



# *National Agromet Advisory Service Bulletin*



*Friday 4<sup>th</sup> November 2016*

*(For the period 4<sup>th</sup> to 8<sup>th</sup> November 2016)*



*Issued by*

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

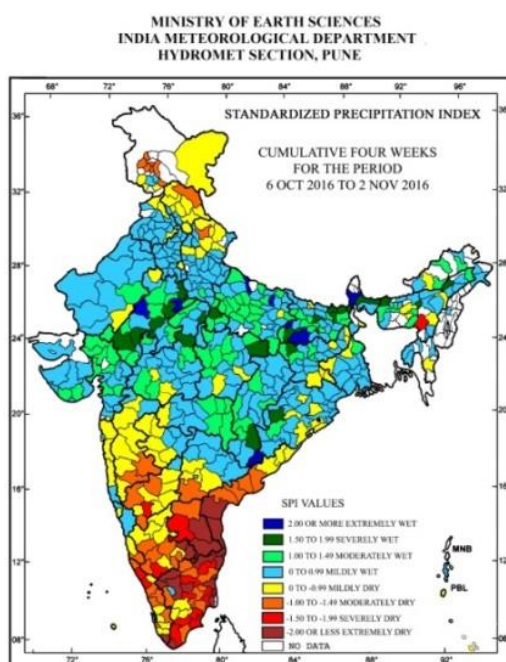
**Weblink For**

**District AAS Bulletin:** <http://www.imdagrimet.gov.in/node/3545>

**State Composite AAS Bulletin:** <http://www.imdagrimet.gov.in/node/3544>

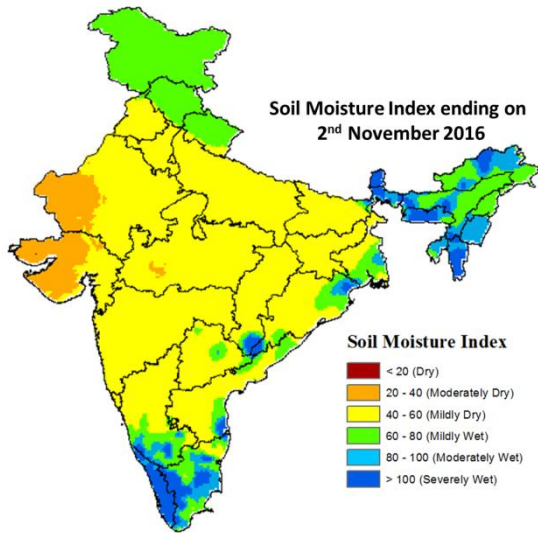
- The depression over westcentral Bay of Bengal moved north northwestwards with a speed of about 19 kmph during past 06 hrs and lay centered at 0830 hours IST of today, the 04th November 2016 over westcentral Bay of Bengal near latitude 16.0°N and longitude 84.7°E, about 240 km southeast of Vishakhapatnam, 520 km southsouthwest of Paradip and 880 km southsouthwest of Khepupara (Bangladesh). The system is very likely to move northnorthwestwards during next 6 hours and then recurve gradually northeastwards towards Bangladesh coast during subsequent 48 hours. It is very likely to intensify into a deep depression during next 24 hours.

### Standardised Precipitation Index Four Weekly for the 6<sup>th</sup> October to 2<sup>nd</sup> November 2016



- Extremely/severely wet conditions experienced in few districts of Bihar; Lakhimpur, Kokrajhar, Morigaon districts of Assam; Darjeeling, Jalpaiguri districts of West Bengal; Bolangir, Malkangiri districts of Odisha; Palamu district of Jharkhand; Bahraich, Sant Kabir Nagar, Jalaun districts of Uttar Pradesh; Ajmer, Bharatpur, Bundi, Chittorgarh, Sawai Madhopur, Udaipur, Karauli districts of Rajasthan; Datia, Ashoknagar, Singrauli districts of Madhya Pradesh; Bastar district of Chhattisgarh.
- Extremely/Severely dry conditions experienced in many districts of Tamil Nadu & Puducherry; few districts of Andhra Pradesh; Jaintia Hills district of Meghalaya; Gadag, Chamarajanagar, Kolar, Mysore, Chickballapur districts of Karnataka; Kozhikode, Trivandrum districts of Kerala.
- Moderately dry conditions experienced in few districts of Jammu & Kashmir; Andhra Pradesh; Karnataka; Garhwal Tehri district of Uttarakhand; Lahaul & Spiti district of Himachal Pradesh; Sangli, Sholapur districts of Maharashtra; Mahbubnagar district of Telangana; Coimbatore, Dharmapuri, Perambalur, Pudukkottai, Trichy, Toothukudi, Viluppuram, Krishnagiri districts of Tamil Nadu & Puducherry; Alappuzha, Malappuram, Palakkad, Thrissur, Idukki, Kasargod districts of Kerala.
- Rest of the country experienced moderately wet/mildly dry/mildly wet conditions.

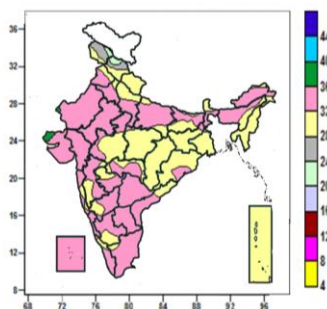
## Soil Moisture Index for the week ending on 2<sup>nd</sup> November 2016



- Soil moisture indicates severely and moderately wet condition in many parts of Kerala, Tamil Nadu and some parts of North-East Region, West Bengal and Chhattisgarh. Mild wet condition in many parts of Jammu & Kashmir, Uttarakhand, Himachal Pradesh and some parts of West Bengal, North-East Region, South Interior Karnataka, Odisha, Tamil Nadu and Andhra Pradesh. Moderate dry condition in many parts of Saurashtra & Kutch and some parts of west Rajasthan. Rest of the country shows mild dry condition.

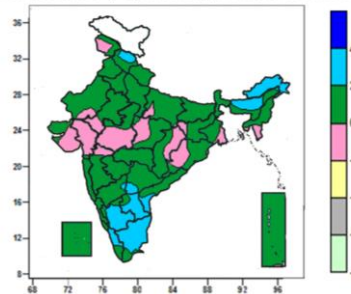
**Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 02.11.2016**

**Actual Mean Maximum Temperature (°C) in India for the week ending 02.11.2016**



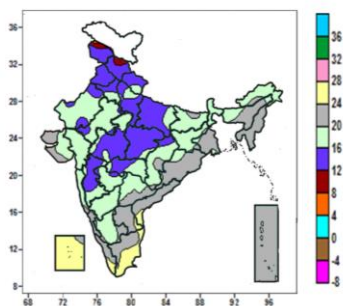
- Mean maximum temperature was between 36 to 40°C over few parts of Kutch and isolated pocket of West Rajasthan.
- Mean maximum temperature was between 28 to 36°C over rest of the Country except many parts of Himachal Pradesh and Jammu & Kashmir, where it was between 20 to 28°C.

**Mean Maximum Temperature (°C) Anomaly in India for the week ending 02.11.2016**



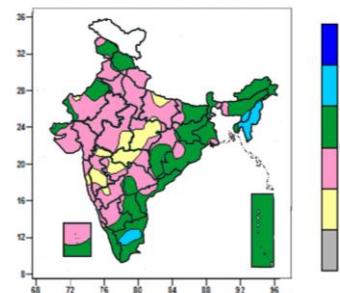
- Mean maximum temperature was above normal by 2 to 4°C over many parts of Arunachal Pradesh Assam & Meghalaya, Rayalaseema, South Interior Karnataka, Tamil Nadu, some parts of Himachal Pradesh, Telangana, Coastal Andhra Pradesh, Kerala and isolated pockets of North Interior Karnataka.
- It was normal to near normal over rest of the country.

**Actual Mean Minimum Temperature (°C) in India for the week ending 02.11.2016**



- Mean minimum temperature was between 4 to 8°C over isolated pocket of Jammu & Kashmir.
- Mean minimum temperature was between 8 to 12°C over some parts of Jammu & Kashmir and Himachal Pradesh.
- Mean minimum temperature was between 12 to 16°C over Punjab, many parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Haryana & Delhi, Uttar Pradesh, Madhya Pradesh, Madhya Maharashtra, some parts of Rajasthan, Chhattisgarh, Vidarbha and isolated pockets of Jharkhand, Gujarat Region and Marathwada.
- Mean minimum temperature was between 16 to 24°C over rest of the country except many parts of Lakshadweep, some parts of Kerala, Tamil Nadu and isolated pockets of Coastal Andhra Pradesh and Rayalaseema, where it was between 24 to 28°C.

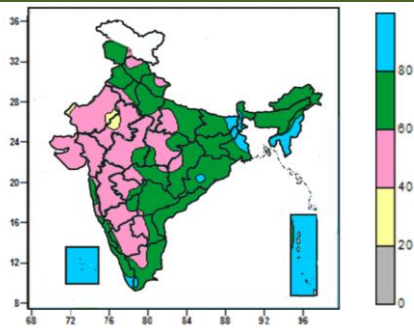
**Mean Minimum Temperature (°C) Anomaly in India for the week ending 02.11.2016**



- Mean minimum temperature was above normal by 2 to 4°C over Nagaland, Manipur, Mizoram, some parts of Assam, Tripura, Tamil Nadu and isolated pocket of Kerala.
- Mean minimum temperature was normal to near normal over rest of the country except many parts of East Madhya Pradesh, Vidarbha, Madhya Maharashtra, Marathwada, some parts of East Uttar Pradesh, West Madhya Pradesh, Konkan and isolated pockets of West Rajasthan, North Interior Karnataka and Telangana, where it was between 2 to 4°C below normal.

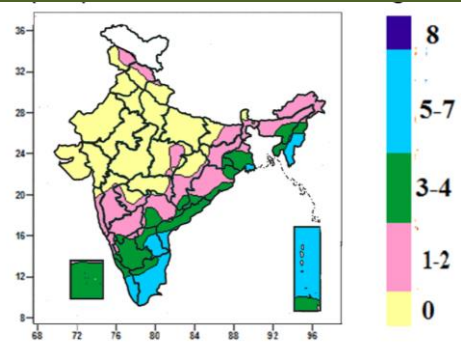
**Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 02.11.2016**

**Relative Humidity (%) over India for the week ending 02.11.2016**



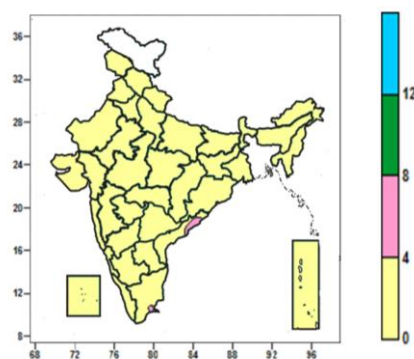
- Mean Relative Humidity was above 80% over Mizoram, Tripura, Lakshadweep, many parts of Manipur, Andaman & Nicobar Islands, some parts of Nagaland, West Bengal, Bihar, Kerala and isolated pockets of Jharkhand, Odisha and Tamil Nadu.
- Mean Relative Humidity was between 60 to 80% over Coastal Andhra Pradesh, Arunachal Pradesh, Assam & Meghalaya, Sikkim, many parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana & Delhi, Uttar Pradesh, Bihar, West Bengal, Jharkhand, Vidarbha, Chhattisgarh, Odisha, Konkan & Goa, Telangana, Coastal Karnataka, Kerala, Tamil Nadu, some parts of Nagaland, Manipur, Madhya Pradesh, Marathwada, North Interior Karnataka, Rayalaseema and isolated pockets of East Rajasthan and South Interior Karnataka.
- Mean Relative Humidity was between 40 to 60% over rest of the country except isolated pockets of Rajasthan, where it was between 20 to 40%.

**Cloud amount (okta) over India for the week ending 02.11.2016**



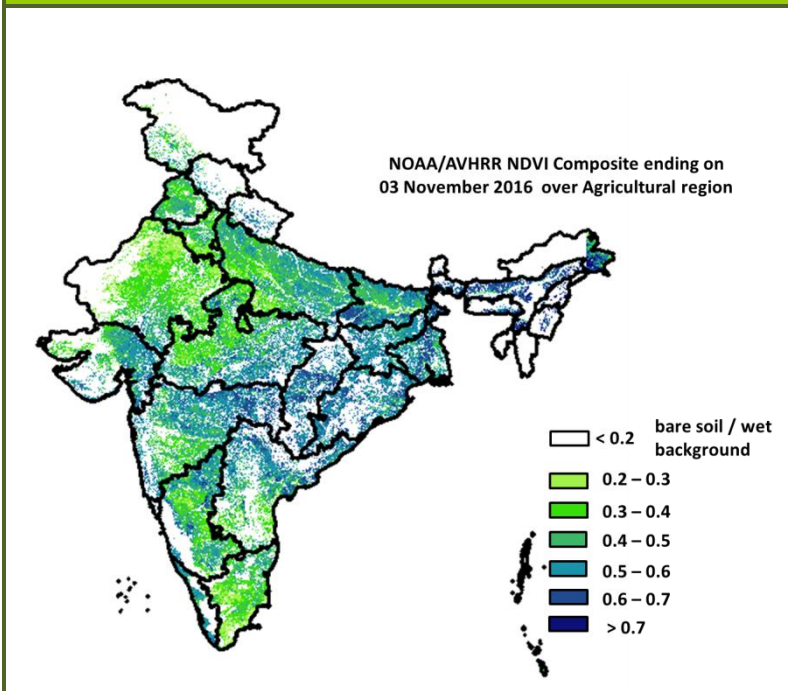
- Sky remained generally cloudy (5-7okta) over Mizoram, Manipur, many parts of Rayalaseema, Andaman & Nicobar Islands, Kerala and Tamil Nadu, some parts of Coastal Andhra Pradesh and isolated pocket of Gangetic West Bengal.
- Sky remained partly cloudy (3-4 okta) over Tripura, many parts of Nagaland, Gangetic West Bengal, Coastal Andhra Pradesh, South Interior Karnataka, Lakshadweep, some parts of Assam & Meghalaya, Jharkhand, Odisha, Telangana, Rayalaseema, Kerala, Tamil Nadu, Coastal Karnataka, Andaman & Nicobar Islands and isolated pockets of Chhattisgarh and North Interior Karnataka.
- Sky remained mainly clear/clear sky (1-2/0 okta) over rest of the country.

**Wind speed (knots) over India for the week ending 02.11.2016**



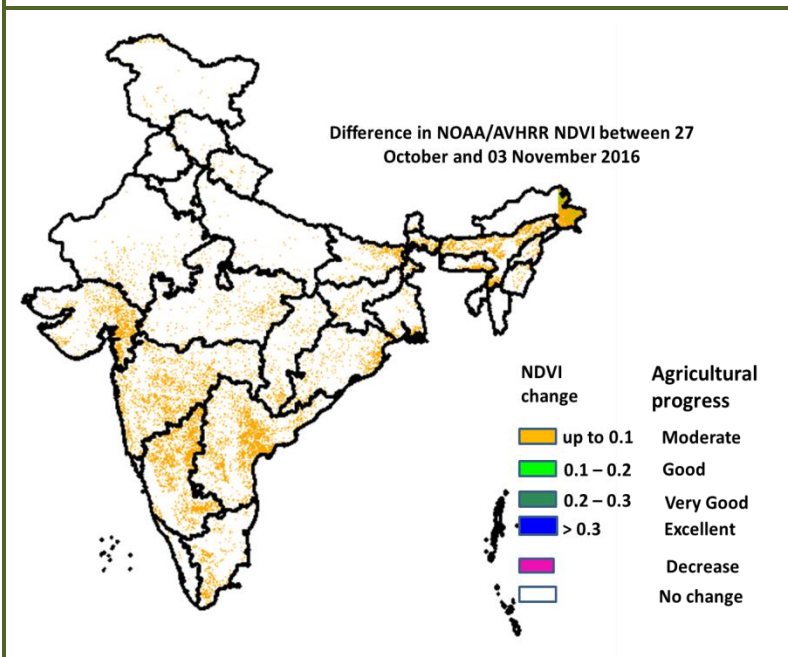
- Mean wind speed was between 0 to 4 knots over the country except some parts of Coastal Andhra Pradesh and isolated pocket of Tamil Nadu, where it was between 4 to 8 knots.

**NOAA/AVHRR NDVI composite ending on 3<sup>rd</sup> November 2016 over Agricultural region of India**



- Agricultural vigour is very good in east M.P, Bihar, Odisha, West Bengal, Vidarbha region, patches in Karnataka, Kerala, Gujarat and North-east where, NDVI value are > 0.7, Agriculture vigour is good in north Andhra Pradesh, Telangana, Uttar Pradesh, rest Gujarat where, NDVI varies from 0.5 to 0.7. NDVI is moderate in Rajasthan, Punjab, Haryana, west M.P, Madhya Maharashtra, Andhra Pradesh, Karnataka and Tamil Nadu (NDVI 0.3 to 0.5).

**Difference in NOAA/AVHRR NDVI between 27<sup>th</sup> October and 3<sup>rd</sup> November 2016**



- Moderate progress in NDVI was observed in patches in Maharashtra, Gujarat, Karnataka, Bihar, West Bengal, Odisha, Andhra Pradesh and Tamil Nadu

- NOAA/AVHRR NDVI composite maps for the week ending on 3<sup>rd</sup> November 2016 for different States are given in Annexure II.

## Weather Forecast for next 5 days valid upto 0830 hours of 9<sup>th</sup> November 2016

- Meteorological sub-division wise detailed 5 day rainfall forecast is given below.
- No significant change in day & night temperature of northwest and central India during next 48 hrs and gradual fall thereafter.

