

National Agromet Advisory Service Bulletin

Friday 10th January 2014

(For the period 10th to 14th January 2014)



Issued by

National Agrometeorological Advisory Service Centre,

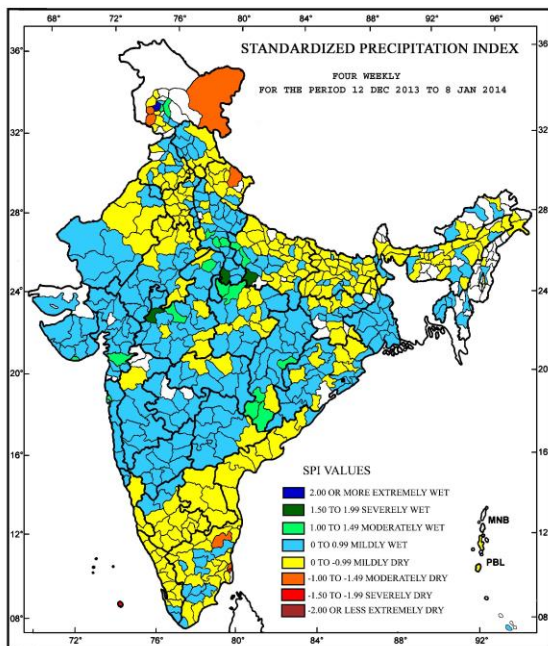
Agricultural Meteorology Division,

India Meteorological Department, Shivajinagar, Pune.

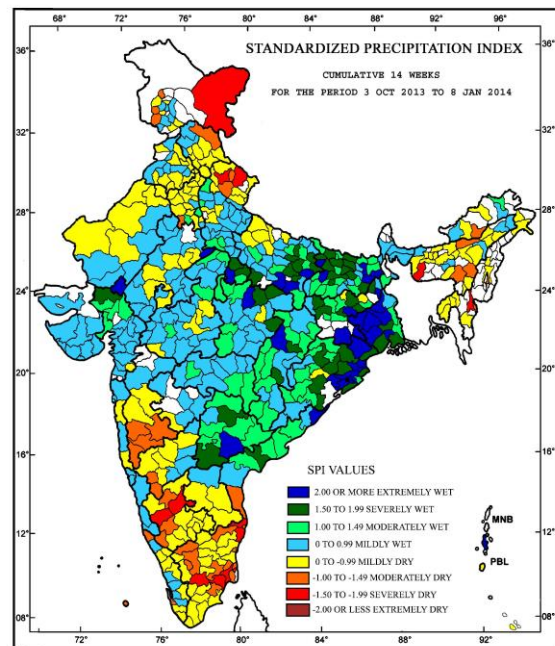


Standardised Precipitation Index weekly, fortnightly and seasonal

MINISTRY OF EARTH SCIENCES
INDIA METEOROLOGICAL DEPARTMENT
HYDROMET SECTION, PUNE



MINISTRY OF EARTH SCIENCES
INDIA METEOROLOGICAL DEPARTMENT
HYDROMET SECTION, PUNE



Cumulative SPI values (four-weeks):

- Extremely wet/severely wet conditions experienced over Banda and Jhansi districts of Uttar Pradesh and Ratlam of Madhya Pradesh.
- Mildly dry over most part of country.

Cumulative SPI values of 14 weeks:

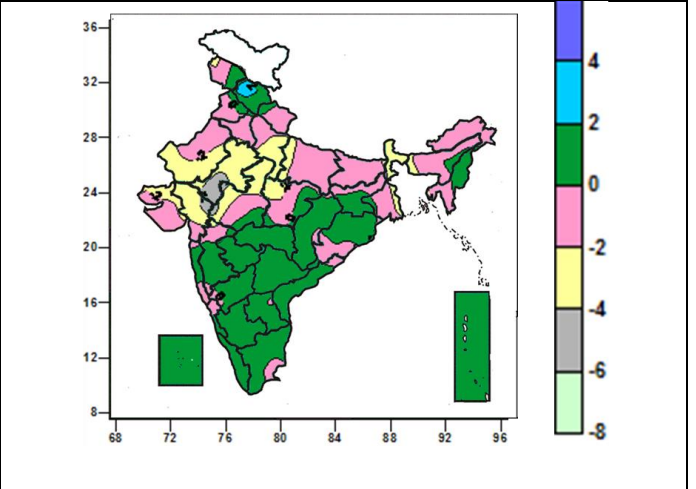
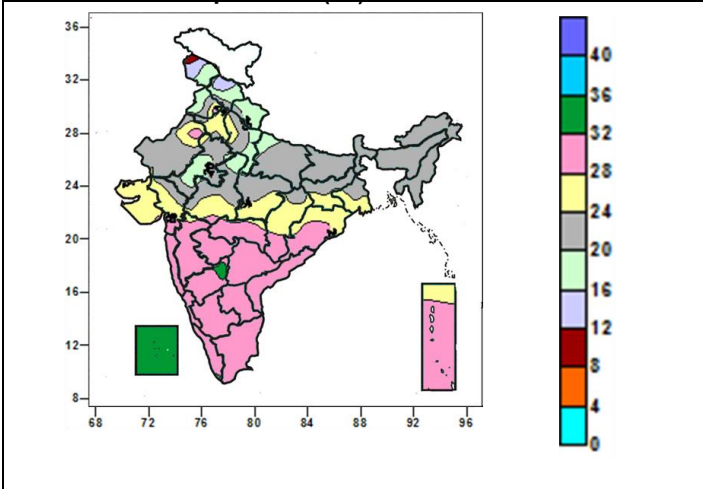
(i.e. since the beginning of southwest monsoon.)

- Extremely wet/severely wet conditions experienced over many parts of East Uttar Pradesh, Bihar, Jharkhand, Gangetic West Bengal, Odisha, Telangana and some parts of Rajasthan, Gujarat, East Madhya Pradesh, Chattisgarh, Coastal Andhra Pradesh.
- Extremely dry/ severely dry conditions experienced over many parts of Jammu & Kashmir, Uttarakhand, some parts of Assam, South Interior Karnataka.

Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 08.01.2014

Actual Mean Maximum Temperature (°C) in India for the week ending 08.01.2014

Mean Maximum Temperature (oC) Anomaly in India for the week ending 08.01.2014

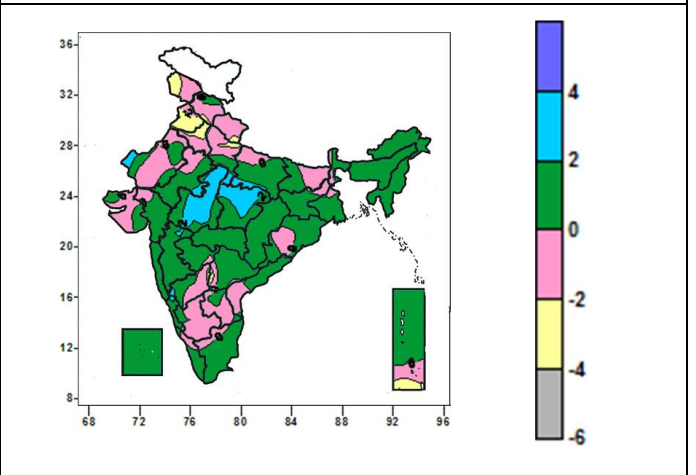
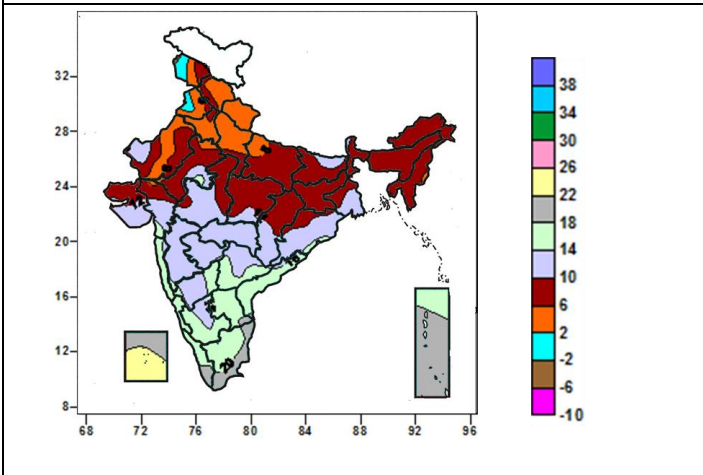


- 32 to 36°C over many parts of Lakshadweep Island, some parts of North Interior Karnataka.
- 24 to 32°C over many parts of West India, South India, Jharkhand, Haryana, Delhi, Chattisgarh, Orissa, Andaman & Nicobar Islands, some parts of Rajasthan, Punjab, West Uttar Pradesh, Jharkhand, Gangetic West Bengal, Madhya Pradesh.
- 16 to 24°C over many parts of North India, Bihar, Sub-Himalayan West Bengal & Sikkim, North East India, Madhya Pradesh, some parts of Gujarat, Jharkhand, Gangetic West Bengal.
- 8 to 16°C over some parts of Jammu & Kashmir, Himachal Pradesh.

