



National Agromet Advisory Service Bulletin



Friday 10th February 2017

(For the period 10th to 14th February 2017)



Issued by

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

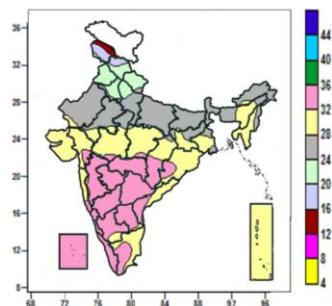
Weblink For

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

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

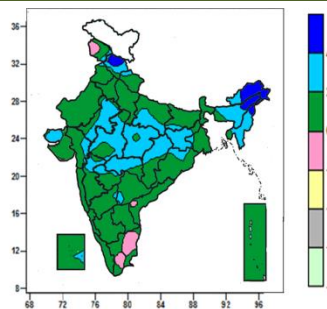
Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 08.02.2017

Actual Mean Maximum Temperature (°C) in India for the week ending 08.02.2017



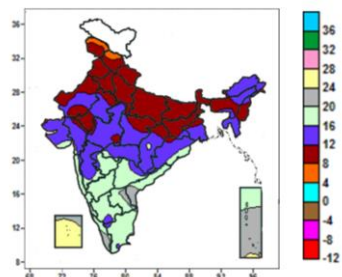
- Mean maximum temperature was between 32 to 36°C over Marathwada, Goa, North Interior Karnataka, Coastal Karnataka, Vidarbha, Telangana, Lakshadweep, many parts of Madhya Maharashtra, South Interior Karnataka, Rayalaseema, Kerala, some parts of Gujarat Region, Chhattisgarh, Odisha, Coastal Andhra Pradesh, Tamil Nadu and isolated pockets of Madhya Pradesh and Konkan.
- Mean maximum temperature was between 24 to 32°C over rest of the Country except Uttarakhand, Punjab, many parts of Jammu & Kashmir, Himachal Pradesh, Haryana & Delhi, some parts of West Uttar Pradesh, where it was between 16 to 24°C and some parts of Jammu & Kashmir and isolated pocket of Himachal Pradesh, where it was between 12 to 16°C.

Mean Maximum Temperature (°C) Anomaly in India for the week ending 08.02.2017



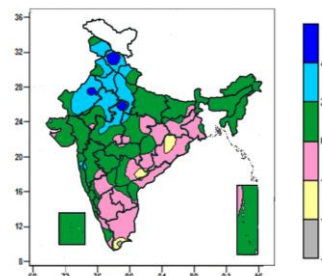
- Mean maximum temperature was above normal by 4 to 6°C over many parts of Arunachal Pradesh, Nagaland and some parts of Himachal Pradesh and Assam.
- Mean maximum temperature was above normal by 2 to 4°C over Manipur, Mizoram, many parts of, Assam & Meghalaya, East Rajasthan, Madhya Pradesh, Jharkhand, Vidarbha, some parts of Arunachal Pradesh, Tripura, Himachal Pradesh, Saurashtra & Kutch, East Uttar Pradesh, Gujarat Region, Madhya Maharashtra, Marathwada, Chhattisgarh, Odisha and isolated pockets of Jammu & Kashmir, Uttarakhand, Punjab, Bihar, North Interior Karnataka, Telangana and Lakshadweep.
- It was normal to near normal over rest of the country.

Actual Mean Minimum Temperature (°C) in India for the week ending 08.02.2017



- Mean minimum temperature was between 0 to 4°C over isolated pocket of Jammu & Kashmir.
- Mean minimum temperature was between 4 to 8°C over some parts of Jammu & Kashmir, Himachal Pradesh.
- Mean minimum temperature was between 8 to 12°C over Uttarakhand, Punjab, Haryana & Delhi, Uttar Pradesh, Bihar, Sub-Himalayan West Bengal & Sikkim Manipur, many parts of Jammu & Kashmir, Himachal Pradesh, West Rajasthan, Jharkhand, Assam & Meghalaya, some parts of East Rajasthan, East Madhya Pradesh, Chhattisgarh, Gangetic West Bengal, Nagaland and isolated pockets of Arunachal Pradesh, Mizoram, Gujrat Region and West Madhya Pradesh.
- Mean minimum temperature was between 12 to 20°C over rest of the Country except Lakshadweep, many parts of Andaman & Nicobar Islands, some parts of Coastal Andhra Pradesh, Rayalaseema, Kerala and isolated pocket of Tamil Nadu, where it was between 20 to 28°C.

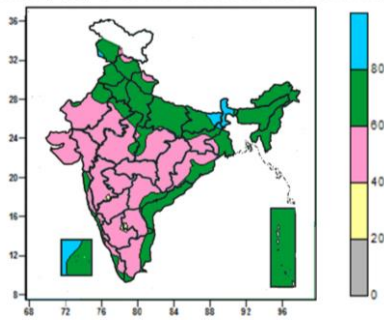
Mean Minimum Temperature (°C) Anomaly in India for the week ending 08.02.2017



- Mean minimum temperature was above normal by 4 to 6°C over some parts of Himachal Pradesh and isolated pocket of West Rajasthan and West Madhya Pradesh.
- Mean minimum temperature was above normal by 2 to 4°C over Haryana & Delhi, many parts of Jammu & Kashmir, Himachal Pradesh, Punjab, West Uttar Pradesh, Rajasthan, some parts of Uttarakhand, West Madhya Pradesh and isolated pockets of East Uttar Pradesh, Saurashtra & Kutch, East Madhya Pradesh, Konkan and Madhya Maharashtra.
- Mean minimum temperature was normal to near normal over rest of the country except some parts of Odisha, Telangana and isolated pockets of Chhattisgarh, Coastal Andhra Pradesh and Tamil Nadu where it was below normal by 2 to 4°C.

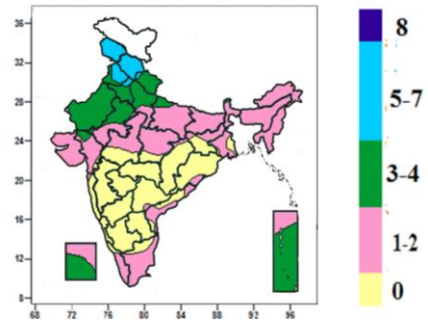
Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 08.02.2017

Relative Humidity (%) over India for the week ending 08.02.2017



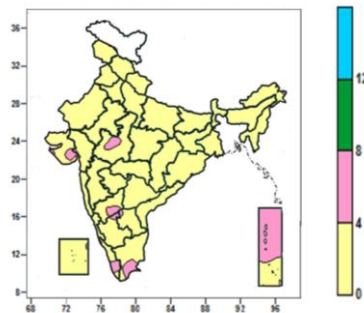
- Mean Relative Humidity was above 80% over Sikkim, many parts of Sub Himalayan-West Bengal, some parts of Bihar, Lakshadweep and isolated pockets of Jammu & Kashmir and Jharkhand.
- Mean Relative Humidity was between 60 to 80% over Punjab, Haryana & Delhi, West Uttar Pradesh, North East India, Coastal Andhra Pradesh, Andaman & Nicobar Islands, many parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, East Uttar Pradesh, Bihar, Gangetic West Bengal, Lakshadweep, some parts of Rajasthan, Madhya Pradesh, Jharkhand, Odisha, Konkan & Goa, Telangana, Coastal Karnataka, Kerala, Tamil Nadu and isolated pocket of Sub-Himalayan West Bengal.
- Mean Relative Humidity was between 40 to 60% over rest of the Country except isolated pockets of Madhya Maharashtra, South Interior Karnataka and Rayalaseema, where it was between 20 to 40%.

Cloud amount (okta) over India for the week ending 08.02.2017



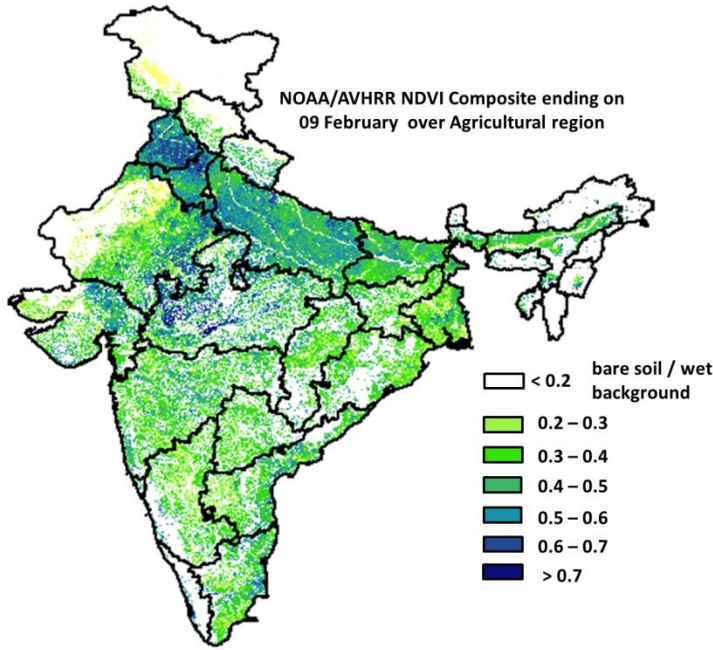
- Sky remained generally cloudy (5-7okta) over Jammu & Kashmir, Himachal Pradesh, many parts of Punjab and isolated pockets of Haryana & Delhi and Uttarakhand.
- Sky remained partly cloudy (3-4 okta) over many parts of Uttarakhand, Haryana & Delhi, West Uttar Pradesh, Rajasthan, Lakshadweep, Andaman & Nicobar Islands, some parts of Punjab, East Uttar Pradesh, Gujarat Region and isolated pockets of Jammu & Kashmir, Kutch and West Madhya Pradesh.
- 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 08.02.2017



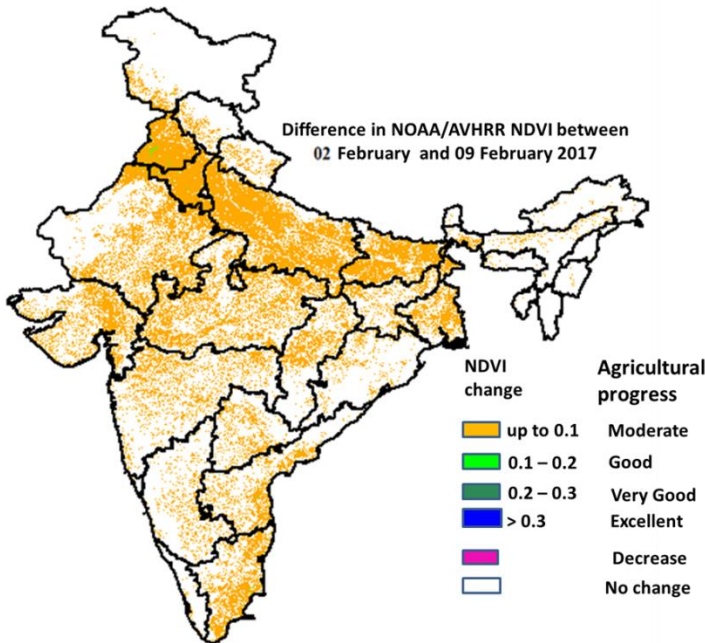
- Mean wind speed was between 0 to 4 knots over the country except many parts of Andaman & Nicobar Islands, some parts of Saurashtra & Kutch, North Interior Karnataka, Kerala, Tamil Nadu and isolated pockets of Gujarat Region, West Madhya Pradesh, South Interior Karnataka and Rayalaseema, where it was between 4 to 8 knots.

NOAA/AVHRR NDVI composite ending on 9th February 2017 over Agricultural region of India



- Agricultural vigour is good to very good in Haryana & Delhi, Punjab, West Madhya Pradesh, patches in North Maharashtra, central parts of Tamil Nadu, Kerala, North Andhra Pradesh, Gujarat, East Rajasthan, Uttarakhand, patches in Uttar Pradesh, West Bengal and North-east, where NDVI value varies from 0.5 to 0.7. NDVI is moderate in west Rajasthan, west Punjab, west Haryana, East Madhya Pradesh, rest Uttar Pradesh, Bihar, Madhya Maharashtra, southern region of Andhra Pradesh and Tamil Nadu (NDVI 0.2 to 0.5).

Difference in NOAA/AVHRR NDVI between 2nd and 9th February 2017

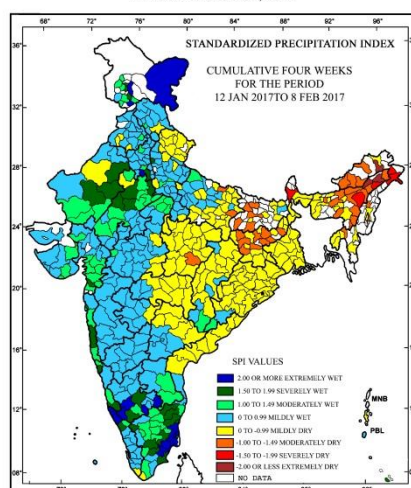


- Moderate progress in NDVI was observed in Punjab, Haryana & Delhi, Madhya Pradesh, Rajasthan, Uttar Pradesh, Bihar, and patches in Maharashtra, Gujarat, Karnataka, Kerala, Tamil Nadu, Telangana, Andhra Pradesh, North-East Region, Jharkhand, West Bengal and Chhattisgarh. Good progress was observed in few patches of Punjab and Haryana.

- NOAA/AVHRR NDVI composite maps for the week ending on 9th February 2017 for different States are given in Annexure II.

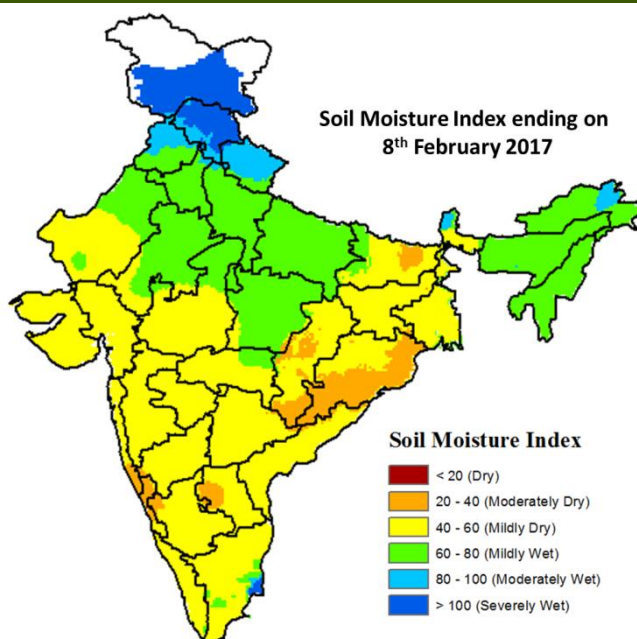
Standardised Precipitation Index Four Weekly for the period 12th January to 8th February 2017

MINISTRY OF EARTH SCIENCES
INDIA METEOROLOGICAL DEPARTMENT
HYDROMET SECTION, PUNE



- Extremely/severely wet conditions experienced in many districts of Tamil Nadu & Puducherry; few districts of Delhi; Jammu & Kashmir; Konkan & Goa; Baghpat district of Uttar Pradesh; Mewat, Rewari districts of Haryana; Churu, Jodhpur, Nagaur, Ajmer, Bharatpur, Jaipur, Tonk districts of Rajasthan; Navsari district of Gujarat Region; Dakshin Kannada, Hassan, Kodagu, Kolar, Mysore, Tumkur, Ramanagara districts of Karnataka; Cannur, Kozhikode, Kasargod districts of Kerala.
- Extremely/Severely dry conditions experienced in few districts of Arunachal Pradesh; Lakhimpur, Sibsagar, Dibrugarh, Karbi Anglong districts of Assam; Darjeeling district of West Bengal.
- Moderately dry conditions experienced many districts of Arunachal Pradesh; Assam; few districts of Jharkhand; East Khasi Hills district of Meghalaya; North Tripura district of Tripura; Gaya, Muzaffarpur, Patna, Rohtas, Saran districts of Bihar; Ghazipur, Siddharth Nagar districts of Uttar Pradesh; Mandla district of Madhya Pradesh.
- Rest of the country experienced moderately wet/mildly dry/mildly wet conditions.

