurred over remaining parts of the region.

- **Rainfall Forecast:** Rain/thundershowers would also occur at many places over Coastal Karnataka and Kerala and at a few places over rest of the region.
- **Warning:** Heavy rainfall would occur at one or two places coastal Karnataka during next 48 hours.
- **Advisories:**
 - All the districts of Coastal Karnataka, Belgaum, Dharwad, Gulbarga, and Haveri in North Interior Karnataka, Chickmagalur, Devangere, Hassan, Kodagu and Shimoga districts in South Interior Karnataka, all the districts of Coastal Andhra Pradesh, Kurnool in Rayalaseema, most of the districts of Telangana except Medak and Hyderabad, Nilgiris in Tamil Nadu and most of the districts in Kerala except Alapuzza, Kollam, Pathanamthitta and Thiruvananthapuram received good rainfall. Complete sowing of medium / short duration *kharif* crops in South Interior Karnataka and Belgaum, Dharwad, Gulbarga, and Haveri districts of North Interior Karnataka, drain out excess water in fields. Postpone irrigation to the standing crops in the above parts of the region.
 - Due to inadequate rainfall during the season, farmers in the Eastern Dry Zone of Karnataka are advised to continue sowing of medium and short duration crops like red gram, finger millets, aerobic rice, maize and sunflower. The recommended varieties are given in Annexure-II
 - Farmers in Coastal Zone of Karnataka are advised to complete paddy transplanting and planting of cashew, mango, papaya and coconut. Before planting of banana, suckers should be dipped in Carbofuran 10 g/litre of water.
 - Farmers in North transition Zone (Dharwad district) are advised to take up sowing of paddy (drill sown), maize, sunflower, groundnut and cowpea and continue land preparation for transplanting rice utilizing the realized rainfall.
 - Farmers in North Dry Zone are advised to complete sowing of sunflower, bajra, niger, navane, castor and horse gram. During first fortnight of August, sowing of maize and sunflower and mixed cropping of onion + chilli + cotton (desi) may be taken up. If the crops already sown have recovered due to rainfall received in the last week, farmers are advised to take up spraying of 2 per cent urea to improve and fasten the growth of the crops.
 - Farmers in the Southern Dry zone of Karnataka are advised utilize the realized rainfall to take up sowing of short duration rice, finger millets, cowpea, green gram, black gram, horse gram, fodder African tall and multi cut sorghum.
 - Farmers in the Southern Transition Zone of Karnataka are advised to complete transplanting of rice in main fields.
 - Farmers in the North East Dry Zone of Karnataka are advised to follow the contingent crop plan for efficient use of available soil moisture and rainfall. (Contingency plan in Annexure-III). Inter cultivation may be done in all *kharif* crops like green gram, black gram, cowpea, red gram, soybean etc. wherever possible hand weeding can also be done in between the rows.
 - Farmers in the North Eastern Zone of Tamil Nadu are advised to undertake sowing of rain fed groundnut and plough the field to eradicate the weeds in the field.
 - Farmers in the Western Zone of Tamil Nadu are advised to irrigate maize crop after 45 to 65 days of sowing.
 - Farmers in the High Rainfall Zone of Tamil Nadu are advised to undertake basin preparation for pepper, clove, nutmeg and cinnamon for better rain water harvest and grafting and cutting of horticultural crops.
 - Farmers in the Southern Telangana Rainfall Zone of Andhra Pradesh are advised for direct seeding of rice in puddled soil with short duration varieties. They are also advised to take up sowing of castor taking advantage of recent rains.
 - Farmers in the North Coastal Zone of Andhra Pradesh are advised to complete sowing of vegetables.
 - Farmers in the Krishna Godavari Zone of Andhra Pradesh are advised to continue sowing of medium duration varieties of rice, pulses, cotton, maize and vegetables utilising the recent rainfall. If excess moisture situation exists in case of already sown pulses, maize and other vegetables in the region, farmers are advised to go for spraying of 2% urea on standing crop for immediate recovery from excess moisture stress.
 - Farmers in the Northern Telangana Zone of Andhra Pradesh are advised to complete sowing of cotton, soybean, green gram, black gram, sunflower and castor.
 - In the Problem Area Zone of Kerala, farmers are advised to undertake proper water management in rice field by flooding in and draining out of fresh water to combat low acidity and salinity, which in turn enhances tillering. High wind speed is also forecasted in the next five days. Farmers are advised to do propping in banana plantation.
 - Farmers in the Northern zone of Kerala are advised to complete transplanting of vegetables to the main field. Farmers are also advised to undertake planting of Robusta, Poovan, Njalipoovan, Palayankodan varieties of banana and compulsory propping should be undertaken in the existing plantation.
 - Farmers in the Southern Zone of Kerala are advised to apply second dose of fertilizer for paddy crop planted in May, ensure proper drainage in coconut garden, complete propping in banana by month end and take care of tapping panels in rain guarded rubber plants. Farmers are also advised to undertake planting of vegetables.