- 2 to 4°C over some parts of Himachal Pradesh.
- 0 to 2°C over many parts of Himachal Pradesh, Jharkhand, Nagland, Orissa, Chattisgarh, Maharashtra, South India, Lakshadweep, Andaman & Nicobar islands, some parts of Jammu & Kashmir, Uttarakhnad, Punjab, Haryana, Gangetic West Bengal, Madhya Pradesh, Assam, Manipur.
- -2 to 0°C over many parts of Jammu & Kashmir, Uttarakhnad, Punjab, Haryana, East Uttar Pradesh, Arunachal Pradesh, Assam & Meghalaya, Tripura, Gangetic West Bengal, Saurashtra, some parts of West Uttar Pradesh, Mizoram, Jharkhand, Chattisgarh, Orissa, Coastal Andhra Pradesh, Raylaseema, Gujarat, Kutch, Konkan & Goa, Coastal & North Interior Karnataka, West Rajasthan, Tamil Nadu.
- -6 to -2°C over many parts of East Rajasthan, Gujarat, West Madhya Pradesh.

Actual Mean Minimum Temperature (oC) in India for the week ending 08.01.2014

Mean Minimum Temperature (oC) Anomaly in India for the week ending 08.01.2014



- -2 to 6°C over many parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhnad, Punjab, Haryana, Delhi, West Uttar Pradesh, some parts of Rajasthan, East Uttar Pradesh.
- 6 to 10°C over many Rajasthan, east Uttar Pradesh, Bihar, Jharkhand, Sub-Himalayan West Bengal &

- -4 to -2°C over many parts of Punjab, some parts of Jammu & Kashmir, Himachal Pradesh, Uttarkhnad, Haryana, West Uttar Pradesh, Telangana, Andaman & Nicobar Islands.
- -2 to 2°C over all parts of country (except many parts

Sikkim, North East India, East Madhya Pradesh, Kutch, some parts of Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, North Chattisgarh, North Orissa, Gujarat, East Madhya Pradesh.

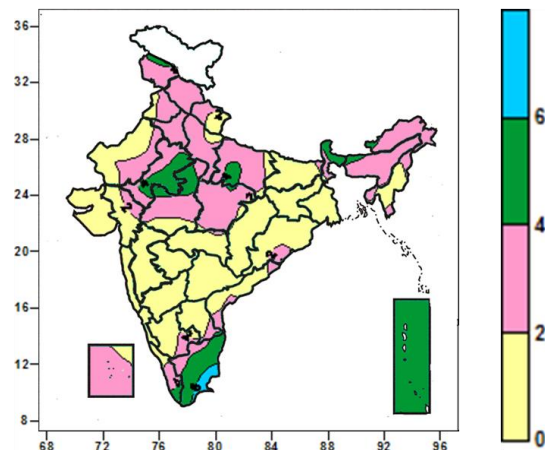
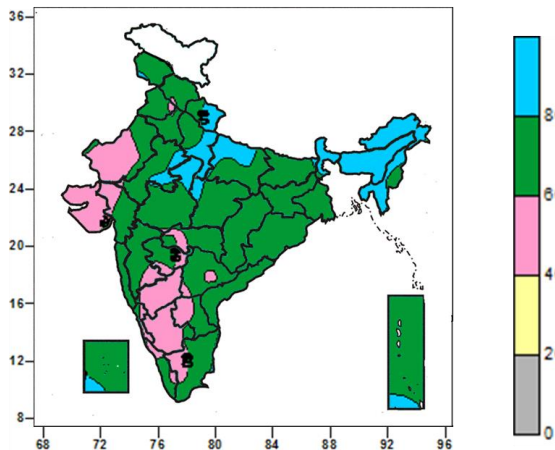
- 10 to 22°C over many parts of South India, Maharashtra, West Madhya Pradesh, south Gujarat, Saurashtra, south Chattisgarh, south Orissa, south Gangetic West Bengal, some parts of West Rajasthan, Bihar, East Madhya Pradesh.
- 22 to 26°C over many parts of Lakshadweep Island.

of Madhya Pradesh, Punjab, some parts of Jammu & Kashmir, Himachal Pradesh, Uttarkhand, Haryana, West Telangana, Rajasthan, Uttar Pradesh, Madhya Maharashtra, Coastal & North Interior Karnataka Andaman & Nicobar Islands).

- 2 to 4°C over many parts of Madhya Pradesh, some parts of Rajasthan, Uttar Pradesh, Madhya Maharashtra, Coastal & North Interior Karnataka.

Relative Humidity (%) over India for the week ending 08.01.2014

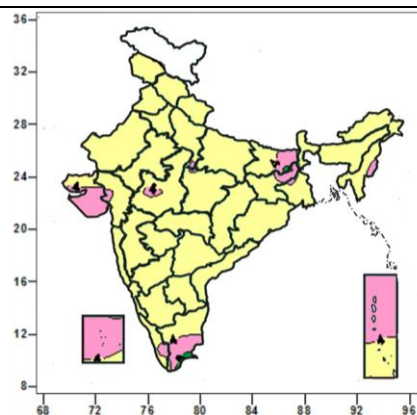
Cloud amount (okta) over India for the week ending 08.01.2014



- 80 to 100% over many parts of Uttarakhand, Uttar Pradesh, North East India, Sub-Himalayan West Bengal & Sikkim, some parts of East Rajasthan, West Madhya Pradesh, Lakshadweep, Andaman & Nicobar Islands.
- 40 to 80% over entire country (except many parts of Uttarakhand, Uttar Pradesh, North East India, Sub-Himalayan West Bengal & Sikkim, some parts of East Rajasthan, West Madhya Pradesh, Lakshadweep, Andaman & Nicobar Islands).

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

Wind speed (knots) over India for the week ending 08.01.2014



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

Weather Forecast

Weather Forecast for next 3 days (upto 0830 hours IST of 13th January, 2014)

- Rain/snow would occur at many places over Jammu & Kashmir during next 24 hours and decrease thereafter.
- Rain/snow would occur at a few places over Himachal Pradesh during next 24 hours and decrease thereafter.
- Rain/snow would occur at isolated places over Uttarakhand during next 24 hours and mainly dry thereafter.
- Rain/thundershowers would occur at isolated places over Bihar, east Uttar Pradesh and east Madhya Pradesh during next 24 hours and mainly dry thereafter.
- Rain/thundershowers would occur at isolated places over and Sub-Himalayan West Bengal, Arunachal Pradesh and Assam & Meghalaya during next 48 hours and mainly dry thereafter.
- Rain/thundershowers would occur at a isolated places over Lakshadweep, Tamilnadu and Kerala during next 24 hours and mainly dry thereafter.
- Weather would be mainly dry/dry over rest of the country.
- Minimum temperatures would rise by 2-3°C over East India and fall by 2-3°C over northwest India during next 48 hours.
- Dense fog/fog would occur at a few places over Punjab, Haryana & Delhi, Uttar Pradesh, Bihar, Sub-Himalayan West Bengal, south Assam, east Rajasthan, west Madhya Pradesh and Tripura during next 2 days.

Weather Warning during next 3 days

10 January (Day 1):

- Dense fog (visibility < 200m) would occur at isolated places over Haryana, Delhi, east Rajasthan, west Madhya Pradesh, Uttar Pradesh, Bihar, Sub-Himalayan West Bengal & Sikkim, south Assam and Tripura.
- Isolated heavy rain/snow (>35.6 mm rain) would occur over Jammu & Kashmir.

11 January (Day 2):

- Dense fog (visibility < 200m) would occur at isolated places over Haryana, Delhi, Uttar Pradesh, east Rajasthan, west Madhya Pradesh, Bihar, Sub-Himalayan West Bengal & Sikkim, south Assam and Tripura.

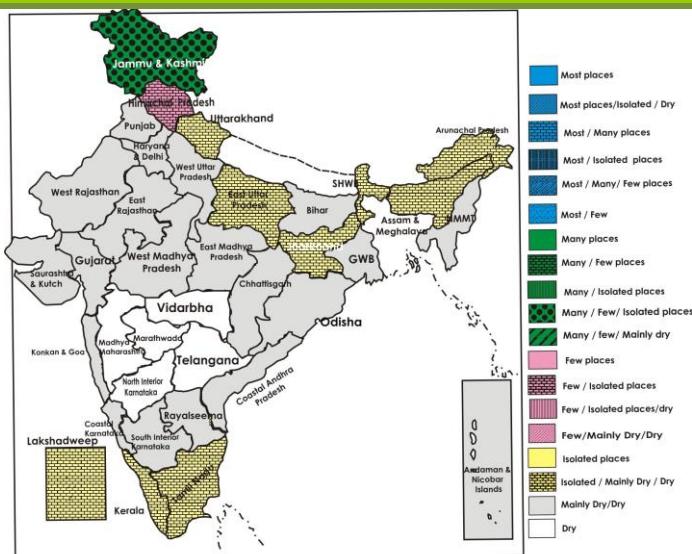
12 January (Day 3):

Ground frost (temperature < 4°C) would occur at isolated places Punjab, west Rajasthan and Haryana.