Soil Moisture Index for the week ending on 8th February 2017



- Soil moisture index indicates severely and moderately wet condition in many parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand and some parts of Punjab, Haryana, Tamil Nadu and North-East Region. Mild wet condition in many parts of North-East Region, Haryana, East Rajasthan, Uttar Pradesh, East Madhya Pradesh, some parts of West Rajasthan, Punjab, West Madhya Pradesh, Uttarakhand and Tamil Nadu. Rest of the country shows Moderate/Mild dry condition.

Weather Forecast for next 5 days valid upto 0830 hours of 15th February 2017

- Meteorological sub-division wise detailed 5 day rainfall forecast is given below.
- Minimum/maximum temperatures likely to rise by 1-2°C over Tamilnadu and central India and by 2-3°C over Madhya Maharashtra and Marathwada during next 2-3 days.
- Minimum temperatures likely to continue above normal over East India during next 2-3 days.
- No significant change in minimum & maximum temperatures likely over the rest of the country.
- Dense fog at isolated places likely over coastal Odisha during next 24 hours & over Punjab, Haryana, Chandigarh & Delhi on 11th & 12th and over West Uttar Pradesh on 12th Feb.
- Shallow to Moderate fog likely over northeast India and plains of northwest India during next 3 days.

5 Day Rainfall Forecast (MID DAY) 10th February 2017

Met Sub-divisions	10 Feb	11 Feb	12 Feb	13 Feb	14 Feb
1. Andaman & Nicobar Islands	DRY	ISOL	ISOL	DRY	DRY
2. Arunachal Pradesh	SCT	ISOL	DRY	ISOL	ISOL
3. Assam & Meghalaya	ISOL	DRY	DRY	DRY	ISOL
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	ISOL	ISOL	DRY	DRY
9. Bihar	DRY	DRY	DRY	DRY	DRY
10. East Uttar Pradesh	DRY	DRY	DRY	DRY	DRY
11. West Uttar Pradesh	DRY	DRY	DRY	DRY	DRY
12. Uttarakhand	DRY	DRY	DRY	DRY	DRY
13. Haryana, Chd & Delhi	DRY	DRY	DRY	DRY	DRY
14. Punjab	DRY	DRY	DRY	DRY	DRY
15. Himachal Pradesh	DRY	DRY	DRY	DRY	DRY
16. Jammu & Kashmir	DRY	DRY	DRY	DRY	ISOL
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	ISOL	ISOL	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	ISOL	ISOL	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	DRY	DRY	DRY	ISOL	ISOL
32. Coastal Karnataka	DRY	DRY	DRY	DRY	DRY
33. North Interior Karnataka	DRY	DRY	DRY	DRY	DRY
34. South Interior Karnataka	DRY	DRY	DRY	DRY	DRY
35. Kerala	DRY	DRY	DRY	DRY	ISOL
36. Lakshadweep	DRY	DRY	DRY	DRY	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

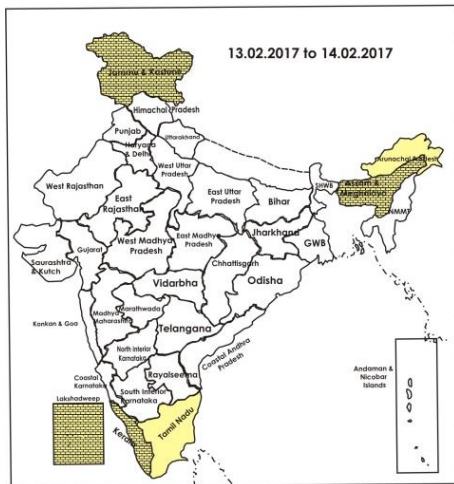
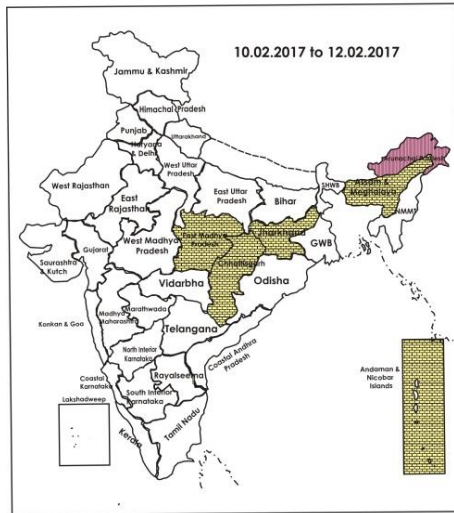
- **10 February (Day 1):** Dense fog very likely at isolated places over Coastal Odisha.
- **11 February (Day 2):** Dense fog very likely at isolated places over Punjab and Haryana, Chandigarh & Delhi.
- **12 February (Day 3):** Dense fog very likely at isolated places over Punjab, Haryana, Chandigarh & Delhi and West Uttar Pradesh.
- **13 February (Day 4):** No weather warning.

- 14 February (Day 5): No weather warning.

Weather Outlook for subsequent 2 days from 15th to 17th February 2017

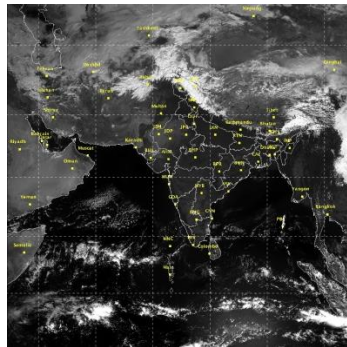
- Rain/snow likely at isolated places over Jammu & Kashmir and Himachal Pradesh.

Weather Forecast Map (valid upto 0830 hours of 15th February 2017)



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

Satellite image dated, 10.02.2017, 0600 UTC



Salient Advisories

- As dense fog very likely at isolated places over **Coastal Odisha** on 10th, over **Punjab, Haryana, Chandigarh & Delhi** on 11th & 12th and over **West Uttar Pradesh** on 12th February, shallow to moderate fog likely over **North east India** and plains of **Northwest India** during next 3 days, monitor potato, tomato and onion crops for early/late blight and wheat crop against rust disease. If symptoms are noticed undertake plant protection measures.
- As temperature conditions are favourable, undertake sowing of spring maize and planting of sugarcane in **Punjab**, continue sowing of summer groundnut and undertake sowing of sunflower and pearl millet in **Madhya Maharashtra** and continue land preparation and sowing of summer green gram and black gram and sowing of okra, ridge gourd and sponge gourd in **Assam**. In North Saurashtra Zone of **Gujarat**, undertake land preparation for sowing of summer groundnut and sesame and carry out sowing when minimum temperature is around 19°C and maximum temperature around 30°C.
- In **Andhra Pradesh**, as dry weather is prevailing, provide irrigation to sugarcane and Bengal gram crops in the Krishna Godavari Zone and in the Southern Zone, apply irrigation in *rabi* groundnut crop which is at flowering to pegging stage.
- In Central Plain Zone of **Punjab**, temperature conditions are favourable for appearance of aphids in wheat fields, monitor the fields and if the population reaches above ETL (i.e. 5 aphids per earhead), spray the crop with Confidor 17.8 SL @ 40ml or Actara 25WG @ 20g in 80-100 litres of water per acre.
- In North Bank Plain Zone of **Assam**, temperature condition are favourable for attack of aphids and sawfly in rapeseed and mustard. Farmers are advised to apply Dimethoate 30 EC or Chlorpyrifos @ 2ml/litre with a spray volume of 500-700 l/ha for hand sprayer & 200-250 l/ha for power sprayer. In Barak Valley Zone of Assam, due to rise in temperature, there may be attack of stem borer in *boro* rice at tillering stage. To control the pest, spray Chlorpyrifos 50 EC @ 2 ml per litre of water.

Detailed Zonewise Agromet Advisories

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



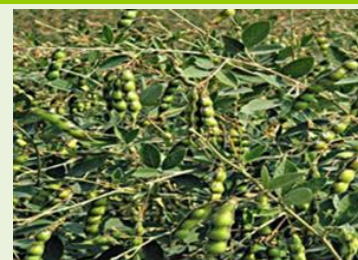
Banana



Rice



Sugarcane



Red gram

- **Realised Rainfall:** Weather remained dry over the region.
- **Realised Minimum Temperature:** Minimum temperatures are appreciably below normal (3.1°C to 5.0°C) at isolated places over Telangana and Tamilnadu & Pudducherry; below normal (1.6°C to 3.0°C) at South Interior Karnataka. They are above normal (1.6°C to 3.0°C) at isolated places over North Interior Karnataka and near normal over the rest of region.
- **Advisories:**
 - **Andhra Pradesh:**
 - In the Krishna Godavari Zone, as dry weather is prevailing, provide light irrigation to sugarcane and Bengal gram crops. In the North Coastal Zone, undertake harvesting of rice fallow pulses and continue planting of sugarcane.
 - In the Southern Zone, due to the prevailing dry and hot weather conditions, apply irrigation in *rabi* groundnut crop which is at flowering to pegging stage.
 - In the High Altitude Tribal Zone, continue planting of sugarcane, after hot water treatment of setts @ 52°C for 30 minutes to avoid diseases like whip smut and red rot and complete picking of cotton.
 - In the Scarce Rainfall Zone of Rayalaseema, prevailing weather conditions are favourable for incidence of sucking

pest in oranges (flowering and fruit setting stage). For control, spray Profenofos 2ml/litre or Imidacloprid 0.3ml/litre of water.

- In the Krishna Godavari Zone, prevailing dry weather conditions are congenial for yellow mosaic virus in rice fallow green gram. To control, remove the infected plant immediately during early stages and apply Neem oil @ 5 ml/litre of water. Take two sprayings in ten days intervals particularly in the evening times.
- In Nellore district of the Southern Zone, prevailing dry weather conditions are congenial for incidence of tikka leaf spot in groundnut. To control, spray Hexaconazole @ 400 ml/200 litres of water twice with an interval of 15 days.

▪ **Telangana:**

- In North Telangana Zone, as dry weather would prevail, continue harvesting of Bengal gram and groundnut, sowing of sunflower, sesamum, bhendi and sowing of tomato.
- In South Telangana Zone, in the prevailing weather, there is chance of stem rot in rice. To control, let-out water from the field and spray Hexaconazole @ 2 ml or Propiconazole @ 1 ml or Validamycin @ 2 ml/litre of water.

▪ **Tamil Nadu:**

- Utilizing the realized rainfall, complete sowing of rice fallow pulses under waxy condition (ADT 3 blackgram variety and ADT 3 green gram variety) under rice fallow condition in *Samba* rice fields in the Cauvery Delta Zone.
- In the Western Zone, provide irrigation to standing crops and do mulching to conserve moisture due to prevailing dry weather.
- In the North Western Zone, undertake cotton cultivation with available irrigation facility (Surbhi variety) after seed treatment with Azophos @ 200g and *Trichoderma viride* @ 4 g for every kilogram seed.
- In the High Rainfall Zone, sufficient irrigation should be given to vegetables to protect against high temperature. Undertake propping to avoid banana bunch damage due to heavy wind. Provide irrigation to rice, banana, coconut, rubber, black pepper and other horticultural crops due to insufficient rainfall.
- In the Southern Zone, partly cloudy weather conditions are congenial for incidence of leaf blight in coconut. To control, spray Bordeaux mixture @ 1% or Copper oxychloride @ 0.25 % (2 times at 45 days interval), root feeding of Carbendazim Hexaconazole @ 2 ml + 100 ml water (3 times at 3 months interval) along with application of an additional quantity of 2 kg of MOP.
- In the South Zone, powdery mildew incidence is noticed in chilli crop. To control, spray Wettable sulphur @ 3 g/litre or Carbendazim @ 1 g/litre of water, 3 spray at 15 days interval from the first appearance of symptom.
- In the High Altitude Zone, due to large difference day and night temperatures, tip drying disease is spreading fast in garlic crop. To control, spray Carbendazim fungicide @ 2 g/litre of water.

▪ **Kerala:**

- In the High Altitude Zone, in view of the prevailing dry weather, apply mulch and provide irrigation in banana crop fields. Provide irrigation in vegetable crop fields once in 3-4 days and undertake pruning of coffee immediately after completion of harvest. In the Problem Area Zone, for moisture conservation, continue mulching with crop residues/ organic manures to protect plants from sun scorching. In Thiruvananthapuram of the Southern Zone, irrigate vegetable plants. And apply lime to tomato, brinjal and chilli to improve size and quality of fruits and irrigate banana plants @ 40litres/plant in 2-3 days interval to prevent formation of weak bunches, continue harvesting of Mundakan rice and mulching in coconut and banana fields.
- In the Northern Zone, prevailing dry weather is favourable for the spread of sucking pests like mealy bug, jasids, aphids, mites, bugs etc. on crops. To control the pests, apply Neem oil emulsion (5 ml neem oil mixed in one litre of luke warm soap water solution).
- In the Central Zone, incidence of red palm weevil was observed in young coconut palms. To control, pour Imidacloprid @ 1 ml/10 litre of water at the spindle as prophylactic measure. Apply lime for controlling bacterial wilt in cucurbitaceous vegetables and lime @ 400g + Urea @ 40 g to prevent spread of wilting at fruiting stages.
- In the High Altitude Zone, attack of fruit fly may become severe in bitter gourd and snake gourd. To control, set fruit traps to reduce the attack. In large gardens, apply Carbaryl 50% (3-4 grams/litre of water) suspension fortnightly..

▪ **Karnataka:**

- In Southern Transition Zone, continue transplanting of summer rice. Apply irrigation in ginger and turmeric once in a week.
- In North Transition Zone, taking advantage of the dry weather, complete harvesting of matured Bengal gram and chilli. Avoid picking of cotton during early morning hours.
- Fruit dropping in mango is noticed in Southern Dry Zone; to manage this provide adequate quantity of irrigation water (adopt drip irrigation wherever it is possible).
- In North East Dry Zone, as dry weather is prevailing, provide irrigation to wheat and mango (fruit setting stage). Continue harvesting of Bengal gram and safflower and last picking of seed cotton.
- In North Dry Zone, apply irrigation in wheat and sorghum. Apply irrigation in sugarcane in alternate rows or by drip irrigation method.

- In Bidar district of North East Transition Zone, continue harvesting of Bengal gram, safflower pigeon pea and niger. Continue planting of sugarcane. Provide irrigation to wheat (dough stage) and rabi sorghum (grain filling stage).
- Low temperature and high humidity observed in the morning hours is congenial for the occurrence of powdery mildew in grapes in Eastern Dry Zone; spray Carbendazim @ 1 g/litre or Tridemarf @ 0.5 ml/litre of water.
- In Southern Transition Zone, prevailing weather (cloudy condition and high humidity) is congenial for powdery mildew disease in mango; spray Sulphur @ 3 g or Tridemefon 50 W P @1 g or Carbendizim 50 WP @ 1 g or Hexaconazole 5 EC @ 1 ml per litre of water before flowering and at the time of fruit setting and repeat the spray if the incidence is more.
- To manage Downey mildew disease in grapes in North Dry Zone, take up spraying of Azoxysprobin @ 1 ml dissolved in one litre of water and to manage canker disease in lemon, remove the dried twigs and branches and then take up spraying of 1 % Bordo mixture.
- Cashew die back disease is observed in cashew in Coastal Zone; prune the affected braches well below the site of infection and spray with Copper-oxy-Chloride @ 3 g/litre of water. For control of tea mosquito in cashew in Hill Zone, spray Monocrotophos @ 1ml/litre of water or Dimethoate @ 2 ml/litre of water.
- Suitable varieties for sowing are given in Annexure III.
- **Animal Husbandry**
- In the Western Zone of Tamil Nadu, considering the dry weather, increase in temperature and highly varying RH, provide adequate drinking water to dairy animals and poultry.
- In the Northern Zone of Kerala, give location specific vaccination and de-worming to poultry. Spray Copper Sulphate to control snails. Keep the poultry house dry and clean.

