National Agromet Advisory Service Bulletin

Friday 3rd January 2014
(For the period 3rd to 7th January 2014)

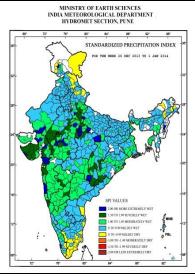


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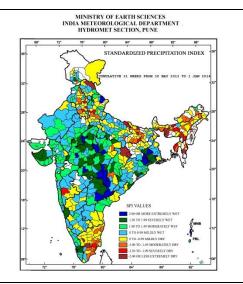
National Agrometeorological Advisory Service Centre,
Agricultural Meteorology Division,
India Meteorological Department, Shivajinagar, Pune.



Standardised Precipitation Index weekly, fortnightly and seasonal



MINISTRY OF EARTH SCIENCES INDIA METEOROLOGICAL DEPARTMENT INDIA METEOROLOGICAL STANDARDIZED PRECIPITATION INDEX ST



Weekly SPI values:

- Extremely wet/severely wet conditions experienced over some parts of Gujarat, Saurashtra & Kutch, Rajasthan, Maharashtra, Madhya Pradesh, Chhattisgarh, Jammu and Kashmir, West Uttar Pradesh, Odisha,
- Mild wet conditions experienced over most of the parts of the country.

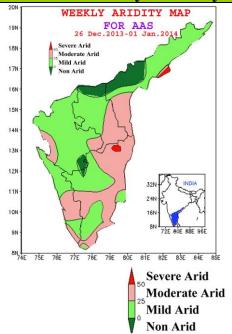
Cumulative SPI values (bi-weekly):

- Extremely wet/severely wet conditions experienced over some parts of Saurashtra, Gujarat, Madhya Pradesh, Chattisgarh, Odisha, Uttar Pradesh.
- Mild dry condition experienced over most of the districts of South Peninsula, Jammu and Kashmir, Arunachal Pradesh.

Cumulative SPI values of 31 weeks: (i.e. since the beginning of southwest monsoon.)

- Extremely wet/severely wet conditions experienced over many parts of North Andhra Pradesh, Madhya Pradesh, Vidarbha, Gangetic West Bengal and some parts of Kerala, Odisha, Saurashtra, Coastal Karnataka.
- Extremely dry/ severely dry conditions experienced over most parts of Tamil Nadu, Bihar, North East and some parts of Punjab, Haryana, West Uttar Pradesh, Chhattisgarh, East Madhya Pradesh and Madhya Maharashtra.

Aridity Anomaly Map for the week ending 01.01.2014



During the week (26 December, 2013 to 01 January 2014) the aridity anomaly map indicated the following aridity conditions over the five Meteorological sub-divisions viz. Coastal Andhra Pradesh, Rayalaseema, South Interior Karnataka, Tamil Nadu & Pondicherry and Kerala.

1. Areas having severe and moderate arid conditions are indicated below:

1.1 Areas affected by severe arid conditions:

Isolated areas around Vellore (Tamil Nadu) and Kakinada (Coastal Andhra Pradesh).

1.2 Areas affected by moderate arid conditions:

Southern parts of Coastal Andhra Pradesh, eastern and southern parts of Rayalaseema and adjoining some southeastern parts of South Interior Karnataka, most of the parts of Tamil Nadu and adjoining central and some southwestern parts of Kerala.

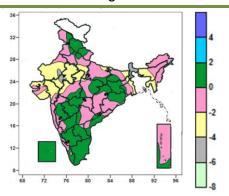
Isolated area around Chickmagalur (South Interior Karnataka).

Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 01.01.2014

Actual Mean Maximum Temperature (°C) in India for the week ending 01.01.2014

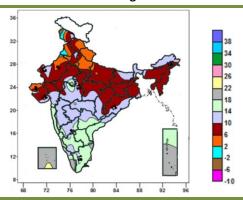
40 36 32 28 24 20 16 16 12 8

Mean Maximum Temperature (°C) Anomaly in India for the week ending 01.01.2014

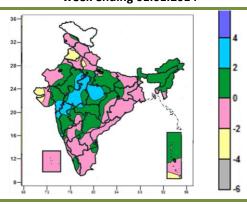


- 32 to 36^oC over many parts of Lakshadweep, some parts of Punjab, Haryana.
- 24 to 32^oC over many parts of West India, Central India, South India, Jharkhand, Haryana, Delhi, Sikkim, Chattisgarh, Orissa, Andaman & Nicobar Islands, some parts of Punjab, West Uttar Pradesh, Bihar, Gangetic West Bengal, Telanagana, Karnataka.
- 16 to 24°C over many parts of North India, Bihar, Sub-Himalayan West Bengal & Sikkim, North East India, West Madhya Pradesh, some parts of Gujarat, East Madhyya Pradesh, Gangetic West Bengal.
- 12 to 16^oC over some parts of Jammu & Kashmir, Himachal Pradesh.
- O to 2^oC over many parts of Himachal Pradesh, Jharkhand, Vidarbha, Madhya Maharashtra, Marathwada, North & South Interior Karnataka, Raylaseema, Tamil Nadu, Kerala, Lakshadweep Islands, some parts of Jammu & Kashmir, Uttarakhand, Punjab, Haryana, Delhi, Uttar Pradesh, Bihar, Gangetic West Bengal, Orissa, Chattisgarh, Madhya Pradesh, Coastal Andhra Pradesh, Telangana.
- -2 to 0^oC over many parts of Jammu & Kashmir, Punjab, Haryana, East Uttar Pradesh, Arunachal Pradesh, Nagaland, Manipur, Orissa, ,Chattisgharh, Telangana, Kokan & Goa, Coastal Karnataka, , some parts of Uttarakhand, Rajasthan, West Uttar Pradesh, Bihar, Gangetic West Bengal, Madhya Pradesh, Saurashtra, Madhya Maharashtra, Vidarbha, Coastal Andhra Pradesh, North & South Interior Karnataka, Kerala.
- -6 to -2^oC over many parts of Rajasthan, Gujarat, Sub-Himalayan West Bengal & Sikkim, Tripura, some parts of East Uttar Pradesh, Bihar, Gangetic West Bengal, Assam, Mizoram, West Madhya Pradesh, Saurashtra & Kutch.

Actual Mean Minimum Temperature (°C) in India for the week ending 01.01.2014



Mean Minimum Temperature (°C) Anomaly in India for the week ending 01.01.2014



- •18 to 22°C many parts of Kerala, some parts of Tamilnadu, most parts of Lakshadweep and Andaman & Nicobar Islands.
- •10 to 18^oC over many parts of South India, Maharashtra, West Madhya Pradesh, Sub_HImlalayan West Bengal & Sikkim, Arunachal Pradesh, some parts of Jammu & kashmir, Bihar, Assam, Orissa, Chattisgarh, East Madhya Pradesh, Gujarat and Saurashtra.
- •6 to 10^oC over many Haryana, Delhi, Rajasthan, east Uttar Pradesh, Bihar, Jharkhand, Gangetic West Bengal, North East India(except Arunachal Pradesh), West Madhya Pradesh, Chattisgarh, Orissa, Saurashtra, some parts of Jammu & Kashmir, Himachal Pradesh, Punjab, Gujarat, East Madhya Pradesh.
- •-2 to 6°C over many parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, West Uttar Pradesh, some parts of Punjab, Haryana, Delhi, West Rajasthan, East Uttar Pradesh, Kutch.
- •2 to 4⁰C over many parts of Madhya Pradesh, some parts of East Rajasthan, Gujarat, Madhya Maharashtra, Konkan & Goa, Vidarbha.
- •-2 to 2°C over all parts of country (except many parts of Haryana, Madhya Pradesh, some parts of East Rajasthan, Gujarat, Madhya Maharashtra, Konkan & Goa, Vidarbha, West Uttar Pradesh, Saurashtra & Kutch, Andaman & Nicobar Islands).
- •-4 to -2°C over many parts of Haryana, some parts of West Uttar Pradesh, Saurashtra & Kutch, Andaman & Nicobar Islands.

Relative Humidity (%) over India for the week ending 01.01.2014

32 28 24 20 16 12 80 80 40 20 20

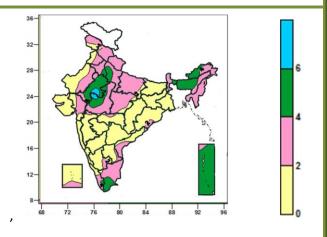
 80 to 100% over many parts of Jammu & Kashmir, North East India, Sub-Himalayan West Bengal & Sikkim, some

parts of Jammu & Kashmir, East Rajasthan, Lakshadweep

40 to 80% over entire country (except many parts of Jammu & Kashmir, North East India, Sub-Himalayan West Bengal & Sikkim, some parts of Jammu & Kashmir, East Rajasthan, Lakshadweep Islands).

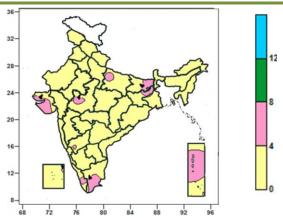
Islands.

Cloud amount (okta) over India for the week ending 01.01.2014



- 6 to 8 okta over some parts of East Rajasthan, West Madhya
- 4 to 6 okta over many parts of Delhi, East Rajasthan, Andaman & Nicobar Islands, some parts of Haryana, West Uttar Pradesh, Assam, Arunachal Pradesh, Sub-Himalayan West Bengal, West Madhya Pradesh, Tamil Nadu, Kerala.
- 0 to 4 okta over entire country (except many parts of Delhi, East Rajasthan, Andaman & Nicobar Islands, some parts of Haryana, West Uttar Pradesh, Assam, Arunachal Pradesh, Sub-Himalayan West Bengal, West Madhya Pradesh, Tamil Nadu, Kerala).

Wind speed (knots) over India for the week ending 01.01.2014



- 4 to 8 knots over many parts over Saurashtra & Kutch, Tamil Nadu, Andaman & Nicobar Islands, some parts of East Uttar Pradesh, Bihar, Jharkhand, East Uttar Pradesh, West Madhya Pradesh, North Interior Karnataka, Kerala, Lakshadweep Islands.
- 0 to 4 knots over entire country (except many parts over Saurashtra & Kutch, Tamil Nadu, Andaman & Nicobar Islands, some parts of East Uttar Pradesh, Bihar, Jharkhand, East Uttar Pradesh, West Madhya Pradesh, North Interior Karnataka, Kerala, Lakshadweep Islands).

Weather Forecast

Weather Forecast for next 3 days (upto 0830 hours IST of 6^{th} January, 2014)

- Rain/snow would occur at isolated places over Jammu & Kashmir on 4th.
- Rain/thundershowers would occur at isolated places over Haryana & Delhi, west Uttar Pradesh, east Rajasthan and north Madhya Pradesh on 4th.
- Rain/thundershowers would occur at a few places over Tamilnadu during next 24 hours and at many places thereafter.
- Rain/thundershowers would occur at isolated places over Kerala during next 24 hours and increase thereafter.
- Rain/thundershowers would occur at isolated places over coastal Andhra Pradesh, south interior Karnataka and Lakshadweep on 4th.
- Rain/thundershowers would occur at isolated places over Nicobar Islands.
- Weather would be mainly dry/dry over rest of the country.
- Minimum temperatures would fall by 1-2°C over Punjab, Haryana & Delhi, Uttar Pradesh, Rajasthan and by 2-3°C over Bihar, east Madhya Pradesh, Chhattisgarh, Jharkhand and Odisha during next 48 hours.
- Moderate fog would occur at isolated places over Punjab, Haryana, Delhi, Uttar Pradesh and at a few places over northwest Madhya Pradesh, north Bihar, SubHimalayan West Bengal, south Assam and Tripura in morning hours during next 48 hours.

Weather Warning during next 3 days

• 03 January (Day 1):

- Cold wave conditions would prevail at a few places over Saurashtra & Kutch.
- Cold wave conditions and frost would occur at a few places over Punjab, Haryana, Delhi and north Rajasthan.

• 04 January (Day 2):

- Cold wave conditions would prevail at a few places over Saurashtra & Kutch.
- Cold wave conditions and frost would occur at a few places over Punjab, Haryana, Delhi and north Rajasthan.
- Isolated heavy rain/thundershowers would occur over Tamilnadu.
- **05 January (Day 3):** Isolated heavy rain/thundershowers would occur over Tamilnadu

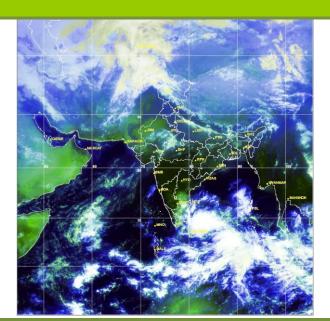
Weather Outlook for subsequent 4 days from 06th January 2014 to 10th January, 2014:

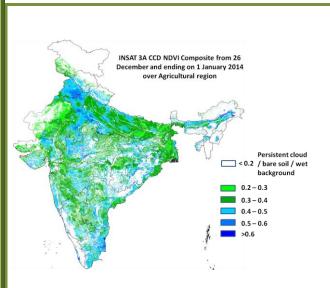
- Rain/thundershowers would occur at many places over south Tamilnadu and south Kerala and at a few places
 - over Nicobar Islands and Lakshadweep.
- Rain/snow would occur at isolated places over Jammu & Kashmir and Himachal Pradesh on 5th and 6th.
- Rain/thundershowers would occur at isolated places over Assam and Arunachal Pradesh.
- Weather would be mainly dry/dry over rest of the country.

Weather Forecast Map (Valid upto 0830 hours of 6th January, 2014)

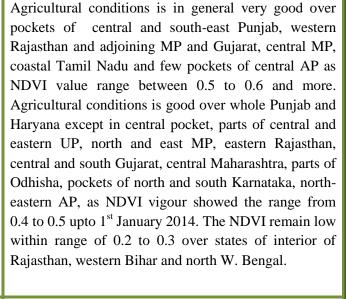
Most places Most places/solated / Dry Most / Isolated places Most / Many places Most / Many places Most / Many / Few places Most / Few places Mos

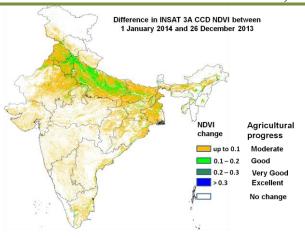
Satellite image dated 03.01.2014, 0600 UTC





Source: SAC, Ahmedabad





Source: SAC, Ahmedabad

Agricultural progress between 1st January 2014 and 26th December 2013 was found to be good over pockets of central and eastern Punjab, and north and central Haryana, major pockets of western, central and eastern UP, scattered pockets in eastern and north Rajasthan, coast of Ganga in Bihar, pockets of central West Bengal. Agricultural progress was moderate over rest of India.