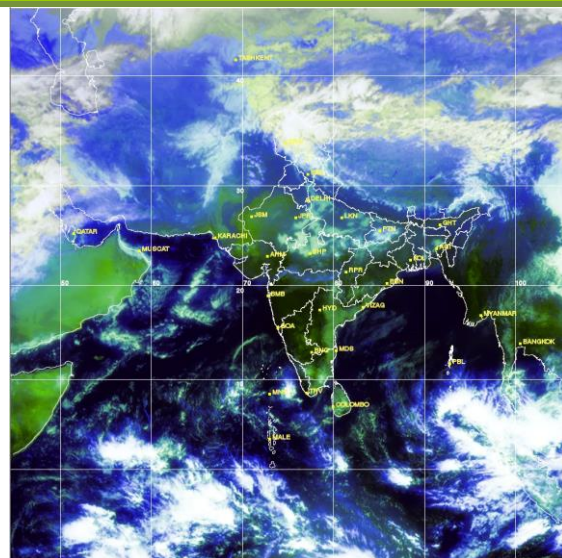
Weather Outlook for subsequent 4 days from 13th January 2014 to 17th January, 2014:

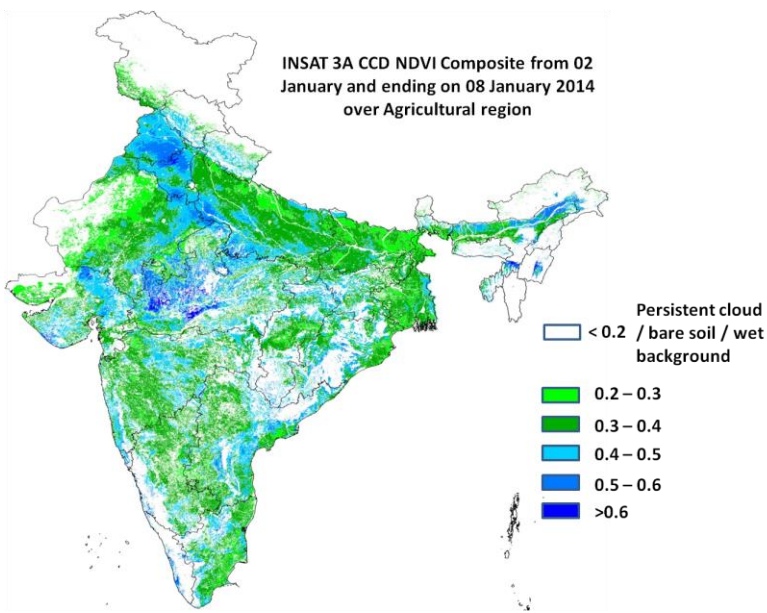
- Rain/thundershowers would occur at isolated places over Andaman & Nicobar Islands, extreme south peninsular India and Lakshadweep.
- Rain/thundershowers would occur at isolated places over Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya and Arunachal Pradesh.
- Fall in minimum temperatures by 2-4°C over northwest and adjoining central & east India.
- Weather would be mainly dry/dry over rest of the country.

Weather Forecast Map (Valid upto 0830 hours of 13th January, 2014)



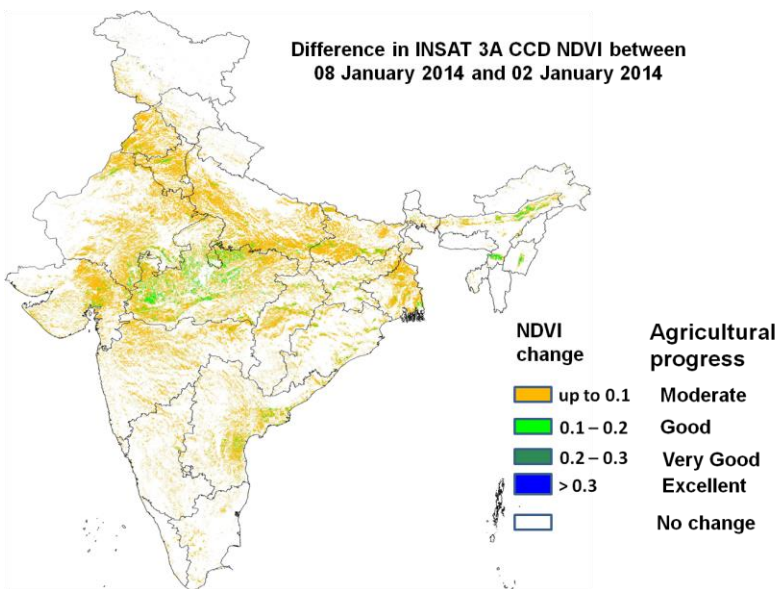
Satellite image dated 10.01.2014, 0600 UTC





Source: SAC, Ahmedabad

Agricultural conditions is in general very good over pockets of central and south-east Punjab and adjoining Haryana, western Rajasthan and adjoining MP and Gujarat, central and western MP, pockets of western and south-west UP as NDVI value range between 0.5 to 0.6 and more. Agricultural conditions is good over whole Punjab and Haryana excepting central pocket, parts of south-west UP, eastern MP, north pocket of Rajasthan, central and south Gujarat, eastern Maharashtra, parts of Odisha, pockets of north and south Karnataka, north-eastern AP, as NDVI vigour showed the range from 0.4 to 0.5 upto 8th January 2014. The NDVI remain low within range of 0.2 to 0.3 over states of interior of Rajasthan, eastern Bihar and north W. Bengal.



Source: SAC, Ahmedabad

Agricultural progress was found to be good over pockets of central and western MP, pockets of central Punjab, and north and central Haryana, pockets of eastern UP, scattered pockets in eastern and north Rajasthan, banks of Ganga in Bihar, pockets of central Gujarat as change in NDVI was within 0.1 to 0.2 between 8th January and 2nd January 2014. Agricultural progress was moderate over rest of India.

Salient Advisories

North Region

- As there are chances of ground frost at isolated places in Punjab (Amritsar, Ludhiana and Patiala), Haryana (Hissar, Chandigarh and Bhiwani) and west Rajasthan (Ganganagar and Jaisalmer), apply light and frequent irrigation to safeguard the standing crops from frost injury. Make heap of dry leaves and grasses and slow burning of these heaps to prevent young kinnow fruit plants from frost. Fruit plants like litchi, mango, papaya, citrus are susceptible to frost damage, as frost is expected, temperature of orchard should be raised by irrigation or smudging (i.e. creating smoke screen in orchard) and young plants and tomato seedlings are also protected by covering with polythene sheets or straw thatches.
- In Undulating Plain Zone of Punjab, undertake intercultural operations in mustard for moisture conservation and removal of weeds. Apply light irrigation to vegetables (potato, tomato) and protect young fruit plants by wrapping them with bhusa /thatch to protect from cold injury.
- In Western Zone of Haryana, apply light irrigation and arrange for smoke during evening hours in mustard crop field for protection from cold injury. Apply light irrigation to the vegetable crops and cover the young fruit plants.
- In Delhi give light and frequent irrigation in mustard crop at evening time to protect the crop from cold injury. In present weather conditions transplanting of seedlings of late varieties of cabbage, cauliflower, knolkhol etc. may be done on ridges.
- In Central Plain Zone of Uttar Pradesh arrange for smoking around the fields of standing crops during night and apply light and frequent irrigation at regular interval to protect them from cold injury.
- In Sub-Tropical Zone of Jammu & Kashmir, postpone all the cultural operations viz; irrigation, herbicide application and first and second top dressing of urea, as rain/snow is expected at many places along with isolated heavy rain / snowfall. In Intermediate Zone of Jammu & Kashmir, it is advised to apply second dose of urea in normal sown wheat after receipt of rain, also postpone transplanting of onion due to chances of heavy rain/ snow.
- In Bhabar and Tarai and Hill Zone of Uttarakhand, rainfall and snowfall occurred during last few days was very useful for standing wheat crop of all growth stages. Also due to low temperature conditions, farmers are advised to burn straw during morning hours near the wheat fields and give irrigation in vegetables in order to protect from cold injury during evening hours.
- In west Rajasthan, it is advised to spray a solution of 0.2% DMSO (Dimethyl Sulfoxide), 0.1 % thiourea or 0.1% Sulphuric acid to protect the standing crops against frost attack. Arrange for smoke around the field after midnight or light irrigation could be equally effective to protect the crop from frost bite.
- 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 g per 30-32 litres of water for the control of weeds..Also, as drop in temperature is expected, apply light irrigation to vegetable crops.

Central Region

- In North Madhya Pradesh and parts of Chattishgarh, due to fall in temperature, apply light and frequent irrigation in the standing crops during evening hours to protect from cold injury. Also arrange for smoking around the field.
- In Jhabua Hill Zone of Madhya Pradesh, as dry weather is prevailing, 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, in view of prevailing dry weather, apply irrigation in pea and wheat at CRI Stage followed by application of nitrogenous fertilizer.
- Due to foggy and cloudy conditions in the last week in Vindhya Plateau Zone of Madhya Pradesh, there is possibility of attack of aphids in mustard crop. Spray of Methyl Dematon 25 E.C. or Dimethoate 30 E.C. @ 2.0 ml. per litre of water for their control.
- At present the pigeon pea is at pod filling stage in Northern Hill Zone of Chhattisgarh, due to the partial cloudy weather during the last few days there is chance of infestation of pod borer. Farmers are advised to keep vigil and if the infestation is above ETL spray Polytrin C@1L/ha or Endoxacarb @ 300 ml/ha.

East Region

- In New Alluvial Zone, Laterite and Red Soil Zone of West Bengal, to protect the seedlings of *boro* rice from cold injury, cover the nursery bed with polythene or keep stagnant water in the nursery bed especially in the night time. Remove dew from seedlings of *boro* rice by stirring with bamboo or rope. 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 view of low minimum temperatures, in North West Alluvial Plain Zone of Bihar, apply light irrigation in the

evening in standing crops to protect from cold injury. 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 after sowing and apply light and frequent irrigation in potato crop.

