

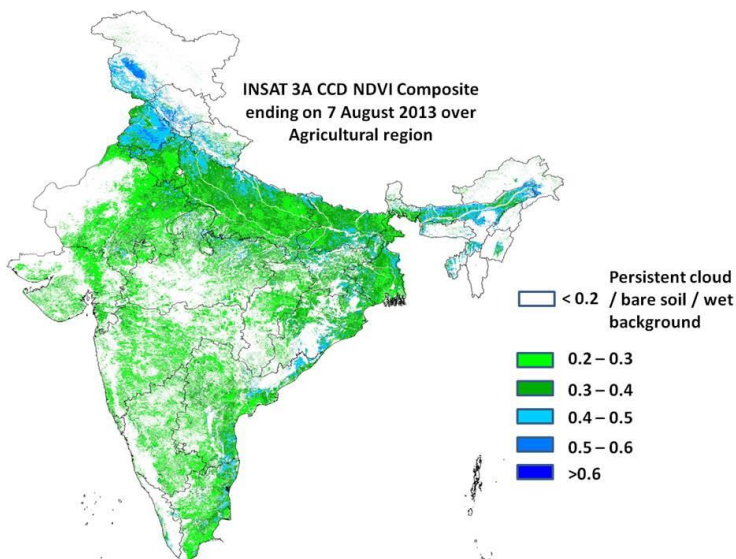
# National Agromet Advisory Service Bulletin

Thursday 8<sup>th</sup> August, 2013  
(For the period 8<sup>th</sup> to 11<sup>th</sup> August, 2013)

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

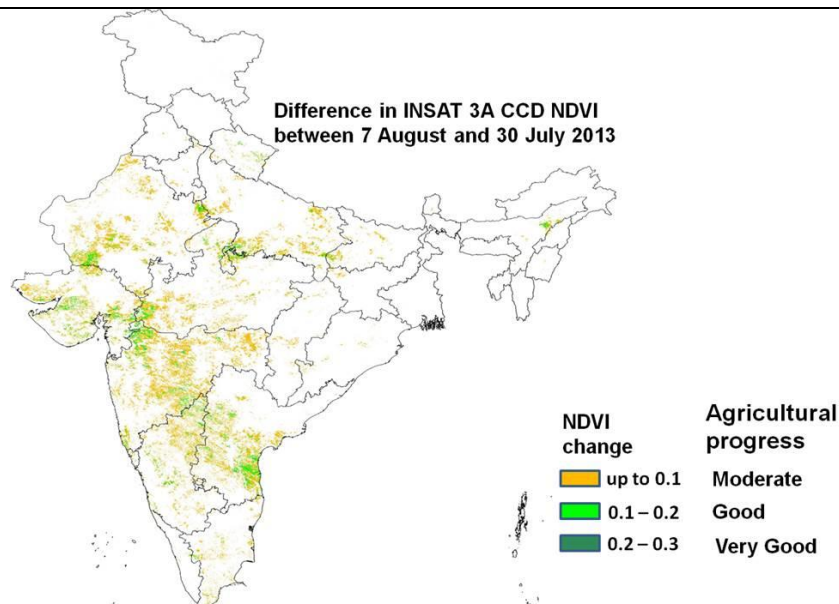


## Crop condition based on Rainfall and INSAT 3A CCD NDVI \*\*



Source: SAC, Ahmedabad

**Overall Agricultural Situation:** Agricultural growth is very good (NDVI greater than 0.4) over Punjab, adjoining Haryana, Rajasthan, western Uttar Pradesh, central Uttar Pradesh, some areas of Jharkhand, eastern and western part of West Bengal, north-eastern states, eastern and northern Madhya Pradesh, coastal Andhra Pradesh, Odisha and Tamil Nadu as NDVI vigour showed more than 0.4 at the end of July. Maximum NDVI value was observed over central and eastern Punjab. The growth is good over rest parts of Haryana, Uttar Pradesh, Madhya Pradesh, eastern Rajasthan, Central and Southern Gujarat, pockets of Saurashtra, Maharashtra, West Bengal, Orissa, interior Andhra Pradesh and Tamil Nadu as NDVI vigour showed the range from 0.3 to 0.4. Rest of the country showed moderate growth (NDVI: 0.2 to 0.3).

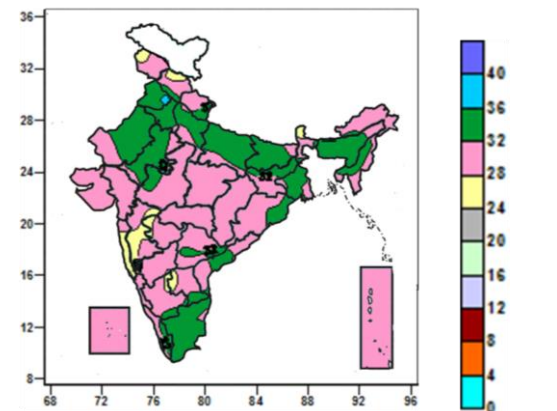
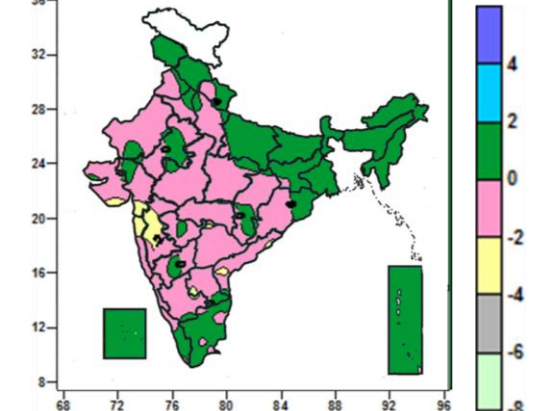
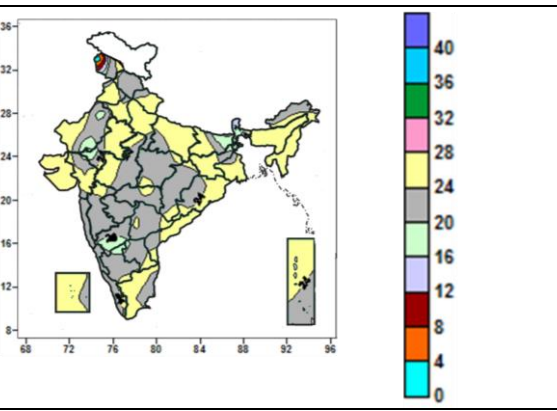
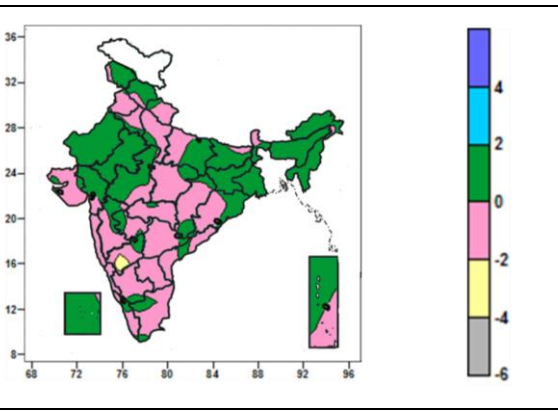


Source: SAC, Ahmedabad

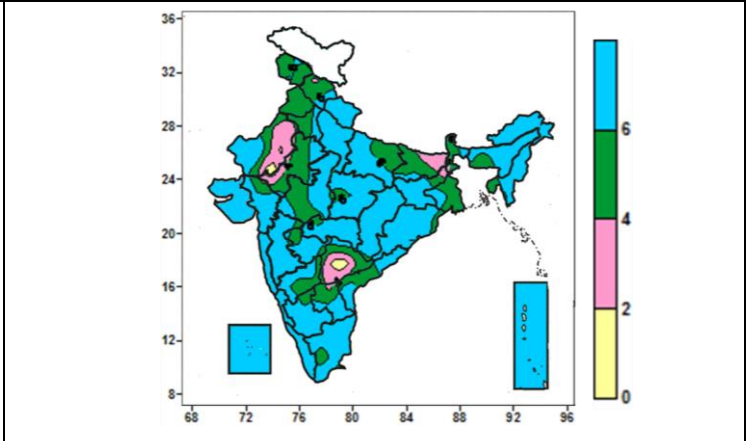
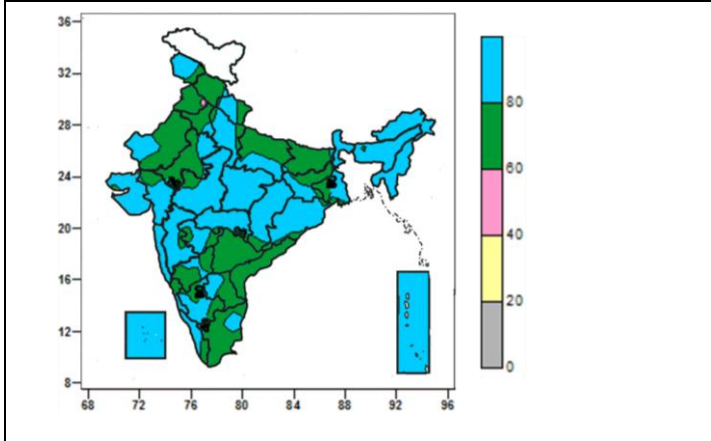
**Progress of crop performance during last week:** Agricultural progress between 30<sup>th</sup> July and 7<sup>th</sup> August 2013 was found to be very good in eastern Rajasthan, south Gujarat and adjoining area of Madhya Pradesh and Maharashtra, coastal Andhra Pradesh and central Karnataka. There is good progress observed in eastern and central MP, few pockets of Maharashtra, southern Andhra Pradesh. Rest of India shows moderate progress. This information is in consistence with the good amount of rainfall received in the above mentioned areas (Annexure II).

\*\* Prepared jointly by Space Application Centre, Ahmedabad and Agricultural Meteorology Division, India Meteorological Department, Pune

## Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 07.08.2013

Actual Mean Maximum Temperature ( $^{\circ}\text{C}$ ) in India for the week ending 07.08.2013	Mean Maximum Temperature ( $^{\circ}\text{C}$ ) Anomaly in India for the week ending 07.08.2013
	
<ul style="list-style-type: none"> <li>• 36 to 40<math>^{\circ}\text{C}</math> over some parts of Punjab.</li> <li>• 28 to 36<math>^{\circ}\text{C}</math> over many parts of the country (except many parts of Konkan &amp; Goa, Madhya Maharashtra Sikkim, some parts of Jammu &amp; Kashmir, Himachal Pradesh, Marathwada, south Interior Karnataka, Raylaseema).</li> <li>• 24 to 28<math>^{\circ}\text{C}</math> over many parts of Konkan &amp; Goa, Madhya Maharashtra Sikkim, some parts of Jammu &amp; Kashmir, Himachal Pradesh, Marathwada, south Interior Karnataka, Raylaseema.</li> </ul>	<ul style="list-style-type: none"> <li>• -2 to 2<math>^{\circ}\text{C}</math> over many parts of the country (except many parts of Madhya Maharashtra, some parts of Saurashtra, Gujarat, Konkan, Andhra Pradesh).</li> <li>• -4 to -2<math>^{\circ}\text{C}</math> over many parts of Madhya Maharashtra, some parts of Saurashtra, Gujarat, Konkan, Andhra Pradesh.</li> </ul>
Actual Mean Minimum Temperature ( $^{\circ}\text{C}$ ) in India for the week ending 07.08.2013	Mean Minimum Temperature ( $^{\circ}\text{C}$ ) Anomaly in India for the week ending 07.08.2013
	
<ul style="list-style-type: none"> <li>• 20 to 28<math>^{\circ}\text{C}</math> over entire parts of country (except many parts of Jammu &amp; Kashmir, Bihar, Sub-Himalayan West Bengal, North Interior Karnataka, some parts of Rajasthan, Gujarat, South Interior Karnataka).</li> <li>• 16 to 20<math>^{\circ}\text{C}</math> over many parts of Bihar, Sub-Himalayan West Bengal, North Interior Karnataka, some parts of Rajasthan, Gujarat, South Interior Karnataka.</li> <li>• 4 to 16<math>^{\circ}\text{C}</math> over some parts of Jammu &amp; Kashmir.</li> </ul>	<ul style="list-style-type: none"> <li>• -2 to 2<math>^{\circ}\text{C}</math> over the country (except some parts of North Interior Karnataka).</li> <li>• -4 to -2<math>^{\circ}\text{C}</math> over some parts of North Interior Karnataka.</li> </ul>

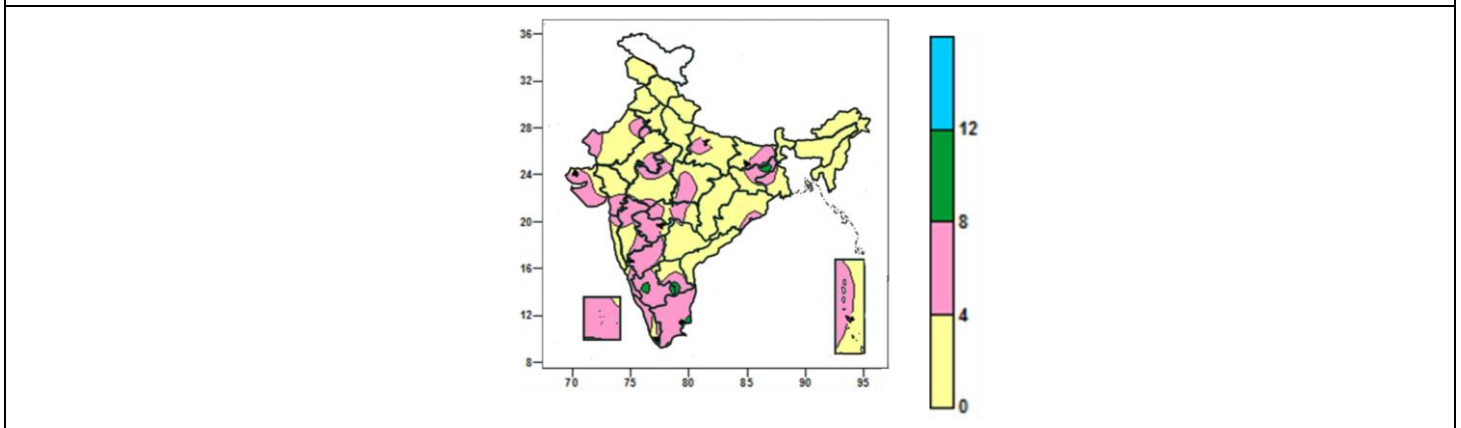
<b>Relative Humidity (%) over India for the week ending 07.08.2013</b>	<b>Cloud amount (okta) over India for the week ending 07.08.2013</b>
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- 80% to 100% over many parts of Jammu & Kashmir, Uttarakhand, West Uttar Pradesh, North East India, West Bengal & Sikkim, Odisha, Central India, West India, Coastal & South Interior Karnataka, some parts of Himachal Pradesh, Rajasthan, East Uttar Pradesh, Bihar, Jharkhand, North Interior Karnataka, Raylaseema, Tamil Nadu.
- 60 to 80 % over the country (except Jammu & Kashmir, Uttarakhand, West Uttar Pradesh, North East India, West Bengal & Sikkim, Odisha, Central India, West India, Coastal & South Interior Karnataka, some parts of Himachal Pradesh, Punjab, Haryana, Delhi, Rajasthan, East Uttar Pradesh, Bihar, Jharkhand, North Interior Karnataka, Raylaseema, Tamil Nadu).
- 40 to 60% over some parts of Punjab.

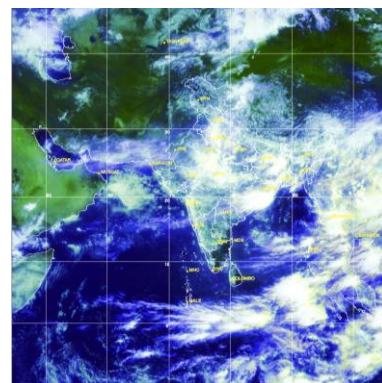
- 4 to 8 okta over many parts of the country (except many parts of West Rajasthan, Telengana, some parts of Himachal Pradesh, East Rajasthan, Bihar, Jharkhand, Rayalaseema).
- 2 to 4 okta over many parts of West Rajasthan, Telengana, some parts of Himachal Pradesh, East Rajasthan, Bihar, Jharkhand, Rayalaseema.
- 0 to 2 okta over some parts of Telangana, West Rajasthan.

**Wind speed (knots) over India for the week ending 07.08.2013**



- 8 to 12 knots over some parts of Bihar, Jharkhand, Rayalaseema, South Interior Karnataka, Tamil Nadu.
- 0 to 8 knots over over the country except some parts of Bihar, Jharkhand, Rayalaseema, South Interior Karnataka, Tamil Nadu.

Southwest monsoon was active over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Haryana, Chandigarh & Delhi, Punjab,, Himachal Pradesh, east Rajasthan and Chhattisgarh.



*Satellite image date 08.08.2013, 0600 UTC*

# Weather Forecast

## Weather Forecast for next 3 days (upto 0830 hours IST of 11<sup>th</sup> August, 2013)

- Rain/thundershowers would occur at most places over Himachal Pradesh, Uttarakhand, along west coast, Sub-Himalayan West Bengal & Sikkim and northeastern states.
- Rain/thundershowers would occur at many places over Jammu & Kashmir, Punjab, Haryana, Uttar Pradesh, Bihar, east Rajasthan, Andaman & Nicobar Islands and Lakshadweep.
- Rain/thundershowers would occur at many places over Madhya Pradesh, Chhattisgarh, Jharkhand, Gangetic West Bengal and Odisha during next 48 hours and decrease thereafter.
- Rain/thundershowers would occur at a few places over remaining parts of the country outside west Rajasthan, Saurashtra & Kutch, Marathwada, Telangana, Rayalaseema and Tamilnadu, where, it would be isolated.

## Weather Warning during next 3 days

**08 August:** Heavy to very heavy rainfall would occur at isolated places over Madhya Pradesh, Sub-Himalayan West Bengal & Sikkim and Assam & Meghalaya. Heavy rainfall would occur at isolated places over Jharkhand, Bihar, Arunachal Pradesh, Uttar Pradesh, Uttarakhand, Himachal Pradesh and east Rajasthan.