### 5 Day Rainfall Forecast (MID DAY) 4<sup>th</sup> November 2016

Met Sub-divisions	04 Nov	05 Nov	06 Nov	07 Nov	08 Nov
1. Andaman & Nicobar Islands	FWS	FWS	SCT	SCT	FWS
2. Arunachal Pradesh	DRY	ISOL	ISOL	ISOL	DRY
3. Assam & Meghalaya	ISOL	SCT	SCT	ISOL	ISOL
4. N.M.M. & T.	SCT	FWS	FWS	SCT	SCT
5. S.H. West Bengal & Sikkim	DRY	DRY	ISOL	DRY	DRY
6. Gangetic West Bengal	FWS	FWS	SCT	ISOL	DRY
7. Odisha	FWS	SCT	ISOL	DRY	DRY
8. Jharkhand	DRY	DRY	DRY	DRY	DRY
9. Bihar	DRY	DRY	DRY	DRY	DRY
10. East Uttar Pradesh	DRY	DRY	DRY	DRY	DRY
11. West Uttar Pradesh	DRY	DRY	DRY	DRY	DRY
12. Uttarakhand	DRY	DRY	DRY	DRY	DRY
13. Haryana, Chd & Delhi	DRY	DRY	DRY	DRY	DRY
14. Punjab	DRY	DRY	DRY	DRY	DRY
15. Himachal Pradesh	ISOL	DRY	DRY	DRY	DRY
16. Jammu & Kashmir	SCT	ISOL	DRY	DRY	DRY
17. West Rajasthan	DRY	DRY	DRY	DRY	DRY
18. East Rajasthan	DRY	DRY	DRY	DRY	DRY
19. West Madhya Pradesh	DRY	DRY	DRY	DRY	DRY
20. East Madhya Pradesh	DRY	DRY	DRY	DRY	DRY
21. Gujarat Region	DRY	DRY	DRY	DRY	DRY
22. Saurashtra & Kutch	DRY	DRY	DRY	DRY	DRY
23. Konkan & Goa	DRY	DRY	DRY	DRY	DRY
24. Madhya Maharashtra	DRY	DRY	DRY	DRY	DRY
25. Marathwada	DRY	DRY	DRY	DRY	DRY
26. Vidarbha	DRY	DRY	DRY	DRY	DRY
27. Chhattisgarh	ISOL	ISOL	DRY	DRY	DRY
28. Coastal Andhra Pradesh	SCT	ISOL	ISOL	ISOL	ISOL
29. Telangana	DRY	DRY	DRY	DRY	DRY
30. Rayalaseema	DRY	DRY	DRY	DRY	DRY
31. Tamil Nadu & Puducherry	SCT	ISOL	ISOL	ISOL	ISOL
32. Coastal Karnataka	DRY	DRY	DRY	DRY	DRY
33. North Interior Karnataka	DRY	DRY	DRY	DRY	DRY
34. South Interior Karnataka	DRY	DRY	DRY	DRY	DRY
35. Kerala	SCT	ISOL	ISOL	ISOL	ISOL
36. Lakshadweep	SCT	ISOL	DRY	DRY	DRY

#### % Station Reporting Rainfall

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

### Weather Warning during next 5 days

- **04 November (Day 1):** Heavy to very heavy rainfall at isolated places very likely over coastal Odisha & coastal West Bengal; Heavy rainfall at isolated places over north coastal Andhra Pradesh and Mizoram & Tripura. Squally wind speed reaching 45-55 kmph gusting to 65 kmph would prevail along and off north Andhra Pradesh, Odisha and West Bengal coasts. Sea condition is very likely to be rough to very rough along & off north Andhra Pradesh, Odisha and West Bengal coasts. Fishermen are advised not to venture into the sea along & off north Andhra Pradesh, Odisha and West Bengal coasts. Fishermen out at sea are advised to return to the coast.
- **05 November (Day 2):** Heavy to very heavy rainfall at isolated places very likely over coastal Odisha and coastal West Bengal; Heavy rainfall at isolated places over south Assam and Manipur, Mizoram & Tripura. Squally wind speed reaching 45-55 kmph gusting to 65 kmph would prevail along and off Odisha and West

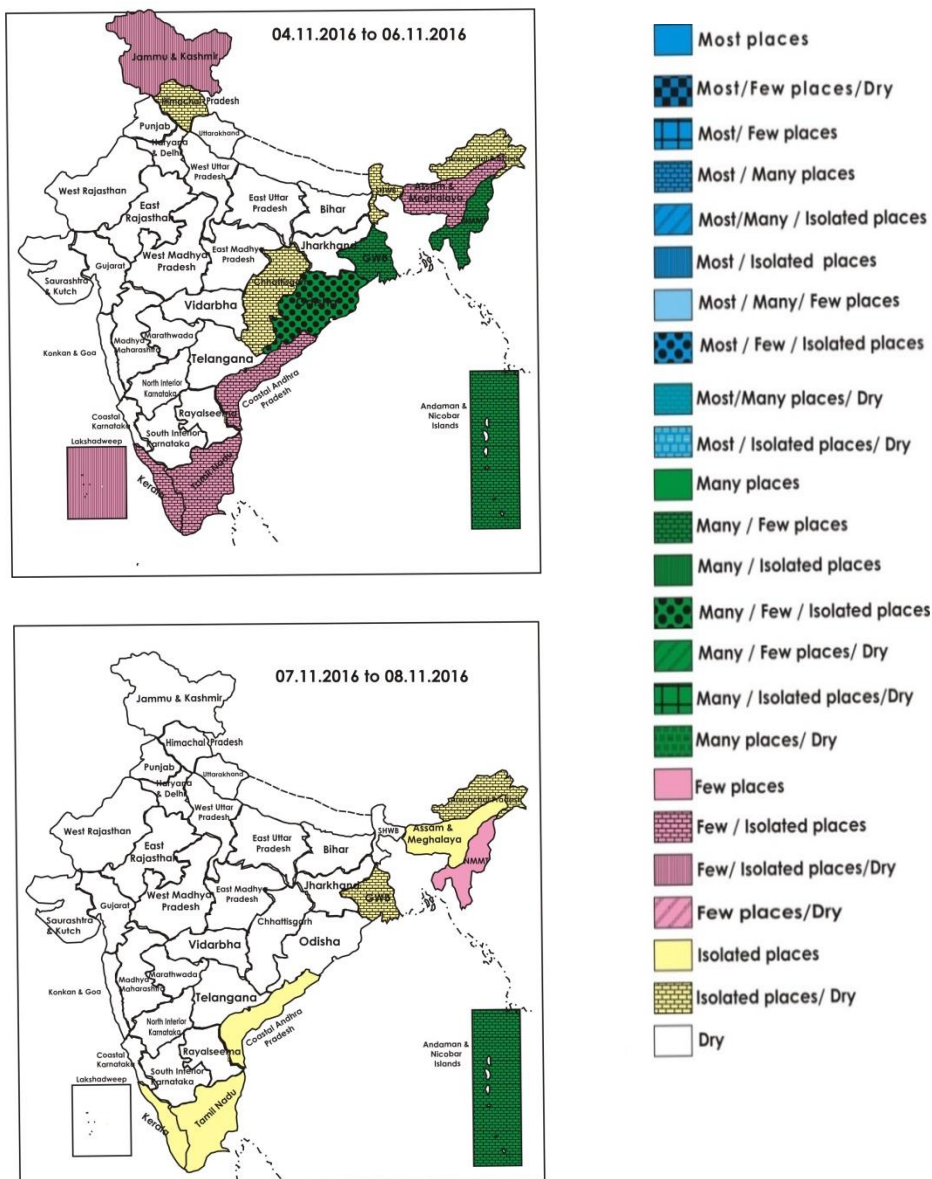
Bengal coasts. Sea condition is very likely to be rough to very rough along & off Odisha and West Bengal coasts. Fishermen are advised not to venture into the sea along & off north Andhra Pradesh, Odisha and West Bengal coasts. Fishermen out at sea are advised to return to the coast.

- **06 November (Day 3):** Heavy rainfall at isolated places very likely over south Assam and Manipur, Mizoram & Tripura. Squally wind speed reaching 45-55 kmph gusting to 65 kmph is very likely along and off West Bengal coasts. Sea condition is very likely to be rough to very rough along & off West Bengal coasts. Fishermen are advised not to venture into the sea along & off Odisha and West Bengal coasts. Fishermen out at sea are advised to return to the coast.
- **07 November (Day 4):** No weather warning.
- **08 November (Day 5):** No weather warning.

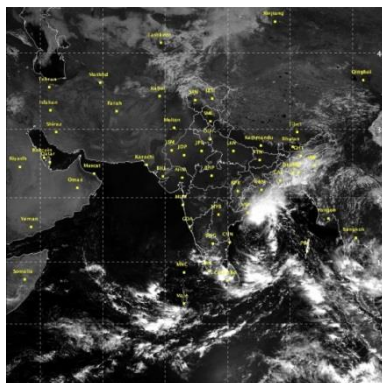
**Weather Outlook for subsequent 2 days from 9<sup>th</sup> to 11<sup>th</sup> November 2016**

- Rain at a few places over extreme south peninsular India and Andaman & Nicobar Islands.
- Decrease in rainfall activity over northeastern states.

**Weather Forecast Map (valid upto 0830 hours 9<sup>th</sup> November 2016)**







### Salient Advisories

- As squally wind speed reaching 45-55 kmph gusting to 65 kmph is very likely to prevail along and off **North Andhra Pradesh coast on 4<sup>th</sup>**, along **Odisha coast on 4<sup>th</sup> and 5<sup>th</sup>** and along **West Bengal coast from 4<sup>th</sup> to 6<sup>th</sup> Nov.**, fishermen are advised not to venture into the sea along & off north Andhra Pradesh coast during next 24 hours, along and off Odisha coast during next 48 hours and west Bengal coast during next 72 hours. Fishermen out at sea are advised to return to the coast.
- As squally wind speed reaching 45-55 kmph gusting to 65 kmph is very likely to prevail along and off **North Andhra Pradesh coast on 4<sup>th</sup>**, along **Odisha coast on 4<sup>th</sup> and 5<sup>th</sup>** and along **West Bengal coast from 4<sup>th</sup> to 6<sup>th</sup> Nov.**, provide support to banana and staking of vegetables to prevent the crops from lodging due to strong winds.
- As rain/thundershowers likely at **many places over Andaman & Nicobar Islands on 4<sup>th</sup>, 5<sup>th</sup> and 8<sup>th</sup>**, over **Gangetic West Bengal on 4<sup>th</sup> and 5<sup>th</sup>**, over **Nagaland, Manipur, Mizoram and Tripura on 5<sup>th</sup> and 6<sup>th</sup>** and over **Odisha on 4<sup>th</sup> Nov.**, do not apply irrigation, application of plant protection measures and fertilizers to the standing crops.
- As **heavy to very heavy** rain very likely at isolated places over **coastal Odisha and coastal West Bengal on 4<sup>th</sup> & 5<sup>th</sup>** and **heavy rain** very likely at isolated places over **north Coastal Andhra Pradesh on 4<sup>th</sup>**, over **Assam and Manipur on 5<sup>th</sup> and 6<sup>th</sup>**, over **Mizoram and Tripura on 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> Nov.**, provide adequate drainage in standing crop fields to avoid water stagnation. Postpone harvesting of *kharif* crops. Postpone sowing of mustard, green pea and nursery raising of cole crops in **Odisha** and sowing of mustard and raising of seedling of late varieties of cauliflower and cabbage in **Gangetic West Bengal**.
- Utilising the realized and expected rainfall, continue land preparation for transplanting of *Thaladi* season rice in Cauvery Delta Zone and Southern Zone and continue sowing of millets, pulses and oil seeds in Western Zone and Southern Zone of **Tamil Nadu**. Continue transplanting of *Mundakan* rice in **Kerala**.
- Continue sowing of chickpea, safflower, *rabi* maize, groundnut and sorghum in **Telangana** and continue sowing of Bengal gram, sorghum, safflower, niger and wheat in **North Interior Karnataka**. Continue sowing of mustard, rapeseed, pea, gram and maize in **Bihar**, lentil, gram, green pea and potato in **Jharkhand**, mustard, rapeseed, pea in **Chhattisgarh**, wheat, gram, mustard in **Madhya Pradesh**, mustard and Bengal gram in **North Saurashtra** and **North Gujarat**. Continue sowing of gram and mustard in **East Rajasthan** and gram, pea and mustard in **East Uttar Pradesh**. Continue sowing of rapeseed and mustard and planting of potato in **Assam**. Continue land preparation and sowing of wheat in **Punjab** and sowing of mustard, raya and gram in **Haryana**.
- As dry weather would prevail during the period, continue harvesting of rice in **Maharashtra, Chhattisgarh and Jharkhand**, maize, moong and black gram in **East Rajasthan**, rice and pulses in **Himachal Pradesh, Jammu & Kashmir and Uttarakhand**.
- In **Punjab**, keep animals in proper shed during night time to save animals from low night temperature. Provide adequate fresh drinking water and feed well chaffed green fodder mixed with wheat straw.

## Detailed Zonewise Agromet Advisories

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



**Banana**



**Rice**



**Sugarcane**



**Red gram**

- **Realised Rainfall:** Rainfall occurred in all districts of Kerala except Cannur, Kozhikode and Thiruvananthapuram, in Nellore and Vishakhapatnam districts of Coastal Andhra Pradesh, all districts of Tamil Nadu except Dharmapuri, Erode, Kancheepuram, Karur, Krishnagiri, Namakkal, Nilgiris, Puducherry, Salem, Theni, Tiruvallur, Tiruvannamalai, Vellore, Villupura and Virudhunagar, in Dakshina Kannada district of Coastal Karnataka, Kodagu district of South Interior Karnataka. Weather remained mainly dry over rest of the region.
- **Advisories:**
  - **Andhra Pradesh:**
    - As squally wind speed reaching 45-55 kmph gusting to 65 kmph is very likely to prevail along and off North Andhra Pradesh coast on 4<sup>th</sup> Nov., provide support to banana, propping up in sugarcane and staking of vegetables to prevent the crops from lodging due to strong winds. Fishermen are advised not to venture into the sea along & off north Andhra Pradesh during next 24 hours. Fishermen out at sea are advised to return to the coast.
    - As heavy rain very likely at isolated places over North Coastal Andhra Pradesh on 4<sup>th</sup> Nov., provide adequate drainage in standing crop fields to avoid water stagnation. Postpone harvesting of *kharif* crops.
    - In High Altitude Tribal Zone, undertake harvesting of cotton after current spells of heavy rain.
    - In Krishna Godawari Zone, continue sowing of *rabi* black gram and undertake sowing of *rabi* Bengal gram and *rabi* green gram.
    - In Scarce Rainfall Zone of Rayalaseema, due to dry weather moisture stress has been observed in castor (capsule development stage) and cotton (flowering to boll formation) crops in Ananthapuram district. Irrigate the crop to protect from moisture stress. Continue sowing of Bengal gram in Black soils and complete harvesting of groundnut, bajra and korra; In Ananthapuram district, undertake sowing of safflower and land preparation for sowing of *rabi* groundnut.
    - In Chittoor district of Southern Zone undertake transplanting of paddy and while transplanting leave 20 cm row for every 2 m for better aeration and light penetration in the crop field.
    - In Nellore district of Southern Zone undertake nursery sowings of *rabi* paddy.
    - Cloudy weather with light showers is favourable for occurrence of Maruca pod borer, heliothis in red gram in Kadappah district of Southern Zone. To control the pest spray Thiodicarb 1 g or Novaluron @ 1ml/litre of water.
    - In Kurnool district of Scarce Rainfall Zone of Rayalaseema, stem borer incidence was noticed in the jowar crop. Spray Monocrotophos 36 SL @ 320 ml in 200 litres of water.
  - **Telangana:**
    - In North Telangana Zone, continue sowing of chickpea under residual soil moisture conditions in black soils.
    - In Telangana, continue sowing *rabi* crops like maize, sorghum, groundnut and sunflower under irrigated dry conditions after duly treating the seed with fungicides.
    - In North Telangana Zone, attack of brown plant hopper is noticed in rice at grain formation stage in some parts of Adilabad district, spray Ethofenprox @ 2.0 ml or Buprofezin @ 1.6ml/litre of water for control.
    - In Mahabubnagar, Nalgonda, Medak, Rangareddy, Khammam and Warangal districts (South Telangana Zone), prevailing weather conditions are congenial for the incidence of leaf webber, maruca and helicoverpa on redgram. To control, leaf webber spray Monocrotophos @ 1.6 ml or Quinalphos @ 2 ml per litre of water, for maruca spray Chlorpyrifos @ 2.5 ml or Novoluran @ 0.75 ml along with Dichlorovas @ 1.0 ml per litre of water, for helicoverpa, spray 5 % NSKE to kill the eggs and early instar larvae.
  - **Kerala:**
    - In North Zone, continue transplanting of *Mundakan* rice.
    - In Thiruvananthapuram district in Southern Zone, complete transplanting of *Mundakan* rice.
    - In Kollam District of Southern Zone, undertake transplanting of *Mundakan* rice and apply lime @600 kg/ha 10-15 days before transplanting.
    - In Idukki and Wynad districts of High Altitude Zone, undertake harvesting of pepper; continue harvesting of cardamom and ginger.
    - In Problem Area Zone, undertake sowing of Bhindi, Amaranthus and planting of banana.
    - In Northern Zone, to control bud rot disease in coconut, cut and remove the affected tissues from the crown in

early stages of the disease and apply Bordeaux paste and protect it from rain falls. Adopt complete field sanitation in banana gardens. Remove all dried leaves. If infestation is noticed, spray the pseudo stem and fill the leaf axils with neem based insecticide @15 ml per litre of water at monthly intervals (starting from 5th month onwards).

- In Central Zone, there is a chance of pollu beetle attack at the time of berry maturing stage of Pepper, to control undertake spraying of Rogar or Quinalphos @ 2 ml/litre of water on a non rainy day and there is a chance of sigatoka on banana to control undertake spraying of Tilt @ 1 ml/litre of water on a non rainy day.

#### ▪ **Tamil Nadu:**

- In Ariyalur, Perambalur, Thanjavur, Thiruvarur and Trichy districts of Cauvery Delta Zone, continue land preparation for transplanting of Thaladi season rice. For 1 acre Thaladi rice, apply 200 kg of gypsum, 10 kg zinc sulphate, 30 kg of urea, 40 kg DAP and 10 kg potash as basal fertilizers. Apply 100 kg of neem cake before transplanting to avoid insect and nematode attack.
- In South Zone, undertake direct wet-seeding of rice and machine transplanting method for rice and also undertake sowing of pulses, minor millets, cumbu and sunflower.
- In North Eastern Zone, continue nursery sowing of rice after proper seed treatment.
- In Cauvery Delta Zone, due to prevailing weather condition, Leaf folder incidence has been noticed in the Samba paddy fields. To manage this, undertake spraying of Profenophos @ 400 ml/acre with 200 liters of water on a non rainy day.
- In High Altitude Hilly Zone, to control powdery mildew disease in vegetables, undertake spraying of wettable Sulphur @ 2 g/litre of water after current spells of rain and repeat after 15 days on a non rainy day.

#### ▪ **Karnataka:**

- Undertake harvesting of matured rice in Coastal Zone and Hill Zone.
- Continue harvesting of matured maize in Southern Transition Zone and picking of cotton in Hill Zone in clear weather.
- Continue sowing of sorghum, chickpea, wheat, sunflower and safflower in Vijayapura, Bagalkote and Gadag districts of North Dry Zone. Intercropping of *rabi* sorghum + chickpea (2: 1 row proportion) is recommended. Give preference to sowing of fodder crops. Complete harvesting, threshing and drying of soybean, groundnut, onion and maize.
- In Bidar district of North East Transition Zone, continue sowing of wheat, Bengal gram and planting of sugarcane. Provide protective irrigation to vegetable crops.
- In Bengaluru Rural, Bengaluru Urban, Ramnagara, Chikaballapura and Kolar districts of Eastern Dry Zone, carry out sowing of short duration varieties of ragi and short duration crops like cowpea, field bean and sunflower with sufficient soil moisture. Continue harvesting of maize and groundnut.
- Provide irrigation to cotton, red gram, maize, sunflower crop in North East Dry Zone as there is no rainfall forecast.
- Continue sowing of chickpea, wheat and safflower in Dharwad, Belagavi and Haveri districts of North Transition Zone. Complete harvesting of maize and groundnut. Undertake intercultural operation in 25 - 30 days old *rabi* sorghum crop to control the weeds and for moisture conservation.
- Continue sowing of cotton under irrigated condition in Central Dry Zone.
- Pod borer attack is noticed in short duration pigeon pea crop in North East Transition Zone, spray Profenophos @ 2 ml or Thiodicarb @ 0.6 g or Methomyl @ 0.6 g per litre of water for control.
- Weather is congenial for taking up pruning in grapes in North Dry Zone. Before taking up pruning, remove the dead bark of the main stem of the vine by rubbing with gunny bag and then apply 5 % neem based insecticide or smear the paste to the stem prepared by dissolving Carbaryl @ 50 g in one liter of water.
- Due to prevailing weather conditions infestation of stemborer/thrips in rice is noticed in most of the villages in Southern Dry Zone; to manage, spray Chlorophyriphos @ 2ml/litre of water or application of Phorate @ 8kg/litre of water wherever the pest is noticed.
- Suitable varieties for sowing are given in Annexure III.

