



National Agromet Advisory Service Bulletin



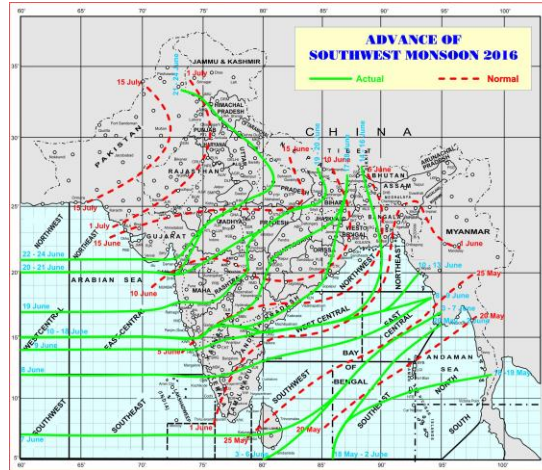
Friday 24th June 2016
(For the period 24th to 28th June 2016)



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

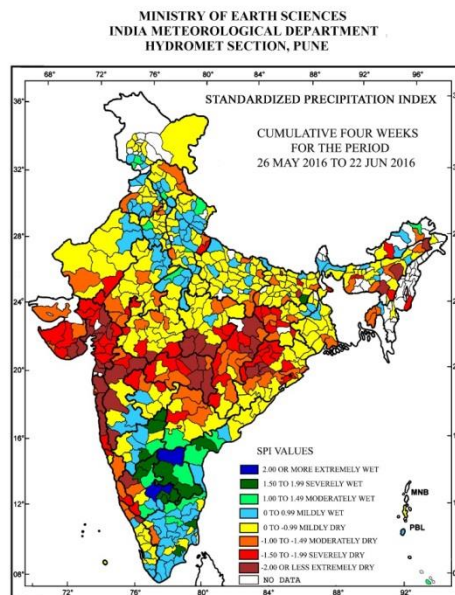
Weblink For
District AAS Bulletin: <http://www.imdagrimet.gov.in/node/3545>
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

Monsoon Watch



- The Northern Limit of Monsoon (NLM) continues to pass through Lat. 21.0°N/Long. 60.0°E, Lat. 21.0°N/Long.65.0°E, Veraval, Surat, Ratlam, Jhansi, Lucknow, Pantnagar, Dehradun, Una and Jammu.
- The conditions are becoming favourable for further advance of Southwest Monsoon into some more parts of north Arabian sea and Gujarat state, remaining parts of West Madhya Pradesh, Uttar Pradesh, Uttarakhand, Himachal Pradesh and most parts of Haryana, Chandigarh, Delhi, Punjab and East Rajasthan during next 3-4 days.
- Heavy to very heavy rain occurred at a few places over Konkan & Goa with isolated extremely heavy falls at Sub-Himalayan west Bengal & Sikkim; isolated heavy rain over Assam & Meghalaya and Karnataka.

Standardised Precipitation Index Four Weekly for the Period 26th May to 22nd June 2016

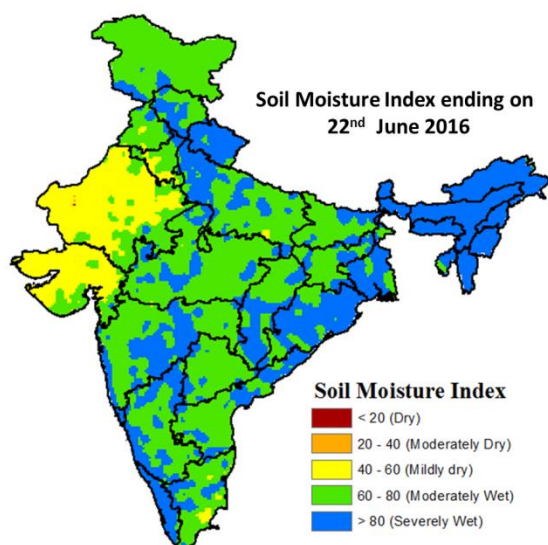


- Extremely/severely wet conditions experienced in few districts of Andhra Pradesh; Karnataka; Banka district of Bihar; Cuddalore, Sivaganga districts of TamilNadu.
- Extremely/Severely dry conditions experienced in most districts of Gujarat Region; Konkan & Goa; many

districts of Saurashtra & Kutch; few districts of Odisha; Jharkhand; Madhya Pradesh; Maharashtra; Chhattisgarh; East Kameng district of Arunachal Pradesh; Cachar, Goalpara, Karbi Anglong, Tinsukia districts of Assam; Jaintia Hills district of Meghalaya; Imphal East districts of Manipur; South Dinajpur district of West Bengal; Monghyr, Saharsa, Sheohar districts of Bihar; Shahjahanpur district of Uttar Pradesh; Pali, Sirohi, Pratapgarh districts of Rajasthan; Medak district of Telangana; Dakshin Kannada, Kodagu, Shimoga districts of Karnataka; Wynad district of Kerala.

- Moderately dry conditions experienced in most districts of Tripura; many districts of Meghalaya; Saurashtra & Kutch; few districts of Chhattisgarh; Telangana; East Siang district of Arunachal Pradesh; Nagaon, Dibrugarh districts of Assam; Howrah, South 24 Parganas, Kolkata districts of West Bengal; Cuttack, Kalahandi, Kendrapara, Nayagarh, Kandhamal districts of Odisha; Bokaro, Lohardaga, Simdega, Latehar districts of Jharkhand; Bhabua, Katihar, Nawada, Saran districts of Bihar; Chandauli, Deoria, Siddharth Nagar, Sonbhadra, Mathura, Pilibhit districts of Uttar Pradesh; Kurukshetra district of Haryana; Ferozepur, Patiala districts of Punjab; Kinnaur, Lahaul & Spiti districts of Himachal Pradesh; Barmer, Banswara, Dungarpur, Tonk, Udaipur, Baran districts of Rajasthan; Bhopal, Rajgarh, Ujjain, Rewa, Satna districts of Madhya Pradesh; Mumbai Suburban district of Konkan; Nandurbar, Jalna, Yeotmal, Gondia, Washim districts of Maharashtra; Coimbatore district of TamilNadu; Uttar Kannada, Udupi, Chikmagalur districts of Karnataka; Cannur, Kasargod district of Kerala.
- Rest of the country experienced moderately wet/ mildly dry/mildly wet conditions.

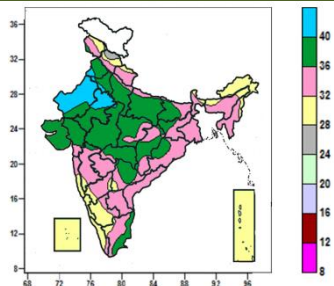
Soil Moisture Index for the week ending on 22nd June 2016



- Soil Moisture Index indicates severely wet condition in North-East Region, West Bengal, Uttarakhand, Odisha, Kerala, few districts of Maharashtra, Uttar Pradesh, Bihar, Karnataka, Himachal Pradesh and Chhattisgarh. Mild dry condition in Rajasthan and Gujarat. Rest of the country shows Moderate wet condition of soil moisture.

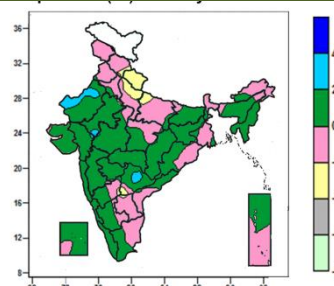
Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 22.06.2016

Actual Mean Maximum Temperature (°C) in India for the week ending 22.06.2016



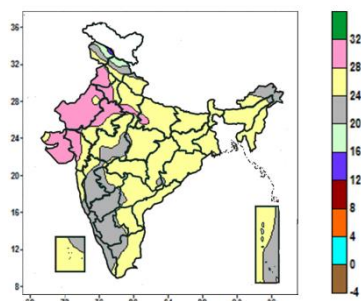
- Mean maximum temperature was between 40 to 44°C over many parts of West Rajasthan, some parts of East Rajasthan, isolated pocket of Punjab, Haryana and West Madhya Pradesh.
- Mean maximum temperature was between 32 to 40°C over rest of the country except over Arunachal Pradesh, Coastal Karnataka, Lakshadweep, Andaman & Nicobar Islands, many parts of Himachal Pradesh, Konkan & Goa, South Interior Karnataka, Kerala, some parts of Jammu & Kashmir, Uttarakhand, Assam, Sikkim, North Interior Karnataka, Tamil Nadu and isolated pockets of Sub Himalayan West Bengal, Nagaland, Manipur, Madhya Maharashtra and Telangana where it was between 24 to 32°C.

Mean Maximum Temperature (°C) Anomaly in India for the week ending 22.06.2016



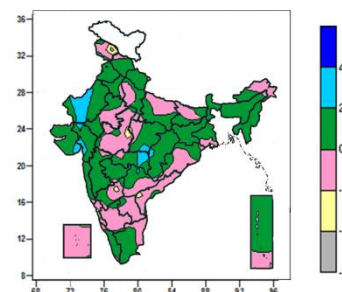
- Mean maximum temperature was above normal by 2 to 4°C over some parts of West Rajasthan and Telangana and isolated pockets of East Rajasthan, Gujarat Region and West Madhya Pradesh.
- It was normal to near normal over rest of the country except over Uttarakhand, some parts of Uttar Pradesh and isolated pockets of Himachal Pradesh, Telangana, North Interior Karnataka and Rayalaseema where it was below normal by 2 to 4°C.

Actual Mean Minimum Temperature (°C) in India for the week ending 22.06.2016



- Mean minimum temperature was between 12 to 16°C over isolated pockets of Jammu & Kashmir.
- Mean minimum temperature was between 16 to 20°C over some parts of Jammu & Kashmir and Himachal Pradesh.
- Mean minimum temperature was between 20 to 28°C over rest of the country except many parts of Punjab, Haryana, West Rajasthan, Gujarat, some parts of East Rajasthan and isolated pockets of Uttar Pradesh, where it was between 28 to 32°C.

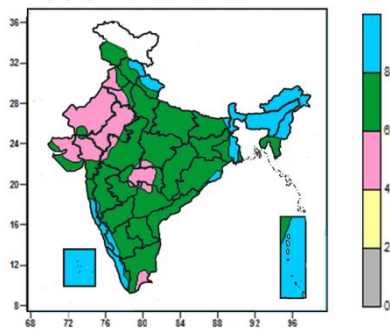
Mean Minimum Temperature (°C) Anomaly in India for the week ending 22.06.2016



- Mean minimum temperature was above normal by 2 to 4°C over some parts of West Rajasthan, Vidarbha and isolated pockets of Gujarat, East Madhya Pradesh, Chhattisgarh and Telangana.
- Mean minimum temperature was normal to near normal over rest of the country except isolated pockets of Jammu & Kashmir, Madhya Pradesh, North Interior Karnataka and Coastal Andhra Pradesh where it was below normal by 2 to 4°C.

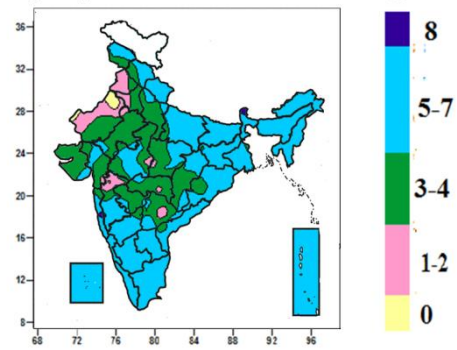
Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 22.06.2016

Relative Humidity (%) over India for the week ending 22.06.2016



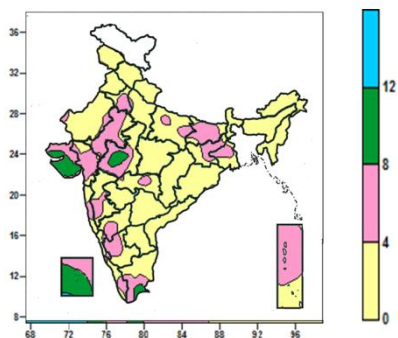
- Mean Relative humidity was above 80% over Sub Himalayan West Bengal & Sikkim, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Lakshadweep, many parts of Uttarakhand, Konkan & Goa, Coastal Karnataka, Kerala, Andaman & Nicobar Islands, some parts of Himachal Pradesh, Gangetic West Bengal, South Interior Karnataka and isolated pockets of Bihar, Odisha and Madhya Maharashtra.
- Mean Relative humidity was between 60 to 80% over rest of the country except many parts of Punjab, Haryana, Rajasthan, Gujarat, Vidarbha and isolated pockets of Madhya Pradesh, Marathwada, Telangana and Tamil Nadu where it was between 40 to 60%.

Cloud amount (okta) over India for the week ending 22.06.2016



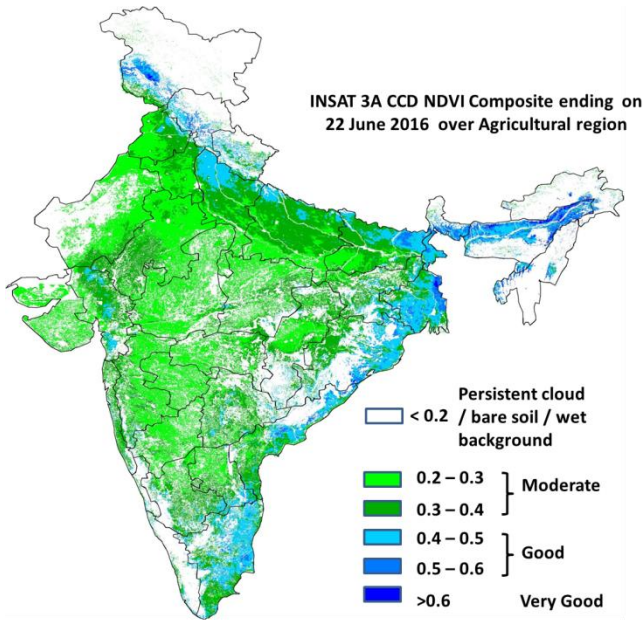
- Sky remained overcast (8 okta) over many part of Sikkim and isolated pockets of Konkan, Madhya Maharashtra.
- Sky remained generally cloudy (5-7okta) over Uttarakhand, Bihar, Sub-Himalayan West Bengal, North East India, Coastal Karnataka, South Interior Karnataka, Rayalaseema, Kerala, Tamil Nadu, Lakshadweep, Andaman & Nicobar Islands, many parts of Jammu & Kashmir, Himachal Pradesh, East Uttar Pradesh, Jharkhand, Gangetic West Bengal, Odisha, Coastal Andhra Pradesh, Konkan & Goa, Madhya Maharashtra, North Interior Karnataka, some parts of Gujarat, Madhya Pradesh, Chhattisgarh, Telangana, isolated pockets West Uttar Pradesh, East Rajasthan, Vidarbha, Marathwada.
- Sky remained partly cloudy/mainly clear/clear sky(3-4 okta/1 to 2/0 okta) over rest of the country.

Wind speed (knots) over India for the week ending 22.06.2016



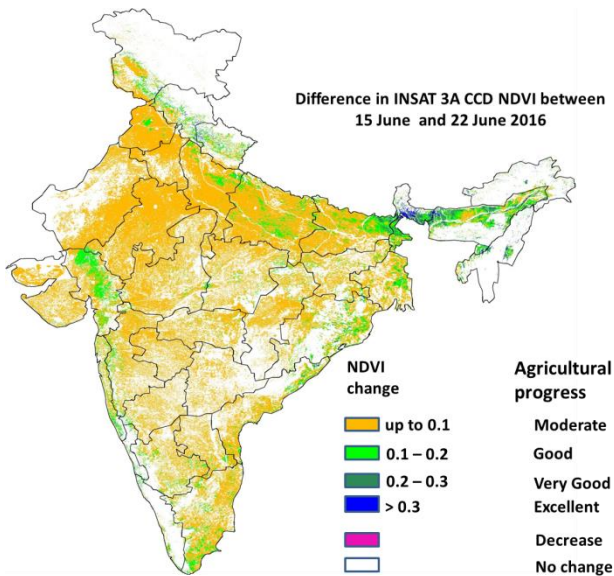
- Mean wind speed was between 12 to 16 knots over isolated pockets of Lakshadweep.
- Mean wind speed was between 8 to 12 knots over many parts of Saurashtra & Kutch, Lakshadweep, some parts of West Madhya Pradesh and Tamil Nadu.
- Mean wind speed was between 4 to 8 knots over many parts of Haryana & Delhi, Bihar, Jharkhand, East Rajasthan, West Madhya Pradesh, Gujarat Region, Andaman & Nicobar Islands, some parts of East Uttar Pradesh, Gangetic West Bengal, Saurashtra & Kutch, Konkan, Madhya Maharashtra, Interior Karnataka, Lakshadweep, Kerala, Tamil Nadu and isolated pockets of West Uttar Pradesh, West Rajasthan, Vidarbha and Coastal Karnataka.
- Mean wind speed was less than 4 knots over rest of the country.

INSAT 3A CCD NDVI COMPOSITE ENDING ON 22th June 2016 OVER AGRICULTURAL REGION OF INDIA



- Agricultural vigour is good over Tamil Nadu, coastal Andhra Pradesh, patches in east Bihar, Coastal Odisha, West Bengal, Assam, patches in west Uttar Pradesh, patches in Gujarat and Himachal Pradesh, where NDVI varies from 0.4 to 0.6. Agricultural growth was moderate 0.2 to 0.4 over Punjab, Haryana, remaining parts of Uttar Pradesh, Bihar, east Rajasthan, Madhya Pradesh, remaining parts of Gujarat, Telangana, Maharashtra, Karnataka and Odisha.