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



Mustard



Rice



Cauliflower



Wheat

- **Realised Rainfall:** Rainfall occurred in Dibang Valley district of Arunachal Pradesh. Weather remained dry over rest of the region.
- **Realised Minimum Temperature:** Minimum temperatures appreciably above normal (3.1°C to 5.0°C) at isolated places over Assam & Meghalaya and near normal over the rest of region.
- **Advisories:**
 - As shallow to moderate fog likely over Northeast India during next 3 days, monitor potato, tomato and onion crops for early/late blight disease. If symptoms are noticed undertake plant protection measures.
 - **Assam, Meghalaya & Arunachal Pradesh:**
 - In Barak Valley Zone and Upper Brahmaputra Valley Zone of Assam, as dry weather would prevail, maintain 3-5 cm standing water in *boro* rice field after 2-3 days of transplanting.
 - In Upper Brahmaputra Valley Zone of Assam, continue land preparation and nursery sowing of early *ahu* rice.
 - In Karimganj, Hailakandi and Cachar districts of Barak Valley Zone of Assam, as dry weather would prevail, apply irrigation in cole crops.
 - In Dhemaji, Lakhimpur, Sonitpur, Dibrugarh, Golghat, Jorhat and Sibsagar districts of North Bank Plain Zone of Assam, as temperature condition are favorable, continue land preparation and sowing of summer green gram and black gram and sowing of okra, ridge gourd and sponge gourd. The dead hills are to be replanted within 7-10 days of transplanting of *boro* rice.
 - In Central Brahmaputra Valley Zone of Assam, continue transplanting of *boro* paddy seedlings at 4 to 5 leaf stage (45 days old seedling). Continue sowing of summer green gram and black gram. Also apply the second irrigation in wheat at heading stage (70-75 days after sowing).
 - In Barpeta, Bongaigaoin, Dhubri and Goalpara districts of Lower Brahmaputra Valley Zone of Assam, continue nursery bed preparation for summer rice.
 - In Arunachal Pradesh, undertake harvesting of potato. Cover the tomato crop with polyethene/cloths to protect from frost. Place 2-3 inch crop residue mulch around the base of the tomato plant.
 - In Meghalaya, as dry weather would prevail, apply light irrigation in rapeseed/mustard, pea, chick pea, lentil as per requirement. Continue nursery raising of tomato.
 - In Barak Valley Zone, due to increase in temperature, there may be attack of stem borer in *boro* rice at the time of

tillering. To control the pest, spray Chlorpyrifos 50 EC @ 2 ml per liter of water.

- In North Bank Plain Zone of Assam, temperature condition are favourable for attack of aphids and sawfly in rapeseed and mustard. Farmers are advised to apply Dimethoate 30EC or Chloropyrifos @ 2ml/litre with a spray volume of 500-700 l/ha for hand sprayer & 200-250 l/ha for power sprayer.
- In Hill Zone, there is chance of attack of thrips in *boro* rice. Spray Chloropyrifos @ 2ml/litre of water if the attack is above ETL. Spray Phosphamidon 100EC @ 500ml in 700 litre of water, Fenitrothion 50EC @ 1litre in 700 litres of water or Endosulfan 35 EC @ 1.5 litre in 700 litres of water against stem borer in *rabi* maize at vegetative stage.
- In Arunachal Pradesh, spray Azadirachtin 0.15% EC 2@ 6ml/litre against leaf eating insects in cabbage/cauliflower, pea & other vegetables. Drench with Dichlorovos 76 EC @ 0.05% against trunk-borer in citrus. Also spray of Metalaxyl+Dithane M-45 @ 2.5g/litre at 15 days interval for management of white rust/downy mildew in mustard.
- In Meghalaya, spray Wettable Sulphur @ 2 g/litre or Dinocap @ 1 ml/litre or Tridemorph @ 0.5 ml/litre or Dust Sulphur @ 25 kg/ha against powdery mildew and Dithane M-45 (0.2 %) against rust in pea.
- **Nagaland, Manipur, Mizoram and Tripura:**
- In Nagaland, soil moisture conservation techniques like mulching with crop residue is recommended in toria, rabi maize, pea and vegetables.
- In Manipur, light irrigation may be given in pulses at flowering/pod formation stage if the soil is dry. Continue land preparation for nursery raising of pre-kharif rice and undertaing earthing up in maize.
- In Mizoram, continue transplanting of onion and capsicum.
- In Tripura, as dry weather prevail, provide light irrigation with mulching in mustard, lentil, cole crops, *rabi* maize. Transplant the young seedlings of summer brinjal & tomato to the main field and give light irrigation.
- In Manipur, spray Propiconazole @ 15ml/15 litre water against rust/powdery mildew in pulses and as a prophylactic measure against late blight in potato, spray Metalaxyl based fungicide, like Redomil MZ-72 WP @ 2 gm/lit alternately with Mencozeb @ 2gm/litre of water at 14 days interval for 2-3 times.
- In Tripura, due to cloudy weather condition, in the prevailing weather, there is chance of attack of aphids in mustard and *rabi* legumes. Spray Monocrotophos @ 2ml per liter of water.
- Suitable varieties for sowing are given in Annexure III.
- **Animal Husbandry**
- In Meghalaya, undertake regular immunization of cattle & buffaloes against Foot & Mouth disease, Hemorrhagic Septicemia & Black Quarter.
- In Hill Zone of Assam, all pigs should be vaccinated against swine fever at the age of 2-4 weeks. Adequate clean water should be made available for livestock. Keep the vicinity of the farms clean to control parasitic infestation.
- **Fishery**
- In Lower Bramhapurtra Valley Zone of Assam, in fish ponds, apply 1:10 ratio of turmeric and lime (1 kg turmeric and 10 kg lime mixed uniformly in water i.e. for 1 bigha) and apply in the ponds for protection against bacterial/ fungal disease.
- In Barak Valley Zone of Assam, treat the diseases fishes with Potassium Permanganate (2 mg/100ml of water) or common salt (3 gm/ 100 ml of water) to control all fungal and bacterial diseases.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]



Maize



Mustard



Sugarcane



Wheat

- **Realised Rainfall:** Weather remained dry over the region.
- **Realised Minimum Temperature:** Minimum temperatures are appreciably below normal (3.1°C to 5.0°C) at a few places over Saurashtra & Kutch; below normal (1.6°C to 3.0°C) at Gujarat region. They are above normal (1.6°C to 3.0°C) at many places over Marathwada and at isolated places over Madhya Maharashtra, Vidarbha, Konkan & Goa and near normal over the rest of region.
- **Advisories:**
 - **Maharashtra:**
 - In Konkan, as dry weather is prevailing, maintain water level up to 5 cm in transplanted *rabi* rice (vegetative stage). Continue transplanting of brinjal and chilli seedlings. At the time of transplanting the seedlings may be dipped in

- Dimethoate @ 1 ml/liter of water and transplant it on ridges of main field with spacing of 60 x 60 cm.
- In Madhya Maharashtra, complete planting of *suru* sugarcane. Undertake sowing of summer sunflower and summer pearl millet. Continue transplanting of chilli seedlings. Continue sowing of summer groundnut. Continue sowing of okra, bitter gourd, cucumber, ridge gourd and bottle gourd. As dry weather is prevailing, apply irrigation to wheat, gram, vegetable crops and orchards. Continue harvesting of matured early sown rabi jowar in Kolhapur region. Undertake harvesting of matured safflower in Western Maharashtra Scarcity Zone. Harvesting should be done at the time of morning.
 - In Marathwada, as dry weather is prevailing, apply light irrigation to *suru* sugarcane, wheat, gram, maize, vegetable crops and orchards. Continue harvesting of turmeric. As temperature increases and citrus crop is at flowering to fruit initiation stage, apply irrigation. If drip irrigation facility is available 1 to 4, 5 to 7 and 8 years plant should provide 9 to 40, 60 to 96 and 108 to 136 liter of water per day respectively. Undertake harvesting of timely sown matured gram crop. Apply 50 kg Nitrogen per ha in onion crop which is transplanted during first fortnight of January.
 - In Vidarbha, as dry weather condition is prevailing, apply irrigation in vegetables, sugarcane & orchards. Continue sowing of summer groundnut. Continue land preparation for sowing of summer sesame. Continue sowing of fenugreek, spinach, radish, capsicum and carrot and nursery sowing of onion/tomato with assured irrigation.
 - In Konkan, if incidence of hopper, aphids and thrips is observed in rabi vegetable nursery, spray Malathion @ 20 ml or Dimethoate @ 12 ml per 10 liter of water.
 - In Madhya Maharashtra, for control of aphids in wheat, spray 5% NSKE or Quinolphos 20 ml per 10 liters of water. Apply second spray at an interval of 15 days.
 - **Gujarat:**
 - In North Saurashtra Zone, undertake land preparation and sowing of summer groundnut and sesame and carry out sowing when minimum temperature is around 19°C and maximum temperature around 30°C.
 - Continue transplanting of brinjal, sowing of bottle gourd, bitter gourd, sponge gourd, ridge gourd, cluster bean and water melon.
 - Undertake land preparation for sowing of summer crops after harvesting of cotton crop in North West Zone of Gujarat.
 - In North West Zone and Middle Gujarat Zone of Gujarat, continue harvesting of matured spikes of castor.
 - In South Saurashtra Zone, apply irrigation in wheat, chickpea and vegetable crops. Procure good quality seeds of sesame; carry out sowing of summer sesame when minimum and maximum temperature rises to 19°C and 30°C respectively.
 - In Middle Gujarat Zone, as dry weather would prevail, apply irrigation in wheat crop and in wheat in North Saurashtra Zone. Complete picking of cotton and prepare field for next crop in Middle Gujarat Zone.
 - In South Gujarat Heavy Rainfall Zone, keep standing water 3-5 cm in rice nursery. Continue land preparation for transplanting of rice and undertake transplanting as temperature starts increasing. Continue nursery raising of tomato and undertake transplanting of cole crops. Continue planting of sugarcane. Apply irrigation in gram (pod formation stage) in South Gujarat Zone.
 - In present weather conditions attack of thrips in garlic has been reported in North Saurashtra Zone; alternative sprays of Imidacloprid 30.5 SC @ 3 ml and Profenofos @ 20 ml in 10 litres of water at 10 days interval is recommended.
 - Under increasing temperature condition, there is chance of aphid infestation in cumin and vegetable crops in North West Zone of Gujarat; for effective control of aphid, spray Dimethoate @ 10 ml/10 litres of water. To control Powdery mildew in mustard, apply Sulphur (80 WP) 25 g or Denocap (48 EC) 5 ml in 10 lit of water.
 - Due to present weather conditions there is chance of occurrence of powdery mildew in mango (flowering stage) in South Gujarat Zone; spray wettable Sulphur @ 30 g per 10 litre of water.
 - In the present weather condition, there are chances of late blight disease in potato crop in North Gujarat Zone, spray Metalaxil MZ (Redomel gold) @ 20 g /10 litres of water. Also for effective control of aphids in mustard, spray Dimethoate @ 10ml or Phosphamidon @ 3ml adding in 10 liters of water.
 - Suitable varieties for sowing are given in Annexure III.
 - **Animal Husbandry**
 - In Gujarat, provide luke warm water to lactating animals. Keep young calves indoors during night time.

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



Rice



Okra



Maize



Wheat

- **Realised Rainfall:** Weather remained dry over the region.
- **Realised Minimum Temperature:** Minimum temperatures are appreciably above normal (3.1°C to 5.0°C) at isolated places over Sub-Himalayan West Bengal & Sikkim and Odisha; above normal (1.6°C to 3.0°C) at many places over Bihar, Jharkhand and at isolated places over Gangetic West Bengal and near normal over the rest of region.
- **Advisories:**
 - **Odisha:**
 - As dense fog very likely at isolated places over Coastal Odisha on 10th February, monitor potato, tomato and onion crops for early/late blight disease. If symptoms are noticed undertake plant protection measures.
 - In East and South Eastern Coastal Plain Zone, as temperature conditions are favourable, complete sowing of summer groundnut and sunflower. Continue harvesting of sugarcane. Continue transplanting of rice seedlings at 4-5 leaf stage. Keep a thin film of water while transplanting.
 - In East and South Eastern Coastal Plain Zone, as dry weather is prevailing, apply irrigation in sunflower at flowering stage and in North Eastern Coastal Plain Zone, apply irrigation in rapeseed/mustard and continue transplanting of rice.
 - In Deogarh and Sundargarh districts of North Eastern Plateau Zone, complete sowing of mung, Biri and Peas. Continue transplanting 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 nursery sowing of onion. Continue harvesting of rice.
 - In North Eastern Coastal Plain Zone, rise in temperature may favour attack of stem borer in rice nurseries. To control it, spray Traizophos or Chloropyriphos @ 2ml/litre or Cartap hydrochloride @ 2g/litre of water.
 - In North Eastern Coastal Plain Zone, rising temperature is favourable for attack of aphids in rapeseed/mustard. Spray Neem oil 500ppm@5ml/litre. Due to fluctuation in fday and night temperature, the problem of Tobacco cater may aggravate. To control it, spray Lambda cyhalothrin @ 2ml/litre of water.
 - In Mid Central Table Land Zone, due to wider difference between day and night temperatures, there is possibility of Aphid attack in mustard and groundnut. Spray Thiomethoxam @ 1g/3l of water if the infestation crosses the ETL.
 - In Western Undulating Zone, in the present weather, *fusarium wilt* has been noticed in gram crop at pod formation stage at some places. To control the disease, undertake soil drenching in root zone with Trichoderma viride/harzianum @ 5g/litre of water or Carbendazim 12% + Mancozeb 63% @ 2g/litre of water.
 - **West Bengal:**
 - In Burdwan, Murshidabad, Nadia, North 24 Parganas districts of New Alluvial Zone, at tillering stage of *boro* rice, farmers are advised to irrigate the transplanted paddy field. Keep 3-5 cm stagnant water in transplanted *boro* rice fields. Also apply irrigation in potato and mustard as per requirement.
 - In Hill Zone, continue harvesting of ginger, turmeric, pea and complete the harvesting of mandarin orange.
 - In Bankura, Birbhum and Purulia districts of Laterite & Red Soil Zone, at tillering stage of *boro* rice, farmer are advised to maintain the water level upto 2 cm in the field. If weeds are noticed in the field, apply Butachlor @ 1.25-2 kg/ha at 3-4 days after transplanting.
 - In Malda & Dakshin Dinajpur districts of Old Alluvial Zone of West Bengal, continue transplanting of *boro* rice. Undertake sowing the seedling of okra.
 - In Hill Zone, in prevailing weather condition, late blight and white fly may appear in tomato. Apply Mancozeb 75% WP @ 2.5 g /litre of water for management of late blight and apply Imidacloprid 17.8 SL @ 0.3ml/litre of water for management of white fly on tomato. Spray Dimethoate 30EC @ 2 ml/litre of water during evening to control mustard aphid. Spray Flubendiamide 48% @ 0.3ml/litre of water for management of fruit borer of tomato.
 - In New Alluvial Zone, in this weather condition, leaf-blight infestation may be high in chillies at flowering to fruiting stage. Apply 2.5 to 3 gm Blitox per litre of water at an interval of 20 days.
 - In Coastal Saline Zone, there may be stem borer attack in *boro* rice due to rising temperature. Apply Furadon or Forate granule. Also for control of aphid attack in chilli, spray Thiamithoxon@3g/10 liter of water.

