



National Agromet Advisory Service Bulletin



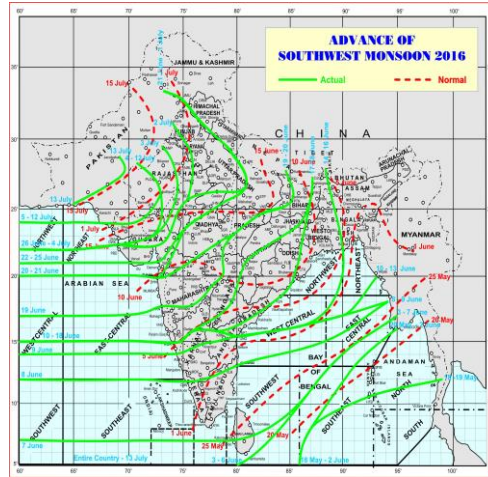
Friday 15th July 2016
(For the period 15th to 19th July 2016)



Issued by
National Agrometeorological Advisory Service Centre,
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Weblink For
District AAS Bulletin: <http://www.imdagrimet.gov.in/node/3545>
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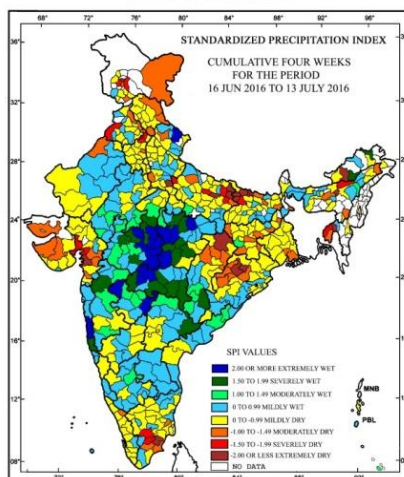
Monsoon Watch



- The southwest monsoon has been normal over Arunachal Pradesh, Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim, Odisha, Uttarakhand, Haryana, Chandigarh & Delhi, Punjab, Rajasthan, Gujarat, Konkan & Goa, Madhya Maharashtra, Coastal Karnataka, South Interior Karnataka and Kerala.
- Heavy to very heavy rain occurred at isolated places over Himachal Pradesh, Jharkhand and Arunachal Pradesh; heavy rain at isolated places over East Uttar Pradesh, East Madhya Pradesh, Bihar and Assam & Meghalaya from 0830 hours IST of yesterday to 0830 hours IST of today.

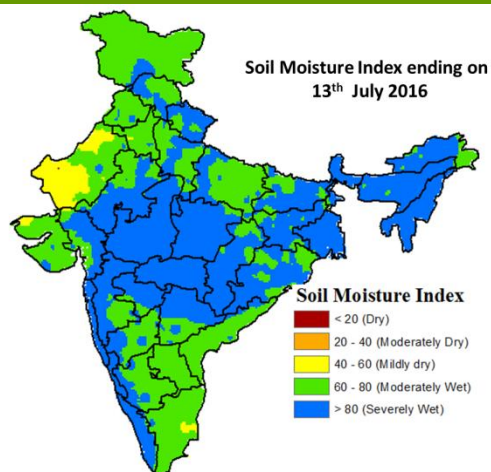
Standardised Precipitation Index Four Weekly for the Period 16th June to 13th July 2016

MINISTRY OF EARTH SCIENCES
INDIA METEOROLOGICAL DEPARTMENT
HYDROMET SECTION, PUNE



- Extremely/severely wet conditions experienced in few districts of Arunachal Pradesh; Madhya Pradesh; Konkan & Goa; Maharashtra; Chamoli district of Uttarakhand; Bastar district of Chhattisgarh; Khammam district of Telangana.
- Extremely/Severely dry conditions experienced in many districts of Tripura; East Kameng district of Arunachal Pradesh; Shonitpur, Morigaon districts of Assam; Deogarh, Sambalpur districts of Odisha; East Champaran, Gopalganj, Saran, Sitamarhi, Sheohar, Siwan districts of Bihar; Ambedkar Nagar, Deoria, Faizabad, Farrukhabad, Gorakhpur, Kushi Nagar, Mau, Mainpuri districts of Uttar Pradesh; Ambala, Kurukshetra districts of Haryana; Ferozepur district of Punjab; Anantnag, Badgam, Srinagar districts of Jammu & Kashmir; Ahmedabad, Broach, Anand districts of Gujarat Region; Surguja district of Chhattisgarh; Dindigul, Madurai, Sivaganga districts of Tamil Nadu.
- Moderately dry conditions experienced in few districts of Jharkhand; Himachal Pradesh; Saurashtra & Kutch; Cachar, Kamrup, Tinsukia districts of Assam; South Tripura district of Tripura; South Dinajpur, Howrah, Kolkata districts of West Bengal; Angul, Bargarh, Jharsuguda, Sonepur districts of Odisha; Katihar, Madhubani, Saharsa districts of Bihar; Ballia, Sitapur, Mathura districts of Uttar Pradesh; Panipat, Panchkula districts of Haryana; Garhwal Tehri district of Uttarakhand; Hoshiarpur, Sas Nagar Mohali districts of Punjab; Ladakh (Leh), Udampur, Pulwama districts of Jammu & Kashmir; Sri Ganganagar district of Rajasthan; Baroda, Narmada, Navsari districts of Gujarat Region; Bilaspur, Korba, Raigarh districts of Chhattisgarh; Ramanathapuram, Virudhunagar, Ariyalur districts of Tamil Nadu; Wynad district of Kerala.
- Rest of the country experienced moderately wet/mildly dry/mildly wet conditions.

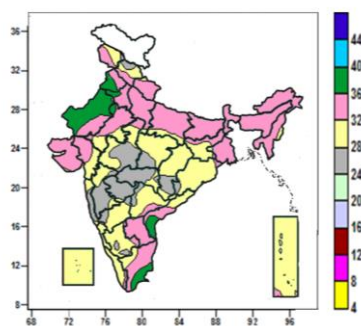
Soil Moisture Index for the week ending on 13th July 2016



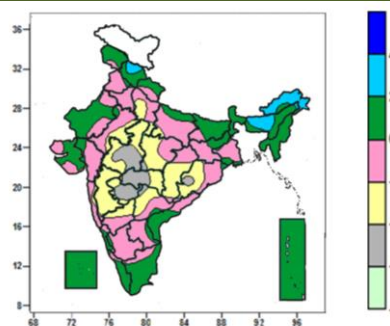
- Soil Moisture Index indicates Severely wet condition in Madhya Pradesh, Maharashtra, North-East Region, Kerala, and most parts of Bihar, Odisha, Uttarakhand, West Bengal, Himachal Pradesh and mild dry condition in many parts of West Rajasthan and in isolated parts of Tamil Nadu. Rest of the country shows moderately wet condition.

Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 13.07.2016

Actual Mean Maximum Temperature (°C) in India for the week ending 13.07.2016



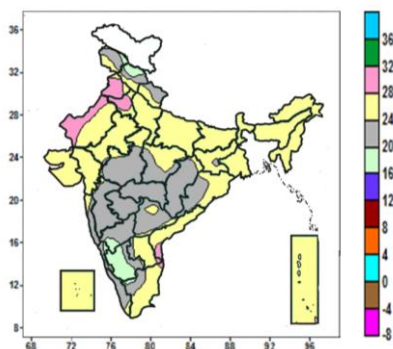
Mean Maximum Temperature (°C) Anomaly in India for the week ending 13.07.2016



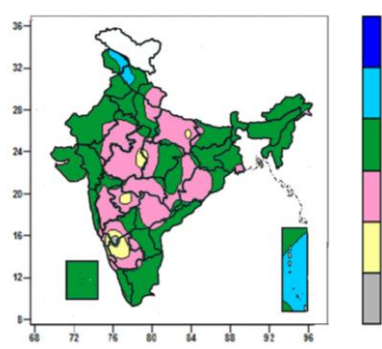
- Mean maximum temperature was between 36 to 40°C over many parts of West Rajasthan, Punjab, some parts of Coastal Andhra Pradesh, Tamil Nadu and isolated pockets of Haryana, East Rajasthan.
- Mean maximum temperature was between 28 to 36°C over rest of the country except many parts of Vidarbha, West Madhya Pradesh, Madhya Maharashtra, Marathwada, Konkan & Goa, some parts of Himachal Pradesh, East Madhya Pradesh, Chhattisgarh and isolated pockets of Jammu & Kashmir, Odisha, Telangana, Interior Karnataka and Coastal Karnataka where it was between 24 to 28°C.

- Mean maximum temperature was above normal by 2 to 4°C over many parts of Arunachal Pradesh, some parts of Himachal Pradesh and Assam & Meghalaya.
- It was normal to near normal over rest of the country except Vidarbha, Marathwada, many parts of Madhya Pradesh, Madhya Maharashtra, Chhattisgarh, Odisha, Telangana, some parts of West Uttar Pradesh, East Rajasthan, North Interior Karnataka and isolated pockets of East Uttar Pradesh, Konkan, where it was below normal by 2 to 6°C.

Actual Mean Minimum Temperature (°C) in India for the week ending 13.07.2016



Mean Minimum Temperature (°C) Anomaly in India for the week ending 13.07.2016

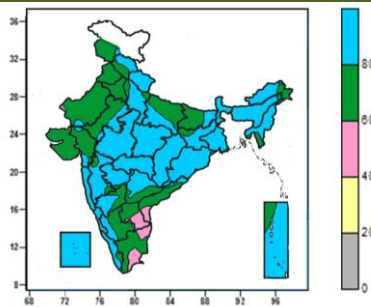


- Mean minimum temperature was between 16 to 20°C over many parts of South Interior Karnataka, some parts of Himachal Pradesh and isolated pocket of Jammu & Kashmir, North Interior Karnataka, Coastal Karnataka and Tamil Nadu.
- Mean minimum temperature was between 20 to 28°C over rest of the country except many parts of Punjab, Haryana & Delhi, some parts of West Rajasthan, Coastal Andhra Pradesh and isolated pockets of Rayalaseema and Tamil Nadu, where it was between 28 to 32°C.

- Mean minimum temperature was above normal by 2 to 4°C over many parts of Andaman & Nicobar Islands, some parts of Jammu & Kashmir and Himachal Pradesh.
- Mean minimum temperature was normal to near normal over rest of the country except some parts of Marathwada, Karnataka and isolated pockets of East Uttar Pradesh, Madhya Pradesh where it was below normal by 2 to 6°C.

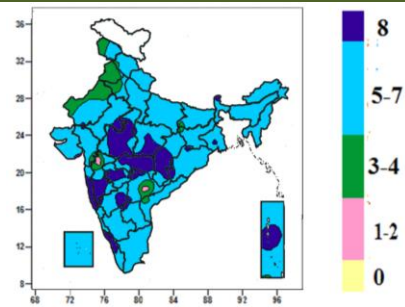
Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 13.07.2016

Relative Humidity (%) over India for the week ending 13.07.2016



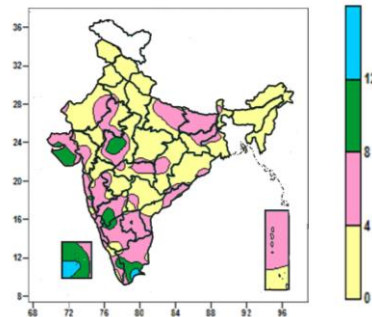
- Mean Relative Humidity was above 80% over West Bengal & Sikkim, Odisha, Chhattisgarh, Madhya Pradesh, Vidarbha, Konkan & Goa, Coastal Karnataka, Uttarakhand, Lakshadweep, many parts of North East India, Jharkhand, Himachal Pradesh, West Uttar Pradesh, Madhya Maharashtra, Marathwada, Telangana, Kerala, Andaman & Nicobar Islands, some parts of Bihar, East Uttar Pradesh, East Rajasthan, Interior Karnataka and isolated pockets of Jammu & Kashmir, West Rajasthan, Gujarat Region, Coastal Andhra Pradesh.
- Mean Relative humidity was between 60 to 80% over rest of the country except some parts of Rayalaseema, Coastal Andhra Pradesh and Tamil Nadu, isolated pockets of West Rajasthan and South Interior Karnataka, where it was between 40 to 60%.

Cloud amount (okta) over India for the week ending 13.07.2016



- Sky remained overcast (8 okta) over many part of Sikkim, Vidarbha, West Madhya Pradesh, Konkan & Goa, some parts of East Madhya Pradesh, Chhattisgarh, Madhya Maharashtra, Marathwada, North Interior Karnataka, Kerala, Andaman & Nicobar Islands and isolated pockets of Rajasthan, Gujarat, Gangetic West Bengal, Odisha, Telangana and Rayalaseema.
- Sky remained generally cloudy (5-7okta) over rest of the country except many parts of Punjab, some parts of Jammu & Kashmir, Haryana, West Rajasthan, Madhya Maharashtra, Telangana, isolated pockets of Himachal Pradesh, Bihar, Jharkhand, Gujarat Region, Coastal Andhra Pradesh and Andaman & Nicobar Islands, where it was partly cloudy/mainly clear (3-4/1-2 okta).

Wind speed (knots) over India for the week ending 13.07.2016



- Mean wind speed was between 12 to 16 knots over some parts of Lakshadweep and isolated pocket of Tamil Nadu.
- Mean wind speed was between 8 to 12 knots over many parts of Saurashtra, Lakshadweep, some parts of West Madhya Pradesh, North Interior Karnataka, Tamil Nadu and isolated pockets of Kutch, Konkan, Madhya Maharashtra, Coastal Karnataka, South Interior Karnataka and Kerala.
- Mean wind speed was between 0 to 4 knots over rest of the country except many parts of East Uttar Pradesh, Bihar, Madhya Maharashtra, Konkan & Goa, Saurashtra & Kutch, Karnataka, Rayalaseema, Coastal Andhra Pradesh, Tamil Nadu, Andaman & Nicobar Islands, some parts of Rajasthan, West Madhya Pradesh, Jharkhand, Gujarat Region, Vidarbha, Chhattisgarh, Kerala, Lakshadweep and isolated pockets of Haryana, East Madhya Pradesh, West Bengal, Marathwada, Odisha, Telangana where it was between 4 to 8 knots.

Weather Forecast for next 5 days valid upto 0830 hours of 20th July 2016

- Meteorological sub-division wise detailed 5 day rainfall forecast is given below.

5 Day Rainfall Forecast (MID DAY) 15th July 2016

Met Sub-divisions	15 July	16 July	17 July	18 July	19 July
1. Andaman & Nicobar Islands	FWS	FWS	SCT	SCT	SCT
2. Arunachal Pradesh	WS	WS	WS	WS	FWS
3. Assam & Meghalaya	WS	WS	WS	WS	WS
4. N.M.M. & T.	FWS	WS	FWS	FWS	FWS
5. S.H. West Bengal & Sikkim	WS	WS	WS	WS	WS
6. Gangetic West Bengal	WS	WS	WS	FWS	FWS
7. Odisha	FWS	FWS	FWS	FWS	WS
8. Jharkhand	WS	WS	FWS	FWS	FWS
9. Bihar	WS	WS	WS	WS	WS
10. East Uttar Pradesh	WS	WS	WS	FWS	FWS
11. West Uttar Pradesh	WS	WS	WS	FWS	SCT
12. Uttarakhand	WS	WS	WS	WS	FWS
13. Haryana, Chd & Delhi	WS	WS	WS	FWS	SCT
14. Punjab	FWS	WS	WS	SCT	SCT
15. Himachal Pradesh	WS	WS	WS	FWS	SCT
16. Jammu & Kashmir	WS	WS	WS	FWS	SCT
17. West Rajasthan	ISOL	ISOL	ISOL	ISOL	DRY
18. East Rajasthan	FWS	FWS	SCT	ISOL	ISOL
19. West Madhya Pradesh	FWS	FWS	SCT	ISOL	ISOL
20. East Madhya Pradesh	FWS	FWS	SCT	SCT	SCT
21. Gujarat Region	SCT	SCT	SCT	SCT	SCT
22. Saurashtra & Kutch	ISOL	SCT	SCT	SCT	SCT
23. Konkan & Goa	FWS	FWS	FWS	WS	WS
24. Madhya Maharashtra	ISOL	ISOL	SCT	SCT	SCT
25. Marathwada	ISOL	ISOL	SCT	SCT	SCT
26. Vidarbha	ISOL	ISOL	SCT	SCT	SCT
27. Chhattisgarh	WS	SCT	SCT	SCT	SCT
28. Coastal Andhra Pradesh	ISOL	SCT	FWS	WS	WS
29. Telangana	ISOL	SCT	SCT	FWS	FWS
30. Rayalaseema	SCT	FWS	WS	FWS	SCT
31. Tamil Nadu & Puducherry	SCT	FWS	WS	FWS	SCT
32. Coastal Karnataka	WS	WS	WS	WS	WS
33. North Interior Karnataka	ISOL	SCT	FWS	FWS	FWS
34. South Interior Karnataka	FWS	WS	WS	WS	FWS
35. Kerala	WS	WS	WS	WS	FWS
36. Lakshadweep	WS	WS	WS	FWS	SCT

% Station Reporting Rainfall

% Stations	Category	% Stations	Category
76-100	Widespread (WS/ Most Places)	26-50	Scattered (SCT/ A Few Places)
51-75	Fairly Widespread (FWS/ Many Places)	1-25	Isolated (ISOL)
No Rain	Dry		

Weather Warning during next 5 days

- 15 July (Day 1):** Heavy to very heavy rain very likely at a few places with extremely heavy at isolated places over Assam & Meghalaya. Heavy to very heavy rain very likely at isolated places over Himachal Pradesh, Uttarakhand, Uttar Pradesh, northeast & northwest Madhya Pradesh, north Chhattisgarh, Jharkhand, Sub-Himalayan West Bengal & Sikkim and Arunachal Pradesh; heavy at isolated places over Jammu & Kashmir, Punjab, Haryana, Chandigarh & Delhi, East Rajasthan, Bihar, Gangetic West Bengal, Nagaland, Manipur, Mizoram & Tripura and Kerala.
- 16 July (Day 2):** Heavy to very heavy rain very likely at a few places with extremely heavy at isolated places over Sub-Himalayan West Bengal & Sikkim and Assam & Meghalaya. Heavy to very heavy rain very likely at a few places over Uttarakhand, Uttar Pradesh and Bihar; at isolated places over Himachal Pradesh, Punjab, Haryana, Chandigarh & Delhi, northeast & northwest Madhya Pradesh, Arunachal Pradesh. Heavy rain very likely at isolated over Jammu & Kashmir, East Rajasthan, Jharkhand, Nagaland, Manipur, Mizoram & Tripura, Rayalaseema, Coastal Karnataka, South Interior Karnataka, Tamilnadu & Kerala.
- 17 July (Day 3):** Heavy to very heavy rain very likely at a few places over Uttarakhand, West Uttar