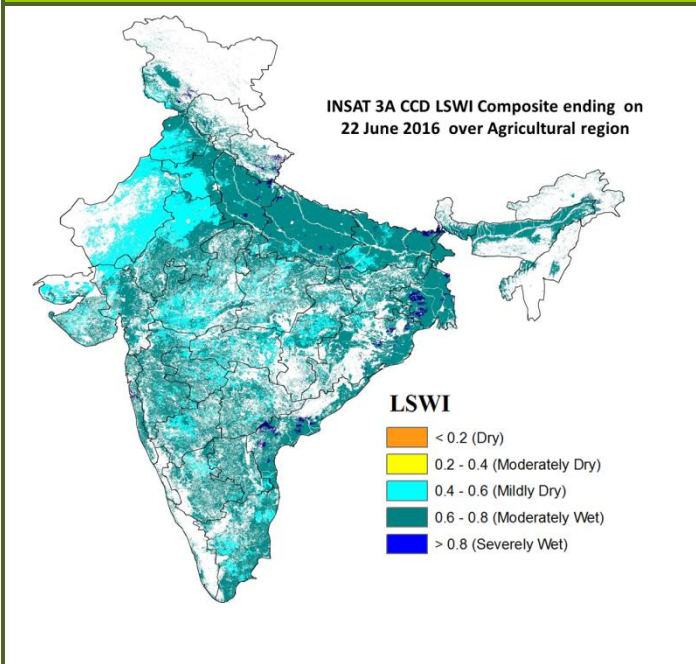
Difference in INSAT 3A CCD NDVI between 15th and 22nd June 2016



- Good progress in NDVI was observed in coastal regions of Andhra Pradesh, Odisha, West Bengal, southern regions of Tamil Nadu, Gujarat and patches in Uttar Pradesh, Bihar and Uttarakhand. Moderate progress in NDVI is observed over the regions of rest of region in India.

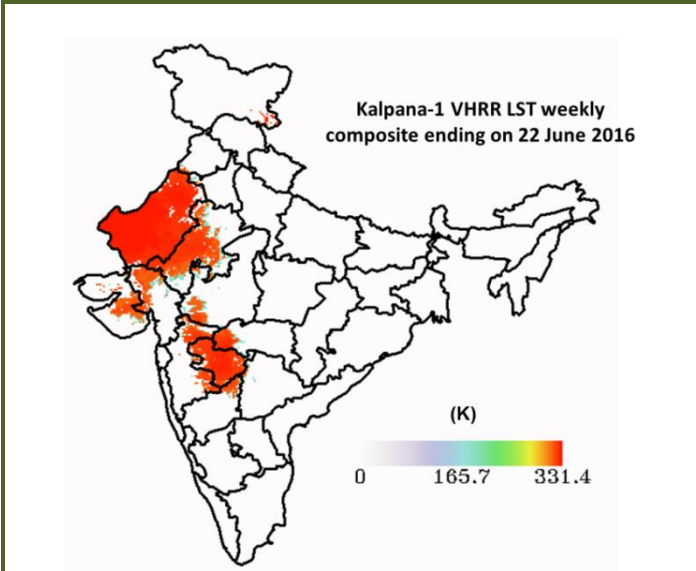
- INSAT 3A CCD NDVI composite maps for the week ending on 22nd June 2016 for different States are given in Annexure II.

INSAT 3A CCD LSWI COMPOSITE ENDING ON 22nd June 2016 OVER AGRICULTURAL REGION OF INDIA



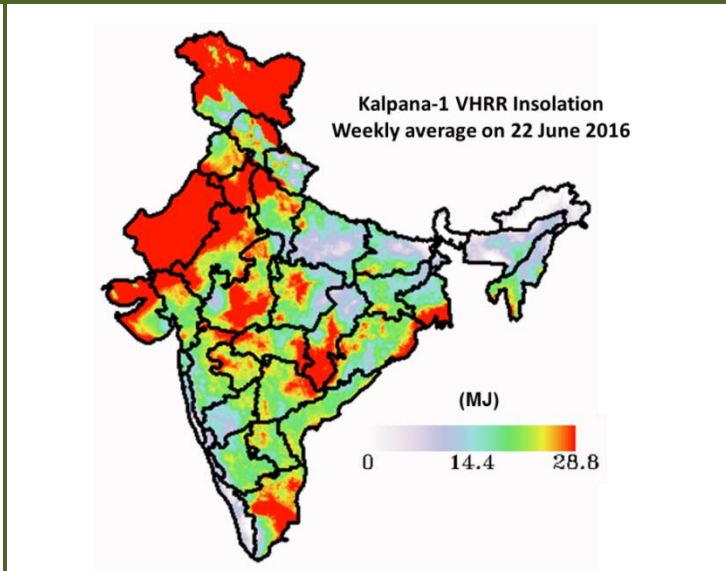
- Moderately wet conditions are observed in Maharashtra, Karnataka, coastal Andhra Pradesh, West Bengal, coastal Odisha, Uttar Pradesh, Bihar, North East region and patches in Gujarat, east Rajasthan, Haryana and Punjab. In the states of Gujarat, west Rajasthan, Madhya Pradesh, Tamil Nadu, Telangana, Punjab and Haryana, few patches show mild dry conditions.

Land Surface Temperature (LST)



- The LST is found to be high over the north western parts of India. LST range from 300-330 K over the States of Rajasthan, patches in Gujarat and Maharashtra.

Weekly Insolation



- The average surface insolation is found to be High (22-29 MJ) over west Rajasthan, parts of Madhya Pradesh, parts of Tamil Nadu, Haryana, Jammu Kashmir and Chhattisgarh. Low Insolation is observed over the western Coastal region, North East region, Bihar and east Uttar Pradesh.

Weather Forecast for next 5 days valid upto 0830 hours of 29th June 2016

- Meteorological sub-division wise detailed 5 day rainfall forecast is given below.
- No significant change in maximum temperatures very likely over northwest, west and central India during next 2-3 days.

5 Day Rainfall Forecast (MID DAY) 24th June 2016

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

% 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

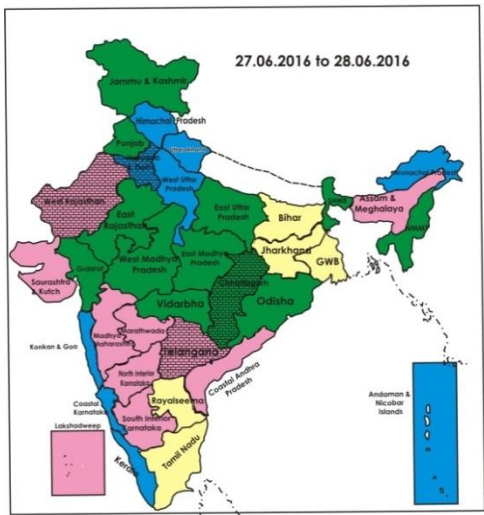
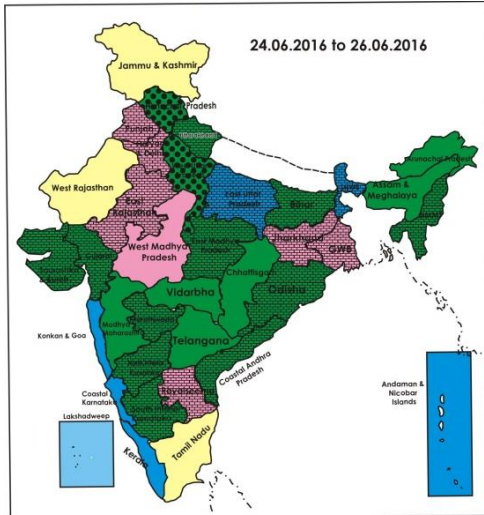
- **24 June (Day 1):** Heavy to very heavy rain very likely at isolated places over Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Konkan & Goa and Coastal Karnataka. Heavy at isolated places over East Uttar Pradesh, East Madhya Pradesh, south Chhattisgarh, north Bihar, Telangana & Kerala. Thunderstorm accompanied with squall very likely at isolated places over West Uttar Pradesh & East Rajasthan.
- **25 June (Day 2):** Heavy to very heavy rain very likely at a few places over Konkan & Goa and at isolated places over Coastal Karnataka. Heavy rain very likely at isolated places over Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Telangana and Kerala.
- **26 June (Day 3):** Heavy to very rain very likely at a few places with extremely heavy falls at isolated places over Konkan & Goa; heavy rain very likely at isolated places over south Gujarat and Coastal Karnataka.
- **27 June (Day 4):** Heavy rain very likely at isolated places over Chhattisgarh and Konkan & Goa.

- **28 June (Day 5):** Heavy rain very likely at isolated places over Chhattisgarh, Konkan & Goa and Coastal Karnataka.

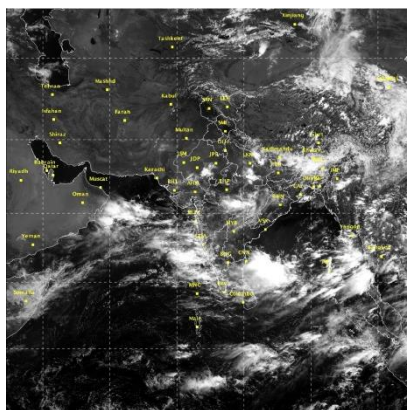
Weather Outlook for subsequent 2 days from 29th June to 1st July 2016

- Rainfall at most places with isolated heavy falls very likely along west coast peninsular India and Andaman & Nicobar Islands.
- Rainfall at many places likely over central and adjoining northwest & east India and northeastern states.

Weather Forecast Map (valid upto 0830 hours of 29th June, 2016)



- Most places
- Most/Few places/Dry
- Most/ Few places
- Most / Many places
- Most/Many / Isolated places
- Most / Isolated places
- Most / Many/ Few places
- Most / Few / Isolated places
- Most/Many places/ Dry
- Most / Isolated places/ Dry
- Many places
- Many / Few places
- Many / Isolated places
- Many / Few / Isolated places
- Many / Few places/ Dry
- Many / Isolated places/Dry
- Many places/ Dry
- Few places
- Few / Isolated places
- Few/ Isolated places/Dry
- Few places/Dry
- Isolated places
- Isolated places/ Dry
- Dry



Salient Advisories

Major Advisories

- Southwest monsoon has covered Kerala, Tamilnadu, Karanataka, Northeastern states, West Bengal & Sikkim, Rayalaseema, Coastal Andhra Pradesh, Telangana, Odisha, Jharkhand, Bihar, Maharashtra, East Madhya Pradesh, Jammu & Kashmir, most parts of West Madhya Pradesh, East Uttar Pradesh, Uttarakhand and Himachal Pradesh and some parts of West Uttar Pradesh. In view of the above, undertake the following agricultural activities:
- In **Kerala**, continue transplanting of *Virippu* rice in Palakkad, Thrissur, Ernakulam, Thiruvananthapuram, Kollam, Kannur, Malappuram and Kozhikode districts and direct sowing of rice in Alappuzha, Kottayam districts.
 - In **Coastal Karnataka**, continue nursery sowing of rice and sowing of *kharif* maize and cotton. Continue drill sowing of rice.
 - In **South Interior Karnataka**, continue nursery sowing of rice, sowing of maize in Chickmangaluru, Hassan, Shimoga districts, continue sowing of red gram, maize, groundnut and ragi in Bengaluru Rural, Chikaballapura and Kolar districts and direct sowing of ragi, red gram, maize, sesame, cowpea, green gram and black gram in remaining districts.
 - In **North Interior Karnataka**, in Bidar district, continue nursery sowing of rice and undertake sowing of soybean, green gram, blackgram, sorghum, pigeon pea utilising realised rainfall and expected rainfall, continue sowing of red gram, black gram, green gram, cotton and maize in Koppal district. In Dharwad, Belagavi and Haveri districts of North Transition Zone of Karnataka, undertake sowing of green gram black gram, soybean sorghum, maize, cotton utilising realised rainfall and expected rainfall.
 - In **Coastal Andhra Pradesh**, continue land preparation and sowing of red gram, black gram, green gram and cotton. Continue nursery sowing of rice in Nellore district and land preparation for sowing of *kharif* groundnut.
 - In **Rayalaseema**, in Anantapur and Kurnool districts, undertake land preparation and sowing of groundnut and undertake sowing of redgram, bajra, korra and castor. In Chittoor and Kadappa districts, continue transplanting of rice and sowing of groundnut and red gram.
 - In **Telangana**, undertake nursery sowing of rice. Undertake sowing of maize, soybean, green gram and black gram in North Telangana Zone and undertake sowing of rainfed jowar, maize green gram, black gram, red gram, soybean and cotton in the South Telangana Zone utilising the expected rainfall.
 - In **Assam**, continue nursery raising of *Sali* rice and sowing of groundnut in Lower Central and Upper Brahmaputra Valley Zone.
 - In **Meghalaya**, continue nursery bed preparation for *Sali* rice and sowing of groundnut, soybean, green gram, black gram and rajma.
 - In **Manipur**, continue nursery sowing of *kharif* rice and sowing of groundnut and black gram.
 - In **Mizoram**, continue nursery sowing of *kharif* rice, sowing of *kharif* green gram, black gram and rajma.

- In **Tripura**, continue nursery sowing of *kharif* rice, sowing of groundnut and maize.
 - In **West Bengal**: In Gangetic West Bengal, land preparation for nursery sowing of *Aman* rice and land preparation and direct sowing of rice in Coastal Zone. In Sub-Himalayan West Bengal, Planting of ginger, turmeric and Cardamom after current spells of heavy rain.
 - In **Odisha**, continue nursery sowing of medium duration rice varieties and undertake land preparation and sowing of cotton, groundnut, maize and arhar in uplands.
 - In **Bihar and Jharkhand**, undertake nursery sowing of rice and onion, land preparation and sowing of maize.
 - In **Konkan**, farmers are advised to undertake preparation of main field for transplanting of rice seedling and undertake transplanting with 21-25 days old seedlings. Drain out excess water from rice field.
 - In **Madhya Maharashtra**, continue sowing of soybean in Kolhapur, Satara and Sangli district. Continue sowing of maize and soybean in Ahmednagar, Pune and Jalgaon districts Undertake land preparation for soybean, red gram, green gram and onion in Nasik, Dhule and Nandurbar districts.
 - In **Marathwada**, continue sowing of *kharif* soybean, cotton, tur and moong using optimum soil moisture condition in all districts of Marathwada.
 - In **Vidarbha**, undertake nursery sowing of *kharif* rice in Gondia, Chandrapur, Gadchiroli districts. Continue sowing of *kharif* soybean, cotton, tur and moong using optimum soil moisture condition in Buldana, Akola, Washim, Amravati and Yavatmal districts. Continue only land preparation for rice in Bhandara district.
 - In **East Madhya Pradesh**, undertake nursery sowing of rice and undertake sowing of soybean and red gram utilising the realised and expected rainfall.
 - In **Chhattisgarh**, undertake nursery sowing of rice and direct sowing (broadcasting) of rice in Plain Zone. Undertake land preparation and sowing of red gram, soybean and maize.
 - In Eastern Plain Zone of **East Uttar Pradesh**, continue nursery sowing of rice and undertake sowing of maize, urad and arhar.
 - In **Jammu & Kashmir**, continue transplanting of rice and sowing of maize.
 - In **Himachal Pradesh**, continue nursery sowing of rice and continue sowing of soybean and green gram.
 - In **Uttarakhand**, undertake field preparation and transplanting of rice.
- The conditions are becoming favourable for further advance of Southwest Monsoon into some more parts of north Arabian sea and Gujarat state, remaining parts of West Madhya Pradesh, Uttar Pradesh, Uttarakhand, Himachal Pradesh and most parts of Haryana, Chandigarh, Delhi, Punjab and East Rajasthan during next 3-4 days.
- In **West Madhya Pradesh**, undertake land preparation and sowing of soybean and maize and in Gwalior, Bhind, Morena, Shivpuri, Guna, Ashoknagar and Sheopur districts, undertake sowing of pearl millet, red gram, green gram and black gram utilising the realised and expected rainfall.
 - In **West Uttar Pradesh** undertake land preparation and sowing of maize and pigeonpea.
 - In **Punjab**, undertake field preparation and transplanting of rice.
 - In **East Rajasthan**, undertake land preparation for sowing of groundnut and maize.

Detailed Zonewise Agromet Advisories

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



Banana



Land preparation/Sowing



Sugarcane



Rice

- **Realised Rainfall:** Rainfall occurred in all districts of Kerala, in all districts of Coastal Karnataka, in Bagalkote, Bidar, Gadag, Kalaburgi, Raichur, Vijayapura and Yadgir districts of North Interior Karnataka, in Bengaluru Rural, Kodagu, Mysuru and Shivamogga districts of South Interior Karnataka, in all districts of Coastal Andhra Pradesh except East &

West Godavari and Nellore, in all districts of Rayalaseema except Anantapur, in Adilabad, Mahboobnagar, Nizamabad and Rangareddy districts of Telangana, in Cuddalore, Salem, Tiruvallur, Tiruvannamalai and Vellore districts of Tamil Nadu. Weather remained mainly dry over rest of the region.

• **Advisories:**

- As rain/thundershowers likely at most places over Kerala and Coastal Karnataka during the period, at many places over South Interior Karnataka and North Interior Karnataka on 24th and 25th, over Coastal Andhra Pradesh on 25th and 26th and over Telangana from 24th to 26th June, farmers are 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 is very likely at few/isolated places over Coastal Karnataka on 24th to 26th, 28th and heavy rain at isolated places over Kerala on 24th, 25th June, provide adequate drainage in standing crop fields to avoid water stagnation.

▪ **Kerala:**

- In Kerala, continue transplanting of *Virippu* rice in Thiruvananthapuram, Kollam, Kannur, Malappuram and Kozhikode districts and direct sowing of rice in Alappuzha, Kottayam districts. Provide adequate drainage in rice nurseries and avoid water stagnation in the planting pits/basins.
- Continue transplanting of brinjal and chilli and planting of coconut seedlings with adequate drainage in Alappuzha, Kottayam districts. Undertake planting of cucurbitaceous vegetables like bitter melon, snake melon and bottle melon and continue tapping of rubber and new planting of rubber seedlings in Thiruvananthapuram district. Avoid water logging at the base of the new plants. Intercropping may be started in coconut gardens.
- In Wayanad and Idukki districts, continue planting of coconut, areca nut, pepper and cardamom.
- In Palakkad, Thrissur and Ernakulam districts, continue transplanting of *Virippu* rice. While transplanting, dip the roots of seedling in *Pseudomonas* solution by mixing *Pseudomonas* culture @ 20g/litre of water for 30 minutes to control sheath blight, sheath rot, leaf spot diseases at later stage.
- In Alappuzha and Kottayam districts, prevailing weather conditions (humid conditions) are congenial for foot rot disease in pepper. If noticed, apply *Trichoderma* mixture around the base of the vine after current spells of rain.
- In Kasaragod, Kannur and Kozhikode and Malappuram districts, there are chances of attack of stem borer in cashew. To control, chisel out the grubs and swab the tree trunk with Asataf 75SP @ 2g/litre of water after current spells of rain.

