



# *National Agromet Advisory Service Bulletin*



*Friday 18<sup>th</sup> November 2016*

*(For the period 18<sup>th</sup> to 22<sup>nd</sup> November 2016)*



*Issued by*

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

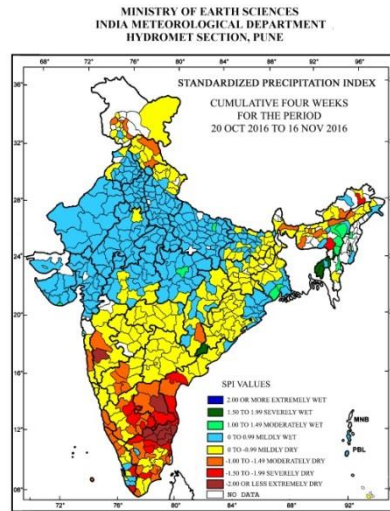
**Weblink For**

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

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

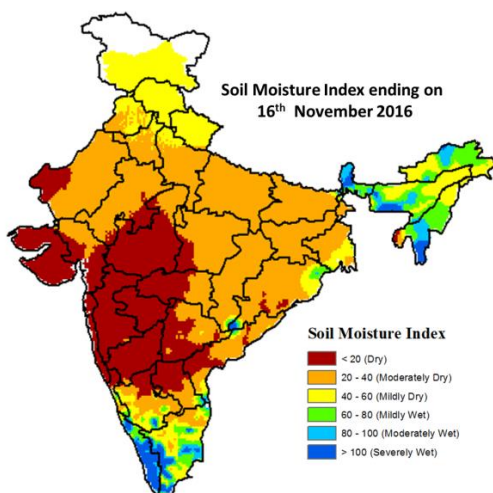
**Northeast Monsoon watch:** Northeast monsoon rainfall activity over south east India continue to remain subdued.  
**Fog watch:** Visibility observed at 200M at Chapra(Bihar) and at 500M at Amritsar, Ludhiana, Delhi (Palam) and Fursatganj at 0830 hrs IST of today.

### Standardised Precipitation Index Four Weekly for the period 20<sup>th</sup> October to 16<sup>th</sup> November 2016



- Extremely/severely wet conditions experienced in most districts of Tripura; Hailakandi district of Assam; Malkangiri district of Odisha.
- Extremely/Severely dry conditions experienced in few districts of Andhra Pradesh; Tamil Nadu & Puducherry; East Siang district of Arunachal Pradesh; Jaintia Hills district of Meghalaya; Satara district of Maharashtra; Bangalore Urban, Chamarajanagar, Chitradurga, Kolar, Tumkur districts of Karnataka; Trivandrum, Idukki districts of Kerala.
- Moderately dry conditions experienced in few districts of Jammu & Kashmir; Tamil Nadu; Karnataka; Papumpara district of Arunachal Pradesh; Kamrup, Lakhimpur, Barpeta, Shonitpur districts of Assam; West Garo Hills district of Meghalaya; Jalpaiguri district of West Bengal; Lahaul & Spiti, Shimla districts of Himachal Pradesh; Ratnagiri district of Konkan & Goa; Pune district of Maharashtra; Bastar district of Chhattisgarh; Prakasam, Anantapur, Kurnool districts of Andhra Pradesh; Cannur, Kozhikode, Malappuram, Kasargod districts of Kerala; Lakshadweep district of Lakshadweep.
- Rest of the country experienced moderately wet/mildly dry/mildly wet conditions.

### Soil Moisture Index for the week ending on 16<sup>th</sup> November 2016

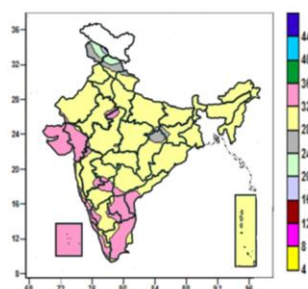


- Soil moisture index indicates severely and moderately wet condition in many parts of Kerala, Sikkim and some parts of North-East Region, Odisha and Tamil Nadu. Mild wet condition in many parts of North-East Region and some parts of Sub-Himalayan West Bengal. Odisha, Tamil Nadu and Kerala. Mild dry condition in many parts of Jammu & Kashmir, Himachal Pradesh and Uttarakhand and some parts of Punjab, Haryana, Tamil Nadu, South Interior Karnataka, North-East Region, Gangetic West Bengal and Odisha. Rest of the country shows Moderate dry and dry condition.



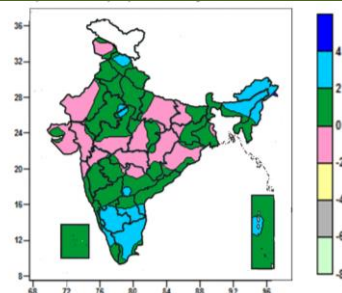
**Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 16.11.2016**

**Actual Mean Maximum Temperature (°C) in India for the week ending 16.11.2016**



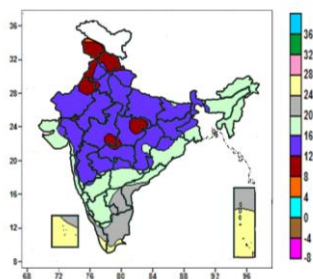
- Mean maximum temperature was between 32 to 36°C over Saurashtra & Kutch, Lakshadweep, many parts of Gujarat Region, Coastal Karnataka, Rayala Seema, Kerala, Tamil Nadu, some parts of Konkan & Goa, Madhya Maharashtra, Telangana, Interior Karnataka, Coastal Andhra Pradesh and isolated pockets of Rajasthan, West Madhya Pradesh and Marathwada.
- Mean maximum temperature was between 24 to 32°C over rest of the Country except some parts of Jammu & Kashmir, Himachal Pradesh where it was between 16 to 24°C.

**Mean Maximum Temperature (°C) Anomaly in India for the week ending 16.11.2016**



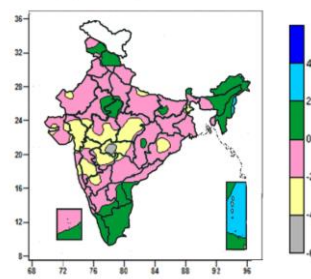
- Mean maximum temperature was above normal by 2 to 4°C over Nagaland, Arunachal Pradesh, many parts of Assam & Meghalaya, Manipur, South Interior Karnataka, Rayalaseema, Tamil Nadu, some parts of Himachal Pradesh, Kerala, Andaman & Nicobar Islands and isolated pockets of East Rajasthan, West Madhya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

**Actual Mean Minimum Temperature (°C) in India for the week ending 16.11.2016**



- 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 many parts of Jammu & Kashmir, Himachal Pradesh, some parts of Punjab, West Rajasthan, Madhya Pradesh and isolated pockets of Uttarakhand, Haryana, East Rajasthan and Vidarbha.
- Mean minimum temperature was between 12 to 16°C over Uttar Pradesh, Sikkim, many parts of Uttarakhand, Sub-Himalayan West Bengal, Punjab, Haryana & Delhi, Bihar, Jharkhand, Rajasthan, Madhya Pradesh, Gujarat Region, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, some parts of Gangetic West Bengal, Odisha, Saurashtra & Kutch, Konkan, Telangana and isolated pockets of Himachal Pradesh, Assam and North Interior Karnataka.
- Mean minimum temperature was between 16 to 24°C over rest of the country except many parts of

**Mean Minimum Temperature (°C) Anomaly in India for the week ending 16.11.2016**

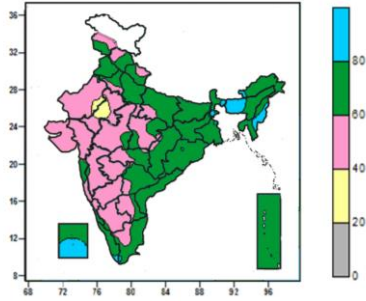


- Mean minimum temperature was above normal by 2 to 4°C over many parts of Andaman & Nicobar Islands, some parts of Nagaland, Manipur and isolated pocket of Arunachal Pradesh.
- Mean minimum temperature was normal to near normal over rest of the country except many parts of Gujarat Region, Madhya Pradesh, Madhya Maharashtra, Marathwada, Vidarbha, some parts of Sub-Himalayan West Bengal, Saurashtra & Kutch, Odisha, Konkan, North Interior Karnataka and isolated pockets of East Uttar Pradesh, Bihar, Jharkhand, Gangetic West Bengal, Rajasthan and Telangana, where it was below normal by 2 to 4°C and some parts of Vidarbha and isolated pocket of Marathwada, where it was below normal by 4 to 6°C.

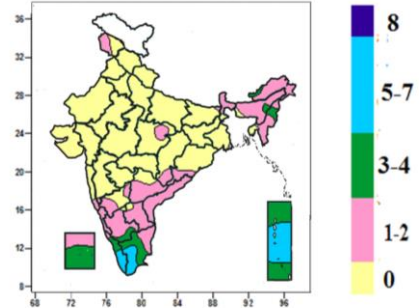
Lakshadweep, Andaman & Nicobar Islands, some parts of Kerala and Tamil Nadu, where it was between 24 to 28°C.

**Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 16.11.2016**

**Relative Humidity (%) over India for the week ending 16.11.2016**



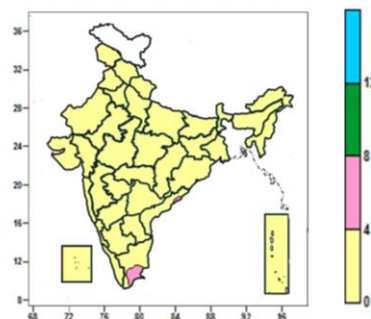
**Cloud amount (okta) over India for the week ending 16.11.2016**



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

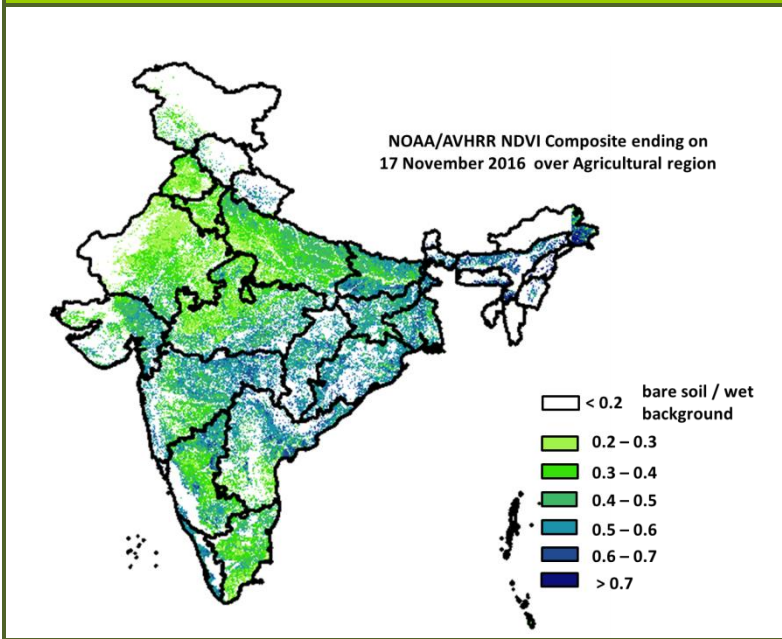
- Sky remained generally cloudy (5-7okta) over many parts of Kerala and some parts of Tamil Nadu and Andaman & Nicobar Islands.
- Sky remained partly cloudy (3-4 okta) over many parts of Lakshadweep, Andaman & Nicobar Islands, some parts of Nagaland, Manipur, South Interior Karnataka, Kerala, Tamil Nadu and isolated pockets of Arunachal Pradesh and Assam.
- Sky remained mainly clear/clear sky (1-2 okta/0 okta) over rest of the country.

**Wind speed (knots) over India for the week ending 16.11.2016**



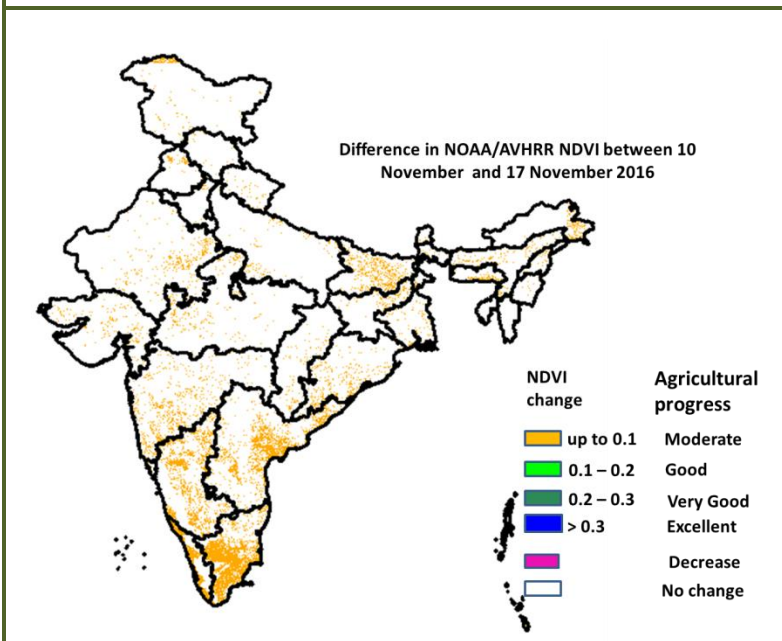
- Mean wind speed was between 0 to 4 knots over the country except some parts of Tamil Nadu and isolated pocket of Coastal Andhra Pradesh, where it was between 4 to 8 knots.