- In Old Alluvial Zone, To Control Alternaria leaf blight of Mustered, spray Ipodrion @ 1 g per litre of water at evening hour. To control Tikka disease of ground nut sprays Carbendazim @ 1g/litre of water. Prevention of Potato early & late blight spray Mancozeb @ 2.5 g per litre of water.
- In Laterite and Red soil Zone of West Bengal, prevailing weather condition may favour yellow rust and blight disease in wheat. Spray Mancozeb @ 2.5-3 ml/litre of water.
- **Andaman and Nicobar Islands:**
- In North, Middle and South Andaman, undertake transplanting the seedling of brinjal by making ridges of 25 cm height and maintain 60 to 70 cm distance between the ridges.
- In Nicobar, undertake Mulching around the basin of coconut tree with residual material to conserve the soil moisture.
- **Bihar:**
- In Araria, Katihar, Kishanganj, Madhepura, Purnea, Saharsa and Supaul districts in North East Alluvial Zone, as dry weather is prevailing, undertake earthing up in maize followed by light irrigation (50-60 days after sowing) and top dressing with urea should be done, if the crop reached knee- height stage.
- In Darbhanga, East Champaran, Gopalganj, Samastipur, West Champaran districts of North West Alluvial Plain Zone, undertake for sowing of summer vegetables. Provide irrigation in timely sown wheat crop which is in panicle initiation stage and in rabi maize, which is in tassel/silking stage.
- In Bhagalpur, munger, banka and jamui districts of South Bihar Alluvial Zone, undertake field's preparation for sowing of early crop of lady's finger also undertake nursery preparation for chilli, tomato and brinjal crops in poly house. Prepare seedling of early cucurbitaceous crops in small polythene bags in poly houses.
- In North West Alluvial Zone, in prevailing weather condition, pod/fruit borer infestation may be found in pea. If infestation occurs, spraying of Quinalphos 25 EC @ 1ml/liter of water is advised.
- In North East Alluvial Zone, in present weather condition, constant monitoring of aphids is advised in mustard crop. If insect population is above ETL, spraying of Rogar or Quinalphos @ 2 ml/litre of water is recommended. Farmers are also advised to spray of Mancozeb @ 2 g/litre of water along with tepol (sticky material) in the seed potato crop for controlling the late blight. In present weather condition, powdery mildew disease is likely to be more prominent in pea. Spray of Kairathen @ 1ml or sulfex @ 3ml/litre of water should be done to prevent it from further spreading.
- In South Bihar Alluvial Zone, in the present weather condition, in mustard crop, if there is attack of aphids, spray Cartap hydrochloride or Metasystox or Rogor @ 1.5 ml per litre water. In present weather, wrapping of plastic sheets around mango trunk should be done for preventing climbing of young (nymphs) mealy bugs. Apply grease to seal any cracks in the polythene sheets.
- **Jharkhand:**
- In Western Plateau Zone of Jharkhand, as dry weather would prevail, continue harvesting of toria crop.
- In Central and North Eastern Plateau Zone, continue nursery sowing of summer rice and prepare field for sowing of vegetable like long gourd, round gourd, bitter gourd, sponge gourd, cucumber, water melon and musk melon. Continue nursery sowing of onion.
- In Western Plateau Zone, at prevailing weather condition, there is a chance of the attack of powdery mildew disease on green pea in which white powder appears on leaves and stem. To control this disease, spray Kairathen @ 1 ml per litre of water or Sulfex @ 3 g per litre of water.
- In Central and North Eastern Plateau Zone, due to high humidity and cold weather, there is chance of attack of late blight disease in potato, to control it - spraying of Metalaxyl MZ +Maancozeb @ 1.5g /litre of water is advised.
- In South Eastern Plateau Zone, timely sown arhar cop is at flowering to pod formation stage and at this stage if attack of leaf eating insect and pod borer are found, spray Monochrotophos @ 2 ml/litre of water two times at an interval of 10-12 days to control leaf eating insects. To prevent pod borer, spray Indoxacarb 14.5 % SC @ 120 ml/acre or Emamectin bencoate 5 % SG @ 5 g/acre or Spinosad 14.5 % SC @ 23-30 g/acre or Neem 1500 ppm @ 800 ml/acre or Profenophos 50 EC @ 800 ml/acre is recommended.
- In Western Plateau Zone, the existing weather condition is favourable for attack of late blight disease in potato and aphids on mustard and other crops/vegetables. Hence, as a preventive measure, farmers may spray fungicide and insecticide in the respective crops.
- In Central and North Eastern Plateau Zone, due to humid weather as well as fluctuation in temperature, there may be attack of pod borer and powdery mildew disease in Green Pea. Undertake spraying of Kairathen @ 1 ml or Sulfex @ 3 ml per liter of water to prevent the disease from further spreading. To control pod borer, spray Monochrotophos @ 1 ml per liter of water.
- In South Eastern Plateau Zone, because of fluctuation in day and night temperature coupled with cool, humid and foggy in morning and later on clear sunny weather, attack of aphid is being seen on mustard crop. Where the crops are at post flowering to capsule formation stage, Aphid attack IS likely to be more in next days. Hence, spraying of Metalaxil (Methyl dematone) or Roger (Dimethoate) @ 1ml per liter mixed with teepol @ 5 ml per liter is recommended.
- Suitable varieties for sowing are given in Annexure III.

- **Animal Husbandry**

- In Jharkhand, to treat Fowl Cholera and pullorum disease in poultry birds, give Oxytetracycline @ 1gm /litre of water. To protect the birds from cold, cover the windows and doors with gunny sheet and increase the temperature by addition of more bulb in brooder.
- In Terai Zone of West Bengal, vaccination is the principal way to protect animals from Black Quarter (BQ) and Foot and Mouth Disease (FMD). Vaccinate to poultry bird against Fowl pox and Ranikhet/ ND disease.

- **Fishery:**

- In Odisha, to protect fish from cold stress, maintain water to a depth of 1 to 1.5 m and apply 80 kg lime to pond of 1 acre.

CENTRAL INDIA [M.P., CHHATTISGARH]



Gram



Cabbage



Mustard



Wheat

- **Realised Rainfall:** Weather remained dry over the region.
- **Realised Minimum Temperature:** Minimum temperatures are below normal (1.6°C to 3.0°C) at West Madhya Pradesh. They are appreciably above normal (3.1°C to 5.0°C) at isolated places over East Madhya Pradesh and near normal over the rest of region.
- **Advisories:**
 - **Madhya Pradesh:**
 - As dry weather would prevail, apply irrigation in wheat, mustard, gram and vegetables as per requirement in Gwalior, Bhind, Morena, Guna, Ashoknagar and Shivpuri districts. Continue sowing of cucurbitaceous crops in the polythene bags and nursery preparation for summer vegetables.
 - In Malwa Plateau Zone, apply irrigation in wheat at tillering stage and in coriander at flowering stage as per requirement. Continue nursery preparation of summer vegetables like tomato, chilli, brinjal etc.
 - In Nimar Valley Zone, undertake land preparation for sowing of summer moong and start sowing by 15th February.
 - In Vindhya Plateau Zone, apply irrigation in gram and vegetables. Apply 3rd irrigation in wheat at booting stage.
 - In Jabalpur, Rewa, Satna districts, apply irrigation in wheat at heading stage.
 - In Jhabua, Alirajpur and Dhar districts, apply 2nd irrigation in gram and mustard at pod filling stage. Continue picking up of matured vegetables. Apply 4th irrigation in wheat at heading stage. Continue nursery preparation for cucurbitaceous crops and tomato, brinjal, cauliflower, cabbage etc.
 - In Jhabua Hill Zone, due to humid weather, there are chances of attack of sucking pest (aphid) in mustard, spray Acetamiprid @ 0.35-0.45 ml/litre.
 - In Malwa Plateau Zone, use Pheromone Traps @ 20 Nos/ha to control attack of fruit borer in brinjal, tomato and okra.
 - **Chhattisgarh:**
 - In Chhattisgarh, in view of prevailing dry weather, apply irrigation in wheat at heading stage and apply remaining dose of fertilizer. Continue sowing of cucurbitaceous crop in the polythene bags, sowing of leafy vegetables and land preparation for sowing of summer vegetables like cowpea, okra. Continue digging of matured potato. Undertake sowing of short duration varieties of summer rice in Hill Zone.
 - In Bastar Plateau Zone, apply irrigation in chickpea, garden pea etc. at flowering stage. As temperature conditions are favourable, continue sowing of green gram and black gram.
 - In North Hill Zone, due to partly cloudy weather, there are chances of attack of pod borer in gram, spray Quinolophos @ 0.05%.
 - In Bastar Plateau Zone, due to humid weather there are chances of white rust disease in mustard, spray Mancozeb + Metalycsil @ 2.5 g/litre of water.
 - Suitable varieties for sowing are given in Annexure III.
- **Animal Husbandry**
 - In Madhya Pradesh, keep animals in sheds during night hours and cover the floor with paddy straw litter to protect from cold. Provide artificial light during night time in poultry house. Provide green fodder, clean and fresh water to cattle twice a day. To control ecto parasite use Butox and also undertake deworming of cattle. In Chhattisgarh, protein enriched diet should be given to the animals and keep them in shed during night hours.

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



Mustard

Maize

Cauliflower

Wheat

- **Realised Rainfall:** Rainfall occurred in all districts of Jammu & Kashmir; Chamba, Kinnaur, Kullu, Lahaul & Spiti districts of Himachal Pradesh; Weather remained mainly dry/dry over rest of the region.
- **Realised Minimum Temperature:** Minimum temperatures are appreciably below normal (3.1°C to 5.0°C) at isolated places over Jammu & Kashmir; below normal (1.6°C to 3.0°C) at West Uttar Pradesh, Rajasthan and near normal over the rest of region. Lowest minimum temperature of 5.7°C recorded at Amritsar (Punjab) in the plains of the country.
- **Advisories:**
 - As dense fog very likely at isolated places over Punjab, Haryana, Chandigarh & Delhi on 11th & 12th and over West Uttar Pradesh on 12th February, shallow to moderate fog likely over plains of Northwest India during next 3 days, monitor potato, tomato and onion crops for early/late blight and wheat crop against rust disease. If symptoms are noticed undertake plant protection measures.
 - **Jammu & Kashmir:**
 - In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, undertake preparation of nursery of summer vegetables under protected structures. In pea crop, go for staking with dry wooden branches to trail vines over them. Undertake weeding and hoeing in onion and garlic crop.
 - In Valley Temperate Zone of Jammu and Kashmir, in high frost condition, mulching of seed crops of KnolKhol, cabbage and other root crops may be done. Undertake sowing of leafy vegetables in poly house.
 - In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, go for application of urea to very late sown wheat crop (25-30 days old) as top dress @ 1.5 kg/kanal in the afternoon hours. Apply 2nd Top dress of urea to late sown wheat crop @ 2.0 kg/kanal in the afternoon hours if not applied yet. Monitor Zinc deficiency in normal sown wheat crop, if symptoms observed like yellow patches between the mid-vein and edge of the leaf in young to middle leaves develop, spray Zinc Sulphate @ 0.2%.
 - In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, the prevailing weather conditions are favourable for infestation of yellow rust in wheat crop, blight to potato, outbreak of aphids in late sown mustard crop and outbreak of wilt/blight to gram crops; monitor the crops regularly and take proper plant protection measures if noticed.
 - In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, weather is favourable for infestation of Alternia Blight, to control apply Mancozeb @ 2.5 g/litre of water and Redomil MZ @ 2.5 g/litre of water.
 - **Uttarakhand:**
 - In Udham Singh Nagar district of Bhabar and Tarai Zone, continue field preparation for sowing bottle gourd, bitter gourd, ridged gourd and pumpkin. Continue harvesting of intercrops sown with winter season sugarcane crop. To protect the newly transplanted seedlings of papaya, mango and litchi from snow/frost, these plants should be covered by straw.
 - In Nainital district of Bhabar and Tarai Zone, as dry weather would prevail, continue harvesting of mustard. Continue field preparation for Chappankaddu (summer Squash), i.e. clearing and deep ploughing of field should be done as well as mulching should be done for moisture conservation. Continue nursery sowing of tomato, capsicum and brinjal. In valley, coriander, methi, spinach and rai should be irrigated after hoeing and light irrigation may also be given in pea crop after hoeing.
 - In Bhabar and Tarai Zone, there may be occurrence of Mahu in mustard crop, spray Thiamethoxam 25 WSG @ 50-100g/ha. There may be attack of fruit borer in gram and lentil crop at the time of flowering, spray Melathion 50EC @ 2.0 liter/Ha or Quinalphos 25 EC @ 1.5litre/Ha in 500-600 liter of water.
 - In TehriGarhwal, Chamoli, Champawat, Pithoragarh, Rudraprayag and Uttarkashi districts of Hill Zone, continue the weeding and hoeing in vegetable crops. Continue nursery preparation for chilli, tomato and brinjal in poly houses. Prepare seedlings of early cucurbitaceous crops in small polythene bags in poly houses.
 - In Bhabar and Tarai Zone, weather is favourable for late blight disease in potato and tomato crop, spray Mancozeb @ 2.5g/litre and there may be incidence of yellow rust disease in wheat crop, spray Propiconazole 25EC @ 1ml/liter of water.
 - In Dehradun, Pauri and Haridwar districts of Sub Humid Sub Tropic Zone, there may be possibility on incidence of

late Blight in potato, to control spray Zinc Carbomate @ 2kg/ha dissolved in 800-1000 litres of water.

▪ **Himachal Pradesh:**

- In Himachal Pradesh, as sufficient rainfall during past week, farmers are advised to stop irrigation for next few days as sufficient moisture is available in all the crops. In lower regions, cover the nurseries of vegetables and forest plants with polythene sheet to protect from frost.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, continue thinning and weeding operation in timely sown mustard crop and intercultural operations & weed control in sarsonsaag, bathua, radish, spinach, fenugreek, coriander, turnip. Apply mulch and well rotten FYM on ginger, turmeric, calcocasia and elephant foot and leafy vegetable crops. Continue nursery raising of tea plants in polythene tubes. In low and mid hill areas undertake transplanting of onion seedlings at a spacing of 15-20 cm X 5-7 cm apart. Continue earthing up operation in potato crops on a non rainy day. Continue nursery sowing of chilli, tomato, brinjal crops in poly house, prepare seedling of early cucurbitaceous crops in small polythene bags in poly houses.
- In mid hills sub humid Zone of Himachal Pradesh, undertake nursery sowing of tomato, capsicum, brinjal, chilli in lower hills area.
- In Mild Hills Sub-Humid Zone of Himachal Pradesh, in Kullu and Mandi districts, continue preparation of tree basins in stone fruit, apple and pomegranate orchards and transplanting of onion. Continue pruning in pomegranate orchard by removing diseased and unwanted branches etc.
- In High Hills Temperate Dry Zone of Himachal Pradesh, in Kinnaur and Lahaul&Spiti, avoid pruning of apple trees when snow is fallen until the weather is warm. Close the polyhouse properly as temperature will decrease and maintain temperature around 20°C.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, present weather is conducive for attack of blight in potato and tomato crops, for control, spray Carbendazim @ 1.0 gm per litre of water or Dithane-M-45 @ 2.0 gm per litre of water.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, present weather is conducive for attack of thrips in onion crop, for control spray Carbaryl @ 2 gm per litre of water with sticky material (Tipol 1.0 gm /litre).
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, present weather is conducive for attack of yellow rust in the wheat crop for control spray Tilt (Propiconazole) 25 EC/Folicure (Tebuconazole) 25 EC/Bayletan 25 WP @ 0.1% i.e. 30ml or 30 g per 30 litres of water per kanal and repeat the spray after 15 days interval.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, present weather is conducive for attack of damping off disease in vegetable crop, for control mix thoroughly Diethane M 45 dust @ 10 to 15 g in 1 X 3 metre beds. For control of powdery mildew in peas, spray Celfex @ 25 g per 10 litres of water or Karathane @ 5 ml per 10 litres of water.

▪ **Punjab, Haryana and Delhi:**

- In Central Plain Zone of Punjab, as temperature conditions are favourable, continue sowing of sunflower (PSH 1962, DK 3849, PSH 996, PSH 569, PSFH 118 and SH 3322). It is optimum time for sowing of recommended varieties of spring maize i.e. PMH 10, DKC 9108, PMH 8, PMH 7, PMH 1 and PMH 2. The vegetable crops like chilli, capsicum and cucumber should be protected from low night temperature by providing light irrigation, in addition to this, the farmers who have transplanted the capsicum, cucumber and chilli in field should cover the crop under low plastic tunnels.
- In Western Plain Zone of Punjab, farmers are advised to sow spring maize varieties PMH-10, PMH-9, PMH-8, PMH-7, PMH-1 and PMH-2 upto 15 February on ridges or 67.5 cm spaced beds keeping plant to plant spacing of 20 cm for ridges and 18 cm for bed planting. For controlling weeds, apply atrataf 50 WP (Atrazine) @ 500 g/acre in lights soils and 800g/acre on medium to heavy soils within two days of sowing in 200 litres of water. Undertake planting of sugarcane from second fortnight of this month and use recommended varieties i.e. Co118, CoJ-85, CoJ-64 (early maturing), Co-238, CoPB-91, CoJ-88, CoS-8436 for mid season and CoJ-89 for late maturing. Disinfect cane sets in 0.5% (500 g in 100 litres of water) Agallol 3% or 0.25% (250 g in 100 litres of water) solution of Emisan 6 % or Tilt.
- In Eastern zone of Haryana, undertake harvesting of sugarcane. Prepare field for spring season planting in Feb-March.
- In New Delhi, keeping in view of the increasing temperature, start field's preparation for sowing of early crop of ladies finger- A-4, Parbani Kranti and Arka anamika cultivars. Seed rates should be 10-15 kilogram per acre.
- In New Delhi, in present weather condition, constant monitoring of the wheat crop against rust disease is advised. If symptoms of black, brown or yellow rust appears, spray the crops with Dithane M-45 @ 2.5 g per litre of water.
- Due to congenial weather, farmers are advised to monitor the wheat crop for occurrence of yellow rust in Central and Western Plain Zone of Punjab. If its symptoms are noticed, spray the crop with Tilt/Shine/Bumper/Compass/Markzole @ 200 ml in 200 litres of water/ acre. Repeat the spray at 15 days interval.
- In Central Plain Zone of Punjab, temperature conditions are favourable for appearance of aphids in wheat fields,

monitor the field and if the population reaches above ETL (i.e. 5 aphids per earhead), spray the crop with Confidor 17.8 SL @ 40ml or Actara 25WG @ 20g in 80-100 litres of water per acre.