▪ **Karnataka:**

- Continue transplanting of rice utilising the realised and expected rainfall in Dakshina Kannada and Udupi districts of Coastal Zone of Karnataka.
- Continue drill sowing of rice, complete planting of arecanut seedlings and planting of ginger and turmeric in Uttar Kannada district of Hill Zone. To control the weeds in drill sown rice area, spray Butachlor @ 4 ml/litre of water on the day of sowing or next day.
- In South Interior Karnataka, continue nursery sowing of rice, sowing of ragi, red gram and groundnut and complete sowing of maize in Chikmagalur, Hassan, Shivamogga districts of Southern Transition Zone.
- Continue sowing of cowpea, green gram, black gram, sesame and sorghum etc.; sowing of jowar, jowar+red gram (2:1), groundnut+red gram (4:1 or 8:2) by using seed drill in Kodagu, Mandya, Mysuru and Chamrajnagar districts of Southern Dry Zone utilizing realised and expected rainfall.
- Continue sowing of red gram, maize, ragi, groundnut, cowpea, castor, sesame, green gram and black gram with sufficient realised rainfall and expected rainfall in Bengaluru Rural, Bengaluru Urban, Ramnagara, Chickaballapura and Kolar districts of Eastern Dry Zone.
- Continue nursery sowing of rice and sowing of cotton in Davengere district, continue sowing of minor millet in Chitradurga district and land preparation for sowing of maize, jowar, red gram, sunflower, groundnut, ragi etc. in Chitradurga, Davengere and Tumakuru districts of Central Dry Zone with realised rainfall.
- In North Interior Karnataka, in Bidar district of North East Transition Zone, continue nursery sowing of rice and continue sowing of soybean, green gram, black gram, sorghum, pigeon pea and cotton utilising realised rainfall and expected rainfall. Continue sowing of red gram, black gram, green gram, cotton and maize, continue fresh plantation of fruit trees utilising realised and expected rainfall in Ballari, Kalaburgi, Koppal, Raichur and Yadgir district of North East Dry Zone.
- Continue sowing of green gram, black gram, soybean, sorghum, maize, cotton wherever the soil moisture condition is favorable for sowing in Dharwad, Belagavi and Haveri districts, sowing of groundnut in Dharwad and Belagavi districts and planting of sugarcane in Belagavi district of North Transition Zone.
- Continue sowing of green gram, sunflower, maize, Bt. cotton, red gram, bajra, sorghum, groundnut (bunch type), sesamum and navane in Vijayapura, Bagalkote and Gadag districts of North Dry Zone with realised rainfall; use short and medium duration varieties of red gram for sowing; use wilt resistant variety TS-3R, wherever the region is susceptible for wilt disease. Intercropping of bajra + groundnut (bunch) in 2:4 row proportion; bajra + red gram in 2:1 row proportion; groundnut (bunch) + red gram in 3:1 or 4:2 row proportion, red gram + sesamum in 1:2 or 2:4 row proportion in light and medium black soils is advised for making efficient use of available soil and water resources and to get higher returns.

▪ **Andhra Pradesh:**

- In Srikakulam, Vizianagaram and Vishakapatnam districts, continue planting of rainfed sugarcane and land

- preparation and sowing of bajra, pulses, ragi etc. and green manure crops utilizing the ensuing rains.
- In East Godavari district, undertake sowing of maize, ragi and continue sowing of rice and groundnut.
- In West Godavari, Krishna, Prakasam and Krishna districts, continue sowing of rice, millets, maize and continue land preparation and sowing of red gram, black gram, green gram and cotton.
- In Rayalaseema, , undertake land preparation and sowing of groundnut (Kadiri-6, Kadiri-9, Narayani and Dharani) in Anantapur district. In Anantapur and Kurnool districts, continue sowing of red gram (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.
- In Chittoor and Kadappa districts, continue transplanting of rice, clip the tips of the leaves before transplanting to avoid attack of stem borer and leave 20cm and sowing of kharif groundnut and red gram. In Nellore district, continue nursery sowing of rice and kharif groundnut and red gram of recommended varieties.
- **Telangana:**
 - As heavy rain is likely at isolated places over Telangana on 24th & 25th June, provide adequate drainage in crop fields to avoid water stagnation.
 - In Karimnagar, Nizamabad and Khammam districts (North Telangana Zone), continue nursery sowing of rice, maize, soybean, green gram and black gram, red gram and cotton.
 - In Mahabubnagar, Nalgonda, Medak, Rangareddy, Khammam and Warangal districts (South Telangana Zone), raise rice nurseries of medium to long duration varieties, take-up sowing of sunhemp and dhaincha as in-situ green manure crop preceding rice by utilizing the realized rainfall. Drench vegetable nursery bed with Copper-Oxy-Chloride @ 3 g/litre of water and provide adequate drainage to prevent incidence of damping off in vegetable nurseries.
- **Tamil Nadu:**
 - In Thanjavur, Nagapattinam, Thiruvarur, Karur, Perambalur, Trichy and Ariyalur districts, continue land preparation for nursery sowing of *kuruvai* rice and SRI cultivation after appropriate seed treatment. Undertake harvesting of black gram & sesame in clear weather.
 - In Coimbatore, Tiruppur, Erode districts, continue nursery sowing of rice.. Since the wind speed is more than 20 KMPH along with expected drizzling, propping may be given to matured banana crop against lodging. In grapes, pruning may be done followed by spraying of 1% Bordeaux mixture or any Copper Fungicide @ 0.25 percent.
 - In Pudukottai, Madurai, Dindigul, Theni, Ramanathapuram and Sivaganga, since the wind speed is more than 15 KMPH, propping may be given to five months and old banana.
 - In Tuticorin, Virudhunagar and Tirunelveli districts, undertake pit preparation for planting orchard crops and picking up of matured fully opened cotton kapas in early morning in clear weather.
 - In Salem, Namakkal, Dharmapuri and Krishnagiri districts, continue cultivation of groundnut after proper seed treatment.
 - In Nilgiris district, since continuous rainfall is expected for the next five days, make necessary drainage facilities in the fields and spray *Pseudomonas* @ 10 ml/ litre of water to prevent rain borne diseases, on a non rainy day.
 - In Salem, Namakkal, Dharmapuri and Krishnagiri districts, severe incidence of woolly aphid was found in sugarcane. To control, spray Acephate @ 2g/litre of water along with adjuvant on a non rainy day.
 - Suitable varieties for sowing are given in Annexure III.
- **Animal Husbandry**
 - In the Scarce Rainfall Zone of Andhra Pradesh, vaccinate 2-3 years lambs to prevent Enterotoxemia disease during the season.
 - In the South Telangana Zone, prevailing weather conditions are favourable for Ranikhet disease in poultry, ET, Sheep Pox and PPR in sheep, Hemorrhagic Septicemia, Foot and Mouth disease in cattle and buffaloes, to prevent the disease vaccinate the animals and birds.
 - In the Western Zone of Tamil Nadu, considering the high relative humidity wash udder with 1% Potassium permanganate solution before and after milking.
 - In the Southern Zone, since the wind speed is more, caution may be taken against drifting of poultry feeds kept in poultry sheds.
 - In North Dry Zone, vaccinate livestock against foot and mouth disease (FMD vaccination), Black Quarter disease (BC vaccination) and Haemorrhagic Septicemia, vaccinate (ET vaccine) sheep and goats against Enterotoxemia and against foot and mouth disease (FMD vaccination) in North East Transition Zone.



Banana

Rice

Land preparation/Sowing

Jute

- **Realised Rainfall:** Rainfall occurred in Changlang, East Kameng, East Siang, Lohit, Lower Dibang Valley, Papumpara, Tawang, Tirap, Upper Siang, Upper Subansari, West Kameng and West Siang districts of Arunachal Pradesh, in Baksa, Barpeta, Bongaigaon, Cachar, Chirang, Dhubri, Goalpara, Golghat, Hailakandi, Jorhat, Kamrup(Rural), Kamrup(Metro), Karbi Anglong, Karimganj, Kokrajhar, Lakhimpur, Morigaon, N.C.Hills, Nagaon, Nalbari, Sonitpur, Sibsagar, Tinsukia and Udalgiri districts of Assam, in East Garo Hills, East Khasi Hills, Ri-Bhoi, West Garo Hills and West Khasi Hills districts of Meghalaya, in Aizwal, Saiha and Sechhip districts of Mizoram, in Imphal West district of Manipur, Dimapur and Phek districts of Nagaland and in Dhalai and North Tripura districts of Tripura. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at many places over Arunachal Pradesh and Assam & Meghalaya from 24th to 27th and over Nagaland, Manipur, Mizoram & Tripura on 24th and 28th June, it is advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. As heavy rain is very likely at isolated places over Assam & Meghalaya on 24th & 25th June, provide adequate drainage in standing crop fields to avoid water stagnation.
 - **Assam, Meghalaya & Arunachal Pradesh:**
 - In Assam, continue nursery raising of *Sali* rice with adequate drainage facilities.
 - In flood prone areas Karimganj, Hailakhand and Cachar districts of Barak valley Zone, farmers are advised to collect the submerge tolerance rice variety which can withstand upto 15 days in submerged condition.
 - In Karbi Anglong and NC Hills districts of Hill Zone of Assam, continue sowing of arhar and planting of banana.
 - In Baksa, Barpeta, Bongaigaon, Chirang, Dhubri, Goalpara, Kamrup(Rural), Kamrup(Metro), Kokrajhar and Nalbari districts of Lower Brahmaputra Valley Zone of Assam, undertake sowing of *Olorius* jute. Also undertake harvesting of *ahu* rice after current spells of rain.
 - In Nagaon and Marigaon districts of Central Brahmaputra Valley Zone of Assam, continue land preparation and sowing of arhar and harvesting of Capsularis jute.
 - In Dhemaji, Darrang, Lakhimpur, Sonitpur and Udalgiri districts of North Blank Plain Zone of Assam, continue planting of black pepper cuttings.
 - In East Garo Hills, East Khasi Hills, Jaintia Hills, Ri-Bhoi, South Garo Hills, West Garo Hills and West Khasi Hills districts of Meghalaya, continue nursery bed preparation for *Sali/ kharif* rice and sowing of groundnut and soybean.
 - 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 half moon terraces in fruit crops (orange/banana/apple/peach) grown in steep slopes to prevent nutrient loss during heavy downpour. Remove excess sucker from banana in mother plant and give support in banana bunches to protect falling due to heavy weight or storm.
 - In Arunachal Pradesh, there is chance of attack of leaf blast & leaf spot in *jhum* rice. Spray Carbendazim @2g/litre water in *jhum* field to control heavy infestation of leaf blast & leaf spot. Also for management of soft rot in ginger, undertake drenching of Metalaxyl 8% + Mancozeb 64% WP @ 2.5 g per litre of water. Undertake plant protection measures after current spells of rain.
 - In Hill Zone of Assam, there is chance of attack of stem borer/ rice bug in transplanted normal *ahu* rice and rhizome rot in ginger and turmeric due to the prevailing weather conditions. Apply Malathion 5% dust @ 20kg/ha against rice bug and Carbofuran 3G @ 30 kg/ha or Phorate 10G @ 10kg/ha against stem borer. To prevent rhizome rot in ginger and turmeric, drench the affected areas with 0.3% Mencozeb 75 WP @ 2g/litre of water. Undertake plant protection measures after current spells of rain.
 - In Lower Brahmaputra Valley Zone of Assam, there is chance of attack of blast and thrips in *Sali* rice in nursery due to the prevailing weather conditions. Spray Carbendazim @1gm/litre of water or Ediphenphos @ 1 ml/litre of water to control of this disease in seedling stage. To control trips in nursery bed apply Chlorpyrifos 20EC@ 0.02%, and Quinalphos 25EC@ 0.0%. Undertake plant protection measures after current spells of rain.
 - In Barak Valley Zone of Assam, present weather is favourable for attack of blast disease in *ahu* rice. To control, spray of Carbendazim @ 1 ml/litre of water at tillering stage after current spells of rain.
 - In Upper Brahmaputra Valley Zone, present weather is favourable for early shoot borer infestation in sugarcane crop. Monitor the crop and collect the egg masses from leaves and destroy them. Shoot borer infestation may be checked by burying or burning the infested canes. Proper earthing up will reduce the early shoot borer infestation.
 - In Dhemaji, Darang, Lakhimpur, Sonitpur and Udalgiri districts of North Bank Plain Zone of Assam, to control red

pumpkin beetle and fruit fly in cucurbits, spray Malathion 50 EC @ 2ml/litre of water. Apply plant protection measures after current spells of rain.

- In Meghalaya, high humidity with intermittent rain is favourable for development of blast in *jhum* rice. Spray Mancozeb @ 2g/litre of water or Carbendazime @ 1g/litre of water. Also apply Furandian 3G granules @ 2-3 granule to each whorl of maize plant at tasselling/cob formation stage against shoot fly/cob borer/stem borer incidence. Apply plant protection measures 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 nursery preparation of lowland rice. Gitesh, short duration variety can also be incorporated as it can be transplanted with 40 – 60 days old seedlings.
- In Bishnupur, Chandel, Churachandpur, Imphal East, Imphal West, Senapati, Tamenglong, Thoubal and Ukhrul districts of Manipur, continue sowing of soybean, black gram and sowing of *kharif* rice. Avoid water logging in and around the ginger and turmeric field. Undertake field preparation for transplanting of *kharif* rice. Maintain water level at 5-8 cm in early *kharif* rice. In Aizwal, Champhai, Chhimitupui, Kolasib, Lawngtlai, Lunglei, Mamit, Saiha and Serchhip districts of Mizoram, continue sowing of khasi mandarin/acid lime. Continue transplanting of rice and sowing of *kharif* pulses like green gram, black gram and rajma.
- In Dhalai, North Tripura, South Tripura and West Tripura districts of Tripura, complete sowing maize. Continue land preparation and planting of banana. Undertake sowing of *Aman* rice.
- In Nagaland, spray neem oil 5ml/litre of water to control leaf eating caterpillars in cucurbits. For fruit fly in cucurbits, poison bait can be prepared with 250gm jaggery with Fenthion/ Dimethoate(Rogor) 20ml + 1 litre water can be kept in plastic bowls in bottle gourd/cucumber/cucurbit fields to check the fruit fly after current spells of rain.
- In Mizoram, apply 60 to 100 g of neem seed powder or neem cake against Comb weevil and stem weevil in banana after current spells of rain.
- In Tripura, temperature above 30°C with humidity over 80 percent is highly favorable fungal diseases like brown Spot, rice blast in the nursery bed of *Aman* rice. Excess of nitrogen aggravates the disease severity. To manage the attacks, apply Carbendazim+Mancozeb @ 2.5g per litre of water into the seedbed after current spells of rain.
- Suitable varieties for sowing are given in Annexure III.

❖ **Animal Husbandry**

- In Assam & Meghalaya, farmers are advised to keep animals in sheds during heavy rain fall period.
- In Assam, carry out immunizations against FMD, HS and BQ in cattle & buffaloes and swine-fever in pigs during monsoon season.
- In Meghalaya, to poultry provide coccidiostatic like Amprolium @ 25-65 mg/kg feed once a day as a preventive measure against coccidiosis and vaccinate the poultry birds with F1/Lasota vaccine (1 drop) at the age of 4-7 days old and 35 days old through eye and nostril against Ranikhet disease during the period.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]



Maize



Sugarcane



Land preparation/Sowing



Banana

- **Realised Rainfall:** Rainfall occurred in all districts of Konkan & Goa, in Ahnednagar and Nandurbar districts of Madhya Maharashtra, in Aurangabad, Beed, Jalna, Osmanabad and Parbhani districts of Marathwada and in Akola, Amraoti, Buldhana, Washim and Yeotmal districts of Vidarbha. Weather remained mainly dry over remaining districts of Maharashtra and over Gujarat State.

• **Advisories:**

- As rain/thundershowers likely at most places over Konkan & Goa and at most/many places over Vidarbha during the period and at many places over Madhya Maharashtra on 24th to 26th June, over Marathwada on 24th, 25th & 27th, over Gujarat Region on 26th and over Saurashtra & Kutch on 25th & 26th June, farmers are advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops.
- As heavy/heavy to very heavy rain likely at a few/isolated places over Konkan & Goa during the period with extremely heavy falls at isolated places on 26th and heavy rain at isolated places over South Gujarat on 26th June, provide adequate drainage in rice, ragi and vegetable nurseries in Konkan & Goa and in rice nurseries in South Gujarat.