- 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 Western Undulating Zone of Odisha, as dry weather is prevailing apply irrigation in sugarcane and undertake picking of cotton. Undertake nursery sowing of summer rice.
- In North West Alluvial Plain Zone of Bihar, due to prevailing dense foggy conditions, there is chance of occurrence of early blight in potato and tomato; spray Dithane M-45 @ 2 g / litre or Carbendazim @ 2 g / litre of water. Weather is also favourable for incidence of aphids in mustard, spray Cartop Hydrochloride @ 1.5-2.0 ml / liter of water.
- In North East Alluvial Zone and North West Alluvial Plain Zone of Bihar, due to prevailing dense foggy conditions, there is chance of occurrence of white rust in mustard; spray 0.2% Redomil or Mancozeb.
- In North Eastern Plateau Zone and East and South Eastern Coastal Plain Zone of Odisha, due to cool weather, powdery mildew may be seen during this time due to dew formation; hence spray Wettable Sulphur @ 1 kg per acre.

Northeast Region:

- As night temperature is low, the young seedlings in rice nurseries in Assam, Meghalaya and Tripura should be applied with irrigation water during night to protect the seedlings from low temperature and drain out the water in the next morning.
- In Central Brahmaputra Valley Zone, Hill Zone and North Bank Plain Zone of Assam, undertake transplanting of *boro* rice seedlings at 5-6 leaf stage (45 days old seedlings).
- In North Bank Plain Zone of Assam, humid and cloudy weather conditions are favourable for incidence of aphids and saw fly in rapeseed and mustard. Hence, farmers are advised to monitor the crop. Apply Dimethoate 30 EC or Chloropyrifos @ 2 ml / litre of water with a spray volume of 500-700 litres / ha for hand sprayer & 200-250 litres / ha for power sprayer.
- In Arunachal Pradesh, due to foggy condition, there are chances of occurrence of late blight in potato and tomato. Foliar spraying of RedomilMZ @ 2.5 g / litre water at 7 days interval is advised. Spray on both side of the leaf.
- In Mild Tropical Plain Zone of Tripura, in the present foggy weather there is chance of attack of blight in Maize field. Spray Zineb @ 3 g per liter of water at 20 days interval to manage the attack.
- In Meghalaya, undertake nursery raising of *boro* rice. Provide light irrigation in tomato as dry weather is prevailing.
- As dry weather is prevailing, in Sub Tropical Plain Zone of Manipur, apply irrigation in rapeseed, mustard and pulses and light irrigation in potato to maintain optimum soil moisture during vegetative stage. Continue sowing of *rabi* maize as inter crop with mustard or pulses.
- In Mild Tropical Hill Zone of Nagaland, taking the advantage of dry weather, undertake harvesting of ginger, vegetables and matured cabbage.

West Region:

- As dry and cold weather is prevailing particularly during night in North Gujarat Zone, apply light irrigation in the evening to protect the crops (castor, potato) from cold.
- As dry weather prevailed during last few weeks in Konkan, apply irrigation to groundnut at 10-12 days interval, orchards, vegetable crops and pulses. Undertake transplanting of rice and finger millet seedlings and apply irrigation in rice field to maintain 2-3 cm water level for first 8-10 days as mainly dry weather is expected during the period. To preserve the soil moisture in water melon, apply straw mulch or polythene mulch.
- As dry weather prevailed during last few weeks in Madhya Maharashtra, apply irrigation to gram at pod development stage, wheat at early tillering / tillering stage, jowar at grain formation stage as well as in sugarcane, vegetable crops and maize. Also apply mulch of plant waste material in jowar to preserve the soil moisture in water stress condition. Under prevailing weather conditions, undertake planting of *suru* sugarcane and water melon. Start sowing of groundnut in Western Ghat region.
- As dry weather prevailed during last few weeks in Marathwada, apply irrigation to gram at pod development stage, wheat at early tillering / tillering stage, jowar at grain formation stage as well as in sugarcane, vegetable crops and maize.
- As dry weather prevailed during last few weeks in Vidarbha, apply irrigation to gram at pod development stage as well as in safflower, vegetable crops and orchards. Under prevailing weather conditions, undertake transplanting of 30-35 days old summer rice seedling.
- As cloudy weather is expected during next 3-5 days, there may be incidence of thrips on mango inflorescence

in South Konkan; spray Spinosad @ 2.5 ml per 10 litres of water on whole tree.

- Prevailing cold and dry weather in Pune region is congenial for the incidence of powdery mildew in cabbage, cauliflower and broccoli; spray Metalaxyl 8 % + Mancozeb 64 % (2 g) at 15 days interval.
- Due to cloudy weather, there are chances of aphids and white rust in mustard in Middle Gujarat Zone. Spray Mancozeb 0.25% or Chlorothalonil 0.2% in 10 litres of water and 500 g (5% arc) neem seed powder or 20 ml (1 EC) or 40 ml (0.15 EC) neem based readymade solution in 10 liters of water in evening time for control of aphids and rust.

South Region:

- Farmers in Krishna Godavari Zone of Andhra Pradesh are advised to apply $MgSO_4$ 2 g per liter of water in cotton to prevent leaf reddening due to lack of Mg caused due to low temperatures.
- Taking advantage of the prevailing dry weather, continue harvesting of red gram in the Eastern Dry Zone; continue rice harvesting in the Southern Dry Zone, North East Dry Zone and Central Dry Zone; continue cotton picking in North East Dry Zone and Central Dry Zone of Karnataka.
- Undertake sowing of black gram, green gram and sunhemp utilising the residual soil moisture in the Central Dry Zone of Karnataka.
- Undertake sowing of rice fallow pulses in the matured *samba* paddy fields under waxy condition of soil and harvesting of matured paddy in the Cauvery Delta Zone of Tamil Nadu. Undertake field preparation for sowing of rice fallow pulses (black gram and green gram) in Karaikal & Pondicherry.
- In Problem Area Zone of Kerala, late sowing of rice should be avoided due to the prevailing high diurnal variation in temperature as it affects the germination of seeds and also there is chance of salt water intrusion at the time of harvest.
- Due to low temperature in morning hours, there is possibility of occurrence of powdery mildew and leaf hopper in mango orchard. Undertake control measures in the Eastern Dry Zone and Southern Dry Zone of Karnataka. Hoppers were noticed in mango orchard throughout the North East Transition Zone of Karnataka. For effective control undertake spraying of 4 g Carbaryl 50WP or 2 ml Malathion 50EC or 1.5 ml Monocrotophos 36SL or 0.5 ml Phosphamidon 40EC in one litre of water.
- In the prevailing weather with moderate cloud cover and humidity, sucking pests are noticed in cotton in the South Zone of Tamil Nadu. For controlling them, spray Imidachloprid 100 ml/ ha. Spray cotton plus, a crop booster, @ 7.5 kg/ ha using 500 litres of water at flowering and boll formation stages for withstanding moisture stress and reducing square shedding.

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:** Weather remained mainly dry over the region of the State.
- **Weather Forecast:** Rain/snow would occur at many places over Jammu & Kashmir and Himachal Pradesh during next 24 hours and decrease thereafter and at isolated places over Uttarakhand during next 24 hours and mainly dry thereafter. Rain/thundershowers would occur at isolated places over east Uttar Pradesh during next 24 hours and mainly dry thereafter. Weather would mainly be dry over rest part of the region. Minimum temperatures would and fall by 2-3°C over northwest India during next 48 hours. Dense fog / fog would occur at a few places over Punjab, Haryana & Delhi, Uttar Pradesh and east Rajasthan during next 2 days.
- **Weather Warning during next three days:**
 - 10 January (Day 1): Dense fog (visibility < 200m) would occur at isolated places over Haryana, Delhi, east Rajasthan, Uttar Pradesh. Isolated heavy rain/snow (>35.6 mm rain) would occur over Jammu & Kashmir.
 - 11 January (Day 2): Dense fog (visibility < 200m) would occur at isolated places over Haryana, Delhi, Uttar Pradesh, east Rajasthan. Ground frost (temperature < 4°C) would occur at isolated places Punjab, west Rajasthan and Haryana.
 - January (Day 3): Ground frost (temperature < 4°C) would occur at isolated places over Punjab, west Rajasthan and west Haryana.
- **Weather Outlook:** Fall in minimum temperatures by 2-4°C over northwest. Weather would be mainly dry/dry over rest of the region.
- **Advisories :**
 - As there are chances of ground frost at isolated places in Punjab (Amritsar, Ludhiana and Patiala), Haryana (Hissar, Chandigarh and Bhiwani) and west Rajasthan (Ganganagar and Jaisalmer), apply light and frequent irrigation to safeguard the standing crops from frost injury. Make heap of dry leaves and grasses and slow burning of these heaps to prevent young kinnow fruit plants from frost. Fruit plants like litchi, mango, papaya, citrus are susceptible to frost damage, as frost is expected, temperature of orchard should be raised by irrigation or smudging (i.e. creating smoke screen in orchard) and young plants and tomato seedlings are also protected by covering with polythene sheets or straw thatches.
 - In Undulating Plain Zone of Punjab, undertake intercultural operations in mustard for moisture conservation and removal of weeds. Apply light irrigation to vegetables (potato, tomato) & young fruit plants by wrapping the young fruit plants with bhusa /thatch to protect from cold injury.
 - In Central Plain Zone of Punjab, complete transplanting of capsicum, tomato, cucumber and brinjal under low tunnels.
 - In Western Zone of Haryana, apply light irrigation and arrange for smoke during evening hours in mustard crop field for protection from cold injury. Apply the light irrigation to the vegetable crops and cover the young fruit plants.
 - In Delhi give light and frequent irrigation in mustard crop at evening time to protect the crop from cold injury. In present weather conditions transplanting of seedlings of late varieties of cabbage, cauliflower, knolkhol etc. may be done on ridges. Sowing of spinach, coriander, fenugreek may be done during the week.
 - 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, it is advised to postpone all the cultural operations viz; irrigation, herbicide application and first and second top dressing of urea depending as rain/snow is expected at many places along with isolated heavy rain / snowfall. In Intermediate Zone of Jammu & Kashmir, it is advised to apply second dose of urea in normal sown wheat after receipt of rain, also postpone transplanting of onion due to chances of rain/ snow.
 - In Bhabar and Tarai and Hill Zone of Uttarakhand, rainfall and snowfall occurred during last few days was very useful for standing wheat crop of all growth stages. Also due to low temperature conditions, farmers are advised to burn straw during morning hours near the wheat field crops and give irrigation in vegetables in order to protect from cold injury or arrange for smoking during night hours.
 - In west Rajasthan, it is advised to spray a solution of 0.2% DMSO (Dimethyl Sulfoxide), 0.1 % thiourea or 0.1 Sulphuric acid to protect the standing crops against frost attack. Arrange for smoke around the field after midnight or light irrigation could be equally effective to protect the crop from frost bite.