- Due to continuous rain and decrease in temperature the rust disease and green leaf eating caterpillar on green gram is noticed in some parts North East Transition Zone of Karnataka. To control rust disease in soyabean spray Propiconazole or Hexaconazole 1 ml per liter of water. For effective control of green leaf eating caterpillar spray Quinolphos @ 2 ml per liter of water.
- Stem borer incidence in kuruvai paddy and early shoot borer incidence in sugarcane is noticed in the Cauvery Delta Zone of Tamil Nadu. Farmers are advised to place pheromone traps and spray Profenophos at 400 ml/acre (or) apply Cartap hydrochloride 4 G @ 6 kg/ac for effective control of stem borer and Chlorpyrifos at 400 ml/acre to control early shoot borer.
- Farmers in the High Rainfall Zone of Tamil Nadu are advised to undertake combined application of systemic and contact fungicides on banana to restrict the spreading of diseases.
- Incidence of stem borer is noticed in maize, early shoot borer in sugarcane, mites and shoot and fruit borer is noticed in brinjal in the Northern Telangana Zone of Andhra Pradesh. Farmers are advised to undertake plant protection measures.
- Prevailing dry conditions are favourable for incidence of leaf miner/ leaf webber in groundnut, thrips in cotton and semilooper in castor in the Scarce Rainfall Zone of Andhra Pradesh. Farmers are advised to undertake plant protection measures.
- In Southern Telangana Zone of Andhra Pradesh, delayed sowing of paddy nurseries and transplanting will result in gall midge incidence. Hence farmers should select gall midge resistant varieties for sowing after sufficient inflows from reservoir or go for application of Carbofuran granules @ 10 kg per acre or phorate @ 5 kg per acre at 10-15 days after transplanting to control gall midge incidence. Incidence of fruit fly is noticed in gourds. Farmers are advised to keep poison bait (100 ml Malathion + 100 g Jaggery per litre of water) to control it and monitor the incidence of brown spot in rice nurseries and sucking pests in cotton and vegetables.
- Farmers in the Central Zone of Kerala are advised to allow maximum sunlight to fall on pepper field to control pollu beetle and fungal diseases and undertake efficient management of palms suspected to be affected by coconut root wilt disease.
- Leaf folder attack is noticed in isolated pockets of Northern zone of Kerala on rice. Farmers are advised to unfold the leaves by rolling thorny wires/twigs over the canopy. If the attack is severe spot spraying of Malathion@ 50EC @2ml/litre of water is also advised.
- Due to prevailing weather sucking pest in cotton was noticed in some parts of Hill zone of Karnataka. To control spray with 1.7 ml Dimethoate 30 EC or 2.0 ml methyl demeton in one liter of water.
- **Livestock**
 - Farmers in the Problem area zone of Kerala are advised to undertake precautionary measures against Mastitis. Clean and hygienic water should be fed to animals. Sanitize the recently filled water to reduce bacterial load.
 - Farmers in the Northern zone of Kerala are advised to undertake vaccination and de-worming for the animals in consultation with veterinary doctor.
 - Farmers of the North Dry Zone and Southern transition zone of Karnataka, Southern Telangana zone of Andhra Pradesh are advised to vaccinate livestock against Foot and Mouth disease (FMD vaccination), Black Quarter disease (BC vaccination) and Haemorrhagic Septicaemia sheep and goats against Enterotoxemia.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** All districts in Konkan and East Vidarbha, Nashik, Kolhapur, Satara, Pune and Sangli districts in Madhya Maharashtra received significant rain during last week. Ahmednagar, Jalgaon, Nandurbar, Dhule and Solapur districts in Madhya Maharashtra, Akola, Buldhana, Washim and Yavatmal districts in West Vidarbha and all districts in Marathwada received deficient rainfall during last week. In Gujarat region Valsad, Dangs, Panchmahal and Dahod districts received significant rain during last week.
- **Rainfall Forecast:** Rain / thundershowers would occur at many places over Konkan & Goa and Vidarbha, at a few places over Madhya Maharashtra, Marathwada and Gujarat region and at one or two places over Saurashtra & Kutch.
- **Advisories:**
 - As rain / thundershowers would occur at many places over Konkan and Goa and Vidarbha, farmers are advised to postpone irrigation, intercultural operation and application of fertilizers and plant protection measures.
 - Rainfall situation has improved in Madhya Maharashtra during last 3-4 days; recent rain is beneficial for the growth of already sown crops, transplanting of *kharif* rice and sowing of contingent crop. Farmers of Pune district are advised to undertake sowing of water stress tolerant crops like sunflower, red gram, horse gram on *vapsa* condition with early maturing varieties as contingent planning. Farmers of Eastern Pune district are also advised to adopt intercropping of sunflower+ tur (2:1).
 - Kolhapur, Satara and Sangli received significant rain during last week and scattered rain is expected during next 2-3 days; therefore farmers in Kolhapur region are advised to complete transplanting of rice seedlings and

undertake hoeing and weeding in early sown *kharif* crops. Farmers in Sangli district are advised to continue sowing of contingency crops like Sunflower (SS-56 / Bhanu) and intercropping of Sunflower (SS-56 / Bhanu) + pigeonpea (Vipula / BDN-708) in 2:1 ratio.