▪ **Maharashtra:**

- In Konkan, in south Konkan region, farmers are advised to undertake preparation of main field for transplanting of rice seedling and undertake transplanting with 21-25 days old seedlings. Drain out excess water from rice field. Also give mechanical support to newly planted grafts/plants. Continue new planting of fruit crops like mango, cashew and sapota. Farmers are advised to give mechanical support to gourd crops. Also maintain proper drainage in vegetable crops like Bendi and Gawar. Undertake transplanting of chilli and brinjal.
- In Madhya Maharashtra, continue sowing of soybean in Kolhapur, Satara and Sangli district. Continue sowing of maize and soybean in Ahmednagar, Pune and Jalgaon districts Undertake land preparation for soyabean, red gram, green gram and onion in Nasik, Dhule and Nandurbar districts.
- In Marathwada, continue sowing of *kharif* soybean, cotton, tur and moong using optimum soil moisture condition in all districts of Marathwada. Continue nursery cultivation of *kharif* vegetable crops like brinjal, chilli and tomato in raised bed.
- In Vidarbha, continue nursery sowing of *kharif* rice in Gondia, Chandrapur, Gadchiroli districts. Continue sowing of *kharif* soybean, cotton, tur and moong in Buldana, Akola, Washim, Amravati and Yavatmal districts. Continue only land preparation for rice in Bhandara district.
- **Gujarat:**
 - Continue nursery sowing of *kharif* rice and ragi and undertake land preparation for sowing of cotton, groundnut and pulses in Navasari, Dangs and Valsad districts of South Gujarat Heavy Rainfall Zone.
 - Complete land preparation and undertake sowing of *kharif* crops like cotton, pigeon pea, sorghum etc. after receipt of sufficient monsoon rainfall in Bharuch, Surat, Narmada and Tapi districts of South Gujarat Zone.
 - Continue land preparation and undertake sowing of *kharif* cotton, groundnut, sesame, pigeon pea, soybean and castor after receipt of sufficient monsoon rainfall in Junagadh and Porbandar districts of South Saurashtra Zone.
 - Complete land preparation and undertake sowing of *kharif* crops like cotton, pearl millet, groundnut, green gram and *kharif* vegetable crops like tomato, brinjal and chilli after receipt of sufficient monsoon rainfall in Ahmedabad and Bhavnagar districts of Bhal and Coastal Zone.
 - Undertake land preparation for nursery sowing of rice, complete land preparation for sowing of ground nut, cotton, green gram, black gram, cowpea and pigeon pea in Anand, Dahod, Kheda, Panchmahals and Vadodara districts of Middle Gujarat Zone and undertake sowing after receipt of sufficient monsoon rainfall. Continue sowing of irrigated cotton with irrigation. Continue preparation of pits for new plantation of mango.
 - Continue land preparation, keep the seeds and other inputs ready for sowing and undertake sowing of *kharif* crops like pearl millet, groundnut, green gram, black gram, sesame, maize, castor etc. after receipt of sufficient monsoon rainfall in Banaskantha, Sabarkantha, Mehsana, Patan and Gandhinagar districts of North Gujarat Zone and Kutch district of North West Zone of Gujarat. Continue pre-sowing of irrigated *kharif* groundnut under assured irrigation facilities; continue gap filling in pre-sown groundnut and cotton; avoid irrigation in pre-sown *kharif* cotton and groundnut crops as rain is expected and complete threshing of harvested summer crops at the earliest and store the harvested produce in safe place. Continue picking of matured fruits of vegetable and fruit crops.
 - Continue pre-sowing of groundnut with irrigation. Continue land preparation for sowing of cotton, pearl millet, groundnut, green gram, black gram, cow pea, pigeon pea and sesame and undertake sowing after receipt of sufficient rainfall in Amreli, Jamnagar and Rajkot districts of North Saurashtra Zone. Keep the seeds and other inputs ready for sowing of *kharif* crops.
 - Decrease in temperature, high cloud cover and humidity is congenial for infestation of Sigatoga leaf spot in banana in South Gujarat Zone; spray Carbendazim @ 1 g/litre of water. To manage powdery mildew disease in creeper vegetables, spray the crop with Bavistin @ 1g dissolved in one litre of water.
 - Suitable varieties for sowing are given in Annexure I.
- ❖ **Animal Husbandry**
 - In Gujarat, keep animals indoors and keep fodder in safe place to avoid spoilage due to rainfall. Vaccinate animals against different diseases. Provide 6-8 kg good quality dry roughage with 15-20 kg green fodder to the animals.

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



Rice



Okra



Maize



Land preparation/Sowing

- **Realised Rainfall:** Rainfall occurred in all districts of Bihar except Bhojpur, Gopalganj, Monghyr, Sheohar and Siwan, in Bokaro, Deoghar, Dhanbad, Dumka, East Singbhum, Giridih, Jamtara, Koderma, Latehar, Pakur, Ramgarh, Simdega and West Singbhum district of Jharkhand, all districts of Odisha, all districts of Andman & Nicobar Islands, all districts

of Gangetic West Bengal except Howrah, Kolkata and North 24 Parganas, all districts of Sub-Himalayan West Bengal & Sikkim. Weather remained mainly dry over rest of the region.

• **Advisories:**

- As rain/thundershowers likely at most/many places over Andaman & Nicobar Islands during the period and over Sub-Himalayan West Bengal & Sikkim from 24th to 26th, at many places over Odisha on 24th, 27th & 28th; over Bihar on 24th June, 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 Sub-Himalayan West Bengal & Sikkim on 24th and 25th June, provide adequate drainage in standing crop fields.

▪ **Odisha:**

- In East and South Eastern Coastal Plain Zone, undertake nursery sowing of *kharif* rice in low lands and continue sowing of green manure crops and land preparation and sowing of pigeon pea utilizing the realized and expected rainfall. In uplands, continue land preparation planting of ginger and turmeric, sowing of maize, groundnut, sunflower, cotton etc. For green cob purpose, undertake sowing of high yielding varieties of maize like Navjot, Shakti, Decan-107, Decan-109.

- In Naupara and Kalahandi districts, continue nursery sowing of medium duration rice varieties in medium land and medium late duration varieties in low land. Undertake land preparation and sowing of cotton, maize and arhar utilizing the realized and expected rainfall.

- In Koraput and Nawarangpur districts, undertake land preparation for sowing of maize and other non paddy crops in upland condition and take up sowing as soon as monsoon rain occurs.

- In Mayurbhanj and Keonjhar districts, undertake land preparation in uplands for sowing of red gram, groundnut, and ragi.

- In Balasore, Bhadrak and Jajpur districts, undertake sowing of direct seeded rice in low lands. In Angul and Dhenkanal districts, undertake sowing of upland direct seeded rice after receipt of sufficient rainfall (cumulative 100mm). In Malkangiri district, undertake sowing of maize (vari.Navjot, Shakti, Decan-107, Decan-109)

- 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 gourd, 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, of Gangetic West Bengal, continue seedbed preparation 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 drainage channel to drain out the excess from the vegetables fields.

- In South 24 Parganas and East Midnapore districts in Coastal Saline Zone, undertake sowing of wet seeded long and medium duration *Aman* rice and collect seed of medium duration MTU-7029, MTU1001, Pratiksha etc. and for long duration CR1017, CR1018, Cr1019, Sabita etc. Before sowing apply urea @ 10kg/bigha, SSP @ 31kg/bigha and MOP@ 8kg/bigha as basal dose. Prepare pit for plantation of saplings of mango, guava and coconut.

- In West Midnapore and Bankura districts, complete land preparation for sowing of *Aman* rice in upland area. Apply 4.4kg Urea, 25kg SSP and 6.7kg MOP per bigha in the final land preparation. Treat the seed with Carbendazim @ 3g/kg seed before sowing and undertake nursery preparation in low land area.

- In Sub-Himalayan West Bengal, continue nursery preparation for *kharif* rice and planting of ginger and turmeric after current spells of heavy rain. In South Dinajpur and Malda district in Old Alluvial Zone, undertake land preparation for sowing of *Aman* rice and seedbed preparation for *kharif* onion.

- In Darjeeling district, undertake nursery bed preparation of rice, continue land preparation for new plantation of large cardamom. Proper drainage system should be maintained in the fields of cardamom and in Mandarin orange gardens to prevent water stagnation during heavy rain.

- In Gangetic West Bengal, weather is congenial for attack of powdery mildew in vegetables like sweet gourd. To control, apply Benomyl 50 % WP @ 0.5 g or Propiconazole 25 EC @ 0.75 ml per litre of water after current spells of rain. Also in the present weather situation, attacks of caterpillar and mite may be enhanced in jute. For caterpillar control, no need of spraying insecticide. Only collect the insects and burn. For control of mite, apply Monocrotophos @ 1.5 ml per litre of water and after one week again apply Propergite/Simba @ 1.5 ml per litre of water on a non rainy day.

- In South Dinajpur and Malda district in Old Alluvial Zone, in the prevailing weather condition, there is chance of hairy caterpillar may be seen in jute at vegetative stage. To control hairy caterpillar of jute, spray BT @ 1.5g/litre of water or NPV @ 2-4 ml/litre of water after current spells of rain.

▪ **Andaman and Nicobar Islands:**

- In North, Middle and South Andaman, keep open the field bund of rice nursery to remove excess water as heavy rainfall is expected.

- In Nocobar, raise the seedling of vegetable crops like cucurbit and solanaceous crops in the poly bag to avoid damage due to heavy rain and plant the seedlings in fields/backyard kitchen garden.

- **Bihar:**
 - In South Bihar Alluvial Zone, undertake sowing of cucurbits. Undertake sowing of Kharif fodder like Jowar, Bajra, Tetra Kalai, Dinanath. Complete the nursery sowing of *Kharif* onion.
 - In Saharsa, Purnia, Supaul and Araria districts in North East Alluvial Zone, undertake nursery raising for upland rice varieties up to 10th July and land preparation for transplanting of low land rice and sowing of kharif maize.
 - In Begusarai, Darbhanga, East Champaran, Gopalganj, Samastipur, West Champaran of North West Alluvial Plain Zone, continue nursery preparation of *kharif* paddy and *kharif* onion and continue sowing of ginger, turmeric, *kharif* maize, vegetables and green manuring crops like dhaincha, moong (green gram), senai.
 - In North East Alluvial Zone, prevailing weather is congenial for attack of Bihar hairy caterpillar in jute crop. To control, spray DDVP @ 2 ml/litre of water. To control fruit & shoot borer in brinjal and fruit borer in tomato, apply Emamectin Benzoate @ 1 g/3 litre of water. Undertake plant protection methods after current spells of rain.
- **Jharkhand:**
 - In Central and North Eastern parts of Jharkhand, continue land preparation and sowing of upland rice, groundnut, arhar and maize.
 - In Saraikela, East & West Singhbhum districts in South Eastern Plateau, undertake land preparation for timely sowing of direct seeded upland rice, maize and pigeon pea. Complete sowing of French bean, lady finger, bottle gourd, cucumber, ridge gourd and radish.
 - In Saraikela, East & West Singhbhum districts, seeds as sufficient moisture is available in the field, undertake sowing of groundnut.
 - In Western Plateau Zone, undertake nursery sowing of rice in raised beds, undertake 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 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 III.
- ❖ **Animal Husbandry**
 - In Old Alluvial Zone of West Bengal, undertake de-worming in proper dose to all live stock & poultry birds to control parasite load. Animals should be given nutritious feed containing vitamins and essential minerals.
 - In North, Middle and South Andaman, keep newly hatched chicks under comfortable warm condition up to 3 weeks of age to prevent mortality by providing electric bulb under confined shelter.
 - In North Alluvial Zone of Bihar, Vaccination of the animals must be followed by FMD, HS and BQ namely Trivac vaccine administered dose @ 2.5-3ml S/C per animal before onset and offset of the monsoon.
 - In North East Alluvial Zone, Provide vaccination against Anthrax, Black quarter and Galghontu disease to animals.

CENTRAL INDIA [M.P., CHHATTISGARH]



Land preparation/sowing

Rice nursery

Okra

Sugarcane

- **Realised Rainfall:** Rainfall occurred in all districts of West Madhya Pradesh except Barwani, Betul, Bhopal, Burhanpur, Guna, Jhabua, Khargwan, Neemuch and Sheopur, in Chhatarpur, Damoh, Dindori, Mandla, Panna, Sagar and Shahdol districts of East Madhya Pradesh, in Bastar, Dantewada, Dhamtari, Durg, Jashpur, Kowarda, Mahasamund, Narayanpur, Raipur and Rajnandgaon districts of Chhattisgarh. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at many places over West Madhya Pradesh on 27th & 28th, over East Madhya Pradesh on 24th, 25th, 27th and 28th June and over Chhattisgarh 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 rain is likely at isolated places over East Madhya Pradesh and South Chhattisgarh on 24th June, provide adequate drainage in crop fields to avoid water stagnation.
- **Madhya Pradesh:**
 - In East Madhya Pradesh, continue nursery sowing of rice. Undertake sowing of soybean and red gram utilising the realised and expected rainfall. In Chhindwara district, continue land preparation and sowing of maize, soybean, red gram and cotton.
 - In West Madhya Pradesh, undertake sowing of soybean and maize in Indore, Ujjain districts utilising the realised and expected rainfall. Continue nursery preparation for *kharif* vegetables
 - In Gwalior, Bhind, Morena, Shivpuri, Guna, Ashoknagar and Sheopur districts, continue nursery preparation of

rice. Undertake sowing of pearl millet, red gram, green gram and black gram utilising the realised and expected rainfall.

- In Khargaoan, Khandwa and Barwani districts, undertake nursery sowing of onion and chilli. Undertake sowing of soybean utilising the realised and expected rainfall.
- In Narsingpur and Hoshangabad districts, continue preparation of rice nursery and undertake sowing of *kharif* crops like, red gram, maize, soybean, sesame, groundnut utilising the realised and expected rainfall. Undertake sowing of bottle gourd and bitter gourd in polythene bags.
- In Bhopal, Vidisha, Raisen, Sehore, Sagar and Damoh districts, continue nursery preparation of rice and undertake sowing of red gram and soybean utilising the realised and expected rainfall.
- In Chhatarpur, Tikamgarh and Datia districts, continue seed bed preparation for sowing of *kharif* onion. Continue planting of ginger.
- In Jhabua, Alirajpur and Dhar districts, continue planting of turmeric and ginger. Undertake nursery sowing of rice. Undertake sowing of soybean, black gram and maize utilising the realised and expected rainfall. Continue nursery preparation for *kharif* vegetables, onion and cauliflower.
- In Grid Zone, due to humid weather, there are chances of attack of fruit borer in brinjal and okra, spray Dimethoate @ 1.5ml/litre of water after current spells of rain.
- In Jhabua Hill Zone due to humid weather there may be chances of attack of shoot and fruit borer in vegetables, spray Triazophos @ 2ml/litre of water after current spells of rain.

▪ **Chhattisgarh:**

- In North Chhattisgarh, continue nursery preparation for sowing of long duration varieties of rice. Continue land preparation for sowing/transplanting of *kharif* vegetables with realised and expected rainfall.
- In Central Chhattisgarh, continue line sowing of rice and nursery sowing of rice. Continue land preparation and sowing of red gram, soybean and maize.
- In South Chhattisgarh, continue nursery sowing of rice, line sowing of rice and sowing of tuber crops. Continue land preparation and sowing of soybean, groundnut and sesame.
- Suitable varieties for sowing are given in Annexure III.

❖ **Animal Husbandry**

- In Madhya Pradesh, provide adequate water and green fodder to animals. Vaccinate the cattle for control of FMD and HS disease.

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



Land preparation/sowing

Sugarcane

Rice nursery

Okra

- **Realised Rainfall:** Rainfall occurred in Jammu, Kathua, Rajouri, Reasi, Samba, Udhampur districts of Jammu & Kashmir, in Bilaspur, Hamirpur, Kangra, Mandi, Shimla, Sirmaur, Una, Solan districts of Himachal Pradesh, in all districts of Uttarakhand, in Gurudaspur, Ropar districts of Punjab, in Chandigarh, Yamunanagar districts of Haryana, in south Delhi district of Delhi, in all districts of East Uttar Pradesh except Balrampur, Barabanki, Basti, Chandauli, Deoria, Faizabad, Farrukhabad, Hardoi, Kanpur city, Kanpur dehat, Kushinagar, Raibarelli, Sant kabir nagar, Sidharthnagar, Sitapur, Sonbhadra, Sultanpur, in Auria, Badaun, Bijnor, Etawah, Firozabad, Jotiba Phule Nagar, Kanshiramnagar, Lalitpur, Meerut, Moradabad, Rampur, Saharanpur districts of West Uttar Pradesh, in Bundi, Jhalawar districts of East Rajasthan. Weather remained mainly dry over rest of the region.

• **Advisories:**

- As Rain/snow would occur at most/many places over Uttarakhand from 25th to 28th and over Himachal Pradesh from 26th to 28th. Rain/thundershowers would occur at most/many places over East Uttar Pradesh during the period, at many places over West Uttar Pradesh from 26th to 28th, over Haryana, Chandigarh & Delhi on 27th and 28th, over Punjab on 28th and over East Rajasthan on 27th and 28th June, it is advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. As heavy rain is likely at isolated places over East Uttar Pradesh on 24th June, provide adequate drainage in crop fields to avoid water stagnation.
- As thunderstorm accompanied with squall very likely at isolated places over West Uttar Pradesh and East Rajasthan on 24th June, it is advised to provide support to young fruit plants, staking in vegetables and propping in sugarcane to prevent the crops from lodging due to strong winds. Keep harvested produce at safe places.

▪ **Jammu & Kashmir:**

- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, undertake transplanting of rice in the main field and sowing of maize.
- In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, continue transplanting of rice seedlings at 4-6 leaf stage in the main fields. Continue sowing of maize. Make arrangement for draining out excess water from the fields to protect the crops from water logging. Continue sowing of pole type beans during the week.
- In Srinagar, Badgam, Kupwara and Baramulla districts of Valley Temperate Zone, complete transplanting of paddy in the main fields. Open drainage channels to avoid water stagnation in maize, pulses and saffron fields.
- In Leh and Kargil districts of Cold Arid Zone, complete transplanting of onion, vegetables like celery, parsley and leek and transplanting of tomato, capsicum and chilli in the lower belts of the districts. Complete direct sowing of cucurbits under greenhouses and trenches and radish, carrot, beet root, coriander and fenugreek.
- 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 field. Apply foliar spray of Carbendazim @ 1 gm/litre of water on clear sunny day. Repeat the foliar spray after 7 - 10 days with copper oxychloride @ 2 gm/litre of water on clear sunny day to prevent the crop from soft rot.