**NOAA/AVHRR NDVI composite ending on 17<sup>th</sup> November 2016 over Agricultural region of India**



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

**Difference in NOAA/AVHRR NDVI between 10<sup>th</sup> and 17<sup>th</sup> November 2016**



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

- NOAA/AVHRR NDVI composite maps for the week ending on 17<sup>th</sup> November 2016 for different States are given in Annexure II.

## Weather Forecast for next 5 days valid upto 0830 hours of 23<sup>rd</sup> November 2016

- Meteorological sub-division wise detailed 5 day rainfall forecast is given below.
- Dense fog very likely at isolated places over south Assam, Meghalaya and Nagaland, Manipur, Mizoram & Tripura and shallow to moderate fog at isolated places over Haryana, Chandigarh & Delhi and Uttar Pradesh during next 2 days.
- The Minimum temperatures very likely to fall by 1-2°C over East Madhya Pradesh, Vidarbha and Chhattisgarh during next 2 days.
- No significant change in minimum temperature over northwest, rest central, west, east and northeast India during next 3 days.

### 5 Day Rainfall Forecast (MID DAY) 18<sup>th</sup> November 2016

Met Sub-divisions	18 Nov	19 Nov	20 Nov	21 Nov	22 Nov
1. Andaman & Nicobar Islands	ISOL	ISOL	SCT	SCT	ISOL
2. Arunachal Pradesh	DRY	DRY	DRY	DRY	DRY
3. Assam & Meghalaya	DRY	DRY	DRY	DRY	DRY
4. N.M.M. & T.	DRY	DRY	DRY	DRY	DRY
5. S.H. West Bengal & Sikkim	DRY	DRY	DRY	DRY	DRY
6. Gangetic West Bengal	DRY	DRY	DRY	DRY	DRY
7. Odisha	DRY	DRY	DRY	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	ISOL
13. Haryana, Chd & Delhi	DRY	DRY	DRY	DRY	DRY
14. Punjab	DRY	DRY	DRY	DRY	DRY
15. Himachal Pradesh	DRY	DRY	DRY	ISOL	ISOL
16. Jammu & Kashmir	DRY	DRY	ISOL	SCT	SCT
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	DRY	DRY	DRY	DRY	DRY
28. Coastal Andhra Pradesh	DRY	DRY	DRY	DRY	DRY
29. Telangana	DRY	DRY	DRY	DRY	DRY
30. Rayalaseema	DRY	DRY	DRY	DRY	DRY
31. Tamil Nadu & Puducherry	ISOL	ISOL	ISOL	ISOL	ISOL
32. Coastal Karnataka	ISOL	DRY	DRY	DRY	DRY
33. North Interior Karnataka	DRY	DRY	DRY	DRY	DRY
34. South Interior Karnataka	ISOL	DRY	DRY	DRY	DRY
35. Kerala	ISOL	ISOL	ISOL	ISOL	ISOL
36. Lakshadweep	ISOL	ISOL	ISOL	ISOL	ISOL

#### % 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

- **18 November (Day 1):** Dense fog very likely at isolated places over south Assam, Meghalaya and Nagaland, Manipur, Mizoram & Tripura.
- **19 November (Day 2):** Dense fog very likely at isolated places over south Assam, Meghalaya and Nagaland, Manipur, Mizoram & Tripura. Heavy rain very likely at isolated places over south coastal Tamilnadu.
- **20 November (Day 3):** Heavy rain very likely at isolated places over south coastal Tamilnadu.

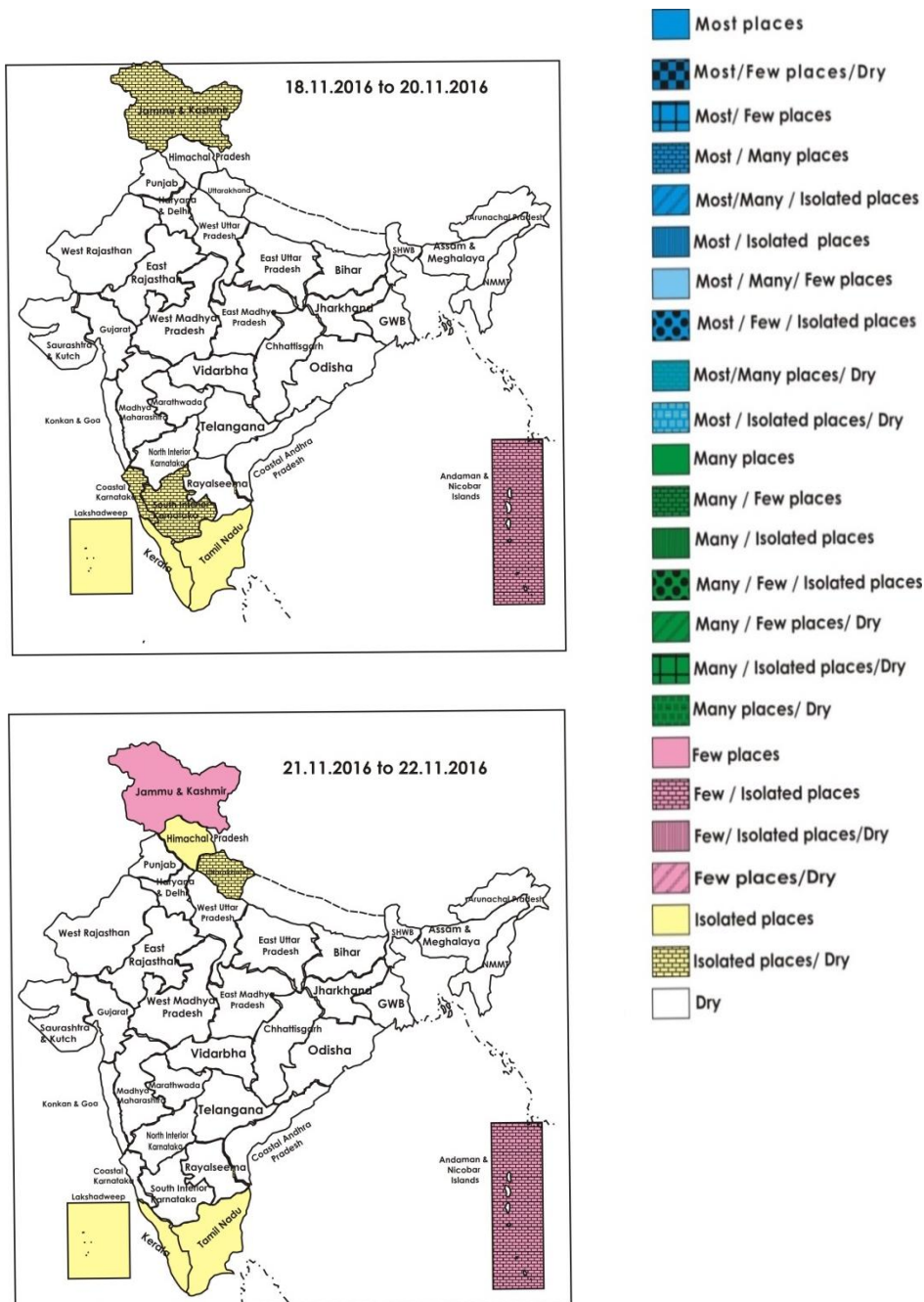


- **21 November (Day 4):** Heavy rain very likely at isolated places over south coastal Tamilnadu.
- **22 November (Day 5):** Heavy rain very likely at isolated places over south coastal Tamilnadu.

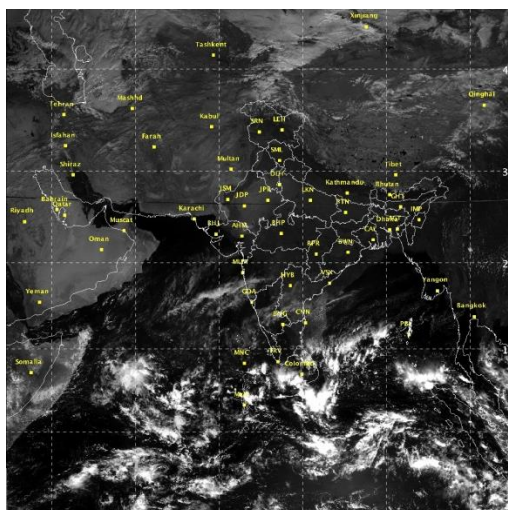
**Weather Outlook for subsequent 2 days from 23<sup>rd</sup> to 25<sup>th</sup> November 2016**

- Rain very likely at a few places over Tamilnadu & Puducherry and at isolated places over Andaman & Nicobar Islands, Kerala and Lakshadweep.
- Rain/Snow very likely at a few places over Jammu & Kashmir and at isolated places over Himachal Pradesh.

**Weather Forecast Map (valid upto 0830 hours 23<sup>rd</sup> November 2016)**



## Satellite image dated, 18.11.2016, 0600 UTC



## Salient Advisories

- As dense fog very likely at isolated places over south **Assam, Meghalaya, Nagaland, Manipur, Mizoram and Tripura** on 18<sup>th</sup> & 19<sup>th</sup> Nov., monitor potato, tomato and onion crops for early blight disease. If symptoms are noticed undertake plant protection measures.
- As heavy rain is very likely at isolated places over **south Coastal Tamil Nadu** from 19<sup>th</sup> to 22<sup>nd</sup> Nov., postpone irrigation and application of fertilizers and plant protection methods in standing crops. Continue 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**.
- In **Vidarbha**, in view of prevailing minimum temperature appreciably to markedly below normal (3.1°C or less), farmers are advised to apply light irrigation in gram, vegetables and orchards in the evening/ night hours.
- **In Kerala**, undertake land preparation and sowing of rice in Problem Area Zone.
- Continue sowing of wheat in **Jammu & Kashmir, Punjab, Haryana & Delhi, Rajasthan, Uttar Pradesh** and complete sowing of wheat in **Maharashtra**. Continue sowing of chickpea, safflower, *rabi* maize, groundnut and sorghum in **Telangana** and complete sowing of Bengal gram, safflower and wheat in **North Interior Karnataka**.
- Continue sowing of wheat, maize and mustard in **Bihar and Jharkhand**, mustard, pea and wheat in **Chhattisgarh and Madhya Pradesh**, wheat in **North West and Middle Gujarat Zone**.
- Continue sowing of rapeseed, mustard and planting of potato in **Assam** and in Hill Zone, continue nursery raising of *Boro* rice. Continue planting of potato and pea in **Meghalaya**. Continue sowing of gram, pea and mustard in **East Uttar Pradesh** and mustard, raya and gram in **Haryana**.
- As dry weather is prevailing, apply irrigation in sugarcane in **Coastal Andhra Pradesh**, in banana and lemon orchards in **Gujarat**, in vegetables in **Madhya Pradesh**, in early sown mustard in **Rajasthan** and in vegetables and sugarcane in **Punjab and Haryana**.
- As dry weather would prevail during the period, continue harvesting of **Aman** rice in West Bengal, *Sali* rice in Assam, continue harvesting of rice in **Chhattisgarh and Jharkhand**.