- In Central Plain Zone of Uttar Pradesh, arrange smoking around the field of fruit crops during night and apply light and frequent irrigation at regular interval to protect them 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 g per 30-32 litres of water for the control of weeds. Undertake thinning in sarson and gobhisarson. 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 Sub-Montane and Low Hills Tropical Zone of Himachal Pradesh, in the prevailing weather attack of aphids is expected in wheat at CRI stage. For control, spray 30 ml Cypermethrin 10 EC per 30 litres of water per kanal area.
- In Central Plain Zone and Sub Montane Undulating Zone of Punjab weather is congenial for appearance of yellow rust on wheat. If yellow rust symptoms are observed in patches in the fields, spray 1 ml of Tilt/Folicur in one litre of water.
- In Western Zone of Haryana due to high humidity and foggy weather condition, there is possibility of white rust and Alternaria blight in the mustard crop, undertake the proper plant protection measures.
- In Western Plain Zone of Uttar Pradesh attack of late blight in potato is observed and is likely to increase due to high humidity and cloudy weather. For control, spray Mancozeb 2g or Phosphomidon 40 S. L. 1ml per litre of water. For control of attack of aphid in Mustard, spray Dimethoate 30% E.C. or Monocotophos 36% S.L 500 ml in 600 to 700 litres of water per hectare.
- In Central Plain Zone of Uttar Pradesh, due to foggy weather, attack of early/late blight in potato and downy mildew in mustard is expected; spray Redomil M-Z @ 25 g per litres of water in potato and 0.2% Ridomil % at 15 days interval.
- In Mild Hills Sub-Humid Zone of Himachal Pradesh due to cloudy weather and high humidity incidence of collar rot in apple is observed and likely is to continue. For control, remove the soil around the collar region and expose the affected portion to sun.
- 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. Protect animals from low night temperature by providing protected shelters. Dry bedding to animals helps to save them from cold. Entry of very cold winds inside the shed should be minimized.

CENTRAL INDIA [M.P., CHHATTISGARH]



Wheat



Sugarcane



Gram

- **Realised Rainfall:** Mainly dry weather prevailed over the region.
- **Weather forecast:** Rain/thundershowers would occur at isolated places over east Madhya Pradesh during next 24 hours and mainly dry thereafter. Weather would be mainly dry over the region. Dense fog would occur at few places over west Madhya Pradesh during next 2 days.
- **Weather Warning:** Nil
- **Weather Outlook:** Weather would be mainly dry over the region.
- **Advisories:**
 - In north Madhya Pradesh and parts of Chattishgarh due to fall in temperature, apply light and frequent irrigation in evening hours to protect the standing crops from cold injury. Also arrange for smoking around the field.
 - 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 mustard, gram and vegetables
 - 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 Malwa Plateau Zone of Madhya Pradesh, continue planting of onion, garlic, potato and transplanting of cabbage, cauliflower, tomato and brinjal.
- In Chattishgarh Plain Zone, in view of prevailing dry weather, apply irrigation in pea and wheat at CRI Stage followed by application of nitrogenous fertilizer.
- In Satpura Plateau Zone of Madhya Pradesh, apply irrigation in cotton crop in case of moisture stress condition and continue picking of matured cotton boll.
- 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. For the attack of Gram pod borer (2-3 caterpillars per meter row), spray Proferofos 50EC @ 1.5 lit/ha.
- Due to foggy and cloudy conditions in the last week in Vindhya Plateau Zone of Madhya Pradesh, there is possibility of attack of aphids in mustard crop. Spray of methyl dematon 25 E.C. or dimethoate 30 E.C. @ 2.0 ml. per litre of water for their control.
- In Northern Hill Zone of Chhattisgarh, in the present weather dew amount is conducive for development of wilting conditions in chickpea crop, for its control, spray Tricoderma 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, there is attack of thrips, and aphids in gram, for its control spray Monocrotophos.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure III
- **Animal Husbandry**
- In Malwa Plateau of Madhya Pradesh, provide clean water, balanced and nutrients rich feed to the animals. Deworm the cattle. Protect the cattle from cold, keep them in warm environment.
- 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.

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



Mustard



Sugarcane



Transplanting of rice



Cole crops



Onion

- **Realised Weather:** Weather remained mainly dry / dry over the region.
- **Weather Forecast:** Rain / thundershowers would occur at isolated places over Bihar during next 24 hours and over Sub-Himalayan West Bengal during next 48 hours and mainly dry thereafter. Weather would be mainly dry / dry over rest of the region. Minimum temperatures would rise by 2-3° C over east India during next 48 hours. Dense fog / fog would occur at a few places over Bihar and Sub-Himalayan West Bengal during next 2 days.
- **Weather Warning:** Dense fog (visibility < 200 m) would occur at isolated places over Bihar on 9th January and over Sub-Himalayan West Bengal & Sikkim on 10th and 11th January.
- **Weather Outlook:** Rain / thundershowers would occur at isolated places over Sub-Himalayan West Bengal & Sikkim. Fall in minimum temperatures by 2-4° C over east India. Weather would be mainly dry / dry over rest of the region.
- **Advisories:**
 - In New Alluvial Zone, Laterite and Red Soil Zone of West Bengal, to protect the seedlings of *boro* rice from cold injury, cover the nursery bed with polythene or keep stagnant water in the nursery bed especially in the night time. Remove dew from seedlings of *boro* rice by stirring with bamboo or rope. 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 view of low minimum temperatures, in North West Alluvial Plain Zone of Bihar, apply light irrigation in the evening time in standing crops to protect from cold injury. As dry weather is prevailing during last few weeks,

in North West Alluvial Plain Zone of Bihar, apply irrigation in wheat at 30-35 days after sowing and apply light and frequent irrigation in potato crop. Undertake intercultural operations in rabi maize and apply light irrigation and remaining dose of nitrogen @ 40 kg per hectare.

- In North East Alluvial Plain Zone of Bihar, apply irrigation to wheat at crown root initiation stage, mustard and to vegetables. Also apply irrigation to potato crop regularly after an interval of 7-10 days.
- In Western Undulating Zone of Odisha, as dry weather is prevailing apply irrigation in sugarcane and undertake picking of cotton. Undertake nursery sowing of summer rice.
- In Coastal Saline Zone of West Bengal, prepare main field for transplanting of *boro* rice. Also, continue sowing of sunflower.
- 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, as dry weather is prevailing during last few weeks, 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.
- As dry weather is prevailing 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. Prepare field for vegetables like long gourd, round gourd, bitter guard, sponge gourd, cucumber, water melon and musk melon.
- In North West Alluvial Plain Zone of Bihar, due to prevailing dense foggy conditions, there is chance of occurrence of early blight in potato and tomato; 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 Hydrochloride @ 1.5-2.0 ml/liter of water.
- In North East Alluvial Zone and North West Alluvial Plain Zone of Bihar, due to prevailing dense foggy conditions, there is chance of occurrence of white rust in mustard; spray 0.2% Redomil or Mancozeb.
- 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 water per hectare. For aphids, spray Dimethoate @ 1 l/ha in 500 l of water.
- In South Eastern Plateau Zone of Jharkhand, dry with cool temperature may favour the attack of leaf eating and sucking pests in pigeon pea; 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. Mustard crop is at flowering stage and aphid attack is observed which is likely to be more in coming days; spray Methyl demitone or Dimethoate @ 1 ml per liter mixed with teepol @ 5 ml per liter of water.
- In Western Plateau Zone of Jharkhand, foggy weather is favourable for the attack of late blight disease in potato crop; spray Redomyl (1.5 g 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 g per litre of water.
- In New Alluvial Zone of West Bengal, in the present foggy weather conditions there may be chance of attack of late blight in Potato; apply 2.5 g Mancozeb per litre of water at 10 to 12 days interval.
- Due to low temperature and foggy weather in Terai Zone of West Bengal, there may be chance of late blight in potato. To prevent the attack by late blight, spray the mixture of Metalaxyl 8% and Mancozeb 64% @ 1.5 g / litre of water at 8-10 days interval. If late blight occur in field, 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 rich 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 FMD 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 Terai Zone of West Bengal, cowshed should be kept dry. Cover the openings of cowshed and animals with jute bags to protect them from low temperature.