▪ **Uttarakhand:**

- In Nainital district of Bhabar and Tarai Zone, continue transplanting of rice and sowing of urad and green gram. Continue nursery sowing of short duration varieties of cabbage, cauliflower, Knol-Khol and broccoli during this month. Complete sowing of beans (Rajma) and horse gram (Gahat) by end of this month.
- In Udhampur district of Bhabar and Tarai Zone, undertake transplanting of early maturing dwarf varieties of paddy. Continue sowing of groundnut till the end of June. Undertake sowing of soybean after treating seed with Rhizobium. Undertake sowing of rainy season okra, radish and prepare the nursery for rainy season chilli. Undertake sowing of radish up to the end of June.
- In Dehradun, Pauri and Haridwar districts of Sub Humid Sub Tropic Zone, undertake land preparation for transplanting of long duration varieties of rice.
- In Tehri Garhwal, Uttarkashi, Chamoli, Rudrapur, Pithoragarh, Bageshwar, Champawat and Almora district of Hill Zone, continue transplanting of irrigated paddy with seedlings of two three leaves stage. Continue transplanting of cauliflower, cabbage and postpone sowing of finger millets and maize till weather gets clear. Drain out excess water from vegetable fields.
- In Udhampur district, there may be incidence of leaf blight disease in summer maize, mung, cow pea, tomato and chilli, spray the Mancozeb 75% WP @ 2.5-3g/litre of water to control the disease after current spells of rain.

▪ **Himachal Pradesh:**

- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, continue nursery sowing of rice and sowing of maize after rain. Complete sowing of baby corn. Continue sowing of *kharif* pulses mung, mash and Kulthi. Continue sowing of cluster bean, daincha, senai, lobia for green manuring. In high hilly region undertake intercultural operations in peas, turnip, carrot, palak. Complete sowing of French bean, oola in high hills regions. In mid hill areas complete direct sowing & transplanting of tomato, brinjal, chilli and capsicum. Continue sowing of cucurbits such as cucumber, bitter melon, bottle gourd and summer squash, ageti okra, French bean and radish. Continue sowing 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 Sub-Montane and Low Hills Sub-Tropical Zone, prevailing weather is conducive for attack of red pumpkin beetle in cucurbitaceous crops, for control spray Dichlorvos 76 EC (DDVP) @ 1 ml per litre of water on a non rainy day.
- In Mild Hills Sub-Humid Zone, prevailing weather is conducive for attack of aphid in pomegranate, for control spray Emidacloprid @ 60 ml per 200 litres of water after current spells of rain.
- In High Hills Temperate Dry Zone of Himachal Pradesh, in Kinnaur, Lahaul & Spiti districts weather is conducive for attack of cut worm in cauliflower, for control spray Chlorpyrifos @ 2.5 ml per litre of water after current spells of rain.
- In Mid Hills Sub-Humid Zone, Bilaspur, Shimla, Sirmaur, Solan districts, weather is conducive for attack of leaf spot in strawberry, for control, spray Hexaconazole or Carbendazim @ 100 g in 200 litres of water after current spells of rain.

▪ **Rajasthan:**

- In East Rajasthan, Bhilwara, Chittorgarh, Rajsamand, Sirohi, Udaipur districts, undertake land preparation for sowing of groundnut and maize and continue nursery sowing of brinjal, tomato, rainy onion, cauliflower and chilli with expected rainfall.
- In Dungarpur and Banswara districts, undertake land preparation for sowing of cotton in irrigated areas.
- In Alwar, Bharatpur, Dhaulpur, Karauli, Sawaimadhopur districts of Flood Prone Eastern Plain Zone, undertake land preparation for sowing of sorghum and pearl millet. In Jaipur, Ajmer, Tonk and Dausa districts, continue preparatory tillage for sowing of pearl millet, sorghum, maize, green gram, cowpea, moth and for sowing of khira,

- bottle gourd, ridge gourd, bitter gourd, cucumber & cluster bean. Continue nursery preparation of kharif onion.
- In Jaisalmer and Bikaner districts of Arid Western Plain Zone, continue preparatory tillage for sowing of bajra, groundnut, American cotton, jeera, bhindi and green fodder crops.
- In Sriganagar and Hanumangarh in Irrigated North Western Plain Zone, continue land preparation for sowing of groundnut, cotton and guar and nursery sowing of rice under irrigation..
- In Arid Western Plain Zone, prevailing weather condition is congenial for attack of sap sucking pest in vegetable crops at fruiting and flowering stage for control spray Malathion 50 EC @ 1 ml per litre of water.
- In Flood Prone Eastern Plain Zone, prevailing weather condition is congenial for attack of fruit fly in cucurbits, for control spray Malathion 50 EC @ 15 ml per 10 litres of water at 15 days interval after current spells of rain.
- In Semi-Arid Eastern Plain Zone, prevailing weather condition is congenial for attack of leaf curl & mosaic virus in chilli at flowering stage, for control uproot & burn affected plant, spray Dimethoate 30 EC @ 1 ml per litre water after current spells of rain.
- In Irrigated North Western Plain Zone, prevailing weather condition is congenial for attack of white fly in BT and Narma cotton for control spray mixture of Nimbesidin + Taral soap 5 ml @ 1 ml per litre of water.
- In Irrigated North Western Plain Zone, prevailing weather condition is congenial for attack of stem borer or pyrilla in sugarcane for control apply Furadan granules 3 % @ 6 kg per bhiga.
- **Punjab, Haryana and Delhi:**
- In Punjab, undertake transplanting of rice and in Fazilka, Ferozepur and Faridkot districts and undertake nursery of short duration varieties and complete sowing of cotton. Continue sowing of okra, maize and planting of sugarcane. Continue transplanting of chilli and cucurbits on the ridges.
- 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 and undertake transplanting of paddy, nursery of short duration varieties and sowing of fodder crops.
- In Gurdaspur district of Punjab, undertake transplanting of rice and continue sowing of maize.
- In Western Zone of Haryana, undertake transplanting of rice, continue sowing of green gram and black gram. Complete the direct sowing with certified seeds of leafy vegetables, bottle gourd, cucumber, ridge gourd summer radish. Continue sowing of arhar and complete the sowing of fodder crops such as bajra, guar, lobia, sudan and napiar grass.
- In Eastern zone of Haryana, undertake transplanting of rice and continue sowing of fodder crops such as guwar, maize, bajra, cluster bean.
- In Western Semi-Arid Zone of Delhi, continue field preparation for sowing of maize, pigeon pea 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.
- In Undulating Plain Zone of Punjab, due to prevailing weather condition, there may be chances of attack of spotted bollworm in Bhindi and fruit rot in chilli. Apply Sumicidin 20 EC (Fenvalerate) @ 100ml in 250 litres of water for spotted bollworm and for fruit rot, spray Indofil M45/Blitox 750g in 250 litres of water/acre at 10 days interval on a non rainy day.
- 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 on a non rainy day.
- 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 on a non rainy day.
- **Uttar Pradesh:**
- In Central Plain Zone of East Uttar Pradesh, continue nursery sowing of paddy in irrigated area and land preparation for nursery sowing of paddy. Continue land preparation and sowing of arhar, jowar, bajra, maize, urad, mung, sesame, planting of sugarcane. Continue land preparation and sowing of cowpea, maize, garlic, turmeric, ginger and sunhemp, lobia and dhaincha for green manuring. Undertake nursery sowing of early mature varieties of brinjal, chilli, cauli flower and sowing of bhindi, lobia, louki, torai and tinda. Continue nursery sowing of brinjal and *kharif* onion and sowing of groundnut branching varieties and soybean.
- In Eastern Plain Zone of Uttar Pradesh, continue direct sowing of rice and sowing of maize, urad and arhar.
- In Western Plain Zone of Uttar Pradesh, undertake land preparation for sowing of maize. Continue nursery sowing of paddy and sowing of pigeon pea. Continue transplanting of tomato, chilli and sowing of bhindi, cucurbits and sowing of sunflower, urad, mung.
- In Bundelkhand Zone of West Uttar Pradesh, undertake land preparation for sowing of *kharif* crops. Continue nursery sowing of rice in irrigated areas and transplanting of cabbage, cauliflower, tomato, brinjal and chilli.
- In Central Plain Zone of East Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of fruit borer/leaf sheath in vegetables, for control, spray Neem oil @ 1.5 ml to 2 ml per litre of water, 3 to 4 times at 8 to 10 days of intervals after current spells of rain.
- In Western Plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of blast and brown spot in paddy nurseries, for control, spray Carbendazim @ 2.0 gram per litre of water after current spells of rain.

- Suitable varieties for sowing are given in Annexure III.
- ❖ **Horticulture:**
- In Bhilwara, Chitorgarh, Rajsamand, Sirohi, Udaipur districts, undertake planting of papaya seedlings in fields.
- In Alwar, Bharatpur, Dhaulpur, Karauli, Sawaimadhopur districts of Flood Prone Eastern Plain Zone, undertake digging of pit for new plantation of pomegranate, aonla.
- In Semi-Arid Eastern Plain Zone of Rajasthan, there may be chances of attack of bark eating caterpillar in Mango, Ber & Guava, for control spray Malathion 50 EC @ 1 ml In per litre of water after current spells of rain.
- In Irrigated North Western Plain Zone of Rajasthan, there may be fruit drops in kinnow fruits, for control spray mixture of Propineb 70 WP @ 2 g and Gibbrellic acid @ 20 mg in 1 litre of water 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 mango hopper and mealy bug in mango trees for control spray mixture of 0.2 % Emidacloprid @ 400 ml and 0.2 % Carbendazim @ 400 g per 200 litres of water per 20 plants on a non rainy day.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts,, weather is conducive for attack of fruit borer in litchi, for control spray Cypermethrin 10 EC @ 1 ml per litre of water on a non rainy day and repeat at 15 days of interval.
- Keeping in view chances of rainfall in coming days in Rajouri, RambanPoonch and Udhampur districts of Intermediate Zone, farmers are advised to postpone irrigation to the fruit plants for at least 4 – 5 days.
- ❖ **Animal Husbandry**
- In Valley Temperate Zone of Jammu and Kashmir, farmers are advised to vaccinate sheeps and goats against Enterotoxaemia (ETV vaccine 2ml/sub cut) and FMD (FMD vaccine 1ml/Intra muscular).
- 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, livestock needs to be dewormed against strongyles in plain areas of Jammu. Provide adequate amount of fresh cool and clean drinking water. Plant shady trees around the sheds. Provide water bath 3-4 times in a day. Sprinkle water in sheds to reduce heat stress. Increase protein content in animal ration by 2%. Mineral mixture should be supplemented in diet. Give vaccination against FMD.
- ❖ **Floriculture**
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, Complete pinching and staking in carnation. Undertake transplanting of marigold seedling in fields for summer crop and earthing up operation in gladiolus and disbudding in carnation.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, weather is conducive for attack of fruit borer in litchi, for control spray Cypermethrin 10 EC @ 1ml per litres of water on a non rainy day after 15 days of intervals.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, weather is conducive for attack of Thrips in marigolds, for control spray Malathion @ 1ml per litres of water on a non rainy day.
- In Valley Temperate Zone of Jammu & Kashmir, complete planting of liliium, gladiolus and dahlia. Complete sowing of seeds for summer annuals nursery at the earliest.
- In Sub Tropical Zone of Jammu and Kashmir, postpone transplanting of the seedlings of rainy seasonal annuals (gaillardia, balsam, cosmos, portulaca, kochia, sunflower, morning glory, gomphrena, celosia etc.) till weather gets clear.
- ❖ **Agroforestry**
- Undertake Nursery sowing of medicinal plants viz. aswagandha, tulsi, digitalis, janglibhindi and agarkara.
- ❖ **Apiculture**
- In Himachal 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. Keep the colonies in shady places and sprinkle water if possible to reduce the heat as temperature rising high in the region.

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

Week by week Rainfall Distribution

Sub-Divisions	08.06.16		15.06.16		22.06.16	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
Arunachal Pradesh						
Anjaw	**	**	**	**	**	**
Changlang	36.1	-65	71.5	-47	85.7	-31
Dibang Valley	**	**	**	**	**	**
East Kameng	23.4	-63	30.5	-64	53.5	-40
East Siang	5.7	-95	91.3	-49	312.4	57
Kurung Kumey	**	**	**	**	**	**
Lohit	32.1	-55	83.1	-21	98.5	-9
Lower Dibang Valley	10.8	-80	139.0	57	201.4	88
Lower Subansari	**	**	**	**	**	**
Papumpare	29.3	-81	156.4	25	322.8	132
Tawang	14.0	-89	94.0	-41	112.0	-31
Tirap	68.0	-39	79.8	-39	114.2	-34
Upper Siang	124.4	-27	161.0	-19	311.8	28
Upper Subansari	132.4	185	73.0	69	99.4	147
West Kameng	17.8	-86	190.0	20	43.6	-73
West Siang	40.0	-22	87.8	-33	138.2	27
Assam&Meghalaya						
Assam						
Baksa	57.0	-65	57.3	-66	178.8	7
Barpeta	45.4	-72	86.7	-49	155.3	-7
Bongaigaon	92.2	-36	34.8	-78	200.6	37
Cachar	82.7	-33	63.0	-48	79.9	-37
Chirang	62.6	-57	262.2	66	192.8	32
Darrang	**	**	**	**	**	**
Dhemaji	0.0	-100	**	**	**	**
Dhubri	48.3	-67	173.2	30	138.7	-20
Dibrugarh	15.8	-79	75.6	-16	69.0	-31
Goalpara	30.7	-76	59.6	-51	90.6	-37
Golaghat	20.5	-55	50.6	-19	117.1	80
Hailakandi	100.1	-16	111.0	1	92.5	-16
Jorhat	51.6	0	58.7	-26	134.7	105
Kamrup(Rural)	22.0	-71	127.3	50	112.5	16
Kamrup(Metro)	34.6	-54	39.3	-54	231.7	139
Karbi Anglong	14.2	-66	7.1	-86	44.3	-36
Karimganj	117.1	-5	47.1	-74	142.2	-10
Kokrajhar	73.5	-56	141.6	-26	173.7	-11
Lakhimpur	32.0	-73	166.1	51	164.2	21
Morigaon	25.0	-51	153.4	155	42.1	-53
N.C.Hills	51.0	-39	52.8	-44	35.0	-59
Nagaon	13.3	-77	30.5	-53	73.4	-9
Nalbari	33.8	-71	62.5	-57	162.9	-5
Sonitpur	13.5	-83	66.3	-24	42.5	-50

Sibsagar	13.9	-69	59.7	-5	77.1	25
Tinsukia	9.4	-87	66.9	-27	52.0	-46
Udalgiri	13.2	-83	41.2	-61	69.2	-45
Meghalaya						
East Garo Hills	41.2	-62	49.8	-63	183.2	3
East Khasi Hills	57.6	-80	191.3	-47	416.0	5
Jaintia Hills	5.0	-98	1.0	-99	14.0	-97
Ribhoi	65.1	31	64.8	-7	35.0	-63
South Garo Hills	0.0	-100	29.0	-74	22.0	-83
West Garo Hills	23.8	-80	121.4	10	123.8	-6
West Khasi Hills	**	**	**	**	75.0	-45
NMMT						
Mizoram						
Aizwal	125.0	22	84.6	-28	110.2	-1
Champhai	**	**	**	**	**	**
Kolasib	**	**	**	**	**	**
Lawngtlai	**	**	**	**	**	**
Lunglei	**	**	**	**	**	**
Mamit	**	**	**	**	**	**
Saiha	176.0	117	192.0	120	120.0	28
Serchhip	**	**	20.7	-78	53.4	-52
Manipur						
Bishnupur	**	**	**	**	**	**
Chandel	15.0	-87	12.0	-92	0.0	-100
Churachandpur	**	**	**	**	**	**
Imphal east	7.4	-90	59.1	-46	26.2	-72
Imphal west	58.3	-9	231.4	155	120.0	23
Senapati	**	**	**	**	**	**
Tamenglong	**	**	**	**	**	**
Thoubal	18.0	-80	18.0	-85	22.0	-64
Ukhrul	0.0	-100	**	**	**	**
Nagaland						
Dimapur	10.0	-81	29.7	-57	112.0	123
Kephire	**	**	**	**	**	**
Kohima	23.8	-62	39.7	-53	**	**
Longleng	**	**	**	**	**	**
Mokokchung	**	**	**	**	**	**
Mon	**	**	**	**	**	**
Paren	**	**	**	**	**	**
Phek	35.0	-44	78.0	-7	47.0	-36
Tuensang	**	**	**	**	**	**
Wokha	4.0	-93	0.0	-100	**	**
Zunheboto	**	**	**	**	**	**
Tripura						
Dhalai	66.6	-45	1.0	-99	47.4	-60
NorthTripura	58.1	-52	76.7	-41	74.5	-29
SouthTripura	33.4	-64	98.9	-22	14.1	-87
West Tripura	51.3	-50	41.5	-63	9.2	-91
Himachal Pradesh						