## Detailed Zonewise Agromet Advisories

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



**Banana**



**Rice**



**Sugarcane**



**Red gram**

- **Realised Rainfall:** Rainfall occurred in Alappuzha, Ernakulam and Pathanamthitta districts of Kerala, Shivamogga district of South Interior Karnataka and Karaikal, Nilgiris, Tirunelveli, Thiruvapur and Toothukudi districts of Tamil Nadu. Weather remained mainly dry over rest of the region.
- **Advisories:**
  - **Tamil Nadu:**
    - As heavy rain is very likely at isolated places over south Coastal Tamil Nadu from 19<sup>th</sup> to 22<sup>nd</sup> Nov., postpone irrigation and application of fertilizers and plant protection methods in standing crops.
    - In Ariyalur, Nagapattinam, Perambalur, Thanjavur, Thiruvapur and Trichy districts of Cauvery Delta Zone, continue transplanting of Thaladi rice.
    - In the Western Zone, spray Zinc Sulphate @ 0.5% + Urea @ 1% on Samba rice at flowering stage during evening hours. Undertake sowing of Bengal gram under dryland black soil after receipt of sufficient rain. Considering the wind speed, 9 to 10 months old banana may be given support against lodging.
    - In the High Rainfall Zone, strengthen the basins of coconut and nutmeg trees for better harvesting of rains. monitor for incidence of rhizome rot in ginger. If infected, remove the affected part. To avoid further spread of the disease, pour 1% Bordeaux mixture into the basin.
    - In the High Altitude Zone, widespread root grub infestation is noticed in hill horticultural crops. To control, apply Entomopathogenic fungus *Beauveria* and *Metarrhizium* @ kg per acre along with well decomposed organic manure.
    - In the Southern Zone (Kannivadi), due to prevailing light cloudy weather, incidence of white fly/sucking pests is noticed in cotton and other vegetable crops. To control, use, 'Yellow Sticky trap' - 10 traps per acre.
  - **Andhra Pradesh:**
    - In the Krishna Godavari Zone, apply light irrigation to sugarcane crop due to prevailing dry weather conditions in West Godavari district and continue sowing of Bengal gram.
    - In the High Altitude Tribal Zone, undertake picking of cotton.
    - In the Scarce Rainfall Zone of Rayalaseema, continue land preparation and sowing of *rabi* groundnut under assured irrigation.
    - In Chittoor, Nellore and Kadapa districts of Southern Zone, continue sowing groundnut under irrigation after proper seed treatment for. In Nellore district, undertake sowing of green gram (varieties LGG-407, 410,460 and ML-267) after seed treatment with Thiomethaxom @ 5 g./kg of seed.
    - In Kadapa district of Southern Zone, prevailing dry weather conditions are highly favourable for thrips incidence in early sown jowar crop. To control, spray Dimethoate @ 2ml or Immdachloprid @ 0.4ml/litre of water.
    - In Ananthapur district of Scarce Rainfall Zone of Rayalaseema, prevailing weather conditions are suitable for incidence of powdery mildew in watermelons. To control, spray 1 g Carbendazim /1g Thiophante Methyl/1 ml Kerathane/litre of water twice within a period of 10-15 days.
    - In the North Coastal Andhra Pradesh, prevailing weather conditions are congenial for incidence of sheath rot and false smut in rice (grain filling stage). To control, spray Propiconazole @ 1.0 ml /litre of water.
    - In the Krishna Godavari Zone, due to prevailing dry weather conditions, pod borer may attack red gram (flower initiation to flowering stage). If it is above economic thresh hold level, apply Quinolphos @ 2.0 ml or Acephate @1.5 g or Indoxycarb @1.0 ml or Spinosad 0.3 ml per litre of water. If possible irrigate the filed with light irrigations.
  - **Telangana:**
    - In North Telangana Zone, undertake sowing of rice and continue sowing of *rabi* maize, sorghum, groundnut and sunflower under irrigated/ dry conditions after seed treatments with fungicides and sowing of chickpea under residual soil moisture conditions in black soils. Cotton crop is under slight moisture stress condition. Give one irrigation to protect the crop from the stress.
    - In Adilabad, Khammam, Karimnagar and Nizamabad districts of North Telangana Zone, incidence of maruca pod borer in red gram (flowering stage). To control, spray Acephate @ 1.5g or Chlorpyriphos @ 2.5 ml/litre of water.
    - In Mahabubnagar, Nalgonda, Medak, Rangareddy, Khammam and Warangal districts (South Telangana Zone), incidence of grey mildew disease is noticed in cotton. To control, spray Wettable Sulphur @ 3 g or Kerathen @ 1

ml/litre of water.

▪ **Kerala:**

- In the Northern Zone, continue mulching in coconut basins and planting of bananas.
- In Idukki and Wynad districts of High Altitude Zone, continue mulching in pepper and arecanut fields and harvesting of pepper, cardamom and ginger.
- In Kuttanadu region of the Problem Area Zone, undertake sowing of rice. It is advised to coat the seeds with the bio fungicide *Pseudomonas* before sowing to protect the rice plants from seed borne diseases. *Pseudomonas* could be dissolved in the water used for soaking the seeds @ 10g/Kg seed for 12-14 hours and then drain the water and keep for sprouting.
- In the Northern Zone, cut and burn the affected coconut leaves, release larval parasitoids, *Goniozus nephantidis*, @10 nos/palm (4-6 release) on the trunk to control black headed caterpillar. If infestation is very severe, spray the under surface of the fronds with Corragen @ 1ml/5litre.
- In the Central Zone, prevailing weather conditions are congenial for incidence of leaf caterpillar in vegetables (brinjal). To control, apply Fame @ 2ml/10 litres of water.
- In the Problem Area Zone, spray 1% Bordeaux mixture or spray Azoxystrobin (Heritage) @ 0.1% or Tebuconazole (Folicur) @0.1% or Difenoconazole (Polyscore) @ 0.1% soon after the appearance of the initial symptoms of sigatoka disease in bananas. Cut and burn severely affected leaves before spraying.
- In Thiruvananthapuram district in Southern Zone, prevailing weather conditions are congenial for incidence of downy mildew in vegetables. To control, destroy the affected leaves and spray Indofil M.45 @ 4 g/litre of water, so that the spray fluid reaches both the surfaces of the leaves.

▪ **Karnataka:**

- Continue sowing of Bengal gram and planting of sugarcane in Bidar district of North East Transition Zone.
- Provide irrigation to cotton, red gram, maize, sunflower crops as per requirement in North East Dry Zone.
- Carry out harvesting of maize and groundnut in Bengaluru Rural, Bengaluru Urban, Ramnagara, Chikaballapura and Kolar districts of Eastern Dry Zone.
- Continue sowing of cotton under irrigated condition in Central Dry Zone.
- Complete sowing of chickpea in Dharwad, Belagavi and Haveri districts of North Transition Zone. Apply irrigation to *rabi* crops where irrigation is possible. Undertake intercultural operation in 25 - 30 days old *rabi* sorghum crop to control the weeds and for moisture conservation.
- Complete harvesting of rice in Coastal Zone.
- Continue sowing of chickpea (dry land and irrigated), wheat (irrigated), Dicocum wheat in Vijayapura, Bagalkote and Gadag districts of North Dry Zone. Apply irrigation to already sown *rabi* crops as per requirement.
- Incidence of myrid and mealy bugs is noticed in late sown cotton which is in boll development stage in North East Dry Zone; to control, spray Monocrotophos @ 2 ml or Profenophos @ 2 ml per litre of water. Brown plant hopper is noticed in paddy crop; to control, spray the crop with Chloropyriphos @ 2.0 ml or Monocrotophos @ 1.5 ml dissolved in one litre of water.
- Incidence of fruit borer in brinjal in North Dry Zone is noticed; remove the infected fruits and twigs along with the insect and burn them; take up spraying of Carbarayl @4 g or Melathion @2 ml or Quinolphos @ 2 ml dissolved in one litre of water; repeat the same spray after 15 days.
- Weather conditions are favorable for ragi blast disease in ragi in Eastern Dry Zone; if noticed, spray Mancozeb @ 2 g/litre (100 gram/acre) or Zainab @ 2.5 g/litre (500 gram/acre). If wilt disease is noticed in red gram field, drenching with Carbendazim 50 WP @2 g/litre of water is advised. Remove and burn the wilt infected plants in field.
- Suitable varieties for sowing are given in Annexure III.

❖ **Animal Husbandry**

- In Scarce Rainfall Zone of Rayalaseema of Andhra Pradesh, provide artificial brooding to chicks to maintain adequate temperature and sides should be covered with curtains during cool hours of the day. Wet litter material should be removed regularly. Ensure proper cross ventilation to avoid ammonia accumulation.
- In Telangana, prevailing weather conditions are congenial for the occurrence of Ranikhet disease in poultry, Hemorrhagic Septicemia and FMD in Cattle/Bufalloes. To prevent the diseases, vaccinate the livestock and also against sheep pox in sheep/goat.
- In the Western Zone of Tamil Nadu, the cattle shed may be cleaned with antiseptic biochemical solution to control cattle flees, especially in the morning.
- In the Southern Zone of Tamil Nadu (Kannivadi), due to moderate humid conditions, mastitis disease may affect the milch animals. Clean the udder with 1% Potassium Permanganate solution, before and after milking.
- In Southern Dry Zone, maintain optimum room temperature in silkworm and poultry rearing houses.



*Banana*



*Rice*



*Cauliflower*



*Land preparation/Sowing*

- **Realised Rainfall:** Rainfall occurred in Imphal East district of Manipur. Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
  - As dense fog very likely at isolated places over south Assam, Meghalaya, Nagaland, Manipur, Mizoram and Tripura on 18<sup>th</sup> & 19<sup>th</sup> Nov., monitor potato, tomato and onion crops for early blight disease. If symptoms are noticed undertake plant protection measures.
    - **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, pea, linseed, lathyrus and planting of potato. Continue harvesting of matured *Sali* rice.
      - In Karimganj, Hailakandi and Cachar districts of Barak Valley Zone of Assam, continue nursery raising for winter vegetables and planting of potato. Undertake land preparation for transplanting of *Boro* rice.
      - In Karbi Anglong and NC Hills districts of Hill Zone of Assam, continue land preparation for sowing of lentil, rapeseed and mustard and land preparation and planting of potato. Undertake nursery raising of *Boro* Rice.
      - In Marigaon and Nagaon districts of Central Brahmaputra Valley Zone of Assam, undertake nursery be preparation of *boro* paddy. Complete the sowing of *rabi* pulses and continue sowing of rapeseed and mustard, nursery sowing of brinjal, cole crops, Complete the planting of potato tuber within Mid November and continue land preparation and sowing of wheat.
      - 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, knol khol and sowing of lentil, oats, rapeseed and mustard. Continue harvesting of matured *Sali* rice. Undertake nursery sowing of *boro* rice.
      - In North Bank Plain Zone of Assam, continue land preparation and sowing of rapeseed/mustard. Continue planting of potato. Undertake harvesting of matured *Sali* rice and sowing of rabi vegetables as cabbage, cauliflower and knol khol. Undertake nursery bed preparation for sowing of *boro* rice.
      - In Arunachal Pradesh, cover bunches of banana with bunch covers or sacks or locally available materials to protect from low night temperatures.
      - In Meghalaya, continue nursery sowing/transplanting of cauliflower/cabbage/broccoli, planting of potato and sowing of pea. Also continue harvesting of matured Upland rice, *Sali/kharif* rice and groundnut.
      - In Hill Zone of Assam, spray Rogor 0.05% against shoot borer in turmeric and ginger.
      - 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. 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.
      - In Arunachal Pradesh, undertake drenching with 0.05% Dichlorvos at base of citrus plant for rectification of trunk-borer. Spray Sulfex @ 2 g/litre water against powdery mildew on black gram & green gram at vegetative stage.
      - In Meghalaya, apply Bordeaux mixture (5:5:50) or Captan @ 1.5 g/l of water against leaf spot disease and also spray/ drench 1% Bordeaux mixture or Dithane M- 45 (2.5g/l) to prevent rhizome rot in ginger/turmeric.
        - **Nagaland, Manipur, Mizoram and Tripura:**
          - In Nagaland, toria and linseed should be sown as second crop utilizing the residual moisture in the field after the harvest of early to medium duration paddy varieties. Sow zero tillage lentil and pea after rice by opening small furrow between rice stubbles. Continue harvesting of TRC/WRC rice and transplanting of winter vegetables like cauliflower, cabbage, chilli, tomato, brinjal etc. Continue sowing of toria and *rabi* maize.
          - In Manipur, continue sowing of field pea, lentil and nursery raising and transplanting of cole crops/onion and planting of potato. Continue land preparation for sowing rapeseed/mustard and pea. Continue harvesting of *kharif* rice, soybean, groundnut and black gram.



- In Mizoram, continue harvesting of *khasi* mandarin/acid lime, oil palm, banana and colocasia. Undertake nursery bed preparation for sowing of tomato and onion.
  - In Tripura, complete land preparation and undertake planting of potato without any further delay to avoid some bacterial infection at growing stage. Undertake sowing of toria, sesame and lentil. Continue harvesting of rice. Continue 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.
  - 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.
  - 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.