North Region

- As there are chances of cold wave conditions at few places along with frost in Punjab, Haryana, north Rajasthan and Delhi, it is advised to apply light and frequent irrigation to safeguard the crops from cold / frost injury. Make heap of dry leaves and grasses and slow burning of these heaps to prevent young kinnow fruit plants from frost. Evergreen fruit plants like litchi, mango, papaya, citrus are susceptible to frost damage, whenever frost is expected, temperature of orchard should be raised by irrigation or smudging (i.e. creating smoke screen in orchard) and young plants of evergreen fruit trees are also very susceptible to frost damage and these should be protected by covering with polythene sheets or straw thatches. Provide polythene sheet/sarkanda/kahi rice straw to save the tomato seedlings from frost.
- In Western Plain Zone of Punjab, protect the seed crop of sugarcane against frost by giving frequent irrigations because frost injury results in lower sprouting of sugarcane. Also apply second irrigation to wheat sown during November and first irrigation to wheat sown during December and to late sown wheat, apply second dose of Nitrogen with first irrigation.
- In Valley Temperate Zone of Jammu & Kashmir, it is advised to suspend all field operations for the next five days as bad weather prevails. In Sub-Tropical zone of Jammu & Kashmir farmers are advised to apply 2nd dose of urea as top dress in wheat, mustard, barley and also apply remaining dose of fertilizers in vegetable crops. In Intermediate Zone of Jammu & Kashmir, it is advised to undertake sowing of radish, spinach, beet. Nursery sowing of tomato, chilly and brinjal.
- ➤ In Delhi, due to prevailing dry weather conditions, give first irrigation to late sown wheat crop at CRI stage. Unertake transplanting of late varieties of cabbage, cauliflower, knolkhol etc. may be done on ridges and sowing of spinach, coriander, fenugreek may be done.
- In Central Plain Zone of Uttar Pradesh, undertake intercultural operations in the field and undertake the planting of onion. Due to dry weather apply irrigation to standing crops. In fruit plants, arrange smoking around the field during night and apply light and frequent irrigation at regular interval to protect from cold injury.
- ➤ In Semi-Arid Eastern Plain Zone and Arid Western Zone of Rajasthan, due to sudden drop in temperature, very calm wind and clear sky weather conditions, protect the standing crops like mustard, gram, coriander, brinjal, tomato, pea and small fruit plants especially aonla and palm from frost. Spray dilute H₂SO₄ @ 0.1% (i.e. 1 litre HCl in 1000 litre water) or Thiourea @ 500 ppm (500 gm in 1000 litre water) at an interval of 15 days on frost sensitive crops like mustard, rajmash, coriander etc. at flowering stage. Create smoke by burning waste materials and apply light irrigation to sensitive crops in the event frost.
- ➤ In Undulating Plain Zone of Punjab, due to foggy weather white rust or other fungal diseases may appear in irrigated mustard crop, spray 250g Blitox or Indofil-M45 in 100 liters of water per acre if disease appears.

Central Region

- In East Madhya Pradesh and Chhattisgarh, apply light and frequent irrigation in standing crops in the evening to protect the crops from cold injury. Also arrange for smoking around the fields during night.
- ➤ In Jhabua Hill Zone of Madhya Pradesh, due to prevailing dry weather conditions, apply irrigation in early sown wheat, maize and top dressing with nitrogenous fertilizer. Undertake harvesting of tomato, brinjal, chilli, capsicum, pea etc.
- In Chattishgarh Plain Zone, apply irrigation in wheat at CRI Stage followed by application of nitrogenous fertilizer.
- ➤ In Vindhya Plateau Zone of Madhya Pradesh, there are chances of attack of army worm caterpillar in wheat. Spray Quinolphos 1.0 to 1.5 per 500-600 litres of water for control. In peas and arhar attack of powdery mildew has been observed. For control, spray carbendazim 2 to 2.5 g per litre of water.
- In Northern Hill Zone of Chhattisgarh, the present weather (dew) is conducive for development of wilting conditions in chickpea crop, for its control, spray Tricodarma viridi (5g/k. seed).

East Region

- ➤ In North Western parts of Odisha, south Bihar and Jharkhand, as minimum temperature is likely to fall by 2-3°C (prevailing minimum temperature 6-10°C), apply light and frequent irrigation /sprinkler irrigation in the evening in standing crops, arrange for smoking around the fields during night to protect the crops from cold injury.
- ➤ In New Alluvial Zone, Laterite and Red Soil Zone of West Bengal, as temperature may be lower than 10⁰ C, to protect the seedlings of *boro* rice from cold, cover the nursery bed with polythene or keep stagnant water in the nursery bed especially in the night time. Start preparation of the main field for transplanting of *boro* rice. In view of prevailing dry weather, apply irrigation in late sown wheat crop and winter vegetables.
- ➤ In Western Plateau Zone of Jharkhand, taking the advantage of dry weather, undertake inter cultural operations in pulses and oilseed crops. Apply irrigation to gram and lentil. Also apply irrigation to potato crop regularly after an interval of 7-10 days.
- In North West Alluvial Plain Zone of Bihar, due to prevailing dense foggy conditions, there is chance of

- occurrence of early blight in potato; spray Dithane M-45 @ $2\ g$ / litre or Carbendazim (Bavistin) @ $2\ g$ / litre of water. Also weather is favourable for incidence of aphids in mustard, spray Cartop Hydrocloride @1.5-2.0 ml/liter of water.
- ➤ In East and South Eastern Coastal Plain Zone of Odisha, present weather condition is congenial for occurrence of aphids and white fly on pulses at vegetative and flowering stage. Spray the crop with Dimethoate @ 1000 ml/ha or Thiomethoxam 25 WG @ 100 g/ha for managing aphids in the field. For white fly, which acts as vector for YMV, spray 1000 ml/ha of Dimethoate or 125 ml/ha of Imidacloprid 17.8 SL in 500 litres of water.

Northeast Region:

- In Central Bramhaputra Valley Zone, Hill Zone and North Bank Plain Zone of Assam, undertake main field preparation and transplanting of *boro* rice seedlings at 4 to 5 leaf stage (45 days old seedling).
- As dry weather is prevailing, apply irrigation in rapeseed and mustard at flowering stage in Barak Valley Zone of Assam. Apply irrigation in potato after removal of weeds from the field.
- In view of prevailing dry weather, in Meghalaya undertake weeding in cauliflower, cabbage and broccoli followed by light irrigation. Continue sowing of pea in low land rice field with residual soil moisture. Cover space between rows with rice straw mulch to conserve soil moisture in rapeseed and mustard.
- In Sub Tropical Plain Zone of Manipur, apply light irrigation in rapeseed, mustard and pulses to maintain soil moisture during vegetative stage. Cover nursery bed of tomato with gunny bags to protect form cold. Continue land preparation and sowing of *rabi* maize followed by light irrigation.
- ➤ In Mild Tropical Hill Zone of Mizoram, complete transplanting of cole crops and tomato followed by light irrigation.
- ➤ In Mid Tropical Plain Zone of Tripura, as dry weather is prevailing for last few weeks, apply irrigation to cabbage, cauliflower and tomato. Also maintain moisture in the field of toria through irrigation at pod initiation stage.
- ➤ In Lower Bramhaputra Valley Zone of Assam, due to cloudy weather there is chance of late blight in potato. Spray Ridomil MZ-27 @ 2 g in 1 litre of water or Dithane M-45 @ 2.5 g in 1 litre of water.

West Region:

- As there was no rain during last few weeks in Konkan, apply irrigation to groundnut at 10-12 days interval, orchards, vegetable crops and pulses. Under prevailing weather, undertake transplanting of cole crops.
- As dry weather prevails since last few weeks in Madhya Maharashtra, apply irrigation to gram at pod development stage, wheat at crown root initiation / early tillering stage, sugarcane, vegetable crops, jowar and maize. Also apply mulch of plant waste material in *rabi* jowar to preserve soil moisture. Under prevailing weather undertake preparatory tillage for planting of *suru* sugarcane, sowing of summer groundnut and water melon and complete preparatory tillage for sowing of groundnut in Western Ghat region.
- As there was no rain during last few weeks in Marathwada, apply irrigation to gram at flowering / pod development stage, wheat at crown root initiation stage, sugarcane, vegetable crops, jowar and maize. Under prevailing weather undertake preparatory tillage for planting of *suru* sugarcane, sowing of summer groundnut and watermelon.
- In view of no rain during last few weeks in Vidarbha, apply irrigation to gram at pod development stage, wheat at crown root initiation / early tillering stage, safflower, vegetable crops and orchards. As dry weather is prevailing since last few weeks, undertake weeding and apply mulch of plant waste material in *rabi* jowar and safflower to preserve soil moisture.
- As cold wave conditions would prevail during next 48 hours over Saurashtra and Kutch regions of Gujarat, apply light and frequent irrigation in vegetable crops and other *rabi* crops (wheat, cumin, mustard, gram etc.) to protect the crops from cold injury.
- Prevailing cold and foggy weather is congenial for incidence of thrips and blight in onion in eastern parts of Pune region; spray Profenofos @ 100 ml + Mancozeb @ 300 g per 100 litres of water with 50 ml sticker.
- In North Saurashtra Zone of Gujarat, under present weather conditions severe attack of thrips in garlic and onion has been reported which is likely to increase; spray Imidacloprid 70% WS @ 3 g and Lmbda-Cyhalothrin @ 14 ml in 10 liters of water at 10 days interval, alternately. Also in present weather conditions severe attack of thrips and aphids has been reported in cumin which is likely to increase; spray Acetamiprid 5 g / 10 liters of water for control.

South Region:

- As rain/thundershowers would occur at a few / many places over Tamilnadu during next three days along with isolated heavy rainfall on 4th and 5th, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Also arrange for adequate drainage to avoid water stagnation in the crop fields.
- ➤ Due to prevailing dry weather conditions in the Anantapur district of Scarce Rainfall zone of Andhra Pradesh, flower droppings have been noticed in red gram which is at flowering stage and Bengal gram due to moisture stress. Apply supplementary irrigation to the crops.

- Taking advantage of the dry weather prevailing in the Eastern Dry Zone of Karnataka undertake harvesting of red gram. Undertake planting of sugarcane in the North East Transition Zone of Karnataka.
- Continue sowing of *puncha* rice in Kottayam district of Problem Area Zone in Kerala.
- The weather condition is congenial for blast disease in rice especially neck blast in the Southern Zone of Kerala. Apply Carbendazim 50 WP 500g/ ha as a control measure to control the disease.
- The prevailing weather condition is congenial for the spread of blotch incidence in turmeric, blast and bacterial leaf diseases in rice and downy mildew disease in maize in the Western Zone of Tamil Nadu. Monitor the crops and spray Mancozeb @ 2.5 g/liter of water to control blotch incidence and undertake plant protection measures to prevent blast, bacterial leaf diseases and downy mildew diseases after current spells of rain.

Detailed Zonewise Agromet Advisories

NORTH INDIA [Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Delhi, Uttar Pradesh & Rajasthan]









Wheat Sugarcane Late blight on potato Mustard

- Realised Rainfall: Significant rainfall occurred over Bunda district of East Uttar Pradesh, Jhansi district in West Uttar Pradesh, Chamba district in Himachal Pradesh, Anantnag, Badgam, Doda, Kathua, Kulgam, Ramban and Srinagar districts in Jammu & Kashmir and Gurudaspur district in Punjab.
- Weather Forecast: Rain/snow would occur at isolated places over Jammu & Kashmir and at isolated places over Haryana & Delhi, West Uttar Pradesh and East Rajasthan on 4th Jan. Minimum temperatures would fall by 1-2° C over Punjab, Haryana & Delhi, Uttar Pradesh, and Rajasthan during next 48 hours. Moderate fog would occur at isolated places over Punjab, Haryana, Delhi, Uttar Pradesh and at a few places over northwest in morning hours during next 48 hours. Weather would mainly be dry over rest of the region.
- Weather Warning during next three days: Cold wave conditions and frost would occur at a few places over Punjab, Haryana, Delhi and north Rajasthan on 3rd and 4th Jan.
- Weather Outlook: Rain/snow would occur at isolated places over Jammu & Kashmir and Himachal Pradesh on 5th and 6th Jan. Weather would be mainly dry over rest of the region.

Advisories:

- As there are chances of cold wave conditions at few places along with frost in Punjab, Haryana, north Rajasthan and Delhi, it is advised to apply light and frequent irrigation to safeguard the crops from cold / frost injury. Make heap of dry leaves and grasses and slow burning of these heaps to prevent young kinnow fruit plants from frost. Evergreen fruit plants like litchi, mango, papaya, citrus are susceptible to frost damage, whenever frost is expected, temperature of orchard should be raised by irrigation or smudging (i.e. creating smoke screen in orchard) and young plants of evergreen fruit trees are also very susceptible to frost damage and these should be protected by covering with polythene sheets or straw thatches. Provide polythene sheet/sarkanda/kahi rice straw to save the tomato seedlings from frost.
- In Western Plain Zone of Punjab, protect the seed crop of sugarcane against frost by giving frequent irrigations because frost injury results in lower sprouting of sugarcane. Also apply second irrigation to wheat sown during November and first irrigation to wheat sown during December and to late sown wheat, apply second dose of Nitrogen with first irrigation.
- In Undulating Plain Zone of Punjab, harvest early maturing varieties of sugarcane and undertake transplanting of onion during this week. Also, make arrangements for protection of mango and litchi orchard from cold injury.
- In Valley Temperate Zone of Jammu & Kashmir, it is advised to suspend all field operations for the next five days as bad weather prevails. In Sub-Tropical zone of Jammu & Kashmir farmers are advised to apply 2nd dose of urea as top dress in wheat, mustard, barley and also apply remaining dose of fertilizers in vegetable crops. In Intermediate Zone of Jammu & Kashmir, it is advised to undertake sowing of radish, spinach, beet. Nursery sowing of tomato, chilly and brinial.
- In Delhi, due to prevailing dry weather conditions, give first irrigation to late sown wheat crop at CRI stage. Undertake transplanting of late varieties of cabbage, cauliflower, knolkhol etc. may be done on ridges and sowing of spinach, coriander, fenugreek may be done.
- In Central Plain Zone of Uttar Pradesh, undertake intercultural operations in the field and undertake the planting of onion. Due to dry weather apply irrigation to standing crops. In fruit plants, arrange smoking around the field during night and apply light and frequent irrigation at regular interval to protect from cold injury.
- In Sub-Montane and Low Hills Tropical Zone and Mid-Hills Sub-Humid Zone of Himachal Pradesh, as wheat is at CRI stage, undertake weeding to conserve soil moisture. Spray Isoproturon @ 80 gram per 30-32 litres of water for the control of weeds. Complete transplanting of onion. Also, as drop in temperature is expected, apply light irrigation to vegetable crops.
- In Sub-Montane and Low Hills Tropical Zone of Himachal Pradesh, attack of powdery mildew is observed in peas, spray Celfex @ 25 g per 10 litres of water or Karathane @ 5 ml per 10 litres of water.
- In Flood Prone Eastern Plain Zone of Rajasthan, carry out regular weeding and intercropping in wheat. Spray a solution of Metasulfuron Methyl @ 20g/ha in 500 litre water to control broad leaved weed. Also apply irrigation to the crop at CRI (21-25 days) and booting stage (45-50 days).
- ➤ In Semi-Arid Eastern Plain Zone and Arid Western Zone of Rajasthan, due to sudden drop in temperature, very calm wind and clear sky weather conditions, protect the standing crops like mustard, gram, coriander, brinjal, tomato, pea and small fruit plants especially aonla and palm from frost. Spray dilute H₂SO₄ @ 0.1% (i.e. 1 litre

HCl in 1000 litre water) or Thiourea @ 500 ppm (500 gm in 1000 litre water) at an interval of 15 days on frost sensitive crops like mustard, rajmash, coriander etc. at flowering stage. Create smoke by burning waste materials and apply light irrigation to sensitive crops in the event frost.