- In Haryana monitor the wheat crop regularly for yellow rust disease. If yellow powder appears on leaves, it is yellow rust. Spray the crop with 200 ml Tilt 25% EC (propiconazole 25% EC) in 200 litres of water per acre. Differentiate yellow rust from zinc deficiency and for zinc deficiency spray the crop twice with 2.5% urea and 0.5% zinc sulphate at 15 days interval.
- **Uttar Pradesh:**
 - In Central Plain Zone of Uttar Pradesh, undertake planting of sugarcane. Undertake sowing of bhindi, lobia, rajma, before sowing apply fertilizer 75 kg nitrogen 60 kg phosphorus and 60 kg potash/ha. Undertake transplanting of brinjal in the field. Undertake land preparation for sowing of maize. Complete transplanting of onion nursery and apply irrigation as per requirement. Continue sowing of cucurbits crops, Bitter gourd, bottle gourd, cucumber, pumpkin, muskmelon, ridge gourd, watermelon.
 - In Bundelkhand Zone of Uttar Pradesh, in Eastern part of Bundelkhand Zone apply third irrigation at 60 to 65 days after sowing and 4th irrigation after 80 to 85 days of sowing as per requirement. Continue transplanting of cauliflower, cabbage, tomato, chilli, brinjal. Continue sowing of bhindi, Cucurbitaceous vegetables.
 - In Western Plain Zone of Uttar Pradesh, keeping in view of increasing temperature, undertake land preparation for sowing of early crop of bhindi. Seed rates should be 10 to 15 kgram per acre. Due to favourable temperature during the week farmers are advised to undertake sowing of cucurbitaceous, chilli, tomato and brinjal crops in the nursery and transplanting of young seedlings of tomato, chilli and cole crop may be done in this week.
 - In Central Plain Zone of East Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of white fly in tomato and chilli crop, for control spray Dimethoate @ 2 ml per litre of water.
 - In Central Plain Zone of East Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of blight in gram crop, for control spray Zinc Carbonate @ 200 gm or Ziram 90% @ 2 kg per hectare.
 - In Central Plain Zone of East Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of in mustard crop and stem borer in sugarcane for control aphid in mustard spray Phosphamidon 85% @ 250 ml in 800 litres of water per hectare and for control of stem borer in sugarcane broadcast Furadan @ 30 kg per hectare.
 - In Central Plain Zone of East Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of white mildew in mustard crop, for control spray Mancozeb 75 w.p. @ 2 kg. in 800 litres of water per hectare.
 - In Central Plain Zone of East Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of pod borer in gram crop, for control spray Monocrotophos 36 E.C. @ 750 ml in 1000 litres of water.
 - In North Eastern plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of blight in toria crop at flowering stage, for control spray Ridomil MZ @ 0.2 %.
 - In Bundelkhand Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of aphid in mustard, lentil, linseed and other rabi crops, for control spray Monocrotophos @ 1.25 litres in 600 litres of water per hectare.
 - In Western Plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of termite in wheat crop, for control apply Chlorpyrifos 20 EC @ 2.0 litres along with irrigation.
 - In Western Plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of diamond back moth in cole crop, pod borer, install pheromone traps @ 3-4 traps per acre for monitoring of the pest population for in pea and fruit borer in tomato.
- **Rajasthan:**
 - In East Rajasthan, In Sub Humid Southern Plain and Aravali Hill Zone, in Bhilwara, Chittorgarh, Rajsamand, Sirohi and Udaipur districts, undertake nursery sowing of chilli, before sowing, treat seeds with Trichoderma viridae @ 4 g per kg seeds. Undertake field preparation for sowing of summer groundnut.
 - In Dungarpur, Banswara and Pratapgarh districts of Southern Humid Plain Zone, apply third irrigation in wheat at jointing stage. Undertake intercultural operation in maize crop and irrigate with top dressing of nitrogen at the knee high stage. Farmers are also advised to be applied irrigation in gram and mustard at pod formation stage.
 - In Arid Western Plain Zone, in Barmer, Churu, Jalore, Jodhpur, Pali districts, apply irrigation in wheat crop at 90 to 95 days after sowing. Undertake land preparation for sowing of Cucurbitaceous crops. Apply irrigation in mustard crop at pod filling stage. Apply last irrigation in cumin crop at seed formation stage. In Jaisalmer and Bikaner districts, in timely sown wheat, provide provide 4th irrigation at 80-85 days after sowing on booting stages, and also provide 3rd irrigation to the barley 85-90 days after sowing. In late sown wheat, provide the 3rd irrigation to standing crop 55 days after sowing on late jointing stages.
 - In Irrigated North Western Plain Zone, Hanumangarh and Sriganganagar, continue harvesting of matured sugarcane, stop irrigation 15 days before harvesting sugarcane. Apply third irrigation to timely sown wheat crop at 25-30 days after sowing and in mustard crop at 90 to 100 days at grain filling stage. Apply second irrigation in gram at 90 to 100 days after sowing at pod formation stage. Apply second irrigation in jou crop at 65 to 70 days and third irrigation at 100 to 110 days after sowing.
 - In East Rajasthan, In Sub Humid Southern Plain and Aravali Hill Zone, in Bhilwara, Chittorgarh, Rajsamand, Sirohi and Udaipur districts, prevailing weather condition is congenial for attack of rust diseases in wheat, for control spray

apply sulphur dust @ 25 kg per hectare or spray Mancozeb @ 2 kg per hectare at 15 days interval 2 to 3 times. The spray or dusting must be done in the morning or evening time.

- In East Rajasthan, In Sub Humid Southern Plain and Aravali Hill Zone, in Bhilwara, Chittorgarh, Rajsamand, Sirohi and Udaipur districts, prevailing weather condition is congenial for attack of army worm in wheat, for control, spray Quinalphos @ 10 to 15 litres in 500 to 600 litres of water or broadcast Quinalphos 1.5 % or Methyl Parathion 2 % @ 25 kg powder by dusting machine.
- In Sub Humid Southern Plain and Aravali Hill Zone, in Bhilwara, Chittorgarh, Rajsamand, Sirohi and Udaipur districts, prevailing weather condition is congenial for attack of termites in wheat and other standing crops, spray solution of Chloropyriphos 20 EC @ 2 litres per hectare with irrigation water or for broadcast Chloropyriphos 20 EC mix with 100 kg sand per hectare than apply light irrigation.
- In East Rajasthan, In Sub Humid Southern Plain and Aravali Hill Zone, in Bhilwara, Chittorgarh, Rajsamand, Sirohi and Udaipur districts, prevailing weather condition is congenial for attack of powdery mildew in mustard crop, for control, broadcast Sulphur dust @ 20 kg per hectare or spray Dinocap @ 750 ml in 500 litres of water per hectare.
- Suitable varieties for sowing are given in Annexure III.

• **Horticulture**

- In Central Plain Zone of East Uttar Pradesh, undertake sowing of lady finger and lobia as intercrop in guava, and Anola orchards.
- In Central Plain Zone of East Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of mealybug in mango trees and white fly in papaya, for control mealybug in mango broadcast Methyl-O- Dimeton 5% and for control white fly in papaya for control spray Dimethoate @ 2 ml per litre of water.
- In Western Plain Zone of Uttar Pradesh, in present weather, wrapping of plastic sheets around mango trunk should be done for preventing climbing of young (nymphs) mealy bugs. Apply grease to seal any cracks in the polythene sheets.
- In Himachal Pradesh, prepare the pits for planting the winter plants like peanut, walnut, almond plum and peach. The new plant planted in frost affected region may be protected with thatch of grass.
- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, Do not remove the thatching material from the plants. Due availability of sufficient moisture, apply well rotten FYM/chemical fertilizer to the fruit plants.
- In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, undertake plantation of stone fruits, almond, walnut and pecan nut etc. in the pits
- In Central Plain Zone of Punjab complete the planting of deciduous plants such as peach, plum, pear, grapes, etc. before emergence of new sprouts. The pruning and training of deciduous fruit plants can be completed as soon as possible.
- In Western Semi-Arid Zone of Delhi, in present weather, wrapping of plastic sheets around mango trunk should be done for preventing climbing of young (nymphs) mealy bugs. Apply grease to seal any cracks in the polythene sheets.

• **Floriculture**

- In Alwar, Bharatpur, Dhaultpur, Karauli, Sawaimadhapur districts of Flood Prone Eastern Plain Zone, prevailing weather condition is congenial for attack of aphid in rose, for control spray Malathion @ 0.1% at the most three times at 10 day intervals.
- In Himachal Pradesh, present weather is conducive for the attack of inflorescence rotting disease in marigold crop for control spray Bavistin @ 1 gm per litre of water or Indofil-M 45 @ 2 ml per litre of water and undertake intercultural operations and weeding in flower beds. The flowers affected with aphids, for control spray Malathion @ 0.05%.
- In Valley Temperate Zone of Jammu and Kashmir, dug drainage channels to avoid water stagnation after snow melting.

• **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, shift the bee colonies near the fields of mustard/gobi sarson.
- Bees are important source for pollination in vegetable and crops therefore, bee keeping should be promoted in New Delhi. To protect the bees, spraying of pesticides should be done in morning or evening hours during winter.

• **Animal Husbandry**

- In Rajasthan, keep them in shelter during night and in early morning and increase the quantity of concentrates in their diet. Add mineral mixture in balance diet of the animals. Avoid excess feeding of berseem, lucerne etc to protect from bloat. Feed these green fodders along with dry roughages to prevent from bloat.
- In High Hills Temperate Dry Zone of Himachal Pradesh, protect the newly born calves and animals from cold. Feed pregnant and lactating cows and buffalos with balance feed including mineral mixture. For milch animals follow schedule of 1 kg feed+50g mineral mixtures per 2 litres of milk. Ensure to give 50 g mineral mixture to animals daily. Ensure cleanliness in cows having advanced pregnancy to avoid mastitis.

- In Haryana, keep the animals under roof at night and in the sun during the day time. Feed well chaffed berseem mixed with wheat straw to avoid Aphara (Tympany).
- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, give special care to young calves as they are more sensitive to pneumonia. Use dry gunny bags as bedding material for protection against low night temperatures. Provide dry bedding during night.
- **Fishery**
- In Himachal Pradesh, disinfect the fish tank by draining out the water and exposing the bottom floor of the tank to direct sunlight.
- In Jammu & Kashmir, add supplementary feed (GNOC/mustard oilcake and Rice/Wheat bran) @ 3% of total body weight of fish biomass.
- **Poultry**
- In Himachal Pradesh, replace the poultry houses with fresh litter to avoid wetting and keep the houses clean and ensure clean drinking water to the birds. Protect the birds from cold and increase the feed by 10%. For the attack of cocksedia disease consult the nearby veterinarian. Temperature is falling so farmers are advised to make the arrangements for protection of cold in the poultry houses.
- In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, in poultry shed, keep temperature 37 deg. Celcius for day old chicks in brooding house with the bukhari.
- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, cover the poultry shed with gunny bags in order to protect the birds from cold weather.
- In Bhabar and Tarai Zone of Uttarakhand, Toxocara vitulorum (patera) are found in the food tube of buffalo calf in the age of 1-4month. Piperazine should be given to the infected calf on identification of Patera disease as delay in treatment increases mortality on calves.

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

Annexure I

Sub-Divisions	25.01.17		01.02.17		08.02.17	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
Arunachal Pradesh						
Anjaw	**	**	**	**	**	**
Changlang	0.0	-100	3.9	-88	0.2	-99
Dibang Valley	0.0	-100	25.0	-26	20.0	-49
East Kameng	0.0	-100	0.0	-100	0.0	-100
East Siang	0.0	-100	0.9	-94	0.1	-99
Kurung Kumey	**	**	**	**	**	**
Lohit	0.0	-100	5.6	-62	1.4	-91
Lower Dibang Valley	0.0	-100	6.2	-82	7.9	-80
Lower Subansari	**	**	**	**	**	**
Papumpare	0.0	-100	1.4	-82	0.0	-100
Tawang	0.0	-100	6.0	-19	0.0	-100
Tirap	0.0	-100	1.8	-86	0.0	-100
Upper Siang	0.0	-100	25.2	-34	0.0	-100
Upper Subansari	0.0	-100	8.0	-30	0.0	-100
West Kameng	0.0	-100	0.0	-100	0.0	-100
West Siang	0.0	-100	6.0	-52	0.7	-97
Assam & Meghalaya						
Assam						
Baksa	0.0	-100	3.3	233	0.0	-100
Barpeta	0.0	-100	0.0	-100	0.0	-100

Bongaigaon	0.0	-100	0.0	-100	0.0	-100
Cachar	0.0	-100	0.0	-100	0.0	-100
Chirang	0.0	-100	0.4	-56	0.0	-100
Darrang	**	**	**	**	**	**
Dhemaji	0.0	-100	2.0	-82	0.0	-100
Dhubri	0.0	-100	0.8	-68	0.0	-100
Dibrugarh	0.0	-100	2.0	-83	0.4	-97
Goalpara	0.0	-100	0.8	-69	0.0	-100
Golaghat	0.0	-100	2.6	-40	0.0	-100
Hailakandi	0.0	-100	0.0	-100	0.0	-100
Jorhat	0.0	-100	2.4	-69	0.0	-100
Kamrup(Rural)	0.0	-100	0.0	-100	0.0	-100
Kamrup(Metro)	0.0	-100	0.0	-100	0.0	-100
Karbi Anglong	0.0	-100	0.0	-100	0.0	-100
Karimganj	0.0	-100	0.0	-100	0.0	-100
Kokrajhar	0.0	-100	0.0	-100	0.0	-100
Lakhimpur	0.0	-100	0.9	-92	0.0	-100
Morigaon	0.0	-100	0.0	-100	0.0	-100
N.C.Hills	0.0	-100	0.0	-100	0.0	-100
Nagaon	0.0	-100	0.0	-100	0.0	-100
Nalbari	0.0	-100	4.6	35	0.0	-100
Sonitpur	0.0	-100	2.2	-24	0.0	-100
Sibsagar	0.0	-100	1.2	-84	0.0	-100
Tinsukia	0.0	-100	5.9	-35	0.0	-100
Udalgiri	0.0	-100	0.5	-86	0.0	-100
Meghalaya						
East Garo Hills	0.0	-100	0.0	-100	0.0	-100
East Khasi Hills	0.0	-100	0.1	-98	2.0	-62
Jaintia Hills	0.0	-100	0.0	-100	0.0	-100
Ribhoi	0.0	-100	0.3	-89	0.0	-100
South Garo Hills	0.0	-100	4.0	700	0.0	-100
West Garo Hills	0.0	-100	1.0	100	0.0	-100
West Khasi Hills	0.0	-100	2.0	-55	0.0	-100
NMMT						
Mizoram						
Aizwal	0.0	-100	0.0	-100	0.0	-100
Champhai	**	**	**	**	**	**
Kolasib	**	**	**	**	**	**
Lawngtlai	**	**	**	**	**	**
Lunglei	0.0	-100	0.0	-100	0.0	-100
Mamit	**	**	**	**	**	**
Saiha	0.0	-100	0.0	-100	0.0	-100
Serchhip	0.0	-100	0.0	-100	0.0	-100
Manipur						
Bishnupur	**	**	**	**	**	**
Chandel	**	**	**	**	**	**
Churachandpur	**	**	**	**	**	**