- Farmers in Nasik district are advised to complete transplanting of rice and finger millet seedlings. Apply Urea + DAP briquette for rice after 3-4 days of transplanting.
- *Kharif* crops in Marathwada region are at early vegetative / vegetative stage. Farmers are advised to undertake sowing of sunflower, bajra, castor and fodder crops as contingent plan, if the crops could not be sown till date. As all districts received insignificant rain during last week in the region, farmers are advised to undertake hoeing to preserve moisture in the field and apply supplementary irrigation. Make furrow in alternate row in *kharif* cotton and make furrow after every 4th row in soybean and jowar to conserve rain water.
- As all districts in East Vidarbha received significant rain during last week, farmers in this region are advised to continue transplanting of 21 to 25 days old rice (*dhan*) seedlings. Transplant 2 to 3 seedlings per hill. Farmers in West Vidarbha are advised to undertake hoeing in early sown soybean, cotton and red gram. Farmers in East Vidarbha are advised to drain out excess water from soybean field to avoid root rot.
- As all districts in North Madhya Maharashtra except Nasik district received insignificant rain and scattered rain is expected during next 2-3 days, farmers are advised to undertake intercultural operations like weeding and hoeing in early sown crops to preserve soil moisture in the field. Apply light irrigation to cotton, if possible. Undertake sowing of fodder crops as contingent crops.
- Farmers in Madhya Maharashtra and Marathwada are advised to undertake planting of *adsali* sugarcane.
- Due to subdued and insufficient rainfall in Gujarat, 14 districts face drought like situations and crops also show wilting conditions. In Saurashtra and Kutch region, groundnut and cotton crops have been reported to be damaged due to dry conditions. Farmers are advised to grow castor (GAUCH-1, GCH-4 and GCH-7) varieties in areas that have 2-3 irrigation facilities in late season. Intercropping with short duration crops i.e. sesamum (GT-3), green gram (GM-3, GM-4), black gram (T-9, GU-1) and cowpea (Pusa Falguni, GCH-1, GCH-2, GCH-4) may be carried out.
- In North Gujarat Zone, farmers are advised to carry out hand weeding and intercultural operation in *kharif* crops to conserve soil moisture. Carry out sowing of castor, fodder sorghum and cluster bean at optimum moisture condition, after receiving sufficient rain, if the original crop (pulses) failed due to moisture stress. Also plan for plantation of different horticultural crops.
- Due to receipt of rain during last week, farmers in South Gujarat Zone are advised to carry out sowing of castor up to 15th August to avoid incidence of castor semi looper.
- In view of prevailing weather conditions, farmers in South Gujarat Heavy Rainfall Zone of Gujarat, are advised to carry out hand weeding, gap filling and thinning in *kharif* crops. As Valsad and Dangs received sufficient rain during last week, prepare land and undertake sowing of pearl millet and castor.
- Area in Middle Gujarat Zone where no or little rain is received, farmers are advised to plan for short duration crops like urad, moong, fodder pearl millet, pigeon pea. Farmers are also advised to undertake sowing of castor and cowpea.
- As there is insufficient rain, farmers in Bhal and Coastal Zone of Gujarat are advised to sow castor crop in remaining fields after receiving sufficient rain. For already sown crops, if irrigation water is available, irrigate the crop in alternate furrows.
- As there is deficiency of rain in North Saurashtra Zone, in the areas, where monsoon sowing is over and crop suffering from moisture stress, carry out intercultural operation, weeding and thinning. Also carry out mulching in groundnut and cotton and farmers who have irrigation facilities, should apply lifesaving irrigation under acute moisture stress. In areas, where crop failed, carry out sowing of fodder sorghum. Farmers are advised to grow castor varieties, who have 2-3 irrigation facility in late season. In plantation crops like sapota, lemon, pomegranate etc., carry out mulching around the trunk. Intercropping with short duration crops i.e. sesamum, green gram, black gram and cowpea may be carried out. Carry out sowing operation after receiving sufficient rain.
- Undertake inter cultural operation and hand weeding in earlier sown groundnut and pulses in South Saurashtra Zone of Gujarat. Apply irrigation to vegetables.
- Carry out sowing of castor up to 15th August to avoid incidence of castor semi looper and undertake planting of horticulture crops in North West Zone of Gujarat, after receipt of sufficient rain. Carry out sowing of maize, sorghum, lucern, bajra and cowpea for green fodder. Increase the area under fodder crop.
- Varieties of *kharif* crops are mentioned in Annexure II.
- Under prevailing weather there is possibility of incidence of rice leaf folder and rice blue beetle on rice in Ratnagiri, Raigad and Thane districts; spray 36% Monocrotophos @ 10 ml or 25% Cypermethrin @ 3 ml per 10 litres of water.

- Due to cloudy weather during last week, there is incidence of leaf caterpillar in soybean in Western Maharashtra scarcity zone; spray Chlorpyrifos @ 20 ml in 10 litres of water.