- In Flood Prone Eastern Plain Zone of Rajasthan, incidence of early blight is observed and is likely to increase due to humid and cloudy weather. Spray a solution of Mencozeb @ 2g per litre of water for its control. In Arid Western Plain Zone of Rajasthan due to clear sky after fog, chances of aphid infestation may increase in timely sown mustard crop; to control spray Malathion 50 EC @ 1200 ml/ha or Dimethoate 30 EC @ 1200 ml/ha.
- In Flood Prone Eastern Plain Zone of Rajasthan due to cloudy weather and high humidity incidence of sawfly infestation is observed which is likely to increase. For control, apply 5% Melathion or 5% Carbaryl powder@ 20-25 kg/ha. For control of cutworm attack in gram, dust Methyl Parathion 2% dust using duster.
- ➤ In Delhi, due to high relative humidity, infection of blight may occur in potato and tomato. Constant monitoring is advised. If symptoms appears than spray of Carbandizam @ 1.0 gm / litre of water or Dithane-M-45 @ 2.0 gm / litre of water is recommended.
- In Undulating Plain Zone of Punjab, due to foggy weather white rust or other fungal diseases may appear in irrigated mustard crop, spray 250g Blitox or Indofil-M45 in 100 liters of water per acre if disease appears.
- In Intermediate Zone of Jammu & Kashmir due to wet condition chances of leaf curl and Stigmina blight on peach/plum/apricot/almond, it is advised to spray Copper Oxychloride (0.3%) or captan (0.2%) before leaf fall. Also fallen leaves in deciduous orchard should be collected and burnt to reduce perithecial formation of scab pathogen in next season.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure III.

• Animal Husbandry

- In Sub-Tropical zone of Jammu & Kashmir, it is advised to arrange curtains at the windows in the poultry sheds in order to protect the birds from cold weather and use heaters inside. Also protect the pregnant and milch animal from cold and feed them with mineral mixture regularly and cover animals with jute bag around back and keep animals in sun light.
- In Punjab and Haryana, suitable measures like doubling of curtains should be taken in poultry birds sheds. Poultry ration should have more energy. Therefore, increase cereals by 5-8% in the ration and adjust the rice bran content. Dry bedding to animals helps to save them from cold. Entry of very cold winds inside the shed should be minimized. Keep the animals under roof in night and in the sun during the day time. Get all the animals vaccinated against foot and mouth disease (FMD). Always handle the healthy animals first and sick ones at last. Feed well chaffed berseem mixed with wheat straw to avoid Tympany (Aphara). Do not feed Parali (rice straw) alone to the animals because it is rich in silica & causes diarrhoea.
- ➤ In Himachal Pradesh, use dry gunny bags as bedding material for animals' for protection against low night temperatures and feed them 2.5-3.0 kg *Dana* and 3.0g khanij mixture. Horticulture:

CENTRAL INDIA [M.P., CHHATTISGARH] Wheat Sugarcane Gram

- **Realised Rainfall:** Significant rainfall occurred in Tikamgarh, Gwalior and Ratlam districts in Madhya Pradesh. Mainly dry weather prevailed over the rest part of the region.
- Weather forecast: Rain/thundershowers would occur at isolated places over north Madhya Pradesh on 4th. Weather would be mainly dry/dry over rest of the region. Minimum temperatures would fall by 2-3°C over east Madhya Pradesh and Chhattisgarh.
- Weather Warning: Nil
- Weather Outlook: Weather would be mainly dry/dry over the region.
- Advisories:
 - In east Madhya Pradesh and Chhattisgarh, apply light and frequent irrigation in standing crops in the evening to protect the crops from cold injury. Also arrange for smoking around the fields during night.

- In Kymore Plateau and Satpura Hill Zone of Madhya Pradesh, apply irrigation and spray urea after 20-25 days after sowing in wheat. Apply irrigation in tomato and brinjal and harvest the matured fruits.
- In Jhabua Hill Zone of Madhya Pradesh, apply irrigation in early sown wheat, maize and top dressing with nitrogenous fertilizer. Undertake harvesting of tomato, brinjal, chilli, capsicum, pea etc.
- ➤ In Vindhya Plateau zone of Madhya Pradesh, continue sowing of wheat, lentil, gram and winter season sugarcane. Continue nursery preparation for planting of cabbage, cauliflower and vegetables.
- ➤ In Malwa Plateau Zone of Madhya Pradesh, to protect the standing crops from cold injury, apply light and frequent irrigation. Continue sowing of wheat, gram and planting of potato and winter vegetables.
- > In Chattishgarh Plain Zone, apply irrigation in wheat at CRI Stage followed by application of nitrogenous fertilizer
- ➤ In Bundelkhand Zone of Madhya Pradesh, fruit borer attack is observed and is likely to continue in tomato and brinjal, spray Trizophos 40 E.C. 2 mm per one litre of water and spray Quinalphos 25 E.C. @ 2.0ml/L of water for semi lopper and Diamond back in cauliflower and cabbage crops.
- ➤ In Jhabua Hill Zone of Madhya Pradesh, for control of stem & fruit borer in brinjal, tomato & okra, spray Trizofos @ 30 ml/pump (15 l. tank). Control of sucking pest in okra and chilli spray Thiomithaxim/ acetameprid @ 0.3 gm/l.
- ➤ In Vindhya Plateau Zone of Madhya Pradesh, there are chances of attack of army worm caterpillar in wheat. Spray Quinolphos 1.0 to 1.5 per 500-600 litres of water for control. In peas and arhar attack of powdery mildew has been observed. For control, spray carbendazim 2 to 2.5 g per litre of water.
- ➤ In Northern Hill Zone of Chhattisgarh, in the present weather (dew) is conducive for development of wilting conditions in chickpea crop, for its control, spray Tricodarma viridi (5g/k. seed).
- At present the pigeon pea is at pod filling stage in Northern Hill Zone of Chhattisgarh and due to the partial cloudy weather during the last few days there is chance of infestation of pod borer. Farmers are advised to keep keen watch on the crop and if the infestation is above ETL spray Polytrin C@1L/ha or Endoxacarb @ 300 ml/ha.
- > In Bastar Plateau Zone of Chhattisgarh, in kulthi crop, there is attack of alterneria blight and thrips, and aphids in gram for its control spray copper oxychloride and monocrotophos.
- > Stages of major crops are mentioned in Annexure I.
- ➤ Varieties are mentioned in Annexure III
- Animal Husbandry
- ➤ In Jhabua Hills Zone of Madhya Pradesh, vaccinate the cattles against H.S., B.Q. and FMD diseases and also deworming in cattles and goats. Use potassium permanganate @ 5 ml per liter of water for infected animals.
- ➤ In Kymore Plateau and Satpura Hill Zone of Madhya Pradesh, provide concentrated feed to cattle, mix with dry and green fodder and enrich diet with protein, carbohydrate, fat, vitamins etc. Due to cold condition the poultry birds should be protected from cold injury using electric bulb (300 watt for 10sq.ft.) to prevent coryza disease.
- In Central Narmada Valley Zone of Madhya Pradesh, protect the animals from cold during night time.



- **Realised Weather:** Weather remained mainly dry/dry over the region.
- Weather Forecast: Moderate fog would occur at a few places over north Bihar and Sub- Himalayan West Bengal in the morning hours during next 48 hours. Minimum temperatures would fall by 2-3°C over Bihar, Jharkhand and Odisha during next 48 hours. Weather would be mainly dry/dry over the region
- Weather Warning: Nil
- Weather Outlook: Weather would be mainly dry/dry over the region.
- Advisories:
 - In North Western parts of Odisha, south Bihar and Jharkhand, as minimum temperature is likely to fall by 2-3°C (prevailing minimum temperature 6-10°C), apply light and frequent irrigation /sprinkler irrigation in the evening in standing crops, arrange for smoking around the fields during night to protect the crops from cold injury.
 - In Coastal Saline Zone of West Bengal, prepare upland field for nursery bed preparation of *boro* rice. Remove dew from seedlings of *boro* rice by stirring with bamboo or rope. Also, undertake sowing of sunflower. Cover

- the northern side of betel vine garden to restrict northern wind.
- In New Alluvial Zone, Laterite and Red Soil Zone of West Bengal, as temperature may be lower than 10⁰ C, to protect the seedlings of *boro* rice from cold, cover the nursery bed with polythene or keep stagnant water in the nursery bed especially in the night time. Start preparation of the main field for transplanting of *boro* rice. In view of prevailing dry weather, apply irrigation in late sown wheat crop and winter vegetables.
- As dry weather is prevailing during last few weeks, in North West Alluvial Plain Zone of Bihar, apply irrigation in wheat at 30-35 day stage and apply light and frequent irrigation in potato crop. Apply irrigation in tobacco, maize, oilseed, rajmah and vegetable crops. Undertake intercultural operations in tobacco crop.
- ➤ In South Bihar Alluvial Zone, complete sowing of barley and apply irrigation in wheat at 20-30 day stage. Apply irrigation to potato and chilli crops at 10-15 days interval.
- In Western Plateau Zone of Jharkhand, taking the advantage of dry weather, undertake inter cultural operations in pulses and oilseed crops. Apply irrigation to gram and lentil. Also apply irrigation to potato crop regularly after an interval of 7-10 days.
- ➤ In South Eastern Plateau Zone of Jharkhand, apply irrigation to wheat and after irrigation go for intercultural operation and then apply urea @ 30 kg per acre. Apply urea @25-30 kg per acre to mustard crop after two days of irrigation. Undertake nursery raising of rice.
- ➤ In Central & North Eastern Plateau Zone of Jharkhand apply irrigation in wheat crop, undertake sowing of green pea and lentil and nursery raising of onion. Undertake intercultural operations in potato and gram.
- In North West Alluvial Plain Zone of Bihar, due to prevailing dense foggy conditions, there is chance of occurrence of early blight in potato; spray Dithane M-45 @ 2 g / litre or Carbendazim (Bavistin) @ 2 g / litre of water. Also weather is favourable for incidence of aphids in mustard, spray Cartop Hydrocloride @1.5-2.0 ml/liter of water.
- ➤ In East and South Eastern Coastal Plain Zone of Odisha maize crop may be affected by insects like stem borer, aphids and defoliating caterpillars at vegetative stage. To manage the pests, spray Triazophos/ Profenophos @ 1 l/ha, Dimethoate @ 1 l/ha respectively. For Turcicum leaf blight of maize (oval to elliptical yellowish brown to ashy colored spots appear on the leaves with yellow halo), spray Indofil M-45 @ 750 g/acre in 200 l of water 2-3 times at 10 days interval.
- ➤ In East and South Eastern Coastal Plain Zone of Odisha , present weather condition is congenial for occurrence aphids and white fly on pulses at vegetative or flowering stage are. Spray the crop with Dimethoate @ 1000 ml/ha or Thiomethoxam 25 WG @ 100 g/ha for controlling aphids in the field. For white fly which acts as vector for YMV, spray 1000 ml/ha of Dimethoate or 125 ml/ha of Imidacloprid 17.8 SL in 500 l of water. Powdery mildew disease is most common in this stage. Spray with Sulfex or wettable Sulphur @ 1.0 kg or Carbendazim @ 400 g in 200 litres of water per acre or use Sulphur dust @ 12 to 15 kg/acre.
- ➤ In East and South Eastern Coastal Plain Zone of Odisha, present weather condition is congenial for occurrence of termites, thrips and aphids on groundnut during the vegetative stage. For termites, treat the soil with Sevidol granules @ 20 kg or Methyl parathion 2% D dust @ 25 kg/ha and maintain moisture in the field. For thrips, apply Imidacloprid 17.8 SL @ 125 ml in 500 litres of w424r per hectare. For aphids, spray Dimethoate @ 1 l/ha in 500 l of water.
- ➤ In East and South Eastern Coastal Plain Zone of Odisha, present weather condition is congenial for occurrence of aphids mustard crop from early growth stage to pod maturing stage. To control the insect pest spray the crop with Dimethoate @ 1000 ml or Imidacloprid 125 ml/ha. Spraying must be done in the afternoon hours to save honeybees.
- ➤ In South Eastern Plateau Zone of Jharkhand pigeon pea crop is at flowering to pod formation stage and dry with cool temperature favours the attack of leaf eating and sucking pests; spray Monochrotophos @ 1 ml per litre of water at flowering stage and Indoxacarb at pod formation stage @ 0.5 1 ml per litre of water.
- ➤ In Western Plateau Zone of Jharkhand, weather is favourable for the attack of late blight disease in potato crop, spray Redomyl (1.5 gm per litre of water) to control the disease. Also there are chances of powdery mildew disease in green pea, spray Karathen @ 1 ml per litre of water or Sulfex @ 3 gm per litre of water.
- In Laterite and Red soil Zone of West Bengal, for controlling powdery mildew in mustard, apply 0.025% Dinocap in 3 spray at 15 days interval. For prevention of aphid attack apply Imidacloropid 17.8 SL @3 ml/10lit or Quinalphos 25 EC @ 2 ml/lit of water. In this weather condition, attack of early blight may be severe in potato. To control the disease, apply 2.5 gm Mancozeb per lit of water. If required, apply the same again after 10 to 12 days.
- ➤ Due to possibility of lower temperature and foggy weather in Terai Zone of West Bengal, there may be chance of late blight attack in potato. To prevent the attack by late blight, spray the mixture of Metalaxyl 8% and Mancozeb 64% @ 1.5 gm /lt of water at 8-10 days interval. If late blight can found in field then delay in irrigation and top dressing.
- > Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure III.