Imphal east	0.0	-100	0.0	-100	0.0	-100
Imphal west	0.0	-100	0.0	-100	0.0	-100
Senapati	0.0	-100	0.0	-100	0.0	-100
Tamenglong	**	**	**	**	**	**
Thoubal	**	**	**	**	**	**
Ukhrul	**	**	**	**	**	**
Nagaland						
Dimapur	0.0	-100	0.0	-100	0.0	-100
Kephire	**	**	**	**	**	**
Kohima	0.0	-100	0.0	-100	0.0	-100
Longleng	**	**	**	**	**	**
Mokokchung	**	**	**	**	**	**
Mon	**	**	**	**	**	**
Paren	**	**	**	**	**	**
Phek	0.0	-100	0.0	-100	0.0	-100
Tuensang	**	**	**	**	**	**
Wokha	0.0	-100	0.0	-100	0.0	-100
Zunheboto	**	**	**	**	**	**
Tripura						
Dhalai	0.0	-100	0.0	-100	0.0	-100
NorthTripura	0.0	-100	0.0	-100	0.0	-100
SouthTripura	0.0	-100	0.0	-100	0.0	-100
West Tripura	0.0	-100	0.0	-100	0.0	-100
Himachal Pradesh						
Bilaspur	0.0	-100	90.3	210	12.7	-7
Chamba	14.9	-56	78.9	88	50.9	80
Hamirpur	**	**	72.0	148	8.2	-44
Kangra	0.5	-97	53.8	101	13.4	-21
Kinnaur	23.6	19	54.5	63	26.0	0
Kullu	18.2	2	67.3	118	26.6	48
Lahaul and Spiti	40.3	30	80.6	97	36.2	27
Mandi	0.2	-99	50.6	92	12.0	-6
Shimla	3.4	-77	32.5	36	9.5	-31
Sirmaur	0.7	-94	31.7	54	8.2	-33
Solan	0.3	-98	93.6	238	4.8	-68
Una	0.0	-100	44.1	127	11.6	36
Punjab						
Amritsar	0.8	-85	35.6	266	1.4	-74
Barnala	0.0	-100	13.0	21	5.0	127
Bhatinda	0.0	-100	10.6	88	0.0	-100
Faridkot	4.6	31	8.9	65	0.0	-100
Fatehgarh Saheb	0.0	-100	51.7	338	3.0	-52
Ferozpur	2.4	-1	6.4	19	0.1	-94
Gurdaspur	2.7	-79	51.4	145	5.8	-48
Hoshiarpur	0.0	-100	32.8	119	13.6	99

Jalandhar	0.0	-100	24.5	119	3.3	-34
Kapurthala	2.3	-64	18.8	64	1.2	-73
Ludhiana	0.0	-100	25.7	160	2.6	-52
Mansa	2.8	4	5.5	-2	0.0	-100
Moga	3.4	-47	9.0	20	0.0	-100
Muktesar	0.9	-77	4.4	-12	0.0	-100
Nawashahar	0.0	-100	51.5	184	1.7	-77
Patiala	1.0	-82	39.7	203	0.7	-84
Ropar	0.0	-100	60.8	399	4.8	-31
Sangrur	0.6	-85	32.7	314	3.2	-16
Mohali	0.0	-100	57.0	371	0.0	-100
TarnTaran	0.0	-100	40.0	441	5.0	-100
Haryana,Chd,Delhi						
Haryana						
Ambala	0.7	-90	56.7	333	1.3	-86
Bhiwani	0.0	-100	16.6	254	0.0	-100
Chandigarh	0.1	-99	56.9	187	1.6	-83
Faridabad	0.0	-100	14.0	159	0.0	-100
Fatehabad	4.4	-15	13.8	229	0.0	-100
Gurgaon	1.2	-8	27.2	635	0.0	-100
Hissar	1.3	-21	18.6	430	0.0	-100
Jhajar	0.0	-100	18.5	373	0.0	-100
Jind	0.5	-71	26.5	464	0.0	-100
Katihah	0.0	-100	37.2	552	1.0	-79
Karnal	0.4	-94	30.2	232	0.0	-100
Kurukshetra	1.7	-64	30.7	181	0.3	-95
Mahendragarh	0.0	-100	17.0	415	0.0	-100
Mewat	0.0	-100	26.0	863	0.0	-100
Palwal	0.0	-100	14.3	360	0.0	-100
Panchkkula	0.5	-94	38.8	119	1.2	-88
Panipat	0.0	-100	31.4	324	0.2	-96
Rewari	0.0	-100	36.7	1310	1.7	-12
Rohtak	0.0	-100	21.2	190	0.0	-100
Sirsa	0.0	-100	10.0	104	0.0	-100
Sonepat	0.0	-100	28.5	312	0.2	-95
Yamunanagar	1.3	-86	38.0	214	2.4	-74
Delhi						
Central Delhi	0.0	-100	17.0	204	0.0	-100
East Delhi	0.0	-100	29.0	418	0.0	-100
New Delhi	0.0	-100	28.3	405	0.0	-100
North Delhi	0.0	-100	23.6	321	0.0	-100
North East Delhi	0.0	-100	30.0	436	0.0	-100
North West Delhi	0.0	-100	37.3	567	0.0	-100
South Delhi	0.0	-100	33.8	504	0.0	-100

South West Delhi	0.0	-100	38.4	585	0.0	-100
West Delhi	**	**	42.0	650	**	**
Jammu & Kashmir						
Anantnag	30.3	38	132.0	389	80.3	268
Badgam	17.2	29	63.5	175	32.3	138
Bandipore	**	**	**	**	**	**
Baramula	116.5	291	125.4	215	32.4	-42
Doda	22.6	-13	139.2	362	74.8	132
Ganderbal	44.6	179	49.4	135	41.2	180
Jammu	4.6	-51	99.5	350	36.0	256
Kargil	0.0	-100	**	**	**	**
Kathua	3.6	-78	79.4	228	31.2	86
Kistwar	**	**	**	**	**	**
Kulgam	44.9	61	131.4	495	119.0	446
Kupwara	49.6	125	67.1	168	40.5	61
Ladakh(Leh)	0.0	-100	14.2	911	52.6	3946
Poonch	**	**	**	**	**	**
Pulwama	11.0	11	79.0	367	35.2	278
Rajouri	28.4	193	87.0	342	22.4	60
Ramban	46.4	37	199.0	332	113.2	251
Reasi	13.8	-43	101.8	146	78.6	206
Samba	1.9	-79	67.5	205	24.3	141
Shopian	**	**	**	**	**	**
Srinagar	31.3	96	68.4	225	108.3	637
Udhampur	9.9	-62	185.4	444	128.1	398
East Madhya Pradesh						
Anuppur	0.0	-100	0.0	-100	0.0	-100
Balaghat	0.0	-100	0.0	-100	0.0	-100
Chhatarpur	0.0	-100	0.3	-95	0.0	-100
Chindwara	0.0	-100	0.0	-100	0.0	-100
Damoh	0.0	-100	1.0	-83	0.0	-100
Dindori	0.0	-100	1.0	-83	0.0	-100
Jabalpur	0.0	-100	1.0	-74	0.0	-100
Katni	0.0	-100	3.0	-29	0.0	-100
Mandla	0.0	-100	0.0	-100	0.0	-100
Narsingpur	0.0	-100	0.6	-81	0.0	-100
Panna	0.0	-100	1.0	-81	0.0	-100
Rewa	0.0	-100	1.4	-75	0.0	-100
Sagar	0.0	-100	0.8	-81	0.0	-100
Satna	0.0	-100	2.4	-59	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	1.4	-70	0.0	-100
Singrauli	0.0	-100	0.0	-100	0.0	-100
Tikamgarh	0.0	-100	0.5	-91	0.0	-100
Umaria	0.0	-100	0.3	-96	0.0	-100

West Madhya Pradesh						
Agar	0.0	-100	0.3	200	0.0	-100
Alirajpur	0.0	-100	0.0	-100	0.0	-100
Asoknagar	0.0	-100	1.8	46	0.0	-100
Badwani	0.0	-100	0.0	-100	0.0	-100
Betul	0.0	-100	1.2	13	0.0	-100
Bhind	0.0	-100	27.9	1016	0.0	-100
Bhopal	0.0	-100	3.4	0	0.0	-100
Burhanpur	0.0	-100	3.1	338	0.0	-100
Datia	0.0	-100	26.8	857	0.0	-100
Dewas	0.0	-100	0.7	-61	0.0	-100
Dhar	0.0	-100	0.1	-76	0.0	-100
Guna	2.3	-15	3.7	19	0.0	-100
Gwalior	0.0	-100	30.1	736	0.0	-100
Harda	0.0	-100	0.0	-100	0.0	-100
Hoshangabad	0.0	-100	1.7	-50	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	0.5	-29	0.0	-100
Morena	0.0	-100	20.3	600	0.0	-100
Neemuch	0.0	-100	1.3	90	0.0	-100
Raisen	0.0	-100	2.8	77	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	1.7	-25	0.0	-100
Shajapur	0.0	-100	0.0	-100	0.0	-100
Sheopur Kalani	0.0	-100	5.8	161	0.0	-100
Shivpuri	0.0	-100	16.0	264	0.0	-100
Ujjain	0.0	-100	0.0	-100	0.0	-100
Vidisha	0.0	-100	0.2	-93	0.0	-100
Chhattisgarh						
Balod	0.0	-100	0.0	-100	0.0	-100
Baloda Bazar	0.0	-100	0.0	-100	0.0	-100
Balrampur	0.0	-100	0.0	-100	0.0	-100
Bastar	0.0	-100	0.0	-100	0.0	-100
Bemetara	0.0	-100	0.0	-100	0.0	-100
Bijapur	0.0	-100	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	0.0	-100	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
East Uttar Pradesh						
Allahabad	0.0	-100	0.2	-97	0.0	-100
Ambedkar Nagar	0.0	-100	6.0	43	0.0	-100
Azamgarh	0.0	-100	8.3	93	0.0	-100
Bahraich	0.0	-100	21.7	295	0.3	-93
Ballia	0.0	-100	3.5	-20	0.0	-100
Balrampur	0.0	-100	7.0	17	0.0	-100
Banda	0.0	-100	0.0	-100	0.0	-100
Barabanki	0.0	-100	8.0	45	0.0	-100
Basti	0.0	-100	18.2	333	0.0	-100
Chandauli	0.0	-100	1.0	-88	0.0	-100
Deoria	0.0	-100	6.5	35	0.0	-100
Faizabad	0.0	-100	14.8	190	0.0	-100
Farrukhabad	0.0	-100	6.7	91	0.0	-100
Fatehpur	0.0	-100	4.7	-39	0.0	-100
Gazipur	0.0	-100	0.0	-100	0.0	-100
Gonda	0.0	-100	10.5	119	0.0	-100
Gorakhpur	0.0	-100	6.5	12	0.0	-100
Hardoi	0.0	-100	18.8	230	1.0	-70
Jaunpur	0.0	-100	3.9	-24	0.0	-100
Kannauj	0.0	-100	24.0	411	0.0	-100
Kanpur City	0.0	-100	14.5	154	0.0	-100
Kanpur Dehat	0.0	-100	7.0	30	0.0	-100
Kaushambi	0.0	-100	0.0	-100	0.0	-100
Kheri	0.0	-100	38.5	552	0.0	-100
Kushi nagar	0.0	-100	2.5	-47	0.0	-100
Lucknow	0.0	-100	7.0	30	0.0	-100
Maharajganj	0.0	-100	5.8	-14	0.0	-100
Mau	0.0	-100	10.0	108	0.0	-100

Mirzapur	0.0	-100	0.5	-92	0.0	-100
Pratapgarh	0.0	-100	1.7	-68	0.0	-100
RaiBareilly	0.0	-100	5.0	-13	0.0	-100
Sahuji Maharajnagar	0.0	-100	0.0	-100	0.0	-100
Sant Kabirnagar	0.0	-100	5.0	25	0.0	-100
Sant Ravidas Nagar	0.0	-100	22.0	175	0.0	-100
Shrawasti	**	**	**	**	**	**
Sidharthnagar	0.0	-100	0.0	-100	0.0	-100
Sitapur	0.0	-100	15.0	200	0.0	-100
Sonbhadra	0.0	-100	0.0	-100	0.0	-100
Sultanpur	0.0	-100	6.6	64	0.0	-100
Unnao	0.0	-100	14.0	130	0.0	-100
Varanasi	0.0	-100	4.9	-29	0.0	-100
West Uttar Pradesh						
Agra	0.0	-100	12.4	169	0.0	-100
Aligarh	0.0	-100	21.4	435	0.0	-100
Auraiya	0.0	-100	5.0	22	0.0	-100
Badaun	0.0	-100	17.6	403	0.0	-100
Baghpat	0.0	-100	54.0	757	0.0	-100
Bareilly	0.0	-100	20.8	206	0.8	-87
Bijnor	0.0	-100	5.3	-41	1.8	-63
Bulandsahar	0.0	-100	21.0	320	0.0	-100
Etah	0.0	-100	16.4	368	0.0	-100
Etawah	0.0	-100	8.0	40	0.0	-100
Firozabad	0.0	-100	13.8	331	0.0	-100
GBNagar	0.0	-100	2.0	-68	0.0	-100
Ghaziabad	0.0	-100	20.7	208	0.0	-100
Hamirpur	0.0	-100	3.3	-36	0.0	-100
Jalaun	0.0	-100	19.5	387	0.0	-100
Jhansi	0.0	-100	4.9	4	0.0	-100
Jotiba Phule Nagar	0.0	-100	16.0	227	0.0	-100
Kanshiramnagar	0.0	-100	21.0	425	2.0	-5
Lalitpur	0.0	-100	0.0	-100	0.0	-100
Mahamaya Nagar	0.0	-100	20.0	525	0.0	-100
Mahoba	0.0	-100	0.0	-100	0.0	-100
Mainpuri	0.0	-100	9.1	203	0.0	-100
Mathura	0.0	-100	1.0	-63	0.0	-100
Meerut	0.0	-100	17.2	172	0.0	-100
Moradabad	0.0	-100	20.9	236	0.3	-93
Muzzafernagar	0.0	-100	41.4	418	0.6	-88
Pilibhit	0.0	-100	12.7	131	1.0	-84
Rampur	0.0	-100	8.6	32	0.0	-100
Saharanpur	0.0	-100	24.7	162	2.0	-68
Shahjahanpur	0.0	-100	15.6	289	0.5	-92
Uttarakhand						
Almora	0.0	-100	8.0	-50	4.5	-60

Bageshwar	0.0	-100	5.7	-65	0.0	-100
Chamoli	0.0	-100	14.7	-27	11.9	-25
Champawat	0.0	-100	10.5	-22	3.0	-69
Dehradun	2.2	-83	8.1	-53	6.5	-49
Garhwal Pauri	0.0	-100	10.0	-30	1.1	-89
Garhwal Tehri	0.0	-100	14.0	-31	10.0	-26
Haridwar	0.0	-100	2.3	-81	3.9	-54
Nainital	0.0	-100	26.9	78	1.3	-87
Pithoragarh	0.0	-100	7.7	-60	5.5	-50
Rudraprayag	0.0	-100	12.8	-41	3.1	-81
Udham Sing Nagar	0.0	-100	25.7	147	0.7	-88
Uttarkashi	0.0	-100	19.1	0	14.7	7
Bihar						
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
Banka	0.0	-100	**	**	0.0	-100
Begusarai	0.0	-100	0.0	-100	0.0	-100
Bhabua	0.0	-100	**	**	0.0	-100
Bhagalpur	0.0	-100	4.0	-19	0.0	-100
Bhojpur	0.0	-100	**	**	0.0	-100
Buxar	0.0	-100	**	**	**	**
Darbhanga	0.0	-100	**	**	0.0	-100
East Champaran	0.0	-100	**	**	0.0	-100
Gaya	0.0	-100	0.0	-100	0.0	-100
Gopalganj	0.0	-100	**	**	0.0	-100
Jahanabad	0.0	-100	**	**	0.0	-100
Jamui	0.0	-100	**	**	0.0	-100
Kathihar	0.0	-100	**	**	0.0	-100
Khagadia	0.0	-100	**	**	0.0	-100
Kishanganj	0.0	-100	**	**	0.0	-100
Lakhisarai	0.0	-100	**	**	0.0	-100
Madhepura	0.0	-100	0.0	-100	0.0	-100
Madhubani	0.0	-100	**	**	0.0	-100
Monghyar	0.0	-100	**	**	**	**
Muzaffarpur	0.0	-100	0.0	-100	0.0	-100
Nalanda	0.0	-100	**	**	0.0	-100
Nawada	0.0	-100	**	**	0.0	-100
Patna	0.0	-100	0.0	-100	0.0	-100
Purnea	0.0	-100	5.7	235	0.0	-100
Rohtas	0.0	-100	0.0	-100	0.0	-100
Saharsha	0.0	-100	**	**	0.0	-100
Samstipur	0.0	-100	**	**	0.0	-100
Saran	0.0	-100	0.0	-100	0.0	-100
Sheikpura	0.0	-100	**	**	0.0	-100
Sheohar	0.0	-100	**	**	0.0	-100
Sitamarhi	0.0	-100	**	**	0.0	-100
Siwan	0.0	-100	**	**	0.0	-100