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



*Maize*



*Mustard*



*Rice*



*Land preparation/Sowing*

- **Realised Rainfall:** Weather remained dry over the region.
- **Advisories:**
  - **Maharashtra:**
    - In Konkan, complete harvesting of *kharif* rice in south Konkan. Continue intercultural operations in vegetable fields and mango, cashew and sapota orchards. Continue sowing of short duration crops like cowpea, *wal* and *kulthi* utilizing residual moisture in the harvested rice field on '*vapsa*' condition. Prepare raised nursery beds for sowing of chilli, brinjal, cabbage, knol-khol and prepare field for sowing of *rabi* groundnut. Undertake sowing of mustard.
    - In Madhya Maharashtra, complete harvesting of matured rice. Undertake picking fully opened cotton bolls during morning hours in North Madhya Maharashtra. Do not apply irrigation during boll bursting. Undertake sowing of improved varieties of lentil and linseed in harvested rice field in Western Ghat Region. Raised beds should be prepared for seedlings of improved varieties for planting summer onion. Before sowing seeds should be treated with azospirillum and PSB @25 g each per kg of seed. Dust the *rabi* jowar with 1.5 % Quinalphos dust or 5% Malathion dust @20 kg/acre preferably in the morning when there is no wind for the control of army worms.
    - In Marathwada, undertake intercultural operation like weeding and hoeing for standing *rabi* crops. Continue picking fully opened cotton bolls. Do not apply irrigation during boll bursting. Undertake sowing of lucerne, oat, berseem fodder crops. Provide optimum irrigation to pomegranate orchards at flowering stage.
    - In Vidarbha, in view of prevailing minimum temperature appreciably to markedly below normal (3.1°C or less), farmers are advised to apply light irrigation in gram, vegetables and orchards in the evening/ night hours. Complete harvesting of already matured *kharif* rice. Continue picking fully opened cotton bolls. Do not apply irrigation during boll bursting. Undertake sowing of linseed.
    - Due to present weather condition, there may be attack of aphids in Safflower; spray Acetamiprid 20 SP @2 ml per 10 litres of water.
  - **Gujarat:**
    - Complete sowing of wheat, gram, cumin, fenugreek, lucerne, continue transplanting of cabbage, planting of potato, picking of matured cotton bolls in North Gujarat Zone. Under soil moisture stress condition apply irrigation in alternate row for development of new cotton bolls.
    - Continue sowing of wheat, cumin, transplanting of cabbage in North West Zone.
    - Continue sowing of wheat, maize and cumin in Middle Gujarat Zone.
    - Complete sowing of chickpea, wheat, mustard, garlic, cumin, onion, coriander, pea (vegetable purpose) and carrot; undertake thinning in mustard in Rajkot, Amreli, Jamnagar and Surendranagar districts of North Saurashtra Zone. Apply irrigation in pigeon pea (through drip system) and in lemon orchard at regular interval to prevent fruit cracking and for fast development of fruits.
    - In South Gujarat Heavy Rainfall Zone, continue sowing of *rabi* pulses (Indian bean, gram, green gram), sweet

corn, off season okra and planting of sugarcane. Undertake nursery preparation for seedlings of cabbage, cauliflower and broccoli.

- Continue sowing of wheat, gram, cumin, garlic and coriander, picking of matured cotton bolls during morning hours and picking of matured clusters of castor in South Saurashtra Zone.
- Complete sowing of wheat in November in South Gujarat Zone.
- Weather condition is favorable for outbreak of thrips in chili and tomato in North Gujarat Zone and North West Zone; to control, spray Methyl-o-Dematone 25 E.C. or Dimethoate 30 E.C. @ 10 ml/10 litres water. Also weather condition is favorable for outbreak of fruit fly in ber in North Gujarat Zone and North West Zone; to control, spray Canithione 50 E.C. @10 ml or Malathione 50 E.C. @ 20 ml + 10 litre of water.
- In Middle Gujarat Zone, present temperatures and low humidity favours infestation of jassid and white fly in castor; to control, spray Imidacloprid 17.8 % @ 5 ml or Thiomethoxam @ 6 g in 10 litres of water.
- Suitable varieties for sowing are given in Annexure III.

#### ❖ **Animal Husbandry**

- Provide adlib warm water to lactating animals, keep young calves indoors during night time to protect from cold, provide 6-8 kg good quality dry roughage with 15-20 kg green fodder to the animals in Gujarat State.

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



**Red gram**



**Okra**



**Maize**



**Rice**

- **Realised Rainfall:** Weather remained mainly dry/dry over the region.
- **Advisories:**
  - **Odisha:**
    - In East and South Eastern Coastal Plain Zone, undertake *pyra* cropping of green gram, black gram, lentil and mustard and planting of potato. Undertake sowing of irrigated mustard. Continue harvesting of medium duration varieties of rice.
    - In Kalahandi and Nuapara districts of Western Undulating Zone, cover the vegetable nurseries to protect from low temperatures. Irrigate the vegetable seedling nursery during evening hours. Continue sowing of groundnut and mustard and nursery sowing of onion. Irrigate the transplanted *kharif* rice fields to maintain saturation during PI to grain filling stage if the field becomes dry as dry weather is forecasted. Undertake harvesting of matured direct seeded rice. Keep watch on false smut disease during grain development stage. If noticed spray Carbendazim or Matalaxyl + Mancozeb 2g/litre of water.
    - In Mayurbhanj and Keonjhar districts, continue 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.
    - In Kalahandi and Nuapara districts of Western Undulating Zone, sucking pests like aphids, jassids infestation may occur in cotton crop at boll development to boll bursting stage. Spray Buprofezin 2ml/litre water for controlling sucking pests.
    - In East and South Eastern Coastal Plain Zone, medium duration arhar is at flowering stage and is found to be affected by pod borer. Spray 800 ml neem based pesticides or 250 LE NPV in 200 litre of water per acre for control.
  - **West Bengal:**
    - In Burdwan, Murshidabad, Nadia, North 24 Parganas districts of New Alluvial Zone, continue 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. Continue harvesting of early transplanted *Aman* rice. Continue sowing of winter vegetables.
    - In Purba Midnapore and South 24-parganas districts of Coastal Saline Zone, complete the sowing of mustard. After harvesting of short duration early sown wet seeded *Aman* rice, prepare upland fields for planting of potato. Complete the post harvesting operation of rice like threshing, sun drying etc. in clear weather.
    - In Laterite and Red Soil Zone, complete the field preparation for sowing of wheat crop as early as possible and undertake sowing. Undertake planting of potato. Apply fertilizer 17.4 kg Urea, 66 kg SSP and 13.5 kg MOP per bigha at the time of planting. Prepare seedbed for sowing of cabbage/cauliflower crops.

- In Malda & Dakshin Dinajpur districts, undertake land preparation for sowing of wheat, lentil & mustard after completing the harvesting of rice crop. Prepare seed bed for sowing of brinjal, before sowing of seed it may be treated with *Tricoderma viride*.
- In Terai Zone of West Bengal, undertake sowing of wheat. Treat the seeds before sowing with Captan @ 2 g/kg of seed. Seed rate 15kg/bigha and application of fertilizers per bigha at the time of sowing 17.5 kg-Urea, 50 kg-SSP, 13 kg-MOP, 2.5 KG-Sulphur, 3kg-Zinc Sulphate and 1.5 kg-Borax.
- 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. To prevent fungal leaf-spot disease in vegetables, apply 2.5 gm Mancozeb 80% or 'Chlorothalonil 75 WP' mixed with one litre of water.
- In Old Alluvial Zone, prevailing weather condition is favourable for attack of Sucking pest, fruit & shoot borer in chilli. To control sucking pests of chilli, spray with Acephate 50% + Imidachloropid 1.8% @ 2 gram/litre of water. To control fruit & shoot borer, spray Neem oil @ 2 ml/litre of water.
- **Andaman and Nicobar Islands:**
  - In North, Middle & South Andaman, clean weeds from the late sown rice fields to reduce the gundhi bug attack and use bonfires in the field to attract and kill the insect. Prepare raised nursery beds of 20 to 25 cm height with water channels for sowing of brinjal.
  - In Nicobar, prepare basins around the trunk of coconut tree and sow the seed of green manure crops like cow pea or daincha in the basins for incorporating into the soil.
- **Bihar:**
  - In Araria, Katihar, Kishanganj, Madhepura, Purnea, Saharsa and Supaul districts in North East Alluvial Zone, continue sowing of wheat, maize and mustard. After harvesting of rice crop, cultivation of sunflower and lentil in upland to medium land may be undertaken. Transplanting of mature seedlings of cauliflower, cabbage, broccoli may also be done in raised bed. Undertake harvesting of early matured sugarcane and prepare the field for sowing of autumn sugarcane. Undertake sowing of improved varieties of Berseem.
  - In Darbhanga, East Champaran, Gopalganj, Samastipur, West Champaran districts of North West Alluvial Plain Zone, continue sowing of gram, maize, lentil and potato and land preparation for sowing of wheat and nursery sowing of onion. Complete harvesting and threshing of rice crop.
  - In South Bihar Alluvial Zone, undertake land preparation for sowing of good quality seeds of wheat. Keeping in view of weather, farmers are advised for sowing of gram, lentil and sowing of oat and barseem for fodder purpose. 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, undertake harvesting of matured rice. In harvested fields, undertake land preparation and sowing of mustard, wheat, lentil, gram and cultivation of potato and green pea.
  - In Western Plateau Zone, after harvesting of rice, plough the fields immediately and undertake sowing of different *rabi* crops. Farmers having at least 4 irrigation facility may proceed for the cultivation of potato and wheat and those who have at least 2 - 3 irrigation facility, may cultivate gram, lentil, pea, linseed, barley etc. Seeds of pulse crops must be treated with *Rhizobium* culture before sowing.
  - 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 at flowering stage, for control, spray Monochrotophos @ 1 ml or Chlorpyrifos @ 1.5 ml per liter of water during evening time.
  - 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. Spray, Imidachlorpid @ 1g or Kung fu @ 2 ml per litre of water for control.
  - 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, farmers are advised to vaccinate their animal with PPR vaccine @ 1ml S/C.
  - In Old Alluvial Zone of West Bengal, keep animals in covered shed to protect from low temperature during night.



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



*Maize*



*Cabbage*



*Mustard*



*Land preparation/Sowing*

- **Realised Rainfall:** Weather remained dry over the region.
- **Advisories:**
  - **Madhya Pradesh:**
    - In Indore and Ujjain districts, continue sowing of wheat, pea and planting of potato. Undertake transplanting of winter vegetables and onion. Continue sowing of coriander.
    - In Gwalior, Bhind, Morena, Guna, Ashoknagar and Shivpuri districts, complete sowing of mustard. Continue sowing of pea, gram and wheat.
    - In Chhindwara and Betul districts, continue nursery preparation for tomato, chilli, brinjal, cabbage, cauliflower and sowing of garlic, coriander etc. Continue sowing of mustard, linseed, safflower, gram 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 and garlic. Complete sowing of lentil, wheat and gram by 25<sup>th</sup> November.
    - In Tikamgarh, Chhatarpur and Datia districts, continue seed bed preparation for sowing of onion. Continue sowing of chickpea, pea, potato and garlic. Continue sowing of wheat in irrigated areas. Apply irrigation in vegetables.
    - In Jhabua, Alirajpur and Dhar districts, continue transplanting of vegetables. Continue sowing of wheat, mustard, gram, pea, garlic, coriander and planting of potato. Continue picking up of matured bolls of cotton.
    - In Jabalpur, Rewa, Satna districts, continue sowing of mustard, gram, lentil and pea. Continue nursery preparation for cauliflower and cabbage. Continue field preparation and sowing of wheat. Continue harvesting of late maturing varieties of rice. Apply irrigation in vegetables.
    - In Kymore Plateau and Satpura Hill Zone, there is possibility of attack of leaf curl disease in chilli and tomato, spray Methyl dameton @ 2.0 ml or Imidacloprid @ 0.5 ml per litre of water.
  - **Chhattisgarh:**
    - In North Hill Zone, continue transplanting of winter vegetables like cauliflower, cabbage, chilli, tomato, brinjal etc. Continue sowing of chickpea, potato and garlic. Continue seed bed preparation for onion. Undertake sowing of wheat.
    - In Chhattisgarh Plain Zone, continue nursery sowing of cauliflower, cabbage, KnolKhol, tomato, brinjal, chillies and capsicum. Continue sowing of *rabi* pulses and oilseeds.
    - In Bastar Plateau Zone, continue harvesting of matured rice and sowing of pea. Continue sowing of oilseeds, pulses and wheat.
    - In Chhattisgarh Plain Zone, late maturing rice can be affected by cut worms, spray Malathion @ 100 ml dissolved in 500 litres of water per hectare.
    - 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. Protect cattle and poultry against low temperature.
    - In Madhya Pradesh, provide green fodder, fresh and clean water to cattle. Provide light during night time in poultry house.