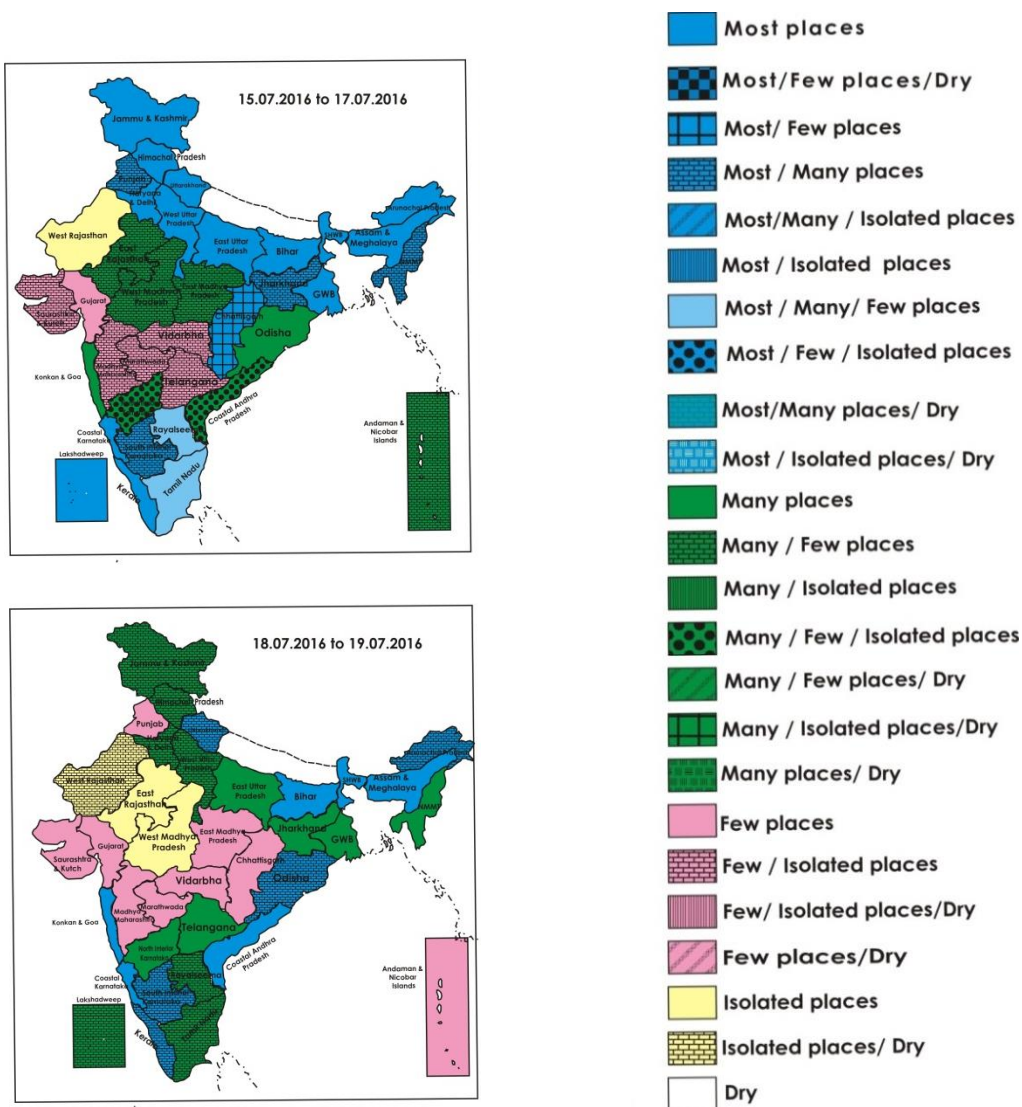
Pradesh and Sub-Himalayan West Bengal & Sikkim; at isolated places over Himachal Pradesh, Haryana, Chandigarh & Delhi, Bihar, Assam & Meghalaya and Kerala; heavy at isolated places over Punjab, East Uttar Pradesh, Arunachal Pradesh, Konkan & Goa, Rayalaseema, Coastal Karnataka, South Interior Karnataka and Tamilnadu.

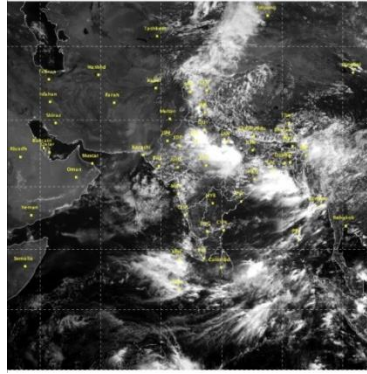
- **18 July (Day 4):** Heavy to very heavy rain very likely at isolated places over Sub-Himalayan West Bengal & Sikkim; heavy at isolated places over Uttarakhand, West Uttar Pradesh, Bihar, Assam & Meghalaya, Coastal Andhra Pradesh, Coastal Karnataka, south Interior Karnataka, Tamilnadu and Kerala.
- **19 July (Day 5):** Heavy rain very likely at isolated places over Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Coastal Andhra Pradesh and Coastal Karnataka.

Weather Outlook for subsequent 2 days from 20th to 22nd July 2016

- Rainfall at most places very likely over northeast & adjoining east India and along west coast.
- Rainfall at many places very likely over Peninsular India and at a few places over central & adjoining northwest India.

Weather Forecast Map (valid upto 0830 hours of 20th July, 2016)





Salient Advisories

- In **Madhya Pradesh**, due to heavy rainfall during last week, water logging was noticed in low land crop fields in West Madhya Pradesh. Drain out excess water from rice nursery, soybean, maize, & pulse fields in Indore, Ujjain, Dewas, Bhopal, Vidisha, Jabalpur, Satana, Sehore districts to avoid water stagnation. Due to water logging if germination/seedlings are affected in maize and soybean crops, undertake gap filling in affected areas. In **West Madhya Pradesh**, in Bhopal, Vidisha, Raisen, Sehore and Hoshangabad districts, continue transplanting of rice and complete sowing of maize, red gram and green gram at optimum soil moisture condition. In **East Madhya Pradesh**, undertake transplanting of rice. Drain out excess water from already sown maize and soybean crop fields. Undertake sowing of moong and urad, complete sowing of red gram and soybean at optimum soil moisture condition.
- Utilising the realised and expected rainfall, undertake the following agricultural activities:
 - In **Kerala**, complete transplanting of *Virippu* rice (late sown) in Thiruvananthapuram, Kollam, Kannur, Malappuram and Kozhikode districts and continue sowing of rice (Uma variety) in Alappuzha, Kottayam districts.
 - In **Coastal Karnataka**, continue transplanting of rice in Dakshina Kannada and Udupi districts of Coastal Zone. Continue transplanting in Uttar Kannada district.
 - In **South Interior Karnataka**, complete nursery sowing of rice, sowing of maize and undertake field preparation for transplanting in Chickmangaluru, Hassan, Shimoga districts. Continue transplanting of rice, complete sowing of cowpea, green gram, black gram, sesame, jowar and vegetable crops and planting of black pepper, turmeric and ginger in Kodagu, Mandya, Mysuru and Chamrajnagar districts of Southern Dry Zone.
 - In **North Interior Karnataka**, continue main field preparation for transplanting of rice, complete sowing of red gram, black gram, green gram, soybean, cotton and continue sowing of maize in Ballari, Kalaburgi, Koppal, Raichur and Yadgir district. Complete sowing of green gram, black gram, soybean, maize, groundnut, sorghum and cotton in Dharwad, Belagavi and Haveri districts of North Transition Zone.
 - In **Costal Andhra Pradesh**, in East Godavari district, undertake transplanting of ragi and rice. In West Godavari, Krishna, Prakasam, Guntur and Krishna districts, continue nursery sowing of rice, sowing of millets, maize and sowing of red gram, black gram, green gram and cotton.
 - In **Royalaseema**, continue thinning operation and inter cultivation/hand weeding in June sown castor and red gram crops and continue sowing of rainfed groundnut, red gram, bajra, korra and castor in Anantpur district. Continue sowing of groundnut, sunflower, red gram, bajra, korra, black gram and castor in Kurnool district. In Chittoor and Kadappa districts, undertake sowing of rainfed crops like groundnut, red gram, maize, jowar, bajra and other pulses utilizing the expected rainfall.
 - In **Telangana**, continue nursery sowing of medium to short duration varieties of rice. Continue sowing of

- maize, soybean, green gram and black gram in North Telangana Zone and continue sowing of rainfed jowar, maize green gram, black gram, red gram, soybean and cotton in the South Telangana Zone.
- In **Assam**, continue transplanting of *Sali* rice. Continue sowing of groundnut in Lower Central and Upper Brahmaputra Valley Zone. Continue sowing of arhar and sesame.
 - In **Meghalaya**, continue nursery sowing of *Sali* rice and sowing of groundnut, soybean, green gram, black gram and rajma.
 - In **Nagaland**, continue transplanting of TRC/WRC rice and in **Manipur**, continue transplanting of rice and continue sowing of groundnut and black gram.
 - In **Mizoram**, continue transplanting of *kharif* rice, sowing of *kharif* green gram, black gram and rajma.
 - In **Tripura**, continue transplanting of *kharif* rice and continue sowing of groundnut and maize.
 - In **West Bengal**, in Gangetic West Bengal, continue nursery sowing of *Aman* rice and in West Midnapore and Bankura districts, undertake direct sowing of *Aman* rice in upland areas. In Sub-Himalayan West Bengal, undertake transplanting of *Aman* rice. Continue planting of ginger, turmeric and cardamom after current spells of heavy rain.
 - In **Odisha**, undertake field preparation and transplanting of rice. Undertake wet bed nursery raising of *kharif* rice. Continue sowing of groundnut, arhar, castor and cotton green gram, black gram and sesame in uplands.
 - In **Bihar**, complete direct sowing of scented and short duration rice varieties and undertake transplanting of rice and in **Jharkhand**, continue sowing of direct seeded upland rice, maize, groundnut and pigeon pea.
 - In **Konkan**, in north Konkan region, continue transplanting of 21-25 days old rice seedling. Continue transplanting of 28-30 days old finger millet seedlings.
 - In **Madhya Maharashtra**, continue transplanting of 21-25 days old rice seedling and complete sowing of groundnut at *vapsa* condition in Kolhapur, Pune and Ahmednagar districts. Complete sowing of cotton, maize, soybean, red gram, green gram and onion at *vapsa* condition in Nasik, Dhule, Nandurbar and Jalgaon districts.
 - In **Vidarbha**, undertake transplanting of 21-25 days old rice seedling in Gondia, Chandrapur and Gadchiroli districts utilizing the realized rainfall. Complete sowing of *kharif* soybean, cotton, tur and moong at *vapsa* condition in Buldana, Akola, Washim, Amravati, Nagpur and Yavatmal districts.
 - In **Chhattisgarh**, continue transplanting of rice and continue direct sowing of rice. Continue sowing of red gram, soybean and maize.
 - In Eastern Plain Zone of **East Uttar Pradesh**, continue transplanting of rice and continue sowing of maize, urad and arhar.
 - In **Jammu & Kashmir**, continue transplanting of rice and sowing of maize.
 - In **Himachal Pradesh**, continue transplanting of rice and sowing of soybean and green gram.
 - In **Uttarakhand**, complete transplanting of rice and sowing of green gram and black gram.
 - In **West Uttar Pradesh**, continue sowing of maize and pigeonpea.
 - In **Punjab and Haryana**, continue transplanting of rice.
 - In **Delhi**, continue sowing of maize, pigeon pea and continue sowing of cotton, green gram and black gram. Continue nursery sowing of rice.
 - In **East Rajasthan**, continue sowing of bajra, sorghum and guar, groundnut and blackgram in Jaipur district.
 - In **Gujarat**, complete transplanting of rice, complete sowing of red gram, millets and nursery sowing of chilli, brinjal, sowing of cucurbits like bottle gourd, ridge gourd, sponge gourd, bitter gourd continue sowing of green gram, black gram in Navasari, Dangs and Valsad districts of South Gujarat Heavy Rainfall Zone. Undertake transplanting of rice, continue sowing of pearl millet, green gram, black gram, cowpea, groundnut, cotton, soybean, maize and pigeon pea in Dahod, Kheda, Vadodara, Anand and Panchmahals districts.
 - In view of subdued rainfall activity, undertake sowing of castor, pigeon pea, groundnut, cotton, pearl millet, sesame, green gram, black gram and cowpea with short duration varieties in **North Saurashtra Zone**.
 - In **West Rajasthan**, in Jaisalmer and Bikaner districts, continue sowing of groundnut, bajra, mung, cluster bean and moth bean.

Detailed Zonewise Agromet Advisories

SOUTH INDIA [TAMIL NADU, TELANGANA, ANDHRA PRADESH, KARNATAKA, KERALA]



Banana



Rice



Sugarcane



Red gram

- **Realised Rainfall:** Rainfall occurred in all districts of Kerala, all districts of Coastal Karnataka, in Bagalkote, Belagavi and Dharwad districts of North Interior Karnataka, Chikkamagaluru, Hassan, Kodagu and Shivamogga districts of South Interior Karnataka, Adilabad, Karimnagar, Khammam, Nizamabad and Warangal districts of Telangana, Coimbatore, Kanyakumari and Nilgiris districts of Tamil Nadu. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at most places over Coastal Karnataka and most/many places over Kerala and South Interior Karnataka during the period, at most/many places over Coastal Andhra Pradesh and North Interior Karnataka from 17th to 19th, over Telangana on 18th & 19th, over Rayalaseema and Tamilnadu from 16th to 18th July, farmers are advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Undertake rain water harvesting.
 - As heavy rain is very likely at isolated places over Coastal Karnataka from 16th to 19th, over South Interior Karnataka from 16th to 18th, over Coastal Andhra Pradesh on 18th & 19th, over Rayalaseema on 16th & 17th and over Kerala from 15th to 18th July, provide adequate drainage in standing crop fields to avoid water stagnation.
 - **Kerala:**
 - In Kerala, complete transplanting of *Virippu* rice (late sown) in Thiruvananthapuram, Kannur, Malappuram and Kozhikode districts. Continue sowing of rice (Uma, Jyothy, Vyttila-6 varieties) in Alappuzha and Kottayam districts. Provide propping for bunched Nendran plants in Thiruvananthapuram district, adequate drainage in rice nurseries and avoid water stagnation in the planting pits/basins.
 - Continue planting of brinjal, bhindi and chilli with adequate drainage in Alappuzha, Kottayam districts.
 - In Wayanad and Idukki districts, provide propping to standing banana crop, as there is chance of high wind speed.
 - In Wayanad and Idukki districts, humid weather conditions are congenial for incidences of capsule rot and rhizome rot in cardamom. To control capsule rot, spray Bordeaux mixture @ 500-100ml/plant and apply Trichoderma to control rhizome rot.
 - In Alappuzha and Kottayam districts, prevailing weather conditions (humid conditions) are congenial for fungal diseases in nutmeg. To control fungal diseases, spray Bordeaux mixture @ 1% and drench with Copper Oxy Chloride @ 0.2% after current spells of rain.
 - In Thiruvananthapuram district, prevailing humid conditions may cause sheath blight and sheath rot in rice, spray Bavistin 200 gm/Tilt (Propiconazol) @ 150 ml/200 litre of water as a control measure, since they adversely affect the emergence of panicle and results in chaffy grains.
 - **Karnataka:**
 - In Coastal Karnataka, continue transplanting of rice in Dakshina Kannada and Udupi districts. Continue transplanting of rice, planting of pineapple, black pepper, arecanut, turmeric and ginger and continue cotton dibbling in Uttar Kannada district. Carry out intercultural operations/weeding in 25-35 days old maize and cotton crop; provide adequate drainage in maize, turmeric and ginger fields.
 - Complete nursery sowing of rice, undertake main field preparation for transplanting of rice and complete sowing of red gram in Chikkamagaluru, Hassan, Shivamogga districts of Southern Transition Zone. Undertake nursery preparation for ragi and also direct sowing of ragi. Continue intercultural operations in already sown maize and red gram fields on a non-rainy day.
 - Continue transplanting of rice, complete sowing of cowpea, green gram, black gram, sesame, jowar and vegetable crops (chilli, brinjal, radish, ladies finger, beans, carrot, onion etc.) and planting of black pepper, turmeric and ginger in Kodagu, Mandya, Mysuru and Chamrajnagar districts of Southern Dry Zone utilizing realised and expected rainfall. Undertake intercultural operations in already sown crops to control the weeds and to conserve soil moisture in Mandya, Mysuru and Chamrajnagar districts after current spells of rain. Remove excess water from rice, vegetables, ginger and turmeric fields in Kodagu district.
 - Continue sowing of red gram, groundnut, maize, ragi, cowpea and castor in Bengaluru Rural, Bengaluru Urban, Ramnagara, Chickaballapura and Kolar districts with receipt of sufficient rainfall.
 - Complete sowing of cotton, minor millet, finger millet, jowar, continue sowing of red gram, sunflower and groundnut in Chitradurga, Davengere and Tumakuru districts of Central Dry Zone with realised and expected

rainfall.

- Continue main field preparation for transplanting of rice and continue sowing of soybean, green gram and pigeon pea in Bidar district of North East Transition Zone.
- Continue puddling in the main field preparation for transplanting of rice, complete sowing of red gram, black gram, green gram, soybean, cotton and continue sowing of maize in Ballari, Kalaburgi, Koppal, Raichur and Yadgir district of North East Dry Zone. Continue sowing of sorghum, maize (African tall), cowpea and short duration bajra for fodder purpose.
- Complete sowing of green, black gram, soybean, maize, groundnut, sorghum and cotton in Dharwad, Belagavi and Haveri districts of North Transition Zone and undertake intercultural operations in 25-30 days old soybean, green gram, black gram, sorghum, maize and groundnut crops.
- Complete sowing of groundnut (spreading type), red gram, onion, castor, bajra, navane, cowpea and horse gram as solo crop in shallow black and red soils and also in medium black and deep black soils; intercropping of bajra + red gram in 2:1 row proportion or bajra + castor in 2:1 row proportion may be taken up to make efficient use of available soil and water resources and to get higher returns in Vijayapura and Bagalkote districts. Take up sowing of bajra, spreading groundnut, red gram, castor, navane/savi, maize as solo crop and chilli + desi cotton, bajra + red gram (2:1 row proportion), navane/savi + red gram (2:1 row proportion) in shallow black and sand mixed black soil; sowing of spreading groundnut as entire crop and chilli + onion as mixed crop in medium/deep black soils and sand mixed loamy soils in Gadag district of North Dry Zone with realised rainfall.
- Attack of aphid and thrips is noticed in green gram and black gram in Bidar district: to control, spray Methyl Parathion 50 EC @ 1 ml or Dimethoate 30 EC @ 1.7 ml per litre of water after current spells of rain.
- Sucking pests thrips were noticed in cotton and onion in almost all talukas of Raichur district; spray Imidachlorpid @ 0.3 ml/litre or Acetamid @ 0.2 g/litre of water on a non-rainy day. Incidence of leaf webber in red gram was found in and around Lingasugur taluka of Raichur district; take up spraying of Profenophos @ 2 ml/litre of water for control after current spells of rain.