#### ❖ **Animal Husbandry**

- In Scarce Rainfall Zone of Rayalaseema of Andhra Pradesh, vaccinate sheep in time against sheep pox and keep them in dry sheds.
- In Telangana, prevailing weather conditions are congenial for the occurrence of Ranikhet disease in poultry, Hemorrhagic Septicemia and FMD in Cattle/ Buffaloes. To prevent the diseases, vaccinate the livestock and also against sheep pox in sheep/goat.
- Vaccinate the livestock for Black Quarter and foot and mouth diseases in North East Transition Zone in Karnataka.
- In Southern Dry Zone, maintain optimum room temperature in silkworm and poultry rearing houses. Maintain proper ventilation for proper free circulation of air in the sheds.

#### ❖ **Sericulture**

- In Eastern Dry Zone of Karnataka, use nylon mess to control UJI fly entering into sericulture unit. Use recommended chemical for control of UJI fly.



**Banana**



**Rice**



**Cauliflower**



**Land preparation/Sowing**

- **Realised Rainfall:** Rainfall occurred in Upper Subansari district of Arunachal Pradesh; Cachar, Haikandi and Morigaon districts of Assam; East Garo Hills, East Khasi Hills, South Garo Hills and West Khasi Hills districts of Meghalaya; Aizwal and Saiha districts of Mizoram; Imphal East and Imphal West districts of Manipur; Kephire, Kohima and Phek districts of Nagaland and South Tripura district of Tripura. Weather remained mainly dry over rest of the region.
- **Advisories:**
  - As rain/thundershowers likely at many places over Nagaland, Manipur, Mizoram and Tripura on 5<sup>th</sup> and 6<sup>th</sup> Nov., do not apply irrigation, application of plant protection measures and fertilizers to the standing crops.
  - As heavy rain very likely at isolated places over Assam and Manipur on 5<sup>th</sup> and 6<sup>th</sup> and over Mizoram and Tripura on 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> Nov., provide adequate drainage in standing crop fields to avoid water stagnation. Postpone harvesting of *kharif* crops.
  - **Assam, Meghalaya & Arunachal Pradesh:**
    - In Dhemaji, Lakhimpur, Sonitpur, Dibrugarh, Golghat, Jorhat and Sibsagar districts of Upper Brahmaputra Valley Zone of Assam, continue sowing of toria and planting of potato. Undertake sowing of pea, linseed, lathyrus.
    - In Karimganj, Hailakandi and Cachar districts of Barak Valley Zone of Assam, continue nursery raising for winter vegetables and planting of potato.
    - In Karbi Anglong and NC Hills districts of Hill Zone of Assam, continue nursery raising of winter vegetables and transplanting of early cauliflower and sowing of onion. Continue land preparation for sowing of rapeseed and mustard and land preparation and planting of potato. Undertake land preparation/sowing of lentil.
    - In Marigaon and Nagaon districts of Central Brahmaputra Valley Zone of Assam, continue sowing of *rabi* pulses, rapeseed and mustard, nursery sowing of brinjal, cole crops, early radish and land preparation for sowing of wheat. Also continue land preparation and planting of potato.
    - In Barpeta, Bongaigaoin, Dhubri and Goalpara districts of Lower Brahmaputra Valley Zone of Assam, continue sowing of pumpkin, radish, tomato, onion, planting of potato and nursery preparation of cabbage, cauliflower and land preparation for sowing of oats, rapeseed and mustard. Undertake land preparation/sowing of lentil.
    - In North Bank Plain Zone of Assam, continue land preparation and sowing of rapeseed/mustard. Farmers are advised to adopt relay cropping with pea in the rice fields 20- 25 days before harvesting the Sali paddy, suitable varieties of pea such as T-136, bonnevillie etc. should be sown maintaining a spacing of 30cm x 10cm. Continue planting of potato.
    - In Arunachal Pradesh, continue nursery sowing of winter vegetables and sowing of pea, black gram and green gram. Continue harvesting of soybean at the earliest. Continue harvesting of pulses. Cover bunches of banana with bunch covers or sacks or locally available materials to protect from cold/frost.
    - In Meghalaya, continue nursery sowing/transplanting of cauliflower/cabbage/broccoli and harvesting of matured soybean and groundnut.
    - In Hill Zone of Assam, spray Rogor 0.05% against shoot borer in turmeric/ginger at vegetative stage.
    - In Upper Brahmaputra Valley Zone of Assam, due to favourable weather conditions, there is chance of attack of Gundhi bug in *sali* rice at milky stage. To control, Malathion 5% dust @ 2.5 kg/bigha of land is recommended after current spells of rain. Holding fires around the field at night hours will also reduce the Gundhi bug population.
    - In North Bank Plain Zone, Central Brahmaputra Valley Zone and Barak Valley Zone of Assam, to control rice bug on Sali rice at flowering/ grain formation stage, undertake dusting with 5% Malathion dust @ 20 kg per ha. Also to control the aphid and saw fly in rapeseed/ mustard at vegetative stage, spray Dimethoate (Rogar) @ 1 ml/litre of water after current spells of rain.
    - In Central Brahmaputra Valley Zone of Assam, attack of leaf folder and aphids are seen in many fields of black gram and green gram in Nagaon and Marigaon district. Farmers are advised to spray Quinalphos @ 2.5 ml/litre of water or Dimethoate @ 2ml/litre of water after current spells of rain.
    - In Arunachal Pradesh, undertake drenching with 0.05% Dichlorvos at base of citrus plant for rectification of trunk-borer.
    - In Meghalaya, to control gundhi bug/stem borer in upland rice at milky to dough stage, spray Imidacloprid 17.8

SC @ 2ml/litre of water and Chloropyriphos @ 0.02% or Monocrotophos @ 0.04%.

▪ **Nagaland, Manipur, Mizoram and Tripura:**

- In Nagaland, continue sowing of toria and *rabi* maize. Also continue nursery preparation for cabbage, cauliflower, knol-khol, broccoli, radish and tomato. Undertake timely harvesting of *kharif* crops in clear weather. Undertake seed treatment in all *rabi* crops before sowing with fungicides (@ 2 to 3 g/kg seed) prevents seed borne diseases.
- In Manipur, continue sowing of garden pea and nursery raising and transplanting of cole crops/onion and for planting of potato. Continue land preparation for sowing rapeseed/mustard and pea. Continue harvesting of *kharif* rice, soybean, groundnut and black gram/rice bean after current spells of heavy rain.
- In Mizoram, continue harvesting of *khasi* mandarin/acid lime, passion fruit, banana after current spells of heavy rain. Undertake nursery sowing of onion.
- In Tripura, continue land preparation for planting of potato, land preparation and sowing of sesame. Undertake harvesting of *Aman* rice after current spells of heavy rain. Undertake sowing of *rabi* maize.
- In Manipur, to control leaf blotch & leaf spot in ginger/turmeric, application of Carbendazim @ 0.1% alternately with spraying of Mancozeb (2.5 g/litre) is also recommended after current spells of rain.
- In Mizoram, apply insecticide like Imidacloprid 0.5 ml or Phosolone 1.5 ml or Acephate 1.0 g or Dimethoate 2 ml/litre of water against banana rhizome weevil disease in banana after current spells of rain.
- Suitable varieties for sowing are given in Annexure III.

❖ **Animal Husbandry**

- In Arunachal Pradesh, undertake disinfecting the animal/bird sheds with lime powder/ bleaching powder/ 4% NaOH at regular interval.
- In Lower Brahmaputra Valley Zone of Assam, to protect poultry from cold, gunny bags or plastic sheath curtains should be installed on the side walls of shed and bedding material (litter) should be increased by six inches. Care should be taken not to restrict ventilation.
- In Nagaland, prevailing high humidity may cause ammonia fumes which irritate the respiratory tract and eyes of the poultry. Good ventilation provides a comfortable environment without draft. Farmers are advised to provide clean drinking water round the clock and water troughs/feeders should be regularly cleaned. Antibiotics or other stress medications may be added to water if desired.

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



*Maize*



*Mustard*



*Rice*



*Land preparation/Sowing*

- **Realised Rainfall:** Weather remained dry over the region.

• **Advisories:**

▪ **Maharashtra:**

- In Konkan, continue harvesting of rice and matured groundnut. Undertake land preparation and sowing of short duration crops like cowpea, wal and kulthi on residual moisture in the harvested rice field. Continue nursery sowing of vegetables like chilli, brinjal, cabbage, knol-khol. Continue land preparation for sowing and planting of seasonal fodder crops *viz.* maize, sorghum, bajra, barseem etc. Undertake sowing of watermelon variety 'Sugar baby' on one side of ridges with a spacing of 4 x 1 m.
- In Madhya Maharashtra, complete sowing of irrigated *rabi* jowar and Bengal gram. Continue harvesting of matured rice in morning hours in Western Ghat Region. Complete harvesting of matured groundnut and jowar. Continue transplanting of onion. Undertake land preparation and sowing of wheat. Continue nursery sowing of tomato, chilli, brinjal & cole crops. Continue planting of pre-seasonal sugarcane.
- In Marathwada, continue planting of pre seasonal sugarcane. Continue sowing of wheat. Undertake sowing of chickpea if adequate soil moisture is available. Continue sowing of fodder maize, barseem and oats etc. Continue sowing of leafy vegetables like fenugreek and spinach.
- In Vidarbha, continue harvesting of early maturing rice in East Vidarbha region. Do not apply any insecticides/fungicides 8 days before harvesting of matured rice crop. Drain out water from rice fields 10 days before harvesting in late maturing rice variety. Complete sowing of Bengal gram and safflower. Complete harvesting of matured groundnut and jowar. Continue nursery sowing of vegetables like tomato, chilli and brinjal. As dry weather is prevailing, apply irrigation to vegetable crops at critical stages.
- Due to partly cloudy and rising temperature in Madhya Maharashtra, there are chances of attack of sucking pests in finger millet crops, spray Imidachloprid @ 4 ml or Thiomethoxam @ 4 g per 10 liters of water using knapsack

spray pump.

- Due to current weather condition in Marathwada and Vidarbha, blister beetle attack has been found in tur at flowering stage, for control apply Mythil Parathion or Chloropyoriphos 2% W.P @ 20 kg/ha.

▪ **Gujarat:**

- Continue sowing of mustard, gram, *rabi* fennel, lucerne, nursery sowing/sowing of cabbage, cauliflower, brinjal, tomato, onion, carrot and radish in North Gujarat Zone, mustard, gram in Kutch district of North West Zone; complete harvesting of groundnut, sesame, bajra, maize, sorghum, picking of matured pods of cowpea and matured cotton bolls in North Gujarat Zone and in North West Zone. Carry out weeding in castor and fennel in North Gujarat Zone. Undertake harvesting of matured fruits of custard apple.
- In South Gujarat Zone, undertake intercropping of groundnut and moong in sugarcane. Apply irrigation in vegetable crops.
- Continue sowing of chickpea, wheat, mustard, garlic, cumin, onion and coriander; undertake sowing of pea and carrot for vegetable purpose in Rajkot, Amreli, Jamnagar and Surendranagar districts of North Saurashtra Zone.
- Continue harvesting of matured bajra in Middle Gujarat Zone. Apply regular irrigation in cluster bean. As early sown groundnut crop is in maturity stage, stop irrigation at this stage. As the temperature range (max-min), bright sunshine is increasing and relative humidity is decreasing; reduce the irrigation interval to maintain the proper growth of standing crops (castor, cotton, rice, vegetables, grass etc).
- Undertake sowing of gram and garlic, land preparation for sowing of wheat, coriander, cumin; keep inputs ready for sowing in South Saurashtra Zone.
- In South Gujarat Heavy Rainfall Zone, continue sowing of *rabi* pulses (Indian bean, gram, green gram), sweet corn, planting of sugarcane, nursery preparation for cole crops. Undertake sowing of off season okra.
- The atmosphere is favourable for all type of larvae in cotton in South Gujarat Zone; spray Emamectin Benzoate @ 2ml/litre of water and for white fly in cotton spray Triazophos (Hostathion) 40 EC @15ml/10 litre water.
- Suitable varieties for sowing are given in Annexure III.

❖ **Animal Husbandry**

- For the control of ticks in cattle spray Deltamethrin or Amitral @ 2 ml/litre of water. Keep animal shed hygienic and clean to avoid flies and mosquitoes in Gujarat State.

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



*Red gram*



*Okra*



*Maize*



*Rice*

- **Realised Rainfall:** Rainfall occurred in North & Middle Andaman and South Andaman districts of Andaman & Nicobar Islands, East Midnapore, Hooghly, Howrah, Kolkata, North 24 Parganas and West Midnapore districts of Gangetic West Bengal, Balasore, Bhadrak, Malkangiri and Mayurbhanj districts of Odisha. Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
  - As squally wind speed reaching 45-55 kmph gusting to 65 kmph is very likely along and off Odisha coast on 4<sup>th</sup> and 5<sup>th</sup> and over West Bengal coast on 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> Nov., provide support to banana and staking of vegetables to prevent the crops from lodging due to strong winds. Fishermen are advised not to venture into the sea along & off Odisha coast during next 48 hours and west Bengal coast during next 72 hours. Fishermen out at sea are advised to return to the coast.
  - As rain/thundershowers likely at many places over Andaman & Nicobar islands on 4<sup>th</sup>, 5<sup>th</sup> and 8<sup>th</sup>, over Gangetic West Bengal on 4<sup>th</sup> & 5<sup>th</sup> and over Odisha on 4<sup>th</sup> Nov., do not apply irrigation, application of plant protection measures and fertilizers to the standing crops.
  - As heavy to very heavy rain very likely at isolated places over coastal Odisha and coastal West Bengal on 4<sup>th</sup> & 5<sup>th</sup> Nov., provide adequate drainage in standing crop fields to avoid water stagnation. Postpone harvesting of *kharif* crops.
- **Odisha:**
  - In East and South Eastern Coastal Plain Zone, postpone sowing of mustard, green pea in fallow uplands and nursery raising of cole crops such as cabbage and cauliflower.
  - In Mayurbhanj and Keonjhar districts, postpone sowing of green pea in fallow uplands and nursery raising of tomato, cauliflower and cabbage.
  - In North Eastern Coastal Plain Zone, prevailing cloudy weather with high humidity will increase the incidence of

blast and sheath blight of *kharif* rice. To control it spray Tebuconazole + Trifloxystrobin 75WG @ 200g/ha in 500 litres of water or spray Tricyclazole @ 0.5g/litre of water after current spells of rain.

- In Kalahandi and Nuapara districts of Western Undulating Zone, sucking pests like aphids, jassids infestation may occur on cotton crop at square formation to flowering stage. Spray Buprofezin 2ml/litre water for controlling sucking pests after current spells of rain.
- In East and South Eastern Coastal Plain Zone and North Central Plateau Zone, stem borer infestation and Bacterial Leaf Blight is noticed in rice. Spray Tryzophos or Chlorpyriphos @ 2 ml per litre water to control Stem borer. For control of Bacterial Leaf Blight, spray 200 g Plantomycin in 200 litres of water per acre. Also high humidity, low temperature and cloudy weather favours the infestation of blast in rice. Spray 1g Beam and 1.5 g Hinosan in 2 litres of water twice at 15 days interval. Undertake plant protection methods after current spells of rain.
- In Mid Central Table Land Zone, high humidity with low night temperature condition is favourable for spread of blast disease in rice. To control, spray Tricyclazole @ 0.5g/litre of water. To control leaf folder and stem borer above ETL, spray Deltamethrin +Triazophos @ 2ml/litre of water or Prophenophos 50 EC @ 2 ml/litre of water and use 200 litre/acre. Undertake plant protection methods after current spells of rain.

▪ **West Bengal:**

- In Burdwan, Murshidabad, Nadia, North 24 Parganas districts of New Alluvial Zone, postpone sowing of mustard and raising of seedling for late varieties of cauliflower and cabbage. In late sown *Aman* rice, maintain 2-3 cm standing water in the fields. Underatke harvesting of early transplanted *Aman* rice after current spells of heavy rain. Postpone sowing of winter vegetables. Continue land preparation for *rabi* crops.
- In Purba Midnapore and South 24-parganas districts of Coastal Saline Zone, postpone sowing of early variety of mustard.
- In Laterite and Red Soil Zone, complete harvesting of matured rice crop after current spells of heavy rain. Undertake land preparation for sowing of wheat and potato crops after the harvesting of rice crop.
- In Malda & Dakshin Dinajpur districts, undertake transplanting six (4-6) leaf seedlings of cabbage and cauliflower and sowing of lentil. Before seed sowing, seed should be treated with Carbendazim 50% W.P. and with rhizobium culture.
- In Coastal Saline Zone, in prevailing weather condition is favourable for attack of green loop Hopper and Gandhi bug in rice. For green leaf hopper use light trap or spray Acephate @1g/litre of water or Thiamethoxam @ 0.5g/litre of water and for Gandhi bug apply Chlorpyriphos dust or Sevidol dust @3.5kg/bigha at afternoon hours after current spells of rain.
- In New Alluvial Zone, in the prevailing humid weather, there is a chance of spread of sheath blight in rice. For control, spray Carbendazim @1.5 g/litre of water. In case of stem borer attack, spray Carbosulfan 25 EC @ 2ml/litre or Profenphos 40% + Cypermethrin 4% @ 1ml/litre of water after current spells of rain. To prevent fungal leaf-spot disease in vegetables, apply 2.5 gm Mancozeb 80% or 'Chlorothalonil 75 WP' mixed with one litre of water after current spells of rain.
- In Old Alluvial Zone, prevailing weather condition is favourable for attack of sucking pests and false smut in *Aman* rice. To control sucking pests spray with Dadeci@ 1ml/litre of water and to control false smut of rice, spray Chlorothalonil 75 W.P 2ml/litre of water at evening hour.

▪ **Andaman and Nicobar Islands:**

- Prepare the field for yearly sowing of cauliflower seeds @ 450 to 500 g/ha and apply farm yard manure during last ploughing.
- In Nicobar, provide drainage channel to the vegetable field to avoid stagnation of water.

▪ **Bihar:**

- In Araria, Katihar, Kishanganj, Madhepura, Purnea, Saharsa and Supaul districts in North East Alluvial Zone, continue sowing of mustard, pulses, lentil, pea, sunflower and rai. Before sowing seeds must be treated with Carbendizin @ 2g/kg of seed. Undertke planting of potato.
- In Darbhanga, East Champaran, Gopalganj, Samastipur, West Champaran districts of North West Alluvial Plain Zone, undertake sowing of garlic, kidney beans, pea, carrot, lentil, and land preparation for sowing of wheat, gram, potato, *rabi* maize, and nursery sowing of *rabi* onion.
- In South Bihar Alluvial Zone, undertake planting of potato and transplanting of cauliflower, cabbage and tomato, sowing of carrot may be done in raised bed. Undertake field preparation for sowing of other *rabi* crops. Ploughing and planking should be done properly to conserve the moisture in the soil.
- In North East Alluvial Zone, humidity & temperature conditions are favourable for fruit and shoot borer infestation in okra and brinjal, apply Emamectin benzoate @ 1g/2 litre or (Profenfos 40% EC+ Cypermethrin 4% EC) @ 2.5 ml/litre of water.

▪ **Jharkhand:**

- In South Eastern Plateau Zone, in fallow uplands, continue sowing of mustard. Before sowing, treat the seed with Bavistin @ 2 g per kg of seed. Undertake planting of potato and nursery raising of Onion.
- In Western Plateau Zone, continue harvesting of matured rice. In harvested fields, undertake land preparation and sowing of wheat, lentil, gram, green pea and planting of potato.
- In Central and North Eastern parts of Jharkhand, continue sowing of gram and planting of potato.
- In South Eastern Plateau Zone, present weather is conducive for occurrence of pests like hairy caterpillar on

groundnut crop. So, in early stage of caterpillar, apply Dichlorvos @ 0.5 ml per litre of water. For control of adult caterpillar, provide bamboo perch in the fields for predatory birds.