• Animal Husbandry

- Low temperature condition may adversely affect the milk production and performance of domestic animals. Farmers in North West Alluvial Plain Zone of Bihar are advised to give protein enriched diet to the animals. Do not keep the animal in the open during night.
- ➤ In Western Plateau Zone of Jharkhand, weather is favourable for attack of F.M.D. in milch animals. Take preventive measures to control this disease and animals should be vaccinated twice in a year. Protect cattle from cold waves and keep them in shed after sunset and before sunrise and keep their place warm.
- In Coastal Saline Zone of West Bengal, cattle may be affected by viral pneumonia due to cold. Cowshed should be kept dry. Cover the openings of cowshed by jute bags.

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









Pulses

Transplanting of rice

cole crops

Late blight in Potato

- **Realised Weather:** Weather remained mainly dry/dry over the States of the region.
- **Weather Forecast:** Weather would be mainly dry / dry over the region. Moderate fog would occur at a few places over south Assam and Tripura in morning hours during next 48 hours.
- Weather Warning during next three days: Nil.
- Weather Outlook: Weather would be mainly dry / dry over the region.
- Advisories:
 - In Central Bramhaputra Valley Zone, Hill Zone and North Bank Plain Zone of Assam, undertake main field preparation and transplanting of *boro* rice seedlings at 4 to 5 leaf stage (45 days old seedling).
 - In Central Bramhaputra Valley Zone of Assam, continue transplanting of cole crops followed by light irrigation. In view of prevailing dry weather, irrigate rapeseed and mustard at flowering and siliqua development stages.
 - As dry weather is prevailing, apply irrigation in rapeseed and mustard at flowering stage in Barak Valley Zone of Assam. Apply irrigation in potato after removal of weeds from the field.
 - In Upper Bramhaputra Valley Zone of Assam, farmers are advised to apply mulching with water hyacinth, straw mulch etc. to conserve soil moisture in potato as dry weather is prevailing for last few weeks.
 - In Hill Zone of Assam, undertake weeding and thinning in mustard crops at 25-30 days after sowing by taking advantage of dry weather.
 - In North Bank Plain Zone of Assam, earthing up in potato may be done at 25 days after planting (stolon formation stage) followed by first irrigation.
 - ➤ In Lower Bramhaputra Valley Zone of Assam, undertake transplanting of hybrid *boro* rice seedlings of age about 45 days or with 5-6 leaf stage in the main field.
 - In view of prevailing dry weather, in Meghalaya undertake weeding in cauliflower, cabbage and broccoli followed by light irrigation. Continue sowing of pea in low land rice field with residual soil moisture. Cover space between rows with rice straw mulch to conserve soil moisture in rapeseed and mustard.
 - In Sub Tropical Plain Zone of Manipur, apply light irrigation in rapeseed, mustard and pulses to maintain soil moisture during vegetative stage. Cover nursery bed of tomato with gunny bags to protect form cold. Continue land preparation and sowing of *rabi* maize followed by light irrigation.
 - In Mild Tropical Hill Zone of Mizoram, complete transplanting of cole crops and tomato followed by light irrigation.
 - In Mid Tropical Plain Zone of Tripura, as dry weather is prevailing for last few weeks, apply irrigation to cabbage, cauliflower and tomato. Also maintain moisture in the field of toria through irrigation at pod initiation stage.
 - In Hill Zone of Assam, humid and cloudy weather is congenial for occurrence of late blight in tomato. Apply Ridomil MZ-72 (2 g / litre of water) and Indofil M-45 (2.5 g / litre of water) alternately.
 - ➤ In Lower Bramhaputra Valley Zone of Assam, due to cloudy weather there is chance of late blight in potato. Spray Ridomil MZ-27 @ 2 g in 1 litre of water or Dithane M-45 @ 2.5 g in 1 litre of water.
 - In Central Bramhaputra Valley Zone of Assam, incidence of aphid in rapeseed and mustard crop is observed and likely to continue. Hence, farmers are advised to monitor the crop. Apply Dimethoate 30 EC or Chloropyriphos 20 EC @ 1 ml per litre of water during afternoon hours to control aphids.
 - ➤ In Central Bramhaputra Valley Zone and North Bank Plain Zone of Assam, cloudy and foggy weather condition is congenial for appearance and spread of late blight disease in potato; spray Mancozeb 75% a.i. @

- 2.5 g / litre of water.
- > Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure III.
- Animal Husbandry
- ➤ In Sub Tropical Hill Zone of Arunachal Pradesh, maintain warmth by lighting with filament bulb in the shed of cattle.
- In Manipur, Nagaland, Mizoram and Tripura, cover or tie cattle with gunny bag during night to avoid cold. Also cover poultry house with gunny bags / polythene sheet and provide heating during night for chicks less than 21 days old.
- In Central Bramhaputra Valley Zone and North Bank Plain Zone of Assam, protect poultry birds from cold by using electric bulbs (300 Watt for 100 sq. feet) to prevent *Coryza* disease.



Transplanting of rice

Groundnut

Cotton

Grape vine

- **Realised Weather:** Dry weather prevailed over the States of the region during last week. Cold wave conditions prevailed at a few places over Saurashtra & Kutch region of Gujarat.
- Weather Forecast: Weather would be mainly dry / dry over the region.
- Weather Warning: Cold wave conditions would prevail at a few places over Saurashtra & Kutch region during next 48 hours.
- Weather Outlook: Weather would be mainly dry / dry over the region.
- Advisories:
 - As there was no rain during last few weeks in Konkan, apply irrigation to groundnut at 10-12 days interval, orchards, vegetable crops and pulses. Under prevailing weather, undertake transplanting of cole crops.
 - As dry weather prevails since last few weeks in Madhya Maharashtra, apply irrigation to gram at pod development stage, wheat at crown root initiation / early tillering stage, sugarcane, vegetable crops, jowar and maize. Also apply mulch of plant waste material in rabi jowar to preserve soil moisture. Under prevailing weather undertake preparatory tillage for planting of suru sugarcane, sowing of summer groundnut and water melon and complete preparatory tillage for sowing of groundnut in Western Ghat region.
 - As there was no rain during last few weeks in Marathwada, apply irrigation to gram at flowering / pod development stage, wheat at crown root initiation stage, sugarcane, vegetable crops, jowar and maize. Under prevailing weather undertake preparatory tillage for planting of suru sugarcane, sowing of summer groundnut and watermelon.
 - In view of no rain during last few weeks in Vidarbha, apply irrigation to gram at pod development stage, wheat at crown root initiation / early tillering stage, safflower, vegetable crops and orchards. As dry weather is prevailing since last few weeks, undertake weeding and apply mulch of plant waste material in rabi jowar and safflower to preserve soil moisture.
 - As cold wave conditions would prevail during next 48 hours over Saurashtra and Kutch regions of Gujarat, apply light and frequent irrigation in vegetable crops and other rabi crops (wheat, cumin, mustard, gram etc.) to protect the crops from cold injury.
 - ➤ In Middle Gujarat Zone, as dry weather is prevailing, carry out intercultural operations in gram to conserve soil moisture.
 - As dry weather is prevailing, irrigate the wheat crop at tillering stage in North West Zone and South Saurashtra Zone of Gujarat to avoid moisture stress.
 - Apply irrigation in sugarcane crop (vegetative stage) at an interval of 6 to 7 days in South Gujarat heavy rainfall Zone. Carry out sowing of watermelon.
 - Due to partly cloudy weather in Marathwada region, there may be attack of pod borer on red gram; spray Quinalphos 25 % @ 28 ml per 10 litres of water where the crop is at pod development stage.
 - ➤ Prevailing cold and foggy weather is congenial for incidence of thrips and blight in onion in eastern parts of Pune region; spray Profenofos @ 100 ml + Mancozeb @ 300 g per 100 litres of water with 50 ml sticker.
 - ➤ In North Saurashtra Zone of Gujarat, under present weather conditions severe attack of thrips in garlic and onion has been reported which is likely to increase; spray Imidacloprid 70% WS @ 3 g and Lmbda-Cyhalothrin @ 14

ml in 10 liters of water at 10 days interval, alternately. Also in present weather conditions severe attack of thrips and aphids has been reported in cumin which is likely to increase; spray Acetamiprid 5 g / 10 liters of water for control.

- ➤ Weather conditions in Bhal and Coastal Zone are favourable for infestation of blight disease in cumin crop and rust in mustard crop; spray Mancozeb 0.2% @ 30 g plus 25 ml of concentrated desi soap solution in 10 litres of water to control the disease.
- > Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure III.
- Animal Husbandry
- As cold wave conditions would prevail over Saurashtra and Kutch region of Gujarat, keep animals indoor during night to protect them from cold. Provide ad lib warm water to lactating animals and include dry fodder in feeding. Keep animal houses clean and dry to prevent diseases. Increase protein level and minerals in the feed concentrate of animals.

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







Sugarcane(cane maturity)



Onion (bulb development)



Sucking pest on Groundnut

- **Realized Weather**: Weather was mainly dry / dry in the region.
- Rainfall Forecast: Rain/thundershowers would occur at a few places over Tamilnadu during next 24 hours and at many places thereafter; rain/thundershowers would occur at isolated places over Kerala during next 24 hours and increase thereafter; rain/thundershowers would occur at isolated places over coastal Andhra Pradesh & south interior Karnataka on 4th. Weather would be mainly dry/dry over rest of the region.
- Weather Warning during the next three days: Isolated heavy rain/thundershowers would occur over Tamilnadu on 4th and 5th January.
- Weather Outlook: Rain/thundershowers would occur at many places over south Tamilnadu and south Kerala.
- Advisory:
 - As rain/thundershowers would occur at a few / many places over Tamilnadu during next three days along with isolated heavy rainfall on 4th and 5th, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Also arrange for adequate drainage to avoid water stagnation in the crop fields.
 - Due to prevailing dry weather conditions in the Anantapur district of Scarce Rainfall zone of Andhra Pradesh, flower droppings have been noticed in red gram which is at flowering stage and Bengal gram due to moisture stress. Apply supplementary irrigation to the crops.
 - Weather is favourable to undertake nursery sowing of rice in Telangana and North Coastal zones of Andhra Pradesh
 - ➤ In the North Transition Zone of Karnataka, apply irrigation to wheat (Durum) crop which is at late jointing to flowering stage and early sown sorghum which is at flowering phase and chickpea crop which is at pod formation to flowering phase. Complete harvesting of sugarcane within 8-10 days depending upon the maturity of crop.
 - Taking advantage of the dry weather prevailing in the Eastern Dry Zone of Karnataka undertake harvesting of red gram. Undertake planting of sugarcane in the North East Transition Zone of Karnataka.
 - ➤ Undertake harvesting of rice crop in the Southern Dry Zone of Karnataka.
 - Undertake harvesting of rice crop; undertake sowing of black gram, green gram and sunhemp utilising the residual soil moisture after harvesting of rice and cotton picking in the Central Dry Zone of Karnataka.
 - > Continue sowing of *puncha* rice in Kottayam district of Problem Area Zone in Kerala.
 - Undertake sowing of rice fallow pulses in the matured *samba* paddy fields under waxy condition of soil in the Cauvery Delta Zone of Tamil Nadu utilising the expected rainfall.
 - > The prevailing weather condition is congenial for the spread of blotch incidence in turmeric, blast and bacterial leaf diseases in rice and downy mildew disease in maize in the Western Zone of Tamil Nadu. Monitor the crops and spray Mancozeb @ 2.5 g/liter of water to control blotch incidence and undertake plant protection measures to prevent blast, bacterial leaf diseases and downy mildew diseases after current spells of rain.

- ➤ The weather condition is congenial for blast disease in rice especially neck blast in the Southern Zone of Kerala. Apply Carbendazim 50 WP 500g/ ha as a control measure to control the disease.
- ➤ Prevailing dry weather in the Scarce Rainfall Zone of Andhra Pradesh is congenial for incidence of sucking pest in *rabi* groundnut, mealy bugs, leaf hopper and rust disease in sugar cane crop. Monitor the crops and undertake plant protection measures.
- ➤ Weather is congenial for incidence of thrips in *rabi* groundnut in Southern and Southern Telangana zone of Andhra Pradesh. Spray Dimethoate @ 2 ml or Acephate @ 1.5 g per liter of water as a precautionary measure.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure III.

• Animal Husbandry

- Ensure periodic vaccination of animals against FMD, Brucellosis, Haemorrahagic Septicaemia, Anthrax and small ruminants against PPR and Sheep and Goat Pox in the Scarce Rainfall Zone of Andhra Pradesh.
- With the night temperature of around 17°C, artificial heating for brooding chicks is essential to ensure even distribution of chicks without huddling in the North Western Zone of Tamil Nadu in order to facilitate normal feed intake and uniform body weight in brooding chicks.

Annexure I Stages of Major Crops

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

- Wheat (crown root initiation), barley, oat, late peas (germination/early vegetative), early peas, gobhi sarson (vegetative/pod formation), cauliflower (transplanting), cucurbits (maturity/ harvesting), radish, carrot, turnip, beet leaf and fenugreek (direct sowing/germination), onion (planting), potato (planting) in Himachal Pradesh.
- Wheat, barley, oat, berseem (CRI/ tillering), ginger (vegetative), sugarcane (active vegetative/grand growth), sesame in low land area (early vegetative / vegetative), vegetable pea (sowing / germination), toria, chickpea (vegetative/pod maturity), tomato (transplanting/germination), potato (late vegetative), Autumn sugarcane (planting), sarson, masoor (sowing/early vegetative), coriander, spinach, radish, fenugreek (vegetative/picking)in Uttarakhand.
- Wheat, barley (crown root initiation/tillering), toria (pod maturity/harvesting), gobisarson, mustard (vegetative/flowering), brown sarson, oat, lentil, berseem, gram, field pea (vegetative/flowering), potato (vegetative), methi palak, spinach (vegetative/picking), radish, carrot, turnip, garlic (vegetative), pole type beans (vegetative), onion, cole crops (transplanting/early vegetative), fruit crops (planting) in Jammu & Kashmir.
- Wheat, barley (germination/seedling /crown root initiation), lentil (germination/ crown root initiation/ vegetative), toria (flowering/pod maturity/harvesting), gram and mustard (branching/flowering/pod formation), tomato, brinjal, Shimla mirch (early vegetative / vegetative), new sugarcane (active vegetative/grand growth), castor (flowering/spike formation), cucurbits (sowing/germination), radish, Desi carrot (sowing/germination), cabbage and cauliflower (transplanting /early vegetative), onion(transplanting/vegetative), cumin, ajwain, methi, Isabgol (sowing/germination) in Rajasthan.
- wheat(sowing/germination / crown root initiation), oats, barseem (sowing/germination), brinjal, tomato, early (cauliflower and cabbage) (vegetative / flowering), cauliflower, cabbage, broccoli and tomato (transplanting), early radish, spinach and coriander (vegetative), SarsonSaag, Bathua, radish, spinach, fenugreek, coriander and turnip (sowing), guar, bajra (flowering / grain filling), *rabi* onion (nursery sowing), mustard, gram, pea, carrot, garlic (sowing), oat, barseem (sowing) in Delhi.
- Wheat (sowing/germination/seedling/ crown root initiation), Maize (knee height),barley/mustard/pea/chickpea/lentil/Linseed (seedling), potato (sowing), Jowar, bajra, (grain filling/maturity), tomato, brinjal, chilli (fruiting/picking), pigeon pea, black gram, green gram (flowering/pod formation), spring sugarcane (grand growth/harvesting), toria (pod formation) in Uttar Pradesh.
- Sugarcane (grand growth), wheat (sowing/germination/cri), cucurbits, black gram, green gram, soybean, arhar (vegetative/pod formation), moong, mash (vegetative) maize (cob formation / cob maturity) sesamum (vegetative), cauliflower (transplanting), potato (planting) in Punjab.
- Late sown wheat (sowing / germination/CRI), New sugarcane (vegetative) in Haryana.