Bilaspur	40.0	228	57.5	143	32.7	51
Chamba	17.2	70	16.6	-42	28.3	1
Hamirpur	16.9	18	45.2	91	47.1	25
Kangra	10.8	-18	22.2	-17	50.1	85
Kinnaur	0.1	-98	0.4	-97	0.8	-91
Kullu	5.7	-49	10.1	-49	24.1	-7
Lahaul and Spiti	2.3	-78	2.2	-84	0.0	-100
Mandi	39.2	108	20.9	-33	75.5	150
Shimla	21.3	30	20.9	-7	35.6	34
Sirmaur	36.4	180	22.5	-5	72.9	123
Solan	51.4	194	103.2	309	71.6	157
Una	12.1	27	45.4	254	31.7	178
Punjab						
Amritsar	0.0	-100	9.5	-12	16.0	54
Barnala	0.0	-100	18.0	131	0.0	-100
Bhatinda	0.0	-100	11.2	36	0.0	-100
Faridkot	0.0	-100	10.2	48	0.0	-100
Fatehgarh Saheb	2.0	-55	4.7	-48	14.0	73
Ferozpur	0.0	-100	1.0	-81	0.0	-100
Gurdaspur	0.7	-88	8.9	-8	36.8	179
Hoshiarpur	1.2	-83	10.4	-37	21.6	45
Jalandhar	0.0	-100	6.1	-35	3.1	-72
Kapurthala	0.3	-94	16.0	111	4.4	-21
Ludhiana	0.8	-86	4.9	-48	5.6	-53
Mansa	0.0	-100	12.0	74	0.0	-100
Moga	0.0	-100	6.6	6	0.0	-100
Muktesar	0.0	-100	0.0	-100	0.0	-100
Nawashahar	1.8	-64	18.6	-15	14.6	0
Patiala	4.4	-22	3.3	-67	0.9	-92
Ropar	15.0	159	46.8	246	45.5	325
Sangrur	0.0	-100	41.3	262	0.0	-100
Mohali	15.0	400	3.0	-80	23.0	45
TarnTaran	0.0	-100	0.0	-100	16.0	158
Haryana,Chd,Delhi						
Haryana						
Ambala	17.4	19	6.5	-65	14.0	-49
Bhiwani	0.3	-94	13.0	41	1.8	-54
Chandigarh	2.8	-76	20.8	-8	55.9	78
Faridabad	0.0	-100	33.6	860	2.7	-81
Fatehabad	0.0	-100	4.7	-26	0.0	-99
Gurgaon	0.0	-100	9.8	96	2.8	-68
Hissar	0.2	-96	47.4	559	0.0	-100
Jhajar	0.0	-100	28.0	306	0.6	-91
Jind	0.0	-100	6.1	-37	13.7	55
Katihah	0.0	-100	6.0	-35	0.8	-93
Karnal	0.2	-97	5.2	-48	2.0	-88
Kurukshetra	2.3	-64	2.8	-82	0.0	-100
Mahendragarh	0.0	-100	23.1	146	5.3	-29
Mewat	3.8	36	5.4	10	5.2	-21

Palwal	0.0	-100	1.8	-64	0.0	-100
Panchkkula	3.3	-74	9.8	-42	28.3	20
Panipat	0.0	-100	8.2	8	6.4	-48
Rewari	0.0	-100	31.5	443	2.6	-59
Rohtak	0.0	-100	10.5	9	2.0	-78
Sirsa	3.0	11	4.0	-35	0.8	-90
Sonepat	0.0	-100	8.6	-9	16.6	38
Yamunanagar	15.9	1	24.3	18	42.5	40
Delhi						
Central Delhi	0.0	-100	6.0	-44	4.0	-73
East Delhi	0.0	-100	1.0	-91	2.0	-86
New Delhi	0.0	-100	1.6	-85	9.8	-33
North Delhi	0.0	-100	14.9	38	10.5	-28
North East Delhi	1.0	-78	5.0	-54	4.0	-73
North West Delhi	0.5	-89	26.7	147	6.5	-55
South Delhi	0.0	-100	7.1	-35	33.1	127
South West Delhi	2.0	-56	17.1	58	10.1	-31
West Delhi	**	**	12.0	11	1.0	-93
Jammu & Kashmir						
Anantnag	6.8	-49	12.7	-34	6.7	-7
Badgam	13.8	97	2.6	-80	2.6	-35
Bandipore	**	**	**	**	**	**
Baramula	0.1	-99	12.6	-45	12.2	5
Doda	8.9	7	1.4	-93	25.9	198
Ganderbal	2.8	-67	8.3	-31	2.4	-31
Jammu	0.0	-100	25.5	124	91.9	800
Kargil	**	**	**	**	**	**
Kathua	1.9	-68	26.6	186	62.8	437
Kistwar	**	**	**	**	**	**
Kulgam	0.0	-100	3.4	-82	2.8	-61
Kupwara	3.1	-76	1.0	-93	18.5	225
Ladakh(Leh)	0.0	-100	1.8	200	0.6	20
Poonch	**	**	**	**	**	**
Pulwama	3.2	-56	1.6	-88	1.5	-64
Rajouri	6.2	-23	23.2	121	71.0	777
Ramban	0.9	-90	35.6	77	8.8	1
Reasi	0.0	-100	14.4	-18	64.4	248
Samba	0.0	-100	8.1	-29	80.9	693
Shopian	**	**	**	**	**	**
Srinagar	15.6	81	0.0	-100	1.4	-59
Udhampur	0.0	-100	10.5	-40	58.0	214
East Madhya Pradesh						
Anuppur	0.0	-100	15.4	-49	28.6	-46
Balaghat	3.7	-71	4.7	-80	17.7	-67
Chhatarpur	0.1	-99	8.2	-13	31.6	23
Chindwara	4.2	-74	14.6	-44	25.3	-38
Damoh	0.0	-100	0.5	-96	31.9	-10
Dindori	1.6	-87	0.0	-100	32.3	-47

Jabalpur	0.5	-96	1.6	-90	11.4	-68
Katni	0.6	-94	54.0	306	7.6	-76
Mandla	16.0	40	6.0	-71	35.7	-8
Narsingpur	0.0	-100	1.8	-89	5.6	-84
Panna	0.0	-100	2.7	-69	78.2	164
Rewa	0.0	-100	2.0	-83	15.4	-49
Sagar	0.0	-100	4.3	-74	31.6	-21
Satna	3.4	-49	0.0	-100	15.0	-55
Seoni	1.1	-89	2.1	-92	8.8	-85
Shahdol	1.0	-90	14.0	20	66.0	81
Sidhi	9.6	-47	1.0	-94	25.0	-11
Singrauli	2.0	-61	9.2	-50	19.8	-28
Tikamgarh	0.0	-100	13.5	44	16.0	-16
Umaria	4.8	-63	38.2	134	16.0	-48
West Madhya Pradesh						
Agar	0.0	-100	0.0	-100	83.3	12
Alirajpur	0.0	-100	0.0	-100	31.3	42
Asoknagar	0.0	-100	0.0	-100	37.3	78
Badwani	0.0	-100	0.0	-100	20.9	-15
Betul	15.8	48	0.0	-100	25.9	-34
Bhind	0.8	-85	1.8	-66	55.9	366
Bhopal	21.1	109	0.0	-100	13.8	-60
Burhanpur	0.0	-100	0.0	-100	10.8	-73
Datia	0.0	-100	0.0	-100	62.9	334
Dewas	1.3	-90	5.7	-73	52.5	47
Dhar	0.0	-100	0.0	-100	51.6	39
Guna	0.0	-100	1.8	-85	21.8	-1
Gwalior	0.0	-100	4.0	-61	33.2	110
Harda	0.0	-100	0.0	-100	46.6	30
Hosangabad	10.9	-4	5.5	-71	54.4	54
Indore	0.0	-100	0.0	-100	75.6	116
Jhabua	0.0	-100	0.0	-100	13.2	-54
Khandwa	0.0	-100	0.0	-100	47.0	36
Khargone	1.4	-90	0.0	-100	25.8	-24
Mandsaur	0.0	-100	0.0	-100	56.0	130
Morena	0.0	-100	20.5	205	61.3	552
Neemuch	0.0	-100	0.0	-100	16.3	-23
Raisen	0.0	-100	6.8	-64	79.9	123
Rajgarh	0.0	-100	0.0	-100	37.7	45
Ratlam	0.0	-100	0.0	-100	60.1	163
Sehore	6.8	-44	0.0	-100	96.9	183
Shajapur	0.0	-100	0.5	-97	77.0	182
Sheopur Kalani	0.0	-100	26.2	232	18.0	9
Shivpuri	0.0	-100	5.8	-33	46.6	136
Ujjain	0.0	-100	0.0	-100	32.6	17
Vidisha	0.0	-100	1.8	-88	44.9	52
Chhattisgarh						
Bastar	31.5	51	26.5	-18	50.3	-14

Bijapur	60.8	508	0.0	-100	5.7	-92
Bilaspur	0.6	-95	24.4	-9	12.7	-75
Dantewara	61.3	323	21.8	-28	63.8	18
Dhamtari	14.0	63	20.4	-22	53.6	17
Durg	13.9	-9	7.4	-74	41.1	-8
Janjgir	0.0	-100	0.1	-99	6.9	-86
Jashpurnagar	26.8	-17	13.5	-70	61.1	-1
Kanker	2.3	-81	21.7	-11	20.6	-65
Korba	14.0	30	6.5	-80	8.8	-84
Koriya	0.0	-100	3.1	-85	13.0	-73
Kawardha	2.4	-74	2.0	-91	45.8	-4
Mahasumund	2.7	-85	18.1	-33	46.2	-16
Narayanpur	55.4	204	28.0	-4	31.2	-47
Raigarh	6.9	-55	0.1	-99	9.8	-80
Raipur	7.1	-46	16.1	-47	35.9	-26
Rajnandgaon	1.6	-85	9.3	-60	39.5	-27
Surguja	3.8	-78	1.0	-97	8.6	-83
East Uttar Pradesh						
Allahabad	0.0	-100	0.4	-97	44.6	170
Ambedkar Nagar	0.0	-100	0.0	-100	34.0	44
Azamgarh	40.9	205	0.0	-100	57.9	209
Bahraich	10.4	-36	17.2	-30	31.3	-12
Ballia	4.5	-60	6.2	-73	30.7	3
Balrampur	3.4	-82	3.7	-77	26.3	-40
Banda	9.1	-9	1.2	-85	32.6	83
Barabanki	6.3	-44	6.6	-72	29.1	53
Basti	28.4	39	32.3	102	7.0	-78
Chandauli	8.0	18	0.0	-100	2.0	-90
Deoria	0.0	-100	5.5	-76	18.6	-40
Faizabad	23.1	53	19.9	21	4.9	-84
Farrukhabad	0.0	-100	4.5	-37	23.5	85
Fatehpur	1.4	-84	0.0	-100	36.8	167
Gazipur	21.6	122	0.0	-100	48.8	98
Gonda	27.2	59	22.6		42.1	37
Gorakhpur	10.2	-62	19.4	-27	33.0	-26
Hardoi	3.1	-66	6.2	-37	17.8	13
Jaunpur	6.1	-49	0.3	-98	42.7	143
Kannauj	0.0	-100	1.0	-80	37.4	256
Kanpur City	2.3	-63	0.5	-89	29.2	138
Kanpur Dehat	0.0	-100	0.3	-90	11.6	-17
Kaushambi	0.0	-100	0.0	-100	63.1	344
Kheri	16.1	12	30.0	34	46.8	42
Kushi nagar	44.5	67	11.0	-73	2.0	-96
Lucknow	0.0	-100	7.5	-14	53.9	231
Maharajganj	6.3	-82	28.0	-30	50.3	9
Mau	13.5	-2	0.0	-100	47.5	75
Mirzapur	24.5	198	1.0	-92	39.4	76
Pratapgarh	2.7	-67	0.0	-100	45.0	166
RaiBareilly	1.6	-80	1.3	-84	9.0	-40

Sahuji Maharaj nagar	0.0	-100	0.0	-100	78.0	400
Sant Kabir nagar	87.0	307	31.0	73	13.0	-67
Sant Ravidas Nagar	6.0	-12	0.0	-100	77.0	277
Shrawasti	49.0	201	43.6	78	34.7	-2
Sidharth nagar	10.3	-48	14.8	-33	11.6	-71
Sitapur	1.6	-86	11.0	-41	24.9	3
Sonbhadra	4.1	-60	3.4	-85	16.8	-46
Sultanpur	7.3	-5	1.5	-88	12.5	-31
Unnao	0.5	-94	0.5	-94	93.9	476
Varanasi	16.0	116	0.0	-100	81.4	342
West Uttar Pradesh						
Agra	1.1	-74	8.0	47	10.2	-1
Aligarh	0.0	-100	1.6	-71	15.8	61
Auraiya	0.0	-100	2.1	-78	39.5	339
Badaun	0.0	-100	4.6	-34	45.4	229
Baghpat	0.0	-100	5.2	13	8.7	-19
Bareilly	11.4	-19	10.0	-18	28.0	29
Bijnor	28.0	126	3.5	-77	73.2	398
Bulandshahr	0.0	-100	9.4	51	22.7	86
Etah	0.0	-100	2.7	-44	24.3	134
Etawah	0.0	-100	0.3	-96	48.7	382
Firozabad	0.0	-100	0.0	-100	46.1	442
GBNagar	0.0	-100	1.0	-63	0.0	-100
Ghaziabad	0.0	-100	0.8	-88	28.8	193
Hamirpur	0.0	-100	2.3	-46	16.5	5
Jalaun	2.4	-53	4.4	-21	29.9	138
Jhansi	0.0	-100	1.5	-80	22.0	45
Jotiba Phule Nagar	0.0	-100	0.0	-100	45.0	321
Kanshiramnagar	0.0	-100	0.0	-100	106.0	1004
Lalitpur	0.0	-100	8.5	-23	70.5	330
Mahamaya Nagar	0.0	-100	7.5	88	15.5	58
Mahoba	0.0	-100	0.0	-100	12.0	21
Mainpuri	0.0	-100	0.0	-100	13.6	32
Mathura	0.0	-100	2.5	-36	0.6	-93
Meerut	0.0	-100	0.9	-86	41.2	157
Moradabad	6.3	-57	11.1	8	63.4	199
Muzzaffarnagar	0.5	-95	0.0	-100	16.0	25
Pilibhit	7.7	-63	1.7	-87	24.4	17
Rampur	9.2	-51	11.4	-36	36.6	50
Saharanpur	7.3	-43	0.0	-100	35.3	50
Shahjahanpur	0.0	-100	0.0	-100	3.4	-81
Uttarakhand						
Almora	10.3	-51	11.0	-55	72.3	130
Bageshwar	25.8	22	37.3	54	81.7	160
Chamoli	16.9	6	22.0	14	88.6	217
Champawat	10.7	-65	19.7	-35	67.8	43
Dehradun	24.3	26	25.9	-12	50.9	8
Garhwal Pauri	7.3	-58	22.0	55	43.9	95

Garhwal Tehri	4.0	-78	22.5	-12	38.3	30
Haridwar	44.0	267	15.1	-23	75.3	145
Nainital	19.5	-30	74.9	141	90.5	80
Pithorgarh	21.0	-48	42.3	-35	62.9	-22
Rudraprayag	75.7	228	28.1	-32	52.8	-15
Udham Sing Nagar	32.1	114	23.3	-12	32.7	-25
Uttarkashi	11.1	-42	21.7	-25	47.9	42
Bihar						
Araria	17.3	-64	48.5	-11	78.9	2
Arwal	0.0	-100	3.1	-83	80.2	206
Aurangabad	0.0	-100	0.2	-99	83.3	252
Banka	25.2	51	80.3	179	122.8	209
Begusarai	0.0	-100	12.2	-55	35.7	-15
Bhabua	0.0	-100	0.0	-100	34.0	12
Bhagalpur	0.0	-100	27.0	-23	66.9	18
Bhojpur	3.1	-69	9.1	-64	6.2	-72
Buxar	3.8	-71	45.0	84	51.2	106
Darbhanga	15.5	-34	16.2	-42	57.9	44
East Champaran	21.5	-18	22.3	-27	34.4	-15
Gaya	0.0	-100	4.8	-83	79.9	240
Gopalganj	19.1	-6	23.1	-32	26.3	-35
Jahanabad	0.0	-100	11.8	-52	58.9	91
Jamui	0.0	-100	9.6	-69	77.4	109
Kathihar	0.0	-100	20.7	-50	38.2	-35
Khagadia	0.0	-100	4.9	-87	31.0	-26
Kishanganj	41.0	-17	74.6	-1	129.1	22
Lakhisarai	0.0	-100	17.8	-38	36.5	-14
Madhepura	29.4	-22	20.1	-55	107.3	100
Madhubani	42.8	38	31.8	-23	54.5	32
Monghyar	0.0	-100	0.0	-100	10.0	-76
Muzaffarpur	6.5	-75	9.6	-61	66.6	60
Nalanda	0.0	-100	27.9	27	56.7	105
Nawada	0.0	-100	4.9	-73	41.5	15
Patna	0.5	-96	16.8	-39	30.1	6
Purnea	2.1	-95	36.3	-31	119.7	88
Rohtas	0.0	-100	0.0	-100	41.2	148
Saharsha	12.7	-70	14.2	-71	35.9	-34
Samstipur	4.2	-75	17.3	-33	51.8	-8
Saran	0.0	-100	0.0	-100	34.1	16
Sheikpura	0.0	-100	25.1	-5	91.0	183
Sheohar	0.0	-100	0.0	-100	13.8	-70
Sitamarhi	21.2	-34	35.5	-8	41.3	-12
Siwan	4.4	-72	4.8	-83	20.7	-22
Supaul	18.7	-63	55.8	32	114.7	147
Vaishali	0.0	-100	10.7	-63	53.1	48
West Champaran	24.1	-20	52.8	22	83.3	26
Jharkhand						
Bokaro	4.8	-84	54.6	61	12.5	-75
Chatra	0.0	-100	3.2	-88	26.5	-23