Pulses



Transplanting of rice



cole crops



Late blight in Potato

- **Realised Weather:** Significant rainfall occurred in Lower Dibang Valley district of Arunachal Pradesh. Weather remained mainly dry / dry over rest of the region.
- **Weather Forecast:** Rain / thundershowers would occur at isolated places over Arunachal Pradesh and Assam & Meghalaya during next 48 hours and mainly dry thereafter. Weather would be mainly dry / dry over the remaining parts of the region. Dense fog/fog would occur at a few places over south Assam and Tripura during next 2 days.
- **Weather Warning during next three days:** Dense fog (visibility < 200m) would occur at isolated places over south Assam and Tripura during next 2 days.
- **Weather Outlook:** Rain / thundershowers would occur at isolated places over Assam & Meghalaya and Arunachal Pradesh. Weather would be mainly dry / dry over the remaining region.
- **Advisories:**
 - As night temperature is low, the young seedlings in rice nurseries in Assam, Meghalaya and Tripura should be applied with irrigation water during night to protect the seedlings from low temperature and drain out the water in the next morning.
 - In Central Bramhaputra Valley Zone, Hill Zone and North Bank Plain Zone of Assam, undertake transplanting of *boro* rice seedlings at 4 to 5-6 leaf stage (45 days old seedlings).
 - In Central Bramhaputra Valley Zone of Assam, in view of prevailing dry weather, irrigate rapeseed and mustard at flowering and siliqua development stages.
 - In Hill Zone of Assam, as dry weather is prevailing, undertake earthing up in potato followed by irrigation.
 - In Lower Bramhaputra Valley Zone of Assam, undertake transplanting *boro* rice seedlings of age about 45 days or with 5-6 leaf stage in the main field.
 - In Meghalaya, undertake nursery raising of *boro* rice. Provide light irrigation in tomato as dry weather is prevailing.
 - As dry weather is prevailing, in Sub Tropical Plain Zone of Manipur, apply irrigation in rapeseed, mustard and pulses and light irrigation in potato to maintain optimum soil moisture during vegetative stage. Continue sowing of *rabi* maize as inter crop with mustard or pulses.
 - In Mild Tropical Hill Zone of Nagaland, taking the advantage of dry weather, undertake harvesting of ginger, vegetables and matured cabbage.
 - In Mild Tropical Plain Zone of Tripura, maintain moisture in the field of toria through irrigation at pod initiation stage.
 - In Arunachal Pradesh, weather is congenial for occurrence of late blight in potato and tomato. Foliar spraying of RedomilMZ @ 2.5 g / litre water at 7 days interval is advised. Spray on both side of the leaf.
 - In Mild Tropical Plain Zone of Tripura, in the present foggy weather there is chance of attack of blight in Maize field. Spray Zineb @ 3 g per liter of water at 20 days interval to manage the attack.
 - In Hill Zone and Lower Bramhaputra Valley 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 Dithane M-45 (2.5 g / litre of water) alternately at 15 days interval.
 - In Central Bramhaputra Valley 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.
 - In North Bank Plain Zone of Assam, humid and cloudy weather conditions are favourable for incidence of aphids and saw fly in rapeseed and mustard. Hence, farmers are advised to monitor the crop. Apply Dimethoate 30 EC or Chloropyriphos @ 2 ml / litre of water with a spray volume of 500-700 litres / ha for hand sprayer & 200-250 litres / ha for power sprayer.
 - Stages of major crops are mentioned in Annexure I.
 - Varieties are mentioned in Annexure III.
- **Animal Husbandry**
 - 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 using electric bulb of 300 watt per 100 sq. ft. space.
 - 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. ft.) to prevent *Coryza* disease.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]



Transplanting of rice

Groundnut

Cotton

Grape vine

- **Realised Weather:** Weather remained mainly dry / dry over the region.
- **Weather Forecast:** Weather would be mainly dry / dry over the region.
- **Weather Warning:** Nil
- **Weather Outlook:** Weather would be mainly dry / dry over the region.
- **Advisories:**
 - As dry weather prevailed during last few weeks in Konkan, apply irrigation to groundnut at 10-12 days interval, orchards, vegetable crops and pulses. Undertake transplanting of rice and finger millet seedlings and apply irrigation in rice field to maintain 2-3 cm water level for first 8-10 days as mainly dry weather is expected during the period. To preserve the soil moisture in water melon, apply straw mulch or polythene mulch.
 - As dry weather prevailed during last few weeks in Madhya Maharashtra, apply irrigation to gram at pod development stage, wheat at early tillering / tillering stage, jowar at grain formation stage as well as in sugarcane, vegetable crops and maize. Also apply mulch of plant waste material in jowar to preserve the soil moisture in water stress condition. Under prevailing weather conditions, undertake planting of *suru* sugarcane and water melon. Start sowing of groundnut in Western Ghat region.
 - As dry weather prevailed during last few weeks in Marathwada, apply irrigation to gram at pod development stage, wheat at early tillering / tillering stage, jowar at grain formation stage as well as in sugarcane, vegetable crops and maize. Under prevailing weather undertake planting of *suru* sugarcane, sowing of summer groundnut and watermelon.
 - As dry weather prevailed during last few weeks in Vidarbha, apply irrigation to gram at pod development stage as well as in safflower, vegetable crops and orchards. Under prevailing weather conditions, undertake transplanting of 30-35 days old summer rice seedling.
 - As dry weather conditions are prevailing in Bhal and Coastal Zone of Gujarat, irrigate the fruit crops regularly to avoid moisture stress.
 - As dry and cold weather is prevailing particularly during night in North Gujarat Zone, apply light irrigation in the evening to protect the crops (castor, potato) from cold.
 - As dry weather is prevailing, carryout hand weeding and intercultural operations in wheat, mustard and vegetable crops in South Gujarat Heavy Rainfall Zone to avoid moisture loss.
 - As cloudy weather is expected during next 3-5 days, there may be incidence of thrips on mango inflorescence in South Konkan; spray Spinosad @ 2.5 ml per 10 litres of water on whole tree.
 - Prevailing cold and dry weather in Pune region is congenial for the incidence of powdery mildew in cabbage, cauliflower and broccoli; spray Metalaxyl 8 % + Mancozeb 64 % (2 g) at 15 days interval.
 - In South Gujarat Heavy rainfall Zone, due to cloudy weather conditions incidence of anthracnose in mango occurred and likely to continue. Spray Hexaconazole 5 % EC @ 10 ml in 10 liters of water for effective control. There is a chance of attack of powdery mildew and aphids in mustard crop. Spray Mancozeb (75 %) @ 25 g / 10 litres water for powdery mildew and spray Phosphamidon (100%) @ 3 ml or Dimethoate (30%) @ 10 ml in 10 litres of water for aphids.
 - Due to cloudy weather, there are chances of aphids and white rust in mustard in Middle Gujarat Zone. Spray Mancozeb 0.25% or Chlorothalonil 0.2% in 10 litres of water and 500 g (5% arc) neem seed powder or 20 ml (1 EC) or 40 ml (0.15 EC) neem based readymade solution in 10 liters of water in evening time for control of aphids and rust.
 - Stages of major crops are mentioned in Annexure I.
 - Varieties are mentioned in Annexure III.
- **Animal Husbandry**
 - In 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]



Pulses (flowering/pod formation)

Sugarcane (cane maturity)

Onion (bulb development)