- Prevailing cloudy weather condition in North Gujarat Zone is favourable for outbreak of sucking pests in vegetables. Farmers are advised to spray Redomil MZ 0.05% and Borodex mixture 0.6% on a non-rainy day.
- Weather conditions are favourable for incidence of aphids and jassids in cotton in South Gujarat Zone. Farmers are advised to spray Dimethoate 30 EC @ 10 ml or Methyl-O-Demeton 25 EC @ 10 ml or Emidachloprid 17.5 SL @ 4 ml or Thiomethociazam 25 WG @ 3 g per 10 liters of water.
- Due to 23 – 28°C temperature and high humidity forecast in coming days in South Gujarat Heavy Rainfall Zone, there are chances of stem rot in chilly and papaya; drench the crop with 1% Trichoderma viridi to manage the disease.
- Stages of major crops are mentioned in Annexure-I.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Significant rainfall occurred in all districts of Madhya Pradesh and Chhattisgarh except Badwani, Burhanpur and Dhar districts in West Madhya Pradesh.
- **Rainfall Forecast:** Rain/thundershowers would occur at many places over central India.
- **Warning:** Heavy rainfall would occur at one or two places over Madhya Pradesh during next 48 hours.
- **Advisories:**
 - Farmers in Madhya Pradesh and Chhattisgarh are advised to postpone irrigation, intercultural operations, application of fertilisers and pesticides to already sown crops as rainfall is likely at many places with heavy rainfall at one or two places over Madhya Pradesh. Provide adequate drainage facilities in the standing crops to avoid waterlogging due to heavy rainfall in Madhya Pradesh.
 - Farmers in Kymore Plateau and Satpura Hills region of Madhya Pradesh are advised to complete sowing of *kharif* crops. Farmers are also advised to go for gap filling, weeding in rice and soybean field, and apply top dressing of urea in rice. Undertake nursery sowing / transplanting of tomato, brinjal, onion, chilli and cauliflower.
 - Farmers in Gird Zone of Madhya Pradesh are advised to do weeding and intercultural operations in bajra, urad, moong, til and guar. Prepare bunds to conserve soil moisture in rainfed crops.
 - Farmers in Jhabua Hills of Madhya Pradesh are advised to use dora and cultural operations for weed control in soybean and pulses. Prepare drainage channels in field of soybean and pulses. Earthing up may be done in maize and followed by application of 1/3 dose of recommended nitrogen through urea after 30 days.
 - Farmers in Central Narmada Valley Zone of Madhya Pradesh are advised advised for the weeding and broadcasting of urea in early transplanted rice. Field operations like weeding, intercultural, earthing and plant protection are to be followed in sugarcane and maize, papaya and guava etc. Undertake nursery sowing of tomato, brinjal, onion, chilli and cauliflower.
 - Farmers in Vindhya Plateau of Madhya Pradesh are advised to prepare proper drainage channels in fields of all *kharif* crops.
 - Farmers in Nimar Valley Zone of Madhya Pradesh are advised to start sowing of *kharif* crops. For intercropping, farmers are advised to sow maize, jowar and arhar with moong/urad in two lines or soybean in four lines. Give top dressing of nitrogen to standing crops of maize and jowar. Farmers are also advised to transplant tomato, brinjal, chilli, and cauliflower in the field.
 - Farmers in Malwa Plateau region of Madhya Pradesh are advised to provide proper drainage facilities for removal of excess water from the crop fields. Also farmers are advised for transplanting of vegetable crops such as chilli, tomato, brinjal and onion etc. Sowing of ladies finger and cucurbits etc. may be done.
 - As wide spread rainfall occurred in all the districts of Chhattisgarh Plain Zone, rice crop have sufficient standing water. Farmers are advised to provide drainage channels in pulses and oilseeds to avoid waterlogging.
 - In Chhattisgarh Plain Zone, farmers are advised to spray whipsuper@650 ml+Almix20g per ha after 20-25 days of sowing in clear weather condition. Also, farmers are advised for the first doze of nitrogen at this stage.
 - Present weather conditions are favourable for transplanting of vegetables in Chhattisgarh Plain Zone. Farmers are advised to go for main field preparation and transplanting.
 - Farmers in North Hill zone of Chhattisgarh are advised to prepare field and complete sowing of maize utilizing the realized rainfall during last week. Farmers are advised to undertake nursery for sowing of rice, sowing of arhar, urad, til, maize, groundnut, jowar, ginger, turmeric and arbi.
 - Farmers in Bastar plateau zone in Chhattisgarh are advised to prepare field and undertake sowing of cowpea and *kharif* vegetables like bottle gourd, bitter melon, okra and short duration beans, cabbage, cauliflower utilizing the realised rainfall during last week. Farmers are also advised to planting of cassava, colocasia, ginger, elephant foot yam and diascoria and support may be given by bamboo sticks.
 - Farmers in Bastar plateau zone in Chhattisgarh are advised to undertake transplanting of rice and sowing of niger, horsegram (kulthi), urad and vegetables etc. in the marhan and tikra farming situations.