Deoghar	1.1	-95	65.4	89	66.9	35
Dhanbad	7.9	-70	44.0	7	49.9	1
Dumka	11.3	-58	141.8	275	69.8	21
East Singbhum	17.4	-46	25.4	-41	32.5	-46
Garhwa	4.0	-65	0.0	-100	9.0	-64
Giridih	18.5	-14	60.0	36	47.0	-12
Godda	4.3	-81	19.9	-40	64.7	37
Gumla	1.1	-96	22.1	-55	19.8	-69
Hazaribagh	9.7	-48	44.0	4	13.1	-67
Jamtara	2.1	-91	130.5	216	46.7	-19
Khunti	**	**	**	**	13.7	-81
Koderna	1.6	-92	33.4	-7	38.5	-17
Latehar	0.0	-100	13.7	-59	33.1	-20
Lohardagga	21.0	58	12.9	-69	25.2	-45
Pakur	1.7	-95	50.8	2	37.0	-45
Palamau	0.5	-97	5.7	-80	22.6	-32
Ramgarh	6.6	-68	34.0	-24	64.2	34
Ranchi	9.6	-59	8.2	-81	18.0	-66
Sahebganj	0.0	-100	**	**	**	**
Saraikela	20.9	-15	15.0	-75	16.5	-73
Simdega	0.0	-100	42.0	-9	43.2	-39
West Singbhum	13.2	-48	85.5	74	38.2	-28
East Rajasthan						
Ajmer	0.0	-100	1.9	-70	18.4	121
Alwar	6.2	34	11.4	70	15.4	66
Banswara	0.0	-100	0.0	-100	19.8	-12
Baran	0.0	-100	0.0	-100	16.0	-17
Bharatpur	11.0	233	17.8	264	9.3	-20
Bhilwara	0.0	-100	0.0	-100	16.5	20
Bundi	0.0	-100	0.0	-100	33.2	96
Chittorgarh	0.0	-100	0.0	-100	23.7	59
Dausa	1.0	-81	9.6	26	27.8	142
Dholpur	3.7	-27	0.7	-90	5.0	-62
Dungarpur	0.0	-100	0.0	-100	13.5	-22
Jaipur	0.6	-88	2.3	-73	15.9	58
Jhalawar	0.0	-100	0.0	-100	48.0	113
Jhunjhunu	1.4	-81	18.1	65	1.3	-89
Karauli	0.4	-89	9.4	52	25.6	113
Kota	0.0	-100	0.0	-100	28.7	53
Pratapgarh	0.0	-100	0.0	-100	13.8	-46
Rajsamand	0.0	-100	0.0	-100	26.0	86
Sawai Madhopur	0.0	-100	16.3	83	11.5	-9
Sikar	0.3	-96	5.1	-43	5.3	-47
Sirohi	0.0	-100	0.0	-100	1.3	-92
Tonk	0.0	-100	0.0	-100	2.7	-81
Udaipur	0.0	-100	0.0	-100	13.7	-6
West Rajasthan						
Barmer	0.0	-100	0.0	-100	0.1	-99
Bikaner	0.0	-100	10.8	64	0.9	-89

Churu	3.4	-39	16.9	134	0.3	-98
Hanumangarh	0.0	-100	28.0	278	1.7	-81
Jaisalmer	0.0	-100	0.7	-79	0.7	-84
Jalore	0.0	-100	0.0	-100	10.9	81
Jodhpur	0.0	-100	0.0	-100	9.2	34
Nagaur	0.0	-100	0.0	-100	13.2	36
Pali	0.0	-100	0.0	-100	4.5	-51
Sri Ganganagar	0.2	-96	4.2	-17	0.0	-100
Gujarat Region						
Ahmedabad	0.0	-100	0.0	-100	0.4	-98
Anand	0.0	-100	0.0	-100	0.8	-97
Banaskantha	0.0	-100	0.0	-100	0.2	-98
Baroda	0.0	-100	0.0	-100	7.6	-71
Broach	0.0	-100	0.0	-100	3.5	-92
DNH	**	**	**	**	12.3	-90
Dahod	0.0	-100	0.0	-100	8.7	-62
Daman	0.0	-100	0.0	-100	6.0	-95
Dangs	0.0	-100	0.0	-100	9.0	-89
Gandhinagar	0.0	-100	0.0	-100	1.2	-95
Kheda	0.0	-100	0.0	-100	1.9	-92
Mehsana	0.0	-100	0.0	-100	1.0	-94
Narmada	0.0	-100	0.0	-100	12.0	-75
Navsari	0.0	-100	0.0	-100	0.7	-99
Panchmahal	0.0	-100	0.0	-100	3.9	-84
Patan	0.0	-100	0.0	-100	0.0	-100
Sabarkantha	0.0	-100	0.0	-100	3.5	-81
Surat	0.0	-100	0.0	-100	24.4	-64
Tapi	0.2	-100	0.2	-100	19.8	-73
Valsad	0.0	-99	0.0	-98	17.5	-85
S K & Diu region						
Amreli	0.0	-100	0.0	-100	1.6	-95
Bhavnagar	0.0	-100	0.0	-100	0.6	-98
Diu	0.0	-100	0.0	-100	3.6	-90
Jamnagar	0.0	-100	0.0	-100	0.4	-98
Junagarh	0.0	-100	0.0	-100	5.9	-90
Kutch	0.0	-100	0.0	-100	0.1	-99
Porbandar	0.0	-100	0.0	-100	0.1	-99
Rajkot	0.0	-100	0.0	-100	3.8	-87
Surendranagar	0.0	-100	0.0	-100	10.5	-56
Maharashtra						
Konkan & Goa						
Mumbai City	0.2	-99	14.5	-86	167.6	-3
Mumbai Suburban	0.0	-100	43.2	-59	182.1	5
North Goa	98.9	-18	200.4	-10	249.2	-5
Raigad	19.4	-66	48.3	-58	110.0	-43
Ratnagiri	46.5	-46	145	-14	104.0	-56
Sindhudurg	88.2	-28	230.6	13	183.7	-31
South Goa	116.4	-2	328.5	56	291.6	17

Thane	0.0	-100	5.8	-91	51.9	-60
Madhya Maharashtra						
Ahmednagar	27.6	18	5.8	-76	40.3	46
Dhule	0.0	-100	0.0	-100	28.4	-5
Jalgaon	0.5	-97	0.0	-100	11.1	-71
Kolhapur	39.9	-9	51.7	-9	14.1	-85
Nandurbar	0.0	-100	0.0	-100	32.6	-5
Nasik	0.0	-100	0.3	-99	25.0	-42
Pune	28.3	-3	6.2	-78	12.9	-64
Sangli	54.1	70	38.6	70	21.6	-21
Satara	73.8	134	51.6	99	12.0	-67
Solapur	46.3	66	26.5	3	29.2	25
Marathwada						
Aurangabad	6.2	-72	0.0	-100	35.1	1
Beed	41.6	70	11.2	-67	71.0	121
Hingoli	25.8	45	3.0	-91	29.0	-56
Jalna	24.8	42	10.7	-70	31.5	-23
Latur	35.1	56	45.0	46	26.6	-35
Nanded	32.6	64	26.3	-14	62.8	34
Osmanabad	42.6	41	26.1	-22	36.4	9
Parbhani	29.0	51	10.5	-68	40.1	-17
Vidarbha						
Akola	12.2	-7	2.4	-92	49.9	14
Amraoti	10.9	-24	5.1	-79	38.5	-7
Bhandara	0.6	-95	6.3	-77	8.6	-82
Buldhana	8.5	-38	2.5	-91	37.3	-12
Chandrapur	14.6	24	13.1	-48	9.7	-82
Gadchiroli	20.5	32	9.7	-67	8.0	-88
Gondia	18.3	62	9.8	-60	23.8	-54
Nagpur	2.1	-85	16.7	-38	17.2	-64
Wardha	13.5	-20	6.3	-78	26.9	-49
Washim	14.8	12	12.9	-60	39.6	-23
Yeotmal	26.5	55	8.5	-71	53.7	-6
Odisha						
Angul	27.5	-11	37.6	-14	66.8	5
Balasore	18.9	-62	28.8	-50	114.5	63
Bargarh	11.8	-23	13.3	-67	146.5	151
Bhadrak	51.8	64	16.0	-71	58.9	-11
Bolangir	4.5	-74	13.3	-61	66.0	-2
Boudh	0.0	-100	15.7	-63	119.3	107
Cuttack	30.0	-26	3.9	-90	92.9	30
Deogarh	6.3	-68	31.9	-26	84.7	9
Dhenkanal	32.1	-3	13.0	-69	72.5	-2
Gajapati	49.3	52	13.9	-78	159.7	274
Ganjam	27.7	-4	25.6	-30	150.1	270
Jagatsingpur	35.5	4	7.7	-87	37.8	-49
Jajpur	59.0	32	18.6	-67	76.5	8
Jharsuguda	2.5	-87	24.2	-46	76.1	-8
Kalahandi	6.9	-75	24.1	-33	101.6	32






Kandhamal	30.4	6	14.2	-67	53.0	-8
Kendrapara	53.2	34	6.0	-88	61.8	8
Keonjhar	16.3	-55	28.2	-53	91.8	41
Khurda	48.0	81	6.2	-83	72.2	17
Koraput	52.6	97	23.9	-34	178.5	237
Malkangiri	133.4	820	14.0	-58	461.4	174
Mayurbhanj	45.6	4	25.6	-57	119.2	49
Nawapara	8.2	-49	27.4	-20	75.5	29
Nawarangpur	39.8	34	57.0	6	186.1	208
Nayagarh	29.9	6	4.5	-91	97.3	35
Puri	32.3	21	17.8	-43	41.2	-31
Rayagada	49.2	146	27.1	-44	115.2	140
Sambalpur	4.4	-77	26.2	-40	126.3	62
Sonepur	0.3	-99	2.7	-92	153.9	193
Sundargarh	4.9	-78	32.9	-29	82.5	11
West Bengal & Andaman Nicobar Islands						
A & N ISLAND						
Nicobar	40.2	-45	53.1	-20	242.7	285
North & Middle Andaman	67.1	-54	45.6	-61	98.2	-2
South Andaman	135.1	7	27.3	-76	131.5	43
GWB						
Bankura	4.2	-88	54.5	21	63.7	31
Birbhum	2.3	-93	106.6	134	40.0	-23
Burdwan	15.7	-50	79.4	96	40.1	-10
East Midnapore	26.6	-44	76.0	70	44.2	-39
Hooghly	24.7	-37	61.9	13	34.8	-31
Howrah	33.4	-21	40.5	-11	27.0	-56
Kolkata	43.4	-23	49.9	-19	13.4	-81
Murshidabad	2.0	-95	68.0	13	32.8	-36
Nadia	21.5	-42	38.1	-13	42.8	-38
24 Pargana (N)	36.5	-32	88.3	57	38.9	-42
Purulia	10.4	-71	49.9	12	41.5	-19
24 Pargana (S)	24.9	-52	62.4	-12	11.1	-88
West Midnapore	27.2	-28	47.9	-4	62.3	-4
SHWB & Sikkim						
Cooch Behar	74.8	-44	131.4	-10	276.5	43
Darjeeling	61.7	-22	256.5	102	152.4	10
East Sikkim	56.7	-32	98.2	-16	77.5	-34
Jalpaiguri	115.2	-4	275.5	78	327.0	81
Malda	7.6	-78	27.9	-34	85.8	44
North Dinajpur	**	**	69.2	10	82.0	-19
North Sikkim	105.4	-2	72.7	-43	185.7	49
South Dinajpur	0.0	-100	31.3	-53	39.0	-51
South Sikkim	49.8	-40	128.5	10	60.5	-48
West Sikkim	78.0	-27	67.0	-48	103.5	-17
Karnataka						
Coastal Karnataka						
Dakshina Kannada	70.2	-55	175.9	-19	236.7	-8

Udupi	143.1	-20	202.9	-16	398.1	39
Uttara Kannada	94.3	-13	193.7	20	175.5	-14
NI Karnataka						
Bagalkote	39.1	63	29.8	63	35.7	123
Belagavi	30.7	8	37.9	84	28.2	-5
Bidar	129.7	425	4.2	-87	72.8	100
Dharwad	40.8	46	32.7	70	17.8	-32
Gadag	15.2	-43	34.6	95	35.7	126
Haveri	56.9	98	49.2	193	14.5	-47
Kalaburgi	73.6	213	21.2	-17	73.0	158
Koppal	55.3	181	41.5	115	26.4	87
Raichur	40.6	146	23.8	17	37.9	97
Vijayapura	42.8	57	9.9	-58	39.4	113
Yadgir	26.2	32	14.9	-47	37.6	43
SI Karnataka						
Ballari	66.6	223	8.6	-51	23.6	67
Bangalore Rural	49.3	99	42.1	92	42.2	335
Bangalore Urban	78.3	182	21.6	7	22.0	116
Chamarajanagar	28.9	39	4.2	-67	4.9	-58
Chikaballapur	16.8	-15	57.2	190	15.1	80
Chikkamagaluru	26.2	-57	65.2	-2	27.7	-73
Chitradurga	14.4	-16	30.7	167	10.5	17
Davangere	60.6	183	41.5	164	15.2	-2
Hassan	28.6	15	35.5	60	16.9	-47
Kodagu	41.1	-51	119.0	21	60.0	-58
Kolar	49.6	133	42.4	103	9.6	45
Mandya	25.3	34	12.7	21	10.3	13
Mysuru	10.4	-55	16.2	0	40.2	127
Ramanagara	16.0	-40	21.4	12	7.6	-33
Shivamogga	58.7	11	90.8	50	78.9	-16
Tumakuru	32.6	49	47.7	206	19.6	90
Kerala						
Alappuzha	176.7	12	161.3	9	84.8	-31
Kannur	141.3	-10	119.7	-36	132.5	-38
Ernakulam	178.6	8	205.1	23	94.4	-38
Idukki	115.6	-13	118.8	-15	119.5	-19
Kasaragod	101.0	-48	161.5	-33	205.4	-16
Kollam	169.8	36	196.0	79	70.7	-25
Kottayam	188.2	18	198.7	25	117.6	-12
Kozhikode	369.3	89	174.7	-12	139.9	-34
Malappuram	94.7	-28	179.5	25	110.9	-29
Palakkad	75.2	-10	111.2	14	100.9	-12
Pathanamthitta	122.8	-13	162.7	23	71.8	-40
Thiruvananthapuram	106.4	-1	181.9	113	64.0	7
Thrissur	189.5	19	147.4	-10	60.9	-60
Wyand	26.7	-76	78.0	-42	40.3	-76
Tamil Nadu						
Ariyalur	13.3	-10	0.0	-100	4.3	-56
Chennai	48.6	386	12.8	-36	6.3	-59

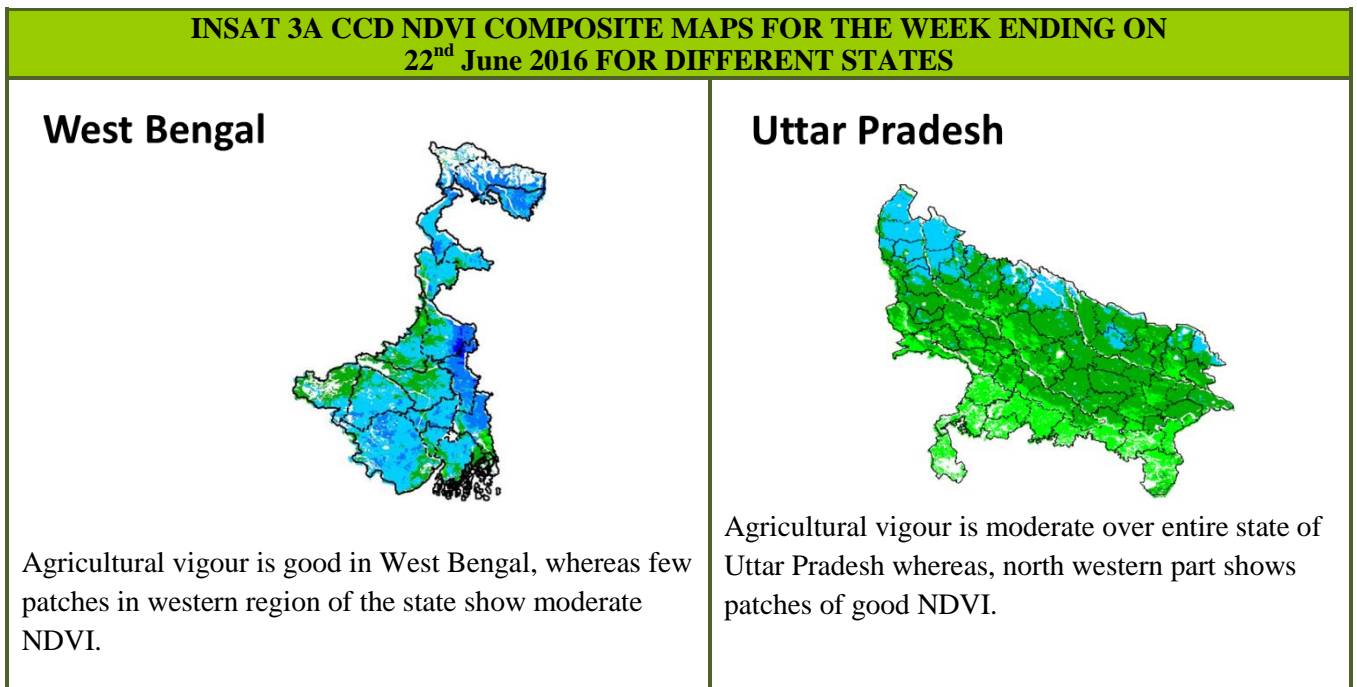
Coimbatore	9.2	2	33.2	527	24.3	247
Cuddalore	32.1	189	1.1	-93	59.5	576
Dharmapuri	28.9	37	6.1	-53	7.2	10
Dindigul	25.8	79	1.0	-89	2.5	-66
Erode	18.7	60	2.8	-56	12.0	201
Kanchipuram	24.2	74	4.0	-82	10.1	-32
Kanyakumari	58.9	-6	129.6	217	20.2	-40
Karikal	17.9	-17	1.0	-94	5.8	-14
Karur	2.0	-77	0.5	-90	9.1	250
Krishnagiri	39.7	80	8.7	-41	5.1	-32
Madurai	6.4	-49	0.3	-97	1.5	-86
Nagapattinam	38.1	249	0.8	-93	8.4	25
Namakkal	5.2	-65	1.8	-86	16.0	11
Nilgiris	36.9	14	38.6	37	14.3	-69
Perambalur	21.8	115	0.0	-100	6.5	2
Puducherry	0.4	-96	0.6	-97	7.1	22
Pudukottai	19.0	67	0.4	-97	9.7	-5
Ramanathapuram	10.0	169	0.0	-100	0.0	-100
Salem	13.2	-34	13.0	-18	30.1	130
Sivaganga	32.1	174	3.2	-72	0.1	-98
Thanjavur	28.0	157	1.8	-84	23.1	182
Theni	7.4	2	11.0	198	7.9	108
Tirunelveli	11.4	7	36.2	449	3.3	-61
Tirupur	0.0	-100	4.4	-7	16.3	308
Tiruvallur	42.7	231	13.5	-40	47.6	266
Tiruvannamalai	15.0	-4	5.9	-68	31.8	144
Tiruvarur	18.1	108	3.2	-68	8.1	0
Toothukudi	0.1	-97	0.6	-50	1.2	3
Trichy	11.2	-8	0.9	-90	11.6	163
Vellore	26.1	35	14.6	-24	46.9	311
Villupuram	4.7	-61	0.6	-95	23.8	134
Virudhunagar	2.9	-62	0.3	-95	1.5	-69
Andhra Pradesh						
Coastal Andhra Pradesh						
East Godavari	45.7	102	17.0	-22	28.6	-23
Guntur	105.2	431	2.4	-88	42.1	11
Krishna	100.7	427	2.6	-89	68.6	143
Nellore	29.2	159	1.6	-89	25.1	128
Prakasam	37.2	128	2.3	-86	36.7	194
Sirkakulam	56.2	146	6.5	-79	30.5	-28
Visakhapatnam	59.2	154	5.5	-80	39.1	11
Vizianagram	44.7	67	10.9	-65	41.6	22
West Godavari	92.4	342	11.9	-53	24.1	-34
Royalaseema						
Anantapur	24.1	23	19.7	38	29.3	244
Chittoor	38.9	104	24.4	16	52.6	374
Cuddapah	34.7	81	15.4	-22	43.9	251
Kurnool	52.3	174	9.2	-60	58.9	280