▪ **Andhra Pradesh:**

- In Srikakulam, Vizianagaram and Vishakapatnam districts, continue nursery sowing and direct sowing of rice, planting of rainfed sugarcane and sowing of groundnut, pulses and green manure crops preceding to rice.
- In East Godavari district, undertake transplanting of ragi and rice. In West Godavari, Krishna, Prakasam, Guntur and Krishna districts, continue nursery sowing of rice, sowing of millets, maize, red gram, black gram, green gram and cotton.
- In Rayalaseema, continue thinning operation and inter cultivation/hand weeding in June sown castor and red gram crops and sowing of rainfed groundnut, red gram, bajra, korra and castor in Anantpur district. Continue sowing of groundnut, sunflower, red gram, bajra, korra, black gram and castor in Kurnool district.
- In Chittoor, Nellore and Kadappa districts, undertake sowing of rainfed crops like groundnut, red gram, maize, jowar, bajra and other pulses utilizing the expected rainfall. Inter cropping groundnut with red gram in 7:1 or 9:1 ratio and crops like jowar and maize can be take up in 5-6 rows as border crops.
- In Chittoor and Kadappa districts, prevailing weather condition (partially cloudy) is congenial for viral diseases in tomato. To control, spray Imidachlorpid @ 0.3ml/litre of water after current spells of rain.
- In Anantapur and Kurnool districts, collar rot incidence was noticed in groundnut. For control of collar rot incidence, spray Mancozeb @ 400 g/200 litres of water after current spells of rain.
- In West Godavari, Krishna, Prakasam, Guntur and Krishna districts, to prevent white mite incidence on sugarcane (vegetative to ripening stage), spray Malathion @ 3 ml/litre of water after current spells of rain.

▪ **Telangana:**

- In Karimnagar, Nizamabad and Khammam districts (North Telangana Zone), continue nursery sowing of rice (medium and short duration varieties), sowing of maize, soybean, green gram and black gram, red gram and cotton.
- In Mahabubnagar, Nalgonda, Medak, Rangareddy, Khammam and Warangal districts (South Telangana Zone), continue nursery sowing of medium and short duration varieties of rice, sowing of maize, cotton, groundnut, green gram and red gram. To prevent seed borne diseases, treat the seeds with fungicides before sowing and drench vegetable nursery bed with Copper-Oxy-Chloride @ 3 g/litre of water.
- In Mahabubnagar, Nalgonda, Medak, Rangareddy, Khammam and Warangal districts (South Telangana Zone), prevailing weather conditions are congenial for the incidence of seedling blight disease in castor. If noticed, soil drench with Copper-Oxy-Chloride @ 3g/litre of water around the root zone of plant to control the disease on a non rainy day.

▪ **Tamil Nadu:**

- In Thanjavur, Nagapattinam, Thiruvarur, Karur, Perambalur, Trichy and Ariyalur districts, continue transplanting of *Kuruvai* rice and SRI cultivation.
- In Coimbatore, Tiruppur, Erode districts, since the Kar rice is in tillering stage, apply 30 kg Nitrogen and 10 kg K₂O / ha before 16th July and do not drain water after application. Considering anticipated heavy wind and light rain, protect banana crop by giving support to avoid lodging.
- In Tuticorin, Virudhunagar and Tirunelveli districts, provide support to banana crop, remove the dry cane leaves and do double line propping with trash twist in sugarcane at the age of 210 days of the crop to prevent lodging.
- In Pudukottai, Madurai, Dindigul, Theni, Ramanathapuram and Sivaganga districts, undertake de-trashing or

- remove dry cane leaves to avoid borer infestation in early season planted cane of 150 days old.
- In Nilgiris district, undertake planting of tea seedlings.
- In Kanyakumari district, undertake grafting and cutting of horticultural crops, planting of rubber and provide staking to banana plantation for protecting against wind.
- In Karaikal, continue soil application of Carbofuron 3G @ 33 kg/ha to control early shoot borer in sugarcane after current spells of rain.
- In Coimbatore, Tiruppur, Erode districts, considering the anticipated high relative humidity, grapes may be infected with either powdery mildew or downy mildew. To control powdery mildew spray 0.3% Wettable sulphur. To control downy mildew, spray 1% Bordeaux mixture. Since the weather is favourable for green leaf hopper infestation in Kar rice, spray Fenthion 100 EC @ 500 ml/ha after current spells of rain.
- Suitable varieties for sowing are given in Annexure II.
- ❖ **Animal Husbandry**
- In the South Zone of Tamil Nadu, keep the floor of the animal sheds dry to avoid hoof infection and to prevent fly breeding.
- In the North Western Zone of Tamil Nadu, due to prevailing and expected damp weather, procurement of cereals containing more than 12 % moisture should be avoided. When it comes to storage, it should not contain more than 10-11% moisture to prevent mycotoxin occurrence in feed and feed ingredients.
- Vaccinate the animals for Black Quarter and foot and mouth diseases in Karnataka.

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



Banana

Rice

Groundnut

Jute

- **Realised Rainfall:** Rainfall occurred in East Siang, Lohit, Papumpara, Tawang, Tirap, Upper Siang, Upper Subansari, West Kameng and West Siang districts of Arunachal Pradesh, Baksa, Barpeta, Bongaigaon, Cachar, Chirang, Dibrugarh, Golghat, Hailakandi, Jorhat, Kamrup(Rural), Kamrup(Metro), Karbi Anglong, Karimganj, Kokrajhar, Lakhimpur, Nagaon, Nalbari, Sibsagar, Tinsukia and Udalgiri districts of Assam, East Garo Hills, East Khasi Hills, West Garo Hills and West Khasi Hills districts of Meghalaya, Aizwal, Saiha and Sechhip districts of Mizoram, Imphal East and Imphal West districts of Manipur, Dimapur, Kohima and Phek districts of Nagaland and North Tripura and South Tripura districts of Tripura. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at most places over Assam & Meghalaya and most/many places over Arunachal Pradesh, Nagaland, Manipur, Mizoram and Tripura during the period, it is advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops.
 - As heavy to very heavy rain/heavy rain very likely at a few places with extremely heavy falls at isolated places over Assam & Meghalaya on 15th & 16th and heavy rain very likely at isolated places on 17th to 19th, heavy/heavy to very heavy rain very likely at isolated places over Arunachal Pradesh from 15th to 17th and over Nagaland, Manipur, Mizoram & Tripura on 15th & 16th July, provide adequate drainage in standing crop fields to avoid water stagnation.
 - **Assam, Meghalaya & Arunachal Pradesh:**
 - In Karimganj, Hailakandi and Cachar districts of Barak valley Zone of Assam, continue transplanting banana sucker.
 - In Baksa, Barpeta, Bongaigaon, Chirang, Dhubri, Goalpara, Kamrup(Rural), Kamrup(Metro), Kokrajhar and Nalbari districts of Lower Bramhapurtra Valley Zone of Assam, continue transplanting of rice with 21 days old seedlings for short duration varieties, 30-35 days old for medium duration varieties and 35-40 days old seedlings for long duration varieties. Farmers of flood prone areas are advised to collect the submerge tolerance rice variety like Swarna Sub 1. Continue sowing of arhar, groundnut and sesame.
 - In Dibrugarh, Golghat, Jorhat, Sivsagar and Tinsukia districts of Upper Bramhaputra Valley Zone, continue sowing of sesame. Drain out excess water from early sown sesame fields.
 - In Karbi Anglong and NC Hills districts of Hill Zone and Nagaon and Marigaon districts of Central Bramhaputra Valley Zone of Assam, continue sowing of arhar and sesame. Proper drainage system should be maintained in orchards, vegetable, ginger and turmeric fields to avoid yellowing of plants.
 - In Dhemaji, Darrang, Lakhimpur, Sonitpur and Udalgiri districts of North Blank Plain Zone of Assam, undertake transplanting of long duration *Sali* rice (varieties like Ranjit, Mahsuri etc.) in the main fields and complete the transplanting within July. Farmers are advised the following contingency measures in case of flood:

- If there is total damage of seedlings of Sali rice in the main fields, farmers are advised to sowing seeds for replanting with medium to short duration varieties like - Monohar Sali, Salpona, Prasadbhog, Gobin bhog etc. in nursery bed within 1st week of August. Initiative should be taken for raising community nursery for late planting with old seedlings of the varieties like Profulla and Gitesh (If more than 50% damaged).
- It is suggested to use 21-25 days old seedlings and adopt closer spacing of 15 cm ´ for transplanting with the late sown seedlings as mentioned above. When planted with relatively aged seedlings, the farmers were to be suggested to use more number of seedlings (4-5 seedlings per hill) with closer spacing of 20 cm x 15 cm and ensure application of at least recommended dose of fertilizer.
- Also wet seeding with sprouted seeds @ 75-80 kg/ha of short to medium duration varieties like Disang, Luit, (100 days) Kapili, Kalong (120 days). Late and staggered planting with the old seedlings (50-60 days old seedlings) of the varieties like Profulla and Gitesh (If the field is heavily damaged).
- Direct seeding with the photo insensitive short duration variety like Luit. Adoption of submergence tolerance varieties like Jalashree and Jalkuwari for repeat flood prone areas.
- In East Garo Hills, East Khasi Hills, Jaintia Hills, Ri-Bhoi, South Garo Hills, West Garo Hills and West Khasi Hills districts of Meghalaya, undertake transplanting of *Sali/kharif* rice and complete sowing of groundnut and soybean at the earliest.
- In Anjaw, Changlang, Dibang Valley, East Kameng, East Siang, Kurung Kumey, Lohit, Lower Dibang Valley, Lower Subansari, Papumpara, Tawang, Tirap, Upper Siang, Upper Subansari, West Kameng and West Siang districts of Arunachal Pradesh, continue nursery sowing and transplanting of Wetland rice. Follow proper drainage and earthing up practices in fruit orchards in low land/plain areas to avoid water stagnation in fruit orchards. Remove excess sucker from banana mother plants and give support in banana bunches to protect from falling due to heavy weight or storm.
- In Arunachal Pradesh, there is chance of attack of leaf blast in upland/Jhum rice at tillering stage, spray Carbendazim @ 2g/litre water in *Jhum* field to control heavy infestation of leaf blast. For management of soft rot in ginger, apply drenching of Metalaxyl-8% + Mancozeb 64% WP @ 2.5 g per litre of water after current spells of rain.
- In Lower Bramhapurtra Valley Zone of Assam, due to high humidity and rainfall, there is chance of incidence of fruit fly and leaf hopper in gourd. Apply Malathion @ 2ml + jiggery @ 10g per litre of water after current spells of rain.
- In Meghalaya, spray Phosphamidon 100 EC @ 0.5 ml/ litre of water against aphid/leaf miner in groundnut. For management of pests like hairy caterpillar, semilooper, leaf roller and flea beetle in soyabean. Spray Dichlorvos 100 EC @ 0.5 ml/litre or Chlorpyrifos 20 EC @ 1 ml/litre after current spells of rain.
- **Nagaland, Manipur, Mizoram and Tripura:**
- In Dimapur, Kephire, Kohima, Longleng, Mokokchung, Mon, Paren, Phek, Tuensang, Wokha and Zunheboto districts of Nagaland, continue transplanting of TRC/WRC rice and also fill the gaps if any within 7-10 days after transplanting. Continue sowing of soybean. Avoid water logging in ginger fields to prevent rhizome rot.
- In Bishnupur, Chandel, Churachandpur, Imphal East, Imphal West, Senapati, Tamenglong, Thoubal and Ukhrul districts of Manipur, continue sowing of soybean and nursery raising of early cauliflower. Maintain water level of 5-8 cm about 7 days after transplanting.
- In Aizwal, Champhai, Chhimtuipui, Kolasib, Lawngtlai, Lunglei, Mamit, Saiha and Serchhip districts of Mizoram, continue transplanting of *kharif* rice and planting of khasi mandarin/acid lime.
- In Dhalai, North Tripura, South Tripura and West Tripura districts of Tripura, continue transplanting of *Aman* rice. Adopt suitable techniques for transplanting. Before transplanting the roots of the uprooted seedlings should be washed thoroughly and then dipped into 0.02% solution of Chloropyrophos along with 1% urea as protection measure against stem borer, gall midge and hoppers. Complete sowing maize at the earliest. Continue sowing of *kharif* vegetables like ladies finger, cucurbits.
- In Mizoram, weather is conducive for attack of rice yellow stem borer in pre-*kharif* rice. Apply insecticide like Imidacloprid @ 0.5 ml or Phosolone @ 1.5 ml or Dimethoate 2 ml/litre of water. Apply insecticide like Imidacloprid 0.5 ml or Phosolone 1.5 ml or Acephate 1.0 g or Dimethoate 2 ml/litre of water against turmeric shoot borer in turmeric at vegetative stage. Apply insecticide like Imidacloprid 0.5 ml or Phosolone 1.5 ml or Acephate 1.0 g or Dimethoate 2 ml/litre of water against aphid and bug in *kharif* pulses like green gram, black gram and rajma. Undertake plant protection measures after current spells of rain.
- In Tripura, due to humid weather, there is chance of infestation of sheath blight in *jhum* rice at panicle initiation. Spray Surf @ 1gm per litre of water after current spells of rain.
- Suitable varieties for sowing are given in Annexure II.
- ❖ **Animal Husbandry**
- In Northeastern states, undertake proper vaccination schedule to protect livestock from viral and bacterial diseases. Farmers are advised to keep animals in sheds during heavy rain fall period. Changing weather could lead to viral diseases to the poultry. So farmers may provide sufficient water with 1% salt and mineral mixture. Farmers are also advice to clean the sanitary condition of poultry. Provide balanced feed, fresh water.
- In Upper Bramhaputra Valley Zone of Assam, during monsoon season the calves are infected more by worms. To reduce the problem, it is advised to give Piperzine or Mebendazole at recommendeddose in consultation with veterinary doctor.

- In Barak valley Zone of Assam, prevailing humid weather condition may lead to gastrointestinal parasites infection to the poultry. Keep good sanitary conditions in poultry sheds. If birds are infected, they should be immediately separated from rest of the flock.
- ❖ **Fishery**
- In Lower Brahmaputra Valley Zone of Assam, in flood affected areas, make arrangement of net around the fish pond, so that fishes can't come out from the pond to the outer water and at the same time disease-infected fishes can't enter to the pond.
- In Central Brahmaputra Valley Zone of Assam, apply cowdung at the rate of 500 gm per sq m. at least 15 days ahead of releasing fingerlings into the tanks. Farmers may release fish prawn in their ponds during this period.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]



Maize



Groundnut



Rice



Red gram

- **Realised Rainfall:** Rainfall occurred in all districts of Konkan & Goa and Vidarbha, all districts of Madhya Maharashtra except Sholapur, all districts of Marathwada except Beed and Osmanabad district, all districts of Gujarat Region except Ahmedabad, Anand, Bharuch and Surat. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - **Maharashtra:**
 - As rain/thundershowers likely at most/many places over Konkan & Goa during the period, farmers are advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops.
 - In Konkan, in north Konkan region, farmers are advised to continue transplanting of 21-25 days old rice seedling. Drain out excess water from rice field. Continue transplanting of 28-30 days old finger millet seedling. Drain out excess water from mango, cashew, sapota, coconut and arecanut orchards.
 - In Madhya Maharashtra, continue transplanting of 21-25 days old rice seedling in Kolhapur, Pune and Ahmednagar districts. Continue transplanting of 28-30 days old finger millet seedling in Pune and Ahmednagar districts. Complete sowing of soybean at *vapsa* condition in Pune, Ahmednagar, Satara and Sangli districts. Complete sowing of groundnut at *vapsa* condition in Kolhapur, Pune and Ahmednagar districts. Complete sowing of cotton, maize, soybean, red gram, green gram and onion at *vapsa* condition in Nasik, Dhule, Nandurbar and Jalgaon districts.
 - In Marathwada, complete sowing of *kharif* soybean, pearl millet, cotton, tur and moong in Aurangabad, Latur, Osmanabad, Nanded, Parbhani, Hingoli, Beed and Jalna districts. Undertake intercultural operations like hand weeding, hoeing in early sown crops for control of weeds.
 - In Vidarbha, undertake transplanting of 21-25 days old rice seedling in Gondia, Chandrapur and Gadchiroli districts utilizing the realized rainfall. Complete sowing of *kharif* soybean, cotton, tur and moong at *vapsa* condition in Buldana, Akola, Washim, Amravati, Nagpur and Yavatmal districts.
 - Due to humid and cloudy weather conditions in Marathwada region, there is possibility of incidence of leaf blight disease in tomato, cucumber and chilli ; spray Mancozeb 75 % @ 3 g per litre of water.
 - **Gujarat:**
 - Complete transplanting of rice, continue nursery sowing of *kharif* vegetable crops like tomato, brinjal and chilli, continue sowing of cotton, pearl millet, groundnut, sesame, cluster bean, green gram and cowpea in Bhavnagar and Ahmedabad districts with realised rainfall. Carry out intercultural operation in cotton to conserve soil moisture.
 - Complete transplanting of rice, complete sowing of red gram, millets and nursery sowing of chilli, brinjal, sowing of cucurbits like bottle gourd, ridge gourd, sponge gourd, bitter gourd continue sowing of green gram, black gram in Navasari, Dangs and Valsad districts of South Gujarat Heavy Rainfall Zone. Drain out excess water from rice and vegetable nurseries.
 - Continue sowing of pigeon pea, castor and vegetable crops like bhindi, beans and cucurbits in Surat, Narmada, Tapi and Bharuch districts with realised rainfall. Drain out excess water from vegetable nurseries and avoid water logging condition in crop fields. Apply 20 kg/ha urea in deshi cotton variety whereas 40 kg/ha in hybrid variety if yellowing of the crop is observed due to water logging condition.
 - Undertake transplanting of rice, continue sowing of pearl millet, green gram, black gram, cowpea, groundnut, cotton, soybean, maize and pigeon pea in Dahod, Kheda, Vadodara, Anand and Panchmahals districts with realised and expected rainfall. Drain out excess water from groundnut fields. Take green gram, pigeon pea, guar as intercrop in pearl millet.