Sucking pest on Groundnut

- **Realized rainfall:** Significant rainfall occurred over Ramanathapuram district in Tamil Nadu. Weather was mainly dry / dry over remaining parts of the region.
- **Rainfall Forecast:** Rain/thundershowers would occur at isolated places over Tamil Nadu and Kerala during next 24 hours and mainly dry thereafter. Weather would be mainly dry/dry over rest of the region.
- **Weather Warning during the next three days :** Nil
- **Weather Outlook:** Rain/thundershowers would occur at isolated places over extreme south peninsular India. Weather would be mainly dry/dry over rest of the region.
- **Advisory:**
 - Farmers in Krishna Godavari Zone of Andhra Pradesh are advised to apply $MgSO_4$ 2 g per liter of water in cotton to prevent leaf reddening due to lack of Mg caused due to low temperatures.
 - In the North Transition Zone of Karnataka, apply irrigation to wheat (Durum) crop which is at late jointing to flowering stage, early sown sorghum which is at flowering to grain filling stage and chickpea crop which is at pod formation to flowering stage, also top dress the sorghum crop with 50 kg urea/ha immediately after irrigation due to prevailing dry weather. Complete harvesting of sugarcane within 8-10 days depending upon the maturity of crop.
 - Taking advantage of the dry weather prevailing, continue harvesting of red gram in the Eastern Dry Zone; continue rice harvesting in the Southern Dry Zone, North East Dry Zone and Central Dry Zone; continue cotton picking in , North East Dry Zone and Central Dry Zone of Karnataka.
 - Continue planting of sugarcane after proper set treatment, apply irrigation to wheat crop which is at grain filling stage in the North East Transition Zone of Karnataka.
 - Weather is favourable to undertake sowing of black gram, green gram and sunhemp utilising the residual soil moisture after harvesting of rice in the Central Dry Zone of Karnataka.
 - Undertake sowing of rice fallow pulses in the matured *samba* paddy fields under waxy condition of soil and harvesting of matured paddy in the Cauvery Delta Zone of Tamil Nadu. Undertake preparation for sowing of rice fallow pulses (black gram and green gram) in Karaikal & Pondicherry.
 - In Problem Area Zone of Kerala, late sowing of rice should be avoided due to high diurnal variations in temperature, as it affects the germination of seed and there is chance of salt water intrusion at the time of harvest.
 - Due to low temperature in the morning hours, there is possibility of occurrence of powdery mildew and leaf hopper in mango orchard. Undertake control measures in the Eastern Dry Zone and Southern Dry Zone of Karnataka. Hoppers were noticed in mango orchard throughout the North East Transition Zone of Karnataka. For effective control, undertake spraying of 4 gm Carbaryl 50WP or 2 ml Malathion 50EC or 1.5 ml Monocrotophos 36SL or 0.5 ml Phosphamidon 40EC in one litre of water.
 - Due to low temperature and high humidity in morning hours, there is possibility of occurrence of powdery mildew on the grapes in the Eastern Dry Zone of Karnataka. Undertake spraying of Carbendazim @ 1 g/L or Tridemarf @ 0.5 ml/L to control the disease.
 - Due to continuous dry weather, aphids were noticed and likely to increase in the North East Dry Zone of Karnataka, for effective control undertake spraying of Dimethoiat 30 EC @ 1.7ml/liter of water.
 - In the prevailing weather with moderate cloud cover and humidity, sucking pests in cotton are noticed in the South Zone of Tamil Nadu. For controlling them, spray Imidachlopid 100 ml/ ha. Spray cotton plus, a crop booster, @ 7.5 kg/ ha using 500 litres of water at flowering and boll formation stages for withstanding moisture stress and reducing square shedding.
 - Prevailing weather condition is favorable for powdery mildew disease in chillies, spread of blast and bacterial leaf diseases in rice and blotch incidence in turmeric in the Western Zone of Tamilnadu. Monitor the crops and spray Wetable sulphur 3 g/lit or Carbendazim 1 g/lit, 3 sprays at 15 days interval from the first appearance of symptom to control powdery mildew disease and Mancozeb @ 2.5 g/liter of water to control blotch incidence.
 - Due to high temperature, there is a chance of increase of mite population in coconut and vegetables in the Central Zone of Kerala. Apply 2% neem oil-garlic-soap emulsion in the crown on young coconut bunches to prevent mite attack and spray Spiromesifen (Oberon) at the rate of 0.75ml per one liter of water to vegetables.
 - Prevailing conditions (increasing day temperatures) are congenial for incidence of leaf miner, tobacco

cutworm, sucking pest and pea nut bud necrosis virus (PBNB) in rabi groundnut, pink borer in maize crop and hoppers in mango crop in the Scarce Rainfall Zone of Andhra Pradesh. Monitor the crops and undertake plant protection measures.

- 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, Haemorrhagic Septicaemia, Anthrax and small ruminants against PPR and Sheep and Goat Pox in the Scarce Rainfall Zone of Andhra Pradesh.
- Since night temperature is low in the Western Zone of Tamil Nadu, protect poultry shed from chill by hanging jute bags in the side walls of the shed.
- Monitor energy level in the feed intake in birds and mycotoxin level in fresh maize lots, since feed intake in birds remains high in the present dry weather in the North Western Zone of Tamil Nadu.

Annexure I
Stages of Major Crops

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

- Wheat (crown root initiation/tillering), barley, oat, late peas (germination/early vegetative), early peas, gobhisarson (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 (CRI/ tillering), ginger (vegetative), sugarcane (active vegetative/grand growth), sesame in low land area (early vegetative / vegetative), vegetable pea (sowing / germination), toria, chickpea (pod maturity/harvesting), tomato (germination/vegetative), 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), gobhisarson, mustard (vegetative/flowering), brown sarson, oat, lentil, berseem, gram, field pea (flowering/pod formation), potato (vegetative/flowering), methipalak, 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 (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(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), Sarson Saag, bathua, radish, spinach, fenugreek, coriander and turnip (sowing), guar, bajra (flowering / grain filling), rabi onion (transplanting), mustard, gram, pea, carrot, garlic (sowing), oat, barseem (sowing) in Delhi.
- Wheat (crown root initiation/tillering), Maize (knee height), barley (germination/tillering), mustard(flowering/siliquea formation) pea/chickpea/lentil/Linseed(Flowering/pod formation), potato (tuberization), Jowar, bajra, (grain filling/maturity), tomato, brinjal, chilli (fruiting/harvesting), pigeon pea, black gram, green gram (flowering/pod formation/), spring sugarcane (grand growth/harvesting), toria (pod formation) in Uttar Pradesh.
- Sugarcane (grand growth), wheat (germination/CRI/tillering), black gram, green gram, soybean, arhar (vegetative/pod formation), moong, mash (vegetative) onion (transplanting) sesamum (vegetative), cauliflower (transplanting), potato (planting),mustard(flowering) in Punjab.
- Wheat (germination/CRI/tillering), New sugarcane (vegetative) in Haryana.

CENTRAL INDIA [M.P., CHHATTISGARH]

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

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

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

- Wheat (tillering/ active tillering), rabi vegetables (late vegetative/ harvesting), ginger (harvesting), mustard (flowering/capsule formation), 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 / booting), winter vegetables (vegetative / flowering / fruiting), potato (vegetative / stolon formation), cole crops (vegetative / head formation / maturity), tomato (flowering / fruiting), cotton (boll maturity / harvesting) in Assam.
- Carrot (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 (inter crop) / vegetative), rabi vegetables (vegetative / flowering / fruiting), cole crops (vegetative / head formation), potato (vegetative / tuber formation), onion (vegetative), cucurbits (sowing / vegetative) in Manipur.
- Potato (tuber formation), boro rice (nursery raising), rapeseed and mustard (pod development / maturity), cauliflower and other winter vegetables (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), ginger (maturity / harvesting) in Nagaland.
- Rabi maize (vegetative), boro rice (seedling / transplanting), 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 maturity / harvesting in Madhya Maharashtra, Vidarbha and Marathwada), rabi jowar (grain formation / maturity in Madhya Maharashtra and Marathwada), safflower (flowering / boll development in Madhya Maharashtra, Marathwada and Vidarbha), gram (pod development in Madhya Maharashtra, Marathwada and Vidarbha), wheat (early tillering / tillering in Madhya Maharashtra, Marathwada and Vidarbha), maize (tasseling & silking / cob formation 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), new suru (land preparation / planting in Madhya Maharashtra & Marathwada), rice (germination / seedling in Konkan, nursery sowing / germination / transplanting in East Vidarbha), groundnut (sowing / germination in Konkan) in Maharashtra.
- Wheat (tillering / booting), gram (flowering / pod formation), mustard (flowering / grain formation), castor (spike development), cotton (boll formation / maturity), sugarcane (elongation / grand growth), new sugarcane (vegetative), cumin (flowering / grain formation), fenugreek (vegetative), vegetables (fruiting / harvesting), potato (vegetative) in Gujarat.

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

- Cotton (picking) in North Telangana and Scarce rainfall Zone of Rayalaseema, sugarcane (Jan-March planted) (cane maturity/harvest), late sown kharif rice (grain filling/maturity), banana (fruit development/maturity), rabi crops: rice (nursery to transplanting/tillering), groundnut (vegetative/flowering), maize (vegetative), red gram (pod development/pod maturity), bengal gram (pod development/harvesting), jowar (grain filling/dough), chillies (vegetative/flowering), vegetables (vegetative), onion (bulb development /maturity), mango(flowering/fruit initiation) and wheat (crown root initiation) in High Altitude Zone in Andhra Pradesh.
- Sugarcane (grand growth), samba rice (panicle initiation/flowering and maturity), thaladi rice (flowering), rice (sowing to vegetative/flowering in the Western Zone), cotton and maize(vegetative to flowering in the Western Zone /harvesting in the Cauvery Delta Zone), onion (vegetative), sunflower (seedling), winter cotton (pod development), groundnut (sowing/vegetative), vegetables (vegetative), black gram (flowering), irrigated rice (panicle initiation), rainfed cotton(flowering/boll formation), rainfed maize , pearl millet and sorghum (grain-filling) and pulses (flowering/ pod development) in Tamil Nadu.
- Mundakan rice (panicle initiation), puncha rice (seedling) in the Problem Area Zone, arecanut (harvesting), sugarcane (grand growth), rubber (tapping), rabi vegetables (growing), pepper (berry maturity), cardamom (harvesting), in Kerala.
- Sugarcane (cane maturity), kharif crops: cotton (picking), Rabi Crops: Bengal gram (pod formation), sorghum (flowering to grain filling), safflower (flowering) and wheat (jointing to flowering), rice (transplanting in coastal Karnataka), sugarcane (planting), Mango (flowering) in Karnataka.