• Animal Husbandry & Poultry

- Farmers in Central Narmada Valley Zone and Satpura Plateau regions are advised to vaccinate cattle against Foot and Mouth Disease.
- Farmers in Kymore Plateau and Satpura Hills region, Satpura Plateau region of Madhya Pradesh are advised to vaccinate cattle against Anthrax disease and provide deworming tablets against worm's infection during rainy season.
- Farmers in Jhabua hills of Madhya Pradesh are advised to vaccinate their goats by CCPC vaccine and keep them in clean, dry and well ventilated place.
- In the present monsoon season, low light duration due to cloudy weather condition are there and hence farmers in Chhattisgarh are advised to increase light duration in poultry farms.

Annexure I

Major Crops

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

- Sugarcane (vegetative), *sali* rice (nursery preparation / sowing / seedling / transplanting / tillering), *Olorotius* jute (vegetative / harvesting), *Capsularis* jute (harvesting), *Capsularis* and *Olorotius* jute for seed (sowing), cucurbits (flowering / fruiting), ginger / turmeric (early vegetative / vegetative), arhar (early vegetative / vegetative), *kharif* sesame (sowing / early vegetative), groundnut (early vegetative / vegetative), cauliflower (nursery raising) in Assam.
- WRC rice (transplanting / tillering), okra, cucurbitaceous vegetables (fruiting / harvesting), soybean (early vegetative / vegetative), sesamum (vegetative) in Arunachal Pradesh.
- *Kharif* rice (transplanting / early vegetative), soybean, groundnut (vegetative), *kharif* maize (vegetative / silking), cucurbits, chilli and okra (fruiting / harvesting), tomato (seedling / transplanting), cauliflower (nursery raising), turmeric, ginger (rhizome formation), rice bean, pea (sowing) in Manipur.
- *Sali* rice (vegetative / panicle initiation), maize (cob formation), groundnut (vegetative), tomato (flowering / fruiting / maturity), potato (tuber formation), soybean (vegetative / flowering), turmeric, ginger (vegetative / rhizome formation), banana (planting / vegetative) and vegetables like bottle gourd, ash gourd (vegetative / flowering) in Meghalaya.
- Rice (transplanting), soybean, groundnut (early vegetative / vegetative), *khasi* mandarin (flowering / fruiting), *kharif* maize (vegetative / tasseling / silking), okra (fruiting / harvesting), *kharif* cucurbits (vegetative) and ginger / turmeric (vegetative) in Mizoram.
- *Jhum* rice (milk / early dough), Wetland rice (transplanting / tillering), maize (maturity), okra (flowering / fruiting), cowpea / bean (flowering / pod formation), papaya (vegetative) in Nagaland.
- *Aus* rice (panicle initiation / flowering), upland *kharif* rice (tillering), *aman* rice (seedling / transplanting), groundnut (early vegetative / vegetative), arhar (vegetative), maize (tasseling / silking / grain filling), sesame (vegetative / flowering / pod formation), *kharif* vegetables like okra, *kharif* cucurbits (sowing), early sown cucurbits (flowering / fruiting), early sown okra (flowering / 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 / vegetative), *kharif* rice (sowing / transplanting), urd, arhar, bajra, toria etc. (sowing) in Bihar.
- Turmeric and ginger (planting), upland rice (early vegetative / vegetative), maize, arhar, groundnut, rice, urad, jowar and soybean, til (sowing / vegetative), *kharif* vegetables like okra, beans, French bean, tomato, cauliflower, cabbage etc. (sowing) in Jharkhand.
- Sugarcane (grand growth), banana (vegetative), jute (vegetative / harvesting), maize, groundnut, arhar, ragi, cotton, direct seeded rice, pulses, sunflower (early vegetative / vegetative), rice (transplanting), *kharif* vegetables like okra, French bean, tomato, cauliflower, cabbage etc. (sowing) and fruit crops (planting) in Orissa.
- *Aus* rice (panicle initiation / booting stage), *Aman* rice (transplanting / early vegetative), jute (vegetative / harvesting), banana (planting), *kharif* maize, sweet corn (vegetative), cauliflower (seedling), marigold (seedling), cucurbits (fruiting), yam and beetle vine (vegetative) 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), mirch, brinjal (transplanting/seedling), cucurbits viz. cucumber, summer squash, khira, bitter gourd, bottle gourd (nursery sowing/transplanting/ early vegetative), tur, Shimla mirch, and tomato (early vegetative), 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 (germination/ early vegetative), soybean (early vegative), rice (early tillering) in Himachal Pradesh.
- Rice (vegetative), chilli, tomato, brinjal, cauliflower (seedling), spinach, coriander, radish (seedling), maize, urd, moong, lobia (vegetative), bajra, til, sorghum (vegetative), sugarcane (vegetative), cotton (vegetative),sugarcane(vegetative) in Delhi.
- Chilli, capsicum, cauliflower, broccolli (vegetative), sugarcane (planting), papaya (planting), sunflower (germination), maize (Normal sown -vegetative stage, early sown- tassel emergence stage), lobia, sunhemp, cowpea, jowar for green fodder (vegetative), garlic, cucurbits, okra(seedling), French bean, maize (seedling), rice (seedling establishment / early tillering), summer fodder (maize + cowpea + jowar) (vegetative), maize (sowing / emergence / early vegetative / vegetative / knee high stage), 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), matured turnips, knolkhol, lettuce, kale, chinese cabbage, broccoli, summer squash and radish (harvesting in Leh), Horticultural crops (various stages) viz. [peach, mango (flowering/fruited), plum (picking), ber, orange & guava (fruiting)], *kharif* pulses(early vegetative), til radish, carrot, turnip, spinach, beans, methi and cabbage(sowing), brinjal, Knolkhol, chillies, cabbage, cauliflower (transplanting) in Jammu & Kashmir.
- Rice(early tillering), finger millets (early vegetative), groundnut, sorghum, pigeon pea, urad, moong, soyabean, rajma, arhar, maize and ginger (sowing / early vegetative) in Uttarakhand.
- Rice (transplanting / early tillering), sugarcane (vegetative growth), sunflower, fodder maize, lobia, (sowing / germination), Sanai, Dhaincha (sowing / early vegetative / vegetative), summer sugarcane (tillering), cotton, soyabean and urd (sowing/germination), sunflower, jowar, bajra, maize, arhar, (sowing/seedling), vegetables [cucumber, pumpkin, tomato, brinjal, cabbage, lady's finger, chilly, cucurbits](sowing/vegetative), groundnut(sowing) in Uttar Pradesh.
- Rice (Transplanting / tillering), spring sugarcane (sprouting / tillering), radish (sowing), carrot, turnip, cauliflower (transplanting / vegetative), tomato, sunflower (sowing), cotton (early vegetative), okra, chilli, brinjal (sowing / transplanting), maize, mung, mash, tur(sowing) in Punjab.
- Rice (transplanting / tillering), 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 (vegetative), rice (transplanting / tillering), fodder maize (vegetative/pod formation), sunflower (sowing), groundnut (sowing), cowpea (sowing), vegetables (vegetative/flowering), turmeric, ginger (vegetative), green gram/black gram (vegetative/flowering), soybean (vegetative/flowering), pigeon pea (vegetative) and chilli (flowering/fruited) in Karnataka.
- Sugarcane (April planting) (formative/tillering), rainfed sugarcane (formative/tillering), sesame and banana (vegetative), vegetables (all stages), rice (transplanting/tillering), maize (vegetative/grain hardening), finger millets (vegetative/tillering), castor (seedling/ early vegetative), *kharif* groundnut (vegetative/flowering), early sown groundnut (vegetative/flowering/pegging), green gram/black gram (seedling/vegetative), red gram (sowing/seedling), rainfed cotton (sowing/early vegetative), irrigated Bt.cotton (vegetative / boll formation) in Andhra Pradesh.
- Pepper (flowering/new planting), ginger (vegetative), rubber (tapping), irrigated banana (planting), cardamom (planting), sugarcane (grand growth), vegetables (sowing/ seedling/transplanting), virippu paddy (tillering/panicle initiation), coconut (flowering) in Kerala.
- *Kuruvai* rice (tillering/panicle initiation), groundnut (flowering/pegging), cotton (vegetative/flowering/boll formation), irrigated maize (vegetative/silking/tasseling), sugarcane (grand growth stage), vegetables (vegetative/fruited) in Tamil Nadu.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- Sugarcane new *adsali* (active tillering / elongation), sugarcane new pre-seasonal (active tillering), sugarcane new *suru* (active tillering in Madhya Maharashtra and Marathwada), *kharif* rice (early tillering in Konkan, Kolhapur Division and transplanting / early tillering in Nashik, Pune and East Vidarbha Division), cotton (early vegetative in Marathwada and Vidarbha), soybean (early vegetative / branching / flowering in early sown crops in Kolhapur, Latur and Amravati Division), groundnut (early vegetative / vegetative), bajra (early vegetative / vegetative in Madhya Maharashtra and Marathwada), red gram (early vegetative) in Maharashtra.
- Cotton (seedling / early vegetative / vegetative / flowering), groundnut (early vegetative / vegetative / flowering / pegging), *kharif* rice (seedling / transplanting / tillering), pulses (germination / tillering), sugarcane (vegetative / elongation), sesamum, castor (sowing), vegetables (nursery sowing / seedling / transplanting), green gram, black gram (sowing / germination / branching), red gram (germination / vegetative), sorghum (sowing) in Gujarat.