Telangana						
Adilabad	43.7	133	20.8	-28	32.5	-46
Hyderabad	33.5	97	0.2	-99	7.5	-73
Karimnagar	50.7	145	8.5	-74	13.0	-70
Khammam	61.4	213	19.0	-34	13.8	-69
Mehabubnagar	49.0	137	10.2	-54	61.1	245
Medak	41.6	86	3.4	-86	9.3	-76
Nalgonda	51.4	152	2.6	-89	20.8	-7
Nizamabad	41.2	68	23.3	-27	47.4	-3
Rangareddy	42.9	116	7.8	-66	44.3	60
Warangal	59.5	196	14.9	-51	8.6	-79

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

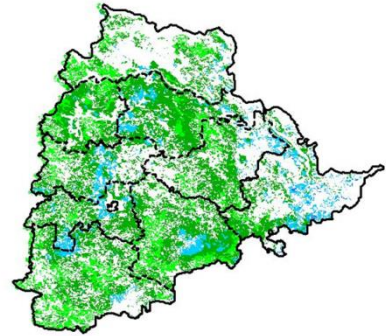


Uttarakhand



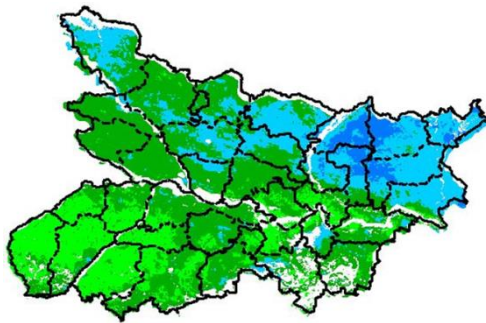
Agricultural vigour is moderate in central and eastern region whereas western region show good values of NDVI over state of Uttarakhand.

Telangana



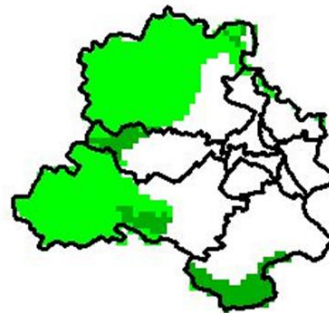
Agriculture vigour is moderate over entire state of Telangana except eastern part shows good NDVI.

Bihar



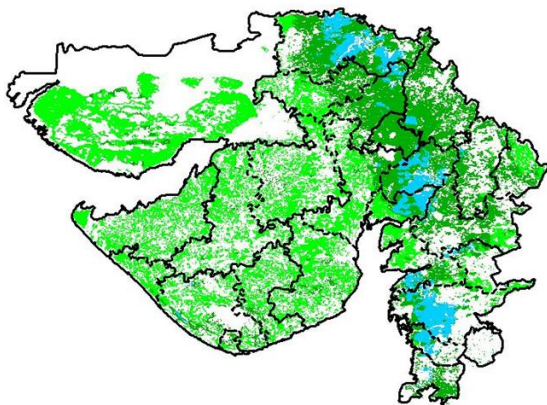
Agriculture vigour is moderate over major parts of Bihar whereas eastern part shows patches of good NDVI values.

Delhi



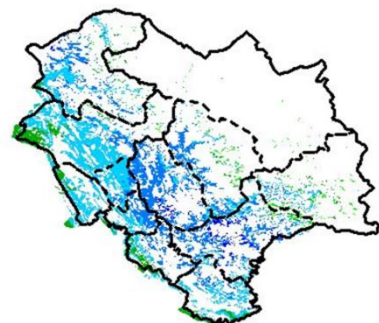
Agriculture vigour is moderate all over Delhi.

Gujarat



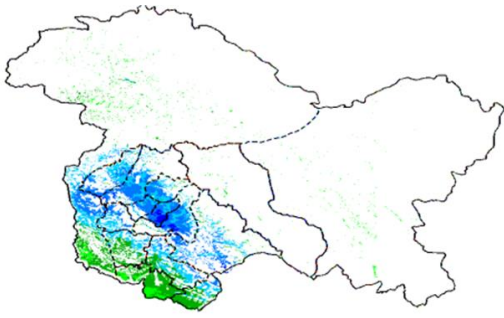
Moderate NDVI values are observed in Kutch, Saurashtra whereas patches of good NDVI observed in Gujrat region.

Himachal Pradesh



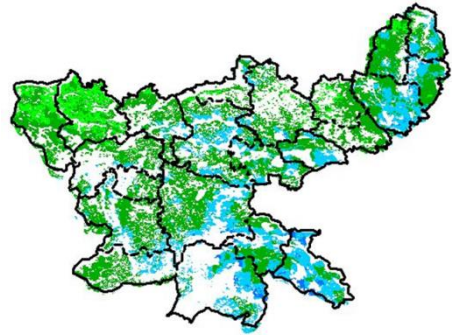
Agriculture vigour is good over major parts of Himachal Pradesh.

Jammu & Kashmir



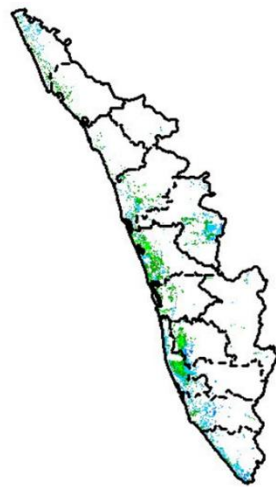
Agriculture vigour is good over central part of Jammu & Kashmir, whereas the remaining region shows moderate NDVI.

Jharkhand



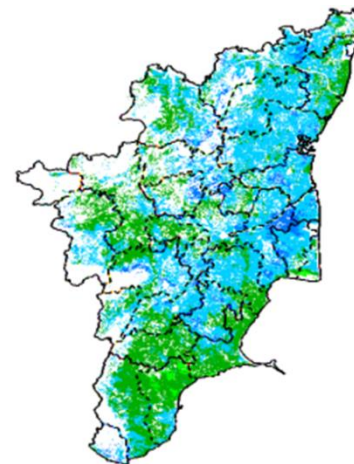
Agriculture vigour is moderate over entire state of Jharkhand whereas few patches of good NDVI observed in central and eastern part of state.

Kerala



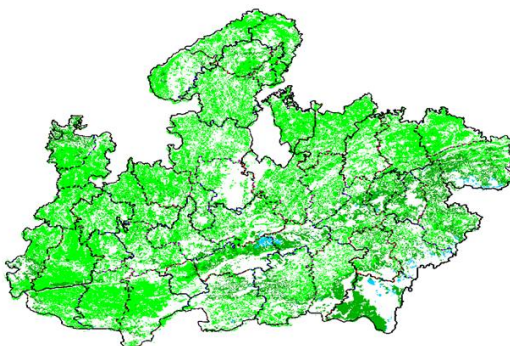
Agriculture vigour is moderate over entire state of Kerala.

Tamil



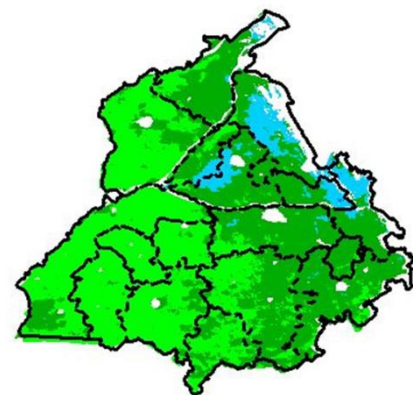
Agricultural vigour is good in major parts of Tamil Nadu, whereas rest of the part shows moderate NDVI.

Madhya Pradesh



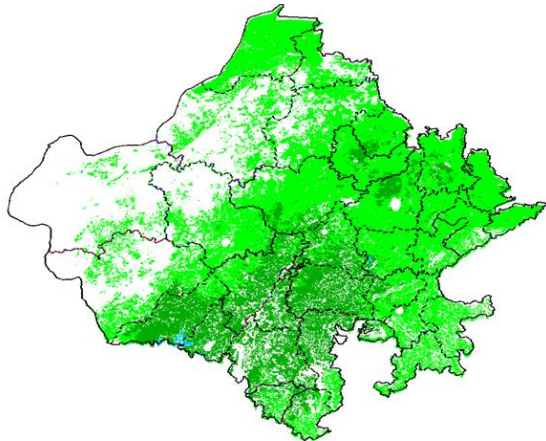
Agriculture vigour shows moderate values of NDVI over entire state of Madhya Pradesh.

Punjab



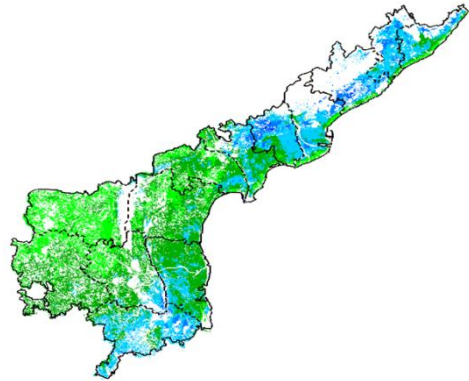
Agricultural vigour is moderate over the entire state of Punjab whereas northern region shows patches of good NDVI.

Rajasthan



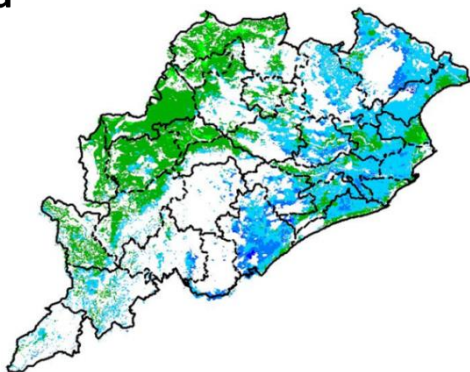
Agriculture vigour is moderate over the entire state of Rajasthan.

Andhra Pradesh



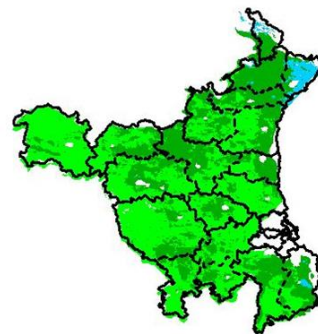
Agriculture vigour is moderate over central part whereas north eastern parts and southern parts shows good NDVI values in the state of Andhra Pradesh.

Odisha



Agricultural vigour is good in coastal parts of Odisha where rest of region shows moderate NDVI.

Haryana



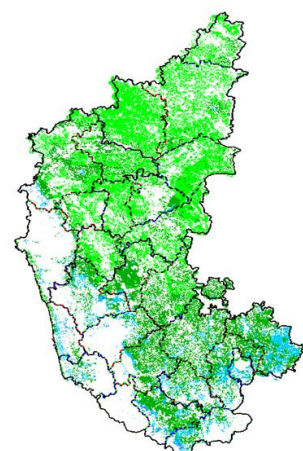
Agriculture vigour is moderate over entire state of Haryana.

Chhattisgarh

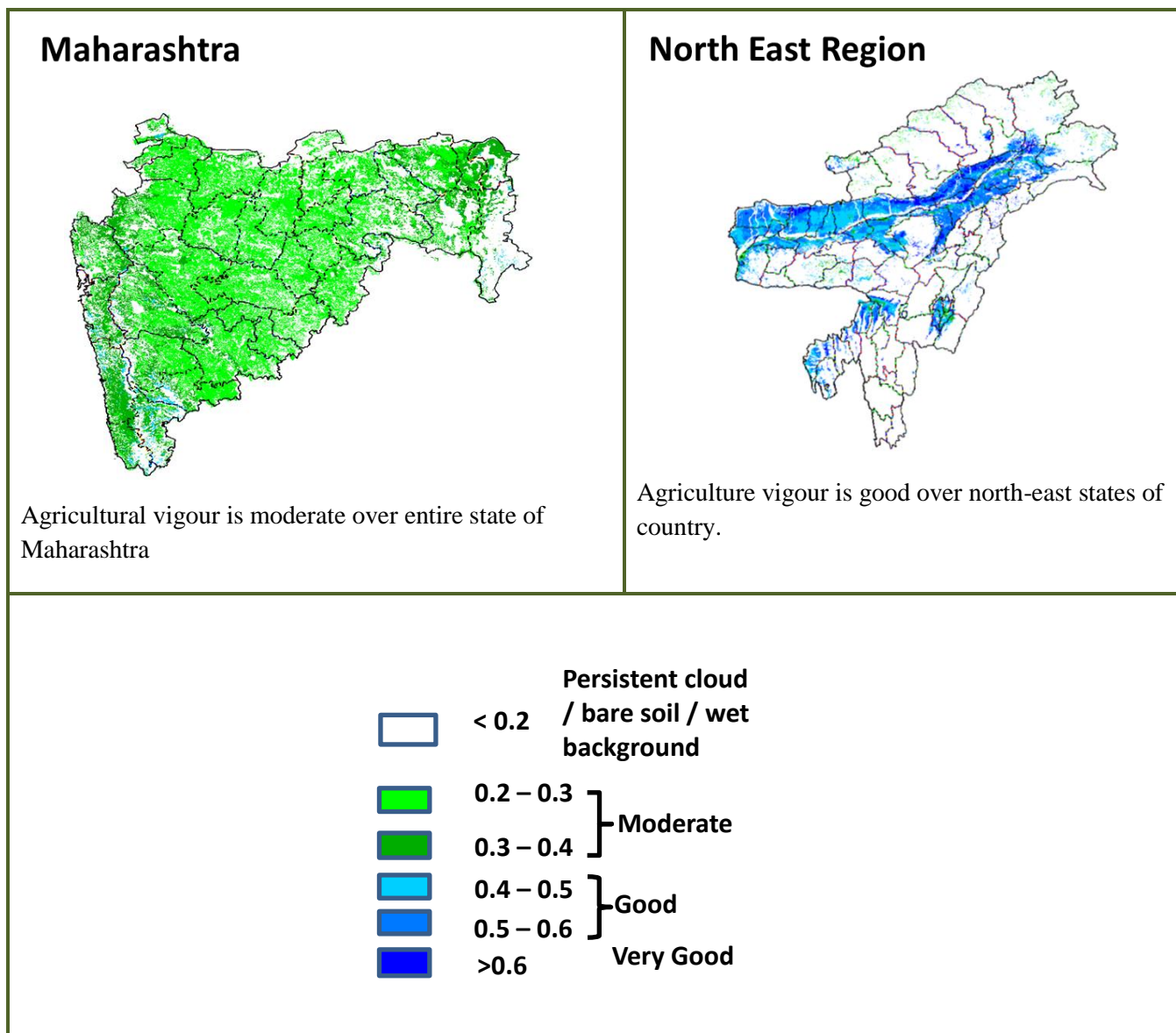


Agriculture vigour is moderate in the state of Chhattisgarh.

Karnataka



Agriculture vigour is moderate over Karnataka state except very few patches of good NDVI observed in southern region of the state.



Annexure III

- 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:** Shahsarang -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,

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

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) and hybrid 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, Pusa 1121, Pusa 1, Pusa 44, 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, Parbhani Kranti.

Radish: Pusha Chetki.

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 Chhuhara, 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: Japanese White, Hill queen, French Radish;

Spinach: PusaBharti.

Amaranth: PusalalChaulai, PusaKiran.

Ladyfinger: Pusa A-4.

Radish: Japanese White, Hill queen, French Radish.

Spinach: All Green, PusaBharti;

Fenugreek: PusaKasuri;

Coriander: PantHaritama, Hybrids.

Turnip: Pusa Swati, Local Red variety.

Bottle Gourd- Pusa Naveen, PusaSamridhi

Bitter Gourd- PusaVisesh, Pusa-2 mosumi

Pumpkin- PusaVisvash, PusaVikash

Ridge Gourd- PusaChikni

Cucumber- PusaUday, PusaBarkha

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
Green gram: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.

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,Chandrasasini, 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 Shadabahr, K S 331, P H 5, P H 6 ,KS 224 , 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).
Jowar: CHS-5, DSV – 2, Hybrids – CSH-14, CSH-16, CSH-18, CSH-30 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).
Cotton: DHH-11, NCH-145, NHH-44, DHB-105, DHB-915, and Sahana.
Green gram: PS-16, PDM-84,178
Black gram: TU-1, TAU-1, DU-1, DBGV-5.
Red gram: TTB-7 ,BRG-1and Hyd-3c, TS-3R,
Ragi: Indaf -9, ML-365.
Maize: Hybrids – DMH-2, Arjun, GH-0727, Renuka (G-25) and Private hybrids.
Sesame: Navile-1, T-7.
Pigeon pea: BSMR 736, TS-3R.
Cowpea: TVX-944, KBC-1.
Soybean: JS-335, DSB-1, DSB-21, JS 93-05.
Sugarcane: S-4, Chainamung & Pusabaisaki, & DGGV-2.

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

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 varieties.

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

Black gram: T-9, GU-1.

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

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

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