Supaul	0.0	-100	0.0	-100	0.0	-100
Vaishali	0.0	-100	**	**	0.0	-100
West Champaran	0.0	-100	**	**	0.0	-100
Jharkhand						
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	**	**	**	**	**	**
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	**	**	**	**	**	**
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
East Rajasthan						
Ajmer	0.0	-100	7.8	2508	0.0	-100
Alwar	0.0	-100	22.7	740	0.0	-100
Banswara	0.0	-100	0.0	-100	0.0	-100
Baran	0.0	-100	2.6	46	0.0	-100
Bharatpur	0.0	-100	21.0	951	0.0	-100
Bhilwara	0.0	-100	5.7	613	0.0	-100
Bundi	0.0	-100	4.7	289	0.0	-100
Chittorgarh	0.0	-100	4.5	395	0.0	-100
Dausa	0.0	-100	14.6	813	0.0	-100
Dholpur	0.0	-100	14.3	583	0.0	-100
Dungarpur	0.0	-100	0.0	-100	0.0	-100
Jaipur	0.0	-100	21.0	1300	0.0	-100
Jhalawar	0.0	-100	2.2	0	0.0	-100
Jhunjhunu	0.0	-100	14.3	583	0.0	-100
Karauli	0.0	-100	14.5	663	0.0	-100
Kota	0.0	-100	0.4	-72	0.0	-100
Pratapgarh	0.0	-100	0.8	33	0.0	-100
Rajsamand	0.0	-100	0.0	-100	0.0	-100
Sawai Madhopur	0.0	-100	12.3	717	0.0	-100

Sikar	0.0	-100	1.4	-11	0.0	-100
Sirohi	0.0	-100	0.0	-100	0.0	-100
Tonk	0.0	-100	13.5	2154	0.0	-100
Udaipur	0.0	-100	2.7	432	0.0	-100
West Rajasthan						
Barmer	0.0	-100	2.6	273	0.0	-100
Bikaner	0.0	-100	0.2	-89	0.0	-100
Churu	0.1	-96	20.6	1373	0.0	-100
Hanumangarh	0.0	-100	7.0	192	0.0	-100
Jaisalmer	0.0	-100	2.5	409	0.0	-100
Jalore	0.0	-100	4.8	700	0.0	-100
Jodhpur	0.0	-100	9.3	1227	0.0	-100
Nagaur	0.0	-100	14.3	1330	0.0	-100
Pali	0.0	-100	4.0	400	0.0	-100
Sri Ganganagar	0.3	-73	3.1	55	2.1	48
Gujarat Region						
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	**	**	**	**	**	**
Dahod	0.0	-100	0.0	-100	0.0	-100
Daman	**	**	0.0	-100	**	**
Dangs	0.0	-100	0.0	-100	0.0	-100
Gandhinagar	0.0	-100	0.0	-100	0.0	-100
Kheda	0.0	-100	0.0	-100	0.0	-100
Mahisagar	0.0	-100	0.0	-100	0.0	-100
Mehsana	0.0	-100	0.0	-100	0.0	-100
Narmada	0.0	-100	0.0	-100	0.0	-100
Navsari	0.0	-100	0.0	-100	0.0	-100
Panchmahal	0.0	-100	0.0	-100	0.0	-100
Patan	0.0	-100	0.0	-100	0.0	-100
Sabarkantha	0.0	-100	0.0	-100	0.0	-100
Surat	0.0	-100	0.0	-100	0.0	-100
Tapi	0.0	-100	0.0	-100	0.0	-100
Vadodara	0.0	-100	0.0	-100	0.0	-100
Valsad	0.0	-100	0.0	-100	0.0	-100
S K & Diu region						
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	0.1	-46
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
Maharashtra						
Konkan & Goa						
Mumbai City	0.0	-100	0.0	-100	0.0	-100
Mumbai Suburban	0.0	-100	0.0	-100	0.0	-100
North Goa	0.0	-100	0.0	-100	0.0	-100
Raigad	0.0	-100	0.0	-100	0.0	-100
Ratnagiri	0.0	-100	0.0	-100	0.0	-100
Sindhudurg	0.0	-100	0.0	-100	0.0	-100
South Goa	0.0	-100	0.0	-100	0.0	-100
Thane	0.0	-100	0.0	-100	0.0	-100
Madhya Maharashtra						
Ahmednagar	0.0	-100	0.0	-100	0.0	-100
Dhule	0.0	-100	0.0	-100	0.0	-100
Jalgaon	0.0	-100	0.0	-100	0.0	-100
Kolhapur	0.0	-100	0.0	-100	0.0	-100
Nandurbar	0.0	-100	0.0	-100	0.0	-100
Nasik	0.0	-100	0.0	-100	0.0	-100
Pune	0.0	-100	0.0	-100	0.0	-100
Sangli	1.0	-100	0.0	-100	0.0	-100
Satara	0.0	-100	0.0	-100	0.0	-100
Solapur	0.0	-100	0.0	-100	0.0	-100
Marathwada						
Aurangabad	0.0	-100	0.0	-100	0.0	-100
Beed	0.0	-100	0.0	-100	0.0	-100
Hingoli	0.0	-100	0.0	-100	0.0	-100
Jalna	0.0	-100	0.0	-100	0.0	-100
Latur	0.0	-100	0.0	-100	0.0	-100
Nanded	0.0	-100	0.0	-100	0.0	-100
Osmanabad	0.0	-100	0.0	-100	0.0	-100
Parbhani	0.0	-100	0.0	-100	0.0	-100
Vidarbha						
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	0.3	-83	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
Odisha						
Angul	0.0	-100	0.0	-100	0.0	-100
Balasore	0.0	-100	0.0	-100	0.0	-100
Bargarh	0.0	-100	0.0	-100	0.0	-100
Bhadrak	0.0	-100	0.0	-100	0.0	-100
Bolangir	0.0	-100	0.0	-100	0.0	-100
Boudh	0.0	-100	0.0	-100	0.0	-100
Cuttack	0.0	-100	0.0	-100	0.0	-100
Deogarh	0.0	-100	0.0	-100	0.0	-100
Dhenkanal	0.0	-100	0.0	-100	0.0	-100
Gajapati	0.0	-100	0.0	-100	0.0	-100
Ganjam	0.0	-100	0.0	-100	0.0	-100
Jagatsingpur	0.0	-100	0.0	-100	0.0	-100
Jajpur	0.0	-100	0.0	-100	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	0.0	-100	0.0	-100
Kendrapara	0.0	-100	0.0	-100	0.0	-100
Keonjhar	0.0	-100	0.1	-98	0.0	-100
Khurda	0.0	-100	0.0	-100	0.0	-100
Koraput	0.0	-100	0.0	-100	0.0	-100
Malkangiri	0.0	-100	0.0	-100	0.0	-100
Mayurbhanj	0.0	-100	0.1	-98	0.0	-100
Nawapara	0.0	-100	0.0	-100	0.0	-100
Nawarangpur	0.0	-100	0.0	-100	0.0	-100
Nayagarh	0.0	-100	0.0	-100	0.0	-100
Puri	0.0	-100	0.0	-100	0.0	-100
Rayagada	0.0	-100	0.0	-100	0.0	-100
Sambalpur	0.0	-100	0.0	-100	0.0	-100
Sonepur	0.0	-100	0.0	-100	0.0	-100
Sundargarh	0.0	-100	0.0	-100	0.0	-100
West Bengal & Andaman Nicobar Islands						
A & N ISLAND						
Nicobar	210.8	1170	3.4	-88	0.3	-98
North & Middle Andaman	2.7	-51	0.0	-100	0.0	-100
South Andaman	51.8	825	0.0	-100	0.0	-100
GWB						






Bankura	0.0	-100	0.0	-100	0.0	-100
Birbhum	0.0	-100	0.0	-100	0.0	-100
Burdwan	0.0	-100	0.0	-100	0.0	-100
East Midnapore	0.0	-100	0.0	-100	0.0	-100
Hooghly	0.0	-100	0.0	-100	0.0	-100
Howrah	0.0	-100	0.0	-100	0.0	-100
Kolkata	0.0	-100	0.1	-98	0.0	-100
Murshidabad	0.0	-100	0.0	-100	0.0	-100
Nadia	0.0	-100	0.0	-100	0.0	-100
24 Pargana (N)	0.0	-100	0.0	-100	0.0	-100
Purulia	0.0	-100	0.0	-100	0.0	-100
24 Pargana (S)	0.0	-100	0.0	-100	0.0	-100
West Midnapore	0.0	-100	0.0	-100	0.0	-100
SHWB & Sikkim						
Cooch Behar	0.0	-100	0.1	-93	0.0	-100
Darjeeling	0.0	-100	0.0	-100	0.0	-100
East Sikkim	0.0	-100	1.8	-88	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	0.0	-100	0.0	-100
North Sikkim	0.0	-100	0.9	-96	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	**	**	**	**	**	**
Karnataka						
Coastal Karnataka						
Dakshina Kannada	0.0	-100	4.2	1296	0.0	-100
Udupi	0.0	-100	0.0	-100	0.0	-100
Uttara Kannada	0.0	-100	0.0	-100	0.0	-100
N I Karnataka						
Bagalkote	0.0	-100	0.0	-100	0.0	-100
Belagavi	0.0	-100	0.0	-100	0.0	-100
Bidar	0.0	-100	0.0	-100	0.0	-100
Dharwad	0.0	-100	0.0	-100	0.0	-100
Gadag	0.0	-100	0.0	-100	0.0	-100
Haveri	0.0	-100	0.0	-100	0.0	-100
Kalaburgi	0.0	-100	0.0	-100	0.0	-100
Koppal	0.0	-100	0.0	-100	0.0	-100
Raichur	0.0	-100	0.0	-100	0.0	-100
Vijayapura	0.0	-100	0.0	-100	0.0	-100
Yadgir	0.0	-100	0.0	-100	0.0	-100
S I Karnataka						
Ballari	0.0	-100	0.0	-100	0.0	-100
Bangalore Rural	0.0	-100	0.9	350	0.0	-100

Bangalore Urban	0.0	-100	0.4	6	0.0	-100
Chamarajanagar	0.0	-100	0.0	-100	0.0	-100
Chikaballapur	0.0	-100	0.7	33	0.0	-100
Chikkamagaluru	0.0	-100	0.3	40	0.0	-100
Chitradurga	0.0	-100	0.0	-100	0.0	-100
Davangere	0.0	-100	0.0	-100	0.0	-100
Hassan	0.0	-100	9.1	9011	0.0	-100
Kodagu	0.0	-100	54.7	9013	0.0	-100
Kolar	0.0	-100	15.0	2406	0.0	-100
Mandya	0.0	-100	3.3	3200	0.0	-100
Mysuru	0.0	-100	12.3	1657	0.0	-100
Ramanagara	0.0	-100	1.9	200	0.0	-100
Shivamogga	0.0	-100	0.2	200	0.0	-100
Tumakuru	0.0	-100	5.4	801	0.0	-100
Kerala						
Alappuzha	1.6	-64	28.3	1246	0.9	-85
Kannur	0.0	-100	11.5	11350	0.0	-100
Ernakulam	3.8	57	13.1	669	0.0	-100
Idukki	7.7	174	5.1	60	0.0	-100
Kasaragod	0.0	-100	18.1	2486	0.0	-100
Kollam	6.5	133	15.0	384	0.0	-100
Kottayam	0.0	-100	23.2	673	0.0	-100
Kozhikode	0.0	-100	7.7	2467	0.0	-100
Malappuram	0.0	-100	4.0	200	0.0	-100
Palakkad	0.0	-100	0.0	-98	0.0	-100
Pathanamthitta	1.6	-65	29.3	714	0.0	-100
Thiruvananthapuram	0.2	-92	4.7	-13	0.0	-100
Thrissur	0.0	-100	1.4	186	0.0	-100
Wyand	0.0	-100	14.5	4727	0.0	-100
Tamil Nadu						
Ariyalur	45.3	3673	63.0	4748	0.0	-100
Chennai	0.0	-100	4.0	65	0.0	-100
Coimbatore	0.5	364	9.9	1319	0.0	-100
Cuddalore	28.3	1471	85.8	4414	0.0	-100
Dharmapuri	0.0	-100	8.4	735	0.0	-100
Dindigul	17.8	1381	20.5	2173	0.0	-100
Erode	3.3	728	7.5	971	0.0	-100
Kanchipuram	0.1	-95	15.7	945	0.0	-100
Kanyakumari	0.4	-82	1.5	-64	0.0	-100
Karaikal	101.0	2490	78.5	3468	0.0	-100
Karur	9.4	1471	7.8	1460	0.0	-100
Krishnagiri	0.2	-17	5.5	2667	0.0	-100
Madurai	28.2	2718	4.5	224	0.0	-100
Nagapattinam	72.2	394	63.8	1893	0.0	-100

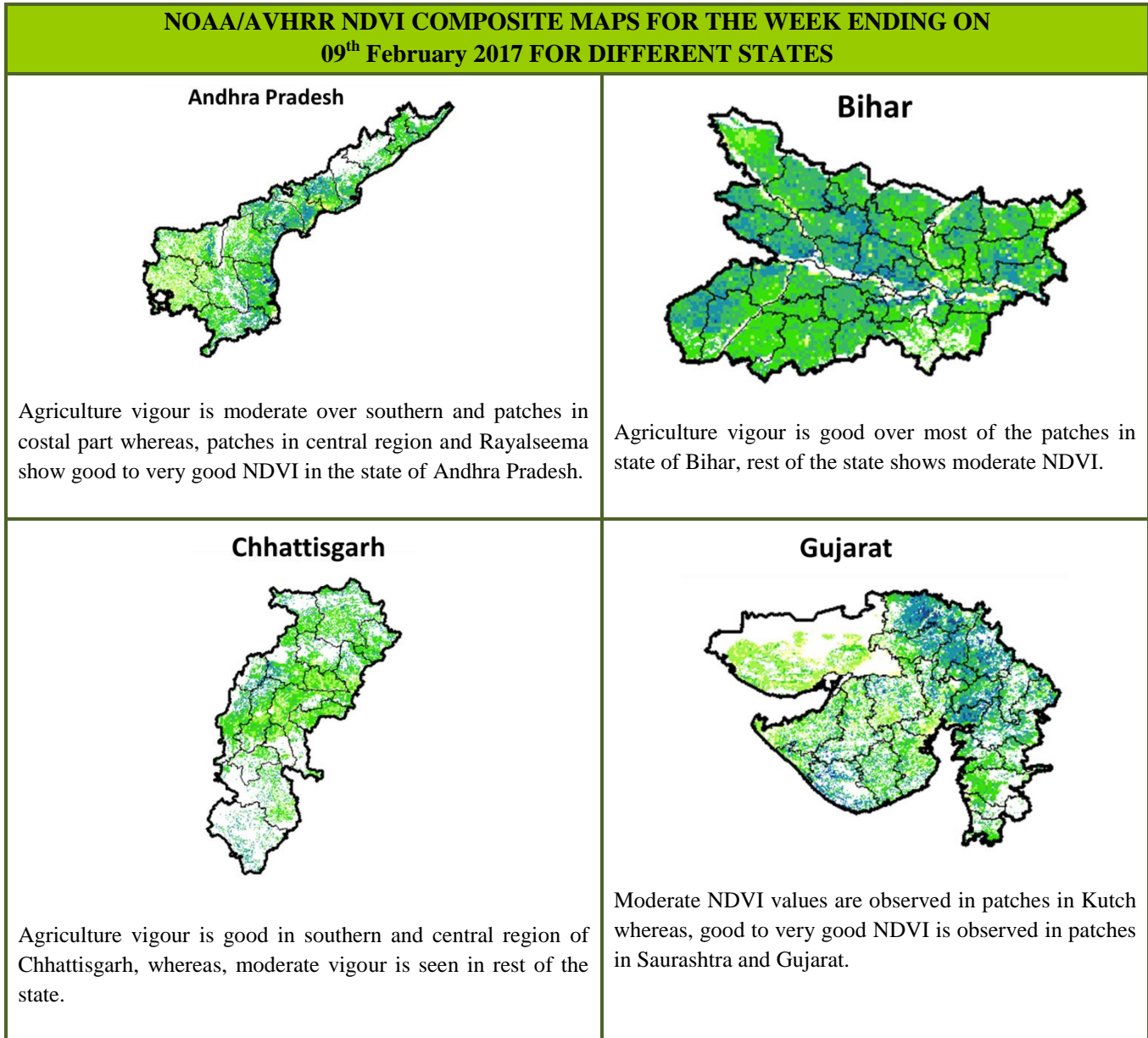
Namakkal	3.9	1836	2.4	496	0.0	-100
Nilgiris	11.0	214	47.2	1287	0.0	-100
Perambalur	6.3	1150	18.0	2471	0.0	-100
Puducherry	78.0	2416	25.8	1885	0.0	-100
Pudukottai	33.5	1575	20.4	2813	0.0	-100
Ramanathapuram	22.4	504	37.1	1961	0.0	-100
Salem	1.8	163	10.4	2500	0.0	-100
Sivaganga	44.6	2129	29.0	2796	0.0	-100
Thanjavur	55.5	2211	43.7	2813	0.0	-100
Theni	9.6	769	12.6	320	0.0	-100
Tirunelveli	27.3	583	37.7	1008	0.0	-100
Tirupur	3.4	3283	4.2	950	0.0	-100
Tiruvallur	0.0	-100	6.0	398	0.0	-100
Tiruvannamalai	0.0	-100	47.0	3036	0.0	-100
Tiruvarur	77.1	1506	44.5	2519	0.0	-100
Toothukudi	3.8	27	14.7	463	0.0	-100
Trichy	14.7	1234	10.0	1326	0.0	-100
Vellore	0.1	-76	23.1	1674	0.0	-100
Villupuram	2.8	244	37.5	3023	0.0	-100
Virudhunagar	11.8	592	11.5	421	0.0	-100
Andhra Pradesh						
Coastal Andhra Pradesh						
East Godavari	0.0	-100	0.0	-100	0.0	-100
Guntur	0.0	-100	0.0	-100	0.0	-100
Krishna	0.0	-100	0.0	-100	0.0	-100
Nellore	0.0	-100	6.6	452	0.0	-100
Prakasam	0.0	-100	0.3	-36	0.0	-100
Sirkakulam	0.0	-100	0.0	-100	0.0	-100
Visakhapatnam	0.0	-100	0.0	-100	0.0	-100
Vizianagram	0.0	-100	0.0	-100	0.0	-100
West Godavari	0.0	-100	0.0	-100	0.0	-100
Rayalaseema						
Anantapur	0.0	-100	0.2	-66	0.0	-100
Chittoor	0.0	-100	15.5	2996	0.0	-100
Cuddapah	0.0	-100	1.5	200	0.0	-100
Kurnool	0.0	-100	0.0	-100	0.0	-100
Telangana						
Adilabad	0.0	-100	0.0	-100	0.0	-100
Hyderabad	0.0	-100	0.0	-100	0.0	-100
Karimnagar	0.0	-100	0.0	-100	0.0	-100
Khammam	0.0	-100	0.0	-100	0.0	-100
Mehabubnagar	0.0	-100	0.0	-100	0.0	-100
Medak	0.0	-100	0.0	-100	0.0	-100
Nalgonda	0.0	-100	0.0	-100	0.0	-100
Nizamabad	0.0	-100	0.0	-100	0.0	-100
Rangareddy	0.0	-100	0.0	-100	0.0	-100