CENTRAL INDIA [M.P., CHHATTISGARH]

- Sugarcane (grand growth), winter sugarcane (planting), vegetables (flowering/ fruiting), wheat, (CRI/tillering/booting), safflower, mustard, gram and linseed (branching/flowering), potato (planting/ stolan formation), onion (nursery raising/planting) in Madhya Pradesh.
- Sugarcane (elongation), pigeon pea (pod formation/pod filling)agi and kodo millet (vegetative), ginger, turmeric, papaya (vegetative), onion (vegetative), vegetable crops (flowering/ fruiting), wheat, safflower and gram (germination/CRI), potato, onion (planting) in Chhattisgarh.

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

- Onion (transplanting), arhar (vegetative), winter maize, sunflower, mustard, toria, pea, lentil, gram, rajmah (vegetative), cauliflower, cabbage, chilli, tomato, brinjal (vegetative), wheat(crown root initiation), boro rice (sowing) in Bihar.
- Arhar (flowering/pod formation), onion (vegetative), tomato, cauliflower, cabbage (vegetative), sweet potato (stem elongation), potato (vegetative), green peas, bell pepper (vegetative), wheat (crown root initiation) in Jharkhand.
- Rice (harvesting), pigeon pea (pod formation / pod maturity), turmeric, ginger (rhizome formation), rabi vegetables (transplanting), sugarcane (grand growth), banana (vegetative), mustard (vegetative/ pod formation stage), wheat, groundnut, cluster bean, green pea (early vegetative) in Odisha.
- Boro rice (sowing/ seedlings), ginger, turmeric (rhizome formation), tomato, brinjal (transplanting / early vegetative), cabbage and cauliflower (transplanting), wheat (seedling, crown root initiation), mustard (vegetative/ flowering), potato (planting), winter vegetables (seedling/early vegetative/ vegetative) in West Bengal.
- Wheat (tillering/ active tillering), rabi vegetables (vegetative / late vegetative/ harvesting), ginger (harvesting), mustard (vegetative/ flowering), potato (vegetative/ tuber formation) in Sikkim.

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

- *Boro* rice (seedlings / transplanting), sugarcane (Autumn) (maturity / harvesting), rapeseed and mustard (vegetative / flowering / pod formation), *rabi* pulses like lentil, rajmah, pea, lathyrus etc. (vegetative / flowering), wheat (early vegetative / crown Root Initiation), winter vegetables (vegetative / flowering / fruiting), potato (vegetative / stolon formation), cole crops (vegetative / head formation / maturity), tomato (flowering / fruiting), cotton (boll maturity / harvesting) in Assam.
- Cauliflower, cabbage, broccoli and kholkhol (maturity / harvesting), mustard (flowering / pod formation), pea (vegetative), winter maize (vegetative / flowering) and potato (vegetative / tuber formation) in Arunachal Pradesh.
- Rapeseed and mustard, pea, pulses (vegetative), *rabi* maize (sowing / vegetative), *rabi* vegetables (vegetative), cole crops (vegetative / head formation), potato (vegetative / tuber formation), onion (vegetative), cucurbits (sowing / vegetative) in Manipur.
- Potato (vegetative / tuber formation), rapeseed and mustard (vegetative), cauliflower and other winter vegetables (transplanting / vegetative) in Meghalaya.
- Ginger and turmeric (vegetative / rhizome formation), banana (fruiting / maturity / harvesting), cole crops (transplanting / vegetative) in Mizoram.
- Mustard (active vegetative / flowering), potato (vegetative / tuber formation), rajmah (vegetative), tomato (vegetative), vegetables (maturity / harvesting) in Nagaland.
- *Rabi* maize (vegetative), lentil (sowing / early vegetative), potato (vegetative / tuber formation), banana (vegetative / fruiting / harvesting), toria (flowering / pod formation), cole crops (vegetative / head formation), tomato, brinjal and radish (flowering / fruiting / maturity/ harvesting) in Tripura.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- Red gram (pod development / pod maturity/harvesting in Madhya Maharashtra, Vidarbha and Marathwada), rabi jowar (grain formation/maturity in Madhya Maharashtra and Marathwada), safflower (floral bud initiation/flowering in Madhya Maharashtra, Marathwada and Vidarbha), gram (pod development in Madhya Maharashtra, Marathwada and Vidarbha), wheat (crown root initiation/early tillering in Madhya Maharashtra, Marathwada and Vidarbha), maize (vegetative/ tasseling & silking in Madhya Maharashtra), adsali and pre seasonal sugarcane (maturity / harvesting), suru sugarcane (elongation / maturity), New adsali (early tillering / tillering in Marathwada and Madhya Maharashtra), pre-seasonal sugarcane (early tillering in Marathwada and Madhya Maharashtra), rice (germination / seedling in Konkan, nursery sowing / germination in East Vidarbha), groundnut (sowing/germination in Konkan) in Maharashtra.
- Wheat (CRI / tillering), gram (vegetative / flowering / pod formation), castor (spike development), cotton (flowering / boll formation), sugarcane (elongation / grand growth), new sugarcane (vegetative), cumin (flowering), fenugreek (vegetative), vegetables (flowering / fruiting / harvesting), potato (vegetative) in Gujarat.

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

- Cotton (picking) in North Telangana zone, sugarcane (Jan-March planted) (cane maturity/harvest), late sown kharif rice (grain filling/maturity), banana (fruit development), rabi crops: rice (transplanting/tillering), groundnut (vegetative/flowering), maize (vegetative), Red gram (flowering /pod development), Bengal gram (flowering/pod development), jowar (grain filling/dough), chillies (vegetative/flowering), vegetables (vegetative), onion (bulb development /maturity) and wheat (crown root initiation) in High altitude zone in Andhra Pradesh.
- Sugarcane (grand growth), samba rice (flowering and maturity), thaladi rice (panicle initiation/ flowering), rice (tillering/vegetative in the Western Zone), cotton and maize(vegetative/flowering), onion (vegetative), sunflower (seedling), winter cotton (pod development), groundnut (sowing) in Karur in Cauvery Delta Zone, vegetables (vegetative), black gram (flowering), irrigated rice (active tillering), rainfed cotton(flowering), rainfed maize (grain filling), pearl millet and sorghum (flowering) and pulses (flowering/ pod development) in Tamil Nadu.
- Mundakan rice (panicle initiation), Puncha rice (sowing) in Kottayam district, arecanut (harvesting), sugarcane (grand growth), rubber (tapping), rabi vegetables (growing), pepper (berry maturity), cardamom (harvesting), in Kerala.
- Sugarcane (cane maturity), kharif crops: pigeon pea (harvesting), cotton (picking), Rabi Crops: Bengal gram (pod formation), sunflower (marurity), sorghum (flowering), safflower (flowering) and wheat (jointing to flowering), rice (transplanting in coastal Karnataka), sugarcane (planting) in Karnataka.

Annexure II Week by week Rainfall Distribution

	04.1	2.13	11.1	2.13	18.1	2.13	25.1	2.13	01.0	1.14
State/Districts	Actual	% dep.								
Arunachal Pradesh		-		•		-		•		-
Anjaw	**	**	**	**	**	**	**	**	**	**
Changlang	0.0	-100	0.0	-100	1.7	-94	0.0	-100	0.0	-100
Dibang Valley	0.0	-100	2.0	-71	6.0	-75	0.0	-100	0.0	-100
East Kameng	0.0	-100	1.0	-80	16.0	142	0.0	-100	0.0	-100
East Siang	0.0	-100	0.0	-100	4.5	-50	0.0	-100	0.0	-100
Kurung Kumey	**	**	**	**	**	**	**	**	**	**
Lohit	0.3	-96	0.0	-100	1.2	-83	0.0	-100	0.0	-100
Lower Dibang Valley	0.0	-100	0.0	-100	4.8	-80	0.0	-100	0.0	-100
Lower Subansari	**	**	**	**	12.0	532	3.0	-67	**	**
Papumpara	0.0	-100	0.0	-100	3.3	-18	0.1	-50	0.0	-100
Tawang	5.0	-38	2.0	-60	12.0	-7	0.0	-100	**	**
Tirap	0.0	-100	0.0	-100	0.5	-89	0.0	-100	0.0	-100
Upper Siang	0.0	-100	0.0	-100	14.1	-58	0.0	-100	0.0	-100
Upper Subansari	0.0	-100	0.0	-100	24.2	357	0.0	-100	0.0	-100
West Kameng	0.0	-100	0.0	-100	34.6	168	0.0	-100	0.0	-100
West Siang	0.0	-100	1.0	-83	10.3	-9	0.0	-100	0.0	-100
Assam										
Baksa	0.0	-100	0.0	-100	6.9	116	0.0	-100	0.0	-100
Barpeta	0.0	-100	0.0	-100	0.5	-85	0.0	-100	0.0	-100
Bongaigaon	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Cachar	0.0	-100	0.0	-100	0.0	-100	1.1	-30	0.0	-100
Chirang	0.0	-100	0.0	-100	0.1	-95	0.0	-100	0.0	-100
Darrang	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dhemaji	0.0	-100	0.0	-100	3.0	-53	0.0	-100	0.0	-100
Dhubri	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dibrugarh	0.0	-100	0.0	-100	3.8	-8	0.0	-100	0.0	-100
Goalpara	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Golghat	0.0	-100	0.0	-100	8.2	91	0.2	-94	0.0	-100
Hailakandi	0.0	-100	0.0	-100	0.0	-100	1.6	-41	0.0	-100
Jorhat	0.0	-100	0.0	-100	1.2	-76	0.3	-81	0.0	-100
Kamrup(Rural)	0.0	-100	0.0	-100	2.9	16	0.0	-100	0.0	-100
Kamrup(Metro)	0.0	-100	0.0	-100	0.7	-73	0.0	-100	0.0	-100
Karbi Anglong	0.0	-100	0.0	-100	0.0	-100	0.8	-20	0.0	-100
Karimganj	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kokrajhar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Lakhimpur	0.0	-100	0.0	-100	5.7	-11	0.3	-91	0.0	-100
Morigaon	0.0	-100	0.0	-100	1.9	-34	0.0	-100	0.0	-100
N.C.Hills	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nowgong	0.0	-100	0.0	-100	8.2	193	0.0	-100	0.0	-100
Nalbari	0.0	-100	0.0	-100	1.8	22	0.0	-100	0.0	-100
Sonitpur		100	0.0	-100	1.6	-64	0.2	-85	0.0	-100
Sompu	0.0	-100	0.0	-100	1.0	0.				
Sibsagar	0.0	-100	0.0	-100	2.7	-33	2.0	67	0.0	-100

Udalgiri	0.0	-100	0.0	-100	1.2	-63	1.1	38	0.0	-100
Meghalaya										
East Garo Hills	0.0	-100	**	**	**	**	2.0	200	0.0	-100
East Khasi Hills	0.0	-100	0.0	-100	0.0	-100	0.1	-95	0.0	-100
Jaintia Hills	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Ribhoi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
South Garo Hills	0.0	-100	0.0	-100	7.0	126	0.0	-100	**	**
West Garo Hills	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
West Khasi Hills	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mizoram	0.0	100	0.0	100	0.0	100	0.0	100	0.0	100
Aizwal	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Champhai	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kolasib	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Lawngtlai	1.0	-84	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Lunglei	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mamit	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Saiha	11.0	67	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Serchhip	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Manipur										
Bishnupur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Chandel	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Churachandpur	**	**	**	**	**	**	**	**	**	**
Imphal east	0.0	-100	0.0	-100	1.3	-41	0.0	-100	0.0	-100
Imphal west	**	**	**	**	0.0	-100	0.1	-83	**	**
Senapati	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Tamenglong	**	**	**	**	**	**	**	**	**	**
Thoubal	0.0	-100	0.0	-100	3.0	-57	0.0	-100	0.0	-100
Ukhrul	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nagaland										
Dimapur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	**	**
Kephire	0.0	-100	0.0	-100	0.0	-100	1.0	-68	0.0	-100
Kohima	0.0	-100	1.5	150	0.0	-100	0.9	-10	0.0	-100
Longleng	**	**	**	**	**	**	**	**	**	**
Mokokchung	0.0	-100	0.0	-100	2.0	-69	3.0	200	0.0	-100
Mon	**	**	**	**	**	**	**	**	**	**
Paren	**	**	**	**	**	**	**	**	**	**
Phek	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Tuensang	**	**	**	**	**	**	**	**	**	**
Wokha	0.0	-100	0.0	-100	0.0	-100	0.5	-74	0.0	-100
Zunheboto	**	**	**	**	**	**	**	**	**	**
					• •	• •	• •			
Tripura	ΛΛ	100	ΛΛ	100	0.0	100	1 0	CA	ΛΛ	100
Dhalai	0.0	-100	0.0	-100	0.0	-100	1.0	-64	0.0	-100
North tripura	0.0	-100	0.0	-100	0.0	-100	12.6	367	0.0	-100
South tripura	0.0	-100	0.0	-100	0.0	-100	1.0	-33	0.0	-100
West tripura	0.0	-100	0.0	-100	0.0	-100	3.6	90	0.0	-100
Himachal Pradesh										
Bilaspur	0.0	-100	0.0	-100	0.0	-100	22.9	160	6.1	-50
Chamba	0.0	-100	0.0	-100	0.0	-100	36.5	148	40.3	70
Hamirpur	0.0	-100	0.0	-100	0.0	-100	24.1	191	7.7	-54