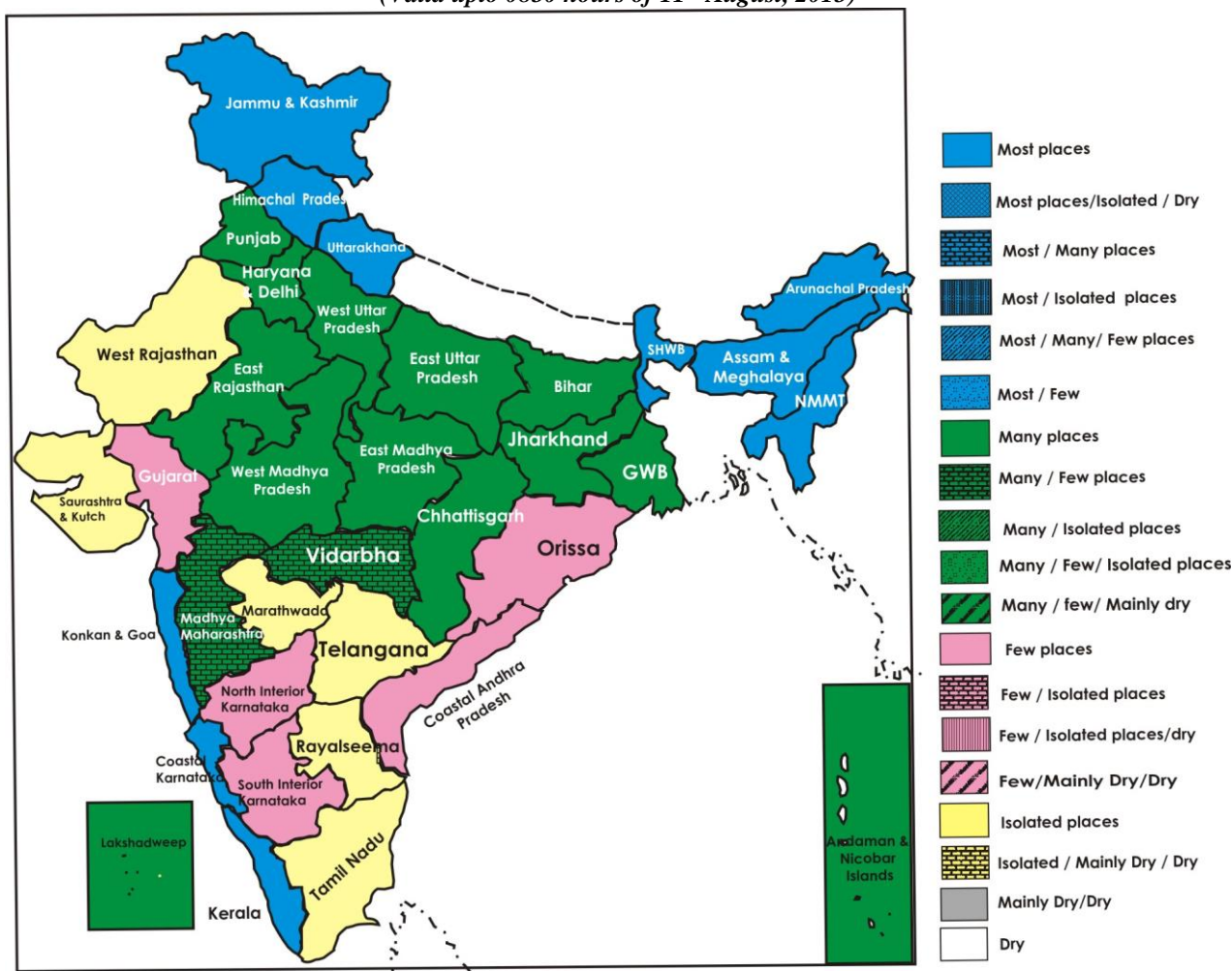
**09 August:** Heavy to very heavy rainfall would occur at isolated places over west Madhya Pradesh, SubHimalayan West Bengal & Sikkim and Assam & Meghalaya. Heavy rainfall would occur at isolated places over east Madhya Pradesh, Jharkhand, Bihar, Arunachal Pradesh, Uttar Pradesh, Uttarakhand, Himachal Pradesh and east Rajasthan.

**10 August:** Heavy to very heavy rainfall would occur at isolated places over Assam & Meghalaya and Uttarakhand. Heavy rainfall would occur at isolated places over Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, west Uttar Pradesh, Haryana, Delhi & Chandigarh, Himachal Pradesh and east Rajasthan.

## Weather Outlook for subsequent 4 days from 11<sup>th</sup> July to 15<sup>th</sup> August, 2013

- Rainfall/thundershower would occur at many places over northwest India, west coast, Sub-Himalayan West Bengal & Sikkim and northeastern states.
- Rainfall/thundershower would occur at a few places over Bihar, Jharkhand, Gangetic West Bengal, Madhya Pradesh and Chhattisgarh.
- Rainfall/thundershower would occur at isolated places over south interior peninsular India.

*Weather Forecast Map  
(Valid upto 0830 hours of 11<sup>th</sup> August, 2013)*



## Salient Advisories

### Northeast Region

- Farmers are advised to continue transplanting of *kharif* rice in **Manipur** and *jhum* rice in **Mizoram**, complete transplanting of long duration *sali* rice in **Assam**.
- As rain / thundershowers would occur at most places along with heavy to very heavy rainfall at isolated places during the period, farmers are advised to postpone sowing of *kharif* sesame in Lower Brahmaputra Valley Zone and Barak Valley Zone of **Assam** and nursery sowing of finger millet in Lower Brahmaputra Valley Zone. Arrange for adequate drainage in the crop fields.
- Due to deficient rainfall situation in some parts of Darrang & Udalguri districts of North Bank Plain Zone of **Assam**, transplanting of *sali* rice could not be carried out; farmers are advised to undertake wet seeding of sprouted seeds (@ 75-80 kg/ha) of short duration varieties like Disang, Luit (100 days), Kapili, Kalong (120 days) after current spells of heavy rain or late and staggered planting with the old seedlings (50-60 days old seedlings) of the varieties like Profulla and Gitesh.
- In Karimganj, Cachar and Hailakandi districts in Barak Valley Zone of **Assam**, farmers could not be able to transplant *Sali* rice in considerable area due to deficit rainfall. In some areas of these districts, where early transplanting has been done, crop growth is not satisfactory. Where transplanting of *sali* rice could not be done till date, farmers are advised to undertake nursery sowing of varieties like Prafulla, Gitesh etc. after current spells of heavy rain.
- In Mild Tropical Plain Zone of **Tripura**, farmers are advised to continue transplanting of *aman* rice. However, in upland and medium upland, deficit rain, particularly during the month of July, has affected sowing of *aman* rice; farmers are advised to undertake direct sowing of short duration varieties to avoid further delay.

### South Region

- Farmers in **Kerala** are advised to continue planting of banana. Drain out excess water from the standing crops of rice, vegetables and sugarcane. Due to continuous rainfall, weed problems may arise in the transplanted rice fields. Farmers are advised to control the weeds using suitable weedicides.
- In **Rayalaseema**, farmers are advised to take up sowing of contingency crops like bajra, fox tail millet, green gram, cow pea, field bean and fodder jowar up to second fortnight of August where groundnut sowing couldnot be undertaken in Anantapur district due to subdued rainfall. In Kurnool district farmers are advised to undertake transplanting of rice. In North **Telanagana**, in Adilabad, Nizamabad and Karimnagar districts where nurseries of rice are damaged due to recent heavy rains farmers are advised to go for direct sowing of rice.
- Farmers in **North Coastal Andhra Pradesh** are advised to continue transplanting of rice to the main fields.
- In **Coastal Karnataka** continue transplanting of *kharif* rice. Drain out excess water from standing crops of maize and cotton in Uttar Kannad District as rainfall would occur at most places.
- In **South Interior Karnataka** farmers are advised advised to undertake dry sowing of ragi with 15-20% higher seed rate due to subdued rainfall activity in Chikkaballapura, Kolar and Ramnagara districts.
- In **North Interior Karnataka** continue sowing of bajra, Sunflower, Cotton in Bijapur, Gadag and Bagalkot district.
- **Tamilnadu**, famers in Western and Cauvery delta zone are advised to continue nursery sowing of *samba* rice and sowing groundnut, castor, sorghum, and red gram in North Western Zone utilizing the realized rainfall.

### West Region

- As rain is likely to occur at most places in **Konkan** and **Goa**, farmers are advised to undertake intercultural operation, application of fertilizers and plant protection measures in rice, finger millet, vegetables and also in orchards of mango, cashew and sapota after current spells of rain.
- Taking the advantage of the realized rains, farmers are advised to continue planting of *adsali* sugarcane in **Madhya Maharashtra** and **Marathwada** on vapsa condition.
- Due to continuous heavy rain and wet spells upto last week, soybean and cotton crops are damaged in parts of Yavatmal, Washim, Chandrapur, Nagpur, Wardha and Amravati districts in **Vidarbha**. Farmers are advised to prepare the field for re-sowing of contingent crops like sesamum, red gram, sunflower, bajra and castor in those areas.
- As significant rainfall occurred in all the districts of **Gujarat** State, farmers are advised to postpone irrigation in standing crops. Farmers are also advised to undertake transplanting of vegetables in Bhal and Coastal Zone, North Gujarat Zone and North Saurashtra Zone and sowing of castor in South Gujarat Heavy Rainfall Zone utilizing recent monsoon rain. Complete sowing of pulses in North West Zone of **Gujarat**.

## Central Region

- As rain / thundershowers would occur at many places during next 48 hours and decrease thereafter along with heavy / heavy to heavy rainfall over **Madhya Pradesh** on 8<sup>th</sup>, 9<sup>th</sup> August, withhold sowing of til, groundnut, urad, moong, sorghum and pigeon pea. Provide adequate drainage in already sown *kharif* crop fields. Continue transplanting of rice.
- In Chhattisgarh, continue sowing of maize, jowar, arhar and groundnut, sowing of *kharif* vegetables and nursery raising of tomato, brinjal and chilli. Continue transplanting of rice.

## East Region

- Farmers of Odisha are advised to continue sowing of green gram, black gram, cowpea, sesame, ragi, castor and vegetables and continue transplanting of rice.
- In **Gangetic West Bengal**, continue transplanting of *aman* rice. Complete sowing of cowpea after current spells of rain.
- In **Bihar**, farmers are advised to continue transplanting of rice in low and medium land areas and continue transplanting of vegetables. In South Bihar Alluvial Zone, farmers are advised to postpone sowing of maize and small millets as rain / thundershowers would occur at many places along with heavy rainfall would occur at isolated places over 8<sup>th</sup> and 9<sup>th</sup> August. Undertake planting of banana, papaya and *kharif* onion after current spells of rain.
- Continue sowing of maize, urad, arhar, *kharif* vegetables viz. bhindi, bean, French bean and nursery sowing of tomato, cauliflower and cabbage in **Jharkhand** after current spells of rain. Continue transplanting of rice in low and medium lands.

## North Region

- In **Himachal Pradesh**, farmers are advised to postpone sowing of cucurbits viz. khira, bitter gourd, tori and planting of potato in Hill zone, as rain / thundershowers would occur at most places along with heavy rainfall at isolated places during the period. Also provide adequate drainage in already sown crop fields. Complete transplanting of rice.
- In **Uttarakhand**, farmers are advised to postpone sowing of groundnut, millets, pigeon pea, horse gram and French bean, sowing of maize in Hill Zone, as rain / thundershowers would occur at most places along with heavy / heavy to very heavy rainfall at one or two places during the period. Also provide adequate drainage in already sown crop fields and complete transplanting of rice.
- In **Uttar Pradesh**, farmers are advised to postpone sowing of urad, moong, maize, as rain / thundershowers would occur at many places along with heavy rainfall at one or two places during the period. Also provide adequate drainage in already sown crop fields. Complete transplanting of rice. In **West Uttar Pradesh**, continue transplanting of rice. Also continue transplanting of brinjal and chilli after current spells of rain.
- Undertake sowing of rainy season cucurbits such as bottle gourd, bitter gourd, ash gourd and sponge gourd, sowing nursery of tomato and planting of *kharif* onion in **Punjab**. Undertake transplanting of brinjal, tomato, chilli, onion of **Haryana**, and undertake sowing of rainy season cucurbits such as bottle gourd, bitter gourd, ash gourd and sponge gourd. In **Jammu & Kashmir**, continue nursery sowing of cabbage, continue transplanting of Basmati and Sambal basmati rice, complete transplanting of cauliflower, chillies.
- In **East Rajasthan**, farmers are advised to continue transplanting of brinjal and chilli and undertake transplanting of papaya seedlings, planting of fruit trees after current spells of heavy rainfall
- In **West Rajasthan**, in Arid Western Plain Zone, farmers are advised to undertake sowing of short duration varieties of moong, cowpea and moth where sowing of *kharif* pulses were not carried out till date.

## Detailed Zonewise Agromet Advisories

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

- **Realised Rainfall:** Significant rainfall has occurred in all the districts of Uttarakhand and East Rajasthan, all the districts of Himachal Pradesh except Kinnaur, Lahaul and Spiti districts, all the districts of Punjab except Barnala, Hoshiarpur, Jalandhar, Sangrur, Mohali districts, all the districts of Haryana except Bhiwani, Fatehabad, Jhajar, Katihal, Kurukshetra, Mewat, Palwal, Panipat, Rohtak districts, Doda, Jammu, Kathua, Kupwara, Reasi, Samba and Udhampur districts of Jammu & Kashmir, Churu, Jalore, Nagaur, Pali, districts of West Rajasthan, all the districts of West Uttar Pradesh except Aligarh, Badaun, Bulandsahar, Etah, GBNagar, Ghaziabad, Jhansi, Kanshiramnagar, Mahamaya Nagar, Moradabad, Mainpuri, Mathura, Mahoba districts, in Ambedkar Nagar, Azamgarh, Bahraich, Balrampur, Banda, Chandauli, Deoria, Faizabad, Gorakhpur, Kanpur City, Kanpur Dehat, Kheri, Mirzapur, Sant Ravidas Nagar, Shrawasti, Sidharthnagar, Sitapur, Sonbhadra, Varanasi districts of East Uttar Pradesh.
- **Weather Forecast:** Rain/thundershowers would occur at most places over Himachal Pradesh & Uttarakhand, at many places over Jammu & Kashmir, Punjab, Haryana & Delhi, East Rajasthan and Uttar Pradesh and at a few places over West Rajasthan.
- **Weather Warning:** Heavy to very heavy rainfall at isolated places over Uttarakhand on 10<sup>th</sup> August. Heavy rainfall would occur at isolated places over Uttar Pradesh, Uttarakhand, Himachal Pradesh and East Rajasthan during next 3 days.
- **Weather Outlook:** Rainfall/thundershower would occur at many places over the region.
- **Advisory :**
  - As rain / thundershowers would occur at most / many places over the states of the region except West Rajasthan, farmers are advised to postpone irrigation, intercultural operation and plant protection measures in standing crops during the period.
  - In Himachal Pradesh, farmers are advised to postpone sowing of cucurbits viz. khira, bitter gourd, tori and planting of potato in Hill zone, as rain / thundershowers would occur at most places along with heavy rainfall at isolated places during the period. Also provide adequate drainage in already sown crop fields.
  - In Himachal Pradesh, complete transplanting of rice. Farmers are advised to maintain 5-8 cm water in the rice field intermittently for good yields.
  - In Uttarakhand, farmers are advised to postpone sowing of groundnut, millets, pigeon pea, horse gram and French bean, sowing of maize in Hill Zone, as rain / thundershowers would occur at most places along with heavy / heavy to very heavy rainfall at one or two places during the period. Also provide adequate drainage in already sown crop fields and complete transplanting of rice.
  - In Uttar Pradesh, farmers are advised to postpone sowing of urad, moong, maize, as rain / thundershowers would occur at many places along with heavy rainfall at one or two places during the period. Also provide adequate drainage in already sown crop fields. Complete transplanting of rice. In West Uttar Pradesh continue transplanting of brinjal and chilli after current spells of rain.
  - In Sub Tropical Zone of Jammu & Kashmir, farmers are advised to continue nursery sowing of cabbage, continue transplanting of Basmati and Sambal basmati rice, complete transplanting of cauliflower, chillies. Also undertake plantation of evergreen fruit plants like mango, citrus, litchi, loquat, guava and papaya.
  - In Intermediate Zone of Jammu & Kashmir, farmers are advised to undertake new planting of fruit crops viz. pear, plum and peach, apple, almond, walnut, pecan nut etc. and complete transplanting of rice. Farmers in Valley Temperate Zone are advised to continue transplanting of cole crops in Valley Temperate Zone of Jammu & Kashmir.
  - Farmers in Delhi are advised to undertake sowing of sweet corn, baby corn, urd & moong and transplant ready seedlings of brinjal, tomato, chilli, cauliflower and cabbage. Also this is the suitable time for preparation of nurseries of cauliflower for mid-season (Nov.-Dec and sowing of sarson saag, radish, spinach and coriander.
  - Farmers in Central Plain Zone in Punjab are advised to start sowing of rainy season cucurbits such as bottle gourd, bitter gourd, ash gourd and sponge gourd. Also start sowing nursery of rainy season tomato. Farmers in Western Plain Zone in Punjab are advised to start planting of *kharif* onion crop both with bulbsets as well as seedlings. And transplant seedlings at 15 × 7.5 cm distance and irrigate the field immediately after transplanting.
  - Farmers in Western Zone in Haryana are advised to do intercultural operations for conserving the moisture and removing weeds in cotton and bajra crop and transplant brinjal, tomato, chilli, onion on ridges if seedlings are ready. Undertake transplanting of fruit plants.
  - In East Rajasthan, farmers are advised to continue transplanting of brinjal and chilli and undertake transplanting of papaya seedlings, planting of fruits viz. guava, pomegranate, orange, lime, aonla, ber etc. and carry out weeding and thinning operation for sown *kharif* crops after current spells of heavy rainfall.

- In West Rajasthan, it is advised to continue new planting of aonla, ber, anar, falsa, anjeer, neem etc. Also, in Arid Western Plain Zone, farmers are advised to undertake sowing of short duration varieties of moong, cowpea and moth where sowing of *kharif* pulses were not carried out till date.
- Due to rainy season there is a chance of red rot in Sugarcane in East Uttar Pradesh, farmers are advised to monitor the disease incidences and uproot the affected plants and burn it.
- In Himachal Pradesh, weather is congenial for fruit rot in tomato, chilli and capsicum, farmers are advised to spray Dithane M-45 @ 2-3 g per litre of water in 10-15 days interval. Also for tomato borer, spray Endosulphon@0.07% after spells of rain and picking should be done after 3-4 days of spray.
- In Bhabhar and Tarai Zone of Uttarakhand, weather is congenial for stem borer and leaf folder insects in rice fields, farmers are advised to broadcast 10 kg Phipronil-0.3 G or 8 kg Phipronil-0.4 or 8 kg, Cartop Hydrochloride-4G per acre after spells of rain. For effective control of these insects, ensure shallow water level in the field.
- In Arid Western Plain Zone of Rajasthan, there is possibility of spreading tikka disease in groundnut due to cloudy weather, farmers are advised to spray Bavistin half gram or Mancozeb 2.0 gm per liter water.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure III.

#### • Animal Husbandry

- In Bhabhar and Tarai zone of Uttarakhand, there are chances of more bacterial infections in poultry farms causing more losses of birds, farmers are advised to maintain cleanliness in and around the poultry shed.
- In Mid Hills Sub-Humid zone of Himachal Pradesh, cattle and buffaloes must be vaccinated against Haemorrhagic septicaemia. There are chances of endo and ectoparasite infestation increases during this period in grazing as well as farm animals which results in severe losses to the farmers. Deworming of animals should be done in this period. Single dose of Ivermectin tablet @10mg/50kg body weight must be given to the animals and the dose should be repeated after 21 days with same dose rate
- In Semi Arid Eastern Plain Zone of Rajasthan, it is advised to protect domestic animals from coming in direct contact with rains. Do not allow water to stagnant in their sheds. Go for vaccination of animals. In case of running nose and fever, consult veterinary doctor.

#### • Floriculture

- In Flood Prone Eastern Plain Zone of Rajasthan, farmers are advised to continue transplanting of marigold, balsam and xenia after current spell of heavy rain.
- Farmers in Himachal Pradesh are advised to undertake planting of annuals viz. marigold, cosmos, glardia, gomphrina, balsam and zenia after current spell of heavy rain.

### CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Significant rainfall occurred in all districts of Madhya Pradesh except Rewa, Sidhi and Singrauli and in all the districts of Chhattisgarh except Jashpurnagar and Surguja during the week
- **Weather forecast:** Rain/thundershowers would occur at many places over Madhya Pradesh and Chhattisgarh during next 48 hours and decrease thereafter.
- **Weather Warning:** Heavy rainfall would occur at isolated places over East Madhya Pradesh on 9<sup>th</sup> and heavy to very heavy rainfall at isolated places over Madhya Pradesh on 8<sup>th</sup> August, over West Madhya Pradesh on 9<sup>th</sup> August.
- **Weather Outlook:** Rainfall/thundershower would occur at a few places over the region.
- **Advisories:**
  - As rain / thundershowers would occur at many places during next 48 hours and decrease thereafter along with heavy / heavy to heavy rainfall over **Madhya Pradesh** on 8<sup>th</sup>, 9<sup>th</sup> August, withhold sowing of til, groundnut, urad, moong, sorghum and pigeon pea. Provide adequate drainage in already sown *kharif* crop fields. Continue transplanting of rice.
  - In Central Narmada Valley Zone of **Madhya Pradesh**, farmers are advised to transplant the seedlings of vegetables crops like chilli, tomato, brinjal and cauliflower after current spells of heavy rain.
  - In **Chhattisgarh**, continue sowing of maize, jowar, arhar and groundnut, sowing of *kharif* vegetables and nursery raising of tomato, brinjal and chilli,
  - As significant rainfall occurred during last week in Chhattisgarh Plain Zone and North Hill Plain Zone, farmers are advised to complete transplanting of rice as soon as possible and also maintain water level in the field up to 5 cm.
  - Due to humid and cloudy weather, there may be chance of occurrence of yellow mosaic in soybean, urad, moong crops in Bundelkhand Zone of Madhya Pradesh. Farmers are advised to uproot the affected plants and bury them.