- Continue sowing of soybean, sesame, pigeon pea and castor in Porbandar and Junagadh districts of South Saurashtra Zone with realised rainfall. Carry out intercultural operations, weeding and mulching to conserve soil moisture in the areas where crops at early vegetative/vegetative stage.
- Continue sowing of cotton, groundnut, pearl millet, sesame, maize, cluster bean, green gram and cowpea in Banaskantha, Mehsana, Gandhinagar, Patan and Sabarkantha districts of North Gujarat Zone with realised rainfall and undertake sowing in Kachchh district of North West Zone of Gujarat with receipt of sufficient rainfall. For late sowing, select erect GG-2 variety of groundnut. Take short duration intercrops in new orchards.
- In view of subdued rainfall activity in North Saurashtra Zone, undertake sowing of castor, pigeon pea, groundnut, cotton, pearl millet, sesame, green gram, black gram and cowpea with short duration varieties. Complete nursery sowing of tomato, chilli, brinjal and early cauliflower and sowing of cucurbits (bottle gourd, bitter melon, ridge gourd and pumpkin), lady's finger, cluster bean, kidney bean, cowpea, tur and amaranthus and undertake transplanting. Carry out intercultural operations, weeding and mulching to conserve soil moisture.
- There is a chance for pseudo stem weevil in banana in South Gujarat Zone; remove dry hanging leaves and clean the fields and spray Chlorpyrifos @ 2 ml/litre of water on a non-rainy day.
- Suitable varieties for sowing are given in Annexure II.
- ❖ **Animal Husbandry**
- In Gujarat, keep fodder in safe place to avoid spoilage due to rain.

EAST INDIA [JHARKHAND, BIHAR, ODISHA, WEST BENGAL & SIKKIM, ANDAMAN & NICOBAR ISLANDS]



Red gram



Okra



Maize



Rice

- **Realised Rainfall:** Rainfall occurred in all districts of Andaman & Nicobar Islands except Nicobar, all districts of Sub-Himalayan West Bengal & Sikkim except North Dinajpur, South Dinajpur and West Sikkim, all districts of Gangetic West Bengal except Howrah and West Midnapore, in all districts of Bihar except Aurangabad, Begusarai, Bhabua, Bhojpur, Buxar, East Champaran, Gopalganj, Katihar, Madhepura Madhubani, Rohtas, Saharsa, Saran, Sheohar, Sitamarhi, Supaul and Siwan, all districts of Jharkhand except Chatra, East Singhbhum, Garhwa, Latehar, Lohardogga, Palamu and Ranchi, all districts of Odisha except Angul, Balasore, Bhadrak, Deogarh, Ganjam, Jharsuguda, Kandhamal, Keonjhar, Mayurbhanj, Puri and Sambalpur.
- **Advisories:**
 - As rain/thundershowers likely at most places over Sub-Himalayan West Bengal & Sikkim and Bihar, at most/many places over Gangetic West Bengal, Odisha and Jharkhand during the period and over Andaman & Nicobar Islands on 15th & 16th July, it is advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Undertake rain water harvesting.
 - As heavy to very heavy rain very likely at a few places over Sub-Himalayan West Bengal & Sikkim during the period with extremely heavy falls at isolated places on 16th July and heavy to very heavy rainfall very likely at isolated/few places over Bihar from 15th to 18th, heavy rain likely at isolated places over Jharkhand on 16th and Gangetic West Bengal on 15th July, provide adequate drainage in standing crop fields.
 - **Odisha:**
 - In East and South Eastern Coastal Plain Zone, undertake field preparation and transplanting of rice. Undertake wet bed nursery raising of *kharif* rice. Continue sowing of groundnut, arhar, castor and cotton green gram, black gram and sesame in uplands.
 - In Naupara and Kalahandi districts, continue nursery sowing of medium duration rice varieties in medium land and medium late duration varieties in low land. Continue sowing of cotton, maize and arhar utilizing the realized and expected rainfall. In Gajapati, Kandhamal and Raigad districts, undertake planting of cashewnut trees.
 - In Koraput and Nawarangpur districts, continue sowing of maize and other non paddy crops in upland condition.
 - In Mayurbhanj and Keonjhar districts, continue sowing of groundnut, ragi, arhar, maize, green gram, black gram and sesame etc and planting ginger and turmeric in uplands areas. Undertake planting of fruit trees and sowing of rainy season vegetables like Bhindi (Lady's finger), Bean, French bean, Tomato, Cauliflower, Cabbage etc.
 - In Balasore, Bhadrak and Jajpur districts, continue sowing of direct seeded rice in low lands.
 - In East and South Eastern Coastal Plain Zone, fruit and shoot borer has been found in brinjal. To control it install Pheromone traps and spray Sevin WP @ 4 g or Malathion @ 2 ml in 1 litre water alternatively. Also to control fruit fly in bitter melon, spray Sevin WP @ 3 ml in 1 litre of water after current spells of rain.
 - In Western Undulating Zone, there may be attack of early shoot borer in sugarcane crop at tillering stage. Spray

Triazophos/Profenophos @ 2ml/litre of water after current spells of rain.

▪ **West Bengal:**

- In Gangetic West Bengal, continue nursery sowing of *Aman* rice in Burdwan, Hooghly, Howrah, Nadia, Murshidabad and North 24-parganas districts. One and half katha of land is required for transplanting of one Bigha of land. At the time of last ploughing, apply 3Kg SSP and 3 Kg MOP in the nursery bed. Prepare the land for planting Banana suckers. For planting 1 bigha of land 333 suckers are required.
- In South 24 Parganas and East Midnapore districts in Coastal Saline Zone, continue nursery sowing of kharif onion and sowing of wet seeded *Aman* rice. Undertake nursery sowing of brinjal, chilli in upland area for making saplings through ridge furrow system.
- In West Midnapore and Bankura districts, undertake direct sowing of *Aman* rice in upland area. Give proper bunding to hold the water in the field. First Weeding operation should be done at 25 days after sowing of the crop. Undertake land preparation and transplanting of *Aman* rice. At the time of final puddling, apply fertilizer 7.3 kg Urea, 42 kg SSP and 13.4 kg MOP per Bigha as basal dose.
- In Sub-Himalayan West Bengal, in South Dinajpur and Malda district, prepare the main field by ploughing, puddling and apply 9 kg urea, 25 kg SSP and 5kg MOP as basal and undertake transplanting of *Aman* rice in the main fields. Keep 2-3 seedlings per hill. Undertake seedbed preparation for kharif season early Cabbage, Broccoli etc after current spells of heavy rain. Before sowing the seed should be treated with Trico-derma Viride.
- In Darjeeling district, continue nursery sowing of *Aman* rice and planting of ginger and turmeric after current spells of heavy rain. Proper drainage system should be maintained in the fields of turmeric, ginger, cardamom and in Mandarin orange gardens to prevent water stagnation during heavy rain.
- In Gangetic West Bengal, in the present weather condition, attack of root and stem rot may be prevalent in jute. To control the diseases, apply Carbendazim 0.1 % or Mancozeb 0.25 % after current spells of rain.

▪ **Andaman and Nicobar Islands:**

- In North, Middle and South Andaman, undertake transplanting of *Aman* paddy with 25 days old seedlings with a spacing of 20X20 cm and treat the seedlings with biopesticides for pest control before transplanting into the main field. Undertake weeding around cucurbits and apply farm yard manure 2 kg per plant.
- In Nicobar, undertake weeding and cleaning of water channels in vegetable fields.

▪ **Bihar:**

- In South Bihar Alluvial Zone, undertake transplanting of rice with 20-25 days old seedlings in the prepared fields with spacing of 20 x 10 (R x P) cm. Nitrogen 100 kg./ha, Phosphorus 60 kg./ha, Potash 40 kg./ha and zinc sulphate 25 kg/ha should be used before transplanting. Complete sowing of rainy season cucurbits crops on raised beds. Arrangement for proper drainage should be done in field.
- In Saharsa, Purnia, Supaul and Araria districts in North East Alluvial Zone, undertake transplanting of 20-25 days old paddy seedling in prepared fields with spacing of 20 x 15 (R x P) cm. Prepare drainage channel to remove excess water from the field of jute, vegetables and *kharif* maize. Undertake planting of horticulture crops like mango, litchi, guava and papaya.
- In Begusarai, Darbhanga, East Champaran, Gopalganj, Samastipur, West Champaran districts of North West Alluvial Plain Zone, undertake transplanting of rice in medium and low land area and undertake sowing of pigeon pea in upland area. Undertake Weeding in 20-25 days old onion nursery.
- In North East Alluvial Zone, in the present weather situation, attack of shoot borer may be enhanced in sugarcane. Spray Fipronil 0.3% GR @ 33 Kg/ha or spray Fipronil 5 SC @ 2ml/L of water to control borer after current spells of rain.

▪ **Jharkhand:**

- In Saraikela, East & West Singhbhum districts in South Eastern Plateau Zone of Jharkhand, continue sowing of direct seeded upland rice, maize, groundnut and pigeon pea. Complete sowing of French bean, lady finger, bottle gourd, cucumber, ridge gourd and radish.
- In Western Plateau Zone, continue nursery sowing of rice in raised beds, continue sowing of groundnut, arhar, black gram, maize and sowing of rainy season vegetables like Bhindi, Bean, French bean etc. Make channels in the field of different vegetables and other crops to keep the field well drained.
- In Central and North Eastern parts of Jharkhand, continue nursery raising of rice and start land preparation for transplanting and sowing arhar, groundnut, Marua, Maize and plantation of new trees. Repair the broken bunds of the field to conserve rain water and incorporate, daincha or sunhemp in soil for green manuring in the standing crop.
- In Western Plateau Zone, continue direct sowing of rice, sowing of maize, arhar, urd and groundnut etc. in uplands using recommended varieties and methods.
- In South Eastern Plateau Zone, in cucurbitaceous crops, if attack of red pumpkin beetle is found, spraying of Diclorvos 76 EC (DDVP) @ 1 ml/litre of water is advised after current spells of rain.
- Suitable varieties for sowing are given in Annexure II.

❖ **Animal Husbandry**

- In Coastal Saline Zone of West Bengal, there may be attack by black quarter and foot and mouth disease in Cattle due to rainy weather. Wash the wound with Potassium per Manganate solution. If black quarter attack is noticed then promptly give penicillin and Tetracyclin and inoculate these medicine at the side of the wound.
- In North East Alluvial Zone of Bihar, provide vaccination against Anthrax, Black Quarter and Galghontu disease to animals.

CENTRAL INDIA [M.P., CHHATTISGARH]



Maize



Rice



Okra



Red gram

- **Realised Rainfall:** Rainfall occurred in all districts of East Madhya Pradesh except Sidhi, all districts of West Madhya Pradesh except Bhind and Sheopur, all districts of Chhattisgarh except Raigarh and Surguja.
- **Advisories:**
 - As rain/thundershowers likely at many places over Madhya Pradesh on 15th & 16th and at most places over Chhattisgarh on 15th July, it is advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops.
 - As heavy to very heavy rain very likely at isolated places over northeast & northwest Madhya Pradesh and north Chhattisgarh on 15th July, provide adequate drainage in standing crop fields.
 - **Madhya Pradesh:**
 - Due to heavy rainfall during last week, water logging was noticed in low land crop fields in West Madhya Pradesh. Drain out excess water from rice nursery, soybean, maize, & pulse fields in Indore, Ujjain, Dewas, Bhopal, Vidisha, Jabalpur, Satana, Sehore districts to avoid water stagnation. Due to water logging if germination/seedlings are affected in maize and soybean crops, undertake gap filling in affected areas.
 - In East Madhya Pradesh, undertake transplanting of rice. Drain out excess water from already sown maize and soybean crop fields. Undertake sowing of moong and urad, complete sowing of red gram and soybean at optimum soil moisture condition.
 - In Chhindwara district, complete sowing of moong, urad, maize and soybean. Continue nursery preparation for tomato, chilli, brinjal, papaya and early cauliflower. For late sowing, undertake crops like red gram, castor and niger.
 - In Morena and Gwalior districts, undertake transplanting of vegetables. Continue sowing of pearl millet, soybean, red gram, green gram and black gram.
 - In Khargone, Khandwa and Barwani districts, continue nursery sowing of onion. Continue sowing of cotton and maize. Continue sowing of soybean using ridge and furrow method. Continue transplanting of Chilli.
 - In Bhopal, Vidisha, Raisen, Sehore, Sagar and Damoh districts, continue transplanting of rice and complete sowing of red gram, maize and soybean and planting of sugarcane. Undertake gap filling wherever germination has been affected.
 - In Chhatarpur, Tikamgarh and Datia districts, continue sowing of vegetables like lady finger, bottle gourd, cucurbits, sponge gourd, bitter gourd and beans. Continue sowing of red gram, soybean, sesame, moong, urad, maize and groundnut at optimum soil moisture condition. Continue transplanting of rice. Provide adequate drainage in already sown crop fields.
 - In Jhabua, Alirajpur and Dhar districts, continue transplanting of rice and complete sowing of soybean, black gram and maize at optimum soil moisture condition. Continue transplanting of vegetables. Provide adequate drainage in crop fields.
 - In Vindhya Plateau Zone, due to cloudy weather there are chances of attack of sucking pests in brinjal, tomato and chilli, spray Thiamethoxam @ 0.35 g/litre of water after current spells of rain.
 - **Chhattisgarh:**
 - In North Chhattisgarh, continue transplanting of rice. Continue line sowing of rice. Continue planting of orchard crops like Papaya, Guava, Mango, Litchi and Pomegranate. Continue transplanting of vegetables.
 - In Central Chhattisgarh, continue line sowing of rice. Continue sowing of red gram, sesame, soybean and maize. Continue nursery preparation for vegetables. Continue transplanting of rice.
 - In South Chhattisgarh, continue transplanting of rice, line sowing of rice and sowing of tuber crops. Continue sowing of soybean, groundnut and sesame. Continue nursery preparation for planting of orchards of papaya and custard apple.
 - Suitable varieties for sowing are given in Annexure II.
 - ❖ **Animal Husbandry**
 - In Madhya Pradesh, to improve immunity of cattle's, supply food mixed with vitamins and energy food material along with calcium content. Vaccinate cattle for control of FMD and HS disease.
 - In Chhattisgarh, farmers are advised to carry out vaccination of their animals against Black Quarter, HS and Anthrax disease.

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



Groundnut

Maize

Rice

Okra

- **Realised Rainfall:** Rainfall occurred in Doda district of Jammu and Kashmir, Chamba, Hamirpur, Kangra, Mandi, Shimla and Una districts of Himachal Pradesh, Bageshwar, Chamoli, Champawat, Nainital, Pithorgarh, Rudraprayag, Udham Singh Nagar and Uttarkashi districts of Uttarakhand, Bhatinda, Gurudaspur, Kapurthala, Mansa, Moga, Muktesar and Sangrur districts of Punjab, in Faridabad and Mewat districts of Haryana, Central Delhi, North Delhi, North West Delhi, South Delhi and West Delhi districts of Delhi, Azamgarh, Bhairai, Banda, Chandauli, Hardoi, Kanpur city, Kanpur dehat, Kheri, Sahuji Maharajnagar, Sonbhadra, Unnao and Varanasi districts of East Uttar Pradesh, Agra, Aligarh, Badaun, Bareilly, Bulandsahar, Etah, Hamirpur, Jhansi, Jotiba Phulenagar, Kanshiramnagar, Lalitpur, Mahamayanagar, Mahoba, Mathura, Moradabad and Rampur districts of West Uttar Pradesh, all districts of East Rajasthan except Jaipur, Jhunjhunu and Sikar, in Nagaur district of West Rajasthan. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/snow is very likely at most/many places over Uttarakhand during the period, over Jammu and Kashmir Himachal Pradesh from 15th to 18th July, rain/thundershowers would occur at most places over East Uttar Pradesh during the period, over Haryana, Chandigarh & Delhi from 15th to 18th, over Punjab from 15th to 17th and over West Uttar Pradesh from 15th to 18th July, it is advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops.
 - As heavy to very heavy rain very likely at a few/isolated over Uttarakhand from 15th to 18th, over Himachal Pradesh on 15th & 16th and over Uttar Pradesh from 15th to 17th, over West Uttar Pradesh on 18th July and over East Rajasthan on 15th & 16th July, provide adequate drainage in standing crop fields to avoid water stagnation.
 - **Jammu & Kashmir:**
 - In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, continue transplanting of paddy in the main field which have 4-6 leaves. Apply the basal dose of fertilizer at time of transplanting. In the areas where farmers could not raise the nursery, direct seed sowing can be done. Continue sowing of maize and mixed fodder crop (maize+Cowpea+ Charri) using optimum soil moisture. Undertake sowing of mash during clear weather. Treat the seed with Rhizobium culture before sowing to get better yield.
 - In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, complete transplanting of rice seedlings at 4-6 leaf stage in the main fields. Do the first weeding and hoeing after 15 days of transplanting. Complete sowing of maize as early as possible in clear weather with availability of optimum soil moisture in the field.
 - In Srinagar, Badgam, Kupwara and Baramulla districts of Valley Temperate Zone, complete transplanting of paddy in the main fields. Apply first dose of Nitrogen @ 3.35kg Urea per kanal after 15-18 days of transplanting. Open drainage channels to avoid water stagnation in maize, pulses and saffron fields.
 - In Leh district of Cold Arid Zone, undertake harvesting of turnips, Knol khol, lettuce, kale, Chinese cabbage, broccoli, summer squash and radish in clear weather.
 - In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, to avoid wilting in chilli, tomato and brinjal, farmers are advised to avoid water logging in the fields. Apply foliar spray of Carbendazim @ 1 g/litre of water after current spells of rain. Repeat the foliar spray after 7 - 10 days with copper oxychloride @ 2 g/litre of water to prevent the crop from soft rot.
 - **Uttarakhand:**
 - In Nainital district of Bhabar and Tarai Zone, complete transplanting of rice during the week. Continue sowing of urad and green gram. Continue transplanting of cabbage in the main field. Complete sowing of beans (Rajma) and horse gram (Gahat) during the month. Undertake nursery sowing of short duration varieties of cauliflower, knol-khol and broccoli. Undertake sowing of radish and turnip in hilly regions.
 - In Udham Singh Nagar district of Bhabar and Tarai Zone, continue transplanting of paddy. Continue direct sowing of paddy. Complete sowing of groundnut, soybean, okra and radish. Prepare nursery for rainy season chilli. Before sowing the seed of chilli in nursery, mix 2-3g Thiram and Kepton in 1 Kg seed of chilli.
 - In Dehradun, Pauri and Haridwar districts of Sub Humid Sub Tropic Zone, complete transplanting of paddy in the main field during the week.
 - In Tehri Garhwal, Uttarkashi, Chamoli, Rudraprayag, Pithoragarh, Bageshwar, Champawat and Almora district of Hill Zone, complete transplanting of irrigated paddy during the week where it is not completed. Continue

transplanting of cauliflower and cabbage. Complete sowing of finger millets and maize after current spells of heavy rain. Drain out excess water from vegetable fields.