Vongra	0.0	-100	0.0	-100	0.0	-100	40.7	338	12.7	-37
Kangra										
Kinnaur	0.0	-100	0.0	-100	0.0	-100	6.4	-50	5.8	-77
Kullu	0.0	-100	0.0	-100	0.0	-100	22.6	82	6.4	-62
Lahaul and Spiti	0.0	-100	1.3	-84	0.0	-100	8.6	-51	5.1	-77
Mandi	0.0	-100	0.0	-100	0.0	-100	21.3	232	8.5	-43
Shimla	0.0	-100	0.0	-100	0.0	-100	11.7	54	2.4	-82
Sirmaur	0.0	-100	0.0	-100	0.0	-100	23.8	138	3.1	-79
Solan	0.0	-100	0.0	-100	0.0	-100	21.6	157	2.9	-79
Una	0.0	-100	0.0	-100	0.0	-100	24.9	236	7.3	-28
Punjab										
Amritsar	0.0	-100	0.0	-100	0.0	-100	2.1	-37	0.5	-92
Barnala	0.0	-100	0.0	-100	0.0	-100	1.0	-47	0.0	-100
Bhatinda	0.0	-100	0.0	-100	0.0	-100	0.5	-64	0.0	-100
Faridkot	0.0	-100	0.0	-100	0.0	-100	1.0	-41	0.0	-100
Fatehgarh Saheb	0.0	-100	0.0	-100	0.0	-100	0.0	-100	7.0	52
Ferozpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Gurdaspur	0.0	-100	0.0	-100	0.0	-100	5.8	-4	27.8	178
Hoshiarpur	0.0	-100	0.0	-100	0.0	-100	11.5	77	12.3	78
Jalandhar	0.0	-100	0.0	-100	0.0	-100	1.0	-82	0.2	-96
Kapurthala	0.0	-100	0.0	-100	0.0	-100	17.2	560	2.1	-34
Ludhiana	0.0	-100	0.0	-100	0.0	-100	6.3	23	4.1	-13
Mansa	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Moga	0.0	-100	0.0	-100	0.0	-100	3.5	106	0.0	-100
Muktesar		-100		-100		-100		-100		-100
Nawashahar	0.0	-100	0.0	-100	0.0	-100	0.0	24	0.0	-18
Patiala	0.0	-100	0.0	-100	0.0	-100	10.8	-86	6.8	-16
	0.0	-100	0.0	-100	0.0	-100	0.9	90	3.2	-62
Ropar	0.0		0.0		0.0	-100	12.7	94	3.5	-58
Sangrur	0.0	-100	0.0	-100	0.0		9.1		1.7	
Mohali	0.0	-100	0.0	-100	0.0	-100	2.0	-74	2.0	-76
TarnTaran	0.0	-100	0.0	-100	0.0	-100	2.0	18	0.0	-100
Haryana										
Ambala	0.0	-100	0.0	-100	0.0	-100	7.1	60	2.0	-80
Bhiwani	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Chandigarh	0.0	-100	0.0	-100	0.0	-100	7.7	5	**	**
Faridabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	3.0	76
Fatehabad	0.0	-100	0.0	-100	0.0	-100	1.2	-8	0.0	-100
Gurgaon	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Hissar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jhajar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jind	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Katihal	0.0	-100	0.0	-100	0.0	-100	0.0	-100	1.0	-44
Karnal	0.0	-100	0.0	-100	0.0	-100	0.0	-100	1.7	-60
Kurukshetra	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mahendragarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mewat	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Palwal	0.0	-100	0.0	-100	0.0	-100	0.0	-100	6.0	650
Panchkkula	0.0	-100	0.0	-100	0.0	-100	3.7	2	1.2	-91
Panipat	0.0	-100	0.0	-100	0.0	-100	0.0	-100	2.8	-20
Rewari	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
	1		1		ı					

Rohtak	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sirsa	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sonepat	0.0	-100	0.0	-100	0.0	-100	0.0	-100	2.5	-36
Yamunanagar	0.0	-100	0.0	-100	0.0	-100	20.9	397	3.0	-70
Delhi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	2.0	-19
Jammu & Kashmir										
Anantnag	0.0	-100	0.0	-100	0.0	-100	47.6	258	68.8	270
Badgam	0.0	-100	0.0	-100	0.0	-100	19.7	218	84.4	744
Bandipore	**	**	**	**	**	**	**	**	0.0	-100
Baramula	0.0	-100	0.0	-100	1.6	-97	13.0	-20	8.5	-93
Doda	0.0	-100	0.0	-100	0.0	-100	54.4	88	30.8	-13
Ganderwal	0.0	-100	0.0	-100	0.0	-100	34.8	364	2.2	-87
Jammu	0.0	-100	0.0	-100	0.0	-100	4.4	-41	6.6	-51
Kargil	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kathua	0.0	-100	0.0	-100	0.0	-100	39.0	491	21.7	43
Kistwar	**	**	**	**	**	**			0.0	-100
Kulgam	0.0	-100	0.0	-100	0.0	-100	14.0	5	30.8	65
Kupwara	0.0	-100	0.0	-100	0.0	-100	3.9	-73	8.0	-61
Ladakh(Leh)	0.0	-100	0.0	-100	0.0	-100	0.3	-76	0.0	-100
Poonch	0.0	-100	0.0	-100	0.0	-100	0.2	-99	0.0	-100
Pulwama	0.0	-100	0.0	-100	0.0	-100	25.7	459	18.6	112
Rajouri	0.0	-100	0.0	-100	0.0	-100	0.6	-82	0.0	-100
Ramban	0.0	-100	0.0	-100	0.0	-100	38.8	34	59.9	70
Reasi	0.0	-100	0.0	-100	0.0	-100	6.3	-69	14.7	-48
Samba	0.0	-100	0.0	-100	0.0	-100	4.7	-37	6.8	-50
Shopian	0.0	-100	0.0	-100	0.0	-100	3.0	-35	3.0	-66
Srinagar	0.0	-100	0.0	-100	0.0	-100	12.0	60	31.3	86
Udhampur	0.0	-100	0.0	-100	0.0	-100	4.8	-76	28.3	1
East Madhya Pradesh										
Anuppur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Balaghat	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Chhatarpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	9.7	549
Chindwara	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Damoh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dindori	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jabalpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Katni	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mandla	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Narsingpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Panna	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Rewa	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Satna	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Seoni	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Shahdol	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sidhi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Singrauli	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Tikamgarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	27.0	1700
J J										

Umaria	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
West Madhya Pradesh										
Alirajpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Asoknagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Badwani	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Betul	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bhind	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bhopal	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Burhanpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Datia	0.0	-100	0.0	-100	0.0	-100	0.0	-100	3.3	122
Dewas	1.2	-82	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dhar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Guna	0.0	-100	0.0	-100	0.0	-100	0.0	-100	7.6	260
Gwalior	0.0	-100	0.0	-100	0.0	-100	0.0	-100	20.7	1280
Harda	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Hosangabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Indore	5.2	126	0.0	-100	0.0	-100	0.0	-100	0.1	-73
Jhabua	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Khandwa	0.7	-88	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Khargone	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mandsaur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Morena	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Neemuch	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Raisen	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Rajgarh	8.2	83	0.0	-100	0.0	-100	0.0	-100	7.0	400
Ratlam	0.0	-100	0.0	-100	0.0	-100	0.0	-100	24.8	3443
Sehore	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Shajapur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	18.0	1100
Sheopur Kalani	0.0	-100	0.0	-100	0.0	-100	0.0	-100	7.0	678
Shivpuri	0.0	-100	0.0	-100	0.0	-100	0.0	-100	8.5	347
Ujjain	0.0	-100	0.0	-100	0.0	-100	0.0	-100	6.2	593
Vidisha	1.1	-78	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Chattisgarh										
Bastar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bijapur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bilaspur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dantewara	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dhamtari	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Durg	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Janjgir	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jashpurnagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kanker	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Korba	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Koriya	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kawardha	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mahasumund	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Narayanpur	0.0	-100	0.0	-100	0.0	-100	1.0	900	0.0	-100
Raigarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100

Raipur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Rajandgaon	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Surguja	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
East Uttar Pradesh										
Allahabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.3	-81
Ambedkar Nagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Azamgarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.5	-76
Bahraich	0.0	-100	0.0	-100	0.0	-100	0.0	-100	1.0	-81
Ballia	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Balrampur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Banda	0.0	-100	0.0	-100	0.0	-100	0.0	-100	23.8	1222
Barabanki	0.0	-100	0.0	-100	0.0	-100	0.0	-100	1.1	-74
Basti	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.3	-91
Chandauli	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Deoria	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Faizabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	1.3	-65
Farrukhabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	6.2	226
Fatehpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	3.3	43
Gazipur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Gonda	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Gorakhpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Hardoi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	3.9	44
Jaunpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kannauj	0.0	-100	0.0	-100	0.0	-100	0.0	-100	15.0	582
Kanpur City	0.0	-100	0.0	-100	0.0	-100	0.0	-100	12.2	190
Kanpur Dehat	0.0	-100	0.0	-100	0.0	-100	0.0	-100	3.6	33
Kaushambi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kheri	0.0	-100	0.0	-100	0.0	-100	0.0	-100	4.5	-13
Kushi nagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Lucknow	0.0	-100	0.0	-100	0.0	-100	0.0	-100	3.6	6
Maharajganj	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mau	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mirzapur Pratapgarh										
10	0.0	-100	0.0	-100	0.0	-100	0.0	-100	4.3	79
RaiBarelly	0.0	-100	0.0	-100	0.0	-100	0.0	-100	2.4	-14
Sahuji Maharajnagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sant Kabirnnagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100%
Sant Ravidas Nagar	0.0 **	-100 **	0.0	-100 **	0.0	-100	0.0	-100	0.0	-100% **
Shrawasti					0.0	-100	0.0	-100		
Sidharthnagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sitapur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	3.1	-18
Sonbhadra	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sultanpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	4.1	37
Unnao	0.0	-100	0.0	-100	0.0	-100	0.0	-100	3.5	-8
Varanasi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
West Uttar Pradesh										
Agra	0.0	-100	0.0	-100	0.0	-100	0.0	-100	5.0	213
Aligarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	l	455