- In South Eastern Plateau Zone, low land rice crop are at milky stage and this stage is susceptible to the attack of Gundhi bug. To control the insects, dusting of Chlorpyrifos/Quinolphos/Methyl Parathion dust @ 10 kg per acre is recommended.
- In South Eastern Plateau Zone, there may be attack of leaf eating and sucking pests in pigeon pea, for control, spray Monochrotophos @ 1 ml per litre of water by mixing Teepol @ 0.5 ml per liter of water.
- In South Eastern Plateau Zone, green pea crop is mostly seen with the infestation of leaf eating insects and can be controlled by spraying of prepared concentration of neem or tobacco leaf extract diluted in the ratio of 1:10 liters or neem oil @ 5 ml per liter of water. Also attack of leaf eating insects have been increased in cucurbitaceous crops like sponge gourd, ridge gourd, bottle gourd, cowpea, French bean etc, brinjal, cauliflower and cabbage. Hence, Imidachlorpid @ 1g or Kung fu @ 2 ml per litre of water should be sprayed.
- Suitable varieties for sowing are given in Annexure III.

#### ❖ **Animal Husbandry**

- In Jharkhand, weather is favourable for Foot and Mouth Disease (FMD), vaccinate FMD vaccine to the cattle with the consultation of veterinary doctor. Also due to decrease in temperature, PPR Disease may increase in Goat & Sheep. farmer are advised to vaccinate their animal with PPR vaccine @ 1ml S/C.
- In Terai Zone of West Bengal, vaccinate cattle against BQ and HS (BQ, HS Vaccine/ HS+BQ).

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



*Maize*



*Rice*



*Mustard*



*Land preparation/Sowing*

- **Realised Rainfall:** Weather remained dry over the region.
- **Advisories:**
  - **Madhya Pradesh:**
    - In Indore and Ujjain districts, continue field preparation for sowing of wheat, nursery preparation for early winter vegetables, onion and field preparation for sowing of potato, pea and garlic. Complete harvesting of late sown soybean and maize. Continue transplanting cauliflower and cabbage and sowing of gram.
    - In Gwalior, Bhind, Morena, Guna, Ashoknagar and Shivpuri districts, continue sowing mustard and planting of potato. Continue sowing of pea and gram.
    - In Chhindwara and Betul districts, continue nursery preparation for tomato, chilli, brinjal and nursery sowing of cabbage, cauliflower and sowing of garlic, coriander etc. Continue sowing of mustard, linseed, safflower and wheat.
    - In Vindhya Plateau Zone, continue nursery preparation for winter vegetables like brinjal, chilli, cabbage, cauliflower, tomato and onion and sowing of green pea, lentil and garlic. Continue sowing of wheat and gram.
    - In Tikamgarh, Chhatarpur and Datia districts, continue sowing of radish, fenugreek, spinach, coriander and turnip and seed bed preparation for sowing of onion. Continue sowing of lentil, pea, potato and garlic. Complete sowing of chickpea, mustard and linseed. Continue sowing of wheat in rainfed area.
    - In Jhabua, Alirajpur and Dhar districts, continue nursery preparation for winter vegetables, sowing of mustard and gram. Continue sowing of non irrigated and semi irrigated varieties of wheat and planting of potato. Undertake sowing of pea and garlic.
    - In Jabalpur, Rewa, Satna districts, continue sowing of mustard, gram, lentil and pea. Continue nursery preparation for cauliflower and cabbage. Continue field preparation for sowing of wheat.
    - In Jhabua Hill Zone, in the prevailing weather, there are chances of attack of shoot borer in ginger and turmeric, spray Triazophos @ 2 ml/litre of water.
    - In Grid Zone, in the present weather, there are chances of attack of pod borer in red gram, spray Triazophos @ 750 ml/hectare dissolved in 500-600 litres of water.
  - **Chhattisgarh:**
    - In North Hill Zone, continue transplanting of winter vegetables like cauliflower, cabbage, chilli, tomato, brinjal etc., complete sowing of mustard, linseed, green pea and potato. Continue sowing of radish, turnip, spinach and carrot.
    - In Chhattisgarh Plain Zone, continue nursery sowing of cauliflower, cabbage, KnolKhol, tomato, brinjal, chillies and capsicum.
    - In Bastar Plateau Zone, continue harvesting of matured rice and sowing of pea. Continue sowing of oilseeds,



pulses and wheat.

- In, Bastar Plateau Zone due to humid weather there are chances of attack of white fly in niger, spray Triazophos @ 1 ml/litre of water.
- In Chhattisgarh Plain Zone, panicle mite is observed in rice, spray Propiconazole + Profenophos @ 2ml/litre of water.
- Suitable varieties for sowing are given in Annexure III.

#### ❖ **Animal Husbandry**

- In Chhattisgarh, provide concentrate feed to milch animals mixed with dry and green fodder and insure for enrich diet having protein, carbohydrate, fat, vitamins etc.
- In Madhya Pradesh, keep cattle in dry and shaded place and provide green fodder, fresh and clean water. Vaccinate the goats for control of PPR disease.

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



*Mustard*



*Maize*



*Rice*



*Land preparation/Sowing*

- **Realised Rainfall:** Weather remained dry over the region.
- **Advisories:**
  - **Rajasthan:**
    - In East Rajasthan, in Bhilwara, Chittorgarh, Rajsamand, Sirohi and Udaipur districts, continue harvesting of matured maize, pulses, urad, mung. Complete sowing of gram and mustard.
    - In Arid Western Plain Zone, in Barmer, Churu, Jalore, Jodhpur, Pali districts, continue land preparation for sowing of cumin, barley and wheat. In Jaisalmer and Bikaner districts, continue sowing of mustard and gram in irrigated areas and continue sowing of fodder crops like lucerne, berseem, oat in irrigated areas. Continue sowing of leafy vegetables like spinach, coriander.
    - In Alwar, Bharatpur, Dhaulpur, Karauli, Sawaimadhapur districts of Flood Prone Eastern Plain Zone, continue sowing of lentil and treat the seed with Carbendazim @ 1g/Kg followed by with Rizobium culture @ 1packet/10kg seeds before sowing. Continue land preparation for planting of potato.
    - In Alwar, Bharatpur, Dhaulpur, Karauli, Sawaimadhapur districts of Flood Prone Eastern Plain Zone, weather conditions are conducive for attack of cutworm and painted bug on mustard crop, for control, dust 1.5% Quinalphos.
    - In Dungarpur and Banswara districts of Southern Humid Plain Zone, complete harvesting of matured urad, soybean and maize crops. Continue sowing of mustard, gram and *rabi* maize. Plough the vacant fields for soil moisture conservation and sow the *rabi* crops under rain-fed condition.
    - In Dungarpur and Banswara districts of Southern Humid Plain Zone, prevailing weather condition is congenial for attack of bollworms and mealy bug in cotton, for control bollworms spray Quinalphos 25 EC@ 1 litre per hectare and for control of mealy bug spray Profenophos @ 1.25 litres per hectare, add 1 spoon of washing powder as sticker.
    - In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, complete sowing of mustard and gram at the earliest. Continue sowing of spinach, pea and garlic.
    - In Irrigated North Western Plain Zone, Hanumangarh and Sriganganagar, complete harvesting of matured groundnut, paddy. Continue sowing of jowar, mustard and gram. Apply irrigation to paddy, narma and desi cotton crops as per requirement.
    - In Irrigated North Western Plain Zone, Hanumangarh and Sriganganagar, prevailing weather condition is congenial for attack of pyrilla in sugarcane, for control spray Dimethoate 30 EC @ 1 litre per hectare.
  - **Jammu & Kashmir:**
    - In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, continue land preparation for sowing of wheat. If field is ready then undertake sowing of wheat under rainfed condition. This is optimum time for sowing of oats, undertake sowing of oats in lower hills/plains if sufficient moisture is available. Continue sowing of mustard, gram and pea. Continue sowing of berseem as fodder for animals. Continue nursery sowing of late cauliflower (Snow Ball Group) and onion crop.
    - In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, undertake harvesting of basmati rice when 80 per cent grains in panicle turns to golden colour. Undertake sowing of early wheat varieties under rainfed condition if sufficient moisture is available. Continue sowing of potato and mid season peas. Give irrigation to

toria crop at flowering stage. Complete the sowing of Gobi sarson. Give irrigation to toria at pod formation stage. Undertake hoeing and weeding in mustard if crop is 15-20 days old.

- In Cold Arid Zone of Jammu and Kashmir, undertake harvesting of Chinese cabbage, palak, pakchoi and lettuce in protected structures. Apply first dose of nitrogenous fertilizer/fertigation in cabbage, cauliflower and broccoli in green houses. Proper irrigation should be applied at 7-10 days intervals in the green houses. Cover the trenches and low tunnels with polythene in the night to avoid loss due to sudden temperature dip below (-9°C). Transplant roots of Spinach beet if not done earlier. Direct seed sowing of spinach, turnip & radish can be done in greenhouses.
- In Cold arid Zone of Jammu and Kashmir, farmers are advised to plough their field to retain more moisture during the winter months. It will also help in the uprooting of the weeds & decomposition of crop residues.
- In Valley Temperate Zone of Jammu and Kashmir, continue sowing of wheat, oats, peas where the field is ready. Complete sowing of brown sarson within this week. Undertake sowing of methi, coriander and spinach. Undertake land preparation for planting of garlic.

▪ **Uttarakhand:**

- In Udham Singh Nagar district of Bhabar and Tarai Zone, standing crops like paddy, soybean, urad, moong, groundnut and sesame (til), sown in the *kharif* season should be harvested without any delay, so that sowing of *rabi* crops can be started. Continue sowing of gram, lentil and pea. This is the right time for sowing of wheat in unirrigated areas. Complete sowing till the end of this month. Undertake sowing of berseem.
- In Nainital district of Bhabar and Tarai Zone, start preparation of field for sowing of *rabi* crops. Undertake sowing of early variety of wheat. If *rai* plants are ready for transplanting then these plants should be transplanted at a distance of 50cm X 40cm in the evening.
- In Tehri Garhwal, Chamoli, Champawat, Pithoragarh, Rudrapur and Uttarkashi districts of Hill Zone, undertake sowing of wheat in high altitude region. Continue nursery raising of onion crop. Undertake cultivation of mushroom crop. Undertake sowing of carrot, spinach, methi, dhania and radish. Give light irrigation to all vegetable crops. Give light irrigation to toria crop.
- In Dehradun, Pauri and Haridwar districts of Sub Humid Sub Tropic Zone, undertake harvesting of short and medium maturing varieties of paddy. This is right time for sowing of chickpea, potato, lentil, Autumn berseem and field pea.
- In Dehradun, Pauri and Haridwar districts of Sub Humid Sub Tropic Zone, under prevailing weather conditions there is possibility of attack of Gundhi bug and Army worm on rice. To control apply Chlorpyrifos 20 EC @ 1.5 litre or Endosulphan 35EC @ 1.25 litre per hectare.

▪ **Himachal Pradesh:**

- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, continue sowing of mustard, gobhisarson, early pea, gram, lentil and early wheat in lower region. Undertake timely sowing of wheat, barley and oat. Continue sowing of turnip and radish in lower rainfed areas. Continue nursery sowing of Chinese cabbage and direct sowing of radish, carrot, broccoli, lettuce and onion. Continue sowing of potato in lower and mid hill regions. Complete sowing of berseem, lucerne and oats for fodder. Continue sowing of mushroom and maintain room temperature 18-22°C for successful cultivation of dhingri mushroom. Continue nursery sowing of cauliflower (late group), cabbage, knol khol, broccoli and chinese cabbage and direct sowing of radish, carrot, turnip, palak and methi, carrot, broccoli, lettuce in mid hill areas. Continue transplanting of mid season cauliflower in low hill areas.
- In High Hills Temperate Dry Zone of Himachal Pradesh, in Kinnaur and Lahaul & Spiti, complete harvesting of matured potato, oat crops. This is the appropriate time to sow spinach, coriander and china cabbage in Polyhouse for winters.
- In High Hills Temperate Dry Zone of Himachal Pradesh, in Kinnaur and Lahaul & Spiti, present weather is conducive for fall of leaves in apple trees, for control spray mixture of Mancozeb @ 500 gm and Carbendazim @ 100 gm in 20 litres of water at 20 days interval.
- In Mid Hills Sub-Humid Zone of Himachal Pradesh, in Bilaspur, Solan, Shimla and Sirmour districts, continue nursery sowing of cauliflower and transplanting of cabbage. Continue sowing of pea in low and mid hill region.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, present weather is conducive for attack of blister blight in tea in shady and high humid areas, for control spray Calixin @ 0.2% or Folicure @ 0.1% and if attack is severe then repeat spray at 15 days with alternate spray of Blitox @ 0.3% at seven days interval.

▪ **Punjab, Haryana and Delhi:**

- In Western Zone of Punjab, continue sowing wheat, durum wheat (WHD 943 and PDW 29) under irrigated conditions and PBW 660 and PBW-644 under rain-fed conditions. Undertake transplanting of 4-6 weeks old seedlings of cabbage, mid season cauliflower, Chinese cabbage and broccoli. Apply irrigation in transplanted vegetables once a week. Continue sowing of palak by using 5 kg seed per acre at a spacing of 20 cm between rows. Apply 10 tonnes FYM, 35 kg urea, and 75 kg single superphosphate per acre before sowing.
- In Punjab, in Ferozepur and Faridkot districts, complete planting of autumn sugarcane. Intercropping of wheat, raya, toria, gobhisarson, pea, gram, potato, cabbage, radish, garlic etc. can be done with the sugarcane crop. Undertake sowing of chickpea from 25 October to 10 November under irrigated conditions. Undertake sowing of raya.

- In Undulating Plain Zone, continue sowing of wheat. Continue harvesting of mature rice. Undertake sowing of gram under irrigated conditions. The sowing should be done during Oct 25 to Nov10 for better yield and quality. Undertake sowing of raya under irrigated conditions. Continue planting of cauliflower, cabbage and sowing of other seasonal vegetables with available soil moisture. Irrigate the vegetable crops at regular interval as per crop need as dry weather is expected in coming days.
- In Western Zone of Haryana, continue sowing of mustard, raya and gram. Continue harvesting and threshing of matured bajra crop and picking of cotton crops after sunrise.
- In Eastern Zone of Haryana, prepare field and make arrangements for sowing of wheat. Continue harvesting of matured rice crop.
- In Western Semi-Arid Zone of Delhi, complete harvesting of rice crop. In the areas where paddy crop is about to mature, irrigation should be stopped two weeks before harvesting. Farmers are advised to procure good quality seeds of wheat and undertake field preparation. Sowing of mustard should be done at the earliest. Undertake planting of winter sugarcane, potato, mustard, gram, pea, wheat etc. may be taken as intercrop. Complete sowing of gram and pea. Continue planting of potato and *rabi* onion. Continue transplanting of mature seedlings of cauliflower, cabbage, broccoli and tomato.
- In Undulating Plain zone of Punjab, the attack of fruit and shoot borer in brinjal can be controlled by spraying Malathion @ 250ml/acre.
- **Uttar Pradesh:**
- In Central Plain Zone of Uttar Pradesh, continue harvesting of matured rice, urad, mung. Continue sowing of gram, pea, mustard, maize, linseed and garlic, planting of sugarcane and potato. Undertake sowing of lentil, and land preparation for sowing of wheat. Continue transplanting of mid season brinjal, cauliflower, cabbage, tomato and capsicum. Continue sowing of winter vegetable like spinach, fenugreek, coriander, carrot, radish, tomato, vegetable pea etc. Continue nursery sowing of cabbage. Undertake sowing of berseem for fodder crop. Apply irrigation in timely sown toria. Undertake thinning and pruning operation in mustard crop within 15-20 day of sowing.
- In Eastern Plain Zone of Uttar Pradesh, continue harvesting of matured paddy. Undertake sowing of mustard. Continue sowing of gram, pea and linseed. Continue sowing of garlic, coriander, fenugreek, radish, spinach. Continue sowing of toria, potato, vegetable pea.
- In Western Plain Zone of Uttar Pradesh, complete harvesting of matured rice crop. Undertake planting of winter sugarcane and potato, mustard, gram, pea, wheat etc. as intercrop. Undertake planting of potato. Continue land preparation for sowing of wheat. Undertake sowing of *rabi* onion, before sowing seeds should be treated with Captan @ 2.5 g/kg of seeds. Continue transplanting of matured seedlings of cauliflower, cabbage, broccoli and tomato in raised beds.
- In North Eastern plain Zone of Uttar Pradesh, undertake sowing of *rabi* maize, lentil, mustard, pea, gram and wheat.
- In Bundelkhand Zone of Uttar Pradesh, continue harvesting of matured groundnut, soybean, jowar, arhar. Continue sowing of linseed, mustard, vegetable pea, gram, pea and lentil in irrigated areas. Continue sowing of jou and wheat. Continue transplanting of late sowing brinjal, chilli, tomato, cabbage, cauliflower. Continue sowing of radish, cabbage, carrot, coriander.
- In Central Plain Zone of East Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of stem borer in paddy, for control, spray Chlorpyrifos 20 EC @ 1.5 litres in 500 to 600 litres of water per hectare.
- Suitable varieties for sowing are given in Annexure III.
- ❖ **Horticulture**
- In Western zone of Punjab, it is optimum time for the planting of fruit plants like mango, sweet orange, mandarin, lime, lemon, litchi, guava, loquat and papaya.
- In Central Plain Zone of East Uttar Pradesh due to prevailing weather condition, there may be chances of attack of mosaic in papaya, for control, spray Mencozeb @ 2 ml per litres of water.
- In Irrigated North Western Plain Zone of Rajasthan, there may be fruit drops in kinnow fruits, for control spray mixture of Carbendazim 50 WP @ 1 g per litre of water or Propineb 70 WP @ 2 g and Gibbrellic acid @ 20 mg per litre of water.
- In Dungarpur and Banswara districts of Southern Humid Plain Zone, prevailing weather condition is congenial for attack of mealy bug in horticultural crops, for control spray Profenophos 50 EC @ 2ml per litre of water or Emidacloprid 17.8 SL @ 0.6 ml per litre of water add washing powder as sticker.
- In Himachal Pradesh, undertake land preparations for planting of strawberry and undertake picking in tea at 8 days interval to maintain the quality and productivity. Undertake lopping of shade trees in tea orchards.
- In Nainital district of Bhabar and Tarai Zone of Uttarakhand, undertake raising of saplings of peach and apple and for grafting of plants like Malta, Orange and Lemon, their seeds should be sown.
- In Mild Hills Sub-Humid Zone, in Kullu and Mandi districts apply Blitox @ 600 g per 200 litres of water after harvesting of apple and pomegranate orchards.
- In Mild Hills Sub-Humid Zone, in Kullu and Mandi districts, present weather is conducive for attack of woolly aphids in apple, for control spray Marshal @ 200ml per 200 litres of water.

❖ **Apiculture**

- In Himachal Pradesh, to control mites attack on honeybees, dust Sulphur on sealed brood in the colony and not on larvae. For protection from ants put the legs of apiary into water so that ants could not attack apiary.
- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, give artificial sugar feeding in the ratio of 2:1. Reduce wasp attack by reducing the entrance of hives, destruction of wasp nest giving baits.