- In Kymore Plateau and Satpura Hills Zone of Madhya Pradesh, present weather is congenial for the attack of sucking pest in soybean and attack of stem borer in maize, farmers are advised to spray Trizophos @ 1.5 ml per litre for control of sucking pest, Florudon 4 G 2-3 kg/ha for stem borer after current spells of rain.
- Due to heavy rainfall in Central Narmada Zone of Madhya Pradesh, guava plants are infested by stem borer and papaya plants by root rot and stem rot, farmers are advised to spray carbosulfan @ 2 ml/lit of water for control of stem borer and copper sulphate or blitox @ 3 g/lit. of water root rot and stem rot after current spells of rain.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure IIsa

#### ● ANIMAL HUSBANDRY & POULTRY

- Farmers of Madhya Pradesh are advised that due to humid weather condition, cattle should be kept in dry and clean places and create smoke in evening to save them from mosquitoes and bees.

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

- **Realised Rainfall:** Significant rainfall occurred in all districts of Sub Himalayan West Bengal and Sikkim; in most districts of Gangetic West Bengal except Bankura, Howrah, Murshidabad, Purulia and West Midnapore; in most districts of Odisha except Angul, Bhadrak, Boudh, Cuttack, Dhenkanal, Ganjam, Jajpur, Mayurbhanj; in Bokaro, Dhanbad, Dumka, Garwa, Giridh, Gumla, Jamtara, Kunti, Pakur, Palamu, Ramgarh, Sahibganj and Simdega districts of Jharkhand; in Araria, Aurangabad, Bhabua, Bhagalpur, Darbhanga, katihar, Kishanganj, Lakhisarai, Madhepura, Purnia, Rohtas, Samastipur, Saran, Supaul and West Champaran districts of Bihar during last week.
- **Weather Forecast:** Rain/thundershowers would occur at most places over Sub Himalayan West Bengal & Sikkim, at many places over Bihar, Jharkhand, Gangetic West Bengal and Odisha.
- **Warning:** Heavy to very heavy rainfall at isolated places over Sub Himalayan West Bengal & Sikkim on 8<sup>th</sup> and 9<sup>th</sup> August. Heavy rainfall would occur at isolated places over Sub Himalayan West Bengal & Sikkim on 10<sup>th</sup> August, over Bihar, Jharkhand on 8<sup>th</sup> and 9<sup>th</sup> August.
- **Weather Outlook:** Rainfall/thundershower would occur at many places over Sub Himalayan West Bengal & Sikkim, at a few places over Gangetic West Bengal, Bihar, Jharkhand and isolated over Odisha.
- **Advisories:**
  - As rain/thundershowers would occur at most places over Sub Himalayan West Bengal & Sikkim, at many places over Bihar, Jharkhand, Gangetic West Bengal and Odisha along with heavy / heavy to very heavy rainfall during the period, farmers are advised to postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crops.
  - Farmers of Odisha are advised to continue sowing of green gram, black gram, cowpea, sesame, ragi, castor and vegetables and continue transplanting of rice.
  - Farmers of East and South Eastern Coastal Plain Zone of Odisha are advised to undertake planting of marigold and banana.
  - In North West Alluvial Plain Zone of Bihar, farmers are advised to continue transplanting of rice in low and medium land areas and continue transplanting of vegetables. Farmers are advised to take care of weed control in the transplanted rice crop under low rainfall and moisture stress condition. Undertake sowing of radish and pointed gourd after current spells of rain.
  - In South Bihar Alluvial Zone, farmers are advised to postpone sowing of maize and small millets as rain / thundershowers would occur at many places alongwith heavy rainfall would occur at isolated places over 8<sup>th</sup> and 9<sup>th</sup> August. Undertake planting of banana, papaya and *khairif* onion after current spells of rain.
  - In North East Alluvial Plain Zone of Bihar, farmers are advised to use zinc sulphate @ 25kg/ha to prevent *khaira* diseases of rice before transplanting. Complete sowing of yam and nursery sowing of chilli and onion after current spells of rain.
  - In Western Plateau Zone of Jharkhand, farmers are advised to continue transplanting of rice. Farmers who have completed transplanting of rice in low land, may apply blue green algae @ 4 kg per acre after 15 days of transplanting. Apply urea @ 10-12 kg per acre after weeding in 20-25 days transplanted finger millet crop after current spells of rain. Undertake transplanting of tomato, cauliflower, cabbage, brinjal, chilli seedlings and avoid stagnation of water near root zone. In fallow land areas farmers may sow the crop like kulthi or safflower after current spells of rain.
  - In South Eastern Plateau Zone of Jharkhand, areas with fallow land are advised to undertake sowing of kulth after current spells of rain. Continue transplanting of rice. Staking should be done in cowpea, sponge gourd and bottle gourd.
  - In Central & North Eastern Plateau Zone of Jharkhand farmers are advised to continue transplanting of rice and sowing of maize, til and urd. Undertake intercultural operations and earthing in pigeon pea in 30 days old crop after current spells of rain.

- Farmers in Laterite and Red Soil Zone, New Alluvial Zone, Terai Zone and Old Alluvial Zone of West Bengal are advised to continue transplanting of *Aman* rice. Continue transplanting of tomato and complete sowing of cowpea in Laterite and Red soil Zone, harvesting and retting operation of jute in New Alluvial Zone, Terai Zone and Old Alluvial Zone of West Bengal.
- Due to cloudy weather, high temperature and humid condition fungal and bacterial diseases may be attack in maize in Laterite and Red Soil Zone and New Alluvial Zone of West Bengal. For fungal attack spray Mancozeb (2.5g) and in case of bacterial rot spray Streptocycline (0.1g per litre of water) after current spells of rain.
- In South Eastern Plateau Zone of Jharkhand, due to humid weather, there are chances of leaf eating and sucking pests in arhar, spray Monochrotophos @ 1 ml per liter of water by mixing Teepol @ 0.5 ml per liter of water on a non rainy day. Present weather condition is also conducive for the occurrence of pests like hairy caterpillar in groundnut, apply Dichlorvos @ 0.5 ml per liter of water in early stage of caterpillar after current spells of rain and for the control of adult caterpillar, provide bamboo perch for birds. Weather is conducive for the attack of pest and diseases like fruit and shoot borer in brinjal and Okra, fruit fly in cucurbitaceous vegetables, leaf blight in tomato and chilli/capsicum, spray of super killer @ 1 ml or Malathion @ 2 ml per liter of water for fruit and shoot borer after current spells of rain.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure III.
- **Animal Husbandry**
  - Farmers in South Bihar Alluvial Zone are advised to provide butocus medicine to animal to protect them from parasites and give them food with 50-60 gram minerals.
  - Chances of foot and mouth disease in the cattle, farmers in North West Alluvial Plain Zone of Bihar are advised to wash mouth of the animal with potash solution and foot with phenyl.
  - Farmers in South Eastern Plateau Zone of Jharkhand are advised to protect livestock from H.S., Ranikhet, foot rot and parasitic load by taking proper preventive measures
  - **Poultry**
    - In North West Alluvial Plain Zone of Bihar, farmers are advised to arrange pure drinking water for poultry birds during this season.

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

- **Realised Rainfall:** Significant rainfall occurred in all districts of the States of the region except Dibang Valley and Upper Siang districts of Arunachal Pradesh, Baksa, Darrang and Kamrup (Metro) districts of Assam, West Khasi Hills district of Meghalaya, Champhai and Mamit districts of Mizoram and Kephire district of Nagaland.
- **Weather Forecast:** Rain / thundershowers would occur at most places over the states of the region.
- **Weather Warning:** Heavy to very heavy rainfall at isolated places over Assam & Meghalaya and heavy rainfall at isolated places over Arunachal Pradesh would occur during the period.
- **Weather Outlook:** Rainfall / thundershower would occur at many places over the states of the region.
- **Advisories:**
  - As rain / thundershowers would occur at most places over the States of the region during the period, farmers are advised to postpone irrigation, intercultural operations, application of fertilizers and plant protection measures in standing crops. As heavy to very heavy rainfall at isolated places over Assam & Meghalaya and heavy rainfall at isolated places over Arunachal Pradesh would occur during the period, farmers are advised to arrange for adequate drainage in the crop fields.
  - Farmers are advised to continue transplanting of *sali* rice in Assam and *jhum* rice in Mizoram.
  - As rain / thundershowers would occur at most places along with heavy to very heavy rainfall at isolated places during the period, farmers are advised to postpone sowing of *kharif* sesame in Lower Bramhaputra Valley Zone and Barak Valley Zone of Assam and nursery sowing of finger millet in Lower Bramhaputra Valley Zone.
  - Complete transplanting of long duration varieties of *sali* rice in Lower Bramhaputra Valley Zone of Assam.
  - In Lower Bramhaputra Valley Zone of Assam, in occasionally flood affected areas, after receding of flood water, transplanting of rice can be done by mid August using varieties Kushal, IET-6666, Pankaj, Biraj, Anderw sali, Solpona etc. In chronically flood affected areas, where flood is expected to recede by the last part of August, varieties like Andrew Sali, Biraj, Monohar Sali, Kmj-1-19-1, Luit, Kapilee, Dum Sali should be selected. In areas where transplanting is not possible before mid September, extra early varieties such as Luit, Kapilee, Culture-1 and Heera should be selected. Community nursery may be raised by the farmers of flood affected areas in non-flood prone or high lands or by other farmers from flood free areas to meet requirement of seedlings of flood affected areas.

- In view of occurrence of rainfall at most places along with heavy to very heavy rainfall at isolated places, farmers in North Bank Plain Zone of Assam are advised to postpone nursery sowing of cauliflower and sowing of green gram, black gram and radish.
- Due to deficient rainfall situation in some parts of Darrang & Udalguri districts of North Bank Plain Zone of Assam transplanting of *sali* rice could not be carried out; farmers are advised to undertake wet seeding of sprouted seeds (@ 75-80 kg/ha) of short duration varieties like Disang, Luit (100 days), Kapili, Kalong (120 days) after current spells of heavy rain or late and staggered planting with the old seedlings (50-60 days old seedlings) of the varieties like Profulla and Gitesh.
- In Karimganj, Cachar and Hailakandi districts in Barak Valley Zone of Assam, farmers could not be able to transplant *Sali* rice in considerable area due to deficit rainfall. In some areas of these districts, where early transplanting has been done, crop growth is not satisfactory. Where transplanting of *sali* rice could not be done till date, farmers are advised to undertake nursery sowing of varieties like Prafulla, Gitesh etc. utilizing recent monsoon rain.
- In Dhemaji, Lakhimpur and Sonitpur districts of North Bank Plain Zone of Assam, if there is total damage of seedlings or crops in the main rice field due to flood, farmers are advised to sow short duration cultivars like Luit, Kapilee and Dishang in the nursery bed within the 3<sup>rd</sup> week of August to undertake transplanting of 20-21 days old seedlings up to mid September. Sprouted seeds of the Luit, Kapilee, Dishang etc. can be sown in the main field after receding the flood water. In partially affected fields, drain out excess water and apply 1/3<sup>rd</sup> dose of N<sub>2</sub> + half dose of K<sub>2</sub>O as top dressing during the tillering stage.
- Farmers in flood affected areas of Upper Brahmaputra Valley Zone of Assam are advised to undertake nursery sowing of short duration HYV rice varieties for transplanting within 1<sup>st</sup> week of September.
- In Mild Tropical Plain Zone of Tripura, farmers are advised to continue transplanting of *aman* rice. However, in upland and medium upland, deficit rain, particularly during the month of July, has affected sowing of *aman* rice; farmers are advised to undertake direct sowing of short duration varieties to avoid further delay.
- Farmers in the upland areas of Sub Tropical Plain Zone of Manipur are advised to undertake sowing of onion after current spells of rain.
- In Mild Tropical Hill Zone of Mizoram, farmers are advised to complete sowing of groundnut after current spell of rain.
- Due to favourable weather condition in Upper Brahmaputra Valley Zone of Assam, there is chance of attack of leaf folder and rice hispa in seedling and tillering stage of *sali* rice. Farmers are advised to spray Chloropyrifos 20 EC @ 1 ml per liter of water after current spells of rain.
- Due to cloudy and humid weather in Mild Tropical Plain Zone of Tripura, there is a chance of occurrence leaf blight in maize. Farmers are advised to apply Zineb @ 3 g per liter of water to control leaf blight. There is also chance of infestation of sheath blight in *jhum* rice due to humid weather. Spray Surf @ 1g per liter of water. Farmers are advised to apply these plant protection measures after current spell of rain
- In Sub Tropical Hill Zone of Arunachal Pradesh due to present weather conditions, severe attack of Gundhi bug on *jhum* rice is reported and likely to continue. Undertake dusting of 5% Malathion or Carbaryl @ 25 kg per hectare after current spells of rain.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure III.

#### ● **Animal Husbandry**

- In flood affected areas of Assam, farmers are advised to provide adequate clean drinking water to cattle and poultry. Farmers are also advised to administer proper vaccination schedule to protect their cattle from viral and bacterial diseases. Farmers are advised to protect the fishes by restricting intrusion of unwanted fishes through flood water by putting nylon net or bamboo net around the unit.
- In view of humid weather in Sub Tropical Plain Zone of Manipur, farmers are advised to replace litter with the dry litter material regularly to prevent bacterial infection. Protect birds from rain by using curtains of polythene sheets for windows.
- In Mild Tropical Plain Zone of Tripura, monsoon weather is favourable for endoparasitic disease in cattle and goat. Farmers are advised to deworm animals against such disease. Farmers are also advised to keep clean sanitary conditions in pig sheds to avoid infection of gastrointestinal parasites.

#### **WEST INDIA [GOA, MAHARASHTRA, GUJARAT]**

- **Realised Rainfall:** Significant rainfall occurred in all the districts of the States of the region Kutch and Surendranagar districts in Saurashtra and Kutch region in Gujarat State during the week.
- **Weather Forecast:** Rain / thundershowers would occur at most places over Konkan and Goa and at a few places over Madhya Maharashtra, Vidarbha and Gujarat region during the period. Rain / thundershowers would occur at isolated places over remaining parts of the region.
- **Weather Warning:** Nil.

● **Weather Outlook:** Rainfall / thundershower would occur at many places over Konkan and Goa and at isolated places over remaining parts of the region.

● **Advisories:**

- As rain is likely to occur at most places in Konkan, farmers are advised to undertake intercultural operations, application of fertilizers and plant protection measures in rice, finger millet, vegetables and also in orchards of mango, cashew and sapota after current spells of rain. Maintain water level upto 5 cm in rice fields.
- As rain would occur at a few places over Madhya Maharashtra, farmers are advised to undertake intercultural operations, application of fertilizers and plant protection measures on a non rainy day. Maintain water level of 3-5 cm in already transplanted rice fields. Taking the benefit of the realized rains, farmers are also advised to continue planting of *adsali* sugarcane on vapsa condition.
- In Marathwada, farmers are advised to undertake intercultural operations in soybean, cotton, red gram and black gram. Taking the benefit of the realized rains, farmers are also advised to continue planting of *adsali* sugarcane on vapsa condition.
- As rain is likely to occur at a few places in Vidarbha, farmers are advised to undertake intercultural operation in rice, cotton, red gram, soybean crops and pulses on a non-rainy day. Maintain 3-5 cm water level in rice field. Due to continuous heavy rain and wet spell upto last week, soybean and cotton crops are damaged in parts of Yavatmal, Washim, Chandrapur, Nagpur, Wardha and Amravati districts. Farmers are advised to prepare the field for re-sowing of contingent crops like sesamum, red gram, sunflower, bajra and castor in those areas.
- As significant rainfall occurred in all the districts and rainfall is likely to occur at few places in Gujarat region, farmers are advised to postpone irrigation in standing crops in Gujarat region. Farmers are also advised to undertake intercultural operation and application of fertilizers and plant protection measures on a non-rainy day.
- Undertake transplanting of vegetables in Bhal and Coastal Zone, North Gujarat Zone and North Saurashtra Zone utilizing recent monsoon rain. Complete sowing of pulses in North West Zone of Gujarat.
- In South Gujarat Heavy Rainfall Zone, undertake land preparation for sowing of castor and carry out gap filling and intercultural operations in pulses.
- Cloudy weather and frequent rain with temperature 24-28°C is congenial for the incidence of blast in rice in South Konkan; spray Carbendazim @ 10 g or Copper Oxylchloride @ 25 g per 10 litres of water after current spells of rain.
- Due to prevailing humid and cloudy weather, there may be attack of leaf eating caterpillar on soybean in Marathwada region; spray Emamectin Benzoate 5% @ 4 g per 10 litres of water.
- Due to cloudy weather in South Gujarat Zone, there are chances of incidences of sucking pests in cotton; Farmers are advised to spray Imidacloprid or Thiomothoxam @ 4 ml per 10 liter of water on a non rainy day.
- Due to increased temperature and high humidity forecast in coming days in South Gujarat Heavy Rainfall Zone, there are chances of root rot in chilli; drench with 1% *Trichoderma viride* on a non rainy day to manage root rot disease.
- Due to continuous rain, there is possibility of outbreak of wilt in cotton in North Saurashtra Zone; carry out drenching of *Trichoderma* fungus @ 40 g per 10 litres of water. Humid weather condition is also favourable for outbreak of sucking pests in vegetables; spray Dimethoate (40%) @ 20 ml or Imidacloprid 17.8% @ 5 ml in 10 liters of water.
- Stages of the crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure III.

● **Animal Husbandry**

- In view of forecast of cloudy sky, farmers in South Gujarat Heavy Rainfall Zone are advised to make arrangement for artificial light in poultry sheds.

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

● **Realized rainfall:** Significant rainfall occurred in all the districts in Kerala; Guntur, Prakasam and Vizianagaram districts in Coastal Andhra Pradesh; most of the districts in Telangana except Nalgonda; all the districts in Coastal Karnataka; Belgaum, Bidar, Dharwad and Haveri districts in North Interior Karnataka; Chickmagalur, Davangere, Hassan, Kodagu, Mysore, Ramanagara and Shimoga districts in South Interior Karnataka and Coimbatore, Cuddalore, Nilgiris, Kanyakumari and Theni district in Tamil Nadu. No significant rainfall occurred in the remaining parts of the region.

● **Rainfall Forecast for next three days:** Rain/thundershowers would occur at most places along Coastal Karnataka, Kerala; at many places over Andaman & Nicobar Islands and Lakshadweep and few places over rest of the region outside over Telangana, Rayalaseema and Tamil Nadu where it would be isolated.

● **Weather Outlook** (11<sup>th</sup> August to 15<sup>th</sup> August): Rainfall/thundershower would occur at many places over Coastal Karnataka and Kerala and isolated over remaining parts of the region.