Warangal	0.0	-100	0.0	-100	0.0	-100
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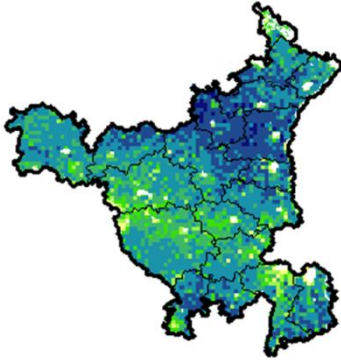
Legends

	(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

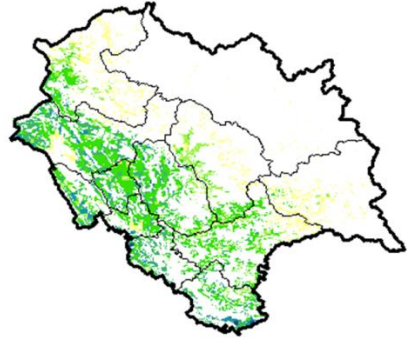


Haryana



Good to very good agriculture vigour is observed over entire state of Haryana, moderate vigour is seen in patches in central and east part of Haryana.

Himachal Pradesh



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

Jammu & Kashmir



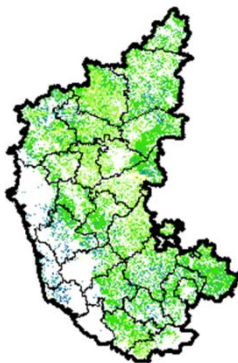
Agriculture vigour is moderate over entire state of Jammu & Kashmir.

Jharkhand



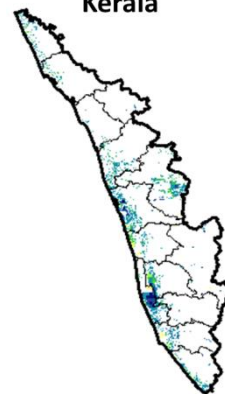
Agriculture vigour is good over patches in central region of Jharkhand whereas, remaining states shows moderate NDVI values.

Karnataka



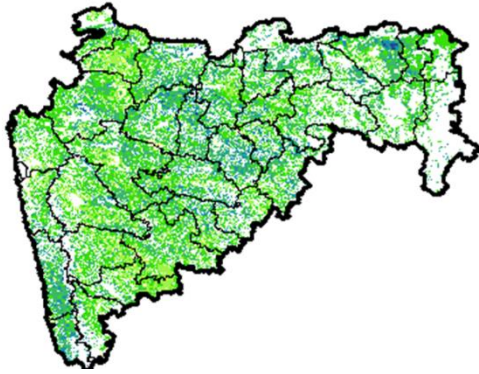
Agriculture vigour is good in patches over costal Karnataka and northern region of the state whereas rest of the state shows moderate vigour.

Kerala



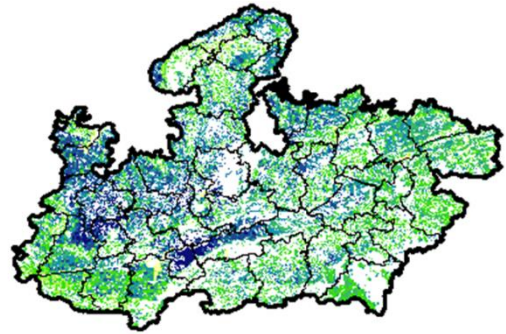
Agriculture vigour is good over entire state of Kerala except central part which shows moderate NDVI values.

Maharashtra



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

Madhya Pradesh



Agriculture vigour is good to very good over many places in state of Madhya Pradesh whereas, eastern and southern part shows moderate vigour.

North East Region



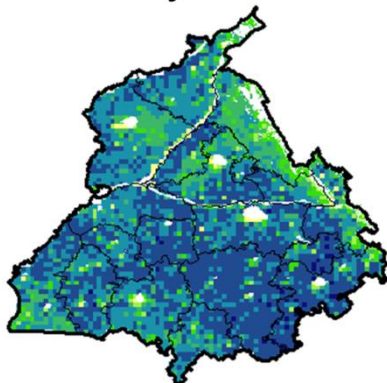
Agriculture vigour is moderate over most of the parts in North-Eastern states, whereas few patches in Assam, Manipur and Arunachal Pradesh show good vigour.

Odisha



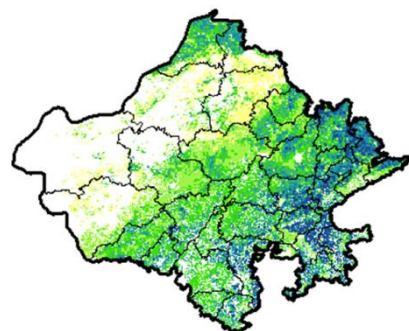
Agricultural vigour is good over many patches over state of Odisha whereas, moderate vigour is observed over the entire state.

Punjab



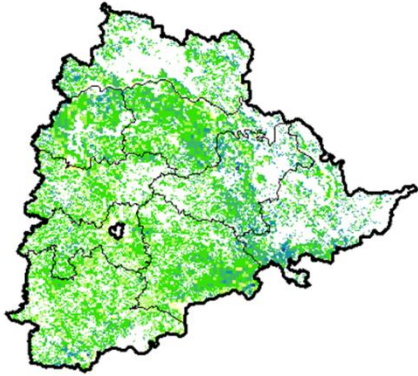
Agricultural vigour is good to very good in over entire state of Punjab, whereas few patches in north and west show moderate vigour.

Rajasthan



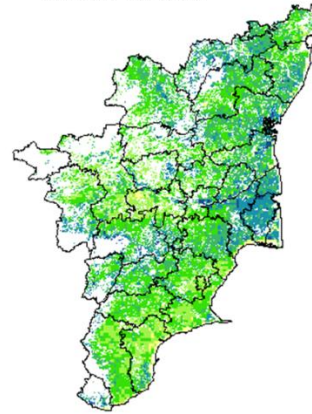
Agriculture vigour is good to very good over eastern and southern Rajasthan whereas, moderate vigour is observed over rest of the region.

Telangana



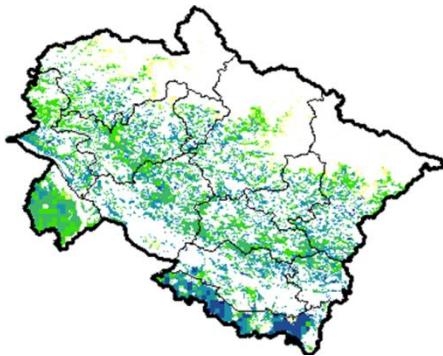
Agriculture vigour is good over northern and eastern region of Telangana whereas, moderate vigour is observed in rest of the region.

Tamil Nadu



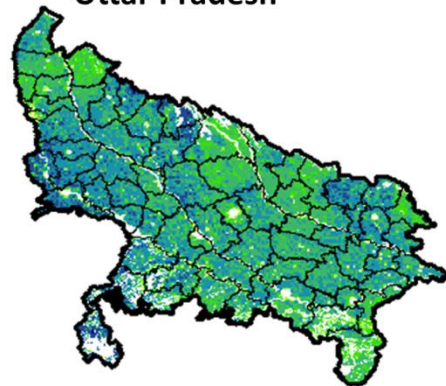
Agricultural vigour is moderate over most region of Tamil Nadu, whereas central region and patches in north shows good to very good NDVI.

Uttarakhand



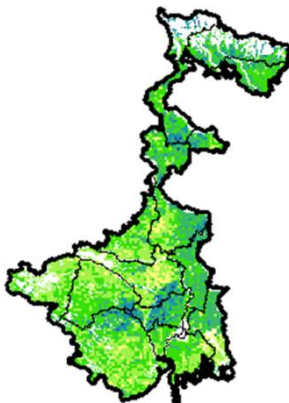
Agricultural vigour is good to very good over entire state of Uttarakhand whereas, moderate in south-western region of Uttarakhand.

Uttar Pradesh

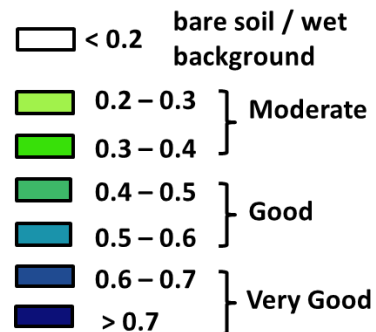


Agricultural vigour is good to very good over many parts of Uttar Pradesh, whereas remaining part shows moderate NDVI.

West Bengal



Agricultural vigour is good in patches northern and south-eastern region of West Bengal, whereas remaining region of the state shows moderate NDVI.



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

Annexure III

Assam

Winter brinjal: Pusa Kranti, Pusa Purple Long, Pusa Purple Round, Pusa Vairab, Pant Samra.

Tomato : Punjab Chhuhara, 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).

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).

Odisha:

Green pea: Rachana, Arkel. and T -163.

Mustard: Parbhathi, Anuradha, TS-29 & M-27.

Garlic: Phawari, Rajalbadi, Jamnagar and G-282

Potato: Kufri Chandramukhi, Kufri Chamatkar, Kufri Jyoti, Kufri Sinduri and Kufri Alankar, etc

Greengram- TARM1, OUM11-5, Hum-1

Blackgram- PU-19, LBG-17

Groundnut: are Smruti, AK 12-24, JL-24.

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

Barseem: Pusa Vikash, Bundel and of Jai- Kent.

Garlic: Jamuna Safed-2(G-50), Jamuna Safed-3(G-282), and Jamuna Safed-4 (G-323), G-1 and G-41(Agri found safed).

Rai: Baruna, Pusa bold, Kranti, Pusa mahak and Rajendra suflam.

Coriander: Rajendra swati, Pant haritima, Kumarganj selection and Hisar anand.

Lentil: Mallika (K-75), Arun (PL77-12), KLS-218, HUL-57, PL-5.

Jharkhand

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

Green pea: Arkel or Azad pea.

West Bengal

Coconut: Eastcoastal, Hazari

Banana: Mortoman, Chapa, Kathali, Singapuri,

Mustard: Varuna, Sita and Bhagirathi.

Cabbage : Pride of India, Pusa early, Kranti.

Cauliflower : Jawhar moti, Bharat Jyoti, Early banaras.

Potato : Ashoka, Chipsona 1,2, Kufri Jyoti, Kufri Alankar

Mustard: Agrani(B-54), Panchali (T.W.C.-3), B-9, Rai-5 and Bhagirothi (R.W.-351)

Uttarakhand

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

Pea: Vivek 10, Vivek 11, Pant 3,

Radish: Meenu early, Japanese white, Pusa Himani.

Carrot: Pusa Vrishi,

Mentha: Koshi, Saksham, Kushal, Himalaya, Saryu, Sim kranti .

Jammu and Kashmir

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

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

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

Cabbage: Pusa snowball, Pusa snowball II, Snowball 16 and Pusa snowball K1

West Uttar Pradesh

Vegetable pea: Azad-3, Aakril

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

Punjab

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

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

East Rajasthan:

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

Carrot: Pusa Keshar is improved variety.

Radish: Japanese white & hill queen.

Bottle gourd: Pusa summer prolific long, Pusa summer prolific round, Pusa manjri, Pusa Navin, Pusa Meghdoot, Arka vihar.

Pumpkin: Pusa viswas, Pusa alankar, arka chandan

Kheera : Balam khira, Pusa sayong

Bitter gourd: Coimbatore long, Pusa domosami, Priya, Ark harit, Pusa vishesh

Tinda: Bikaner green, Dil pasand, Tinda Ludhiana, Arka Tinda

Cucumber: Lakhnow Ageti, Arka sheetal

West Rajasthan

Cumin: RZ-19, RZ-209, GG-4, RZ-223.

Fenugreek : RMT 1 & RMT305.

Bhindi: Ark Anamika, varshauphar, Parbhanikranti, pusamakhmali.

Radish: Japanese white & hill queen.

Madhya Pradesh

Moong: PDM-54, PDM-139, PS-16, PS-7, K-851

Chhattisgarh

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

Maharashtra

Sunflower: Improved varieties: S.S.56, Modern, E.C.68414, Bhanu.

Hybrid varieties : K.B.S.H.1, L.S.F.H.171, Phule Raviraj, M.S.F.H.17)

Pearl millet: shradha, saburi or shanti.

Chilli: Phule Jyoti, Phule Mukta.

Gujarat

Summer Groundnut: TAG-24, TG-37-A, TPG-41, GG-2, GJG-31.

Summer Sesame: G.Til-2, G.Til-3.

Brinjal: Junagadh oblong, Junagadh long, Guj. Bringle-2.

Lady finger: Guj. Hy.-1 & 2.

Ridge gourd: Pusa nasdar, Jaipuri.

Bottle gourd: Junagadh tender long, Pusa summer prolific long.

Sponge guard: Pusa chikni.

Bitter guard: Priya, Pusa domosmi.

Karnataka

Sugarcane: CO-86032 and CO-740.

Telangana

Sesamum:SwethaThil, Chandana, Hima, Gouri,Madhavi.

Tomato:Pusa rubi,Pusa early dwarf,Marutham,Arkha, meghali,Arkha sourab,Arkha vikas

Bhendi:Parbhani kranti,Arkha anamika,Arkha abhaya

Tamil Nadu:

Rice:Navarai season rice