CENTRAL INDIA [M.P., CHHATTISGARH]

- Rice (tillering), maize, jowar, arhar and soybean (germination/early vegetative), *kharif* vegetables i.e. tomato, brinjal, chilli etc. (early vegetative), fodder crops (sowing/early vegetative), ladies finger, cucurbits (sowing) in Madhya Pradesh.
- Rice (tillering), sugarcane (planting/vegetative), groundnut (pod filling), sesame (late vegetative), ginger, turmeric, papaya, mango and guava (vegetative), onion (planting), vegetables (transplanting / vegetative), millet (sowing), tapioca, ginger, colocasia, dioscorea, elephant foot yam, cassava (planting) in Chhattisgarh.

Annexure II

List of Varieties

Assam

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

Rice for flood affected areas: Profulla and Gitesh.

Short duration rice for flood affected areas: Luit, Kapilee, Dichang etc.

Traditional sali rice for flood affected areas: Sonamukhi, Manohar Sali, Bordha, Andru Sali, Solpona.

Submergence tolerance Sali rice varieties: Jalashree and Jalkuwari.

Papaya: Ranchi, Washington, Halflong, Coorg Honeydew.

Kharif sesame: Gouri, Vinayak, Madhabi, ST-1683.

Areca nut: Kahikuchi, Kachar, Sribardhan, Mohin Nagar, Sumongala Vital-11.

Early cauliflower: Early Kunwari, Pusa Deepali.

Summer Bottle gourd: Pusa Summer Prolific Long, Pusa Summer Prolific, Pusa Meghdoot and Pusa Manjiri.

Snake gourd: Long Green, Long White and Extra Long.

Ridge gourd: Pusa Nasdar, AAUJ-2, AAUC-3.

Litchi: Muzaffarpur, Dehra Dun, Calcutta, Rose Scented, Khatti, Seedless.

Mizoram

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

Manipur

Cauliflower: White Shot.

Tripura

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

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.

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.

Orissa

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

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.

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

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

Green gram: PDM-11 & 54, K-851.

Black gram: T-9, Pant U-11, Pant U-19, Pant U-30.

Cowpea: SEB-2, Pusa Barsati.

Niger: Deomali, Niger-1.

Brinjal: Utkala Tarini, Utkala Madhuri, Blus Star, Green Star, Pusa Purple Cluster.

Green chilli: Pant C-1, Kala Suryamukhi, Utkala Ava, Utkala ragini etc.

Dry chilli: Pusa Jwala, Utkala Rashmi Sindur, Pusa Sada Bahar etc.

Castor: Jyoti, Kranti, Aruna, Bhagya, and hybrids like GCH-4, GCH- 5, GCH- 177 and GCH-32.

West Bengal

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

Coconut: Eastcoastal, Hazari.
Mango: Himsagar, Bombai, Langra, Mallica etc.
Guava: Safeda, L-49.
Banana: Mortoman, Chapa, Kathali, Singapuri.
Cauliflower: Kanwari, Jowhar, Moti, Early Patna.
Tomato: Pusa Rubi, Pusa Early, S-2, Roma Super.

Jharkhand

Ginger: Vardhaman, Nadia.
Turmeric: Rajendra Sona.
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.
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.
Urad: Pant Urad -19, Birsa Urad -1.
Til: Kanke Safed and Krishna.

Bihar

Short duration rice varieties in medium land: Rajendra Bhagwati, Prabhat, Narandra 97, MTU-1010 and Rajendra Sweta.
Medium duration rice varieties in low land: Swarna Sab-1, BPT-5204, MTU-7029, MTU-1001 and Rajshree.
Urd: T-9.
Arhar: Bahar, Narendra Arhar 1, Malviya 13.

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

Jammu & Kashmir

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: Japanese white,
Carrot: Nantes
Turnip: Purple Top White Globe
Spinach: All green
Beans: Contender, Pusa Parvati and Arka komal,
Methi: Pusa Early Bunching and Kasuri methi.
Knol-khol: White Vienna and Purple Vienna
Cabbage: Golden Acre and Pride of India
Brinjal: Pusa Purple Long, Pusa Purple Cluster,
Cauliflower: Pusa Snowball, Pusa Snowball K-I
Rice: 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.
Mash : Pant U-19
Urd : Pant U-19, Uttra
Moong: PDM-54, ML-131 and ML -818, PS-16, PS-7
Til: Punjab Til-1

Punjab

Paddy : Basmati- 370, 386

Okra: Punjab-8, Punjab-7 and Punjab Padmani

Radish: Punjab Ageti & Pusa Chetki.

Haryana

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

Bajra: HHB 50, HHB 60, HHB 67 Improved, HHB 68, HHB 226

Sorghum: Muskan Satya, Basmati, Pusa Bold

Guar: HG 563, HG 365

Green gram: SML 668

Urd: T9, Uttara

Arhar: Manak, Paras, Pusa 992

Moth: Jwala, RMO 40, RMO 257.

Delhi

Baby corn: HN-4

Radish: Versa ki rani, summer long, long chetaki, Pusa chetaki

Spinach: All green

Coriander: Pant Haritama or hybrids

Cauliflower: Pusa sharad, Pusa hybrid-2, Pant shubra.

Sarson saag: Pusa saag-1;

Uttarakhand

Rice : Pant Dhan-1, 3, 4, 12, Ashwani, Narendra -92, Suraj – 52, VI-Dhan -154, 81, VK Dhan – 62, 65, 82, 85.

Urd : Narendra Urd-1, Pant Urd-30 or Pant Urd-35

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, Malviya Jagruti, Samrat, Pusa Vaishakhi 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.