- In Nainital district of Bhabar and Tarai Zone, due to prevailing weather, if *Paranjalak* insects appears in Amaranth crop, spray the solution of Methyl-O- Dematon or Dimethoate @ 1ml/litre of water after current spells of rain.

▪ **Himachal Pradesh:**

- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, continue transplanting of rice. Complete sowing of maize. Continue sowing of *kharif* pulses mung, mash, soybean, cowpeas and kulthi. Complete sowing of charibajra for fodder. In mid hill areas, complete transplanting of tomato, brinjal, chilli and capsicum. Continue sowing of cucurbits such as cucumber, bitter gourd, bottle gourd and summer squash, ageti okra, French bean and radish. Continue planting of ginger, turmeric.
- In Mid Hills Sub-Humid Zone of Himachal Pradesh, in Bilaspur, Solan, Shimla and Sirmaur districts, complete sowing of bhindi, cucurbits, French bean, moong and mash and nursery raising and transplanting of tomato, chilli, capsicum and brinjal. Continue sowing of fodder crops like maize, cowpea and soybean.
- In High Hills Temperate Dry Zone of Himachal Pradesh, in Kinnaur and Lahaul&Spiti, continue nursery sowing of vegetables.
- In Una, Hamirpur, Kangra and Chamba districts, prevailing weather is conducive for attack of blast and brown spot in paddy nurseries, for contro,l spray Carbendazim @ 2.0 g per litre of water after current spells of rain.
- In Mild Hills Sub-Humid Zone of Himachal Pradesh in kullu and mandi districts, weather is conducive for attack of alternaria leaf spot in apple, for control spray Hexaconazole (Contaf) in 200 litres of water after current spells of rain.
- In Sub-Montane and Low Hills Sub-Tropical Zone, weather is conducive for attack of shoot and fruit borer in brinjal and tomato crops, for control spray Spinosad 48 EC @ 1 ml per 4 litres of water after current spells of rain.

▪ **Rajasthan:**

- In East Rajasthan, Bhilwara, Chitorgarh, Rajsamand, Sirohi, Udaipur districts of Sub Humid Southern Plain and Aravali Hill Zone, continue sowing of groundnut and maize and continue nursery sowing of brinjal, tomato, rainy onion, cauliflower and chilli with realized and expected rainfall.
- In Alwar, Bharatpur, Dhaulpur, Karauli, Sawaimadhapur districts of Flood Prone Eastern Plain Zone, undertakesowing of sorghum, pearl millet. Before sowing sesame, treat seed with 3g Thiram/kg seed followed by Azotobacter and PSB culture before sowing.
- In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, continue sowing of pearl millet, sorghum, maize, green gram, cowpea, moth and khira, bottle gourd, ridge gourd, bitter gourd, cucumber & cluster bean. Continue nursery preparation of *kharif* onion.
- In Jhalawar, Kota, Bundi, Baran of Southern Humid Plain Zone, undertake transplanting of paddy. Continue sowing of soybean, maize, urad, mung.
- In Arid Western Plain Zone, in Jaisalmer and Bikaner districts, Undertake sowing of bajra, mung, cluster bean, moth and Guar, bhindi and pearl millet and sorghum asgreen fodder crops. Mix the seed of cowpea and cluster bean along with pearl millet and sorghum at the time of sowing, to get balanced green fodder production. In Arid Western Plain Zone, In Barmer, Churu, Jalore, Jodhpur, Pali districts, undertake sowing of short duration bajra variety and moth, mung, sesame.
- In Irrigated North Western Plain Zone, continue transplanting of rice in Hanumangarh district and continue sowing of guar, bajra, sesame, mung, moth, castor and complete sowing of cotton, arhar, groundnut, sugarcane and fodder crop in Hanumangarh and Sriganganagar.
- In Dungarpur and Banswara districts of Southern Humid Plain Zone, undertake sowing of *kharif* crops after receiving sufficient rainfall. Undertake sowing of cotton in irrigated areas. Treat seed before sowing with Carbendazim @ 2g/kg seeds and followed by Imidacloprid 70 FS or Thiamethoxam 30 FS @ 10ml/kg seeds.
- In Barmer, Churu, Jalore, Jodhpur, Pali districts in Arid Western Plain Zone, prevailing weather condition is congenial for attack of white grubs in groundnut and white fly in cotton, for control white grubs in groundnut apply Chlorpyrifos 20 EC @ 4 litres per ha with irrigation and for control of white fly in cotton spray Methyl Demeton 25 EC @ 1 litre per hectare after current spells of rain.
- In Irrigated North Western Plain Zone, Hanumangarh and Sriganganagar, prevailing weather condition is congenial for attack of thrips in Narma cotton for control spray Acephate 75 SP @ 2 gm. or Thiamethoxam 25 WG @ 0.5 ml. per litre of waterafter current spells of rain.

▪ **Punjab, Haryana and Delhi:**

- In Punjab, in Fazilka, Ferozepur and Faridkot districts, complete the transplanting of short duration varieties of rice and sowing of cotton. Continue sowing of okra, maize and planting of sugarcane. Continue transplanting of chilli and cucurbits on the ridges. Complete the sowing of moong during the second fortnight of July.
- In Moga, Bhatinda, Barnala, Mutsar, Sangrur and Mansa districts, continue transplanting of chilli, tomato, bell pepper. Continue sowing of cucurbits, round gourd, sponge gourd, okra, and cluster bean. Complete sowing of cotton, transplanting of paddy and undertake sowing of fodder crops. Drain out the excess water from the cotton fields.
- In Central Plain Zone of Punjab, complete the transplanting of basmati varieties and undertake sowing of fodder crops.
- In Gurdaspur district of Punjab, continue transplanting of rice and continue sowing of maize. Drain out excess

water from field of maize after rainfall.

- In Ajitgarh, Rupnagar and SBS Nagar, undertake sowing of maize, mash, okra, cucurbits, cowpea and nursery raising of early varieties of cauliflower.
- In Western Zone of Haryana, continue transplanting of rice, sowing of arhar, green gram and black gram. Complete the direct sowing of leafy vegetables, bottle gourd, cucumber, ridge gourd summer radish. Undertake intercultural/hoeing operations in cotton crops for conserving the moisture and removing the weeds on a non rainy day.
- In Eastern Zone of Haryana, continue transplanting of rice and continue sowing of fodder crops such as guar, maize and bajra.
- In Western Semi-Arid Zone of Delhi, continue field preparation for sowing of maize, pigeon pea, onion and continue sowing of cotton, green gram and black gram. Continue nursery sowing of rice, sowing of okra, French bean, cluster bean, baby corn and fodder crops such as sorghum, bajra, cluster bean and maize. Undertake nursery preparation of early cauliflower, tomato, chilli and brinjal and sowing of cucurbits, bottle gourd, bitter gourd, pumpkin, ridge gourd and cucumber. Undertake sowing of soybean.
- In Western Zone of Haryana, there is chance of infestation of white fly on cotton, spray 1 liter Nimbecidine mixed with 250 liter water per acre after current spells of rain and in rice for the protection of Bakani disease spread/broadcast 1 g Carbendazim per square meter mixed with sand in the nursery before 7 days of transplanting .
- In Western Semi-Arid Zone of Delhi, monitor the cucurbitaceous crops against attack of fruit fly, use 'Methyl Eugenol trap, if symptoms seen, spray Rogor @ 2 ml + 10 g sugar or jaggary/litre water at 50 litres/ha after current spells of rain.

▪ **Uttar Pradesh:**

- In Central Plain Zone of East Uttar Pradesh, continue transplanting of paddy. Continue sowing of maize, arhar, jowar, bajra, urad, mung, moth, soybean, sesame, groundnut, kharif sunflower. Continue sowing of lobia, jowar, maize, bajra, guar, and multicutting M.P. Chari for green fodder. Complete nursery raising of brinjal and *kharif* onion. Continue nursery sowing of early maturing varieties of brinjal, chilli, cauli flower and transplanting of brinjal, chilli. Continue sowing of spinach, lobia, louki, torai and tinda. Complete sowing of okra and aravi.
- In Eastern Plain Zone of East Uttar Pradesh, undertake transplanting of paddy. Undertake direct sowing of short duration variety of rice. Continue sowing of arhar, jowar, bajra, urad, mung, maize.
- In North Eastern Plain Zone of East Uttar Pradesh, continue transplanting of paddy and sowing of kharif maize, pigeon pea, urad, mung, sesame, groundnut, jowar, cowpea.
- In Western Plain Zone of Uttar Pradesh, continue transplanting of paddy and sowing of pigeon pea, maize. Continue transplanting of tomato, chilli and sowing of bhindi, cucurbits and sowing of sunflower, urad, mung.
- In Bundelkhand Zone of West Uttar Pradesh, continue sowing of *kharif* crops, long duration varieties of groundnut, soybean, jowar, arhar, maize, urad, bajra, mung, sesame. Undertake nursery sowing of early maturing varieties of tomato, cabbage, brinjal, chilli, cauli flower and transplanting of brinjal, chilli, tomato, cabbage, cauli flower. Continue sowing of jowar, maize, bajra, guar, and chari for green fodder and dhaincha for manuring. Continue transplanting of paddy in irrigated areas.
- In North Eastern Plain Zone of East Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of Insect & aphid in cowpea, for control spray Monocrotophos @ 500 ml in 200 liters of water per acre after current spells of rain.
- In North Eastern Plain Zone of East Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of weevil of root and rot in banana, for control, spray Quinalphos @ 500 ml in 200 liters of water (for approx. 800 Banana plants) after current spells of rain.
- Suitable varieties for sowing are given in Annexure II.

❖ **Horticulture:**

- In Central Plain Zone of East Uttar Pradesh, undertake planting of new orchard of mango, guava, lichi, aonla, lemon, ber, papaya.
- In Central Plain Zone of East Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of aphids in Anola orchard, for control spray Monocrotophos @ 0.04% on a non rainy day.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, undertake plantation of mango, litchi, guava, citrus, laquat and amla.
- In Udham Singh Nagar district of Bhabar and Tarai Zone, undertake planting of mango and guava in the orchard.
- In Nainital district of Bhabar and Tarai Zone of Uttarakhand, fruit plants like mango, guava, lemon, papaya, litchi should be planted in this month.

❖ **Animal Husbandry**

- In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, animals may be attacked by external & internal parasites. To control internal parasites give Albendazole or Fenbendazole under the guidance of Veterinary Doctor. To control attack of external parasites like ticks, flies, mosquitoes etc. spray Butox on animal surrounding & body.
- In Bhabar and Tarai Zone of Uttarakhand farmers are advised to give vaccination for Black Quarter and H S fever in animals. Before the vaccination, deworming should be given to the animals.
- In sub tropical Zone of Jammu Kashmir, give supplementary mineral mixture with 50 gm iodized salt regularly to the milking and pregnant animals. Give vaccination against BQ and HS. Ensure green fodder to the livestock.

❖ **Floriculture**

- In Sub Tropical Zone of Jammu and Kashmir, continue transplanting of the seedlings of rainy seasonal annuals (gaillardia, balsam, cosmos, portulaca, kochia, sunflower, morning glory, gomphrena, celosia etc.) till weather gets clear.

❖ **Apiculture:**

- In Himachal Pradesh, to control mites attack on honeybees, dust Sulphur on sealed brood in the colony and not on larvae. Also insert empty frame /combs for egg laying to the queen as the population starts builds up.
- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone , examine colonies at regular intervals for wax moth management. Artificial feeding should be given to colonies. Provide ventilation by placing a small stock in between brood chamber. Kill wasps with a wooden flap and dusting or spraying with insecticides. Keep colonies in stand to give protection against ants.

Districtwise realised rainfall and % departure for past three weeks is given below in Annexure I

Annexure I

Week by week Rainfall Distribution

Sub-Divisions	29.06.16		06.07.16		13.07.16	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
Arunachal Pradesh						
Anjaw	**	**	**	**	**	**
Changlang	37.9	-74	67.7	-39	11.8	-89
Dibang Valley	**	**	**	**	**	**
East Kameng	19.0	-77	37.7	-61	16.5	-81
East Siang	103.6	-49	252.4	23	52.7	-75
Kurung Kumey	**	**	**	**	**	**
Lohit	36.2	-73	115.6	-18	39.3	-71
Lower Dibang Valley	61.5	-44	334.7	294	23.9	-44
Lower Subansari	**	**	**	**	**	**
Papumpare	61.5	-63	290.1	46	224.8	51
Tawang	31.0	-82	86.0	-54	102.0	-45
Tirap	98.0	-38	131.8	-34	32.8	-80
Upper Siang	97.8	-38	328.8	88	110.4	-24
Upper Subansari	32.1	-61	112.4	70	108.6	93
West Kameng	57.2	-66	205.2	10	65.6	-65
West Siang	146.2	42	131.4	1	59.0	-52
Assam&Meghalaya						
Assam						
Baksa	77.4	-49	22.4	-91	87.5	-47
Barpeta	260.5	72	253.3	6	116.8	-29
Bongaigaon	350.6	150	216.8	-7	83.4	-54
Cachar	91.8	-27	85.6	-29	102.7	-9
Chirang	189.0	35	199.2	-15	165.0	-8
Darrang	**	**	**	**	**	**
Dhemaji	**	**	**	**	**	**
Dhubri	234.3	103	111.2	8	24.5	-83
Dibrugarh	115.2	6	99.0	-14	57.7	-54
Goalpara	148.2	9	316.4	116	10.3	-91
Golaghat	63.7	-3	119.5	66	115.5	60
Hailakandi	72.8	-27	133.2	52	65.2	-29
Jorhat	30.7	-59	90.8	1	102.7	13

Kamrup(Rural)	14.8	-83	27.0	-68	71.9	-21
Kamrup(Metro)	62.4	-28	37.3	-56	71.2	-22
Karbi Anglong	49.0	-11	91.0	96	95.8	60
Karimganj	136.1	-2	110.0	-36	66.5	-57
Kokrajhar	349.8	69	122.8	-55	40.5	-79
Lakhimpur	97.3	-25	189.6	20	146.4	-3
Morigaon	11.5	-88	47.8	-46	23.2	-76
N.C.Hills	27.7	-43	50.4	-32	**	**
Nagaon	89.4	32	22.9	-64	50.4	-39
Nalbari	111.2	18	41.5	-70	106.1	-1
Sonitpur	35.6	-57	73.7	-28	29.0	-68
Sibsagar	46.3	-32	78.0	-21	65.1	-30
Tinsukia	94.9	-10	95.4	-9	76.9	-39
Udalgiri	28.7	-68	57.5	-35	32.8	-63
Meghalaya						
East Garo Hills	415.6	399	331.6	252	88.8	7
East Khasi Hills	148.7	-57	465.8	24	155.1	-63
Jaintia Hills	**	**	**	**	8.0	-98
Ribhoi	27.4	-74	61.8	-36	25.5	-75
South Garo Hills	21.0	-80	8.0	-93	6.0	-95
West Garo Hills	145.2	37	161.6	47	38.4	-65
West Khasi Hills	6.0	-97	68.0	-79	36.0	-87
NMMT						
Mizoram						
Aizwal	85.9	-15	58.4	-45	73.7	-20
Champhai	**	**	**	**	**	**
Kolasib	**	**	**	**	**	**
Lawngtlai	**	**	**	**	**	**
Lunglei	**	**	**	**	**	**
Mamit	**	**	**	**	**	**
Saiha	70.0	-30	131.0	27	106.0	16
Serchhip	51.5	-42	486.1	318	124.1	25
Manipur						
Bishnupur	**	**	**	**	**	**
Chandel	**	**	**	**	**	**
Churachandpur	**	**	**	**	**	**
Imphal east	53.4	-35	76.3	9	82.1	-9
Imphal west	114.3	77	170.9	170	118.3	94
Senapati	**	**	**	**	**	**
Tamenglong	**	**	**	**	**	**
Thoubal	**	**	**	**	**	**
Ukhrul	**	**	**	**	**	**
Nagaland						
Dimapur	53.0	82	91.2	98	49.2	-11
Kephire	**	**	**	**	**	**
Kohima	32.1	-58	61.0	-15	39.2	-54
Longleng	**	**	**	**	**	**
Mokokchung	**	**	**	**	**	**
Mon	**	**	**	**	**	**

Paren	**	**	**	**	**	**
Phek	43.0	-43	133.0	86	32.0	-63
Tuensang	**	**	**	**	**	**
Wokha	**	**	**	**	**	**
Zunheboto	**	**	**	**	**	**
Tripura						
Dhalai	13.8	-82	37.3	-58	25.0	-71
NorthTripura	77.9	-8	64.7	-27	130.5	26
SouthTripura	58.6	-44	133.6	11	34.2	-72
West Tripura	31.4	-63	85.6	-6	20.9	-78
Himachal Pradesh						
Bilaspur	46.8	9	61.9	19	9.4	-86
Chamba	19.9	-65	61.8	-8	35.0	-67
Hamirpur	48.3	-18	77.7	16	35.2	-47
Kangra	44.1	-29	136.6	57	68.3	-45
Kinnaur	7.6	6	7.5	-49	1.6	-89
Kullu	8.3	-57	39.0	40	7.8	-81
Lahaul and Spiti	9.5	-29	5.1	-82	1.9	-94
Mandi	56.5	-14	85.2	41	61.7	-24
Shimla	34.0	7	51.6	41	44.4	-11
Sirmaur	14.1	-77	54.2	-37	25.8	-78
Solan	31.1	-39	152.5	147	13.8	-84
Una	65.6	128	73.5	18	32.3	-65
Punjab						
Amritsar	73.2	434	58.2	67	18.5	-59
Barnala	9.0	14	99.0	247	4.0	-86
Bhatinda	8.5	-22	25.0	16	38.0	84
Faridkot	16.0	62	11.5	-48	23.4	23
Fatehgarh Saheb	29.0	49	39.7	4	0.0	-100
Ferozpur	3.8	-61	0.7	-96	6.2	-82
Gurdaspur	60.6	202	47.3	-8	36.2	-48
Hoshiarpur	41.0	43	21.6	-59	14.3	-78
Jalandhar	18.0	-7	57.1	61	3.6	-94
Kapurthala	39.6	140	79.7	166	74.5	100
Ludhiana	39.4	97	75.7	103	10.0	-82
Mansa	10.2	48	9.8	-37	30.4	19
Moga	62.0	421	10.6	-54	45.6	44
Muktesar	3.2	-54	55.6	170	31.2	4
Nawashahar	95.4	162	56.5	-3	21.8	-77
Patiala	23.7	8	46.9	22	13.1	-81
Ropar	66.5	149	52.6	12	7.4	-90
Sangrur	11.9	-12	46.8	34	51.2	47
Mohali	1.1	-97	43.0	21	0.0	-100
TarnTaran	18.5	157	52.0	139	17.0	-36
Haryana,Chd,Delhi						
Haryana						
Ambala	24.9	-38	32.1	-31	1.0	-99
Bhiwani	0.7	-94	60.4	270	6.1	-81
Chandigarh	54.1	30	13.9	-74	0.5	-99