❖ **Floriculture**

- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, undertake transplanting of seedlings of winter season annuals.
- In Valley Temperate Zone of Jammu and Kashmir, complete sowing of nursery for spring flowering annuals at earliest.
- In Himachal Pradesh, in Una, Hamirpur, Kangra and Chamba districts, present weather is conducive for attack of blue beetle in balsam, zinnia, cleome and rose, for control spray Cypermethrin @ 20 ml in 10 litres of water. In poly house there may be attack of thrips and beetle, for control spray Rogor @ 20 ml in 10 litres of water for thrips and for beetle spray Dicofol @ 20 ml in 10 litres of water.
- In Himachal Pradesh, in Una, Hamirpur, Kangra and Chamba districts, undertake transplanting of chrysanthemum and marigold in raised bed and sowing of gladiolus.
- In Himachal Pradesh, in Una, Hamirpur, Kangra and Chamba districts, undertake earthing up operation in gladiolus and disbudding in carnation.

❖ **Animal Husbandry**

- In High Hills Temperate Dry Zone of Himachal Pradesh, in Kinnaur and Lahaul&Spiti, there may be attack of ringworm (fungal infection) in animals, for control, after clipping hair and scrubbing with soap and water, apply Salicylic or Benzoic acid ointment (2 to 5%) or Iodine once daily until lesions heal.
- In Himachal Pradesh, weather is conducive for the attack of pink eye disease in newly born calves, for control, prepare the solution of 1% boric acid in boiled water and wash eyes at regular interval of three hours. To control ecto as well as endo parasites in animals, especially calves consult local veterinarian.
- In Nainital district of Bhabar and Tarai Zone, vaccination of FMD (Foot and Mouth Disease) should be given to the animals. Foot and Mouth Disease is identified by red eyes, high fever, less productivity and food taken capacity, Mouth ulcers, wound in foot due to delay in the treatment of animals. Infected animals should be separated from healthy animals.
- In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, Nomads are advised to vaccinate and deworm their flocks in order to avoid the economic losses caused by viral and parasitic diseases.
- In Undulating Plain zone of Punjab, keep animals in proper shed during night time to save animals from low night temperature. Provide adequate fresh drinking water and feed well chaffed green fodder mixed with wheat straw to keep animals healthy.

❖ **Poultry**

- In Himachal Pradesh, ensure plenty of drinking water to the poultry birds, proper space for egg laying of birds and provide 14 to 16 hours light including day light. Normal feeding schedule should be continued and add mineral in the diet if stress is observed.
- In Nainital district of Bhabar and Tarai Zone, there is a chance of Aflatoxicosis disease in poultry due to occurrence of fungus in the feed which causes death of poultry birds. So, medicine should be administered to the poultry birds on the advice of veterinarian.

❖ **Fisheries**

- In Himachal Pradesh, in fish ponds, maintain water depth at least 5 feet. On cloudy days, reduce the feed quantity to fish. It is better to agitate water with stick from side early in morning before sun rise and after sun set.
- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, apply regular supplementary feed on daily basis @ 2-3% of estimated total fish biomass in the pond. Keeping in view water quality, apply Liming @ 25-30kg/ha/month & manuring @ 1000 kg/ha/year should be done at the interval of 7-10 days.

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

**Annexure I**

**Week by week Rainfall Distribution**

Sub-Divisions	19.10.16		26.10.16		02.11.16	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
<b>Arunachal Pradesh</b>						
Anjaw	**	**	**	**	**	**
Changlang	18.6	-75	0.0	-100	0.6	-94
Dibang Valley	31.0	-22	0.0	-100	7.0	-28

East Kameng	0.0	-100	0.0	-100	0.0	-100
East Siang	15.5	-45	0.0	-100	0.0	-100
Kurung Kumey	**	**	**	**	**	**
Lohit	4.1	-87	0.0	-100	0.0	-100
Lower Dibang Valley	41.0	3	0.0	-100	0.0	-100
Lower Subansari	**	**	**	**	**	**
Papumpare	47.9	-28	0.0	-100	0.0	-100
Tawang	4.0	-93	3.0	-89	0.0	-100
Tirap	16.0	-66	0.0	-100	0.0	-100
Upper Siang	78.0	1	0.0	-100	15.4	93
Upper Subansari	63.2	221	0.0	-100	27.0	214
West Kameng	10.4	-81	0.0	-100	0.0	-100
West Siang	49.4	52	0.0	-100	6.3	-16
<b>Assam&amp;Meghalaya</b>						
<b>Assam</b>						
Baksa	34.3	23	0.0	-100	0.0	-100
Barpeta	33.9	21	0.0	-100	0.0	-100
Bongaigaon	36.2	20	0.0	-100	0.0	-100
Cachar	17.5	-49	0.6	-98	37.6	68
Chirang	27.2	-10	0.0	-100	0.0	-100
Darrang	**	**	**	**	**	**
Dhemaji	10.0	-66	0.0	-100	0.0	-100
Dhubri	39.5	80	0.0	-100	0.0	-100
Dibrugarh	6.8	-77	0.0	-100	0.0	-100
Goalpara	74.4	95	0.0	-100	0.0	-100
Golaghat	2.8	-88	0.0	-100	0.9	-95
Hailakandi	17.6	-51	0.0	-100	36.6	120
Jorhat	1.7	-94	0.0	-100	0.0	-100
Kamrup(Rural)	4.4	-83	0.0	-100	0.0	-100
Kamrup(Metro)	1.7	-93	0.0	-100	3.2	-67
Karbi Anglong	24.6	-13	0.1	-99	15.0	205
Karimganj	5.2	-87	0.0	-100	12.8	-56
Kokrajhar	54.0	11	0.0	-100	0.0	-100
Lakhimpur	23.6	-19	0.0	-100	0.0	-100
Morigaon	21.0	-23	0.0	-100	20.8	160
N.C.Hills	0.0	-100	0.0	-100	6.4	-94
Nagaon	18.9	-27	0.0	-100	2.5	-73
Nalbari	30.3	34	0.0	-100	0.0	-100
Sonitpur	21.4	6	1.0	-95	0.0	-100
Sibsagar	5.7	-72	0.0	-100	0.0	-100
Tinsukia	3.3	-89	0.0	-100	0.0	-100
Udalgiri	12.4	-25	0.0	-100	0.0	-100
<b>Meghalaya</b>						
East Garo Hills	5.3	-47	0.0	-100	77.7	994
East Khasi Hills	114.8	191	0.8	-98	33.9	31
Jaintia Hills	0.0	-100	0.0	-100	0.0	-100
Ribhoi	20.9	-54	6.4	-58	4.6	-74
South Garo Hills	4.0	-78	0.0	-100	31.0	356
West Garo Hills	3.2	-83	0.0	-100	0.0	-100

West Khasi Hills	16.0	-76	0.0	-100	23.0	35
<b>NMMT</b>						
<b>Mizoram</b>						
Aizwal	12.7	-69	20.7	-37	42.2	10
Champhai	**	**	**	**	**	**
Kolasib	**	**	**	**	**	**
Lawngtlai	**	**	**	**	**	**
Lunglei	34.6	-29	8.8	-74	5.0	-82
Mamit	**	**	**	**	**	**
Saiha	73.0	140	42.0	73	36.0	24
Serchhip	24.4	-41	0.0	-100	**	**
<b>Manipur</b>						
Bishnupur	**	**	**	**	**	**
Chandel	13.0	-23	0.0	-100	19.0	-49
Churachandpur	**	**	**	**	**	**
Imphal east	12.6	-29	7.8	-67	48.4	85
Imphal west	2.5	-76	0.0	-100	53.0	121
Senapati	**	**	**	**	**	**
Tamenglong	**	**	**	**	**	**
Thoubal	10.0	15	8.0	-54	9.0	-59
Ukhrul	**	**	**	**	**	**
<b>Nagaland</b>						
Dimapur	2.6	-71	0.0	-100	6.5	-59
Kephire	11.0	-15	8.0	-21	23.0	128
Kohima	18.6	-30	4.3	-80	20.5	-2
Longleng	**	**	**	**	**	**
Mokokchung	9.0	-74	3.0	-60	9.0	-61
Mon	**	**	**	**	**	**
Paren	**	**	**	**	**	**
Phek	11.0	-58	1.0	-95	26.0	24
Tuensang	**	**	**	**	**	**
Wokha	0.0	-100	1.0	-95	11.0	-29
Zunheboto	**	**	**	**	**	**
<b>Tripura</b>						
Dhalai	0.0	-100	0.0	-100	0.0	-100
NorthTripura	18.8	-38	0.0	-100	17.6	-27
SouthTripura	11.3	-64	0.0	-100	28.4	24
West Tripura	13.9	-52	0.0	-100	6.0	-74
<b>Himachal Pradesh</b>						
Bilaspur	0.0	-100	0.0	-100	0.0	-100
Chamba	0.0	-100	0.0	-100	0.0	-100
Hamirpur	0.0	-100	0.0	-100	0.0	-100
Kangra	0.1	-98	0.0	-100	0.0	-100
Kinnaur	0.0	-100	0.0	-100	0.0	-100
Kullu	0.0	-100	0.0	-100	0.0	-100
Lahaul and Spiti	0.0	-100	0.0	-100	0.0	-100
Mandi	0.0	-100	0.0	-100	0.0	-100
Shimla	0.0	-100	0.0	-100	0.0	-100
Sirmaur	0.0	-100	0.0	-100	0.0	-100

Solan	0.0	-100	0.0	-100	0.0	-100
Una	0.0	-100	0.0	-100	0.0	-100
<b>Punjab</b>						
Amritsar	0.0	-100	0.0	-100	0.0	-100
Barnala	0.0	-100	0.0	-100	0.0	-100
Bhatinda	0.0	-100	0.0	-100	0.0	-100
Faridkot	0.0	-100	0.0	-100	0.0	-100
Fatehgarh Saheb	0.0	-100	0.0	-100	0.0	-100
Ferozpur	0.0	-100	0.0	-100	0.0	-100
Gurdaspur	0.0	-100	0.0	-100	0.0	-100
Hoshiarpur	0.0	-100	0.0	-100	0.0	-100
Jalandhar	0.0	-100	0.0	-100	0.0	-100
Kapurthala	0.0	-100	0.0	-100	0.0	-100
Ludhiana	0.0	-100	0.0	-100	0.0	-100
Mansa	0.0	-100	0.0	-100	0.0	-100
Moga	0.0	-100	0.0	-100	0.0	-100
Muktesar	0.0	-100	0.0	-100	0.0	-100
Nawashahar	0.0	-100	0.0	-100	0.0	-100
Patiala	0.0	-100	0.0	-100	0.0	-100
Ropar	0.0	-100	0.0	-100	0.0	-100
Sangrur	0.0	-100	0.0	-100	0.0	-100
Mohali	0.0	-100	0.0	-100	0.0	-100
TarnTaran	0.0	-100	0.0	-100	0.0	-100
<b>Haryana,Chd,Delhi</b>						
<b>Haryana</b>						
Ambala	0.0	-100	0.0	-100	0.0	-100
Bhiwani	0.0	-100	0.0	-100	0.0	-100
Chandigarh	0.0	-100	0.0	-100	0.0	-100
Faridabad	0.0	-100	0.0	-100	0.0	-100
Fatehabad	0.0	-100	0.0	-100	0.0	-100
Gurgaon	0.0	-100	0.0	-100	0.0	-100
Hissar	0.0	-100	0.0	-100	0.0	-100
Jhajar	0.0	-100	0.0	-100	0.0	-100
Jind	0.0	-100	0.0	-100	0.0	-100
Katihah	0.0	-100	0.0	-100	0.0	-100
Karnal	0.0	-100	0.0	-100	0.0	-100
Kurukshetra	0.0	-100	0.0	-100	0.0	-100
Mahendragarh	0.0	-100	0.0	-100	0.0	-100
Mewat	0.0	-100	0.0	-100	0.0	-100
Palwal	0.0	-100	0.0	-100	0.0	-100
Panchkkula	0.0	-100	0.0	-100	0.0	-100
Panipat	0.0	-100	0.0	-100	0.0	-100
Rewari	0.0	-100	0.0	-100	0.0	-100
Rohtak	0.0	-100	0.0	-100	0.0	-100
Sirsa	0.0	-100	0.0	-100	0.0	-100
Sonepat	0.0	-100	0.0	-100	0.0	-100
Yamunanagar	0.0	-100	0.0	-100	0.0	-100
<b>Delhi</b>						
Central Delhi	0.0	-100	0.0	-100	0.0	-100

East Delhi	0.0	-100	0.0	-100	0.0	-100
New Delhi	0.0	-100	0.0	-100	0.0	-100
North Delhi	0.0	-100	0.0	-100	0.0	-100
North East Delhi	0.0	-100	0.0	-100	0.0	-100
North West Delhi	0.0	-100	0.0	-100	0.0	-100
South Delhi	0.0	-100	0.0	-100	0.0	-100
South West Delhi	0.0	-100	0.0	-100	0.0	-100
West Delhi	**	**	**	**	**	**
<b>Jammu &amp; Kashmir</b>						
Anantnag	0.0	-100	0.0	-100	0.0	-100
Badgam	1.4	-72	0.0	-100	0.0	-100
Bandipore	**	**	**	**	**	**
Baramula	0.0	-100	0.4	-96	0.0	-100
Doda	0.0	-100	0.0	-100	0.0	-100
Ganderbal	0.0	-100	0.0	-100	0.0	-100
Jammu	0.0	-100	0.0	-100	0.0	-100
Kargil	**	**	**	**	**	**
Kathua	0.0	-100	0.0	-100	0.0	-100
Kistwar	**	**	**	**	**	**
Kulgam	0.0	-100	0.0	-100	0.0	-100
Kupwara	0.0	-100	3.8	-48	0.0	-100
Ladakh(Leh)	0.0	-100	0.0	-100	0.0	-100
Poonch	**	**	**	**	**	**
Pulwama	0.0	-100	0.0	-100	0.0	-100
Rajouri	0.0	-100	0.0	-100	0.0	-100
Ramban	0.0	-100	0.0	-100	0.0	-100
Reasi	0.0	-100	0.0	-100	0.0	-100
Samba	0.0	-100	0.0	-100	0.0	-100
Shopian	**	**	**	**	**	**
Srinagar	0.6	-93	0.0	-100	0.0	-100
Udhampur	0.0	-100	0.0	-100	0.0	-100
<b>East Madhya Pradesh</b>						
Anuppur	0.0	-100	0.0	-100	0.0	-100
Balaghat	0.0	-100	0.0	-100	0.0	-100
Chhatarpur	0.0	-100	0.0	-100	0.0	-100
Chindwara	0.0	-100	0.0	-100	0.0	-100
Damoh	0.0	-100	0.0	-100	0.0	-100
Dindori	0.0	-100	0.0	-100	0.0	-100
Jabalpur	0.0	-100	0.0	-100	0.0	-100
Katni	0.0	-100	0.0	-100	0.0	-100
Mandla	0.0	-100	0.0	-100	0.0	-100
Narsingpur	0.0	-100	0.0	-100	0.0	-100
Panna	0.0	-100	0.0	-100	0.0	-100
Rewa	0.0	-100	0.0	-100	0.0	-100
Sagar	0.0	-100	0.0	-100	0.0	-100
Satna	0.0	-100	0.0	-100	0.0	-100
Seoni	0.0	-100	0.0	-100	0.0	-100
Shahdol	0.0	-100	0.0	-100	0.0	-100



Sidhi	0.0	-100	0.0	-100	0.0	-100
Singrauli	0.0	-100	0.0	-100	0.0	-100
Tikamgarh	0.0	-100	0.0	-100	0.0	-100
Umaria	0.0	-100	0.0	-100	0.0	-100
<b>West Madhya Pradesh</b>						
Agar	0.0	-100	0.0	-100	0.0	-100
Alirajpur	0.0	-100	0.0	-100	0.0	-100
Asoknagar	0.0	-100	0.0	-100	0.0	-100
Badwani	0.0	-100	0.0	-100	0.0	-100
Betul	0.0	-100	0.0	-100	0.0	-100
Bhind	0.0	-100	0.0	-100	0.0	-100
Bhopal	0.0	-100	0.0	-100	0.0	-100
Burhanpur	0.0	-100	0.0	-100	0.0	-100
Datia	0.0	-100	0.0	-100	0.0	-100
Dewas	0.0	-100	0.0	-100	0.0	-100
Dhar	0.0	-100	0.0	-100	0.0	-100
Guna	0.0	-100	0.0	-100	0.0	-100
Gwalior	0.0	-100	0.0	-100	0.0	-100
Harda	0.0	-100	0.0	-100	0.0	-100
Hoshangabad	0.0	-100	0.0	-100	0.0	-100
Indore	0.0	-100	0.0	-100	0.0	-100
Jhabua	0.0	-100	0.0	-100	0.0	-100
Khandwa	0.0	-100	0.0	-100	0.0	-100
Khargone	0.0	-100	0.0	-100	0.0	-100
Mandsaur	0.0	-100	0.0	-100	0.0	-100
Morena	0.0	-100	0.0	-100	0.0	-100
Neemuch	0.0	-100	0.0	-100	0.0	-100
Raisen	0.0	-100	0.0	-100	0.0	-100
Rajgarh	0.0	-100	0.0	-100	0.0	-100
Ratlam	0.0	-100	0.0	-100	0.0	-100
Sehore	0.0	-100	0.0	-100	0.0	-100
Shajapur	0.0	-100	0.0	-100	0.0	-100
Sheopur Kalani	0.0	-100	0.0	-100	0.0	-100
Shivpuri	0.0	-100	0.0	-100	0.0	-100
Ujjain	0.0	-100	0.0	-100	0.0	-100
Vidisha	0.0	-100	0.0	-100	0.0	-100
<b>Chhattisgarh</b>						
Balod	0.0	-100	0.0	-100	0.0	-100
Baloda Bazar	0.0	-100	0.0	-100	0.0	-100
Balrampur	0.0	-100	0.0	-100	0.0	-100
Bastar	0.0	-100	0.0	-100	0.1	-99
Bemetara	0.0	-100	0.0	-100	0.0	-100
Bijapur	0.0	-100	0.0	-100	2.0	-63
Bilaspur	0.3	-95	0.0	-100	0.0	-100
Dantewara	0.0	-100	0.0	-100	0.0	-100
Dhamtari	0.0	-100	0.0	-100	0.0	-100
Durg	0.0	-100	0.0	-100	0.0	-100
Gariaband	0.0	-100	0.0	-100	0.0	-100