Bajra : I.C.M.B.-155, W.C.C.-165, Raj-171, Pusa-322, 332(hybrid)

Jowar : C.S.V.-3, 15, C.S.H.-9,13,23,26

Groundnut: Chandra, Chitra, T.G.-37A

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), R.G.S. 112(Surya Gwar)A, R.G.C.-936A, R.G.C.-1002A, R.G.C.-1003A, R.G.C.-1017A, R.G.C.-1031_(Gwar Kanti)A, R.G.C.-1038(Gwar Karan)A, R.G.C.-1055(Gwar Uday)A, R.G.C.-1066(Gwar Lathi)

Pearl millet: Composite: Raj-171, **Hybrid:** RHB-121, HHB-67 (Improved), High yielding varieties : RHB-173, RHB-177 H.H.B. 67-2, I.C.T.P.-8203, R.H.B.-121, R.H.B.-154, G.H.B.-538, H.H.B.-67 (improved).

Pusa 334, Pusa 383, HHB 67, HHB 94, Raj 171, ICMH 356, ICTP 8201 and RHB 121

For fodder purpose : Bajra Raj 171, C.Z.P. 9802 with Chawala V 16 A.R.S. 9, F.S.-68 A, Moth R.M.O.-40A, R.M.O.-257A, R.M.O.-435, Gwar R.G.C.-936A, R.G.C.-1002A, R.G.C.-1017

Sorghum: CSV-15 (105-110 days), CSV-23 (110-115 days), Pratap Chari-1080 (105-120 days), CSH-14, 16

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.

Til (Sesamum) : R.T. 46, R.T.125 and T.C. 25.

Moong (Green gram): Ganga-1 (Jamnotri), Ganga-8(Gangotri), S.M.L. 668, M.U.M.-2 **Improved varieties :** RMG-62(65-70 days), RMG-268 (65-70 days),RMG-492 (65-70 days) & RMG-344, SML-668

Short duration varieties - K 851, Pant M 2, PS16, Samrat, Pusa Baisakhi and Pusa Vishal,

Cowpea: FS-68 (60-70 days), RC-19 (60 days), RC-101 (60-65 days)

Mothbean: RMO-40 (62-65 days), R.M.O.-225, R.M.O.-257, R.M.O.-435, Kajari Moth 3, FMS-96 (58-60 days)
Urdbean: Pant: U-19 (70-75 days), RBU (70-80 days), T-9, Krishna, Barkha,
Vegetables : Tomato : Pusa Ruby, Pusa early dwarf, Roma, **Brinjal:** Pusa long, Meghdoot, ArkaBahar, Pusa summer and prolific round, **Cucumber:** Balam, Pusa Sahyog
Guaava: Allahabad safeda and Lucknow 49, **Pomegrante :** Ganesh, Jhalore and Seedless, **Orange:** Nagpur and Kinnoo, **Lime :** Kagzi and Baramasi, **Aonla:** Banarshi, Krishana, NA9 and NA10, **Ber:** Sonor,Thornless,Katha Alwar, Gola,and Seb

Karnataka

Short Duration finger millets: Indaf-5, Indaf-9, GPU-48, KMR-204, MR-365and GPU-28.

Fodder Maize: Deccan-103

Sunflower : Morden, BSH-1.

Redgram: medium duration varieties BRG-1 and BRG-2.

Rice: MTU-1010, IR-64, Raksha, BPT-5204 and JGL-1798

Aerobic rice: MAS-946-1, Rasi and KRH-2

Gujarat:

Sorghum: GJ-39, GJ-40 GJ-41

Sesamum: GT-1, 2, 3, 4, Purva-1.

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

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

Black gram: T-9, GU-1.

Cowpea: Gujarat Cowpea-1, 2, 3,4,Pusa Falguni.

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

Cluster bean: HG-75 or G.C.-1, G.Guar-2, SG-74

Urd: T- 9, GUB- 1

Maharashtra

Kharif red Gram: ICPL- 87, Vipula.

Sunflower: SS-56,Morden,Bhanu.

Horse gram : Seena, Man.

Adsali sugarcane: CO-86032 (Neera), Phule-0265.

Contingency for Ahmednagar, Dhule, Nandurbar district:

Fodder sorghum: Phule Amruta, MP Chari, CSV-21F.

Fodder bajra: Giant bajra.

Fodder maize: African tall.

Contingency for Marathwada:

Sunflower: MASF-09,08, KBSH-1 and LS-58.