Faridabad	1.3	-91	29.7	23	32.2	-30
Fatehabad	2.3	-73	33.7	80	11.0	-59
Gurgaon	31.8	98	23.3	-1	18.7	-54
Hissar	0.1	-99	62.0	194	2.9	-90
Jhajar	7.8	-25	33.0	33	22.1	-40
Jind	20.0	60	85.2	218	12.2	-72
Katihah	14.7	15	21.0	38	6.4	-81
Karnal	8.7	-55	59.4	68	7.5	-88
Kurukshetra	6.7	-69	23.1	-18	0.0	-100
Mahendragarh	5.1	-70	56.5	164	9.4	-71
Mewat	29.3	41	42.2	69	38.1	-10
Palwal	20.5	118	40.0	96	12.0	-73
Panchkkula	20.9	-50	44.5	-21	4.1	-95
Panipat	4.6	-82	14.2	-29	11.0	-81
Rewari	3.0	-78	58.0	245	14.8	-56
Rohtak	4.0	-72	28.6	-26	14.6	-63
Sirsa	0.0	-100	39.8	126	0.0	-100
Sonepat	4.6	-68	10.8	-58	26.3	-52
Yamunanagar	35.3	-17	99.5	65	1.2	-98
Delhi						
Central Delhi	5.0	-80	23.0	-23	78.0	47
East Delhi	**	**	**	**	**	**
New Delhi	10.1	-59	89.0	199	4.4	-92
North Delhi	4.8	-80	97.5	228	63.8	20
North East Delhi	1.0	-96	9.0	-70	3.0	-94
North West Delhi	1.0	-96	19.0	-36	49.0	-8
South Delhi	42.9	75	46.4	56	30.8	-42
South West Delhi	29.2	19	48.8	64	18.8	-65
West Delhi	61.0	149	18.0	-39	118.0	123
Jammu & Kashmir						
Anantnag	0.5	-95	8.0	-59	4.9	-64
Badgam	0.0	-100	0.5	-94	2.0	-76
Bandipore	**	**	**	**	**	**
Baramula	0.4	-97	7.7	-59	5.1	-66
Doda	8.2	-21	14.4	-30	30.0	18
Ganderbal	0.0	-100	6.8	-38	8.8	4
Jammu	18.2	-23	73.9	57	19.1	-72
Kargil	**	**	**	**	**	**
Kathua	82.2	217	40.0	-27	26.2	-65
Kistwar	**	**	**	**	**	**
Kulgam	0.0	-100	2.6	-87	1.7	-87
Kupwara	0.4	-96	22.1	44	0.0	-100
Ladakh(Leh)	0.0	-100	0.0	-100	0.0	-100
Poonch	**	**	**	**	**	**
Pulwama	0.0	-100	5.0	-56	0.4	-96
Rajouri	11.2	**	20.0	-37	21.8	-63
Ramban	1.2	-88	13.0	-37	11.9	-54
Reasi	22.4	-39	144.2	108	9.4	-89
Samba	32.6	38	20.5	-56	18.9	-72

Shopian	**	**	**	**	**	**
Srinagar	0.0	-100	2.6	-76	3.2	-62
Udhampur	18.1	-51	69.0	0	2.2	-97
East Madhya Pradesh						
Anuppur	74.8	11	37.5	-53	57.3	-41
Balaghat	48.0	-43	98.1	8	139.8	30
Chhatarpur	67.5	55	115.2	82	297.3	350
Chindwara	108.5	92	129.7	105	239.5	245
Damoh	45.5	-18	235.5	235	472.6	546
Dindori	90.0	17	126.3	45	73.4	-29
Jabalpur	73.5	37	173.4	139	319.5	301
Katni	35.3	-27	104.1	44	238.1	205
Mandla	102.3	42	149.6	61	383.6	285
Narsingpur	62.8	33	202.2	188	287.4	250
Panna	37.9	-22	253.2	243	127.2	68
Rewa	26.6	-51	155.9	151	82.8	36
Sagar	60.5	11	226.4	222	331.7	307
Satna	10.6	-81	184.6	164	455.0	677
Seoni	73.7	18	189.9	155	241.4	179
Shahdol	70.0	26	72.0	7	92.2	21
Sidhi	0.0	-100	124.7	88	18.0	-76
Singrauli	41.0	-25	104.0	98	54.7	27
Tikamgarh	42.0	2	41.3	-24	137.0	108
Umaria	42.0	-26	134.2	93	100.1	35
West Madhya Pradesh						
Agar	40.1	-56	104.2	-7	169.4	35
Alirajpur	18.2	-58	97.9	112	165.1	145
Asoknagar	45.0	33	189.0	217	215.8	277
Badwani	53.1	55	31.7	-10	90.4	99
Betul	37.5	-35	129.2	138	364.3	450
Bhind	46.7	68	2.6	-92	29.0	-46
Bhopal	106.7	145	103.6	61	357.9	372
Burhanpur	10.0	-84	41.0	-11	182.5	308
Datia	24.6	-25	37.9	-1	38.7	-31
Dewas	87.7	79	48.0	-13	169.5	158
Dhar	41.9	-5	78.0	75	114.2	95
Guna	54.6	41	173.8	172	275.6	276
Gwalior	42.2	20	16.3	-54	51.6	-21
Harda	42.3	-7	73.5	29	245.9	216
Hosangabad	66.2	0	213.0	160	732.1	657
Indore	28.6	-33	27.7	-44	192.1	242
Jhabua	41.7	-1	51.8	20	99.0	78
Khandwa	49.0	-4	54.7	13	195.0	225
Khargone	45.5	-4	28.1	-33	148.4	214
Mandsaur	53.6	67	43.8	-4	177.6	231
Morena	18.1	-38	36.1	11	56.4	17
Neemuch	67.1	85	29.4	-37	96.1	91
Raisen	44.8	-24	216.1	203	362.6	338

Rajgarh	65.7	70	151.8	214	227.1	217
Ratlam	44.1	-11	78.7	72	68.3	20
Sehore	58.4	8	88.1	67	382.8	365
Shajapur	41.7	17	55.0	8	239.0	287
Sheopur Kalani	17.2	-47	27.9	-32	26.3	-62
Shivpuri	36.4	17	118.2	154	153.8	150
Ujjain	88.2	130	45.1	-12	210.6	256
Vidisha	80.4	62	211.1	229	292.2	266
Chhattisgarh						
Bastar	211.6	160	111.8	44	188.0	166
Bijapur	123.7	63	130.4	57	311.9	230
Bilaspur	61.3	-12	74.7	-8	39.5	-49
Dantewara	93.6	29	119.1	63	124.8	36
Dhamtari	105.0	67	47.2	-40	89.6	16
Durg	153.2	105	74.6	-10	86.3	27
Janjgir	46.2	-29	137.8	57	32.3	-66
Jashpurnagar	65.2	-30	184.7	88	31.3	-64
Kanker	63.6	-23	179.0	124	201.6	140
Korba	24.5	-65	96.6	-1	35.7	-62
Koriya	54.6	-14	78.3	-7	54.7	-42
Kawardha	81.4	48	59.0	-1	39.6	-40
Mahasumund	47.6	-20	50.3	-30	83.1	11
Narayanpur	106.1	43	145.4	99	215.0	157
Raigarh	70.7	13	124.4	44	25.3	-71
Raipur	61.2	-8	89.5	8	49.2	-38
Rajnandgaon	97.6	38	86.5	16	89.6	17
Surguja	18.5	-78	74.0	1	24.4	-74
East Uttar Pradesh						
Allahabad	6.8	-81	117.0	148	5.9	-91
Ambedkar Nagar	6.0	-82	0.0	-100	12.0	-83
Azamgarh	12.8	-67	60.6	-5	13.2	-82
Bahraich	34.9	-48	212.7	331	30.4	-61
Ballia	6.9	-82	57.5	15	25.6	-67
Balrampur	63.9	23	95.4	79	0.9	-99
Banda	28.5	-35	215.5	275	78.3	32
Barabanki	38.5	-22	76.9	86	21.1	-73
Basti	18.4	-63	187.7	228	10.3	-85
Chandauli	22.0	-25	202.0	317	33.0	-54
Deoria	4.0	-91	25.5	-60	13.0	-81
Faizabad	7.1	-85	81.8	57	3.6	-96
Farrukhabad	0.0	-100	17.7	-52	11.0	-83
Fatehpur	23.2	-44	80.7	58	21.8	-70
Gazipur	19.9	-46	113.1	138	20.8	-68
Gonda	17.2	-73	145.9	192	7.2	-90
Gorakhpur	10.1	-82	85.5	32	8.1	-90
Hardoi	15.5	-67	83.8	100	68.9	3
Jaunpur	6.0	-84	82.4	33	7.1	-90
Kannauj	3.5	-89	46.8	19	5.6	-90
Kanpur City	30.3	-8	19.8	-45	36.0	-31

Kanpur Dehat	18.2	-55	28.2	-9	33.0	-39
Kaushambi	33.2	6	108.5	125	0.0	-100
Kheri	22.6	-57	169.8	221	50.4	-37
Kushi nagar	0.0	-100	16.0	-80	1.5	-98
Lucknow	30.6	-32	34.2	0	18.9	-74
Maharajganj	48.8	-14	106.5	32	11.0	-88
Mau	3.5	-92	10.5	-82	16.0	-78
Mirzapur	18.7	-51	210.3	270	14.2	-79
Pratapgarh	9.3	-75	112.2	96	20.7	-68
RaiBareilly	19.9	-38	52.0	16	5.7	-92
Sahuji Maharajnagar	29.5	-26	17.5	-75	33.0	-48
Sant Kabirnagar	27.0	-50	201.0	267	0.0	-100
Sant Ravidas Nagar	0.0	-100	146.0	202	10.0	-86
Shrawasti	128.1	90	144.7	193	29.3	-63
Sidharthnagar	104.4	113	114.4	114	5.7	-93
Sitapur	11.9	-76	33.8	-15	19.3	-73
Sonbhadra	50.1	-11	232.7	275	31.4	-52
Sultanpur	38.9	4	62.4	25	8.0	-90
Unnao	14.3	-67	46.0	27	42.4	-35
Varanasi	14.9	-64	151.4	158	41.4	-45
West Uttar Pradesh						
Agra	16.5	-31	7.7	-81	104.6	91
Aligarh	48.3	115	41.0	53	33.4	-39
Auraiya	18.6	-39	42.4	48	27.5	-54
Badaun	39.2	25	79.6	119	55.0	-22
Baghpat	1.0	-93	62.8	139	12.6	-77
Bareilly	36.6	-11	150.1	228	39.6	-45
Bijnor	1.3	-97	112.4	139	11.5	-86
Bulandsahar	24.0	6	95.5	204	37.3	-33
Etah	46.1	79	31.3	3	84.3	45
Etawah	4.5	-85	0.0	-100	14.7	-73
Firozabad	15.2	-46	42.7	-6	29.4	-48
GBNagar	3.0	-80	13.0	-60	12.0	-74
Ghaziabad	26.8	39	15.8	-47	2.6	-95
Hamirpur	12.0	-71	59.8	60	68.2	18
Jalaun	27.1	-24	72.2	80	25.6	-56
Jhansi	21.3	-49	102.7	110	49.7	-27
Jotiba Phule Nagar	5.5	-79	87.5	111	31.5	-57
Kanshiramnagar	39.0	51	62.0	62	31.0	-47
Lalitpur	7.5	-82	47.0	-28	268.0	315
Mahamaya Nagar	14.0	-29	45.5	34	40.0	-27
Mahoba	8.4	-79	123.4	206	71.0	29
Mainpuri	3.0	-90	3.6	-91	1.5	-97
Mathura	0.0	-100	9.1	-70	51.3	15
Meerut	16.0	-38	76.6	92	7.2	-90
Moradabad	18.1	-53	112.7	143	81.2	9
Muzzaffarnagar	33.7	25	51.8	28	5.0	-94
Pilibhit	33.5	-35	80.7	48	24.9	-68

Rampur	23.9	-41	59.1	25	59.3	-26
Saharanpur	4.2	-89	73.7	52	7.0	-91
Shahjahanpur	31.4	-38	128.3	171	5.6	-92
Uttarakhand						
Almora	32.9	-32	120.6	176	16.0	-78
Bageshwar	45.8	-5	149.8	243	76.3	5
Chamoli	95.2	150	109.2	113	61.7	7
Champawat	43.9	-52	189.5	145	56.9	-54
Dehradun	27.4	-63	171.9	62	29.7	-80
Garhwal Pauri	15.1	-75	99.6	46	22.8	-80
Garhwal Tehri	3.9	-92	85.3	39	6.8	-91
Haridwar	0.3	-99	74.4	36	25.4	-71
Nainital	36.9	-55	217.4	155	75.7	-40
Pithorgarh	82.6	-12	155.0	31	77.0	-32
Rudraprayag	93.7	23	159.4	57	36.1	-68
Udham Sing Nagar	18.9	-64	88.8	34	32.4	-68
Uttarkashi	69.5	25	82.0	34	67.3	-21
Bihar						
Araria	118.7	60	47.5	-47	34.4	-65
Arwal	16.0	-62	99.0	118	66.3	-13
Aurangabad	40.9	-19	86.6	88	13.8	-83
Banka	28.6	-33	118.8	93	56.0	-15
Begusarai	32.3	-40	83.7	34	16.6	-81
Bhabua	21.7	-59	104.8	73	25.4	-70
Bhagalpur	11.0	-83	162.3	120	67.1	-10
Bhojpur	1.9	-95	110.3	78	25.4	-72
Buxar	17.8	-54	85.8	53	21.4	-74
Darbhanga	51.6	13	42.0	-43	36.6	-48
East Champaran	29.7	-42	3.3	-95	12.2	-85
Gaya	1.7	-97	132.9	132	32.6	-58
Gopalganj	36.0	-20	9.9	-85	0.9	-99
Jahanabad	1.4	-96	55.4	19	34.7	-54
Jamui	13.0	-81	166.1	108	46.6	-35
Kathihar	8.4	-88	109.6	30	25.1	-71
Khagadia	10.9	-83	87.1	23	36.1	-62
Kishanganj	167.6	65	127.3	-2	44.6	-70
Lakhisarai	17.9	-67	81.1	8	75.3	0
Madhepura	19.8	-67	115.3	36	24.1	-76
Madhubani	61.9	14	16.9	-82	13.0	-85
Monghyar	5.0	-91	0.0	-100	**	**
Muzaffarpur	2.0	-96	50.0	-34	32.2	-59
Nalanda	14.5	-72	104.4	78	62.3	-15
Nawada	41.6	-20	133.4	71	41.4	-47
Patna	28.5	-35	72.5	1	40.5	-51
Purnea	59.6	-12	93.9	3	46.1	-62
Rohtas	12.8	-74	131.0	231	29.8	-61
Saharsha	24.6	-72	98.3	-36	2.6	-98
Samstipur	48.4	-23	102.1	53	82.4	3
Saran	9.2	-77	41.5	-46	11.2	-88

Sheikpura	64.8	9	104.7	49	41.7	-46
Sheohar	0.0	-100	23.4	-77	24.6	-67
Sitamarhi	27.8	-54	15.1	-85	2.9	-96
Siwan	2.7	-95	30.7	-61	5.6	-93
Supaul	119.9	142	38.1	-54	21.7	-76
Vaishali	2.9	-93	67.7	-13	42.5	-56
West Champaran	79.3	7	80.0	-5	33.8	-66
Jharkhand						
Bokaro	16.9	-74	84.0	41	37.0	-46
Chatra	16.1	-77	120.1	87	3.7	-96
Deoghar	45.4	-17	110.3	79	58.8	-19
Dhanbad	44.3	-35	84.4	6	50.2	-31
Dumka	37.5	-42	55.6	-25	41.1	-47
East Singbhum	88.4	14	69.5	10	25.9	-62
Garhwa	34.5	-38	54.0	-7	29.0	-48
Giridih	26.6	-63	79.8	8	32.1	-60
Godda	11.6	-80	121.6	97	68.7	-17
Gumla	69.2	-14	143.7	68	82.9	2
Hazaribagh	25.1	-61	131.7	95	51.3	-27
Jamtara	30.1	-56	80.9	2	31.4	-64
Khunti	19.4	-77	164.8	97	41.5	-49
Koderrna	7.8	-86	127.4	100	44.9	-32
Latehar	66.4	-5	123.8	100	10.3	-85
Lohardagga	65.3	-19	108.5	140	21.9	-70
Pakur	17.4	-71	51.4	-34	47.2	-53
Palamau	41.8	-27	165.9	200	10.3	-85
Ramgarh	31.2	-63	83.4	55	49.2	-34
Ranchi	34.0	-61	136.5	83	16.3	-82
Sahebganj	29.8	-66	95.6	-5	66.0	-37
Saraikela	10.4	-88	67.6	-2	51.4	-27
Simdega	2.7	-97	117.7	34	45.4	-55
West Singbhum	24.2	-65	76.2	1	53.7	-25
East Rajasthan						
Ajmer	47.0	133	16.3	-37	41.9	27
Alwar	18.3	-2	57.2	117	53.4	23
Banswara	23.7	-43	95.6	102	153.6	130
Baran	60.9	110	113.1	159	173.9	212
Bharatpur	41.4	157	22.4	-7	46.5	4
Bhilwara	68.2	176	30.5	-24	76.1	79
Bundi	27.8	12	29.7	-21	61.8	20
Chittorgarh	41.2	33	72.4	70	166.3	215
Dausa	8.8	-61	26.2	-15	78.2	55
Dholpur	11.2	-49	25.5	-28	54.0	12
Dungarpur	28.8	-14	116.4	153	144.0	152
Jaipur	18.2	-23	101.1	309	23.7	-41
Jhalawar	37.5	13	55.6	7	185.5	234
Jhunjhunu	23.9	26	131.2	546	19.1	-44
Karauli	9.8	-56	31.6	22	58.9	33
Kota	50.8	82	35.7	-18	95.0	90