Janjgir	0.0	-100	0.0	-100	0.0	-100
Jashpurnagar	0.0	-100	0.0	-100	0.0	-100
Kabirdham	0.0	-100	0.0	-100	0.0	-100
Kanker	0.0	-100	0.0	-100	0.0	-100
Kondagaon	0.0	-100	0.0	-100	0.0	-100
Korba	0.0	-100	0.0	-100	0.0	-100
Koriya	0.0	-100	0.0	-100	0.0	-100
Mahasumund	0.0	-100	0.0	-100	0.0	-100
Mungeli	0.0	-100	0.0	-100	0.0	-100
Narayanpur	0.0	-100	0.0	-100	2.0	-69
Raigarh	0.0	-100	0.0	-100	0.0	-100
Raipur	0.0	-100	0.0	-100	0.0	-100
Rajnandgaon	0.0	-100	0.0	-100	0.0	-100
Sukma	0.0	-100	0.0	-100	0.0	-100
Surajpur	0.0	-100	0.0	-100	0.0	-100
Surguja	0.0	-100	0.0	-100	0.0	-100
<b>East Uttar Pradesh</b>						
Allahabad	0.0	-100	0.0	-100	0.0	-100
Ambedkar Nagar	0.0	-100	0.0	-100	0.0	-100
Azamgarh	0.0	-100	0.0	-100	0.0	-100
Bahraich	0.0	-100	0.0	-100	0.0	-100
Ballia	0.0	-100	0.0	-100	0.0	-100
Balrampur	0.0	-100	0.0	-100	0.0	-100
Banda	0.0	-100	0.0	-100	0.0	-100
Barabanki	0.0	-100	0.0	-100	0.0	-100
Basti	0.0	-100	0.0	-100	0.0	-100
Chandauli	0.0	-100	0.0	-100	0.0	-100
Deoria	0.0	-100	0.0	-100	0.0	-100
Faizabad	0.0	-100	0.0	-100	0.0	-100
Farrukhabad	0.0	-100	0.0	-100	0.0	-100
Fatehpur	0.0	-100	0.0	-100	0.0	-100
Gazipur	0.0	-100	0.0	-100	0.0	-100
Gonda	0.0	-100	0.0	-100	0.0	-100
Gorakhpur	0.0	-100	0.0	-100	0.0	-100
Hardoi	0.0	-100	0.0	-100	0.0	-100
Jaunpur	0.0	-100	0.0	-100	0.0	-100
Kannauj	0.0	-100	0.0	-100	0.0	-100
Kanpur City	0.0	-100	0.0	-100	0.0	-100
Kanpur Dehat	0.0	-100	0.0	-100	0.0	-100
Kaushambi	0.0	-100	0.0	-100	0.0	-100
Kheri	0.0	-100	0.0	-100	0.0	-100
Kushi nagar	0.0	-100	0.0	-100	0.0	-100
Lucknow	0.0	-100	0.0	-100	0.0	-100
Maharajganj	0.0	-100	0.0	-100	0.0	-100
Mau	0.0	-100	0.0	-100	0.0	-100
Mirzapur	0.0	-100	0.0	-100	0.0	-100
Pratapgarh	0.0	-100	0.0	-100	0.0	-100
RaiBareilly	0.0	-100	0.0	-100	0.0	-100
Sahuji Maharajnagar	0.0	-100	0.0	-100	0.0	-100

Sant Kabirnagar	0.0	-100	0.0	-100	0.0	-100
Sant Ravidas Nagar	0.0	-100	0.0	-100	0.0	-100
Shrawasti	0.0	-100	0.0	-100	0.0	-100
Sidharthnagar	0.0	-100	0.0	-100	0.0	-100
Sitapur	0.0	-100	0.0	-100	0.0	-100
Sonbhadra	0.0	-100	0.0	-100	0.0	-100
Sultanpur	0.0	-100	0.0	-100	0.0	-100
Unnao	0.0	-100	0.0	-100	0.0	-100
Varanasi	0.0	-100	0.0	-100	0.0	-100
<b>West Uttar Pradesh</b>						
Agra	0.0	-100	0.0	-100	0.0	-100
Aligarh	0.0	-100	0.0	-100	0.0	-100
Auraiya	0.0	-100	0.0	-100	0.0	-100
Badaun	0.0	-100	0.0	-100	0.0	-100
Baghpat	0.0	-100	0.0	-100	0.0	-100
Bareilly	0.0	-100	0.0	-100	0.0	-100
Bijnor	0.0	-100	0.0	-100	0.0	-100
Bulandsahar	0.0	-100	0.0	-100	0.0	-100
Etah	0.0	-100	0.0	-100	0.0	-100
Etawah	0.0	-100	0.0	-100	0.0	-100
Firozabad	0.0	-100	0.0	-100	0.0	-100
GBNagar	0.0	-100	0.0	-100	0.0	-100
Ghaziabad	0.0	-100	0.0	-100	0.0	-100
Hamirpur	0.0	-100	0.0	-100	0.0	-100
Jalaun	0.0	-100	0.0	-100	0.0	-100
Jhansi	0.0	-100	0.0	-100	0.0	-100
Jotiba Phule Nagar	0.0	-100	0.0	-100	0.0	-100
Kanshiramnagar	0.0	-100	0.0	-100	0.0	-100
Lalitpur	0.0	-100	0.0	-100	0.0	-100
Mahamaya Nagar	0.0	-100	0.0	-100	0.0	-100
Mahoba	0.0	-100	0.0	-100	0.0	-100
Mainpuri	0.0	-100	0.0	-100	0.0	-100
Mathura	0.0	-100	0.0	-100	0.0	-100
Meerut	0.0	-100	0.0	-100	0.0	-100
Moradabad	0.0	-100	0.0	-100	0.0	-100
Muzzaffarnagar	0.0	-100	0.0	-100	0.0	-100
Pilibhit	0.0	-100	0.0	-100	0.0	-100
Rampur	0.0	-100	0.0	-100	0.0	-100
Saharanpur	0.0	-100	0.0	-100	0.0	-100
Shahjahanpur	0.0	-100	0.0	-100	0.0	-100
<b>Uttarakhand</b>						
Almora	0.0	-100	0.0	-100	0.0	-100
Bageshwar	0.0	-100	0.0	-100	0.0	-100
Chamoli	0.0	-100	0.0	-100	2.0	-56
Champawat	0.0	-100	0.0	-100	0.0	-100
Dehradun	0.0	-100	0.0	-100	0.0	-100
Garhwal Pauri	0.0	-100	0.0	-100	0.0	-100
Garhwal Tehri	0.0	-100	0.0	-100	0.0	-100

Haridwar	0.0	-100	0.0	-100	0.0	-100
Nainital	0.0	-100	0.0	-100	0.0	-100
Pithorgarh	1.4	-92	0.0	-100	0.2	-96
Rudraprayag	0.0	-100	0.0	-100	0.0	-100
Udham Sing Nagar	0.0	-100	0.0	-100	0.0	-100
Uttarkashi	0.0	-100	0.0	-100	0.0	-100
<b>Bihar</b>						
Araria	0.0	-100	0.0	-100	0.0	-100
Arwal	0.0	-100	0.0	-100	0.0	-100
Aurangabad	0.0	-100	0.0	-100	0.0	-100
Banka	0.0	-100	0.0	-100	0.0	-100
Begusarai	0.0	-100	0.0	-100	0.0	-100
Bhabua	0.0	-100	0.0	-100	0.0	-100
Bhagalpur	0.0	-100	0.0	-100	0.0	-100
Bhojpur	0.0	-100	0.0	-100	0.0	-100
Buxar	0.0	-100	0.0	-100	0.0	-100
Darbhanga	0.0	-100	0.0	-100	0.0	-100
East Champaran	0.0	-100	0.0	-100	0.0	-100
Gaya	0.0	-100	0.0	-100	0.0	-100
Gopalganj	0.0	-100	0.0	-100	0.0	-100
Jahanabad	0.0	-100	0.0	-100	0.0	-100
Jamui	0.0	-100	0.0	-100	0.0	-100
Kathihar	0.0	-100	0.0	-100	0.0	-100
Khagadia	0.0	-100	0.0	-100	0.0	-100
Kishanganj	26.9	30	0.0	-100	0.0	-100
Lakhisarai	0.0	-100	0.0	-100	0.0	-100
Madhepura	0.0	-100	0.0	-100	0.0	-100
Madhubani	0.0	-100	0.0	-100	0.0	-100
Monghyar	0.0	-100	0.0	-100	0.0	-100
Muzaffarpur	0.0	-100	0.0	-100	0.0	-100
Nalanda	0.0	-100	0.0	-100	0.0	-100
Nawada	0.0	-100	0.0	-100	0.0	-100
Patna	0.0	-100	0.0	-100	0.0	-100
Purnea	0.0	-100	0.0	-100	0.0	-100
Rohtas	0.0	-100	0.0	-100	0.0	-100
Saharsha	0.0	-100	0.0	-100	0.0	-100
Samstipur	0.0	-100	0.0	-100	0.0	-100
Saran	0.0	-100	0.0	-100	0.0	-100
Sheikpura	0.0	-100	0.0	-100	0.0	-100
Sheohar	0.0	-100	0.0	-100	0.0	-100
Sitamarhi	0.0	-100	0.0	-100	0.0	-100
Siwan	0.0	-100	0.0	-100	0.0	-100
Supaul	0.0	-100	0.0	-100	0.0	-100
Vaishali	0.0	-100	0.0	-100	0.0	-100
West Champaran	0.0	-100	0.0	-100	0.0	-100
<b>Jharkhand</b>						
Bokaro	0.0	-100	0.0	-100	0.0	-100
Chatra	0.0	-100	0.0	-100	0.0	-100
Deoghar	0.0	-100	0.0	-100	0.0	-100

Dhanbad	0.0	-100	0.0	-100	0.0	-100
Dumka	0.0	-100	0.0	-100	0.0	-100
East Singbhum	0.0	-100	0.0	-100	0.0	-100
Garhwa	0.0	-100	0.0	-100	0.0	-100
Giridih	0.0	-100	0.0	-100	0.0	-100
Godda	0.0	-100	0.0	-100	0.0	-100
Gumla	0.0	-100	0.0	-100	0.0	-100
Hazaribagh	0.0	-100	0.0	-100	0.0	-100
Jamtara	0.0	-100	0.0	-100	0.0	-100
Khunti	0.0	-100	0.0	-100	0.0	-100
Koderrna	0.0	-100	0.0	-100	0.0	-100
Latehar	0.0	-100	0.0	-100	0.0	-100
Lohardagga	0.0	-100	0.0	-100	0.0	-100
Pakur	0.0	-100	0.0	-100	0.0	-100
Palamau	0.0	-100	0.0	-100	0.0	-100
Ramgarh	0.0	-100	0.0	-100	0.0	-100
Ranchi	0.0	-100	0.0	-100	0.0	-100
Sahebganj	0.0	-100	0.0	-100	0.0	-100
Saraikela	0.0	-100	0.0	-100	0.0	-100
Simdega	0.0	-100	0.0	-100	0.0	-100
West Singbhum	0.0	-100	0.0	-100	0.0	-100
<b>East Rajasthan</b>						
Ajmer	0.0	-100	0.0	-100	0.0	-100
Alwar	0.0	-100	0.0	-100	0.0	-100
Banswara	0.0	-100	0.0	-100	0.0	-100
Baran	0.0	-100	0.0	-100	0.0	-100
Bharatpur	0.0	-100	0.0	-100	0.0	-100
Bhilwara	0.0	-100	0.0	-100	0.0	-100
Bundi	0.0	-100	0.0	-100	0.0	-100
Chittorgarh	0.0	-100	0.0	-100	0.0	-100
Dausa	0.0	-100	0.0	-100	0.0	-100
Dholpur	0.0	-100	0.0	-100	0.0	-100
Dungarpur	0.0	-100	0.0	-100	0.0	-100
Jaipur	0.0	-100	0.0	-100	0.0	-100
Jhalawar	0.0	-100	0.0	-100	0.0	-100
Jhunjhunu	0.0	-100	0.0	-100	0.0	-100
Karauli	0.0	-100	0.0	-100	0.0	-100
Kota	0.0	-100	0.0	-100	0.0	-100
Pratapgarh	0.0	-100	0.0	-100	0.0	-100
Rajsamand	0.0	-100	0.0	-100	0.0	-100
Sawai Madhopur	0.0	-100	0.0	-100	0.0	-100
Sikar	0.0	-100	0.0	-100	0.0	-100
Sirohi	0.0	-100	0.0	-100	0.0	-100
Tonk	0.0	-100	0.0	-100	0.0	-100
Udaipur	0.0	-100	0.0	-100	0.0	-100
<b>West Rajasthan</b>						
Barmer	0.0	-100	0.0	-100	0.0	-100
Bikaner	0.0	-100	0.0	-100	0.0	-100
Churu	0.0	-100	0.0	-100	0.0	-100

Hanumangarh	0.0	-100	0.0	-100	0.0	-100
Jaisalmer	0.0	-100	0.0	-100	0.0	-100
Jalore	0.0	-100	0.0	-100	0.0	-100
Jodhpur	0.0	-100	0.0	-100	0.0	-100
Nagaur	0.0	-100	0.0	-100	0.0	-100
Pali	0.0	-100	0.0	-100	0.0	-100
Sri Ganganagar	0.0	-100	0.0	-100	0.0	-100
<b>Gujarat Region</b>						
Ahmedabad	0.0	-100	0.0	-100	0.0	-100
Anand	0.0	-100	0.0	-100	0.0	-100
Aravalli	0.0	-100	0.0	-100	0.0	-100
Banaskantha	0.0	-100	0.0	-100	0.0	-100
Broach	0.0	-100	0.0	-100	0.0	-100
Chhota Udepur	0.0	-100	0.0	-100	0.0	-100
DNH	0.0	-100	0.0	-100	0.0	-100
Dahod	0.0	-100	0.0	-100	0.0	-100
Daman	0.0	-100	0.0	-100	0.0	-100
Dangs	0.0	-100	0.0	-100	0.0	-100
Gandhinagar	0.0	-100	0.0	-100	0.0	-100
Kheda	0.0	-100	0.0	-100	0.0	-100
Mahisagar	0.0	-100	0.0	-100	0.0	-100
Mehsana	0.0	-100	0.0	-100	0.0	-100
Narmada	0.0	-100	0.0	-100	0.0	-100
Navsari	0.0	-100	0.0	-100	0.0	-100
Panchmahal	0.0	-100	0.0	-100	0.0	-100
Patan	0.0	-100	0.0	-100	0.0	-100
Sabarkantha	0.0	-100	0.0	-100	0.0	-100
Surat	0.0	-100	0.0	-100	0.0	-100
Tapi	0.0	-100	0.0	-100	0.0	-100
Vadodara	0.0	-100	0.0	-100	0.0	-100
Valsad	0.0	-100	0.0	-100	0.0	-100
<b>S K &amp; Diu region</b>						
Amreli	0.0	-100	0.0	-100	0.0	-100
Bhavnagar	0.0	-100	0.0	-100	0.0	-100
Botad	0.0	-100	0.0	-100	0.0	-100
Devbhoomi Dwarka	0.0	-100	0.0	-100	0.0	-100
Diu	0.0	-100	0.0	-100	0.0	-100
Gir Somnath	0.0	-100	0.0	-100	0.0	-100
Jamnagar	0.0	-100	0.0	-100	0.0	-100
Junagarh	0.0	-100	0.0	-100	0.0	-100
Kutch	0.0	-100	0.0	-100	0.0	-100
Morbi	0.0	-100	0.0	-100	0.0	-100
Porbandar	0.0	-100	0.0	-100	0.0	-100
Rajkot	0.0	-100	0.0	-100	0.0	-100
Surendranagar	0.0	-100	0.0	-100	0.0	-100
<b>Maharashtra</b>						
<b>Konkan &amp; Goa</b>						
Mumbai City	0.0	-100	0.0	-100	0.0	-100
Mumbai Suburban	0.0	-100	0.0	-100	0.0	-100

North Goa	0.1	-99	0.0	-100	1.3	-92
Raigad	1.3	-91	0.0	-100	0.0	-100
Ratnagiri	0.1	-99	0.0	-100	0.0	-100
Sindhudurg	0.2	-99	0.0	-100	0.8	-94
South Goa	0.1	-99	0.0	-100	1.4	-92
Thane	0.0	-100	0.0	-100	0.0	-100
<b>Madhya Maharashtra</b>						
Ahmednagar	0.0	-100	0.0	-100	0.0	-100
Dhule	0.0	-100	0.0	-100	0.0	-100
Jalgaon	0.0	-100	0.0	-100	0.0	-100
Kolhapur	0.2	-99	0.0	-100	0.0	-100
Nandurbar	0.0	-100	0.0	-100	0.0	-100
Nasik	0.0	-100	0.0	-100	0.0	-100
Pune	0.0	-100	0.0	-100	0.0	-100
Sangli	0.4	-98	0.0	-100	0.0	-100
Satara	0.5	-97	0.0	-100	0.0	-100
Solapur	0.0	-100	0.0	-100	2.3	-73
<b>Marathwada</b>						
Aurangabad	0.0	-100	0.0	-100	0.0	-100
Beed	0.0	-100	0.0	-100	0.0	-100
Hingoli	0.0	-100	0.0	-100	0.0	-100
Jalna	0.0	-100	0.0	-100	0.0	-100
Latur	0.0	-100	0.0	-100	0.0	-100
Nanded	0.0	-100	0.0	-100	0.0	-100
Osmanabad	0.0	-100	0.0	-100	0.0	-100
Parbhani	0.0	-100	0.0	-100	0.0	-100
<b>Vidarbha</b>						
Akola	0.0	-100	0.0	-100	0.0	-100
Amraoti	0.0	-100	0.0	-100	0.0	-100
Bhandara	0.0	-100	0.0	-100	0.0	-100
Buldhana	0.0	-100	0.0	-100	0.0	-100
Chandrapur	0.0	-100	0.0	-100	0.0	-100
Gadchiroli	0.0	-100	0.0	-100	0.0	-100
Gondia	0.0	-100	0.0	-100	0.0	-100
Nagpur	0.0	-100	0.0	-100	0.0	-100
Wardha	0.0	-100	0.0	-100	0.0	-100
Washim	0.0	-100	0.0	-100	0.0	-100
Yeotmal	0.0	-100	0.0	-100	0.0	-100
<b>Odisha</b>						
Angul	0.0	-100	0.0	-100	5.2	-45
Balasore	0.0	-100	0.0	-100	66.8	112
Bargarh	0.0	-100	0.0	-100	0.0	-100
Bhadrak	0.0	-100	0.0	-100	30.3	0
Bolangir	0.0	-100	0.0	-100	0.0	-100
Boudh	0.0	-100	0.0	-100	0.0	-100
Cuttack	0.0	-100	0.0	-100	10.9	-28
Deogarh	0.0	-100	0.0	-100	0.0	-100
Dhenkanal	0.0	-100	0.0	-100	8.5	-47

Gajapati	0.0	-100	0.0	-100	2.2	-63
Ganjam	0.0	-100	0.0	-100	1.4	-95
Jagatsingpur	0.0	-100	0.0	-100	5.8	-82
Jajpur	0.0	-100	0.0	-100	16.3	1
Jharsuguda	0.0	-100	0.0	-100	0.0	-100
Kalahandi	0.0	-100	0.0	-100	0.0	-100
Kandhamal	0.0	-100	0.0	-100	0.0	-100
Kendrapara	0.0	-100	0.0	-100	12.6	-22
Keonjhar	0.0	-100	0.0	-100	12.1	0
Khurda	0.0	-100	0.0	-100	3.7	-82
Koraput	0.0	-100	0.0	-100	0.0	-100
Malkangiri	0.0	-100	0.0	-100	91.4	631
Mayurbhanj	0.0	-100	0.0	-100	23.6	33
Nawapara	0.0	-100	0.0	-100	0.0	-100
Nawarangpur	0.0	-100	0.0	-100	0.0	-100
Nayagarh	0.0	-100	0.0	-100	3.6	-74
Puri	0.0	-100	0.0	-100	0.7	-98
Rayagada	0.0	-100	0.0	-100	4.6	-37
Sambalpur	0.0	-100	0.0	-100	0.9	-86
Sonepur	0.0	-100	0.0	-100	0.0	-100
Sundargarh	0.0	-100	0.0	-100	0.2	-95
<b>West Bengal &amp; Andaman Nicobar Islands</b>						
<b>A &amp; N ISLAND</b>						
Nicobar	109.7	39	89.0	49	18.4	-72
North & Middle Andaman	44.1	-6	86.6	89	110.2	103
South Andaman	46.4	-29	70.1	36	95.0	51
<b>GWB</b>						
Bankura	0.0	-100	0.0	-100	5.1	-54
Birbhum	0.0	-100	0.0	-100	0.5	-96
Burdwan	0.0	-100	0.0	-100	2.8	-72
East Midnapore	0.0	-100	0.0	-100	38.5	21
Hooghly	0.0	-99	0.0	-100	20.4	112
Howrah	0.0	-100	0.0	-100	38.4	215
Kolkata	0.0	-100	0.0	-100	28.9	57
Murshidabad	0.0	-100	0.0	-100	2.9	-78
Nadia	0.0	-100	0.0	-100	13.7	0
24 Pargana (N)	0.0	-100	0.0	-100	43.0	110
Purulia	0.0	-100	0.0	-100	0.7	-92
24 Pargana (S)	0.2	-99	0.0	-100	11.5	-70
West Midnapore	0.0	-100	0.0	-100	24.9	108
<b>SHWB &amp; Sikkim</b>						
Cooch Behar	32.9	-4	0.0	-100	0.0	-100
Darjeeling	124.2	330	0.0	-100	0.0	-100
East Sikkim	42.3	36	0.0	-99	0.0	-100
Jalpaiguri	56.5	54	0.0	-100	0.0	-100
Malda	0.0	-100	0.0	-100	0.0	-100
North Dinajpur	**	**	**	**	0.0	-100.0
North Sikkim	35.2	-31	2.1	-95	0.0	-100