● **Advisories:**

- Farmers in Kerala are advised to continue planting of banana. Provide adequate drainage in the standing crops of vegetables and sugarcane. Due to continuous rainfall, weed problems may arise in the transplanted rice fields. Farmers are advised to control the weeds using suitable weedicides.
- In South Telangana areas where inter cultivation is not possible due to recent rains in cotton, farmers can take up post emergence application of Quizalofop-p-ethyl @ 400 ml per acre for the control of grasses or Pyriithiobac sodium @ 250 ml per acre for the control of broad leaved weeds.
- Farmers in the North Telangana are advised to undertake transplanting of rice and where nurseries of rice are damaged due to recent heavy rains farmers are advised to go for direct sowing of rice and provide drainage to the already sown crops like soyabean, cotton, maize, groundnut and vegetables due to excess rainfall during the week..
- Farmers in Scarce rainfall Zone of Andhra Pradesh are advised to take up sowing of contingency crops like jowar, bajra, fox tail millet, green gram, cow pea, field bean and fodder jowar up to second fortnight of August in case of delayed sowing of rainfed groundnut crop in Anantapur District and continue transplanting of rice in Kurnool district.
- Farmers in North Coastal Andhra Pradesh are advised to continue transplanting of rice to the main fields.
- In Coastal Karnataka, continue transplanting of *kharif* rice. Drain out excess water from standing crops of maize and cotton in Uttar Kannad District as rainfall would occur at most places.
- Farmers in the Eastern Dry Zone of Karnataka are advised to prepare staggered nursery and go for seed hardening of ragi, contour cultivation, small section bunds and undertake dry sowing of ragi with 15-20% higher seed rate due to subdued rainfall activity in Chikkaballapura, Kolar and Ramnagara districts.
- Farmers in the North East Dry Zone of Karnataka are advised to continue sowing of groundnut, castor, redgram and bajra, continue rice transplanting in river beds and continue Bt. cotton dibbling.
- Farmers in the North East Transition Zone of Karnataka are advised to drain out stagnated water in the sugarcane fields due to continuous rains.
- Farmers in the North Dry Zone of Karnataka are advised to continue sowing of maize and planting of sugarcane.
- Farmers in the Hill Zone of Karnataka are advised to complete sowing of *kharif* pulses and cotton utilizing the realized rainfall.
- In South Transition Zone of Karnataka, undertake transplanting of *kharif* rice. Provide adequate drainage in already sown groundnut, maize, red gram and vegetable crop fields which are at vegetative to flowering stages.
- Farmers are advised to continue direct sowing of *Samba* rice in Thanjavur, Thiruvarur, Nagapatinam and Cuddalore districts and in the remaining districts of Cauvery Delta Region where *Kuruvai* rice has not been taken, undertake land preparation and keep inputs ready for nursery sowing/direct seeding of *samba* rice. Farmers are also advised to undertake land preparation (ploughing and rotovating) for sowing of rainfed cotton and maize using the realised rainfall.
- Farmers in the Western Zone of Tamil Nadu are advised to undertake land preparation for nursery sowing of *samba* rice, sowing of irrigated maize in Tiruppur district.
- Farmers in the North Western Zone of Tamil Nadu are advised to undertake cultivation of improved high yielding varieties of groundnut, castor, sorghum, and red gram utilizing the monsoon showers.
- Farmers in the South Zone of Tamil Nadu are advised to give support to banana and undertake propping in sugarcane to protect from strong winds.
- Prevailing conditions are favourable for tobacco caterpillar incidence in early sown groundnut, stem borer in paddy nurseries and red hairy caterpillar in castor crop in the Scarce Rainfall Zone of Andhra Pradesh. Farmers are advised to monitor the incidence and keep mass trapping with pheromone traps @4 per acre of tobacco caterpillar in the field to control tobacco caterpillar incidence, apply carbofuran 3G@150 gm per every cent to control stem borer and spray monocrotophos 1.6 ml or dimethoate 2 ml per one litre of water for red hairy caterpillar on non- rainy day.
- Prevailing weather is conducive for leaf spot incidence in turmeric in the Western Zone of Tamil Nadu. Farmers are advised to monitor the incidence and spray Mancozeb @ 2.5g/litre of water+ teepol 5 ml/litre of water.
- The present weather is most conducive for the incidence of bud rot and leaf rot diseases in coconut, downy mildew disease in vegetables and pseudostem weevil in banana in the Problem Area Zone of Kerala. Farmers are advised to undertake proper field surveillance and plant protection measures after current spells of rain, if noticed.
- Weather is congenial for incidence of leaf folder in the transplanted rice in the Northern Zone of Kerala. Farmers are advised to undertake spraying of Carbaryl 85 MS @ 4 g per litre of water after current spells of rain.

➤ Stages of major crops are mentioned in Annexure I.

➤ Varieties are mentioned in Annexure III.

● **Animal Husbandry:**

➤ Farmers in the Western Zone of Tamil Nadu are advised to deworm cattle, milch animals and goats.

➤ Farmers in the North Eastern Zone of Tamil Nadu are advised to protect lambs, kid and young calves from rain and chillness by providing adequate shelter and gunny bags and administer anti-diarrheal drugs to young animals, since young animals are more prone to enteritis due to grazing of new grown grasses. In case of poultry, farmers are advised to provide clean drinking water to avoid E.coli infection in birds.

➤ Farmers in the Krishna Godavari Zone are advised to provide light and warm beds with straw, clean water and fodder to avoid the rainy season diseases in cattle. Provide malt along with the feed mixture and provide green grasses and also vaccinate the animals.

## Annexure I

### Stages of Major Crops

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

- *Capsicum*, tomato, brinjal, chilli (flowering/fruitletting), French bean, okra (flowering/fruitletting), rice (tillering), maize(vegetative/tasseling), soybean (vegetative/ tasseling), peas (flowering/pod maturity), cauliflower (nursery sowing), cucurbits viz. khira, bitter gourd, tori (sowing/ early vegetative), potato (sprouting/vegetative) in Himachal Pradesh.
- Rice (tillering), ginger (vegetative), okra (flowering/ fruitletting), sugarcane (vegetative), cucurbits (flowering/fruitletting), vegetables viz. tomato, *Capsicum*, chilli, brinjal, cabbage, cauliflower in mid and high hilly area (flowering/ fruitletting), vegetables viz. palak, fenugreek, coriander, bhindi, French bean and lobia (flowering/fruitletting), maize, finger millet, urad, moong, soybean, groundnut, pigeon pea, cowpea, horse gram, rice bean (early vegetative/vegetative), sorghum, sesame, pearl millets (sowing/ early vegetative) in Uttarakhand.
- Bajra, moong, til, sorghum (sowing), chilli, brinjal, tomato and early cauliflower (transplanting), maize, guar, soyabean (early vegetative), rice (early vegetative), radish, spinach, coriander, cluster bean, bean, okra (sowing), onion (transplanting), geen gram, black gram (sowing) in Delhi.
- Rice (transplanting / seedling / tillering), maize (Early sown - vegetative / tassel emergence, Normal sown - Knee high / vegetative), bajra, pole type beans (germination / early vegetative ), cowpea (germination/ early vegetative), sunflower (vegetative/ flowering), garlic, cucurbits, okra (vegetative/ flowering), radish, spinach (transplanting), carrot, turnip (sowing), onion, cole crops (nursery sowing / transplanting), fruit crops (planting), brinjal, chilli, tomato, (transplanting), potato (early vegetative), *kharif* pulses (moong, mash) (germination / early vegetative ), groundnut (germination / early vegetative), radish, carrot, cucurbits (nursery sowing ) in Jammu & Kashmir.
- *Kharif* maize, jowar (sowing), rice (transplanting/tillering/vegetative), groundnut, arhar, moong and urad (sowing/early vegetative), tomato, brinjal (transplanting/vegetative), and cucurbitaceous vegetables (flowering/ fruitletting), spring sugarcane (vegetative), jute (vegetative) in Uttar Pradesh.
- New sugarcane (tillering/vegetative), cotton (early vegetative), cucurbits, cowpea (sowing), rice (transplanting), pearl millet, black & green gram, soybean / arhar (sowing/germination), moong, mash, sesamum (sowing) in Punjab.
- New sugarcane (vegetative), cotton (early vegetative), rice (transplanting) in Haryana.
- Rice (transplanting), cotton (active vegetative / square formation / flowering), tomato, brinjal, chilli (nursery sowing / transplanting), shimla mirch (germination), moong, early sown groundnut (early vegetative / vegetative), new sugarcane (vegetative growth), groundnut, bajra, sorghum, soybean, moong, guar, sesame, moth, maize, cowpea, cluster bean, castor (germination), cucurbits (sowing) and fruit crops (ber, aonla, pomegranate, phalsa) (new planting / transplanting), kinnu (new planting) in Rajasthan.

#### CENTRAL INDIA [M.P., CHHATTISGARH]

- *Kharif* rice (seedling / transplanting), onion (transplanting / early vegetative), maize, jowar, arhar, soybean, sesame, groundnut (sowing / germination / early vegetative), sugarcane (elongation / grand growth), vegetables (transplanting / early vegetative) in Madhya Pradesh.
- Sugarcane (planting/early vegetative), *kharif* rice (nursery /transplanting), maize, groundnut, green gram (sowing/germination) jowar, arhar, soybean (sowing/germination), ragi and kodomillet (sowing/germination), ginger, turmeric, papaya (vegetative), onion (vegetative), vegetable crops (sowing/ transplanting) in Chhattisgarh.

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

- *Kharif* rice, (transplanting), maize(sowing/germination/tasseling), sugarcane (early vegetative / tillering), onion(transplanting), urad (sowing), yam (vegetative) in Bihar.
- *Kharif* rice (tillering), maize, urad, marua (sowing), arhar, groundnut (early vegetative), onion (vegetative), ginger and turmeric (planting/vegetative), *kharif* vegetables viz. bhindi, bean, French bean (sowing), tomato, cauliflower, cabbage (transplanting/vegetative) in Jharkhand.
- Rice (transplanting/early tillering), pigeon pea, groundnut, arhar, maize, cotton and *kharif* vegetables (sowing), fruit crops (planting), green gram, black gram, cowpea, sesame, ragi, castor, soybean (sowing), Jute (active vegetative), turmeric, ginger, yam (planting / early vegetative), sugarcane (tillering), banana (planting/vegetative), tomato (fruiting / harvesting), sunflower (maturity/harvesting), marigold(sowing), in Odisha.
- *Aus rice* (flowering), *aman* rice (transplanting/tillering), *kharif* maize (early vegetative), ginger, turmeric (vegetative), pigeon pea (early vegetative), *kharif* vegetables (vegetative), brinjal, bitter gourd, pointed gourd, ladies finger (vegetative/fruitletting), chilli (vegetative), pointed gourd (flowering/fruitletting), banana (planting), jute (harvesting), tomato, cowpea (sowing) in West Bengal.
- Ginger (vegetative), large cardamom (secondary flowering), *kharif* vegetables (vegetative) in Sikkim.

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

- Sugarcane (active vegetative / elongation), *sali* rice (seedling / transplanting / tillering), *Olorius* jute (maturity / harvesting), pigeon pea (vegetative), sesame (sowing / germination / vegetative), *kharif* vegetables (flowering / fruiting), ginger, turmeric (vegetative), cucurbits (vegetative / flowering / fruiting), finger millet (nursery sowing), early cauliflower, broccoli (nursery sowing), green gram and black gram (sowing / germination / vegetative) and radish (sowing) in Assam.
- *Jhum* rice (grain formation / grain maturity), WRC rice early sown (tillering / panicle initiation / flowering), main WRC rice (early tillering / tillering), okra (fruiting / harvesting), cucurbits (fruiting / maturity / harvesting), potato (tuber maturity / harvesting), brinjal (fruiting / maturity / harvesting) in Arunachal Pradesh.
- *Kharif* rice (tillering), *kharif* rice – late variety (nursery sowing), groundnut and soybean (vegetative), black gram, rice bean (sowing / vegetative), turmeric, ginger (vegetative), cauliflower (early variety) (early vegetative), cauliflower, tomato (midseason variety) (nursery raising), banana (planting), okra (sowing / vegetative), cucurbits–late sown (vegetative), onion (planting) in Manipur.
- *Kharif* maize (tasselling / cob formation), *sali* rice (tillering), turmeric, ginger (rhizome formation / rhizome maturity), cucurbits (vegetative / fruiting) in Meghalaya.
- Maize (tasseling / silking), *jhum* rice / upland rice (transplanting), groundnut (sowing / vegetative), cucurbits (flowering / fruiting), ginger and turmeric (vegetative) in Mizoram.
- Upland rice (panicle initiation / flowering / grain formation), lowland rice (tillering), chilli (vegetative), okra, brinjal (fruiting / harvesting), ginger (vegetative) and cucurbits (vegetative / flowering) in Nagaland.
- *Jhum* rice (active tillering / panicle initiation), *aman* rice (transplanting / early tillering), groundnut (pegging / pod formation), maize (active vegetative), banana (vegetative), *kharif* vegetables like okra, cucurbits (active vegetative / flowering) in Tripura.

## **WEST INDIA [GOA, MAHARASHTRA, GUJARAT]**

- *kharif* rice (early tillering / tillering in Konkan and early tillering in Kolhapur, Nasik (Ghat), Pune (West) region and East Vidarbha), jowar and red gram (early vegetative in Madhya Maharashtra, Marathwada and Vidarbha), bajra (early vegetative / vegetative in Madhya Maharashtra and Marathwada), soybean(vegetative / branching in Madhya Maharashtra, Marathwada and Vidarbha), groundnut (vegetative / flowering in Madhya Maharashtra, Marathwada and Vidarbha), green gram (branching / flowering / pod formation in Madhya Maharashtra and Marathwada), black gram (branching in Madhya Maharashtra and Marathwada), sugarcane (*adsali*, pre-seasonal and *suru*) (active tillering / elongation), Sugarcane (new *adsali*) (planting / sprouting in Marathwada and Madhya Maharashtra) in Maharashtra.
- *Kharif* rice (early tillering / tillering), castor (sowing / germination / vegetative), pearl millet (germination / tillering), sesame (early vegetative / vegetative), groundnut (vegetative / flowering / pegging), cotton (vegetative), pulses (sowing / germination / vegetative / flowering), maize (vegetative), *kharif* vegetables (seedling / transplanting), sugarcane (grand growth) in Gujarat.

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

- *kharif* crops: early sown groundnut (flowering/pegging), (vegetative), maize (seedling/vegetative), Bt.cotton (vegetative/flowering), late sown groundnut (vegetative/flowering), cotton (seedling/vegetative), red gram (seedling/ early vegetative), sugarcane(Jan-Feb planted) (grand growth), rice (nursery sowing/transplanting), castor(seedling/vegetative), banana (planting), direct sown rice (germination/seedling), rainfed sugarcane (germination/tillering), pulses (sowing) and vegetables (sowing/ vegetative) in Andhra Pradesh.
- *kharif* crops: sugarcane (grand growth),*kuruvai* rice (panicle initiation), *samba* rice (land preparation), irrigated rice (seedling), irrigated banana (vegetative), irrigated maize(sowing), rice (transplanting), maize (vegetative/flowering), sunflower (vegetative), black gram (flowering), rainfed groundnut (sowing to germination /vegetative) and vegetables (sowing) in Tamil Nadu.
- *Viruppu* rice (transplanting to tillering/panicle initiation), direct seeded rice (sowing/seedling), arecanut (nut formation), sugarcane (grand growth), rainfed banana (various stages), new Nendran banana (planting), rubber (tapping/planting), *Kharif* vegetables (sowing/transplanting/ early vegetative), pepper (berry development), cardamom (flowering), ginger (vegetative) in Kerala.
- Sugarcane (grand growth), arecanut (nut formation/maturity), new arecanut (planting), *kharif* crops: sorghum, bajra, sesame, sunflower, navane, Bt.Cotton(sowing), ragi (sowing/transplanting), and cowpea (sowing), green gram, maize, red gram and groundnut (sowing/early vegetative/flowering), black gram and soybean (early vegetative), rice (nursery sowing/transplanting), vegetable crops (transplanting) in Karnataka.



## Annexure II

### Week by Week Rainfall Distribution for the States of Northeastern Region, Punjab, Haryana, Uttar Pradesh, Rajasthan, Madhya Pradesh, Jharkhand, Odisha, West Bengal, Gujarat, Maharashtra, Karnataka, Tamil Nadu and Andhra Pradesh

State/Districts	19.06.13		26.06.13		03.07.13		10.07.13		17.07.13		24.07.13		31.07.13		07.08.13	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
<b>Arunachal Pradesh</b>																
Anjaw	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Changlang	34.2	-68	96.8	-41	105.9	-8	173.3	67	94.6	-12	31.7	-70	25.1	-71	75.1	35
Dibang Valley	0.0	-100	0.0	-100	121.0	25	54.0	-21	7.0	-86	19.0	-63	14.0	-75	11.0	-65
East Kameng	70.3	-30	35.6	-58	113.4	40	141.7	74	25.5	-74	50.5	-42	14.7	-79	66.1	35
East Siang	9.0	-95	172.9	-9	309.5	46	545.2	167	177.6	-33	258.5	30	94.4	-58	113.0	-36
Kurung Kumey	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Lohit	14.5	-85	70.1	-41	216.0	48	199.3	57	107.1	-28	68.0	-63	66.6	-52	59.6	-31
Lower Dibang Valley	3.0	-96	13.0	-88	**	**	**	**	**	**	**	**	**	**	**	**
Lower Subansari	1.8	-97	7.6	-88	6.6	-86	2.4	-94	1.8	-98	3.6	-93	20.4	-67	36.4	-55
Papumpara	41.6	-66	106.7	-36	147.1	-21	110.5	-35	116.1	-1	134.0	-16	146.8	70	83.6	-27
Tawang	13.0	-91	58.0	-69	88.0	-49	97.0	-44	81.0	-62	125.0	-18	56.0	-59	94.0	-22
Tirap	62.5	-59	124.9	-28	57.2	-69	184.0	10	242.6	21	119.2	-41	38.6	-79	115.9	12
Upper Siang	0.2	-99	86.0	-59	256.0	52	153.0	-1	31.2	-77	181.6	37	131.8	-5	17.0	-77
Upper Subansari	13.9	-56	17.6	-72	160.8	77	0.2	-99	96.4	79	24.2	-49	30.0	43	31.2	15
West Kameng	75.4	-48	80.9	-57	121.3	-30	61.3	-64	91.0	-57	46.1	-70	78.2	-43	109.7	-9
West Siang	19.5	-83	81.2	-15	192.1	45	141.1	41	86.4	-46	95.6	-28	31.4	-75	58.6	0
<b>Assam</b>																
Baksa	53.3	-68	66.6	-58	112.1	-42	78.5	-64	56.0	-61	108.6	-34	9.0	-93	11.9	-87
Barpeta	67.8	-60	36.8	-77	111.4	-42	235.1	9	7.9	-95	108.7	-34	87.6	-33	86.4	-2
Bongaigaon	41.6	-75	44.2	-64	83.8	-58	354.8	64	1.0	-99	64.7	-61	48.8	-64	97.6	14
Cachar	33.0	-70	90.9	-32	120.7	-2	84.1	-25	178.9	48	66.0	-48	92.2	-17	101.8	-4
Chirang	36.5	-78	60.5	-50	160.9	-20	316.7	46	12.1	-92	68.9	-58	35.0	-74	45.5	-47
Darrang	0.5	-99	2.0	-98	1.0	-99	1.0	-99	0.0	-100	**	**	**	**	26.0	-59
Dhemaji	94.0	-24	59.0	-56	132.0	-12	132.0	-8	130.0	-15	90.0	-19	22.0	-83	95.0	14
Dhubri	10.8	-93	70.5	-48	121.7	2	120.9	1	1.7	-99	10.5	-91	21.6	-84	52.3	-44
Dibrugarh	67.9	-24	122.8	6	86.0	-23	164.4	41	96.4	-20	89.7	-26	78.3	-28	114.9	26
Goalpara	15.2	-90	72.7	-46	121.9	-19	108.6	-12	7.9	-92	8.0	-93	41.7	-59	84.5	34
Golghat	8.1	-88	84.5	44	46.2	-29	32.0	-57	72.0	-7	66.7	-10	80.4	36	144.2	179
Hailakandi	20.3	-81	23.9	-76	66.7	-32	60.4	-28	116.8	27	76.9	-24	125.9	18	191.5	109
Jorhat	82.1	13	139.5	108	62.9	-26	81.0	-10	120.2	23	83.6	9	170.8	103	89.9	13
Kamrup(Rural)	0.3	-99	44.2	-58	47.6	-39	25.2	-72	38.8	-49	108.0	42	18.2	-70	46.8	-12
Kamrup(Metro)	8.1	-91	137.0	30	40.7	-48	73.9	-17	30.7	-60	35.5	-53	43.9	-28	26.4	-51
Karbi Anglong	8.9	-87	63.7	10	68.5	60	11.9	-80	118.6	149	38.9	-28	63.0	6	57.3	-1
Karimganj	51.3	-69	143.7	-10	82.9	-44	88.3	-44	98.2	-34	99.1	-25	144.2	15	139.0	49
Kokrajhar	47.6	-79	117.1	-37	160.4	-32	481.9	82	26.5	-79	84.8	-59	36.3	-77	104.7	-21
Lakhimpur	55.8	-55	139.0	3	143.6	-4	103.1	-28	171.3	13	175.3	58	122.5	-4	119.4	43
Morigaon	10.6	-88	52.0	-37	116.4	32	105.6	15	127.8	47	88.8	28	17.4	-80	54.2	-26
N.C.Hills	0.0	-100	81.4	7	49.3	-36	51.2	16	119.4	89	3.4	-94	92.9	60	99.0	190
Nowgong	17.6	-75	33.5	-55	50.0	-22	25.1	-61	117.4	30	43.4	-47	29.0	-54	36.5	-45
Nalbari	56.7	-61	60.0	-58	88.0	-17	90.2	-27	5.1	-96	115.2	25	50.4	-34	35.1	-58
Sonitpur	22.5	-72	110.0	30	167.6	71	61.5	-30	127.3	41	161.9	103	60.3	-26	83.4	38
Sibsagar	17.4	-70	96.7	41	55.9	-38	68.6	-23	87.2	1	93.6	25	113.9	58	109.8	37
Tinsukia	38.6	-57	109.1	8	68.5	-38	192.7	69	93.6	-18	64.6	-44	88.6	-26	69.8	-6