Pratapgarh	39.8	-17	67.8	35	149.6	120
Rajsamand	66.3	125	64.6	84	74.9	100
Sawai Madhopur	28.0	31	71.1	96	66.9	50
Sikar	30.4	48	121.4	467	11.7	-64
Sirohi	17.7	-41	61.2	-1	65.5	8
Tonk	31.5	29	29.7	1	32.3	-21
Udaipur	40.4	29	108.7	145	89.9	91
West Rajasthan						
Barmer	7.4	-34	13.9	-27	0.9	-94
Bikaner	32.8	277	11.0	-17	15.9	-9
Churu	17.3	39	84.5	375	18.0	-40
Hanumangarh	8.4	-14	53.9	198	5.7	-76
Jaisalmer	17.8	96	1.2	-87	2.1	-83
Jalore	6.7	-56	10.3	-70	9.1	-65
Jodhpur	25.3	136	21.2	19	11.6	-48
Nagaur	44.3	138	26.7	38	31.0	4
Pali	36.9	106	35.9	6	16.7	-45
Sri Ganganagar	2.1	-72	4.3	-72	2.1	-86
Gujarat Region						
Ahmedabad	8.2	-80	22.6	-48	29.4	-41
Anand	8.4	-82	21.9	-58	25.4	-61
Banaskantha	7.3	-77	18.0	-55	46.0	-14
Baroda	16.5	-74	23.3	-62	55.5	-30
Broach	7.5	-84	43.7	-32	16.7	-74
DNH	144.6	14	284.4	58	299.7	55
Dahod	31.6	-33	49.1	-6	97.5	48
Daman	204.1	61	299.8	67	64.5	-67
Dangs	9.5	-90	130.5	5	449.0	169
Gandhinagar	9.5	-66	77.9	35	65.9	-1
Kheda	14.5	-70	47.6	-18	73.7	11
Mehsana	4.0	-89	41.0	-15	76.6	20
Narmada	15.0	-75	35.7	-53	70.2	-31
Navsari	37.2	-70	190.9	17	70.0	-58
Panchmahal	19.6	-59	124.5	130	133.0	68
Patan	7.3	-73	16.9	-57	68.7	61
Sabarkantha	23.1	-47	69.9	36	100.1	37
Surat	29.6	-69	176.0	68	24.6	-80
Tapi	6.6	-93	164.2	47	66.1	-47
Valsad	119.0	-15	279.5	61	201.8	21
S K & Diu region						
Amreli	36.6	-5	119.5	161	3.9	-89
Bhavnagar	20.6	-42	119.7	187	3.0	-91
Diu	114.9	24	151.4	83	28.3	-55
Jamnagar	27.3	-28	13.1	-72	10.6	-64
Junagarh	63.9	-18	72.1	-21	25.3	-56
Kutch	10.1	-55	2.9	-91	6.1	-73
Porbandar	64.4	19	10.5	-83	11.6	-80
Rajkot	37.9	-4	28.1	-35	14.3	-61
Surendranagar	11.9	-77	32.3	2	17.5	-46

Maharashtra						
Konkan & Goa						
Mumbai City	332.0	78	238.2	12	38.4	-76
Mumbai Suburban	456.6	145	336.2	58	51.4	-68
North Goa	457.0	60	426.2	53	156.1	-37
Raigad	483.4	93	550.3	86	211.7	-15
Ratnagiri	641.3	123	630.0	110	314.5	25
Sindhudurg	547.7	105	469.0	78	249.4	14
South Goa	496.8	114	324.2	32	65.8	-68
Thane	297.2	72	469.3	112	178.6	-21
Madhya Maharashtra						
Ahmednagar	18.4	-29	43.6	95	52.4	134
Dhule	57.5	42	26.8	-21	77.1	78
Jalgaon	44.9	-4	52.0	34	132.7	212
Kolhapur	81.1	-37	215.6	30	405.7	142
Nandurbar	14.3	-73	88.4	68	114.2	54
Nasik	34.2	-33	122.8	120	258.4	240
Pune	28.4	-47	150.5	120	145.1	90
Sangli	10.7	-65	47.7	66	134.7	249
Satara	30.4	-34	122.4	126	176.3	197
Solapur	8.7	-59	10.6	-39	14.7	-28
Marathwada						
Aurangabad	53.1	44	64.5	111	111.8	283
Beed	28.9	-8	32.8	22	24.2	-8
Hingoli	69.0	20	82.8	43	120.3	145
Jalna	35.3	-3	67.2	102	115.0	236
Latur	44.9	11	42.5	0	33.8	-16
Nanded	92.8	93	81.7	71	170.8	242
Osmanabad	17.7	-34	24.2	-22	29.8	-1
Parbhani	41.7	-11	70.9	61	108.3	165
Vidarbha						
Akola	73.1	44	75.5	80	200.6	331
Amraoti	52.0	5	126.6	162	195.8	235
Bhandara	57.1	-20	114.7	35	181.3	119
Buldhana	61.6	28	52.8	32	159.3	303
Chandrapur	119.8	52	180.7	114	328.2	277
Gadchiroli	145.7	67	179.3	98	401.8	299
Gondia	64.4	-14	160.2	69	170.8	81
Nagpur	93.7	55	117.1	78	108.9	40
Wardha	99.7	61	137.7	145	197.0	199
Washim	71.6	8	67.9	26	128.2	124
Yeotmal	64.8	8	97.4	73	190.0	205
Odisha						
Angul	36.8	-37	69.9	20	26.3	-66
Balasore	42.0	-34	78.1	22	16.0	-68
Bargarh	85.3	31	40.1	-48	38.8	-50
Bhadrak	49.7	-10	132.6	119	29.3	-49
Bolangir	45.8	-36	72.7	-9	64.8	-25

Boudh	65.7	-1	66.8	6	34.5	-56
Cuttack	70.2	6	53.0	-22	85.8	21
Deogarh	5.7	-93	39.5	-59	19.2	-78
Dhenkanal	34.9	-48	71.3	12	45.2	-31
Gajapati	75.9	83	76.0	115	41.3	-16
Ganjam	72.6	85	39.5	-1	21.1	-52
Jagatsingpur	55.0	-8	53.7	24	74.1	25
Jajpur	68.4	11	94.3	70	38.7	-34
Jharsuguda	24.3	-70	87.7	9	25.2	-74
Kalahandi	38.8	-57	81.2	9	128.3	55
Kandhamal	75.2	13	74.3	18	28.7	-64
Kendrapara	86.8	63	29.3	-52	54.4	7
Keonjhar	47.0	-25	98.3	83	19.9	-64
Khurda	49.3	-7	70.2	26	50.7	-18
Koraput	174.4	153	141.3	62	79.2	1
Malkangiri	63.4	-34	137.0	76	40.4	-54
Mayurbhanj	76.0	-6	61.9	5	19.9	-72
Nawapara	58.4	-20	47.8	-35	60.2	-28
Nawarangpur	146.3	80	103.5	-3	141.8	76
Nayagarh	72.8	32	55.8	-3	56.0	-1
Puri	40.3	-12	56.6	-2	18.9	-66
Rayagada	71.2	70	83.3	69	93.5	48
Sambalpur	22.3	-73	61.9	-36	23.7	-73
Sonepur	53.5	6	43.6	-56	40.6	-38
Sundargarh	40.3	-46	112.5	53	39.8	-55
West Bengal & Andaman Nicobar Islands						
A & N ISLAND						
Nicobar	112.8	66	50.8	-11	7.2	-88
North & Middle Andaman	110.3	4	17.6	-84	130.4	34
South Andaman	136.1	32	42.3	-48	155.7	67
GWB						
Bankura	43.0	-41	62.5	-14	79.4	21
Birbhum	38.3	-48	92.8	25	70.9	-12
Burdwan	31.1	-53	81.6	22	60.7	-9
East Midnapore	17.7	-73	92.9	28	39.9	-34
Hooghly	5.3	-94	89.2	18	43.4	-38
Howrah	6.2	-92	130.6	70	10.7	-85
Kolkata	6.8	-91	69.5	-19	66.9	-10
Murshidabad	8.5	-87	147.5	63	53.5	-33
Nadia	19.0	-72	89.0	39	67.1	-4
24 Pargana (N)	20.5	-73	131.8	80	88.0	19
Purulia	23.7	-68	87.3	16	41.0	-43
24 Pargana (S)	38.8	-52	127.4	15	75.0	-28
West Midnapore	35.8	-47	147.6	82	24.3	-64
SHWB & Sikkim						
Cooch Behar	374.1	143	116.4	-46	78.4	-66
Darjeeling	154.1	-1	211.6	39	110.4	-34
East Sikkim	104.9	-15	168.8	60	90.7	-24

Jalpaiguri	195.3	19	222.1	-11	76.1	-66
Malda	43.4	-35	266.8	229	31.4	-58
North Dinajpur	**	**	70.3	-11	6.8	-94
North Sikkim	150.3	29	86.5	-33	54.7	-35
South Dinajpur	0.0	-100	93.1	1	25.6	-70
South Sikkim	108.6	-12	168.2	59	74.7	-37
West Sikkim	191.5	65	196.0	52	8.0	-90
Karnataka						
Coastal Karnataka						
Dakshina Kannada	403.9	42	312.6	3	247.2	-5
Udupi	494.1	61	447.9	35	188.3	-34
Uttara Kannada	324.0	49	322.6	28	86.1	-62
N I Karnataka						
Bagalkote	3.5	-80	4.9	-51	33.1	80
Belagavi	20.8	-50	59.9	25	141.4	173
Bidar	29.8	-17	14.8	-61	26.5	-22
Dharwad	21.8	-28	34.1	1	37.8	-1
Gadag	12.2	-35	8.2	-29	15.7	-11
Haveri	31.3	1	61.7	45	10.2	-76
Kalaburgi	11.7	-59	8.6	-73	15.6	-42
Koppal	22.3	49	1.6	-81	6.7	-56
Raichur	20.2	-6	2.3	-87	4.9	-77
Vijayapura	1.8	-92	4.3	-66	18.3	-6
Yadgir	14.3	-60	3.1	-87	13.0	-54
S I Karnataka						
Ballari	31.8	108	14.7	25	4.9	-69
Bangalore Rural	28.4	163	1.5	-86	8.8	-48
Bangalore Urban	39.6	253	3.2	-74	7.1	-63
Chamarajanagar	18.1	58	1.3	-90	1.3	-92
Chikaballapur	14.3	27	17.5	25	8.4	-57
Chikkamagaluru	145.2	8	205.3	14	118.9	-22
Chitradurga	18.9	108	21.8	130	10.2	-20
Davangere	31.2	68	34.9	72	12.0	-44
Hassan	59.0	70	65.9	27	47.8	-1
Kodagu	273.9	58	251.5	-1	196.6	-3
Kolar	20.8	104	6.3	-42	5.2	-70
Mandya	21.2	195	12.0	62	15.9	39
Mysuru	41.5	169	20.5	-17	18.0	-19
Ramanagara	24.7	138	6.7	-40	6.5	-66
Shivamogga	205.8	86	356.4	118	104.1	-26
Tumakuru	21.9	149	10.9	9	7.4	-54
Kerala						
Alappuzha	67.0	-48	69.3	-53	129.8	0
Kannur	286.2	22	235.0	-19	235.7	-8
Ernakulam	127.8	-25	95.6	-48	232.4	47
Idukki	199.5	6	93.1	-58	248.7	43
Kasaragod	350.5	33	261.6	-6	183.4	-30
Kollam	49.9	-52	46.5	-57	123.7	32
Kottayam	97.2	-38	89.9	-46	189.0	27

Kozhikode	173.0	-24	188.6	-26	199.9	-13
Malappuram	111.8	-37	156.4	-29	146.6	-25
Palakkad	114.9	-15	106.2	-35	126.3	-11
Pathanamthitta	71.6	-46	50.5	-66	162.8	28
Thiruvananthapuram	26.5	-61	31.8	-52	64.4	23
Thrissur	143.4	-23	110.8	-49	164.2	-10
Wyand	227.2	2	114.2	-64	137.6	-48
Tamil Nadu						
Ariyalur	4.3	-46	0.0	-100	0.0	-100
Chennai	38.8	140	3.6	-84	23.1	20
Coimbatore	54.9	587	36.7	222	30.1	153
Cuddalore	7.9	-7	0.9	-93	8.1	-48
Dharmapuri	18.1	99	0.5	-95	0.5	-97
Dindigul	1.9	-73	0.3	-97	3.1	-77
Erode	8.8	160	0.3	-95	0.3	-97
Kanchipuram	41.4	167	2.0	-90	11.6	-41
Kanyakumari	18.2	-55	17.3	-51	32.4	22
Karikal	8.4	140	0.3	-97	0.0	-100
Karur	3.8	97	0.0	-100	0.0	-100
Krishnagiri	29.4	282	4.5	-52	1.9	-91
Madurai	1.2	-89	0.0	-100	0.0	-100
Nagapattinam	6.5	15	0.1	-99	3.8	-70
Namakkal	11.5	68	1.6	-83	3.4	-79
Nilgiris	88.0	75	35.5	-48	51.6	-13
Perambalur	10.5	304	0.0	-100	0.0	-100
Puducherry	41.6	433	0.0	-100	2.4	-82
Pudukottai	0.7	-91	1.8	-84	7.3	-67
Ramanathapuram	0.7	-70	0.2	-95	2.7	-41
Salem	25.4	92	0.0	-100	2.8	-88
Sivaganga	0.2	-98	0.0	-100	0.0	-100
Thanjavur	3.1	-50	0.1	-99	7.2	-60
Theni	15.0	225	6.6	7	16.0	101
Tirunelveli	15.3	44	10.5	2	9.6	0
Tirupur	4.4	47	2.1	-63	0.5	-94
Tiruvallur	43.6	143	9.1	-62	8.7	-57
Tiruvannamalai	44.5	271	2.3	-82	1.1	-95
Tiruvarur	4.0	-24	0.0	-100	5.5	-64
Toothukudi	0.3	-73	0.0	-100	0.0	-100
Trichy	2.2	-41	0.0	-10	0.0	-100
Vellore	48.6	292	5.5	-68	5.1	-76
Villupuram	19.0	81	1.5	-89	5.6	-58
Virudhunagar	0.0	-100	0.0	-100	0.2	-98
Andhra Pradesh						
Coastal Andhra Pradesh						
East Godavari	146.2	264	72.4	47	27.0	-36
Guntur	44.5	78	11.5	-63	4.9	-82
Krishna	99.7	145	38.6	-20	10.2	-76
Nellore	31.2	123	10.8	-40	9.8	-46

Prakasam	19.9	37	1.0	-95	5.7	-66
Sirkakulam	72.4	88	53.7	24	22.3	-44
Visakhapatnam	74.4	101	79.5	109	15.2	-56
Vizianagram	65.1	64	93.3	112	24.0	-33
West Godavari	156.5	257	71.5	36	17.4	-66
Rayalaseema						
Anantapur	20.4	120	2.0	-77	3.6	-76
Chittoor	21.2	77	7.3	-56	3.1	-85
Cuddapah	36.8	159	0.9	-94	4.1	-77
Kurnool	26.4	40	6.3	-68	9.5	-61
Telangana						
Adilabad	81.5	33	84.4	31	197.9	199
Hyderabad	55.4	41	29.3	-11	15.7	-50
Karimnagar	84.9	76	67.2	15	126.4	139
Khammam	176.1	254	111.9	103	37.9	-33
Mehabubnagar	11.8	-53	6.4	-79	20.6	-34
Medak	38.1	-12	54.2	25	29.1	-36
Nalgonda	68.0	115	25.2	-15	7.0	-74
Nizamabad	61.1	27	76.7	24	91.4	58
Rangareddy	31.1	-6	21.9	-40	24.8	-35
Warangal	83.6	74	91.9	63	55.3	2

Legends

	(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

Annexure II

Assam

Sali rice: Ranjit, Bahadur, Satyaranjan, Basundhara, Kushal, Mahsuri, Bhogali, Rangilee, Ketekijoha.

Satyaranjan and Basundhara (in double cropping areas having crop duration of 130-135 days).

Jalashree, Jalkunwari, Plawan (for flood affected areas).

Ranjit, Gitesh, Bahadur, Kushal, Piolee (long duration).

Satyaranjan, Bosundhora, T.T.B.-404, Mulagabharu, Kanaklata, Joymoti, IR-36, IR-64 etc and Disang, Luit, Kapilee, Dikhow (medium duration).

Capsularis jute: JRC 321 and UPC 94.

Olitorious jute: Navin (JRO 524), Basudev(JRO 7835), Baisakhtissa(JRO 632), Bahagi (sel-2) and Tarun.

Okra: Pusa Sawani, Arka Anamika, Parbhdani Kranti.

Ridge gourd: Pusa Nashdar or other local varieties like AAU-1, AAU-2, AAU-3 etc.

Sponge gourd: Pusa Chikni or other local varieties.

Banana: Dwarf Cavendish, Jahaji (Dwarf Cultivar), Cheni Champa, Malbhog, Chenichampa, Malbhog, Barjahaji (Medium Tall cultivars).

Papaya: Washington, Haflong, Rasi, KorgHoney Dew, Co-1, Co-2, Pusa Delicious, Pusa Majesty.

Guava: Alahabad Safeda, Lucknow-49, Chittidar, Seedless.

Fodder crops : Hybrid Napier, Setaria and Guinea.

Meghalaya

Sali/ kharif rice: Shaksarang -1, Lampnah, IR 64, Ranjit, RCPL 1-412, RCPL 1-410, RCPL 1- 411 & local varieties like Mendri, Manipuri.

Groundnut: ICGS 76, JL 24.

Soybean: JS 335, Bragg, Ankur, Pusa Soubean-1, Local JS 2.

Nagaland

Low land rice: CAU R1, CAU R3, RCM-9 and RCM-11 (Short to medium duration), Gitesh (short duration variety).

Tripura

Groundnut: TAG 24, TG 37A, ICGS 76.

Maize :DMH- 849, 117, HQPM 1, BQPM 9.

West Bengal

Coconut: Eastcoastal, Hazari

Banana :Mortoman, Chapa, Kathali, Singapuri,

Mustard:Varuna, Sita and Bhagirathi.

Jute : Chaitali, Basudev, Naveen, Sonali, Sobujsona, Shyamali etc.

Aman rice: Medium duration MTU-7029, MTU1001, Pratiksha, and for long duration CR1017, CR1018, Cr1019, Sabita.

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

Odisha

Maize: Navjot, Shakti, Decan-107, Decan-109,

Hybrid: Megan-G,Megan,MM-1107,Highshell, Prabal, Proagro 4643, Bio9681, Pinnacle, DMH-7705,

Rice: Early: Jogesh, Siddant, Hazaridhan, Mandakini, Jyotirmayee, Virendra

Medium: Pratikshya, Manaswini, Tapaswini MAS, Konark, Surendra, Kharavela, Naveen, Abhisek

Late: Barsadhan, Ranidhan, Pooja, Mrinalini, RGL-2837, Moti, Ketakijoha, Padmini,Kanchana, Mahanadi, Jagabandhu

Hybrid varieties: CR Dhan 701, NK 5251, JKRH 401, Ajay, Rajalaxmi, Arize 6444G

Cotton: Suraj, Supriya, B.S.-30, B.S.-279, Surabhi, Sujata

Hybrid: Bunny, Diana, Bhaskra, Namaskara, Tulasi, Sigma, Chiruta, Takat

Bihar

Kharif onion: Agri Found Dark Red (ADR), N-53, Bhima super, Arka kalia.