South Dinajpur	0.0	-100	0.0	-100	0.0	-100
South Sikkim	40.8	31	0.0	-100	0.0	-100
West Sikkim	**	**	**	**	**	**
<b>Karnataka</b>						
<b>Coastal Karnataka</b>						
Dakshina Kannada	10.5	-77	0.0	-100	20.2	-51
Udupi	20.9	-44	0.0	-100	8.4	-78
Uttara Kannada	2.7	-90	0.0	-100	2.1	-90
<b>N I Karnataka</b>						
Bagalkote	0.0	-100	0.0	-100	0.3	-98
Belagavi	0.3	-99	0.0	-100	0.3	-98
Bidar	0.0	-100	0.0	-100	0.0	-100
Dharwad	4.3	-85	0.0	-100	0.2	-99
Gadag	0.0	-100	0.0	-100	0.0	-100
Haveri	2.2	-91	0.0	-100	0.0	-100
Kalaburgi	0.0	-100	0.0	-100	3.4	-73
Koppal	0.0	-100	0.0	-100	0.0	-100
Raichur	0.0	-100	0.0	-100	0.0	-100
Vijayapura	0.0	-100	0.0	-100	1.9	-87
Yadgir	0.0	-100	0.0	-100	1.3	-94
<b>S I Karnataka</b>						
Ballari	9.6	-53	0.0	-100	3.0	-84
Bangalore Rural	36.4	17	0.0	-100	10.3	-60
Bangalore Urban	14.9	-49	0.0	-100	2.9	-88
Chamarajanagar	11.6	-65	0.0	-100	3.9	-87
Chikaballapur	0.5	-98	0.0	-100	5.5	-80
Chikkamagaluru	11.5	-65	0.0	-100	4.2	-85
Chitradurga	2.2	-89	0.0	-100	0.2	-99
Davangere	11.1	-57	0.0	-100	0.0	-100
Hassan	11.0	-66	0.0	-100	16.5	-42
Kodagu	39.3	-11	0.1	-99	21.8	-33
Kolar	0.3	-99	0.0	-100	6.0	-78
Mandya	34.1	3	0.0	-100	5.9	-78
Mysuru	4.7	-87	0.0	-100	17.9	-24
Ramanagara	28.9	-17	0.0	-100	7.6	-73
Shivamogga	22.4	-17	0.0	-100	0.2	-99
Tumakuru	3.8	-85	0.0	-100	1.8	-93
<b>Kerala</b>						
Alappuzha	24.9	-65	74.6	-3	42.6	-43
Kannur	32.0	-25	0.0	-100	16.0	-68
Ernakulam	81.4	26	34.0	-49	84.2	36
Idukki	74.6	-8	17.6	-79	37.7	-41
Kasaragod	4.8	-86	0.0	-100	22.1	-50
Kollam	108.4	32	26.6	-68	123.9	44
Kottayam	67.3	1	45.1	-39	55.6	-19
Kozhikode	4.8	-90	4.6	-93	13.5	-78
Malappuram	50.4	-28	16.3	-74	24.8	-60
Palakkad	43.1	-30	6.2	-90	38.9	-37
Pathanamthitta	143.0	70	19.8	-78	86.7	10

Thiruvananthapuram	18.9	-72	12.8	-81	14.6	-77
Thrissur	38.1	-45	14.7	-77	46.7	-29
Wyand	45.6	6	0.0	-100	23.5	-36
<b>Tamil Nadu</b>						
Ariyalur	6.0	-85	3.2	-94	53.0	30
Chennai	0.0	-100	0.0	-100	32.2	-60
Coimbatore	37.3	-1	2.5	-94	43.5	6
Cuddalore	5.8	-88	2.3	-97	31.2	-44
Dharmapuri	19.4	-49	0.0	-100	1.2	-96
Dindigul	56.1	12	41.0	-9	44.8	2
Erode	4.3	-89	23.8	-38	5.6	-84
Kanchipuram	5.5	-89	0.0	-100	7.0	-89
Kanyakumari	9.0	-83	9.7	-86	36.2	-37
Karikal	0.0	-100	0.0	-100	36.0	-63
Karur	4.4	-88	7.8	-78	14.9	-49
Krishnagiri	17.1	-54	0.0	-100	7.4	-76
Madurai	44.6	-20	62.3	28	37.2	-25
Nagapattinam	0.0	-100	8.0	-90	32.1	-56
Namakkal	9.8	-75	9.5	-72	2.0	-93
Nilgiris	34.9	-32	0.9	-98	14.4	-72
Perambalur	8.0	-82	7.8	-84	50.3	29
Puducherry	11.4	-76	0.0	-100	11.1	-85
Pudukottai	12.4	-71	21.1	-45	39.8	15
Ramanathapuram	1.5	-97	35.0	-36	27.0	-53
Salem	18.9	-58	6.7	-84	5.9	-83
Sivaganga	8.8	-83	22.6	-55	32.4	-27
Thanjavur	13.6	-69	18.9	-60	29.5	-36
Theni	58.6	27	30.0	-33	14.7	-69
Tirunelveli	16.7	-56	17.8	-65	32.9	-37
Tirupur	61.1	60	36.8	-1	51.0	54
Tiruvallur	0.0	-99	0.0	-100	14.1	-78
Tiruvannamalai	18.6	-56	0.0	-100	0.5	-99
Tiruvarur	0.0	-100	4.9	-92	39.0	-23
Toothukudi	4.0	-90	25.0	-48	31.6	-33
Trichy	15.0	-65	31.8	-13	25.3	-26
Vellore	3.6	-89	0.0	-100	5.6	-83
Villupuram	44.8	20	0.5	-99	3.1	-92
Virudhunagar	58.9	18	12.4	-73	1.6	-97
<b>Andhra Pradesh</b>						
<b>Coastal Andhra Pradesh</b>						
East Godavari	0.0	-100	0.0	-100	6.4	-77
Guntur	0.0	-100	0.0	-100	1.2	-96
Krishna	0.0	-100	0.0	-100	6.3	-76
Nellore	0.7	-99	0.0	-100	29.9	-64
Prakasam	0.0	-100	0.0	-100	10.2	-79
Sirkakulam	0.0	-100	0.0	-100	8.6	-74
Visakhapatnam	0.0	-100	0.0	-100	22.1	-2
Vizianagram	0.0	-100	0.0	-100	10.6	-43

West Godavari	0.0	-100	0.0	-100	11.1	-60
<b>Rayalaseema</b>						
Anantapur	1.1	-94	0.0	-100	1.6	-91
Chittoor	1.1	-96	0.0	-100	5.8	-86
Cuddapah	0.0	-100	0.0	-100	1.1	-96
Kurnool	0.0	-100	0.0	-100	2.0	-87
<b>Telangana</b>						
Adilabad	0.0	-100	0.0	-100	0.0	-100
Hyderabad	0.0	-100	0.0	-100	4.7	-59
Karimnagar	0.0	-100	0.0	-100	0.5	-95
Khammam	0.1	-99	0.0	-100	3.0	-73
Mehabubnagar	0.0	-100	0.0	-100	0.0	-100
Medak	0.0	-100	0.0	-100	0.0	-100
Nalgonda	0.0	-100	0.0	-100	4.7	-66
Nizamabad	0.0	-100	0.0	-100	0.0	-100
Rangareddy	0.0	-100	0.0	-100	2.4	-78
Warangal	0.0	-100	0.0	-100	13.6	18

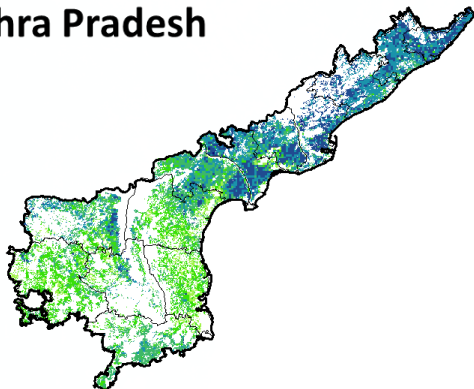
#### Legends

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

#### Annexure II

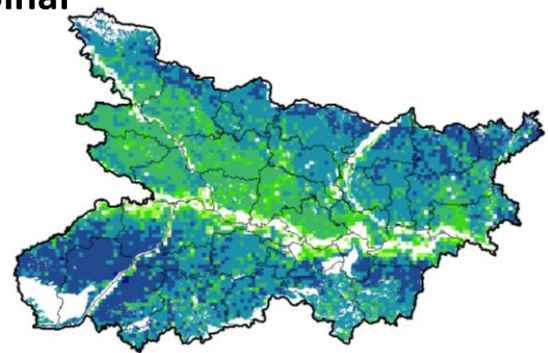
#### NOAA/VHRR NDVI COMPOSITE MAPS FOR THE WEEK ENDING ON 3<sup>rd</sup> November 2016 FOR DIFFERENT STATES

##### Andhra Pradesh



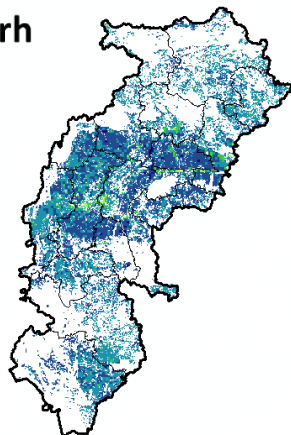
Agriculture vigour is moderate over central and southern part whereas, northern parts show good to very good NDVI in the state of Andhra Pradesh.

##### Bihar



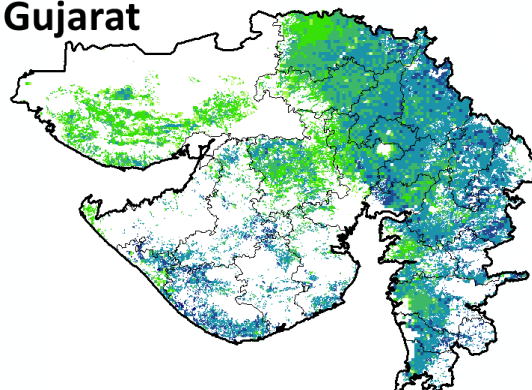
Agriculture vigour is good over central parts of Bihar whereas southern and patches in northern part shows good to very good NDVI values.

### Chhattisgarh



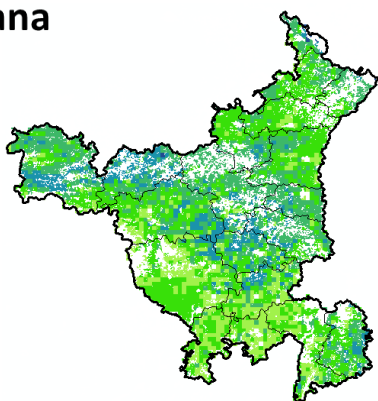
Agriculture vigour is good in southern region whereas, very good vigour is seen in central and northern region of Chhattisgarh.

### Gujarat



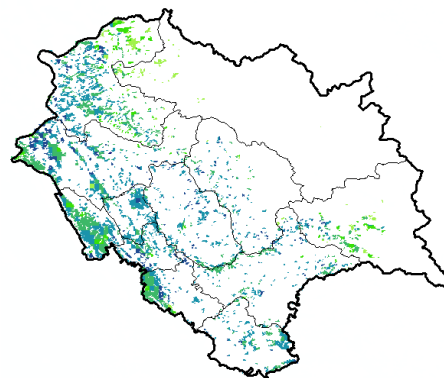
Moderate NDVI values are observed in patches in Kutch region whereas, good to very good NDVI is observed in Saurashtra and Gujarat.

### Haryana



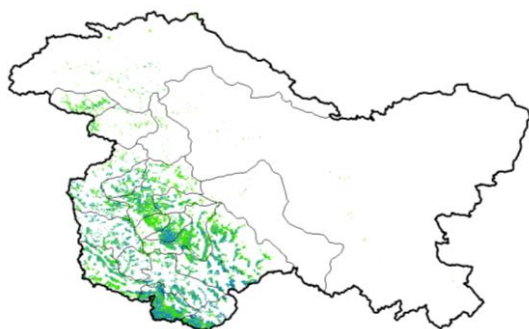
Agriculture vigour is good over patches in central region whereas, moderate agriculture vigour is observed in rest of the state.

### Himachal Pradesh



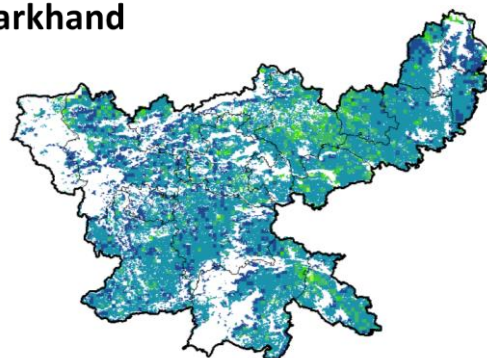
Agriculture vigour is moderate to good over southern parts of Himachal Pradesh.

### Jammu & Kashmir



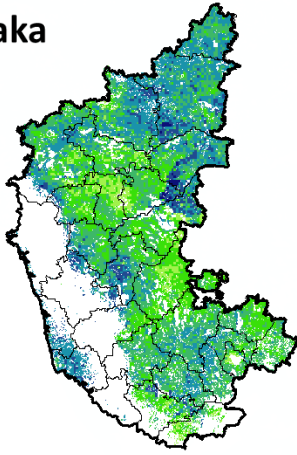
Agriculture vigour is moderate over entire state of Jammu & Kashmir.

### Jharkhand



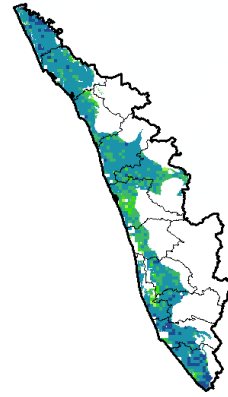
Agriculture vigour is very good over few patches in central region of Jharkhand whereas, remaining states shows good NDVI values.

### Karnataka



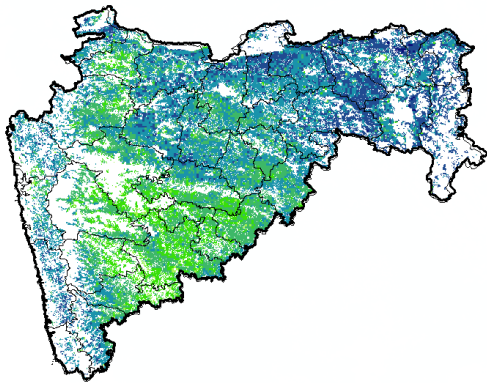
Agriculture vigour is moderate over patches in northern region of the state whereas good vigour is observed in the central and patches in northern regions.

### Kerala



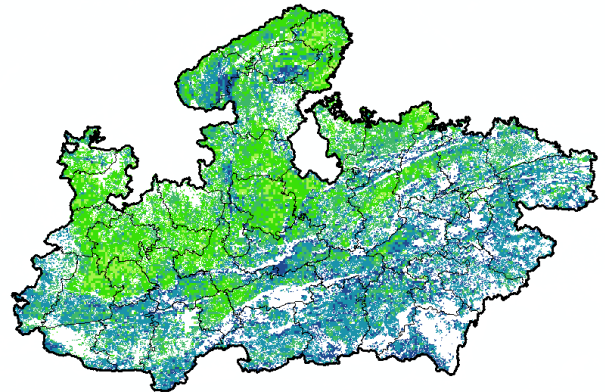
Agriculture vigour is good over entire state of Kerala except central part which shows moderate NDVI values.

### Maharashtra



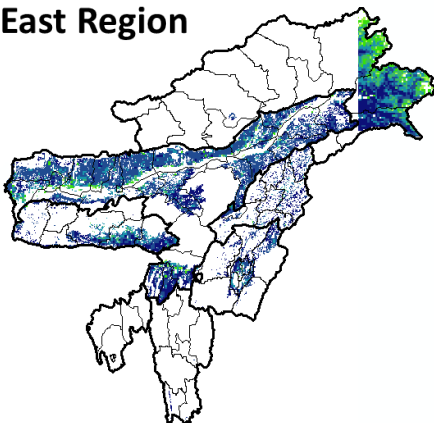
Agricultural vigour is moderate over central Maharashtra whereas, good to very good vigour is observed in the north and eastern regions.

### Madhya Pradesh



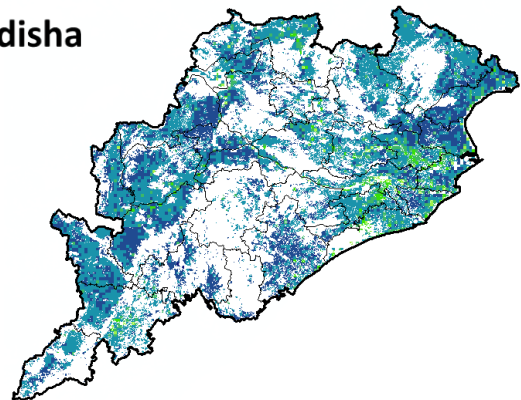
Agriculture vigour is moderate over patches in eastern and northern region of the state of Madhya Pradesh whereas, good & very good vigour is observed over central, western and southern region.

### North East Region



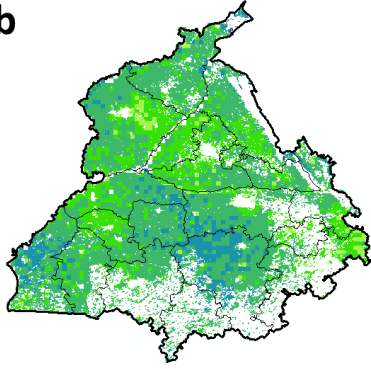
Agriculture vigour is good & very good over north-east states of country.

### Odisha



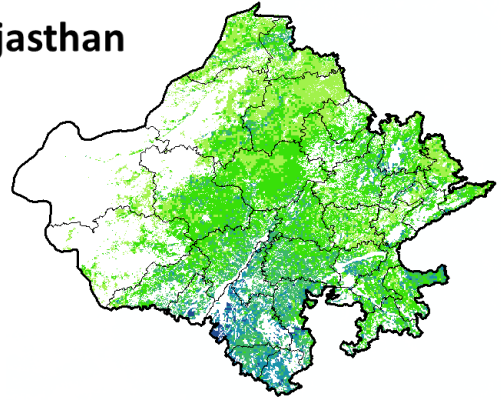
Agricultural vigour is moderate over few patches in coastal region of Odisha whereas, good to very good vigour is observed in entire state.

### Punjab



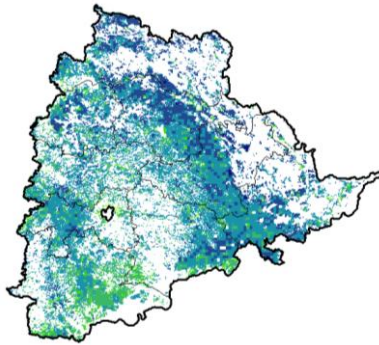
Agricultural vigour is good over patches in central and eastern region whereas moderate vigour is observed in the entire state of Punjab.