Udalgiri	5.5	-95	133.5	13	106.2	30	72.1	-15	121.5	42	149.1	129	54.0	-20	90.2	42
<b>Meghalaya</b>																
East Garo Hills	1.5	-99	2.0	-98	3.0	-97	4.0	-95	**	**	**	**	**	**	**	**
East Khasi Hills	41.7	-88	278.1	-30	396.3	10	518.5	35	164.1	-58	110.1	-64	154.2	-45	245.9	-2
Jaintia Hills	69.0	-84	116.0	-67	152.0	-50	109.0	-78	70.0	-78	71.0	-76	86.0	-74	90.0	-60
Ribhoi	42.3	-52	155.3	56	77.7	-25	40.4	-59	39.3	-51	82.2	-16	67.0	-36	87.3	5
South Garo Hills	3.0	-98	2.0	-98	1.0	-99	0.0	-100	13.0	-89	22.0	-78	0.0	-100	**	**
West Garo Hills	2.5	-98	46.8	-53	129.0	9	22.4	-78	24.6	-78	45.2	-55	33.1	-69	37.6	-61
West Khasi Hills	4.5	-98	78.0	-55	0.0	-100	37.0	-89	18.0	-86	10.0	-95	25.0	-88	11.0	-93
<b>Mizoram</b>																
Aizwal	44.5	-63	74.7	-31	61.7	-43	22.3	-72	98.9	-12	47.8	-51	160.6	54	78.3	-27
Champhai	36.0	-58	84.0	11	94.0	10	51.0	-29	128.0	64	23.0	-72	54.0	-46	7.0	-90
Chhimituipui	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Kolasib	3.5	-97	6.0	-95	7.0	-92	6.0	-91	3.0	-97	**	**	**	**	**	**
Lawngtlai	42.0	-64	51.0	-50	93.0	-12	78.0	-34	42.0	-65	62.0	-28	128.0	6	50.0	-50
Lunglei	4.5	-96	53.0	-60	30.0	-72	56.0	-61	51.0	-59	37.0	-59	79.0	-30	89.0	-20
Mamit	2.5	-98	5.0	-95	150.0	39	3.0	-96	50.0	-55	45.0	-54	18.0	-83	14.0	-87
Saiha	63.5	-38	73.0	-12	67.0	-39	86.0	-4	115.0	14	78.0	-10	83.0	-24	45.0	-55
Serchhip	17.0	-84	28.0	-72	38.0	-63	27.0	-73	43.0	-58	13.0	-87	37.0	-69	37.0	-57
<b>Manipur</b>																
Bishnupur	0.0	-100	4.0	-95	**	**	**	**	**	**	**	**	**	**	**	**
Chandel	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Churachandpur	0.0	-100	44.0	-50	48.0	-49	11.0	-86	117.0	17	51.0	-42	24.0	-75	72.0	-8
Imphal east	10.5	-89	61.9	-21	54.2	-35	31.9	-62	156.0	98	29.8	-58	38.2	-35	123.6	139
Imphal west	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Senapati	**	**	**	**	**	**	**	**	**	**	**	**	140.0	83	85.0	0
Tamenglong	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Thoubal	0.0	-100	25.0	-45	129.0	161	46.0	36	71.0	32	35.0	5	62.0	35	40.0	-14
Ukhrul	25.5	-71	22.0	-75	96.0	58	22.0	-69	0.0	-100	0.0	-100	0.0	-100	**	**
<b>Nagaland</b>																
Dimapur	4.2	-91	54.5	80	46.5	50	12.0	-78	191.5	352	29.5	18	44.0	-11	41.5	-17
Kephire	11.0	-88	12.0	-88	51.0	-33	66.0	-34	67.0	-50	20.0	-77	15.0	-84	13.0	-83
Kohima	4.6	-95	43.9	-29	42.5	-47	65.6	-19	118.1	49	99.1	15	76.4	-13	106.3	39
Longleng	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Mokokchung	10.5	-93	94.0	5	29.0	-77	7.0	-96	3.0	-97	3.0	-97	48.0	-23	37.0	-68
Mon	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Paran	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Phek	1.9	-98	31.7	-49	30.8	-62	92.1	14	43.3	-45	89.2	4	28.6	-67	35.0	-54
Tuensang	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Wokha	1.5	-99	1.0	-99	0.0	-100	0.0	-100	0.0	-100	**	**	**	**	**	**
Zunheboto	20.0	-77	65.0	-33	28.0	-63	**	**	**	**	**	**	**	**	**	**
<b>Tripura</b>																
Dhalai	5.8	-96	102.8	15	14.0	-83	13.0	-84	74.0	-2	123.0	50	**	**	125.0	44
North tripura	29.3	-76	158.3	71	22.7	-73	33.7	-62	113.8	20	65.7	-27	109.4	25	74.7	0
South tripura	10.9	-91	142.3	41	100.9	-8	28.9	-77	36.8	-70	16.7	-84	140.0	46	147.3	53
West tripura	28.0	-75	124.4	46	53.0	-37	9.2	-90	24.7	-75	16.8	-81	120.7	41	72.7	-3
<b>Punjab</b>																
Amritsar	66.3	570	0.0	-100	10.2	-60	63.0	62	14.0	-71	19.7	-65	21.7	-58	106.9	95
Barnala	64.8	653	0.0	-100	25.5	34	25.5	-10	0.0	-100	58.5	118	1.0	-97	8.0	-76
Bhatinda	85.0	1150	0.0	-100	0.0	-100	50.0	182	0.0	-100	30.0	5	27.0	13	85.0	97

Faridkot	109.4	835	0.0	-100	6.5	-60	11.0	-43	5.0	-83	42.6	33	0.0	-100	41.7	50
Fatehgarh Sahib	184.0	1620	0.0	-100	40.8	48	61.0	16	5.5	-91	8.0	-79	1.0	-98	63.0	37
Ferozpur	21.9	347	0.0	-100	13.3	-6	26.6	0	1.0	-97	65.9	97	1.8	-94	37.8	0
Gurdaspur	28.3	157	29.4	57	30.3	-25	93.5	74	24.0	-69	154.1	82	93.9	12	197.4	137
Hoshiarpur	73.3	435	16.9	-24	20.8	-54	19.7	-64	34.7	-45	22.7	-67	27.3	-58	17.4	-75
Jalandhar	114.9	1252	0.0	-100	43.2	54	27.9	-40	2.9	-94	67.8	28	19.6	-53	29.4	-44
Kapurthala	143.5	2178	0.0	-100	84.6	252	58.1	67	4.3	-89	42.8	-10	17.6	-49	35.6	-4
Ludhiana	109.4	983	0.0	-100	41.3	43	48.7	8	5.2	-91	17.3	-62	25.2	-42	62.1	36
Mansa	81.7	734	0.0	-100	0.6	-95	10.2	-50	0.0	-100	10.5	-65	14.0	-39	37.4	2
Moga	121.5	2330	0.0	-100	47.3	245	21.0	-18	0.0	-100	51.7	94	3.0	-90	39.7	31
Muktesar	130.0	1361	0.0	-100	26.0	71	0.0	-100	0.0	-100	1.7	-94	45.1	123	75.0	128
Nawashahar	168.3	926	9.3	-58	42.0	-23	67.4	-11	52.0	-33	58.0	-12	0.8	-99	48.0	-33
Patiala	69.8	482	0.8	-94	17.0	-44	59.6	-1	51.0	-20	14.8	-66	7.3	-87	47.3	-16
Ropar	145.7	1012	38.1	123	46.5	11	63.8	8	52.8	-23	97.1	50	7.1	-91	46.7	-41
Sangrur	115.2	1435	0.0	-100	0.2	-99	5.6	-82	0.7	-99	9.5	-72	2.3	-94	26.7	-32
Mohali	186.0	1412	0.0	-100	20.0	-42	48.0	-17	27.0	-53	22.0	-57	6.0	-89	8.0	-88
TarnTaran	32.5	777	0.0	-100	10.5	-17	48.5	84	0.0	-100	31.1	-10	12.0	-66	40.4	36
Haryana																
Ambala	78.6	232	22.6	-27	56.4	24	58.8	-20	106.1	42	32.9	-51	14.6	-80	59.1	-19
Bhiwani	8.1	41	0.0	-100	0.8	-94	25.1	12	3.6	-89	28.3	-15	17.9	-44	18.6	-36
Chandigarh	176.9	499	7.5	-77	37.0	-32	39.5	-46	62.5	-6	31.8	-35	46.6	-35	37.8	-56
Faridabad	44.4	399	0.0	-100	4.8	-77	2.3	-93	36.5	-42	65.3	54	97.3	92	33.1	-50
Fatehabad	55.5	1033	0.0	-100	2.8	-85	11.5	-33	0.8	-97	11.9	-57	4.6	-80	8.9	-70
Gurgaon	25.7	262	0.0	-100	3.3	-85	19.3	-36	6.5	-87	45.4	11	7.8	-79	32.8	-34
Hissar	53.4	776	0.0	-100	0.0	-100	29.7	52	6.8	-77	21.2	-34	4.2	-85	48.5	68
Jhajar	9.7	29	0.2	-98	1.7	-93	7.7	-68	17.5	-63	25.8	-28	7.1	-82	15.5	-62
Jind	66.5	775	0.0	-100	2.0	-93	27.7	14	10.8	-76	32.0	5	23.1	-8	45.5	12
Katihah	106.9	1427	0.7	-95	5.0	-59	21.1	-12	6.9	-83	5.1	-82	18.1	-42	12.5	-62
Karnal	99.8	497	3.9	-74	40.5	33	33.1	-33	43.0	-29	26.7	-23	29.6	-23	72.8	60
Kurukshetra	17.4	28	0.0	-100	22.5	-16	9.0	-81	0.2	-99	7.1	-85	4.0	-90	26.5	-39
Mahendragarh	7.4	23	1.2	-91	2.2	-89	21.9	8	3.3	-93	35.8	-19	21.7	-38	48.3	35
Mewat	7.0	46	0.0	-100	0.3	-99	12.5	-58	0.0	-100	59.7	49	51.9	29	20.9	-55
Palwal	16.0	154	0.4	-95	8.3	-60	27.2	-19	32.0	-19	6.8	-82	16.3	-58	28.5	-34
Panchkkula	85.7	322	3.8	-88	28.9	-48	31.7	-54	45.2	-40	39.8	-50	22.0	-73	38.1	-57
Panipat	21.2	76	0.0	-100	9.0	-64	7.6	-80	2.3	-96	10.8	-69	16.5	-54	16.5	-66
Rewari	26.9	448	0.8	-93	0.5	-97	21.5	0	11.9	-71	26.2	-43	29.7	-11	38.0	-28
Rohtak	11.4	30	0.0	-100	15.4	-54	4.8	-83	13.2	-77	6.5	-87	15.4	-65	14.0	-70
Sirsa	21.2	242	0.0	-100	0.3	-98	21.2	63	1.8	-94	6.8	-73	0.0	-100	53.6	215
Sonepat	31.1	159	0.0	-100	1.8	-93	29.1	-10	19.7	-64	42.8	-7	36.3	-26	46.5	-15
Yamunanagar	273.8	1167	13.8	-66	34.7	-39	94.6	84	5.6	-91	84.1	2	24.7	-67	87.3	9
Delhi	85.0	507	0.2	-99	6.2	-79	26.9	-41	26.4	-60	90	57	30.6	-43	32.8	-55
East Madhya Pradesh																
Anuppur	61.4	81	43.9	-34	66.1	-2	47.4	-52	8.3	-91	54.8	-36	72.2	-9	58.7	-40
Balaghat	49.2	46	68.6	-10	76.3	-6	60.6	-43	234.5	94	114.5	10	126.8	15	41.2	-60
Chhatarpur	69.9	345	20.9	-36	260.5	340	16.7	-75	56.0	-12	74.6	-8	122.7	57	56.3	-46
Chindwara	172.1	402	76.1	52	103.2	81	60.1	-16	92.8	44	51.6	-19	91.5	59	109.8	43
Damoh	57.7	156	84.9	103	334.4	359	34.1	-51	112.4	39	104.8	23	173.2	90	34.7	-72
Dindori	68.0	36	54.4	-19	66.8	-19	36.2	-66	46.0	-57	94.2	8	140.0	67	43.3	-61
Jabalpur	55.8	118	238.6	440	150.3	150	60.0	-27	107.4	34	81.1	0	103.3	22	55.0	-50
Katni	9.0	-57	93.0	120	262.0	316	79.0	6	30.3	-65	68.1	-15	169.0	105	56.7	-50

Mandla	92.6	226	156.6	164	109.1	41	57.4	-43	124.4	19	125.9	37	184.6	83	61.2	-44
Narsingpur	113.4	359	186.3	346	247.5	346	18.6	-78	132.2	67	121.0	51	99.0	17	66.6	-32
Panna	30.7	111	1.5	-96	313.6	365	6.0	-92	18.3	-77	58.7	-35	196.1	143	73.0	-27
Rewa	54.1	216	26.0	-37	134.2	109	22.9	-61	113.5	50	112.6	59	188.6	136	19.8	-76
Sagar	85.6	227	94.1	96	446.1	559	33.0	-53	115.6	40	84.7	-1	307.8	288	48.1	-60
Satna	46.5	127	27.8	-39	168.3	143	42.0	-33	61.1	-2	53.2	-27	111.5	39	52.2	-41
Seoni	127.8	210	114.3	79	86.1	39	72.4	-14	232.6	168	67.7	-8	90.7	7	61.7	-29
Shahdol	14.6	-30	59.1	17	55.7	-1	4.0	-95	19.6	-75	74.0	2	44.0	-27	38.6	-61
Sidhi	21.2	7	46.8	9	190.0	223	6.8	-91	44.4	-47	84.2	33	244.0	201	19.4	-74
Singrauli	27.0	31	17.0	-61	51.0	-3	130.0	178	41.5	-37	70.1	42	119.0	51	14.2	-79
Tikamgarh	26.5	83	24.0	-4	204.0	256	23.5	-59	86.5	38	122.5	69	154.0	131	39.0	-51
Umaria	15.7	-5	128.7	166	114.6	99	26.7	-65	68.2	-23	42.0	-45	102.3	36	113.6	12

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Alirajpur	171.5	472	6.3	-79	27.2	-35	148.4	133	63.2	14	65.8	-4	120.7	74	93.3	37
Asoknagar	71.0	323	5.3	-76	135.8	148	29.3	-46	78.3	26	108.3	6	271.7	310	69.5	-14
Badwani	100.5	242	20.5	-28	40.7	15	78.8	81	56.0	25	55.7	18	50.0	2	84.5	85
Betul	112.0	253	80.0	54	73.3	41	51.3	-22	199.7	227	121.4	77	124.6	69	173.8	110
Bhind	139.1	1334	9.7	-42	134.5	279	53.7	15	24.1	-50	37.0	-37	65.5	24	74.8	27
Bhopal	97.6	223	95.7	189	195.6	214	28.4	-62	40.2	-39	59.2	-20	230.2	157	68.1	-27
Burhanpur	170.3	410	61.3	9	27.8	-51	71.6	55	113.4	144	151.2	226	56.2	-17	124.7	92
Datia	37.0	274	1.4	-94	135.8	256	20.9	-60	40.5	-23	57.1	-16	50.3	-11	108.4	36
Dewas	84.7	163	97.2	141	58.8	9	137.2	115	86.0	23	72.2	6	161.8	88	119.0	42
Dhar	104.2	184	21.7	-44	54.3	26	125.6	127	73.0	19	52.7	-15	129.8	81	94.9	30
Guna	70.8	316	38.5	51	140.0	126	68.2	1	131.0	113	124.6	23	277.5	269	104.8	11
Gwalior	62.6	350	43.9	75	60.9	60	42.1	-24	44.2	-22	46.3	-31	57.8	-11	80.5	9
Harda	144.5	377	66.1	85	54.6	3	268.2	272	64.7	-17	92.8	17	84.3	-4	163.1	63
Hosangabad	75.9	170	102.1	95	206.8	185	64.7	-30	177.3	86	155.5	68	205.1	101	200.7	65
Indore	97.3	202	91.9	160	60.6	25	226.0	296	112.5	90	31.6	-47	165.4	121	113.9	70
Jhabua	101.2	206	16.6	-44	28.5	-31	157.9	174	55.4	7	51.7	-9	177.6	197	105.1	54
Khandwa	169.0	499	48.9	3	71.8	41	188.3	237	85.3	50	50.3	-14	16.3	-78	134.0	82
Khargone	96.2	202	23.3	-42	36.9	-24	152.6	244	35.5	-33	35.8	-31	63.3	2	121.7	89
Mandsaur	47.6	124	52.9	94	51.6	31	56.1	9	160.4	172	91.4	39	175.6	106	74.9	-1
Morena	51.6	514	1.6	-92	29.0	-12	45.0	7	46.0	-2	98.0	40	54.0	-12	123.0	71
Neemuch	105.1	434	55.9	105	27.5	-37	64.9	31	133.4	134	137.5	140	137.0	60	59.3	-5
Raisen	116.3	347	108.8	137	276.1	334	40.3	-50	51.0	-37	133.8	46	195.6	118	81.7	-24
Rajgarh	61.7	199	61.5	86	175.3	311	62.9	-3	123.7	96	136.1	80	166.4	112	119.6	30
Ratlam	77.4	220	45.9	35	73.3	50	129.2	134	144.1	120	42.9	-37	209.8	134	116.7	45
Sehore	59.6	110	165.9	292	104.3	99	59.4	-17	68.4	-13	124.1	49	153.5	62	117.5	16
Shajapur	56.8	147	64.0	94	88.7	133	36.1	-41	116.8	88	76.0	10	187.0	104	137.3	52
Sheopur Kalani	13.0	14	0.5	-97	107.0	135	20.0	-64	39.0	-42	54.0	-19	168.0	153	84.5	40
Shivpuri	75.9	450	15.3	-36	101.4	117	29.1	-46	107.8	108	115.8	44	172.8	165	104.8	41
Ujjain	97.2	253	47.3	47	65.1	56	102.6	64	107.2	88	62.2	6	125.4	54	116.0	55
Vidisha	83.4	279	57.1	39	225.8	302	59.0	-24	144.7	106	115.3	23	288.4	235	99.0	2