Turmeric: Rajendra Sonia and Rajendra Sonali.

Ginger : Maran and Nadia.

Kharif Paddy: Seeta, Santosh, Saroj, Rajshri, Prabhat, Rajendra suvasni, Rajendra kasturi and Rajendra bhagwati.

Jute : JRO 8432, JRO 66, JRO 128 JRO 204 and JRO 66.

Bottle gourd: Pusa Naveen, Pusa Samridhi,

Bitter gourd: Pusa Visesh, Pusa-2 mosumi, Pumpkin- Pusa Visvash, Pusa Vikash,

Ridge gourd: Pusa Chikni,

Cucumber: Pusa Uday, Pusa Barkha

Jharkhand

Rice: Birsa Dhan 108, Birsa Vikash Dhan 109, 110, 111, Sahbhagi and Vandana,IR 36, 64, Lalat, Naveen,

Sahbhagi, BR 10, Kanak, Rajendra Dhan 202, Sughanda, Birsa Vikash Sugandh Dhan 2, Birsa Vikash Dhan 203.

Maize:Suwan Composite 1(100 days) andhybrid variety- HQPM 1 (100 days), Composite variety- Birsa Makka 1 (80-85 days) and hybrid variety- Kanchan (80-85 days), Birsa vikash Makka 2(70-80 Days).

Red gram:Birsa Arhar (210 days), Bahar (240 Days) and ICPH 2671 (210 days).

Groundnut: AK 12-24, Birsa moongfali 1, 2, 3 and bold type – Birsa bold (BAU 13).

Urad: T 9, Pant U 19, 30, 35 and Birsa urd 1.

Moong:Pusa Vishal, S M L 668, K 885, P S 16 , Pant Moong 2 and P D M 11.

Jammu & Kashmir

Paddy (Sub Tropical Zone): Basmati370, Ranbir Basmati, China-1039,K-39,K-343,Giza-1.

Maize: Vivek-25,Vivek QOM-9 HM-5 and HQPM-1.

Uttarakhand

Sugarcane:Pant 84211, Co-238, Co-241, Co Pant 3220, COS-8436, COS-88230 etc. and medium to late sown varieties like Co Pant 90223, Co Pant-96219, COS-97222, COS-767, COS-1148, COS-96268 etc.

Okra(Bhabar and Tarai Zone):Uphar, Punjab Padmini, Punjab-1, Punjab-7, Arka, Anamika, Abhay, Parbhani Kranti

Paddy:Sharbati,Pusa1121,Pusa1,Pusa44,NDR 359.

Groundnut: TA-64, Chandras, Kaushal, Prakash, Ambar.

Dwarfs variety of paddy: Narendra-118, Narendra-97, Pant Sankar Dhan-1 and Pant Sankar Dhan-10.

Pigeon pea: Pant Arhar-3, Pant Arhar-291, UPAS-120, Pusa-992.

Maize: Tarun, Navin, Kiran, Navjot, Pratap maize-1, Pusa sankul-3& 4 Kg seed of chilly crop.

Soyabean:P.S.-1042, P.S.-1241, P.S.-1347, P.S.-1225, P.S.-19.

Groundnut: TA-64, Chandras, Kaushal, Prakash, Ambar.

Okra:Uphar, Punjab Padmini, Punjab-1, Punjab-7, Arka, Anamika, Abhay, ParbhaniKranti.

Radish:PushaChetki.

Himachal Pradesh

Cauliflower: snowball and Giant snowball.

Radish:Japanese white, Chinese pink and mino early white

Turnip: PTWG-1

Carrot:Pusakesar

Fenugreek :I.C. 74, kasoori.

Peas :Mater ageta-6 (early variety).

Cabbage:Pride of India, golden achor and hybrid

East Uttar Pradesh

Kharif Maize: ganga-11, sartaj, H.Q.P.M.-5, H.Q.P.M.-8, Pro-316, Bio-9681, Wai-1402 K, Prabhat, hybrid varieties G-1, 5 and selective varieties of Tarun, Navin, Kanchan, Sweta and Jaunpuri for early sowing.

Rice: Narendra-359, Malvia dhan-36, Narendra dhan-2026, Narendra dhan-2064, Narendra dhan-2065, Narendra dhan-3112, Sarju-52, Pant dhan-4, seeta, Jalamagna, jalanidhi, jalparia, chakia 59.

Hybrid varieties : Pro. Agro-6444(2001) Eraese, P.H.B.-71, Narendra sankar dhan-2,3, K.R.H.-2, P.R.H.-10, U.S.-312, R.H.-312, V.S.R.-202, R.H.-1531,

Scented varieties: Type-3, Pusa basmati-1, Malvia sugandh-105, Malvia sugandh-4-3, Narendra sugandh or Narendra usar dhan-1, Narendra usar dhan-2, C.L.R.-10, or Narendra usar dhan-2008

Turmeric: Kasturi, Paspu, Amlapuram, Madhukar, Sugna, Rajendra

Ginger -suprabha, suruchi, surbhi and Himgiri

Urad Bean: Pant U-19, Azad URD-1, KU 91-2, Shekhar-1, KU-301

Arahar: Bahar, Amar, Narendra Arahar-1,2, pusa-2001, pusa-991, pusa-992, paras manak, UPAS 120.

Moong: Type-27, 56

West Uttar Pradesh

Ladies finger: VRO-6, VRO-5.

Sugarcane: ko.sha 88230, ko.sha 8436, ko 0238, ko.sha 07250 or U.P. 0512.

Barseem: V.L.1, V.L.10, maskavi, jai, K-8027, K-9565, Mandakini.

Onion: pusa red, pusa white.

Sugarcane: The mid and late maturing varieties of sugarcane: CO Pant 211, Co Sa 687 and Co Sa 8436.

The varieties recommended in areas with poor water drainage: B.O.54 and B.O.91.

Baby corn: M.H.-4.

Punjab

Sugarcane: CoJ-85, CoJ-83, CoJ-64 (early maturing), COH-119, CoJ-88, CoS-8436 for and CoJ-89, CO118, COJ85, COJ64.

Rice: Pusa-44, T.R-112 and T.R-113.

Onion: Punjab Naroya, Punjab White and PRO 6.

Radish: Punjab Pasand and Japanese white.

Turnip: L-1.

Carrot: Punjab Black Beauty, Punjab Carrot Red and PC-34.

Tomato: TH-1, Punjab Ratta, Punjab NR 7, Punjab Chuhara, Punjab Upma, Castle Rock.

Rice: Hybrid varieties: K. R. H 2, PHB 71, Pant hybrid Dhan1, Narendra hybrid dhan 1, P R H 10

High yielding varieties: Pusa 44, Pant Dhan-4, Pant Dhan-10, Pusa-834, Pusa basmati-1, Pusa basmati-1509, Pusa improved basmati, Pusa sugandha-5, Pusa sugandha-4 (Pusa 1121), Ranvir basmati and Taravadi basmati.

Pigeon pea: Pusa 2001, Pusa 992, Paras, Manak.

Maize: PMH1, Parbhat, PMH2

Paddy : PR-124, PR-123, PR-121, PR-122, PR-114, PR 113, PR-126, PR-115.

Okra: Punjab-8 and Punjab-7

Delhi

Oat : J.H.O-822, O.L.-9, Pusa oat-5.

Barseem: Vardan, Buland Barseem-1, Masakavi, J.B-3;

Radish: Japani White, Hill queen, French Radish;

Spinach: Pusa Bharti.

Amaranths: Pusalal Chaulai, Pusa Kiran.

Ladyfinger: Pusa A-4.

Radish: Japani White, Hill queen, French Radish.

Spinach: All Green, Pusa Bharti;

Fenugreek: Pusa Kasuri;

Coriander: Pant Haritama, Hybrids.

Turnip: Pusa Swati, Local Red variety.

Bottle Gourd- Pusa Naveen, Pusa Samridhi

Bitter Gourd- Pusa Visesh, Pusa-2 mosumi

Pumpkin- Pusa Visvash, Pusa Vikash

Ridge Gourd- Pusa Chikni

Cucumber- Pusa Uday, Pusa Barkha

East Rajasthan:

pearl millet: HHB 67, HHB 60, Raj 171, ICMH 356 and ICTP 8201 (improved varieties)

Raj-171, ICTP-8203, RHB-173, RHB-177, RHB-121, HHB-67 (improved varieties)

Sorghum: CSH-6, CSH-9, CSV-10, CSV-15.

TG37-A, DH-86, Pratap Mungfali-1.

Rice: P.R. 106, B.K.190, Mahisugandha (Basmati)

kharif onion: N-53 & Agrifound dark red

Maize: Aravali Makka-1, Pratap Makka-1, Pratap Makka-5, Pratap Hybrid Maize-1, Pratap Hybrid Maize-2 and bio-9637.

Hybrid varieties are- Mahi Dhawal, PEHM- 2, Pratap Hybrid Maize-1, Pratap Makka-3, Pratap Makka-5, Bio-9637, Bio-9681, Pratap

HQPM-1, Pratap Hybrid Maize-3, Pratap Makka-9

Ageti-76, Bassi Selected, Mahi Kanchan

Greengram: RMG-62, RMG-268, RMG-492 & RMG-344, IPM-02-3.
Cowpea: FS-68, RC-19 and RC-101.
Moth: RMO-40, IPCMO-912, RMO-257, RMO-225, RMO-435 (Vikash) (improved varieties)

West Rajasthan

Green fodder: Jwar/Bajra mixed with guar. popular varieties for Jwar are Raj Chari-1, Raj Chari -2, MP Chari, SSG 59-3, MSFH-3, MSFH-4 and Hara Sona; for Bajra: Raj Bajra Chari-2, Co -8, AvikaBajra Chari-19 and Giant bajra; for Guar: RGC-986, Bundel guar-1, Bundel Guar-2 and Bundel Guar-3.

Pearl millet: R.H.B.-177, ICTP-8203, RHB-121, RHB-173, RHB-154, GHB-538, HHB-67(improved varieties)

Bhindi: Ark Anamika, varshauphar, Parbhanikranti, pusamakhmali.

Groundnut: HNG-123, HNG-69, ICHG-00440, HNG-10, TG-37 A, Girnar-2, R.G.-425, GG-20, TG-39.

Sorghum: Girnar-2, RG-425, HNG-10, GG-20, TG-37-A, TG-39.

Narma cotton: R.S.T.-9, R.S.-810, R.S.-2013, Bikanerinarma, R.S.875, MaruVikas(Raj. H.H.16)

BT Narma cotton: M.R.C.H.6304, M.R.C.H.6025, R.C.H.650, Bioseed-6588, Bioseed-6488, R.C.H.-314, J.K.C.H. 1947, M.R.C.-7017 (BG-II) or N.E.C.H.6.

Madhya Maharashtra

Soybean: Phule kalyani, Phule agrani (K D S 344), J S 335, M A C S 11188.

Sorghum: Hybrid varieties – C S H 5, C S H 9, C S H 13, C S H 14, C S H 16, C S H 21, C S H 25,

Improved varieties – S P V 462, C S V 13, C S V 15, C S V 17, C S V 23.

Groundnut: Phule morana, Phule pragati, Phule vyas, Phule unnati, Phule R H R G 602.1.

Rice: Halava : Karjat 184, Ratnagiri 1, Karjat 4, Ratnagiri 711, Phule Radha.

Nimgarva : Jaya, Phule Maval, Phule samruddhi, Phule R G –N-6.

Garva : Ratnagiri 2, Karjat 2, Daranna, Suvarna.

Scented paddy : Basmati 370, Indrayani, Prabhavati, Sughandha.

Hybrid : Sahyadri 1, Sahyadri 2, Sahyadri 3, Sahyadri 4, Sahyadri 5, K R H 2.

Gujarat

Rice: NAUR-1, GNR-2 (Costal area), GNR-3 (N/V), GNR-4 (long duration), Jaya, Ghujari, GR-5, 7, 8, 9 (Oran) IR-28 and GAR-13).

Cotton: Bg-II GCH-8, 12 Jay Bt, Solar-66, 76, Sarju, Bg- II GCH-6, Mallika; hybrid cotton: G. cot. 6, 8, 10, Agritop-333, 777, 444, Jay, Beejdhan-2, Atom, Bhakti; Swapna.

Groundnut: GG-20 & 22, GUG-10, GG-2, 11, 13, TAG– 24, TAG-37 A, TPG-41, TLG-45; semi-spread - GG.20 or erect GG-2, GG.5, GG.7 and TG-26.

Greengram: GM-4, GM-4, K-851

Blackgram: T-9, GU-1.

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

Pigeonpea: BDN-2, GT-100, GTH-1, Vaishali, GTH-1, BHSR-711 .

Sesame: GT-1, 2, GT-3, 10.

Pearl millet: GHB-528, GHB-577, GHB-316 GHB-183; late maturity - GBH-558, GBH-732 and for moderate maturity - GBH-744, GBH-905 and for early maturity - GHB-757, GHB-719, GHB- 538.

Bottle Gourd: Pusa Naveen, Pusa Samridhi.

Bitter Gourd: Pusa Visesh, Pusa-2 mosumi.

Pumpkin: Pusa Visvash, Pusa Vikash.

Ridge Gourd: Pusa Chikni.

Madhya Pradesh

Soybean: JS 335, JS 93-05, JS 95-60, JS 72-52, JS 90-41, JS 20-29.

Red gram: Jawahar -4, Ahsa (ICPL-87119), JKM-7,189, ICPL 88039, Pusa 2001,2002,992.

Rice: short duration (JR, 305, JR 201, Poornima, JD 201, JRH-5, JRH-8, Danteshwari).

medium duration (IR 64, IR 54, IR 36, Madhuri, Kranti, Mahamaya, Pusa Basmati).

Sugarcane: KO Jawahar-86141, 86572, 86032.

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

Maize: JM-8, JM-12, JM-216, Vivek-17, Navjot, HQPM-1,5, HM-4,10,11.

Sesame: TKG-21, TKG-22, TKG-55, TKG-306, JTS-8, RT-46.

Groundnut: AK 12-24, TG 124, TG 26, Jyoti, JL 24, UF70-103, JGN -3, GG 2, Ganga Puri .

Chhattisgarh

Rice: Abaya, Mahamaya, Danteswari, Samleswari, Chandahasini, Indira Sona (Hybrid), Karma, Mashuri, Jaldoobi., Pusa Basmati-1, Madhuri, Indira Sughandith Dhan-1.

Soybean: J.S. 335, Indira soya-9, J.S. 80-21, J.S.93-05.

Sesame: T.K.G. -21, T.K.G-22, T.K.G-55, and T.K.G - 8.

Tomato: Pusa early dwarf, Sweet 72, Pusa rubi, Pusa Gurab, Mangala, Naveen, Laxmi 5005 & NS 815.

Brinjal: Punjab Shadabahar, K S 331, P H 5, P H 6 ,KS224 ,A R B H -543.

Karnataka

Rice: Jaya, Rasi, BPT-5204 (in North East Transition Zone), Intan, Abhilash and Hemavati (for low land); Amrut or Prasanna variety (for upland); BI.-33, KMP.-1, IET-8116, IR-30864, MTU-1010, 1001, Rashi, MAS-946-1, MAS-26..

Jowar: CHS-5, CSH-9, DSV – 2, Hybrids – CSH-14, CSH-16, CSH-18, CSH-30, CSV-4 and CSV-15, DSV-3, DSV-6 and SSV- 74.

Groundnut:Bunch type of varieties (JL-24 and TMV-2), JL-24, KCG-6, GPBD-4, GPBD-5, G-2-52, R-2001-3 (Ajay), DH-3-30, PRI-2, TMV-2, GPBD-4, Chinthamani-2.

Cotton: DHH-11, NCH-145, NHH-44, DHB-105, DHB-915, and Sahana.

Green gram: PS-16, PDM-84,178, Pusa Baisaki.

Black gram:TU-1, TAU-1, DU-1, DBGV-5. Karegav-3, T-9, LBG-625.

Red gram:TTB-7, BRG-1and 2, Hyd-3c, TS-3R, ICP-7035, BSMR 736, TS-3R.

Ragi: Indaf -9, ML-365, GPU-66, Indaf-5, GPU-28, MR-6, PR-202, HR-911, And KMR-301.

Maize: Hybrids – DMH-2, Arjun, GH-0727, Renuka (G-25) and Private hybrids, Ganga-11, Decon-101, Vijaya Composit, N.A.C-6002, N.A.C-6004, Nithyashree, N.A.H-1137.

Popcorn: Ambar.

Sesame: Navile-1, T-7.

Cowpea: TVX-944, KBC-1, C-152, KM-5, PKB-4.

Soybean:JS-335, DSB-1, DSB-21, JS 93-05.

Sugarcane:S-4, Chainamung & Pusabaisaki, & DGGV-2, CO-419, CO-7804, CO-62175, COC-671, B-37172.

Sunflower: Morden, KBSH-1, 41, 42 & 44.

Beans: HA-3 & 4.

Andhra Pradesh

Maize:DHM 111, DHM 117, DHM-119, KH 510, Bio 9637, KH 9541, MCH 2, Kohinoor, Prabhal and Bisco 855,DHM 111, DHM 117, DHM-119, KH 510, Bio 9637, KH 9541, MCH 2, Kohinoor, Prabhal and Bisco 855

Ragi:Bharati, Srichaitanya, Vaula

Rice: MTU 1010, MTU 1075, NLR 34449, Srikakulam Sannalu, Swarna, Vasundhara, Suraksha, Vijetha,Srikakulam sannalu, Pushyami, Sridruthi, Pushkala, Sri Satya

Groundnut: Kadiri-7Bold & Kadiri-8,Bold, Abhaya and Kadiri-9.

Redgram:LRG-41, PRG-158, PRG-176, Lakshmi, and Asha

Bajra:P.H.B-3, I.C.M.H-356, Dhanashakthi

Korra:Prasad,SIA-3085,Krishnadevaraya,Surya nandi, Narasimharaya, srilakshmi and SIA 3156 and **castor:**PCH-111, PCH-222, Haritha, Kiran

Groundnut:Kadiri-6, Kadiri-9, Narayani and Dharani.

Telangana

Cotton:American Cotton varieties,Desi Cotton varieties (G. arboreum. L and G. herbaceum. L, Intra- / Inter – specific Cotton hybrids,Bt. cotton