Badaian											
Baghpat 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 3.0 -29 Barelly 0.0 -100 0.0 -100 0.0 -100 6.9 16 4.3 -17 Bulandsahur 0.0 -100 0.0 -100 0.0 -100 0.0 -100 4.2 75 Eah 0.0 -100 0.0 -100 0.0 -100 0.0 -100 4.2 75 Eah 0.0 -100 0.0 -100 0.0 -100 0.0 -100 4.2 75 Eah 0.0 -100 0.0 -100 0.0 -100 0.0 -100 4.2 75 Eah 0.0 -100 0.0 -100 0.0 -100 0.0 -100 4.2 75 Eah 0.0 -100 0.0 -100 0.0 -100 0.0 -100 1.0 4.8 Firozabad 0.0 -100 0.0 -100 0.0 -100 0.0 -100 13.2 529 Gibxagar 0.0 -100 0.0 -100 0.0 -100 0.0 -100 3.0 25 Gibxagar 0.0 -100 0.0 -100 0.0 -100 0.0 -100 3.0 25 Gibxagar 0.0 -100 0.0 -100 0.0 -100 0.0 -100 3.0 25 Gibxagar 0.0 -100 0.0 -100 0.0 -100 0.0 -100 11.3 371 Jaluan 0.0 -100 0.0 -100 0.0 -100 0.0 -100 11.3 371 Jaluan 0.0 -100 0.0 -100 0.0 -100 0.0 -100 11.3 321 Joiriha Pbule Nagar 0.0 -100 0.0 -100 0.0 -100 0.0 -100 1.0 3.0 381 Joiriha Pbule Nagar 0.0 -100 0.0 -100 0.0 -100 0.0 -100 1.0 -100 -100 1.0 -100 1.0 -100 1.0 -100 1.0 -100 1.0 -100 1.0 -100 1.0 -100 1.0 -100 1.0 -100 1.0 -100 1.0 -100 1.0 -100 1.0 -100 1.0 -100 1.0 -100 1.0 -100 1.0 -100 1.0 -100 1.0 -100 -100 1.0 -100 1.0 -100 1.0 -100 -100 -100 -100	Auraiya	0.0	-100	0.0	-100	0.0	-100	0.0	-100	7.0	192
Bareilly	Badaun	0.0	-100	0.0	-100	0.0	-100	0.6	-77	11.4	500
Bijnor	Baghpat	0.0	-100	0.0	-100	0.0	-100	0.0	-100	3.0	-29
Bijisor	Bareilly	0.0	-100	0.0	-100	0.0	-100	1.0	-58	9.5	217
Bulandsahar 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.2 75	Bijnor	0.0	-100	0.0	-100	0.0	-100	6.9	16	4.3	-17
Flash											
Etawah											
Firozabad											
GBNagar											
Chaziabad											
Hamirpur											
Dalaum											
Dhansi											
Jotirba Phule Nagar											
Kanshiramagar 0.0 -100 0.0											
Lalitpur											
Mahamaya Nagar 0.0 -100 0.0 -100 0.0 -100 0.0 -100 1.0 1.0 1.0 6.0 216 Mahoba 0.0 -100											
Mahoba 0.0 -100 0.0 -100 0.0 -100 0.0 -100 6.0 216 Mainpuri 0.0 -100 0.0 -100 0.0 -100 0.0 -100 17.0 448 Mathura 0.0 -100 0.0 -100 0.0 -100 0.0 -100 1.0 -9 Mecrut 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -46 7.4 118 Muzzaffarnagar 0.0 -100 0.0 -100 0.0 -100 2.7 -37 8.8 52 Pilibihi 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 8.5 130 Rampur 0.0 -100 0.0 -100 0.0 -100 0.0 -100 1.0 0.0 -100											
Mainpuri 0.0 -100 0.0 -100 0.0 -100 0.0 -100 100 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>											
Mathura 0.0 -100 0.0 -100 0.0 -100 0.0 -100 1.0 -9 Meerut 0.0 -100 0.0 -100 0.0 -100 0.9 -79 1.5 -65 Moradabad 0.0 -100 0.0 -100 0.0 -100 2.0 -46 7.4 118 Muzzaffarnagar 0.0 -100 0.0 -100 0.0 -100 2.0 -46 7.4 118 Muzzaffarnagar 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 5.8 4 Saharanpur 0.0 -100 0.0 -100 0.0 -100 0.0 -100 1.0 0.0 -100 1.0 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0											
Meerut 0.0 -100 0.0 -100 0.0 -100 0.0 -79 1.5 -65 Moradabad 0.0 -100 0.0 -100 0.0 -100 2.0 -46 7.4 118 Muzzaffarnagar 0.0 -100 0.0 -100 0.0 -100 2.7 -37 8.8 52 Pilibit 0.0 -100 0.0 -100 0.0 -100 0.0 -100 8.5 130 Rampur 0.0 -100 0.0 -100 0.0 -100 0.0 -100 5.8 4 Saharanpur 0.0 -100 0.0 -100 0.0 -100 1.0											
Moradabad 0.0 -100 0.0 -100 0.0 -100 2.0 -46 7.4 118 Muzzaffarnagar 0.0 -100 0.0 -100 0.0 -100 2.7 -37 8.8 52 Pilibhit 0.0 -100 0.0 -100 0.0 -100 0.0 -100 8.5 130 Rampur 0.0 -100 0.0 -100 0.0 -100 0.0 -100 5.8 4 Saharanpur 0.0 -100 0.0 -100 0.0 -100 18.7 466 6.0 29 Shahjahanpur 0.0 -100 0.0 -100 0.0 -100 0.7 -80 8.7 149 Uttarakhand -100 0.0 -100 0.0 -100 9.8 -19 Bageshwar 0.0 -100 0.0 -100 0.0 -100 0.0 -1											
Muzzaffarnagar 0.0 -100 0.0 -100 0.0 -100 2.7 -37 8.8 52 Pilibhit 0.0 -100 0.0 -100 0.0 -100 0.0 -100 8.5 130 Rampur 0.0 -100 0.0 -100 0.0 -100 0.0 -100 5.8 4 Saharanpur 0.0 -100 0.0 -100 0.0 -100 18.7 466 6.0 -29 Shabjahanpur 0.0 -100 0.0 -100 0.0 -100 0.7 -80 8.7 149 Uttarakhand -100 0.0 -100 0.0 -100 0.0 -100 9.8 -19 Bageshwar 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.											
Pilibhit 0.0 -100 0.0 -100 0.0 -100 0.0 -100 8.5 130											
Rampur											
Saharanpur 0.0 -100 0.0 -100 0.0 -100 18.7 466 6.0 -29 Shahjahanpur 0.0 -100 0.0 -100 0.0 -100 0.7 -80 8.7 149 Uttarakhand Almora 0.0 -100 0.0 -100 0.0 -100 0.0 -100 9.8 -19 Bageshwar 0.0 -100 0.0 -100 0.0 -100 0.0 -100 3.9 -68 Chamoli 0.0 -100 0.0											
Shahjahanpur 0.0 -100 0.0 -100 0.0 -100 0.7 -80 8.7 149	-										
Uttarakhand <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>											
Almora 0.0 -100 0.0 -100 0.0 -100 9.8 -19 Bageshwar 0.0 -100 0.0 -100 0.0 -100 0.0 -100 3.9 -68 Chamoli 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.2 -98 Champawat 0.0 -100 0.0 -100 0.0 -100 0.0 -100 7.0 -32 Dehradun 0.0 -100 0.0 -100 0.0 -100 4.2 31 0.9 -92 Garhwal Pauri 0.0 -100 0.0 -100 0.0 -100 0.0 -100 1.1 -89 Garhwal Tehri 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.2 -97 1.0 -91 Haridwar 0.0 -100 0.0 -100 0.0 -100 0.0 -100 1.0 <td></td> <td>0.0</td> <td>-100</td> <td>0.0</td> <td>-100</td> <td>0.0</td> <td>-100</td> <td>0.7</td> <td>-80</td> <td>8./</td> <td>149</td>		0.0	-100	0.0	-100	0.0	-100	0.7	-80	8./	149
Bageshwar 0.0 -100 0.0 -100 0.0 -100 3.9 -68 Chamoli 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.2 -98 Champawat 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 7.0 -32 Dehradun 0.0 -100 0.0 -100 0.0 -100 0.0 -100 4.2 31 0.9 -92 Garhwal Pauri 0.0 -100 0.0		0.0	100	0.0	100	0.0	100	0.0	100	0.0	10
Chamoli 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.2 -98 Champawat 0.0 -100 0.0 -100 0.0 -100 0.0 -100 7.0 -32 Dehradun 0.0 -100 0.0 -100 0.0 -100 4.2 31 0.9 -92 Garhwal Pauri 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 1.1 -89 Garhwal Tehri 0.0 -100 0.0 -100 0.0 -100 0.2 -97 1.0 -91 Haridwar 0.0 -100 0.0 -100 0.0 -100 4.6 17 3.6 -53 Nainital 0.0 -100 0.0 -100 0.0 -100 0.0 -100 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0											
Champawat 0.0 -100 0.0 -100 0.0 -100 7.0 -32 Dehradun 0.0 -100 0.0 -100 0.0 -100 4.2 31 0.9 -92 Garhwal Pauri 0.0 -100 0.0 -100 0.0 -100 0.0 -100 1.1 -89 Garhwal Tehri 0.0 -100 0.0 -100 0.0 -100 0.2 -97 1.0 -91 Haridwar 0.0 -100 0.0 -100 0.0 -100 4.6 17 3.6 -53 Nainital 0.0 -100 0.0 -100 0.0 -100 0.0 -100 11.3 49 Pithorgarh 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 7.5 -18 Rudraprayag 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0											
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Garhwal Pauri 0.0 -100 0.0 -100 0.0 -100 0.0 -100 1.1 -89 Garhwal Tehri 0.0 -100 0.0 -100 0.0 -100 0.2 -97 1.0 -91 Haridwar 0.0 -100 0.0 -100 0.0 -100 4.6 17 3.6 -53 Nainital 0.0 -100 0.0 -100 0.0 -100 0.0 -100 11.3 49 Pithorgarh 0.0 -100 0.0 -100 0.0 -100 0.0 -100 7.5 -18 Rudraprayag 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.											
Garhwal Tehri 0.0 -100 0.0 -100 0.0 -100 0.2 -97 1.0 -91 Haridwar 0.0 -100 0.0 -100 0.0 -100 4.6 17 3.6 -53 Nainital 0.0 -100 0.0 -100 0.0 -100 0.0 -100 11.3 49 Pithorgarh 0.0 -100 0.0 -100 0.0 -100 0.0 -100 7.5 -18 Rudraprayag 0.0 -100 0.0											
Haridwar 0.0 -100 0.0 -100 0.0 -100 4.6 17 3.6 -53 Nainital 0.0 -100 0.0 -100 0.0 -100 0.0 -100 11.3 49 Pithorgarh 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 7.5 -18 Rudraprayag 0.0 -100 0.0											
Nainital 0.0 -100 0.0 -100 0.0 -100 0.0 -100 11.3 49 Pithorgarh 0.0 -100 0.0 -100 0.0 -100 0.0 -100 7.5 -18 Rudraprayag 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 6.4 56 Uttarkashi 0.0 -100 0.0 -100 0.0 -100 0.4 -91 0.0 -100 Bihar 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0											
Pithorgarh 0.0 -100 0.0 -100 0.0 -100 0.0 -100 7.5 -18 Rudraprayag 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 6.4 56 Uttarkashi 0.0 -100 0.0 -100 0.0 -100 0.4 -91 0.0 -100 Bihar 0.0 -100 0.0											
Rudraprayag 0.0 -100 0.0											
Udham Sing Nagar 0.0 -100 0.0 -100 0.0 -100 6.4 56 Uttarkashi 0.0 -100 0.0 -100 0.0 -100 0.4 -91 0.0 -100 Bihar											
Uttarkashi 0.0 -100 0.0 -100 0.0 -100 0.4 -91 0.0 -100 Bihar											
Bihar 0.0 -100 0.0 -											
Araria 0.0 -100 0.0		0.0	-100	0.0	-100	0.0	-100	0.4	-91	0.0	-100
Arwal 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 Aurangabad 0.0 -100 <td< td=""><td></td><td>0.0</td><td>400</td><td>0.0</td><td>400</td><td>0.0</td><td>400</td><td>0.0</td><td>400</td><td>0.0</td><td>400</td></td<>		0.0	400	0.0	400	0.0	400	0.0	400	0.0	400
Aurangabad 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 Banka 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100 Begusarai 0.0 -100 0.0 -100 0.0 -100 0.0 -100											
Banka 0.0 -100 0.0 -											
Begusarai 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100											
Bhabua 0.0 -100 0.0 -100 0.0 -100 0.0 -100 0.0 -100											
	Bhabua	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100

Bhagalpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bhojpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Buxar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Darbhanga	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
East Champaran	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Gaya	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Gopalganj	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jahanabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jamui	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kathihar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Khagadia	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kishanganj	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Lakhisarai	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Madhepura	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Madhubani	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Monghyar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Muzaffarpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nalanda	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nawada	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Patna	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Purnea	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Rohtas	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Saharsha	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Samstipur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Saran	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sheikpura	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sheohar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sitamarhi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Siwan	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Supaul	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Vaishali	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
West Champaran	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jharkhand	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bokaro	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Chatra	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Deoghar	0.0		0.0	-100	0.0		0.0			
Dhanbad	0.0	-100 -100	0.0	-100	0.0	-100 -100	0.0	-100 -100	0.0	-100 -100
Dumka	**	**	0.0	-100	**	**	**	**	0.0	-100
East Singbhum	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Garhwa	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Giridih	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Godda										
Gumla	0.0 **	-100 **	0.0	-100	0.0	-100 **	0.0 **	-100 **	0.0	-100
			0.0	-100					0.0	-100
Hazaribagh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jamtara	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Khunti	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Koderrna	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Latehar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Lohardagga	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100

Pakur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Palamau	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Ramgarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Ranchi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sahebganj	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Saraikela	**	**	0.0	-100	**	**	**	**	0.0	-100
Simdega	**	**	0.0	-100	**	**	**	**	0.0	-100
West Singbhum	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
East Rajasthan										
Ajmer	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Alwar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Banswara	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Baran	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bharatpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bhilwara	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bundi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.3	0
Chittorgarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dausa	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dholpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dungarpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jaipur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jhalawar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jhunjhunu	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Karauli	0.0	-100	0.0	-100	0.0	-100	0.0	-100	1.8	800
Karaun	0.0		0.0				0.0		3.2	
		-100		-100 -100	0.0	-100		-100		256
Pratapgarh	0.0	-100	0.0		0.0	-100	0.0	-100	0.0	-100
Rajsamand	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sawai Madhopur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.1	0
Sikar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sirohi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Tonk	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.4	0
Udaipur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
West Rajasthan										
Barmer	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bikaner	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Churu	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Hanumangarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jaisalmer	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jalore	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jodhpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nagaur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Pali	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sri Ganganagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Gujarat Region										
Ahmedabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Anand	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Banaskantha	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Baroda	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Broach	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100

DNH	**	**	**	**	**	**	**	**	**	**
Dahod	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Daman	**	**	**	**	**	**	**	**	**	**
Dangs	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Gandhinagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kheda	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mehsana	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Narmada	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Navsari	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Panchmahal	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Patan	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sabarkantha	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Surat	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Тарі	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Valsad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
S K & Diu region	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Amreli	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bhavnagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Diu Jampa gar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jamnagar	0.0	-100	0.0	-100		-100		-100	0.0	-100
Junagarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kutch	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Porbandar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Rajkot	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Surendranagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Maharashtra										
Konkan & Goa										
Goa	1.4	0	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mumbai	0.5	-64	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Raigad	4.9	157	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Ratnagiri	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sindhudurg	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Thane	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Madhya Maharashtra										
Ahmednagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dhule	0.0	-100	**	**	**	**	**	**	**	**
Jalgaon	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kolhapur	0.0	-100	0.0	-100	0.0	-100	0.0		0.0	-100
Nandurbar	0.0	-100	**	**	**	**	**	-100	0.0	-100
Nasik	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Pune	5.1	65	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sangli	2.4	85	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Satara	4.1	65	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Solapur	0.7	-68	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Marathwada	0.7	00	0.0	100	0.0	100	0.0	100	0.0	100
Aurangabad	9.6	12	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Beed	22.4	702	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Hingoli	1.0	-68	**	**	**	**	**	**	**	**
imigon	1.0	-00		<u> </u>			• •	<u> </u>	<u> </u>	

Jalna	8.6	56	**	**	**	**	0.0	-100	0.0	-100
Latur	32.6	1023	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nanded	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Usmanabad	2.1	24	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Parbhani	16.5	449	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Vidarbha										
Akola	0.1	-99	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Amraoti	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bhandara	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Buldhana	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Chandrapur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Gadchiroli	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Gondia	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nagpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Wardha	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Washim	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Yeotmal	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Odisha	0.0	100	0.0	100	0.0	100	0.0	100	0.0	100
Angul	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Balasore	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bargarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bhadrak	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bolangir	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Boudh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Cuttack										
	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Deogarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dhenkanal	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Gajapati	0.2	-71	0.0	-100	0.0	-100	0.0	-100	**	-100 **
Ganjam	0.0	-100	0.0	-100	0.0	-100	0.0	-100		
Jagatsingpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jajpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jharsuguda	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kalahandi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kandhamal	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kendrapara	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Keonjhar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Khurda	0.1	-96	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Koraput	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Malkangiri	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mayurbhanj	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nawapara 	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nawarangpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nayagarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Puri	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Rayagada	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sambalpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sonepur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sundargarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
West Bengal					1					1

GWB										
Bankura	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Birbhum	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Burdwan	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
East Midnapore	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Hooghly	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Howrah	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kolkata	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Murshidabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nadia	0.0	-100	0.0	-100	0.0	-100	0.3	-88	0.0	-100
24 Pargana (N)	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Purulia	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
24 Pargana (S)	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
West Midnapore	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
SHWB										
Cooch Behar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Darjeeling	0.0	-100	0.0	-100	1.7	24	0.0	-100	0.0	-100
East Sikkim	0.0	-100	0.1	-99	7.0	48	0.9	-38	0.0	-100
Jalpaiguri	0.0	-100	0.0	-100	0.2	-60	0.0	-100	0.0	-100
Malda	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
North Dinajpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
North Sikkim	0.0	-100	7.1	97	3.3	-13	0.0	-100	0.0	-100
South Dinajpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
South Sikkim	0.0	-100	0.0	-100	13.5	187	0.0	-100	0.0	-100
West Sikkim	0.0	-100	0.0	-100	8.0	111	0.7	-88	0.0	-100
Karnataka	0.0	-100	0.0	-100	0.0	111	0.7	-00	0.0	-100
Coastal Karnataka										
Dakshin Kannada	27.1	420	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Udupi	2.3	-73	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Uttar Kannada	0.8	-86	0.0	-100	0.0	-100	0.0	-100	0.0	-100
N I Karnataka	0.0	-00	0.0	-100	0.0	-100	0.0	-100	0.0	-100
N I Karnataka Bagalkote	0.4	00	0.0	-100	0.0	-100	0.0	100	0.0	-100
		-88			0.0		0.0	-100	0.0	
Belgaum	0.6	-80	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bidar	2.2	-20	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bijapur	0.3	-83	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dharwad	1.4	-77	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Gadag	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Gulbarga	1.2	-52	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Haveri	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Koppal	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Raichur	0.9	-49	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Yadgir	0.6	-69	0.0	-100	0.0	-100	0.0	-100	0.0	-100
S I Karnataka										
Bangalore Rural	5.1	-22	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bangalore Urban	1.4	-79	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bellary	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Chamarajnagar	2.9	-67	0.0	-100	0.1	-98	0.0	-100	0.0	-100
Chichballapur	3.7	-34	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Chickmagalur	4.3	-8	0.0	-100	0.0	-100	0.0	-100	0.0	-100