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



*Mustard*



*Maize*



*Cauliflower*



*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 sowing of wheat, barley, gram. Continue thinning operation in mustard crop. Continue weeding and hoeing operation in vegetables. Continue nursery sowing of chilli, brinjal and tomato for rabi season.
    - In Arid Western Plain Zone, in Barmer, Churu, Jalore, Jodhpur, Pali districts, continue sowing of wheat. Apply light irrigation to cumin crop immediately after sowing and 2<sup>nd</sup> irrigation after 5 to 6 days of sowing. Undertake weeding and hoeing operation in mustard crops. In Jaisalmer and Bikaner districts, undertake sowing of wheat and barley. Continue sowing of cumin, isabgol and fenugreek. At the time of sowing treat the cumin and fenugreek seed by Carbendazim @ 2 g per kg seed.
    - In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, undertake sowing of wheat, barley. Undertake sowing of fenugreek and cumin.
    - In Alwar, Bharatpur, Dhauhpur, Karauli, Sawaimadhopur districts of Flood Prone Eastern Plain Zone, undertake land preparation for sowing of wheat and apply 2.5 to 5 t/ha FYM and 25 kg/ha Quinalphos 1.5% dust at last ploughing. Continue planting of potato. Continue weeding and thinning operations in mustard crop within 20-25 days after sowing. Undertake sowing of Lucerne.
    - In Dungarpur and Banswara districts of Southern Humid Plain Zone, continue sowing of gram. In gram, for control of wilt & root rot, treat soil with Trichoderma enriched FYM, treat seed with Trichoderma @ 8 g/kg seed or Carbendazin @ 2.5g/kg seed, for control of termite treat seed with Chlorpyriphos 20 EC @ 8 ml/ kg seed in gram.
    - In Arid Western Plain Zone and in Irrigated North Western Plain Zone, prevailing weather condition is congenial for attack of painted bug and saw fly in mustard crop, for control, broadcast Methyl Parathion 2% or Malathion 5% dust @ 24 kg/ha during morning or evening time and repeat after 15 days if required.
    - In Alwar, Bharatpur, Dhauhpur, Karauli, Sawaimadhopur districts of Flood Prone Eastern Plain Zone, prevailing weather condition is congenial for attack of leaf minor in mustard crop, for control spray Monochrotophos @ 1 litre per 600- 800 litres of water.
  - **Jammu & Kashmir:**
    - In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, continue sowing of wheat under rain fed/irrigated condition as per availability of moisture. Complete sowing of gram and continue sowing of mustard and pea. Continue land preparation for transplanting of onion and garlic crop.
    - In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, continue harvesting of basmati rice. Undertake sowing of late varieties of wheat and mustard in irrigated areas. Undertake transplanting of vegetables like cauliflower and cabbage.
    - In Valley Temperate Zone of Jammu and Kashmir, continue sowing of wheat, oats, peas where the field is ready. Continue sowing of methi, coriander and spinach. Undertake transplanting of onion in main field. Continue planting of garlic and pran.
    - In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, due to prevailing weather condition, there may be chances of attack of cut worm and cabbage butterfly in cole crops, for control cut worm apply Carbofuran 3 G @ 1 kg/kanal and for control cabbage butterfly apply Chlorpyriphos 20 EC @ 2 ml/litre of water.
  - **Uttarakhand:**
    - In Udhham Singh Nagar district of Bhabar and Tarai Zone, complete normal sowing of gram in the second fortnight of November in irrigated condition. Undertake sowing of wheat with average temperature around 22-23<sup>o</sup>C at the time of sowing of. Complete sowing of pea.
    - In Nainital district of Bhabar and Tarai Zone, continue sowing of early variety of wheat. Immediately after or within 3 days of sowing of wheat, spraying of 2.5-3.3 litre Pendimethalin 30 EC in 750 litre of water should be done. Continue sowing of the seeds of Agrifound Light Red onion variety in the irrigated valleys.
    - In Nainital district of Bhabar and Tarai Zone, to protect the pea crop from stem fly attack, Carbofuran 3 CG @ 25Kg/ha should be applied in the field with manure and seed at the time of sowing the seed.
    - In Tehri Garhwal, Chamoli, Champawat, Pithoragarh, Rudraprayag and Uttarkashi districts of Hill Zone, continue sowing of wheat, gram and lentil. Undertake transplanting of nursery of onion crop. Continue cultivation of mushroom crop. Continue sowing of carrot, spinach, methi, dhania and radish. Undertake planting of potato. Give light irrigation to all vegetable crops.
    - In Dehradun, Pauri and Haridwar districts of Sub Humid Sub Tropic Zone, complete harvesting of short and medium maturing varieties of paddy. Continue sowing of mustard, gram, lentil and chickpea. Weather condition is suitable for sowing of *rabi* maize and potato crop.
    - In Bhabar and Tarai Zone, for management of leaf spot disease in the brinjal, destroy the affected lower leaves and spray Mencozeb @ 2g/litre of water.
  - **Himachal Pradesh:**
    - In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, complete sowing of mustard, gram and lentil in lower region. Continue sowing of gobhisarson, early pea, wheat, barley and oat. Undertake sowing of sarsonsaag, bathua, radish, spinach, fenugreek, coriander, turnip. Apply mulch and well

rotten FYM on these crops. Continue planting of potato in lower and mid hill regions. Continue nursery sowing of cauliflower (late group), cabbage, knolkhol, broccoli and Chinese cabbage and direct sowing of radish, carrot, turnip, palak, methi, carrot, broccoli, lettuce in mid hill areas. Continue transplanting of mid season cauliflower in low hill areas. Undertake sowing berseem, lucerne and oats for fodder for *rabi* season.

- In Mid Hills Sub-Humid Zone of Himachal Pradesh, in Bilaspur, Solan, Shimla and Sirmaur districts, Continue sowing of pea in low and mid hill region. Continue nursery sowing of cole crops i.e. cabbage, cauliflower, broccoli, brussel's sprout, knoll-khol and Chinese cabbage.
- In Mild Hills Sub-Humid Zone of Himachal Pradesh, in Kullu and Mandi districts, apply Blitox or Copper Hydroxide @ 600 g per 200 litre of water after harvesting apple orchards and apply Blitox @ 600 g per 200 litres of water or Bourdeaux mixture (1%) after harvesting Pomegranate orchards.
- In Mild Hills Sub-Humid Zone of Himachal Pradesh, in Kullu and Mandi districts present weather is conducive for attack of woolly apple aphid in apple trees, for control, spray Ektara @ 200 g or Marshal @ 200 ml.
- 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 g in 20 litres of water at 20 days interval.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, present weather is conducive for the attack of termites in vegetables and crops, for control spray Chlorpyriphos 20 EC @ 4ml/litre of water.

#### ▪ **Punjab, Haryana and Delhi:**

- In Western Zone of Punjab, complete sowing of long duration variety of wheat by 4<sup>th</sup> week of November. Continue transplanting of 4-6 weeks old seedlings of cabbage, mid season cauliflower, chinese cabbage and broccoli. Continue sowing of English radish, turnip, carrot, tomato and chilli and seed bed preparation for onion. Apply light irrigation in onion after 10 days of sowing.
- In Faridkot and Ferozepur districts of Punjab, apply need based irrigation to the sugarcane crop. Intercropping of wheat, raya, toria, gobhisarson, pea, gram, potato, cabbage, radish, garlic *etc.* can be done with the sugarcane crop.
- In Gurdaspur and Hoshiarpur districts, continue sowing of wheat. Continue sowing of raya and gobhisarson under irrigated conditions. Complete sowing of pea and other winter vegetables. Continue transplanting of cauliflower and cabbage. Irrigate the vegetable crops at regular interval as per crop need as dry weather is expected in coming days.
- In Western Zone of Haryana, undertake field preparation and sowing of wheat under optimum soil moisture condition. In Eastern Zone of Haryana, continue sowing of wheat. Complete harvesting of matured rice crop. Apply irrigation in vegetables and sugarcane as per requirement. Continue harvesting of early varieties of sugarcane.
- In Western Semi-Arid Zone of Delhi, continue sowing of wheat. In view of dry weather forecast for the next five days, farmers are advised to dry the harvested paddy crop in the field for 2-3 days before threshing operation. Complete sowing of pea. Also complete planting of potato and continue sowing of *rabi* onion. Continue transplanting of mature seedlings of cauliflower, cabbage, broccoli and tomato. Continue sowing of Sarson saag, radish, spinach, fenugreek, coriander and turnip. Carry out thinning and weeding operation in timely sown mustard crop.

#### ▪ **Uttar Pradesh:**

- In Central Plain Zone of Uttar Pradesh, continue sowing of wheat, gram and pea. Continue nursery sowing of onion. Complete sowing of winter vegetable like spinach, fenugreek, coriander, carrot, radish, tomato, vegetable pea *etc.* Undertake hoeing and weeding operation in mustard crop and timely sown potato crop. Apply light irrigation to toria crop as per requirement. Undertake hoeing and weeding operation in brinjal, cauliflower, cabbage, tomato and capsicum.
- In Central Plain Zone of Uttar Pradesh, apply 1<sup>st</sup> irrigation in wheat crop after 20-25 days of sowing, at CRI stage and after 40-45 days at tillering stage. Apply regular irrigation in winter season sugarcane, helps sugarcane not to turn dry and gaining in Weight.
- In Eastern Plain Zone of Uttar Pradesh, continue harvesting of matured paddy. Continue sowing of wheat, jou, mustard. Undertake sowing of gram, pea and lentil.
- In Western Plain Zone of Uttar Pradesh, continue planting of winter sugarcane and potato, sowing of gram, pea, wheat *etc.* as intercrop. Continue planting of potato. Undertake sowing of wheat crop, before sowing, seeds should be treated with Bavistin or Thiram @ 2 to 2.5 g per kg of seed. Recommended dose of fertilizer for N: P: K is 120, 50 and 40 kg / ha. Continue 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 Bundelkhand Zone of Uttar Pradesh, Complete sowing of linseed, mustard, vegetable pea, gram, pea, jou and lentil in irrigated areas. Undertake sowing of linseed, mustard. Undertake transplanting of mid seasonal brinjal, chilli, tomato, cabbage, cauliflower. Apply irrigation to spinach, fenugreek, radish, cabbage, carrot, coriander as per requirement.
- In Central Plain Zone of East Uttar Pradesh, due to prevailing weather condition, there may be chances of attack



of cutworm in potato crop, for control, spray Chlorpyrifos 20 EC @ 2 litres in 700 to 800 litres of water per hectare.

- In Eastern Plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of pod fly in pigeon pea, for control spray Emidachloprid @ 1 ml per litre of water per hectare.
- Suitable varieties for sowing are given in Annexure III.

#### ❖ **Horticulture**

- In Western zone of Punjab, continue planting of fruit plants like mango, sweet orange, mandarin, lime, lemon, litchi, guava, loquat and papaya.
- In Gurdaspur and Hoshiarpur districts of Punjab irrigate young fruit plants and orchard trees at regular interval for proper growth and to avoid adverse effects of low temperature.
- In Central Plain Zone of East Uttar Pradesh, due to prevailing weather condition there may be chances of fruit fall in ber, for control spray Superfixhormones @ 1.00ml in 4-5 litres 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 Emidachloprid 17.8 SL @ 0.6 ml per litre of water add washing powder as sticker.
- In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, prevailing weather condition is congenial for attack of leaf curl & mosaic in Papaya, for control uproot & burn the affected plants and spray Dimethoate 30 EC @ 1 ml per litre of water or Methyl Demeton 25 EC @ 1 ml per litre of water.
- In Himachal Pradesh present weather is conducive for the attack of leaf minor in new growth of citrus, for control spray Matasystox or Malathion @ 10 ml in 10 litres of water.
- In Nainital district of Bhabar and Tarai Zone of Uttarakhand, in high hills, pruning of temperate fruit trees like apple, pear, peach, plum etc. should be started. Layout and digging of pits should be started for the transplanting of apple and other seed bearing fruit seedlings in winter season.

#### ❖ **Floriculture**

- In Himachal Pradesh, undertake transplanting of Chrysanthemum and Marigold in raised bed. Undertake sowing of gladiolus. In present weather conditions, undertake sowing of winter annuals. Undertake pruning and intercultural operations in rose, apply Bavistin paste in the cut portion to protect the crop against attack of fungal diseases.

#### ❖ **Apiculture**

- In Himachal Pradesh, give the winter packing immediately to bee colonies. Check the colonies for nectar and give artificial food to honey bees as there is scarcity of flowers during these days. And keep colonies in sun on clear day.
- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, give sugar feeding (1:1). Migrate colonies to areas having floral resources (near toria/vegetable crops). Provide winter packing to bee colonies to protect them from cold. Reduce the entrance. Sulphur dusting/oxalic acid spray @ 3.5% in one litre of water is recommended at fortnight intervals to control ectoparasitic mites.

#### ❖ **Animal Husbandry**

- In Arid Western Plain Zone of Rajasthan, in Jaisalmer and Bikaner districts, vaccinate the livestock against foot and mouth disease and adopt protection measures against mastitis.
- 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 Nainital district of Bhabar and Tarai Zone, with the changing weather, there is a high chance of Pneumonia in new born animals. So, it is advisable that animal shed should be protected from cold and hot food should be given to the animals.
- In Udham Singh Nagar district of Bhabar and Tarai Zone, Toxocara vitulorum (patera) are found in the food tube of buffalo calf in the age of 1-4month. More than 50% buffalo calf die because of delay in treatment. Piperazine should be given to the infected calf on identification of Patera disease. To save the buffalo calf from patera disease, 10-15CC Neem oil should be given to the calf immediately after 10 days of his birth. Again after 10 days, 10-15 CC Neem oil should be given. Chenopodium album oil can also be given as a fodder to animals to save the calf/animals from patera disease.
- In Rajouri, Ramban, Poonch and Udampur 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.