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Allahabad	46.7	249	12.9	-39	266.2	455	14.6	-73	38.9	-46	62.3	8	80.5	24	26.5	-57
Ambedkar Nagar	133.0	604	0.0	-100	180.2	311	154.2	151	3.0	-96	89.8	19	16.0	-80	34.2	-53
Azamgarh	33.7	79	2.1	-93	147.7	183	21.5	-72	5.0	-94	24.6	-68	64.0	-3	32.4	-55
Bahraich	157.1	379	30.3	-29	132.5	111	107.9	67	65.2	-30	63.3	-26	26.8	-66	67.9	2
Ballia	23.5	-24	34.9	24	75.3	52	46.0	-30	22.5	-71	22.7	-67	43.4	-29	22.7	-64
Balrampur	141.8	269	1.0	-98	309.3	516	49.3	-26	23.1	-79	95.0	-6	7.5	-92	45.6	-28

Banda	55.2	338	25.9	-2	342.1	459	13.2	-76	68.8	4	94.6	80	115.1	75	60.8	-19
Barabanki	68.3	212	12.8	-51	171.6	214	77.0	23	44.9	-48	33.9	-55	15.7	-77	18.7	-72
Basti	152.6	451	46.1	31	390.9	638	64.6	-4	36.9	-54	47.1	-45	8.5	-88	5.1	-93
Chandauli	10.0	-47	26.3	14	58.2	46	73.6	23	60.4	-34	0.0	-100	51.4	-23	35.2	-42
Deoria	53.0	82	36.0	11	82.5	30	69.0	5	2.0	-98	31.0	-57	5.0	-93	36.5	-39
Faizabad	83.5	245	9.8	-73	290.6	405	33.3	-49	12.3	-88	24.3	-71	4.1	-95	31.7	-59
Farrukhabad	75.3	517	66.2	158	88.4	116	34.9	-31	39.1	-46	68.5	34	78.8	38	4.0	-92
Fatehpur	244.0	2159	0.0	-100	259.4	416	31.6	-45	70.3	-3	17.0	-66	60.4	-4	3.2	-95
Gazipur	53.3	104	21.0	-29	62.4	55	59.4	0	24.3	-66	11.3	-82	98.9	77	20.2	-77
Gonda	127.8	388	2.0	-96	346.4	525	84.3	32	7.5	-92	114.3	31	30.8	-57	11.3	-87
Gorakhpur	135.5	271	45.3	-6	451.9	594	83.9	13	30.9	-69	21.0	-76	26.9	-68	36.8	-62
Hardoi	71.0	400	35.2	31	74.2	45	32.9	-39	38.2	-47	76.6	33	74.3	21	25.1	-54
Jaunpur	21.4	22	15.4	-28	167.2	202	23.4	-66	32.2	-62	7.3	-88	46.0	-28	13.6	-75
Kannauj	76.8	568	45.6	185	151.2	279	51.0	2	66.0	-7	74.6	51	101.8	80	3.8	-94
Kanpur City	56.0	371	18.0	10	218.8	451	19.5	-55	24.9	-54	90.2	66	97.3	60	66.4	21
Kanpur Dehat	61.8	452	33.6	26	125.7	227	27.3	-30	39.6	-29	43.4	-34	50.0	-21	31.5	-54
Kaushambi	30.4	213	0.0	-100	236.6	450	15.1	-73	2.1	-97	13.6	-74	42.9	-29	3.3	-94
Kheri	175.5	472	36.9	-16	104.0	134	59.5	-21	46.5	-35	103.9	40	30.9	-49	136.7	89
Kushi nagar	56.5	34	4.5	-91	75.5	4	57.3	-25	14.5	-85	2.5	-97	1.5	-98	6.5	-92
Lucknow	101.4	745	8.3	-70	136.8	208	33.0	-40	19.3	-73	79.2	54	22.3	-65	27.3	-57
Maharajanj	102.2	133	22.3	-57	115.4	61	58.4	-31	25.7	-76	20.6	-79	4.0	-96	15.7	-80
Mau	30.0	20	29.0	-9	126.5	136	22.5	-66	16.0	-83	1.0	-99	29.8	-59	3.5	-95
Mirzapur	19.0	14	15.3	-42	166.8	239	42.9	-31	27.7	-65	26.5	-58	65.0	-2	30.3	-57
Pratapgarh	164.8	1112	28.3	22	281.9	456	34.0	-45	22.0	-71	44.3	-26	62.3	-11	13.3	-77
RaiBareilly	138.2	1042	43.9	134	254.2	537	28.8	-51	18.8	-73	77.3	48	54.4	-11	20.4	-63
Sahuji Maharajnagar	17.0	130	13.5	-52	294.3	359	31.3	-51	54.3	-13	105.4	61	123.5	118	31.0	-54
Sant Kabirnagar	91.0	159	0.0	-100	369.0	694	43.0	-41	23.0	-76	24.0	-73	24.0	-69	25.0	-68
Sant Ravidas Nagar	22.0	16	0.0	-100	163.0	308	69.0	15	12.0	-87	8.0	-88	44.0	-34	52.0	-14
Shrawasti	135.4	313	26.8	-37	96.5	54	161.4	149	85.4	-8	78.2	-8	37.5	-52	51.3	-23
Sidharthnagar	237.5	597	13.7	-67	355.5	638	71.3	1	50.2	-47	84.5	-5	32.5	-62	35.9	-47
Sitapur	83.8	206	23.7	-31	139.0	201	73.3	25	44.5	-37	74.9	15	48.5	-25	172.7	230
Sonbhadra	16.6	-36	16.6	-62	114.0	95	35.9	-45	39.8	-47	46.3	-26	137.2	132	52.9	-25
Sultanpur	149.4	896	34.7	26	206.5	410	28.5	-62	62.7	-18	92.3	34	29.0	-56	23.8	-58
Unnao	81.3	472	13.4	-43	200.7	342	45.2	-15	23.8	-65	46.5	-19	36.5	-37	27.8	-58
Varanasi	39.6	134	15.8	-38	116.2	114	64.0	-2	52.3	-43	10.3	-85	74.2	13	34.5	-43

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Agra	29.8	231	5.2	-67	37.1	-6	55.7	26	26.3	-52	59.0	4	20.3	-63	37.7	-45
Aligarh	43.0	489	5.5	-60	39.5	36	30.1	-35	25.5	-51	28.6	-42	79.5	43	18.7	-73
Auraiya	12.5	13	20.0	18	96.3	189	49.7	3	86.9	53	17.0	-69	36.5	-33	72.0	14
Badaun	10.8	-16	47.0	104	20.3	-46	32.2	-41	43.6	-22	42.0	-21	66.7	-7	4.0	-94
Baghpat	89.0	724	0.0	-100	32.4	40	14.6	-67	5.5	-90	30.8	-20	23.2	-49	110.8	83
Bareilly	54.1	175	184.7	507	38.5	-17	122.4	99	62.9	-9	131.5	112	103.1	27	42.2	-40
Bijnor	120.3	604	0.4	-99	18.3	-59	17.1	-74	20.3	-74	76.9	-8	105.0	10	81.6	-4
Bulandsahar	104.0	909	8.2	-52	57.4	91	17.1	-63	5.8	-89	38.1	-22	39.1	-36	7.4	-87
Etah	40.3	380	39.0	134	44.8	36	22.7	-52	20.3	-59	56.5	27	56.3	20	4.0	-93
Etawah	58.0	486	17.5	-3	73.9	117	47.5	7	79.5	62	19.5	-66	39.5	-32	53.3	-30
Firozabad	25.9	250	15.3	-21	86.5	86	33.6	-17	37.9	-33	56.4	-7	57.8	49	30.1	-49
GBNagar	21.0	388	5.0	-48	4.5	-85	17.0	-52	7.0	-86	20.0	-57	12.0	-67	6.0	-90
Ghaziabad	107.5	1019	8.1	-45	48.4	95	9.5	-79	19.7	-67	37.0	-18	7.0	-87	11.5	-83
Hamirpur	49.0	319	6.7	-75	198.6	332	2.2	-96	29.7	-47	65.3	2	58.2	-6	61.6	-18

Jalaun	83.0	668	17.2	-15	115.0	167	8.8	-83	24.6	-57	90.7	53	52.8	-5	57.0	-27
Jhansi	44.6	214	19.7	-23	174.7	224	33.6	-46	83.2	51	25.9	-61	105.2	68	27.2	-62
Jotirba Phule Nagar	37.0	298	19.8	-13	26.3	-10	44.5	-38	2.5	-96	61.5	3	21.5	-70	34.0	-45
Kanshiramnagar	100.0	1049	69.0	275	102.0	217	11.0	-77	0.0	-100	26.0	-51	44.0	-18	1.0	-98
Lalitpur	62.0	303	13.0	-41	221.5	246	8.5	-86	131.0	104	122.4	33	269.5	262	87.5	0
Mahamaya Nagar	26.0	238	18.0	25	7.0	-78	13.0	-69	18.5	-69	52.0	10	26.5	-51	11.5	-79
Mahoba	100.4	1445	0.0	-100	103.4	122	18.2	-64	13.8	-72	23.4	-62	95.2	51	14.6	-81
Mainpuri	64.5	749	7.6	-64	113.5	180	25.5	-44	70.0	31	28.2	-41	57.3	16	18.5	-67
Mathura	0.0	-100	1.5	-87	34.3	14	23.0	-38	24.5	-46	65.7	31	22.2	-54	10.0	-83
Meerut	106.3	693	3.8	-82	37.8	13	4.3	-93	53.3	-19	49.5	-18	36.7	-44	118.6	63
Moradabad	161.5	802	51.5	82	17.2	-61	128.1	94	21.5	-65	108.5	66	81.5	2	17.4	-76
Muzzaffarnagar	112.1	623	16.0	-21	67.9	75	0.0	-100	12.5	-82	42.5	-22	40.0	-35	103.9	57
Pilibhit	53.7	163	77.1	114	43.1	-18	52.0	-27	22.9	-69	78.7	11	59.1	-33	44.2	-47
Rampur	66.9	136	53.0	121	31.5	-27	76.2	-5	28.6	-57	49.9	-29	62.2	-35	33.8	-58
Saharanpur	230.3	1313	20.0	-35	31.3	-39	53.0	-3	32.0	-59	207.7	269	83.3	33	122.7	62
Shahjahanpur	35.4	106	81.2	142	68.5	45	138.4	115	53.5	-21	133.6	95	50.1	-28	59.8	-14
<b>Jharkhand</b>																
Bokaro	41.8	5	36.0	-43	25.0	-58	1.5	-98	74.3	-2	38.5	-47	95.1	36	45.1	-48
Chatra	4.1	-88	5.9	-87	20.3	-71	30.7	-64	6.5	-92	5.8	-92	66.4	-6	3.4	-95
Deoghar	3.8	-92	36.8	-23	29.9	-52	9.0	-86	45.5	-35	3.1	-96	52.3	-12	17.3	-73
Dhanbad	19.8	-58	62.1	3	39.4	-48	3.3	-96	18.8	-74	48.8	-35	89.9	9	41.4	-50
Dumka	3.3	-93	6.1	-90	31.3	-54	12.5	-83	30.2	-67	3.3	-95	66.7	-1	32.8	-59
East Singbhum	100.8	92	52.3	-22	35.8	-51	21.5	-67	50.8	-25	27.8	-57	231.9	236	17.5	-81
Garhwa	21.5	-10	35.5	6	43.0	-34	25.0	-52	15.5	-77	3.0	-96	63.0	-14	44.5	-49
Giridih	19.1	-60	73.6	15	37.5	-52	8.2	-89	32.7	-60	17.2	-79	54.0	-30	36.5	-52
Godda	41.8	8	36.7	-33	90.9	51	66.1	-9	12.7	-83	11.3	-81	27.4	-55	23.7	-59
Gumla	77.6	38	50.9	-29	28.6	-67	37.9	-54	70.9	-15	42.8	-49	214.8	154	68.3	-22
Hazaribagh	21.6	-50	40.5	-6	24.9	-66	23.0	-66	14.5	-81	3.8	-95	73.0	2	18.5	-76
Jamtara	24.2	-55	113.7	78	59.8	-21	7.9	-91	27.9	-66	12.8	-83	60.3	-17	48.9	-36
Khunti	101.8	66	32.0	-61	18.3	-78	0.0	-100	43.8	-47	13.5	-84	165.3	73	57.0	-41
Koderna	18.6	-57	42.1	-17	16.2	-76	33.3	-44	1.2	-98	0.0	-100	17.8	-62	23.4	-66
Latehar	25.0	-33	17.5	-69	23.3	-62	84.1	20	55.6	-25	5.2	-94	117.8	39	6.0	-93
Lohardagga	51.6	36	31.6	-54	20.0	-70	41.1	-31	72.9	17	23.9	-71	125.5	72	13.3	-86
Pakur	67.4	20	79.8	13	68.3	0	54.0	-36	10.8	-89	21.4	-75	39.8	-46	69.9	-11
Palamau	36.8	10	15.7	-64	45.4	-21	82.6	28	24.4	-67	3.3	-96	67.8	0	34.7	-55
Ramgarh	37.9	-19	42.2	-34	22.0	-68	11.6	-83	52.3	-26	31.0	-66	141.3	97	36.6	-55
Ranchi	72.1	59	94.3	31	10.4	-87	16.2	-81	25.2	-69	17.3	-80	125.0	69	16.2	-82
Sahebganj	0.0	-100	35.8	-53	353.2	233	0.0	-100	28.2	-70	25.4	-68	62.6	-23	49.0	-19
Saraikela	75.9	28	4.2	-95	22.0	-70	0.0	-100	11.6	-83	11.8	-86	150.8	109	19.1	-80
Simdega	27.5	-53	58.5	-30	40.5	-55	24.0	-75	108.8	1	28.2	-75	274.1	165	62.6	-39
West Singbhum	47.9	-1	100.7	58	19.8	-72	0.0	-100	35.4	-46	14.3	-79	195.9	185	24.6	-74
<b>East Rajasthan</b>																
Ajmer	19.9	177	10.0	-26	29.3	13	29.7	14	12.6	-74	31.9	-31	39.0	0	34.6	2
Alwar	40.9	439	1.5	-89	16.6	-35	75.1	142	33.4	-36	67.7	27	33.7	-30	82.2	55
Banswara	74.2	199	2.6	-92	1.8	-96	171.4	176	76.1	21	66.3	11	142.0	73	62.1	-18
Baran	37.8	145	33.3	41	143.5	245	58.7	18	107.2	75	155.7	68	267.5	271	135.6	82
Bharatpur	13.6	56	0.7	-95	17.6	-27	45.7	39	45.3	-4	60.9	27	38.2	-15	38.7	-34
Bhilwara	30.7	172	13.4	-29	14.5	-60	79.4	106	35.1	-32	53.0	-3	84.5	64	55.1	16
Bundi	29.3	140	12.5	-38	53.9	53	77.2	75	80.4	44	91.5	18	152.8	143	80.6	43
Chittorgarh	36.6	180	49.3	103	27.3	-32	92.4	99	62.2	11	59.6	0	124.0	75	80.2	38

Dausa	40.5	413	0.2	-99	65.8	101	56.6	59	67.9	-2	67.0	-2	79.0	56	65.4	16
Dholpur	54.8	368	6.6	-57	15.6	-57	38.5	-8	41.0	-18	111.2	114	38.3	-25	99.8	55
Dungarpur	56.6	189	1.3	-95	0.8	-98	96.9	69	108.3	104	86.7	103	105.5	78	68.9	20
Jaipur	25.0	188	16.1	8	16.8	-40	50.8	86	44.1	-26	41.9	-34	52.2	13	68.9	45
Jhalawar	28.3	50	31.7	22	124.9	160	82.4	55	155.2	175	161.1	105	208.4	181	93.9	12
Jhunjhunu	10.7	-12	0.8	-95	16.1	-16	44.1	107	28.7	-33	59.4	19	26.7	-8	61.2	62
Karauli	30.3	233	0.3	-98	61.7	104	61.7	97	69.8	26	83.5	20	79.4	48	60.2	-2
Kota	39.6	162	23.5	6	111.9	168	52.0	23	60.5	4	128.9	55	217.5	204	109.9	78
Pratapgarh	113.8	427	22.6	-34	13.4	-76	130.2	117	134.6	113	131.4	127	156.4	96	73.2	0
Rajsamand	32.6	179	1.6	-93	3.2	-91	50.7	60	65.6	39	58.9	52	87.3	96	58.7	49
Sawai Madhopur	40.9	279	0.8	-94	75.7	116	86.6	120	106.8	79	44.3	-43	81.4	35	52.8	-19
Sikar	8.1	-6	5.7	-63	18.2	-17	28.3	19	50.9	18	30.2	-46	61.2	83	71.4	119
Sirohi	70.4	392	0.0	-100	7.6	-79	45.3	-42	45.3	-34	79.5	7	130.7	35	61.1	-30
Tonk	16.0	52	19.1	23	29.6	-9	56.7	70	55.8	-5	57.9	-13	115.7	133	61.2	22
Udaipur	62.3	310	14.3	-38	2.4	-94	42.7	-5	53.8	11	87.5	93	98.7	92	66.0	24
West Rajasthan																
Barmer	36.9	823	0.1	-99	0.0	-100	26.1	42	21.9	-7	0.7	-97	70.6	239	12.4	-52
Bikaner	11.2	47	0.0	-100	0.4	-97	23.8	58	7.3	-67	31.7	16	35.0	117	26.2	41
Churu	23.4	160	0.8	-93	11.9	-23	21.5	-1	39.0	20	47.5	25	43.8	75	48.8	84
Hanumangarh	32.6	220	0.0	-100	14.9	-10	18.3	-1	9.6	-59	11.4	-59	45.6	110	28.2	26
Jaisalmer	25.1	422	0.0	-100	0.9	-90	4.9	-55	3.3	-79	3.3	-79	31.5	152	17.9	36
Jalore	70.2	1131	0.0	-100	2.6	-86	24.4	-35	8.9	-77	13.9	-52	96.4	111	32.2	-14
Jodhpur	38.2	479	0.0	-100	2.4	-82	4.1	-80	10.7	-64	45.4	71	63.9	143	14.0	-40
Nagaur	8.4	13	9.7	-38	4.7	-78	14.7	-24	15.1	-67	53.7	22	33.5	36	57.5	130
Pali	45.5	541	1.0	-93	0.0	-100	15.4	-54	10.8	-76	68.5	65	53.2	21	48.3	26
Sri Ganganagar	8.8	22	0.0	-100	10.4	-17	0.8	-94	12.5	-36	7.8	-69	25.7	81	12.9	-21
Gujarat Region																
Ahmedabad	80.2	431	4.4	-87	4.4	-89	111.0	101	82.5	68	51.6	13	87.9	82	94.0	96
Anand	58.0	169	4.1	-90	8.5	-84	151.2	135	93.9	48	91.9	49	140.5	115	84.8	38
Banaskantha	130.3	1243	0.0	-100	0.0	-100	24.9	-57	150.6	220	29.2	-30	109.7	84	46.4	-9
Baroda	112.8	327	2.6	-94	7.1	-89	141.0	79	124.8	68	85.9	17	113.0	43	129.2	71
Broach	96.1	202	10.5	-77	6.0	-89	57.4	-21	168.3	193	62.6	6	59.6	-11	97.0	73
DNH	93.4	12	181.2	37	93.1	-46	98.6	-50	556.9	191	396.7	103	195.9	-7	307.7	79
Dahod	65.9	135	1.7	-95	3.1	-94	154.7	135	45.3	-25	25.6	-53	90.8	10	74.8	-6
Daman	202.7	143	131.8	0	103.6	-40	121.0	-38	459.0	140	249.0	28	215.0	2	258.6	51
Dangs	100.1	29	28.3	-64	36.7	-67	100.5	-37	170.2	5	122.7	-24	119.0	-45	74.8	-54
Gandhinagar	80.2	351	3.3	-88	0.0	-100	173.3	139	120.8	105	44.9	-28	75.1	23	152.9	102
Kheda	95.2	351	9.6	-76	0.0	-100	149.7	126	78.4	24	47.6	-25	134.9	89	95.7	47
Mehsana	106.7	602	0.9	-97	0.8	-98	119.6	81	169.2	184	62.2	31	104.1	88	68.3	21
Narmada	92.6	125	2.9	-95	17.7	-75	111.8	11	66.3	-24	84.7	3	116.1	16	232.0	150
Navsari	125.5	79	66.2	-45	69.3	-54	92.0	-44	267.3	64	206.7	34	143.9	-14	132.2	-1
Panchmahal	84.1	250	3.7	-90	5.9	-89	173.3	145	80.8	11	56.3	-10	138.8	64	73.6	-12
Patan	80.4	605	0.0	-100	0.0	-100	114.4	139	88.6	77	24.0	-38	54.4	5	58.1	35
Sabarkantha	103.0	454	4.1	-87	1.4	-97	120.4	68	111.8	65	95.0	66	145.0	95	107.9	51
Surat	191.2	320	36.6	-61	41.7	-60	99.4	-17	206.9	88	163.0	62	162.7	46	149.6	74
Tapi	74.6	25	7.6	-90	36.2	-66	96.0	-26	151.5	24	267.1	141	204.6	30	115.3	-9
Valsad	269.1	215	127.0	-8	117.8	-28	145.2	-12	456.8	152	270.4	58	194.9	13	215.8	49
S K & Diu region																
Amreli	111.6	487	16.8	-61	5.9	-86	12.2	-70	79.6	73	51.0	14	97.2	156	73.4	150