Chitradurga	0.1	-95	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Davangere	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Hassan	7.4	116	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kodagu	6.9	16	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kolar	3.6	-53	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mandya	4.0	43	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mysore	0.2	-95	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Ramnagara	3.7	-15	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Shimoga	1.2	-68	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Tumkur	0.3	-92	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kerala		7_	0.0	200	000	200		200		200
Alappuzha	12.6	-30	0.0	-100	3.7	-60	0.0	-100	0.0	-100
Kannur	19.8	133	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Ernakulam	48.5	362	0.0	-100	0.8	-93	0.0	-100	0.0	-100
Idukki	17.4	5	1.6	-100 -91	8.5	13	0.0	-100	0.0	-100
Kasaragod	9.5	83	0.0	-100	1.1	-78	0.0	-100	0.0	-100
Kasaragod Kollam										
	17.6	-1	0.0	-100	21.9	94	0.0	-100	0.0	-100
Kottayam	15.1	34	0.0	-100	3.5	-54	0.0	-100	0.0	-100
Kozhikode	14.7	56	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Malappuram	40.7	422	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Palakkad	7.1	-38	0.0	-100	2.1	-56	0.0	-100	0.0	-100
Pathanamthitta	14.9	-2	0.0	-100	10.4	-3	0.0	-100	0.0	-100
Thiruvanantapuram	13.7	-37	0.4	-98	20.6	94	0.3	-97	0.0	-100
Thrissur	9.5	-17	0.8	-95	0.0	-100	0.0	-100	0.0	-100
Wyanad	19.1	136	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Tamil Nadu										
Ariyalur	29.8	-27	4.8	-91	18.3	-30	0.0	-100	0.0	-100
Chennai	71.4	38	14.5	-75	7.5	-73	0.3	-99	0.0	-100
Coimbatore	17.5	10	0.1	-99	12.5	20	0.0	-100	0.0	-100
Cuddalore	61.2	5	3.6	-95	26.3	-19	0.0	-100	0.0	-100
Dharmapuri	5.5	-64	0.0	-100	0.6	-93	0.0	-100	0.0	-100
Dindigul	19.9	-22	0.1	-99	30.2	50	0.0	-100	0.0	-100
Erode	9.6	-39	0.0	-100	6.1	-17	0.0	-100	0.0	-100
Kanchipuram	38.8	-14	4.1	-93	18.4	-26	0.2	-99	0.0	-100
Kanyakumari	16.4	-25	4.8	-73	54.9	332	0.7	-93	0.0	-100
Karikal	120.2	63	111.1	32	31.8	-50	0.0	-100	0.0	-100
Karur	15.4	-5	0.0	-100	19.5	119	0.0	-100	0.0	-100
Krishnagiri	7.9	-21	0.0	-100	0.1	-99	0.0	-100	0.0	-100
Madurai	10.6	-41	1.6	-91	33.1	143	0.0	-100	0.0	-100
Nagapattinam	111.7	28	68.4	-33	21.2	-52	0.0	-100	0.0	-100
Namakkal	7.8	-51	0.0	-100	23.3	258	0.0	-100	0.0	-100
Nilgiris	30.4	4	0.0	-100	26.1	54	0.0	-100	0.0	-100
Perambalur	21.6	-24	0.0	-100	18.6	3	0.0	-100	0.0	-100
Puducherry	39.5	-36	0.0	-100	102.3	145	0.0	-100	0.5	-98
Pudukottai	32.1	1	1.2	-96	15.0	-17	0.0	-100	0.0	-100
Ramanathapuram	93.2	147	2.6	-93	32.0	46	0.0	-100	0.0	-100
Salem	12.4	-37	0.0	-100	30.2	208	0.0	-100	0.0	-100
Sivaganga	30.8	26	0.4	-98	29.5	71	0.0	-100	0.0	-100
Thanjavur	52.2	20	13.1	-77	20.8	-8	0.0	-100	0.0	-100
1 manjavul	34,4	20	13.1	-//	۷۷.۵	-0	0.0	-100	0.0	-100

Theni	10.8	-22	1.5	-91	21.7	53	0.0	-100	0.0	-100
Tirunelveli	64.5	107	6.5	-73	20.3	-22	0.3	-98	0.0	-100
Tirupur	19.2	26	0.0	-100	17.4	107	0.0	-100	0.0	-100
Tiruvallur	18.5	-53	4.1	-91	7.1	-69	0.0	-100	0.0	-100
Tiruvannamalai	16.1	-35	0.0	-100	1.0	-94	0.0	-100	0.0	-100
Tiruvarur	94.7	33	32.5	-57	23.6	-27	0.0	-100	0.0	-100
Toothukudi	52.3	72	6.5	-73	21.9	4	0.0	-100	0.0	-100
Trichy	19.2	-13	0.4	-99	18.1	28	0.0	-100	0.0	-100
Vellore	2.6	-86	0.0	-100	1.2	-90	0.0	-100	0.0	-100
Villupuram	30.7	-16	0.0	-100	56.1	141	0.0	-100	0.0	-100
Virudhunagar	15.1	-31	6.7	-64	50.9	198	0.0	-100	0.0	-100
Andhra Pradesh										
Coastal Andhra Pradesh										
East Godavari	13.2	371	0.0	-100	0.0	-100	0.1	-50	0.0	-100
Guntur	21.7	538	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Krishna	18.9	721	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nellore	1.9	-95	0.5	-99	7.8	-69	0.1	-99	0.1	-99
Prakasam	21.4	158	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sirkakulam	1.0	-61	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Visakhapatnam	9.0	222	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Vizianagram	1.1	-48	0.0	-100	0.0	-100	0.0	-100	0.0	-100
West Godavari	20.2	819	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Telangana										
Adilabad	3.8	79	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Hyderabad	4.6	185	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Karimnagar	0.7	-51	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Khammam	3.1	179	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mehabubnagar	3.8	48	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Medak	1.7	11	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nalgonda	9.1	469	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nizamabad	2.7	83	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Rangareddy	3.2	113	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Warangal	5.8	240	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Rayalaseema										
Anantapur	0.0	-100	0.0	-100	0.0	-100	0.1	-84	0.1	-91
Chittoor	0.4	-98	0.0	-100	4.2	-59	0.0	-100	0.7	-83
Cuddapah	0.0	-100	0.0	-100	1.1	-74	0.0	-100	0.0	-100
Kurnool	0.9	-59	0.0	-100	0.0	-99	0.0	-100	0.0	-100

(27% or more) excess rainfall		(-60 to -99 %) scanty rainfall
(-19 to +19%) normal rainfall		(-100%) no rainfall
(-27 to -59%) deficient rainfall	**	Data not available

Annexure III List of Varieties

Odisha

Cauliflower: Pusa Ketaki and Pusa Deepali.

Cabbage: Pride of India.

Tomato: BT 2. BT 10, BT 12 Neeladri, Sada Bahar, Madhuri, Maharathi, Rashmi and Navin.

Onion: Nasik Red, Patna Red, Pune Red, Bellary Red, Pusa Ratnar, Pusa Madhavi, Arka Niketan, Arka Pragati,

Agrifound Light Red, Agrifound Dark, Punjab Selection, Patna White, Bombay White, Pusa White Round etc.

Garlic: Phawari, Rajalbadi, Jamnagar, G-282.

Sunflower: Morden, Sunrise, Surya and Hybrid varieties like KBSH-1, KBSH-3 and MSFH.

Sesame: Vinayek, Kanak, Kalika, Prachi and Nirmala.

Wheat: Sonalika, UP262

West Bengal

Cabbage: Pride Of India, Pusa Early, Kranti.

Cauliflower: Jawhar Moti, Bharat Jyoti, Early Banaras. **Potato:** Kufri Jyoti, Ashoka, Chipsona 1, 2, Kufri Alankar.

Onion: Rupsa, Sukhsagar.

Sunflower: Surya (90-95days), Pack(104days)KBSH(90-95 days).

Jharkhand

Potato: Kufri Ashok, Kufri Kanchan, Kufri Pukhraj, Kufri Pushkar, Kufri Lalima.

Green Peas: Arkel, Kashi Nandini, P.E.-6, Birsa Matar.

Onion: N-53, Basant-780, N 53, Pusa Red, Arka Niketan, Arka Kalian, Agrifound Dark Red, Pusa White Round and Flat, Pusa Madhavi, Bombay Selection, Patna White and Bellary Red.

Wheat: Irrigated varities - K.-9107 or Birsa Genhu-3; unirrigated varieties - H.D.R.-77, K.-8027, C.-306, or Birsa Genhu-3.

Chick Pea: B.G.-372, B.G.-256, K.W.R.-108, Pant G.-186, Pant G. -114 and for Kabuli gram are H.K.-94-134, B.G.-1053, B.G.-1003.

Barley: Jyoti, Ratna, D.L.-36, B.R.-32 (all irrigated condition) and B.R.-31, K.-125 (unirrigated condition).

Bihar

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

Potato: Kufri Chandramukhi, Kufri Ashoka, Kufri Pukharaj, Kufri Badhsha, Kufri Lalima, Kufri Jyoti and Rajendra Alu

Pea: Malviya Mator 15, Harbhajan, Arpana and Pusa Prabhat.

Berseem: Vardan-1 and Skavi.

Oat: Kent.

Wheat: HD 2733, HD 2824, PBW 343, PBW 443, UP 262, RW 346, HP 1761, HP 1731, K 9107.

HUW 234, PBW 343, DBW 14, HP 1744, HD 2643, NW 2036 and HW 2045

8, LRG-41, WRG-27.

Jammu & Kashmir

Berseem: Mescavi, Pusa Giant, BL-1 and Vardan

Garlic: Large Segmented, Yamuna Safed-3 Agrifoundparvati, Methi: pusa early bunching and kasurimethi., Radish (var. P. Reshmi, Japanese White, Minowase), carrot (var. PusaKesar, P.Yamdagani), Peas var. Bonnevillea, AP-1, AP-3 & Punjab -89, Onion (Pusa Red, N-53, Agrifound Dark Red & Agrifound Light Red), Knolkhol (King of Market and White Vienna), Spinach Beet (All Green).

Rajasthan

Onion: Pusa Red, ArkaNiketan, Pusa White & Local Red, Deshi carrot: PusaKeshar,.

Cumin: RS-1,RZ-19, RZ-209, RZ-223, GC-4, Gujarat Jira-1, Gujarat Jeera-2, Gujarat jira-3

Rijka: Anand-2, LLC-3 (yearly), Type 9, RL-88, Igfree 244 (multiyearly)

Uttarakhand

Garlic: VL-Garlic or DARL-52.

Onion: Pusa Red, PusaRatnar, Nasik Red, PusaMadhavi, Punjab Round Red etc

Uttar Pradesh

Potato:KuphariChanramukhi, KuphariAshoka, KuphariBahar, Kuphari Surya, KuphariSutlaj, KuphariPukharaj

Peas: Pant-5, Aparna, Malaviya-2, Malaviya-15, Shikha, Sapana, Ta.- 163, Rachana, Malviya matar,-2

Bengal gram:Pusa, Shubhra

Mustard- Pussa-25, Varuna, Kranti, Krishna, Vardan, Vaibhav.

Sugarcane: Kosha-88230, Kosha-8436, Kosha-0238, Kosha-07250, UP-05125

Alsi- L.C.2023, L.C. 74 Onion- Pusa Red, Pusa White. Berseem: VL- 01, 10, Maskavi

Himachal Pradesh

Barley: HBL-316 and Dolma

Oat: Palampur-1

Cauliflower: Patna snowball and joint snowball.

Pea: Ageta-6 and ArkalMatar.

Raddish: Japanese white, Chinese pink and mino early white

Turnip:PTWG-1 Carrot:Pusakesar

Fenugreek: I.C. 74, kasoori

Potato: Kufri Jyoti, Kufri Giriraj, Kufri Chandramukhi

Punjab

Late Sown varieties of wheat:PBW 590, PBW 373 and PBW 509

Tomato: (TH-1/TH-2312/TH 802/Punjab NR 7/Punjab Tropic/ PbChhuara/Punjab kesri) **Chilli**: CH-1, CH-3, Punjab Surkh, Punjab Tej, Punjab Sindhuri or Punjab Guchhedar.

Delhi

Wheat (late sown): H.D. 2733, H.D. 2851, P.B.W.373, WR-544, U.P.2338, U.P.2425.

Assam

Boro rice: Mahsuri, IR-50, Dinanath, Bishnuprasad, Jyotiprasad, Kanaklata, Dinanath, Kalinga 3, Swamabh, Joymati, etc.

Potato: Kufri Chandramukhi, Kufri Jyoti and Kufri Sindhuri, Kufri Megha, Kufri Badshah, Pukhraj.

Lentil: B-77, L-9-12.

Pea: T-163, HUP-2, KFPD1, T-136, Bonneville.

Bottle gourd: Pusa Summer Prolific Long, Pusa Summer Prolific Round, Pusa Meghdoot and Pusa Manjiri.

Chilli: NP46A, Pusa Jwala & local varieties like Suryamukhi, Krishna & Balijuri.

Capsicum: California Wonder, Arka Mohini, Arka Gaurav & Selection-16, HYV like Bharat

Madhya Pradesh:

Wheat: MP 1142, GW 273, GW 322, GW 190, MP 1106, Sujata, HW- 2004, HI-1500, MP 1142, GW 273, GW 322, GW 190, MP 1106.

Winter Sugarcane: Co. J. N. 86-572, Co. J. N. 86-141

Safflower: J.S.F. -1, A-1 (Sweta), D.S.H.- 129, J.S.I.- 7, Nari- 6, M.K.H.-II, D.S.H.- 129.

Chhattisgarh.

Wheat: Arpa, Vidisha, Kanchan

Linseed: R.L.C.92, Deepika, Indira Alsi- 32, Kartika

Safflower: J.S.F-1, A-1 (Sweta), D.S.H-129, J.S.I-7, Nari-6, M.K.H.-II.

Pulse(lathyrus) : Mahatiwada.

Pea: Ambika and Subra.

Maharashtra

Watermelon: Sugar Baby, Ark Jyoti and Ark Manik.

Gujarat

Watermelon: Sugar Babi, Ashahi Pameto, Madhu, Jyoti, Pusa Bedana (seedless).

Tamil Nadu:

Groundnut: TMV 7, Co 2, Co 3, Co 4, VRI 2, VRI 3, VRI 5 and ALR 3.

Black gram and green gram: ADT 3