#### ❖ **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. Present weather is conducive for the spread of IBD and Ranikhet disease, follow recommended schedule of vaccination for new lot of layers chicks. As temperature is falling, make the arrangements for protection from cold in the poultry houses.
- In Faridkot and Ferozepur districts of Punjab, keep curtains ready for poultry sheds for winter season.

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

## Annexure I

### Week by week Rainfall Distribution

Sub-Divisions	02.11.16		09.11.16		16.11.16	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
<b>Arunachal Pradesh</b>						
Anjaw	**	**	**	**	**	**
Changlang	0.6	-94	19.7	-12	0.0	-100
Dibang Valley	7.0	-28	14.0	-30	0.0	-100
East Kameng	0.0	-100	0.0	-100	0.0	-100
East Siang	0.0	-100	0.2	-98	0.0	-100
Kurung Kumey	**	**	**	**	**	**
Lohit	0.0	-100	13.2	53	0.6	-92
Lower Dibang Valley	0.0	-100	23.6	18	0.0	-100
Lower Subansari	**	**	**	**	**	**
Papumpare	0.0	-100	1.2	-73	0.0	-100
Tawang	0.0	-100	60.0	545	0.0	-100
Tirap	0.0	-100	24.8	84	0.0	-100
Upper Siang	15.4	93	0.0	-100	0.0	-100
Upper Subansari	27.0	214	0.0	-100	0.0	-100
West Kameng	0.0	-100	0.0	-100	0.0	-100
West Siang	6.3	-16	0.6	-96	0.0	-100
<b>Assam&amp;Meghalaya</b>						
<b>Assam</b>						
Baksa	0.0	-100	0.0	-100	0.0	-100
Barpeta	0.0	-100	0.0	-100	0.0	-100
Bongaigaon	0.0	-100	0.0	-100	0.0	-100
Cachar	37.6	68	64.7	528	0.6	-92
Chirang	0.0	-100	0.0	-100	0.0	-100
Darrang	**	**	**	**	**	**
Dhemaji	0.0	-100	3.0	-52	0.0	-100
Dhubri	0.0	-100	0.0	-100	0.0	-100
Dibrugarh	0.0	-100	14.8	143	0.0	-100
Goalpara	0.0	-100	0.0	-100	0.1	-99
Golaghat	0.9	-95	34.8	462	0.0	-100
Hailakandi	36.6	120	98.0	870	0.0	-100
Jorhat	0.0	-100	15.8	113	0.1	-99
Kamrup(Rural)	0.0	-100	0.0	-100	0.0	-100
Kamrup(Metro)	3.2	-67	0.2	-96	0.0	-100
Karbi Anglong	15.0	205	85.0	1317	0.0	-100
Karimganj	12.8	-56	241.8	306	0.0	-100
Kokrajhar	0.0	-100	0.0	-100	0.0	-100
Lakhimpur	0.0	-100	3.1	-50	0.0	-100
Morigaon	20.8	160	2.8	-52	0.0	-100
N.C.Hills	6.4	-94	180.7	921	0.0	-100
Nagaon	2.5	-73	62.8	657	0.0	-100
Nalbari	0.0	-100	0.0	-100	0.0	-100

Sonitpur	0.0	-100	0.1	-98	0.0	-100
Sibsagar	0.0	-100	19.7	319	0.0	-100
Tinsukia	0.0	-100	17.2	97	0.0	-100
Udalgiri	0.0	-100	2.4	-50	0.5	-83
<b>Meghalaya</b>						
East Garo Hills	77.7	994	0.0	-100	0.0	-100
East Khasi Hills	33.9	31	23.9	91	0.0	-100
Jaintia Hills	0.0	-100	0.0	-100	0.0	-100
Ribhoi	4.6	-74	5.1	1	0.0	-100
South Garo Hills	31.0	356	1.0	-86	0.0	-100
West Garo Hills	0.0	-100	0.0	-100	0.0	-100
West Khasi Hills	23.0	35	6.0	-10	0.0	-100
<b>NMMT</b>						
<b>Mizoram</b>						
Aizwal	42.2	10	88.7	235	0.0	-100
Champhai	**	**	**	**	**	**
Kolasib	**	**	**	**	**	**
Lawngtlai	**	**	**	**	**	**
Lunglei	5.0	-82	32.5	57	1.5	-92
Mamit	**	**	**	**	**	**
Saiha	36.0	24	36.0	29	1.0	-95
Serchhip	**	**	91.7	341	0.0	-100
<b>Manipur</b>						
Bishnupur	**	**	**	**	**	**
Chandel	19.0	-49	47.0	238	0.0	-100
Churachandpur	**	**	**	**	**	**
Imphal east	48.4	85	57.4	278	1.1	-86
Imphal west	53.0	121	24.4	64	28.5	296
Senapati	**	**	**	**	**	**
Tamenglong	**	**	**	**	**	**
Thoubal	9.0	-59	66.0	424	0.0	-100
Ukhrul	**	**	**	**	**	**
<b>Nagaland</b>						
Dimapur	6.5	-59	65.1	135	0.0	-100
Kephire	23.0	128	48.0	340	1.0	-86
Kohima	20.5	-2	66.2	456	0.0	-100
Longleng	**	**	**	**	**	**
Mokokchung	9.0	-61	20.0	35	0.0	-100
Mon	**	**	**	**	**	**
Paran	**	**	**	**	**	**
Phek	26.0	24	63.0	429	1.0	-83
Tuensang	**	**	**	**	**	**
Wokha	11.0	-29	128.0	324	0.0	-100
Zunheboto	**	**	**	**	**	**
<b>Tripura</b>						
Dhalai	0.0	-100	115.8	764	0.0	-100
NorthTripura	17.6	-27	153.9	913	0.0	-100
SouthTripura	28.4	24	188.2	1054	0.0	-100
West Tripura	6.0	-74	195.8	1454	0.0	-100



<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	0.0	-100	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	3.0	114
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 Sahib	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	0.1	-93
Hoshiarpur	0.0	-100	0.0	-100	0.7	-70
Jalandhar	0.0	-100	0.0	-100	0.5	-50
Kapurthala	0.0	-100	0.0	-100	1.3	79
Ludhiana	0.0	-100	0.0	-100	2.2	345
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	0.1	-96
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	0.0	-100	0.0	-100	0.0	-100
Bandipore	**	**	**	**	**	**
Baramula	0.0	-100	0.0	-100	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	0.0	-100	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	0.0	-100	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	0.1	-99	0.0	-100	0.0	-100
Bemetara	0.0	-100	0.0	-100	0.0	-100
Bijapur	2.0	-63	0.0	-100	0.0	-100
Bilaspur	0.0	-100	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	2.0	-69	0.0	-100	0.0	-100
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	**	**
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	2.0	-56	0.0	-100	0.0	-100
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	0.2	-96	0.0	-100	0.0	-100
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	0.0	-100	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	**	**	**	**
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	**	**	**	**
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	0.4	-6
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	**	**
Dahod	0.0	-100	0.0	-100	0.0	-100
Daman	0.0	-100	0.0	-100	**	**
Dangs	0.0	-100	0.5	-81	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	1.3	-92	0.0	-100	6.6	-50
Raigad	0.0	-100	0.0	-100	0.0	-100
Ratnagiri	0.0	-100	0.0	-100	0.0	-100
Sindhudurg	0.8	-94	0.0	-100	4.1	-61
South Goa	1.4	-92	0.0	-100	9.8	-21
Thane	0.0	-100	**	**	**	**
<b>Madhya Maharashtra</b>						
Ahmednagar	0.0	-100	0.0	-100	0.0	-100
Dhule	0.0	-100	0.0	-100	**	**
Jalgaon	0.0	-100	0.0	-100	0.0	-100
Kolhapur	0.0	-100	0.0	-100	4.8	-38
Nandurbar	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	0.0	-100	0.0	-100	2.9	-57
Satara	0.0	-100	0.0	-100	0.0	-100
Solapur	2.3	-73	0.0	-100	3.1	-47
<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	**	**
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	5.2	-45	4.9	-33	0.0	-100
Balasore	66.8	112	56.9	199	0.0	-100
Bargarh	0.0	-100	0.2	-93	0.0	-100
Bhadrak	30.3	0	56.8	176	0.0	-100
Bolangir	0.0	-100	0.0	-100	0.0	-100
Boudh	0.0	-100	0.0	-100	0.0	-100
Cuttack	10.9	-28	20.5	-13	0.0	-100
Deogarh	0.0	-100	0.0	-100	0.0	-100
Dhenkanal	8.5	-47	11.4	-37	0.0	-100
Gajapati	2.2	-63	18.1	-56	0.0	-100
Ganjam	1.4	-95	17.1	-57	0.0	-100
Jagatsingpur	5.8	-82	83.1	123	0.0	-100
Jajpur	16.3	1	34.5	56	0.0	-100
Jharsuguda	0.0	-100	0.0	-100	0.0	-100
Kalahandi	0.0	-100	0.0	-100	0.0	-100
Kandhamal	0.0	-100	1.9	-91	0.0	-100
Kendrapara	12.6	-22	84.7	84	0.0	-100
Keonjhar	12.1	0	3.3	-71	0.0	-100
Khurda	3.7	-82	11.5	-60	0.0	-100
Koraput	0.0	-100	0.8	-94	0.0	-100
Malkangiri	91.4	631	1.0	-57	0.0	-100
Mayurbhanj	23.6	33	8.9	19	0.0	-100
Nawapara	0.0	-100	0.0	-100	0.0	-100
Nawarangpur	0.0	-100	0.1	-98	0.0	-100
Nayagarh	3.6	-74	2.5	-93	0.0	-100
Puri	0.7	-98	63.2	106	0.0	-100
Rayagada	4.6	-37	0.2	-99	0.0	-100
Sambalpur	0.9	-86	0.0	-100	0.0	-100
Sonepur	0.0	-100	0.0	-100	0.0	-100
Sundargarh	0.2	-95	0.1	-98	0.0	-100
<b>West Bengal &amp; Andaman Nicobar Islands</b>						
<b>A &amp; N ISLAND</b>						
Nicobar	18.4	-72	71.8	-11	9.6	-86
North & Middle Andaman	110.2	103	91.2	47	0.2	-99
South Andaman	95.0	51	63.3	-8	0.5	-99
<b>GWB</b>						
Bankura	5.1	-54	0.0	-100	0.0	-100
Birbhum	0.5	-96	0.0	-100	0.0	-100
Burdwan	2.8	-72	0.0	-100	0.0	-100
East Midnapore	38.5	21	67.9	630	0.0	-100
Hooghly	20.4	112	12.4	226	0.0	-100
Howrah	38.4	215	37.2	155	0.0	-100
Kolkata	28.9	57	64.3	684	0.0	-100
Murshidabad	2.9	-78	0.0	-100	0.0	-100
Nadia	13.7	0	17.3	541	0.0	-100
24 Pargana (N)	43.0	110	29.5	220	0.0	-100



Purulia	0.7	-92	0.0	-100	0.0	-100
24 Pargana (S)	11.5	-70	37.9	44	0.0	-100
West Midnapore	24.9	108	3.8	-44	0.0	-100
<b>SHWB &amp; Sikkim</b>						
Cooch Behar	0.0	-100	0.0	-100	0.0	-100
Darjeeling	0.0	-100	0.0	-100	0.0	-100
East Sikkim	0.0	-100	0.0	-100	0.0	-100
Jalpaiguri	0.0	-100	0.0	-100	0.0	-100
Malda	0.0	-100	0.0	-100	0.0	-100
North Dinajpur	0.0	-100	**	**	**	**
North Sikkim	0.0	-100	0.0	-100	0.0	-100
South Dinajpur	0.0	-100	0.0	-100	0.0	-100
South Sikkim	0.0	-100	0.0	-100	0.0	-100
West Sikkim	**	**	**	**	**	**
<b>Karnataka</b>						
<b>Coastal Karnataka</b>						
Dakshina Kannada	20.2	-51	0.0	-100	14.1	-22
Udupi	8.4	-78	0.0	-100	6.5	-59
Uttara Kannada	2.1	-90	0.1	-99	9.2	-7
<b>NI Karnataka</b>						
Bagalkote	0.3	-98	0.0	-100	0.0	-100
Belagavi	0.3	-98	0.0	-100	9.9	48
Bidar	0.0	-100	0.0	-100	0.0	-100
Dharwad	0.2	-99	0.0	-100	5.3	-30
Gadag	0.0	-100	0.0	-100	0.0	-100
Haveri	0.0	-100	0.0	-100	16.6	65
Kalaburgi	3.4	-73	0.0	-100	0.0*	-99
Koppal	0.0	-100	0.0	-100	0.0	-100
Raichur	0.0	-100	0.0	-100	0.0	-100
Vijayapura	1.9	-87	0.0	-100	0.0	-100
Yadgir	1.3	-94	0.0	-100	2.3	-37
<b>SI Karnataka</b>						
Ballari	3.0	-84	0.0	-100	0.0	-100
Bangalore Rural	10.3	-60	0.0	-100	0.0	-100
Bangalore Urban	2.9	-88	0.0	-100	0.0	-100
Chamarajanagar	3.9	-87	1.3	-94	0.0	-100
Chikaballapur	5.5	-80	1.8	-90	0.0	-100
Chikkamagaluru	4.2	-85	0.0	-100	11.2	-16
Chitradurga	0.2	-99	0.0	-100	0.1	-98
Davangere	0.0	-100	0.0	-100	0.0	-100
Hassan	16.5	-42	0.0	-100	2.8	-76
Kodagu	21.8	-33	1.0	-96	4.9	-66
Kolar	6.0	-78	0.0	-100	0.0	-100
Mandya	5.9	-78	0.0	-100	0.0	-100
Mysuru	17.9	-24	0.0	-100	0.0	-100
Ramanagara	7.6	-73	0.0	-100	0.0	-100
Shivamogga	0.2	-99	1.2	-92	34.3	265
Tumakuru	1.8	-93	0.0	-100	1.2	-88
<b>Kerala</b>						