### Rajasthan



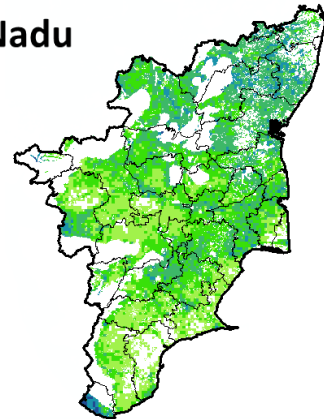
Agriculture vigour is moderate over western and northern Rajasthan whereas, good vigour is observed over southern region.

### Telangana



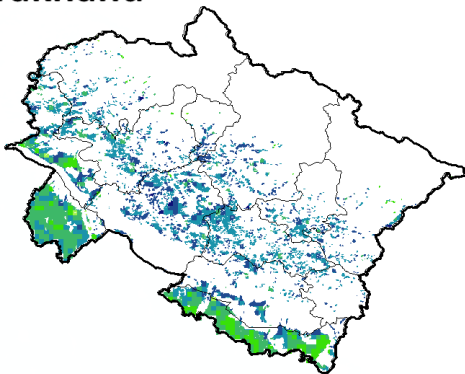
Agriculture vigour is good to very good over entire state of Telangana whereas, moderate vigour is observed in patches in the southern region.

### Tamil Nadu



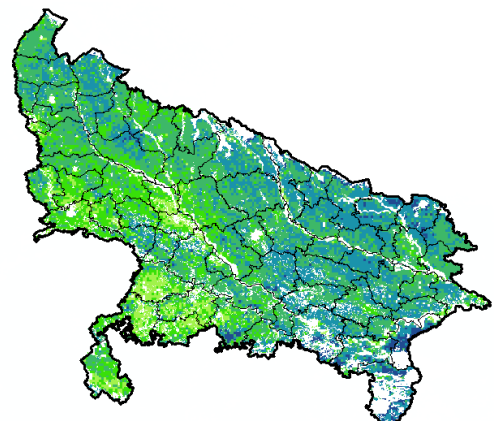
Agricultural vigour is good in patches in northern part of Tamil Nadu, whereas rest of the part shows moderate NDVI.

### Uttarakhand

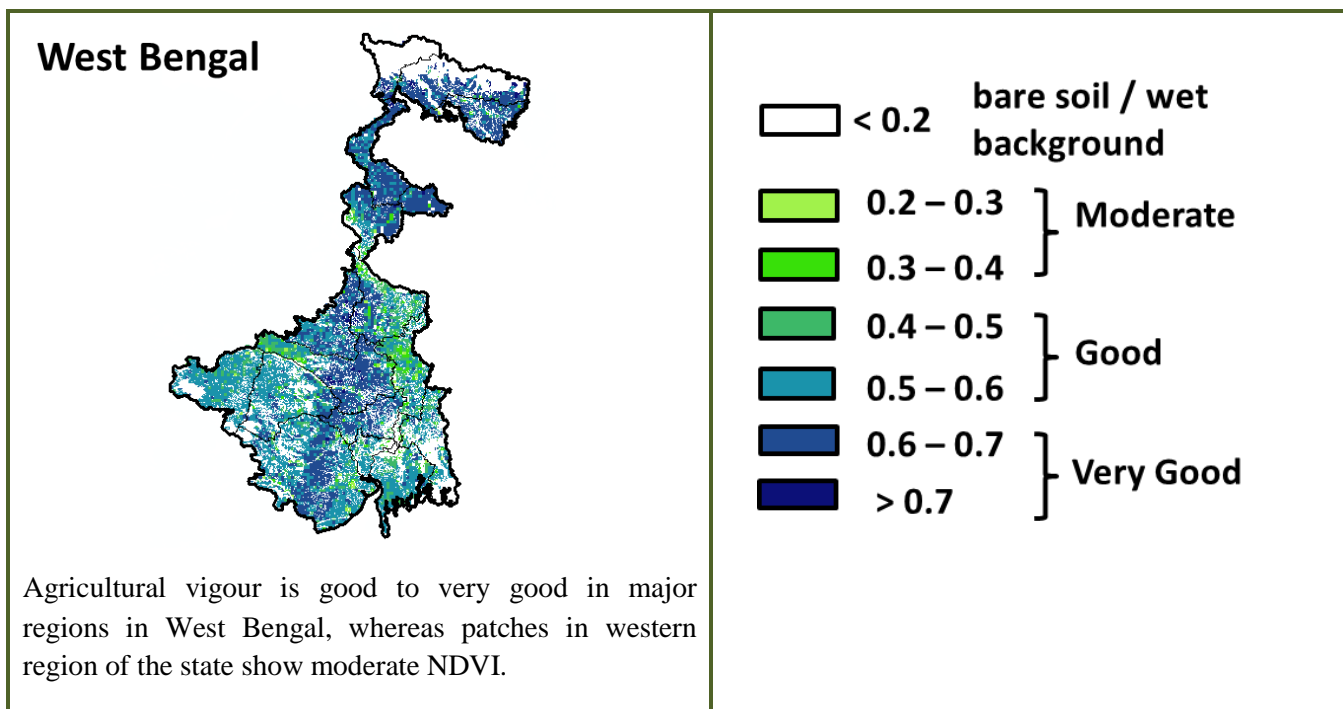


Agricultural vigour is good to very good in central region whereas, moderate in southern region of Uttarakhand.

### Uttar Pradesh



Agricultural vigour is good and very good over western part of the state whereas, moderate over the southern region of Uttar Pradesh.



\* For New Delhi NOAA/AVHRR NDVI COMPOSITE Map is not available due to some problem in data set.

### Annexure III

- Assam**  
**Okra:** Pusa Sawani, Arka Anamika, Parbhdani Kranti.  
**Cauliflower :** Early Kunwari, Pusa Ketki, Pusa Dipali.  
**Winter brinjal:** Pusa Kranti, Pusa Purple Long, Pusa Purple Round, Pusa Vairab, Pant Samra.  
**Pumpkin:** Arke Suryamukhi, Arka Chandan.  
**Radish :** Pusa Desi, Pusa Chetki.  
**Tomato :** Punjab Chuhara, S-12, Punjab Kesri, Pusa Early Dwarf, Sioux, Pusa Ruby, VC- 48-1, Arka Abha (BWR-1), Arka Alok (BWR-5), BT-1, Bilahi-1, Bilahi-2).  
**Brinjal :** Cluster, Barbengena, JC-1, Kuchia, Pusa Kranti, Pusa Purple Long (for long varieties).  
Pusa Purple Round, Pusa Vairab, JC-2, BWR-12 (round varieties).  
**Potato :** Kufri Chandramukhi, Kufri Jyoti, Kufri Megha, Kufri Badshah, Kufri Sindhuri.  
**Onion :** Pusa Red, Pusa Ratnar, Pusa white (Round), Pusa white (Flat), N-53, Agrifound Light Red, Punjab Red Round, Pusa Madhuri, Arka Niketan.  
**Cauliflower :** Early Kunwari, Pusa Katki and Pusa Deepali (for early maturity).  
Improved Japanese, Pusa Synthetic, Pusa Snowhall (for mid maturity).  
Snowball-16, Pusa Snowball, K-1 and Hissar 1 (for late maturity)etc.  
**Cabbage :** Golden Acre, Pride of India, Pusa Mukta (Sel – 8) (for early maturity).  
Drum Head and Eclipse Drum Head (for late maturity).  
**Knol-Khol :** White Vienna (for early maturity).  
Purple Viena (for late maturity).
- Manipur**  
**Pea :** Arkel.
- Tripura**  
**Tomato:** Trishul, Allrounder, T- 1408, T- 1458, Anup.  
**Cauliflower:** CFL- 4048, Pusa early synthetic, Kamaya, Suhasihi.  
**Cabbage:** BC- 76, Pusa Drum Head, Pusa Synthetic.  
**Broccoli:** Everest, Ayeshwaria.
- Odisha:**  
**Green pea:** Rachana, Arkel. and T -163.  
**Mustard:** Parbhathi, Anuradha, TS-29 & M-27.
- Bihar**  
**Pigeon pea:** Bahar, Pusa-9, Narendra Arher-1, Rajendra Arher-1 and Maalvia-13.  
**Sesame :** Kananak, kalika, Uma, Usha, Tilottama, Neelima and Prachi

**Green gram** : K -851, PDM -54, PDM -11, OUM 11-5

**Balck gram** : T-9, Pant-U-19. Pant –U-30, Pant –U-11

**Niger** : Deomali

**Horsegram** : Urmi, DS 1-2-2, DS 1-2

### **Jharkhand**

**Mustard**: Shivani, Varuna, Pusa bold, Kranti, Pusa jaikisan , Vardan etc.

**Potato**: Kufri Ashoka, Kufri Pukhraj, Kufri Lalima, Kufri Pushkar and Kufri Kanchan.

**Toria**: BR-23,T.-9, P.T. 303, Panchali and Bhavani.

**Gram**: KAK-2, ICC-2, HK94-134(Kabuli) and Pusa 256, Pusa 372, Pant G-114, KWR 108, ICC 37.

**Lentil**: P.L.- 406, P.L.-639, D.P.L.-15, D.P.I.- 62 etc.

**Green pea**: Arkel or Azad pea.

**Wheat**: HDR-77, K-8027, C-306, Birsa genhu – 3 etc. HDR-77, K-8027, C-306, Birsa genhu – 3 etc.

**Linseed**: Sweta, Shubhra, T-397 etc.

### **West Bengal:**

**Mango**: Himsagar, Mallicka, Langra

**Guava**: Safeda, L-49

**Coconut**: Eastcoastal, Hazari

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

**Mustard**:Varuna, Sita and Bhagirathi.

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

**Cabbage** :Pride of India, Pusa early, Kranti.

**Cauliflower** : Jawhar moti, Bharat Jyoti, Early banaras.

### **Uttarakhand**

**Wheat**:HS-562,VL-616,VL-829,VL-802,VL-802

**Onoin**:VL-Pyaj-3,Nasik Red,Pusa Red

**Pea**: Vivek 10,Vivek 11,Pant 3,

**Radish**:Meenu early, Japanese white, PusaHimani.

**Carrot**:PusaVrishi,

**Rai**:Varuna, Rohini, Krishna, Kanti, Vardan, Vaibhav, Basanti, Narendra, Early rai-4, Urvashi and varieties **Yellow Mustard**: Ragini,

Binoy (B-9), Pant peeli Sarso-1.

### **Jammu and Kashmir**

**Wheat**: PBW-175, PBW-396, RSP-81(Jitto).

**Pea**: AP-1, Bonnevillea, Rachna and Arkel

**Chickpea**: K-468, Gourav

**Lentil**: L-4147, L-9/12,PL-406.

**Berseem**: Vardan, mascavi, pusa giant, BL-1

**Potato**: Kufri Badshah, K.Sinduri, K.Chipsona & K.Sona

**Gram**: C-235,Gaurav,K-468,SCS-3,PBG-1

**Toria**: RSPT-1 and RSPT-2

### **Himachal Pradesh**

**Cauliflower**: snowball and Giant snowball.

**Radish**:Japanese white, Chinese pink and mino early white

**Turnip**: PTWG-1

**Carrot**:Pusakesar

**Peas** :Mater ageta-6 (early variety).

**Cabbage**:Pride of India, golden achor and hybrid

### **East Uttar Pradesh**

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

**Ginger** -suprabha, suruchi, surbhi and Hingiri

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

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

**Moong**: Type-27, 56

**Toria**:TA-9, Bhawani, PT-30, PT-507, TA-36, PT-303.

**Potato**:Kufarichandramukhi, Kufarisadabahar, or KufriAshoka.

**Mustard**: Narendra ageti, rai-4, Varuna ( T59), Basti ( Pili), rohini, Maya, Narendra swarna-rai-8(pili), Narendra rai ( NDR-8501), vaibhav.

**Kabuli gram**: chatmatkar, Puse-1003, Subhra as good varieties.

**Pea**:Rachna,Pantmatar-5,AparnaMalviyaMatar-2,MalviyaMatar-15,ShikhaandSapna are goodvarieties.

**Radish**:kalyanpur No.1, Pusa Rashmi, Hisar selection-1, Japani Safed, pusa Chetaki, Pusa Himani,Pusa deshi, Arka Nishant and Jaunpuri.



### West Uttar Pradesh

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

**Baby corn:** M.H.-4.

**Toria:** bhavani

**Mustard:** Urvashi, Rohini, Maya, Giriraj, Vardan, Vaibhav

**Linseed:** Parvati, sharda, Padmini

**Vegetable pea:** Azad-3, Aakril

**Gram:** Zaki-9218, KGD-1168, KWR-108, Uday

**Pea:** KPRM-522, KPRM-400, Vikas, Prakash

**Lentil:** DPL-62, Malika

### Punjab

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

**Onion:** Punjab Naroya, Punjab White and PRO 6.

**Radish:** Punjab Pasand and Japanese white.

**Turnip:** L-1.

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

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

**Okra:** Punjab-8 and Punjab-7

**Cauliflower:** Pusa Snow Ball-1, Pusa Snow Ball K-1

**Wheat:** PBW 725, PBW 677, HD-3086, WH 1105, PBW 621, HD 2967.

**Kabuli gram:** L 552, L 550 & BG-1053.

**Raya:** RLC3, PBR 357, PBR 210, RLC-1, , RLM-619, PBR-91

**Gram:** C 235, HC 5

un-irrigated/rainfed (HC 1)

### Delhi

**Wheat:** H.D. 2687, H.D. 2851, H.D. 2894, H.D. 2967, H.D. 3086, D.B.W.-17

**Gram:** Kabuli type - Pusa 267, Pusa 1003, Pusa Chamatkar; local type – C235, Pusa 246, P.B.G. 1, Pusa 372.

**Pea:** Pusa Pragati, Arkel, Azad Matar-3, Pant Matar-3 and Bournville.

**Potato:** Kufri Badshah, Kufri Bahar, Kufri Aanand, Chipsona-1, Chipsona-2, Chipsona-3.

### East Rajasthan:

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

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

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

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

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

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

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

Ageti-76, Bassi Selected, MahiKanchan

**Greengram:** RMG-62, RMG-268, RMG-492 & RMG-344, IPM-02-3.

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

**Moth:** RMO-40, IPCMO-912, RMO-257, RMO-225, RMO-435 (Vikash) (improved varieties)

**Pea (early):** Arkil, Hara bona, VL-3, Jawahar Matar-4, Matar Ageti-6 improved varieties.

Cauliflower: Pusa snow ball K-1, Hisar-1, Dania and Selection-7 are improved varieties.

Carrot: Pusa Keshar is improved variety.

**Mustard:** Pusa jai kisan, RH-30, Pusa bold, Laxmi, kranti.

**Radish:** Japanese white & hill queen.

### West Rajasthan

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

**Bhindi:** Ark Anamika, varshauphar, Parbhanikranti, pusamakhmali.

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

**Narma cotton:** R.S.T.-9, R.S.-810, R.S.-2013, Bikaner narma, R.S.875, Maru Vikas( Raj. H.H.16)

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

**Gram:** c-235, RSG-44, GNG-663( vardan), RSG-888

GNG-469( samrat), GNG\_1581(gangour), for kabulichana-GNG-1499(gouri) and GNG-1292

**Mustard:** RGN-13, RGN-73, Laxmi, Pusa bold, RGN-298, RGN-229, RGN-48, barni (timely sowing) RGN-145, RGN-236 ( for late sowing)

**Radish:** Japanese white & hill queen.

### Madhya Pradesh

**Wheat:** (Irrigated- JW 1203, 1215, HI 1544).

Non irrigated- JW 3288, 3173, HI-1500, HI- 1531, HW-2004, JWS-17.

**Gram:** JG 130, JG 218, JG 11, JG 16, JG 6, JG 315, RVJ 202, JAKI-92-18, RVG-201, RVG-203.

**Garlic:** G 282, 223.

**Lentil:**RVL 31, JL 2.

**Mustard:** Pusa Jaikisan, RH-749, RH-406, IJ-31, NRCHB-101, RVM- 1, RVM-2.

### **Chhattisgarh**

**Mustard:**Shiwani, Varuna, Pusa Bold, BR-40.Mustard.

**Toria:**Indira toria-1, Pant toria-30 & T-9.

### **Maharashtra**

**Jowar :**Maldandi (M-35 – 1), SPV-655, SPV-839, Phule Yashoda, Parbhani Moti, Swati.

**Wheat:** NIAW-301 (Trimbak), NIAW-917 (Tapovan), NIDW-295 (Godavari), Late sowing- NIDW-15 (Panchavati), NIAW- 1495, NIAW-5439, MACS-1967, Ajinta.

For irrigated- NIAW-34, Tapovan, Godavari, Trimbak and PBN – 51.

### **Gujarat**

**Chick pea:** Gujarat chana-2 (Unirrigated), Gujarat chana-3 (irrigated), Dahod Yellow, Chaffa.

**Garlic:** Gujarat Garlic-4 or Local, GG- 2,3,4, G-41, 50, 282.

**Mustard:** Gujarat Mustard 1, 2, 3, 4, Varuna.

**Carrot:** Patan Local, Pusa Kesar and Pusa Chamdagni.

**Wheat:** Lok-1, GW-496.

**Cabbage:** Kranti, Golden Acaire Pride of India, Copen Market.

**Coriander:** Gujarat Coriander-1, Gujarat Coriander-2.

**Pea:** Pusa Pragati.

**Carrot:** Pusa Rudhira, Pusa Kesar.

### **Karnataka**

**Sorghum:** DSH-4, M-35-1, Muguthi, DSV-4, DSV-5, Maldandi , CSV-29R, SPV-2217, BJV-44.

**Safflower :** A-1, A-2, S-144.

**Sunflower:**Morden, KBSH-1,41,44 & 52.

**Cowpea:** KBC-1, 2.

**Ragi:** GPU 26,45, 48, Indaf 7,9, 15.

**Field bean:** Hebbal Avare-3, 4.

**Rabi sorghum:** Maldandi Muguthi, DSV-4, DSV-5, BJV-44 varietyor Hybrid-DSH- 4, M 35-1 Muguthi, CSV-29R, SPV-2217.

**Chickpea:** A-1, GBS-964, JG-11, BGD-103, GB-1105, Annigeri-1, ICCV-10, BG-1105, JG-1, KAK-2, Vishal.

**Wheat:** DWR-162, DWR-225, DWR-415, 185, 195, DWR-2006, DWR-1006, DDK-1001, DWR-137, HD-2189, UAS-304, 428.

**Niger :**KBN-1, No.71, RCR-18.

**Sugarcane:** CO-86032, 740, 671.

### **Andhra Pradesh**

**Sorghum:**CSH-9,CSH-13,CSH-14,PSV-15,PSV-19

**Bajra:**ICTP 8203,PBH 3

**Korra:**Prasad, Krishnadevaraya, Narashimharaya, Srilakshmi, Surya nandi

**Cowpea:** C 152 GC3 C0-4 CO-5

**Sunflower:**NDSH1 KBSH1 KBSH 44 DRSH 1

**Green gram:**LGG 407 LGG 450 LGG 460 MGG 295 ML 267, LGG 410, TM 96-2.

**Field bean:**TFB-1 TFB-5

**black gram:** LBG-752, LBG-20, T-9, LBG-623, PU-31, LB-402, LBG-709 and LBG-787

**Bengal gram:** JG-11, LBEG-7, JG-130. Nadyal-1 and swetha.

### **Tamil Nadu**

**Samba rice:**CR 1009 and ADT 50.

### **Telangana**

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