Bhavnagar	69.5	217	37.5	-9	15.3	-58	40.6	-5	98.4	156	52.4	35	63.8	55	90.5	179
Diu	187.6	882	4.7	-94	47.0	-42	28.0	-65	50.8	-15	65.1	13	85.1	63	57.0	33
Jamnagar	71.2	554	2.9	-93	1.8	-96	45.9	25	123.5	156	26.7	-49	40.3	7	60.4	107
Junagarh	198.8	548	11.5	-86	22.1	-77	36.8	-48	86.0	21	91.9	14	146.1	133	49.5	15
Kutch	55.0	1180	0.1	-99	0.2	-99	35.8	26	41.1	0	3.4	-91	67.0	108	16.6	-38
Porbandar	58.9	152	0.5	-99	14.0	-79	33.2	-48	84.7	23	80.5	15	87.3	93	55.2	45
Rajkot	82.9	343	4.0	-90	5.4	-87	44.6	4	72.7	41	53.2	2	81.2	60	54.0	41
Surendranagar	111.8	518	15.4	-65	4.3	-88	49.5	43	39.7	5	39.4	-17	44.1	30	23.2	-38
<b>Maharashtra</b>																
<b>Konkan &amp; Goa</b>																
Goa	233.2	-6	147.3	-40	363.6	28	313.9	43	276.6	11	429.3	59	288.2	18	143.0	-30
Mumbai	492.8	219	118.7	-31	58.7	-70	105.6	-43	227.2	32	441.9	157	97.0	-41	93.1	-31
Raigad	607.2	263	186.4	-13	277.8	-4	198.1	-28	450.6	74	618.4	134	258.6	-7	174.1	-24
Ratnagiri	547.7	154	243.5	-7	300.5	-4	319.6	18	354.9	41	633.5	128	207.6	-25	203.5	-16
Sindhudurg	308.6	31	167.1	-39	393.9	43	379.2	68	339.8	43	479.1	82	198.3	-22	151.5	-23
Thane	360.9	263	178.7	13	153.8	-25	145.1	-35	387.1	61	374.6	84	188.5	-8	182.2	-4
<b>Madhya Maharashtra</b>																
Ahmednagar	22.0	-16	40.3	48	3.1	-87	15.0	-33	45.4	111	71.8	204	10.9	-53	30.7	55
Dhule	90.5	215	18.6	-47	9.4	-76	46.3	17	72.2	92	58.4	49	93.0	145	79.0	92
Jalgaon	99.7	229	46.6	6	11.1	-75	38.6	-7	61.5	46	102.2	147	45.3	-9	79.4	55
Kolhapur	161.3	100	115.3	8	116.3	-29	91.1	-46	158.3	3	302.3	72	202.9	35	168.1	20
Nandurbar	79.2	128	10.3	-74	23.7	-59	100.4	45	47.0	-31	67.8	1	198.2	178	91.7	33
Nasik	71.7	98	52.0	9	56.7	3	64.6	-8	113.0	61	136.4	95	73.8	-7	84.1	17
Pune	152.1	374	28.2	-38	34.1	-45	56.2	-26	93.5	36	118.7	76	113.1	58	68.6	6
Sangli	39.1	34	9.0	-65	10.4	-68	19.1	-48	46.5	41	77.4	122	36.9	11	36.3	19
Satara	115.4	237	24.6	-35	23.2	-57	37.7	-36	70.7	27	96.8	63	72.2	24	74.2	45
Solapur	20.2	-25	24.5	16	8.7	-57	30.3	74	54.3	165	61.6	151	1.5	-95	21.5	-5
<b>Marathwada</b>																
Aurangabad	49.8	48	47.2	27	5.4	-83	19.2	-37	62.2	88	73.1	100	8.4	-80	52.9	44
Beed	20.8	-39	63.6	103	24.6	-10	25.1	-15	50.7	99	101.0	186	4.2	-88	42.2	72
Hingoli	107.7	129	89.3	40	31.8	-49	75.0	52	117.2	131	179.9	213	21.2	-65	108.2	83
Jalna	60.4	63	56.0	38	24.4	-29	27.6	-22	65.5	97	115.9	203	13.8	-69	72.5	107
Latur	17.3	-49	44.3	-2	41.7	7	32.6	-29	90.4	132	150.7	194	19.9	-70	44.9	-5
Nanded	76.0	98	44.2	-7	42.3	-16	81.8	69	115.2	130	171.1	169	47.2	-29	88.0	75
Usmanabad	14.3	-60	39.9	23	16.1	-40	48.6	55	68.1	152	97.5	161	8.6	-81	36.6	15
Parbhani	41.4	-5	45.9	5	48.4	1	65.8	56	92.8	123	143.7	193	24.3	-61	61.3	41
<b>Vidarbha</b>																
Akola	170.3	332	50.6	15	15.1	-68	48.9	11	110.3	105	89.2	45	72.2	47	103.7	90
Amraoti	150.3	311	60.9	30	23.8	-50	66.8	29	118.2	93	74.1	21	42.9	-28	101.8	49
Bhandara	154.2	327	206.8	232	60.6	-23	80.6	-2	153.2	64	153.4	103	174.6	101	260.8	149
Buldhana	120.0	242	62.4	26	6.8	-85	59.2	51	57.7	40	133.2	191	28.8	-38	89.0	66
Chandrapur	169.3	314	176.2	176	58.1	-31	50.6	-40	204.8	126	289.8	257	178.1	112	142.0	43
Gadchiroli	241.3	347	184.8	162	63.3	-29	66.6	-31	193.7	81	295.2	169	251.7	141	207.2	81
Gondia	149.9	313	134.9	113	84.5	-2	72.7	-27	318.8	223	153.0	70	240.9	160	131.7	24
Nagpur	137.1	298	206.1	246	49.3	-21	58.7	-19	140.3	83	155.9	139	80.9	23	157.9	99
Wardha	136.8	228	111.9	76	21.4	-60	59.4	5	205.9	194	180.3	193	48.7	-22	63.5	-13
Washim	276.5	526	83.9	38	13.6	-79	39.1	-19	103.4	65	109.5	85	40.9	-19	157.1	135
Yeotmal	163.5	264	119.8	109	30.7	-47	54.3	-6	185.0	191	130.6	94	79.1	38	147.6	128
<b>Odisha</b>																
Angul	84.4	47	88.5	42	27.8	-48	21.7	-71	116.7	68	75.5	-15	140.3	119	26.8	-69



Balasore	121.7	84	68.4	7	7.2	-90	0.6	-99	76.0	45	45.4	-48	116.6	66	38.6	-55
Bargarh	44.1	-21	88.6	66	50.1	-33	19.6	-76	57.3	-30	88.9	10	182.9	108	33.3	-60
Bhadrak	62.7	13	66.6	5	48.3	-16	13.4	-75	62.6	-8	66.9	1	86.3	52	25.8	-73
Bolangir	34.4	-37	90.1	20	11.9	-84	99.3	20	35.2	-64	143.6	70	176.0	107	44.9	-46
Boudh	54.3	-3	53.2	-9	14.9	-77	35.2	-54	33.0	-54	93.0	30	83.8	13	26.5	-70
Cuttack	92.0	55	68.0	0	42.1	-39	11.8	-83	97.9	36	115.8	44	78.7	-9	19.9	-74
Deogarh	64.8	29	48.6	-43	31.2	-64	19.4	-81	137.8	61	97.1	2	123.2	26	81.0	-29
Dhenkanal	73.7	37	114.5	56	48.8	-26	50.1	-17	102.2	50	102.5	12	151.6	117	24.2	-72
Gajapati	134.8	74	105.6	137	3.1	-92	64.5	70	52.0	-1	85.4	19	28.3	-57	64.7	36
Ganjam	69.6	34	99.5	140	0.6	-99	37.3	17	67.7	26	126.2	145	68.9	13	11.9	-75
Jagatsingpur	73.8	5	53.0	-20	17.3	-70	7.6	-83	65.9	7	81.6	6	56.4	-32	33.6	-68
Jajpur	50.8	-25	44.6	-32	34.4	-47	14.2	-70	36.2	-47	73.5	7	117.1	58	23.7	-73
Jharsuguda	23.5	-60	83.1	3	50.7	-25	11.9	-88	90.5	-7	60.3	-35	213.5	156	42.3	-59
Kalahandi	226.2	295	241.3	159	8.3	-90	72.4	-6	43.3	-50	93.9	11	147.6	70	52.4	-37
Kandhamal	81.5	46	65.7	13	14.3	-78	82.7	8	48.1	-33	132.6	86	123.1	67	41.1	-53
Kendrapara	99.6	84	64.6	20	38.0	-39	22.4	-58	43.4	-26	91.2	50	101.7	84	57.3	-39
Keonjhar	83.7	35	99.1	59	20.9	-66	22.0	-59	65.6	10	67.9	-13	199.8	217	65.6	-26
Khurda	74.9	34	88.2	48	6.6	-88	30.9	-45	111.5	47	122.2	50	48.9	-32	41.4	-49
Koraput	254.0	404	140.5	103	38.4	-45	51.5	-35	135.0	57	84.7	-6	42.9	-53	114.1	17
Malkangiri	130.6	163	75.3	-9	48.6	-33	91.3	3	116.6	36	126.0	3	57.5	-48	69.5	-31
Mayurbhanj	83.8	30	59.5	-23	17.2	-78	18.0	-72	74.5	7	67.0	-33	277.6	336	26.6	-73
Nawapara	94.0	84	8.7	-86	31.8	-56	20.5	-77	59.8	-22	121.1	55	257.2	243	49.7	-20
Nawarangpur	315.3	361	93.5	18	35.2	-55	51.2	-48	75.3	-4	105.5	-15	113.9	29	135.6	61
Nayagarh	57.6	-11	60.8	-12	8.4	-82	40.9	-41	94.5	26	211.3	180	60.7	-17	31.3	-56
Puri	66.2	26	109.6	117	10.3	-79	6.3	-89	80.1	44	112.6	100	44.9	-40	42.8	-37
Rayagada	188.5	211	86.7	86	6.6	-86	37.9	-27	77.7	3	79.4	-10	55.1	-29	89.5	68
Sambalpur	31.8	-37	104.3	22	37.5	-56	6.5	-94	97.3	14	127.8	35	194.2	99	53.1	-53
Sonepur	31.9	-39	134.9	159	34.3	-57	37.3	-52	81.9	3	153.0	85	134.3	37	47.0	-56
Sundargarh	46.5	-22	44.4	-36	32.7	-56	15.6	-81	127.4	42	59.5	-27	231.2	178	50.2	-47

**West Bengal**

GWB																
Bankura	46.5	0	131.7	112	164.0	131	29.9	-59	19.8	-70	45.9	-33	198.9	198	28.2	-58
Birbhum	14.9	-70	74.0	2	61.7	-12	11.8	-83	18.1	-78	38.2	-45	84.1	34	61.4	-20
Burdwan	29.6	-34	58.5	-2	55.0	-14	1.6	-97	9.6	-87	46.1	-38	80.4	37	49.4	-40
East Midnapore	84.8	50	59.8	-11	40.8	-40	4.0	-95	39.6	-19	61.3	-3	162.8	128	63.7	-25
Hooghly	50.4	6	56.7	-27	131.4	75	11.4	-84	21.2	-66	37.6	-53	137.2	99	57.4	-20
Howrah	28.6	-49	45.7	-25	85.0	-1	4.1	-94	16.7	-77	60.2	-27	103.0	33	20.0	-82
Kolkata	116.2	78	165.3	140	95.3	21	0.0	-100	68.8	-11	99.8	18	151.1	81	73.5	-20
Murshidabad	12.1	-73	42.8	-31	97.0	12	15.3	-79	7.9	-90	18.6	-74	43.0	-33	18.7	-72
Nadia	24.5	-58	93.4	37	71.6	6	15.7	-76	21.6	-64	17.0	-75	62.0	22	38.0	-38
24 Pargana (N)	55.1	-8	91.9	35	124.2	73	30.4	-60	46.5	-34	61.9	-19	142.8	112	50.6	-43
Purulia	60.2	28	91.8	39	57.7	-19	4.2	-95	19.4	-72	44.6	-29	190.4	232	19.3	-77
24 Pargana (S)	146.1	109	70.3	-19	93.4	-7	14.5	-87	74.1	-18	56.4	-47	162.7	45	44.5	-58
West Midnapore	99.9	81	46.2	-32	51.6	-29	2.0	-97	21.8	-68	25.9	-66	366.0	348	29.3	-65
SHWB																
Cooch Behar	13.3	-93	75.9	-51	130.0	-36	621.2	161	29.6	-85	14.5	-91	19.3	-88	69.1	-60
Darjeeling	45.7	-65	124.5	-16	190.2	17	221.9	50	159.6	-10	138.2	-24	99.5	-45	156.6	10
East Sikkim	33.8	-73	94.6	-30	103.2	-7	139.4	29	68.5	-38	69.0	-39	98.2	-24	85.2	-27
Jalpaiguri	47.4	-75	225.5	42	139.3	-39	608.5	154	154.0	-24	256.3	23	51.9	-69	174.6	23
Malda	30.5	-46	26.6	-60	148.6	102	17.4	-77	27.2	-64	26.8	-62	48.5	-35	55.4	-12

North Dinajpur	5.0	-93	16.2	-85	119.9	44	138.1	54	50.4	-46	4.0	-95	13.0	-81	129.9	134
North Sikkim	45.2	-65	45.0	-63	90.9	-29	299.8	227	86.1	-10	53.3	-54	48.1	-60	67.0	-21
South Dinajpur	0.0	-100	32.6	-47	116.7	42	16.1	-81	28.0	-69	18.2	-76	58.9	-27	35.0	-32
South Sikkim	49.5	-60	48.3	-64	70.4	-37	94.6	-13	39.9	-64	65.1	-42	82.1	-37	102.8	-12
West Sikkim	22.0	-83	70.0	-42	77.0	-40	308.0	236	34.0	-65	96.0	-17	101.0	-16	102.7	22
<b>Karnataka</b>																
<b>Coastal Karnataka</b>																
Dakshin Kannada	343.7	37	308.5	13	300.8	-1	386.6	47	267.9	-2	301.5	3	316.0	19	247.4	9
Udupi	377.6	36	293.7	-2	382.1	21	405.8	34	273.7	-11	369.8	8	406.3	45	288.8	23
Uttar Kannada	270.8	40	204.7	0	338.6	34	279.8	23	206.8	-14	398.0	51	374.8	78	218.6	15
<b>NI Karnataka</b>																
Bagalkote	2.6	-87	12.2	-20	3.8	-72	13.4	-9	30.5	96	25.9	42	8.6	-58	2.7	-85
Belgaum	38.0	39	25.8	-20	26.7	-49	19.5	-61	44.7	-1	85.7	84	63.5	56	51.9	31
Bidar	13.2	-62	36.2	-5	39.7	10	48.9	27	96.5	135	146.7	192	23.8	-48	39.1	-7
Bijapur	5.5	-76	22.8	23	1.6	-91	32.0	84	44.2	154	41.2	102	1.6	-95	9.3	-49
Dharwad	18.7	-26	12.8	-50	26.3	-29	5.5	-84	22.0	-38	60.1	85	54.3	79	46.6	61
Gadag	5.1	-71	4.4	-72	6.0	-62	2.8	-80	12.6	-27	15.8	-1	17.7	-4	17.2	-7
Gulbarga	13.1	-59	40.6	43	2.9	-90	36.7	26	69.7	128	79.8	95	6.9	-84	18.0	-48
Haveri	29.9	20	16.6	-38	51.3	17	17.3	-54	23.2	-43	64.2	67	71.9	123	42.5	32
Koppal	1.5	-92	7.5	-48	3.9	-64	24.8	129	43.9	145	19.1	0	2.7	-89	20.7	14
Raichur	7.5	-64	20.7	-6	3.3	-80	35.3	71	63.1	158	36.3	38	2.9	-91	7.6	-70
Yadgir	6.3	-78	24.9	-33	3.0	-87	23.1	-16	45.8	44	28.8	-31	1.8	-96	7.6	-78
<b>SI Karnataka</b>																
Bangalore Rural	0.4	-98	8.5	-21	16.9	94	9.0	-42	27.8	29	37.7	50	0.6	-98	8.1	-66
Bangalore Urban	1.5	-91	11.2	11	12.9	34	17.5	-5	20.7	5	33.8	36	3.2	-87	15.3	-44
Bellary	3.0	-82	7.0	-50	7.5	-45	14.6	8	36.1	105	17.6	1	8.1	-65	24.7	27
Chamarajnaragar	4.9	-68	17.6	67	3.1	-76	15.2	-10	14.1	10	34.8	80	11.1	-20	12.5	-27
Chichballapur	5.5	-65	3.8	-65	22.8	117	8.3	-52	14.8	-31	18.8	-14	8.9	-61	8.5	-64
Chickmagalur	112.8	25	134.2	21	130.1	-24	207.5	25	130.6	-8	273.4	86	217.1	67	214.2	67
Chitradurga	5.0	-60	9.7	19	12.2	36	8.4	-25	14.7	10	31.7	133	18.8	33	20.9	36
Davangere	10.8	-35	22.6	46	33.4	57	23.1	14	24.1	2	40.5	55	46.4	92	37.3	66
Hassan	32.1	7	31.0	0	28.7	-38	50.4	0	33.1	-26	83.0	79	56.6	38	79.8	112
Kodagu	247.8	87	226.4	52	145.1	-39	260.4	20	176.6	-6	389.5	103	247.2	43	326.6	104
Kolar	1.1	-92	0.8	-92	8.4	0	3.4	-77	29.3	70	20.1	0	1.4	-93	5.1	-74
Mandya	5.0	-54	7.8	-3	4.6	-11	4.5	-57	4.7	-58	15.4	13	7.5	-35	11.4	-7
Mysore	16.3	-11	28.7	69	10.0	-51	16.4	-28	29.6	53	49.4	120	30.3	77	30.2	71
Ramnagara	4.2	-73	10.4	-13	6.3	-18	28.1	58	3.2	-80	14.9	-41	1.5	-93	29.3	25
Shimoga	159.8	100	166.8	68	247.4	62	232.5	62	149.5	7	343.4	136	323.3	166	228.6	87
Tumkur	0.6	-95	2.9	-68	8.4	-8	5.5	-60	8.5	-48	16.6	-9	7.8	-55	16.2	-18
<b>Tamil Nadu</b>																
Ariyalur	0.0	-100	0.0	-100	0.0	-100	6.3	-52	0.0	-100	1.3	-95	0.0	-100	9.8	-51
Chennai	0.0	-100	0.0	-100	22.8	37	44.4	128	48.0	64	52.8	131	8.9	-67	27.0	-11
Coimbatore	83.4	984	124.5	1629	42.6	353	46.4	296	22.8	132	41.1	277	26.0	157	51.1	494
Cuddalore	6.2	-56	4.2	-50	25.3	167	14.6	3	2.6	-83	8.4	-64	1.6	-91	32.5	42
Dharmapuri	0.0	-100	2.1	-73	1.9	-72	5.2	-71	4.8	-73	7.7	-63	0.3	-99	2.8	-83
Dindigul	0.7	-92	2.0	-74	7.6	18	1.7	-88	2.6	-78	3.8	-75	0.4	-97	4.6	-66
Erode	0.0	-100	2.9	-7	9.3	150	0.3	-97	0.8	-91	4.1	-63	1.3	-85	4.9	-50
Kanchipuram	0.0	-100	1.0	-95	30.2	108	22.4	24	57.3	105	43.8	62	4.8	-83	7.8	-73
Kanyakumari	83.7	121	59.4	62	9.3	-75	22.7	-26	9.3	-60	46.9	104	28.2	46	36.8	93
Karikal	0.0	-100	0.0	-100	4.6	24	33.1	285	0.0	-100	0.0	-100	0.0	-100	27.3	48