Alappuzha	42.6	-43	18.7	-69	21.8	-52
Kannur	16.0	-68	8.2	-72	0.0	-100
Ernakulam	84.2	36	37.8	-21	27.8	-29
Idukki	37.7	-41	9.5	-84	6.6	-85
Kasaragod	22.1	-50	0.0	-100	0.0	-100
Kollam	123.9	44	99.3	32	16.3	-73
Kottayam	55.6	-19	52.6	-17	13.5	-68
Kozhikode	13.5	-78	7.0	-85	0.1	-99
Malappuram	24.8	-60	6.7	-84	1.2	-96
Palakkad	38.9	-37	21.6	-58	0.1	-99
Pathanamthitta	86.7	10	108.3	61	42.5	-32
Thiruvananthapuram	14.6	-77	23.2	-64	3.0	-94
Thrissur	46.7	-29	2.5	-94	3.2	-91
Wyand	23.5	-36	0.0	-100	0.0	-100
<b>Tamil Nadu</b>						
Ariyalur	53.0	30	16.4	-75	2.0	-96
Chennai	32.2	-60	37.6	-63	14.9	-86
Coimbatore	43.5	6	11.6	-77	1.3	-96
Cuddalore	31.2	-44	8.4	-91	8.5	-88
Dharmapuri	1.2	-96	3.4	-90	0.0	-100
Dindigul	44.8	2	23.2	-59	5.7	-84
Erode	5.6	-84	12.5	-71	0.2	-99
Kanchipuram	7.0	-89	7.7	-91	8.1	-88
Kanyakumari	36.2	-37	35.6	-51	19.3	-64
Karaikal	36.0	-63	79.4	-54	35.0	-70
Karur	14.9	-49	4.9	-89	0.5	-98
Krishnagiri	7.4	-76	1.1	-95	0.0	-100
Madurai	37.2	-25	9.0	-84	0.3	-99
Nagapattinam	32.1	-56	51.5	-57	17.1	-83
Namakkal	2.0	-93	3.3	-91	2.3	-89
Nilgiris	14.4	-72	12.6	-80	69.3	50
Perambalur	50.3	29	22.8	-53	0.5	-98
Puducherry	11.1	-85	2.9	-98	4.6	-94
Pudukottai	39.8	15	9.5	-77	3.6	-89
Ramanathapuram	27.0	-53	30.0	-52	6.9	-82
Salem	5.9	-83	0.6	-99	2.0	-93
Sivaganga	32.4	-27	5.5	-90	5.6	-80
Thanjavur	29.5	-36	17.1	-77	17.2	-60
Theni	14.7	-69	17.0	-67	3.2	-90
Tirunelveli	32.9	-37	31.7	-54	31.3	-39
Tirupur	51.0	54	27.2	-40	0.0	-100
Tiruvallur	14.1	-78	14.1	-81	2.0	-97
Tiruvannamalai	0.5	-99	4.4	-91	1.3	-97
Tiruvarur	39.0	-23	28.6	-68	29.0	-56
Toothukudi	31.6	-33	23.2	-61	38.8	-5
Trichy	25.3	-26	1.3	-97	1.1	-97
Vellore	5.6	-83	3.1	-91	0.5	-99
Villupuram	3.1	-92	7.0	-88	2.5	-94

Virudhunagar	1.6	-97	27.3	-54	6.6	-83
<b>Andhra Pradesh</b>						
<b>Coastal Andhra Pradesh</b>						
East Godavari	6.4	-77	9.8	-57	0.3	-97
Guntur	1.2	-96	0.5	-98	0.0	-100
Krishna	6.3	-76	1.3	-95	1.6	-82
Nellore	29.9	-64	6.1	-93	8.5	-89
Prakasam	10.2	-79	0.0	-100	3.1	-86
Sirkakulam	8.6	-74	36.9	17	0.0	-100
Visakhapatnam	22.1	-2	2.5	-86	0.1	-99
Vizianagram	10.6	-43	2.0	-89	0.0	-100
West Godavari	11.1	-60	0.3	-99	1.5	-87
<b>Rayalaseema</b>						
Anantapur	1.6	-91	0.1	-99	0.7	-92
Chittoor	5.8	-86	4.5	-88	2.0	-95
Cuddapah	1.1	-96	1.1	-96	0.1	-99
Kurnool	2.0	-87	0.0	-100	0.2	-97
<b>Telangana</b>						
Adilabad	0.0	-100	0.0	-100	0.0	-100
Hyderabad	4.7	-59	0.0	-100	0.0	-100
Karimnagar	0.5	-95	0.0	-100	0.0	-100
Khammam	3.0	-73	0.0	-100	0.3	-83
Mehabubnagar	0.0	-100	0.0	-100	2.3	-25
Medak	0.0	-100	0.0	-100	0.0	-100
Nalgonda	4.7	-66	0.0	-100	0.0	-100
Nizamabad	0.0	-100	0.0	-100	0.0	-100
Rangareddy	2.4	-78	0.0	-100	0.0	-100
Warangal	13.6	18	0.0	-100	0.0	-100

Legends

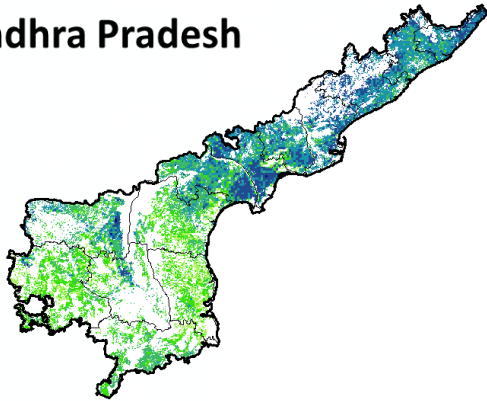
	(20% or more) excess rainfall		(-60 to -99 %) scanty rainfall
	(-19 to +19%) normal rainfall		(-100%) no rainfall
	(-20 to -59%) deficient rainfall	**	Data not available



Annexure II

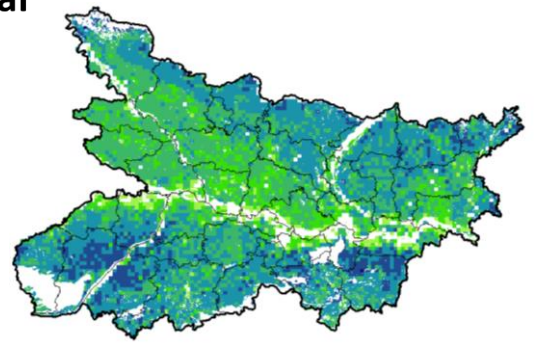
NOAA/AVHRR NDVI COMPOSITE MAPS FOR THE WEEK ENDING ON  
17<sup>th</sup> November 2016 FOR DIFFERENT STATES

**Andhra Pradesh**



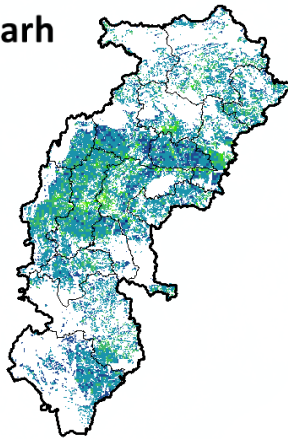
Agriculture vigour is moderate over central and southern part whereas, northern parts show good to very good NDVI in the state of Andhra Pradesh.

**Bihar**



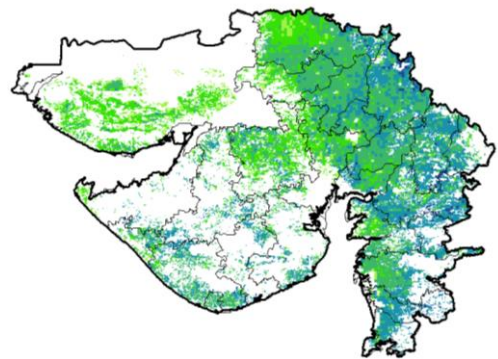
Agriculture vigour is moderate over central parts of Bihar whereas southern and patches in northern part shows good to very good NDVI values.

**Chhattisgarh**



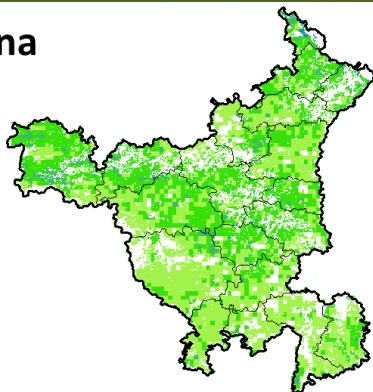
Agriculture vigour is good in southern region whereas, very good vigour is seen in central and northern region of Chhattisgarh.

**Gujarat**



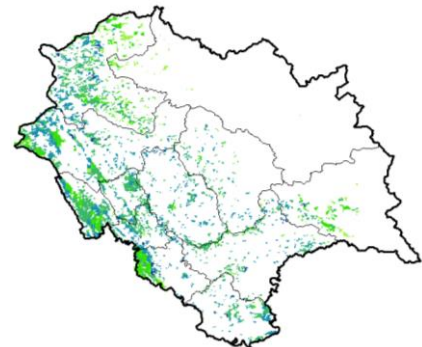
Moderate NDVI values are observed in patches in Kutch region whereas, good to very good NDVI is observed in Saurashtra and Gujarat.

**Haryana**



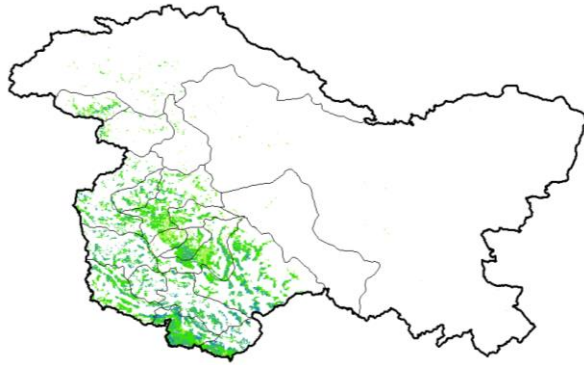
Moderate agriculture vigour is observed over entire state of Haryana.

**Himachal Pradesh**



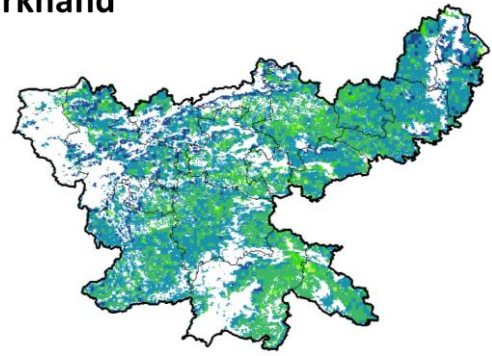
Agriculture vigour is moderate to good over few patches of Himachal Pradesh.

### Jammu & Kashmir



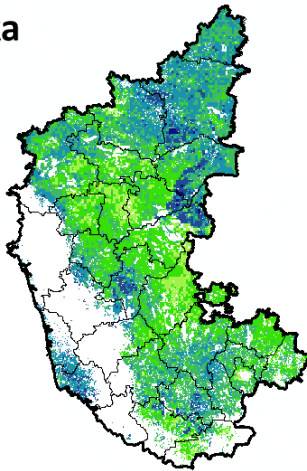
Agriculture vigour is moderate over entire state of Jammu & Kashmir.