Madhya Pradesh

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

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

Urad: JU - 86, JU 3, T-9

Pigeonpea: TJT-501, JKM-189, ICPL-88039

Moong: HUM- 1, JM-721, K-851, Pusa Baishakhi

Chattisgarh

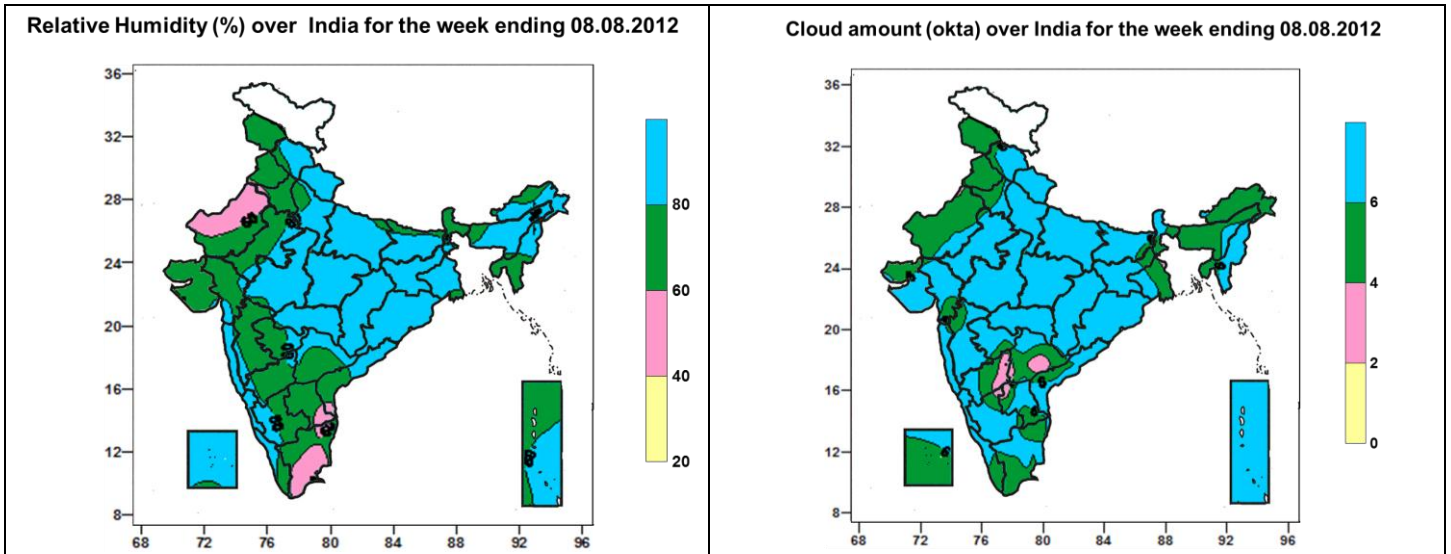
Millet: High Yielding : PR 202, HR 374, VR 708, RAU 08, GPU 45, VC 149 and for kodo millet GPUK-3, RVK-155 and for Kutki JK08.

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

Soybean: JS 335, Indira Soya-09, JS 93-05.

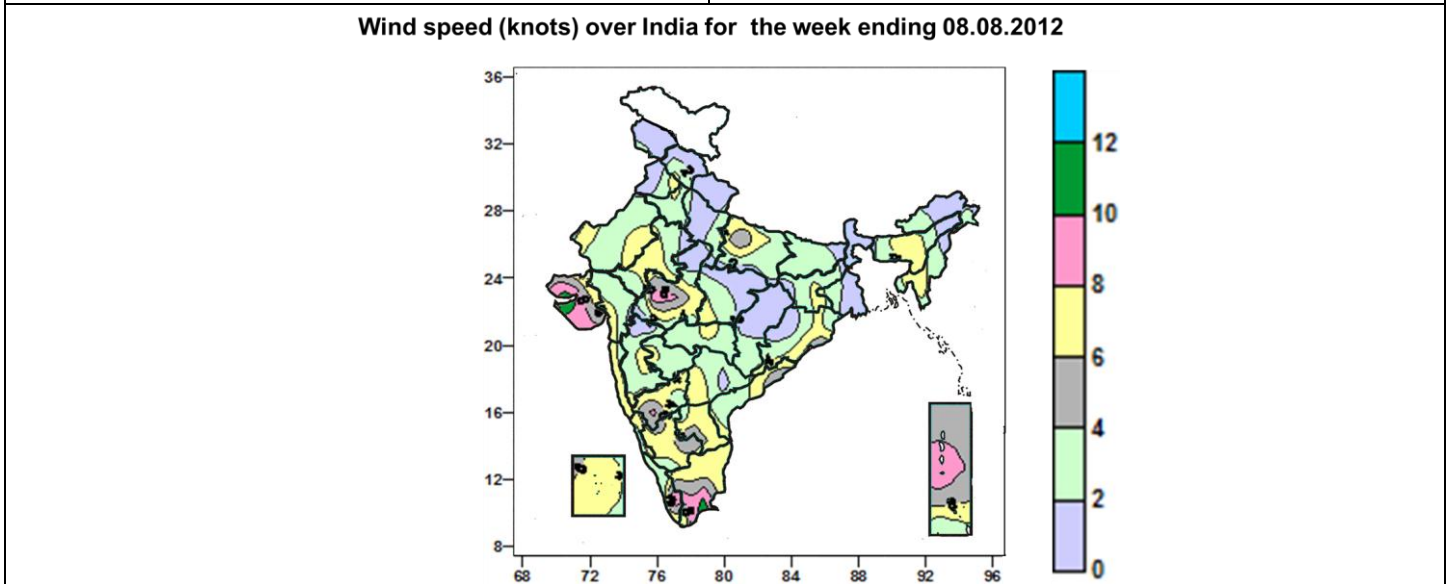
Annexure III

Contour maps for Relative Humidity, Cloud Amount and Wind speed for the week ending on 08.08.2012



Relative humidity ranged between 40 to 60% over most parts of West Rajasthan, Tamil Nadu, some parts of Punjab, Haryana, Coastal Andhra Pradesh, Rayalaseema, 60 to 80 % over most parts of Jammu & Kashmir, Punjab, Haryana, Delhi, Rajasthan, Sub-Himalayan West Bengal, Sikkim, Mizoram, Tripura, Gujarat, Saurashtra & Kutch, Marathwada, Madhya Maharashtra, Andhra Pradesh, North & South Interior Karnataka, Andaman & Nicobar Islands, some parts of Himachal Pradesh, Uttar Pradesh, Bihar, Gangetic West Bengal, Arunachal Pradesh, Assam & Meghalaya, Manipur, West Madhya Pradesh, Kerala, Tamil Nadu, 80 % and above over remaining parts of the country.

Cloud amount 4 to 6 okta over most parts of Jammu & Kashmir, Punjab, Haryana, West Rajasthan, West Bengal, Arunachal Pradesh, Assam & Meghalaya, Tripura, Saurashtra, Andhra Pradesh, Tamil Nadu, South Kerala, Lakshdweep Islands, some parts of Himachal Pradesh, East Rajasthan, Bihar, Jharkhand, Gujarat, Madhya Maharashtra, Marathwada, Interior Karnataka, 2 to 4 okta over some parts of Telengana, Rayalaseema, Interior Karnataka and 6 okta and above over remaining parts of the country.



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