Karur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.1	-99	0.0	-100	4.2	-28
Krishnagiri	0.0	-100	8.1	4	3.8	-37	6.6	-63	5.7	-67	7.0	-65	2.1	-88	10.6	-42
Madurai	0.4	-97	0.3	-97	6.4	-31	3.9	-71	0.1	-99	0.3	-98	0.0	-100	13.3	-8
Nagapattinam	0.3	-97	1.7	-71	24.8	235	14.7	34	0.0	-100	10.9	-36	1.9	-87	22.3	43
Namakkal	0.3	-98	8.6	16	13.6	156	8.0	-47	3.6	-74	4.1	-80	0.0	-100	22.0	20
Nilgiris	77.1	95	133.8	191	40.5	-36	55.9	-12	45.0	-16	113.4	86	83.1	58	93.0	102
Perambalur	0.0	-100	4.3	-6	2.5	-31	0.5	-94	0.0	-100	4.3	-72	0.8	-95	0.0	-100
Puducherry	29.9	118	0.8	-92	44.7	645	27.4	117	2.0	-81	8.2	-72	0.0	-100	15.7	-37
Pudukottai	5.6	-55	3.3	-62	4.8	-41	2.0	-89	6.7	-70	6.7	-64	2.5	-85	6.6	-57
Ramanathapuram	0.0	-100	0.0	-100	3.8	37	6.3	51	0.4	-93	0.0	-99	0.0	-100	15.5	182
Salem	11.9	-30	7.6	-36	19.4	40	4.4	-80	13.7	-38	23.2	-6	2.3	-89	24.5	22
Sivaganga	0.0	-100	1.4	-84	20.3	183	18.1	6	0.7	-95	1.6	-91	0.0	-100	23.3	18
Thanjavur	2.8	-76	0.4	-94	2.5	-41	8.8	-50	1.8	-86	0.6	-97	0.2	-99	25.8	68
Theni	29.7	576	38.9	871	14.3	155	15.4	93	20.2	236	28.6	201	19.1	198	46.6	522
Tirunelveli	39.5	442	32.4	260	6.1	-43	9.4	-12	8.2	-1	16.4	86	13.0	78	16.3	130
Tirupur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.5	-91	0.2	-97	0.0	-100	0.0	-100
Tiruvallur	0.0	-100	0.3	-99	27.3	53	16.4	-17	54.5	97	54.4	104	2.4	-90	11.7	-55
Tiruvannamalai	0.0	-100	1.9	-88	10.6	9	15.8	-10	14.6	-36	18.0	-40	3.6	-82	7.9	-71
Tiruvarur	3.7	-65	0.0	-100	0.0	-100	20.5	44	0.0	-100	0.0	-100	0.0	-100	21.5	43
Toothukudi	0.1	-96	0.4	-70	0.0	-100	0.0	-100	0.0	-100	0.4	-91	0.0	-100	0.0	-100
Trichy	0.0	-100	0.0	-100	1.4	-55	1.3	-91	0.0	-100	0.0	-100	0.0	-100	5.0	-55
Vellore	0.1	-99	1.3	-91	13.2	13	16.7	-20	19.2	-18	14.5	-55	1.2	-95	7.9	-70
Villupuram	0.2	-98	0.0	-100	12.8	15	18.0	37	18.8	15	9.5	-63	0.7	-97	6.4	-71
Virudhunagar	2.3	-68	8.1	146	5.8	164	0.0	-100	0.5	-94	0.0	-100	0.0	-100	12.9	58

**Andhra Pradesh**

**Coastal Andhra Pradesh**

East Godavari	7.1	-79	45.7	22	13.1	-70	89.1	97	37.6	-14	13.2	-74	23.3	-50	11.6	-69
Guntur	20.6	-3	18.5	-17	4.8	-82	25.4	-22	70.0	138	54.2	40	1.6	-96	41.5	43
Krishna	14.4	-49	26.3	-21	7.3	-84	72.5	49	118.4	189	54.9	0	3.0	-94	17.6	-54
Nellore	1.9	-87	6.4	-57	1.1	-93	50.0	203	38.8	81	39.6	70	10.9	-48	20.1	5
Prakasam	6.4	-57	16.5	17	7.0	-61	25.8	25	53.2	184	45.3	61	4.1	-82	46.4	162
Sirkakulam	60.6	31	57.4	48	7.6	-83	16.4	-48	65.7	44	81.4	69	9.7	-77	28.2	-36
Visakhapatnam	14.7	-62	16.0	-54	11.4	-69	27.5	-16	39.8	7	21.2	-57	9.9	-76	27.2	-23
Vizianagram	46.9	24	30.6	-14	2.2	-95	37.3	5	65.6	85	48.7	1	6.8	-83	36.1	-1
West Godavari	11.4	-70	43.4	18	13.3	-72	94.9	77	73.1	43	43.5	-28	6.3	-88	17.7	-61

**Telangana**

Adilabad	181.3	269	67.7	16	18.4	-68	72.4	10	114.1	66	308.3	275	81.5	6	131.8	99
Hyderabad	5.4	-81	36.6	9	5.0	-86	12.8	-63	124.5	258	74.7	49	11.3	-75	47.1	7
Karimnagar	132.6	198	37.6	-7	16.5	-69	43.1	-23	91.7	70	302.3	366	46.2	-23	67.9	29
Khammam	50.7	28	79.7	68	21.0	-57	74.1	23	150.2	162	231.9	229	36.2	-51	76.3	26
Mehabubnagar	10.0	-52	22.3	-4	7.8	-72	27.7	-14	62.9	98	48.8	18	2.7	-94	38.3	11
Medak	19.2	-44	33.7	-18	31.5	-27	43.7	-4	104.9	117	139.6	123	35.0	-38	41.0	-20
Nalgonda	9.9	-61	20.7	-23	2.7	-91	26.4	-11	81.4	152	65.5	51	3.7	-90	18.6	-35
Nizamabad	59.8	35	52.9	22	51.7	-11	66.5	12	158.5	166	224.0	190	57.6	-15	74.5	10
Rangareddy	13.4	-50	17.8	-44	9.8	-71	24.2	-40	96.1	140	90.0	90	4.0	-92	50.9	40
Warangal	51.4	38	28.8	-35	23.5	-53	94.8	64	124.1	124	218.2	203	27.5	-57	73.3	48

**Rayalaseema**

Anantapur	0.7	-94	5.1	-42	2.3	-72	10.8	-20	10.6	-32	11.9	-21	2.6	-85	12.6	-14
Chittoor	1.5	-92	1.1	-92	8.1	-32	11.9	-37	38.1	54	25.9	-9	3.8	-81	17.1	-33

Cuddapah	0.4	-98	12.6	-15	1.1	-92	41.4	126	23.8	1	20.5	-23	3.1	-88	21.3	-6
Kurnool	4.4	-77	17.6	-5	4.0	-77	52.7	117	42.7	74	27.8	2	3.4	-90	29.7	17

#### 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 III List of Varieties

#### Delhi

**Rice: Hybrid varieties:** 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 improved basmati:** Pusa sugandha 5, Pusa sughanda 4 (Pusa 1121), Ranvir basmati and Taravadi basmati.

**Maize:** AH-421, AH-58 or Composites: Pusa composite-3, Pusa composite-4.

**Bottle Gourd-** Pusa Naveen, Pusa Samridhi.

**Bitter Gourd-** Pusa Visesh, Pusa-2 mosumi, Pumpkin- Pusa Visvash, Pusa Vikash.

**Ridge Gourd-** Pusa Chikni.

**Moong :** PAU 911, SL 818 and **Mash :** 338 , Mash 114

**Sesamum:** Pb Til 1, T C 289, RT 346

**Bajra:** Hybrid Bajra Pusa-605, Hybrid Bajra Pusa-415, Composite Bajra Pusa-383, HSV-67.

**Sorghum:** Pusa chari-9, Pusa chari-6 or other hybrids.

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

**Coriander:** pant Haritama or hybrids.

**Guar:** Pusa Navbahar, Durga Bahar),

**Cluster bean:** (Pusa Komal),

**Beans** Pusa Sem 2, Pusa Sem 3,

**Spinach:** Pusa Bharti.

**Amaranths:** Pusa lal Chaulai, Pusa Kiran.

**Ladyfinger:** Pusa A-4).

**Soyabean:** Pusa-9712, Pusa-9814, and Pusa-16.

#### Jammu & Kashmir

**Maize :** GS-2, Mansar, Trikuta, C-5 and C-8, Super Composite (Mansar), C-6, Vijay, Him-123 and Local Tall

**Rice :** in Intermediate lower zone Basmati-370, Ranbir Basmati and Local Basmati

#### Punjab

**Rice:** PR-121, PR-122, PR-118, PR-116, PR-114, PR-111, PR-113, PR-115 in Western Plain Zone, Basmati 3, Pusa Basmati 1121, Punjab Basmati 2 & Punjab Mehak 1.

**Moong:** PAU 911, SL 818 and Mash 338 , Mash 114.

**Sesamum:** Pb Til 1, T C 289, RT 346.

**Tomato:** Varksha Bahar-1 and Varksha Bahar-2.

#### Rajasthan

**Cucurbits: bottle guard :** Pusa Naveen, Arka Bahar, pumpkin - Pusa Vishwas, Arka Chandan, Pusa Alankar, Arka Suryamukhi, **bitter guard** - Arka Harit Pusa Vishesh, Priya and **round gourd-** Arka tinda, Bikaneri green, Punjab-48.

**Fruit crops : Guava:** Allahabad safeda and Lucknow 49

**Pomegrante:** Ganesh, Jhalore and Seedless

**Orange:** Nagpur, Kinnoo and Kurg khasi

**Lime:** Kagzi, Baramasi, Pramalini and Pant lemon-1

**Aonla:** Banarshi, Krishana, NA9, NA10 and Chakaiya

**Ber:** Sonor, Thornless, Katha Alwar, Gola and Seb

short duration varieties of **Moong** – RMG-268, 344, 492, **Cow pea**– RC-19, 101, **Moth** – RMO-40, 225,

#### Himachal Pradesh

**Rice:** Pant Dhan-10, Govind, Pant Dhan-12, Ratna, UPR-71-12, Pant Sankar Dhan-1, Narendra Sankar Dhan-2.

**Finger millet** as VL- Mandua-124 and VL-149 and short duration (95 to 100 days) varieties like VL- Mandua-204, Pant Mandua-3, PES-176, PES-110, VLMandua-146.

**Cauliflower :** Patna snowball and joint snowball.

#### Uttarakhand

**Maize:** Hima-129, Navin, Sartaj, VL16, Surya, Him, Ganga Makka-9, 11.

**Urad:**Pant Urad-19, Pant urad-30, Pant Urd-35, 40.

**Soybean:** Brag, PK-262, VL Soya-2, VL Soya 21, VL Soya-47, PRS-1, PS-1092.

**French bean :** VL Rajma-63, **Gahat:** VLG-1, 8

**Pigeon pea :** Jagrati, UPAS-120, Sagar, Manak, Type-21, Bahar, Pusa-855, Pusa-74 and hybrid varieties like ICPH-8 etc

**Mandua- PRM-1,2, VL Mandua-324, 146, 149.**

**Rice bean** – PRR-1, 2

**Cow pea-** PRA-1, 2, 3 and VL-44.

**Grain sorghum :** CSH-13 or CSH-15

**Pearl millets:** MH-179, HHB-60, HHB-67 or composite varieties like HC-4, ICMB-8440, WCC-75.

#### Uttar Pradesh

**Jowar:** Mauta-1, Mauta-2, Varsha, C.S.B.-15 and C.S.H.-5, C.S.H-9, C.S.H.-14, C.S.H.-16.

**Late sown varieties of rice:** Sambha Masoori, Swarna sub-1, Jal-Lahari, Jal-Priya

**Medium Late sown varieties of rice:** Narendra- 359, Malviya-36, Pant Dhan-4, 10 Narendra Dhan-3112 , Narendra Dhan-2064, Swarna, Suraj-52, Pusa Basmati-1, Haryana Basmati

**Early sown varieties of rice:** Manhar Pant Dhan- 12, I.R- 50, Narendra- 118, Narendra Dhan- 2026.

**Arhar:** Paras, U.P.A.S-120, Pusa- 992

**Groundnut-** Moongfali-1, 13, Girnar-2, Ta-64, Kaushal guchedar, Chandra, Ta- 28

**Til-** Haryana Til-1, Punjab Til-2

**Moong-** Pusa Baishakhi

**Urad-** T-9.

**Cabbage-** Patgobhi-3, Early Kuwari, Pusa early synthetic, pusa deepali

**Bhindi-** Varsha Uphar, Arka Anamika, V.R.O-5, R.O-6

**Tomato-** pusa early, pusa ruby, H.S. 101

**Kharif onion-** N.- 53, agrifound darkred

## **CENTRAL INDIA [M.P., CHHATTISGARH]**

### **Madhya Pradesh**

Rice:

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

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

Maize:

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

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

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

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

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

Onion: Nashik 53, Agrifound dark red, Pusa kalyani

### **Chhattisgarh**

Ragi: PR-202, HR-374, VR-708, RU-08, GPU-45, VC-149 etc.

Kodomillet: GPUK-03, RBK-155 etc.

### **Odisha**

**Ginger:** Suprava, Suruchi, Surabhi.

**Turmeric:** Roma, Surama, Rang, Rashm.

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

**Yam:** Local Yam: Shreekirti, Shreerupa, Hatikhoj, Shreeshilpi.

**Small yam:** Shreelata, Shreekala.

**White Yam:** Shreesubhra, Shreepriya, Shreedhanya.

**Rice:**

Early- Khandagiri, Bandana, Pathara, Parijat, Annada.

Medium-MTU- 1001, MTU-1010, Konark, Gajapati, Surendra, Lalat.

Late- CR-1009, CR-1018, Swarna (MTU-7029), Indravati, Mahanadi, Puja, Ramachandi, Kanchana, Sarala, Lunishree and Fine-CR-1014, BPT-5204.

**Arhar:** Early-duration- Prabhat, Upas-120, ICPL-86012., Medium duration- Asha, Visakha.

**Cotton:** Tulasi, Sigma, Chiruta, Diana, Bunny

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

**Groundnut:** Smruti, AK12-24, TAG-38, Devi

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

**Soyabean:** Ankur, Gourav, P. K. 73-163 and T-49.

**Sesame:** Prachi, Kalika, Kanak, Vinayak.

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

**Greengram:** K-851, PDM-11, PDM-54, OUM-11-5.

**Blackgram:** T-9, Pant U-11, Pant U-19, Pant U-30.

**Cowpea:** Cowpea-,SEB-2, Pusa Barsati.

**Marigold:** Giant Ball, African Yellow, Giant Ball African orange, Early yellow, Early orange, Serakola, Africut, Sungiant, Crown of gold, Spun gold and Cuprid yellow etc.

**Banana:** Hampa, Patakpura, Bantal, Robusta and Kabuli etc

### **West Bengal**

**Pigeon pea:** Sweta, Chumi.

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

**Banana :** Mortoman, Chapa, Kathali, Singapuri,

**Tomato & brinjal :** P Avinash-2, 448

### **Jharkhand**

**Rice(Upland):** Birsa Dhan- 108, Birsa Vikas Dhan- 109, 110, Vandana etc.

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

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

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

**Maize:** Birsa Makka -1, Birsa Makka-2, Suwan-1 etc.

**Ginger:** Vardhaman, Nadia etc.

**Turmeric:** Rajendra Sona.

**Okra:** Pusa A-4, Prabhani Kranti, Arka Anamika, Varsa Uphar, Sonal and Sarika.

**Marua:** A-404, HR-374, Birsa Marua-1 and Birsa Marua-2.

**Urd:** Pant urd -19, Birsa urd -1

**Til:** Kanke Safed and Krishna

### **Bihar**

**Rice:** Rajshree, Rajendra Sweta, Rajendra Mansuri, Swarna, Satyam, Kishori, MTU 7029. Rajendra mehsoori-1, Rajendra bhagwati, MTU-1010, MTU-1001, Hybrid seed-PHB 71, A 6444, PRH 10.

**Maize:** Deok, Shaktiman 1, Shaktiman 2, Sunkar Makka 3 and Ganga 11

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

**Ginger:** Vardhaman, Nadia etc.

**Turmeric:** Rajendra Sona.

**Okra:** Pusa A-4, Prabhani Kranti, Arka Anamika, Varsa Uphar, Sonal and Sarika.

**Marua:** A-404, HR-374, Birsa Marua-1 and Birsa Marua-2.

**Urad:** T-9, Pant U-19, Pant Urd 31, PDU-1

**Radish:** Pusa Chetki, Pusa Himani, Pusa Rashmi, Japani Saphed

**Pointed Gourd:** Rajendra Parwal-1, Rajendra parwal-2, FP1 and 3

**Onion:** N-53, Agrifound Dark Red and Basant- 780

### **Assam**

**Sali rice:**

**Medium to short duration varieties:** Satya, Basundhara, Mahsuri, Luit, Pioli, Moniram, Luit, Kapili, Kolong, Dishang.

**Flood tolerant varieties:** Jalashri, Jalkuwari (for chronically low lying flood affected areas).

**Sesame:** AST-1, Gauri, Vinayak, Punjab Till No 1, Madhabi, ST – 1683.

**Pigeon pea:** T-21.

**Green gram:** T-44, Kopergaon, K-851, ML-56, ML-131.

**Black gram:** T-9, T-27, Pant U-19, T-122.

**Early cauliflower:** Early Kunwari, Pusa Katki, Pusa Deepali.

**Radish:** Pusa Desi, Pusa Himani, Pusa Chetki

### **Manipur**

**Okra :** Arka Anamika.

### **Tripura**

**Aman rice:** Gomati, Ranjeet, Swarna, Samba Masuri.

### **Maharashtra**

**Adsali Sugarcane:** CO-86032 (Neera), Phule-0265, CO-740, COM-88121 and COM-7714.

### **Gujarat**

**Castor:** GAUCH-1, GCH-5, and GCH-7.

#### **South Coastal Andhra Pradesh**

- Greengram- LGG 407, Lgg 460, LGG 450, PDM 54,
- MGG 295, WGG 37, Pusa 105, MGG 348.
- Blackgram- LBG 752, Lbg 20, PU 31, T9, LBG 623
- Redgram - LRG 30, LRG 41, LRG 38, ICPL 332, ICPL 8719,
- ICP 8863, ICPL 85063, MRG 66, PRG 158, PRG 100
- Soybean- S 335, PK 1029, JS 93-05, Bheema, Basara.

#### **Tamil Nadu**

- Samba Rice- long duration rice varieties CR 1009/Savithri/Ponmani and ADT 50
- Maize hybrid- Co 6
- Groundnut- TMV 13
- Castor- YRCH 1
- Sorghum- Co-30
- Red gram- Co-7