### Jharkhand



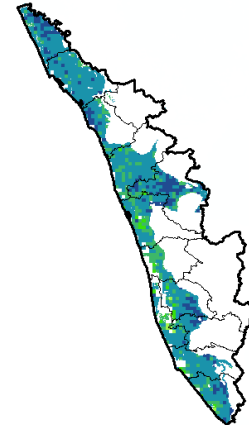
Agriculture vigour is very good over few patches in central region of Jharkhand whereas, remaining states shows good NDVI values.

### Karnataka



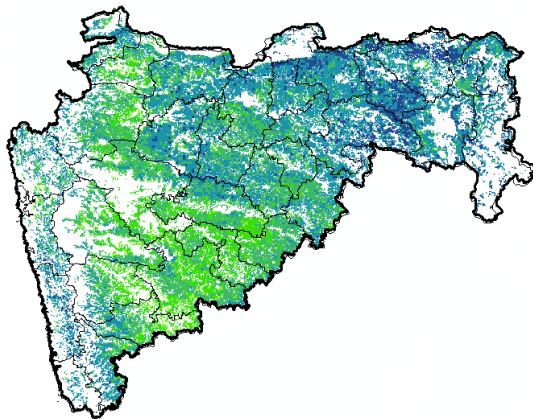
Agriculture vigour is moderate over patches in central region of the state whereas good vigour is observed in the northern and patches in southern regions.

### Kerala



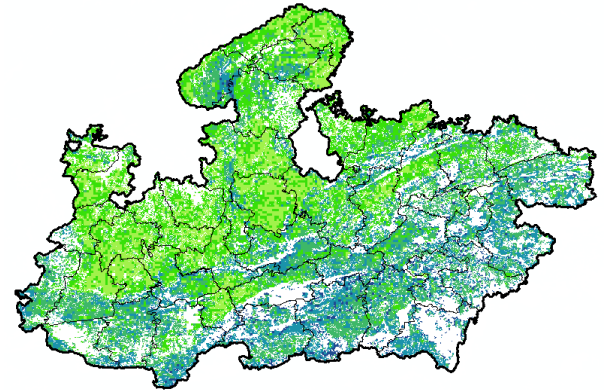
Agriculture vigour is good over entire state of Kerala except central part which shows moderate NDVI values.

### Maharashtra



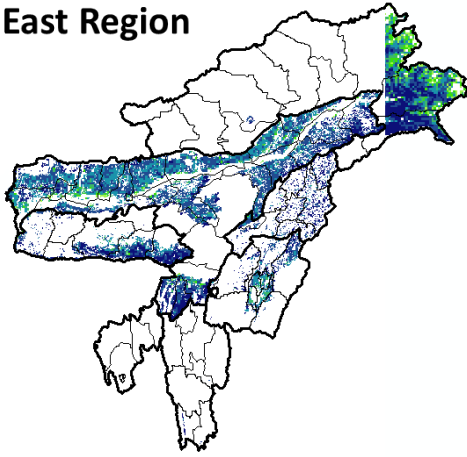
Agricultural vigour is moderate over central Maharashtra whereas, good to very good vigour is observed in the north and eastern regions.

### Madhya Pradesh



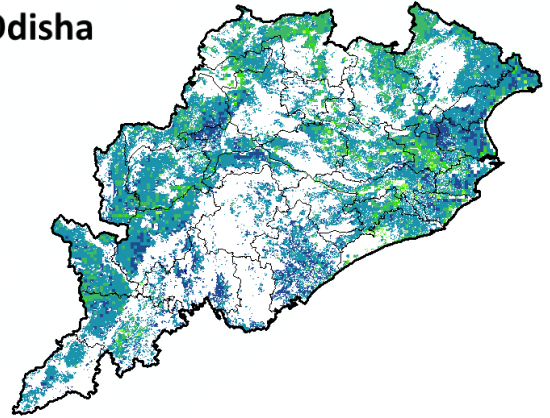
Agriculture vigour is moderate over patches in eastern and northern region of the state of Madhya Pradesh whereas, good & very good vigour is observed over central, western and southern region.

### North East Region



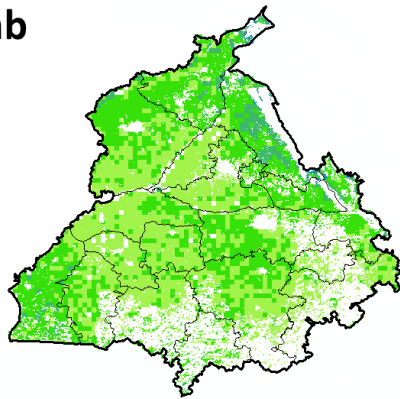
Agriculture vigour is good & very good over north-east states of country.

### Odisha



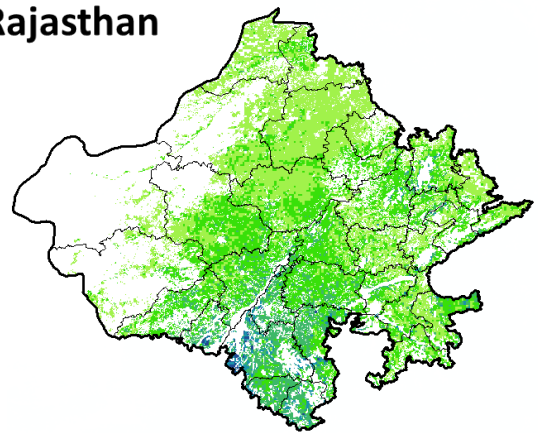
Agricultural vigour is moderate over few patches in coastal region of Odisha whereas, good to very good vigour is observed in entire state.

### Punjab



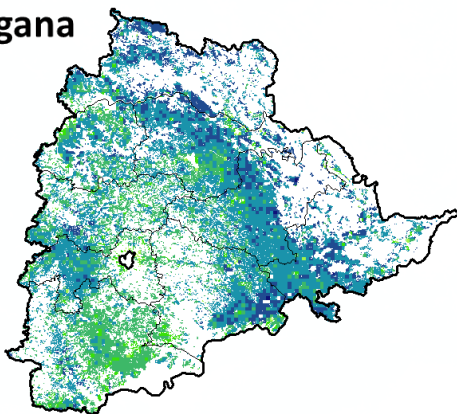
Agricultural vigour is moderate over entire state of Punjab.

### Rajasthan



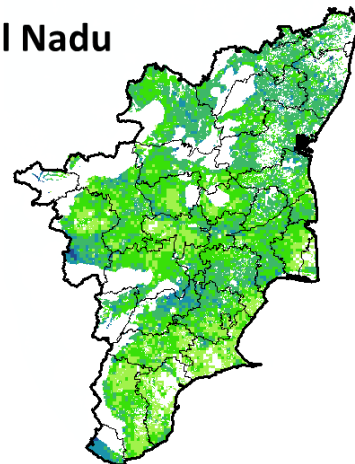
Agriculture vigour is moderate over western and northern Rajasthan whereas, good vigour is observed over southern region.

### Telangana



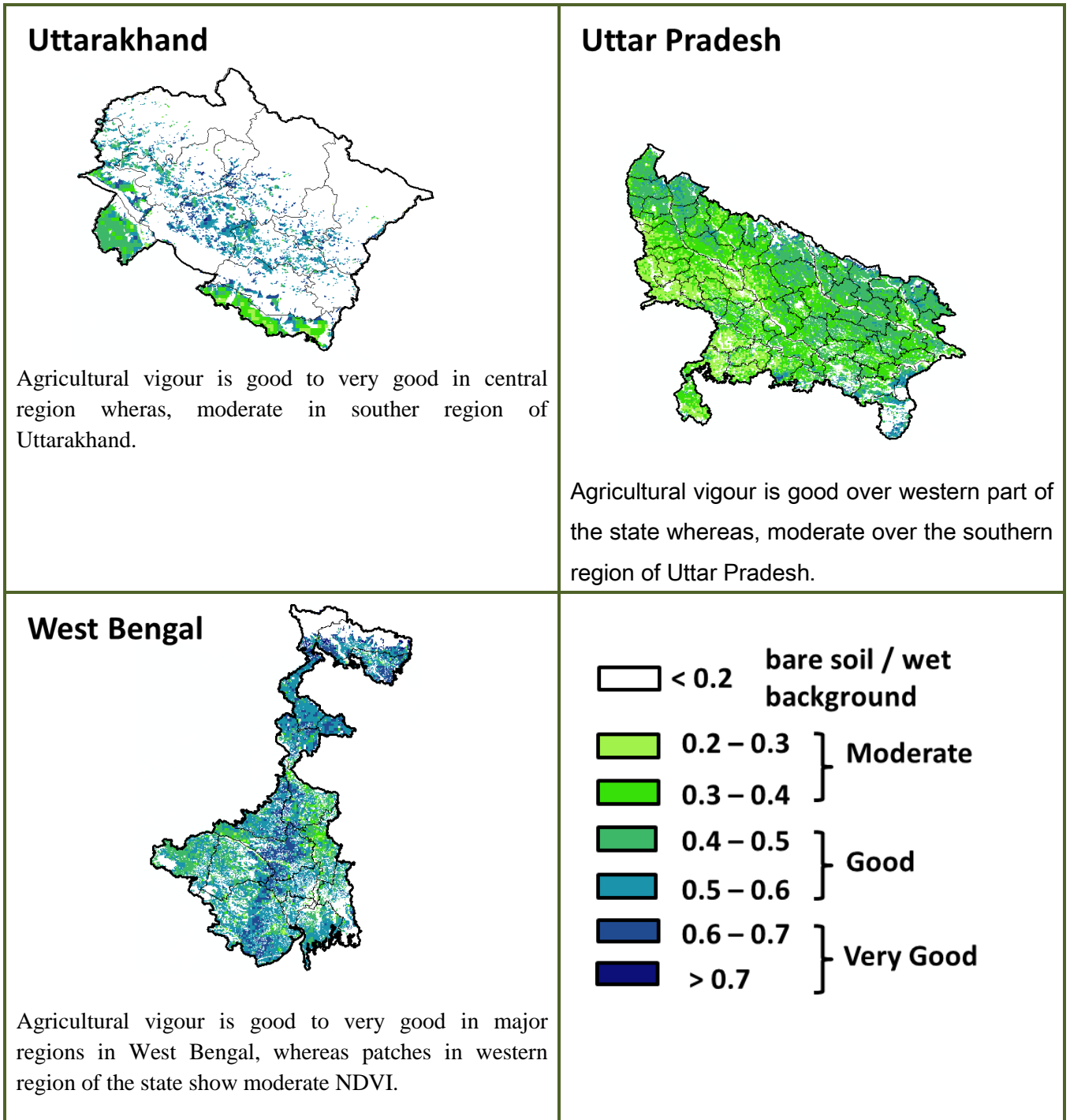
Agriculture vigour is good to very good over entire state of Telangana whereas, moderate vigour is observed in patches in the southern region.

### Tamil Nadu



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





\* 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** : Kanak, 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, ICCS-2, HK94-134(Kabuli) and Pusa 256, Pusa 372, Pant G-114, KWR 108, ICCS 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

**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

**Onion**: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 Himgiri

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

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

**Moong:** Type-27, 56

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

**Potato:** Kufarichandramukhi, Kufarisadabaha, 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, Aparna Malviya Matar-2, Malviya Matar-15, Shikha and Sapna are good varieties.

**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 Chatmatkar; 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:

**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-Mahi Dhawal, PEHM- 2, Pratap Hybrid Maize-1, Pratap Makka-3, Pratap Makka-5, Bio-9637, Bio-9681, Pratap HQPM-1, Pratap Hybrid Maize-3, Pratap Makka-9

Ageti-76, Bassi Selected, Mahi Kanchan

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

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

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

**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

**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, Bikanerinarma, R.S.875, MaruVikas( Raj. H.H.16)

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

**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.

**Wheat:** Lok-1, W.H. 147, Kanchan & Raj, C 308,Sujata, H.W. 2004, Ratan, H.I.-8627 & H.I. 1531.

**Linseed:** R.L.C. 92 (Indira Alsi), Dipika (R.L.C.-78), Indira Alsi (R.L.C.-81), Kartika (R.L.C.-76), Jawahar 552\* (R.L.C.- 552), Kiran (R.L.C.-6)\*.

**Safflower:** J.S.F.-1, J.S.I-7, J.S.H.-129.

**Sugarcane:** CO 86032, CO 419, CO 1305, CO J 86-141, CO 6304, CO 8338, CO 6217, CO 775, CO J 2087.

### 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.

**Linseed:** PKV NL-260, NL-97, NL-142 and NL-165.

### Gujarat

**Wheat:** Lok-1, GW-496, GW -503, GW -273, GW -322.

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

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

**Maize:** Ganga safed -2, GM -6.

**Cumin:** Gujarat cumin-1, GC-2, GC 3 or MC-43.

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

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

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

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

**Pea:** Pusa Pragati.

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

**Fenugreek:** Gujarat Fenugreek -1.

### 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.