Annexure II
Week by week Rainfall Distribution

State/Districts	11.12.13		18.12.13		25.12.13		01.01.14		08.01.14	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
Arunachal Pradesh										
Anjaw	**	**	**	**	**	**	**	**	**	**
Changlang	0.0	-100	1.7	-94	0.0	-100	0.0	-100	0.0	-100
Dibang Valley	2.0	-71	6.0	-75	0.0	-100	0.0	-100	13.0	-26
East Kameng	1.0	-80	16.0	142	0.0	-100	0.0	-100	0.0	-100
East Siang	0.0	-100	4.5	-50	0.0	-100	0.0	-100	17.3	246
Kurung Kumey	**	**	**	**	**	**	**	**	**	**
Lohit	0.0	-100	1.2	-83	0.0	-100	0.0	-100	6.7	42
Lower Dibang Valley	0.0	-100	4.8	-80	0.0	-100	0.0	-100	27.8	59
Lower Subansari	**	**	12.0	532	3.0	-67	**	**	3.0	-71
Papumpara	0.0	-100	3.3	-18	0.1	-50	0.0	-100	4.6	-30
Tawang	2.0	-60	12.0	-7	0.0	-100	**	**	**	**
Tirap	0.0	-100	0.5	-89	0.0	-100	0.0	-100	1.7	-82
Upper Siang	0.0	-100	14.1	-58	0.0	-100	0.0	-100	0.0	-100
Upper Subansari	0.0	-100	24.2	357	0.0	-100	0.0	-100	4.2	180
West Kameng	0.0	-100	34.6	168	0.0	-100	0.0	-100	0.0	-100
West Siang	1.0	-83	10.3	-9	0.0	-100	0.0	-100	10.3	78
Assam										
Baksa	0.0	-100	6.9	116	0.0	-100	0.0	-100	0.0	-100
Barpeta	0.0	-100	0.5	-85	0.0	-100	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	1.1	-30	0.0	-100	0.0	-100
Chirang	0.0	-100	0.1	-95	0.0	-100	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	3.0	-53	0.0	-100	0.0	-100	11.0	244
Dhubri	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dibrugarh	0.0	-100	3.8	-8	0.0	-100	0.0	-100	6.2	130
Goalpara	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Golghat	0.0	-100	8.2	91	0.2	-94	0.0	-100	1.2	-53
Hailakandi	0.0	-100	0.0	-100	1.6	-41	0.0	-100	0.0	-100
Jorhat	0.0	-100	1.2	-76	0.3	-81	0.0	-100	3.6	-5
Kamrup(Rural)	0.0	-100	2.9	16	0.0	-100	0.0	-100	0.0	-100
Kamrup(Metro)	0.0	-100	0.7	-73	0.0	-100	0.0	-100	0.0	-100
Karbi Anglong	0.0	-100	0.0	-100	0.8	-20	0.0	-100	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	5.7	-11	0.3	-91	0.0	-100	6.1	89
Morigaon	0.0	-100	1.9	-34	0.0	-100	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	8.2	193	0.0	-100	0.0	-100	0.0	-100
Nalbari	0.0	-100	1.8	22	0.0	-100	0.0	-100	0.0	-100
Sonitpur	0.0	-100	1.6	-64	0.2	-85	0.0	-100	0.0	-100
Sibsagar	0.0	-100	2.7	-33	2.0	67	0.0	-100	6.0	445

Tinsukia	0.0	-100	2.2	-59	0.0	-100	0.0	-100	2.0	-17
Udalgiri	0.0	-100	1.2	-63	1.1	38	0.0	-100	0.0	-100
Meghalaya										
East Garo Hills	**	**	**	**	2.0	200	0.0	-100	0.0	-100
East Khasi Hills	0.0	-100	0.0	-100	0.1	-95	0.0	-100	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	7.0	126	0.0	-100	**	**	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										
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	0.0	-100	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	0.0	-100	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	**	**	**	**	**	**	**	**	0.0	-100
Imphal east	0.0	-100	1.3	-41	0.0	-100	0.0	-100	0.0	-100
Imphal west	**	**	0.0	-100	0.1	-83	**	**	0.0	-100
Senapati	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Tamenglong	**	**	**	**	**	**	**	**	**	**
Thoubal	0.0	-100	3.0	-57	0.0	-100	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	1.0	-68	0.0	-100	0.0	-100
Kohima	1.5	150	0.0	-100	0.9	-10	0.0	-100	0.0	-100
Longleng	**	**	**	**	**	**	**	**	**	**
Mokokchung	0.0	-100	2.0	-69	3.0	200	0.0	-100	0.0	-100
Mon	**	**	**	**	**	**	**	**	**	**
Parent	**	**	**	**	**	**	**	**	**	**
Phek	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Tuensang	**	**	**	**	**	**	**	**	**	**
Wokha	0.0	-100	0.0	-100	0.5	-74	0.0	-100	0.0	-100
Zunheboto	**	**	**	**	**	**	**	**	**	**
Tripura										
Dhalai	0.0	-100	0.0	-100	1.0	-64	0.0	-100	0.0	-100
North tripura	0.0	-100	0.0	-100	12.6	367	0.0	-100	0.0	-100
South tripura	0.0	-100	0.0	-100	1.0	-33	0.0	-100	0.0	-100
West tripura	0.0	-100	0.0	-100	3.6	90	0.0	-100	0.0	-100
Himachal Pradesh										
Bilaspur	0.0	-100	0.0	-100	22.9	160	6.1	-50	0.0	-100
Chamba	0.0	-100	0.0	-100	36.5	148	40.3	70	12.5	-50

Hamirpur	0.0	-100	0.0	-100	24.1	191	7.7	-54	2.9	-76
Kangra	0.0	-100	0.0	-100	40.7	338	12.7	-37	3.1	-78
Kinnaur	0.0	-100	0.0	-100	6.4	-50	5.8	-77	5.8	-70
Kullu	0.0	-100	0.0	-100	22.6	82	6.4	-62	8.6	-44
Lahaul and Spiti	1.3	-84	0.0	-100	8.6	-51	5.1	-77	10.3	-57
Mandi	0.0	-100	0.0	-100	21.3	232	8.5	-43	2.6	-76
Shimla	0.0	-100	0.0	-100	11.7	54	2.4	-82	1.1	-90
Sirmaur	0.0	-100	0.0	-100	23.8	138	3.1	-79	0.0	-100
Solan	0.0	-100	0.0	-100	21.6	157	2.9	-79	0.0	-100
Una	0.0	-100	0.0	-100	24.9	236	7.3	-28	2.4	-74
Punjab										
Amritsar	0.0	-100	0.0	-100	2.1	-37	0.5	-92	0.0	-100
Barnala	0.0	-100	0.0	-100	1.0	-47	0.0	-100	0.0	-100
Bhatinda	0.0	-100	0.0	-100	0.5	-64	0.0	-100	0.0	-100
Faridkot	0.0	-100	0.0	-100	1.0	-41	0.0	-100	0.0	-100
Fatehgarh Saheb	0.0	-100	0.0	-100	0.0	-100	7.0	52	0.0	-100
Ferozpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Gurdaspur	0.0	-100	0.0	-100	5.8	-4	27.8	178	0.0	-100
Hoshiarpur	0.0	-100	0.0	-100	11.5	77	12.3	78	0.0	-100
Jalandhar	0.0	-100	0.0	-100	1.0	-82	0.2	-96	0.0	-100
Kapurthala	0.0	-100	0.0	-100	17.2	560	2.1	-34	0.0	-100
Ludhiana	0.0	-100	0.0	-100	6.3	23	4.1	-13	0.0	-100
Mansa	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Moga	0.0	-100	0.0	-100	3.5	106	0.0	-100	0.0	-100
Muktesar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nawashahar	0.0	-100	0.0	-100	10.8	24	6.8	-18	0.8	-88
Patiala	0.0	-100	0.0	-100	0.9	-86	3.2	-16	0.0	-100
Ropar	0.0	-100	0.0	-100	12.7	90	3.5	-62	0.0	-100
Sangrur	0.0	-100	0.0	-100	9.1	94	1.7	-58	0.0	-100
Mohali	0.0	-100	0.0	-100	2.0	-74	2.0	-76	0.0	-100
TarnTaran	0.0	-100	0.0	-100	2.0	18	0.0	-100	0.0	-100
Haryana										
Ambala	0.0	-100	0.0	-100	7.1	60	2.0	-80	0.0	-100
Bhiwani	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Chandigarh	0.0	-100	0.0	-100	7.7	5	**	**	0.0	-100
Faridabad	0.0	-100	0.0	-100	0.0	-100	3.0	76	0.0	-100
Fatehabad	0.0	-100	0.0	-100	1.2	-8	0.0	-100	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
Katihah	0.0	-100	0.0	-100	0.0	-100	1.0	-44	0.0	-100
Karnal	0.0	-100	0.0	-100	0.0	-100	1.7	-60	0.0	-100
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	6.0	650	0.0	-100
Panchkkula	0.0	-100	0.0	-100	3.7	2	1.2	-91	0.0	-100
Panipat	0.0	-100	0.0	-100	0.0	-100	2.8	-20	0.0	-100

Rewari	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
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	2.5	-36	0.0	-100
Yamunanagar	0.0	-100	0.0	-100	20.9	397	3.0	-70	0.0	-100
Delhi	0.0	-100	0.0	-100	0.0	-100	2.0	-19	0.0	-100
Jammu & Kashmir										
Anantnag	0.0	-100	0.0	-100	47.6	258	68.8	270	14.8	10
Badgam	0.0	-100	0.0	-100	19.7	218	84.4	744	7.6	46
Bandipore	**	**	**	**	**	**	0.0	-100	0.0	-100
Baramula	0.0	-100	1.6	-97	13.0	-20	8.5	-93	4.7	-80
Doda	0.0	-100	0.0	-100	54.4	88	30.8	-13	4.1	-86
Ganderwal	0.0	-100	0.0	-100	34.8	364	2.2	-87	4.5	-55
Jammu	0.0	-100	0.0	-100	4.4	-41	6.6	-51	0.0	-100
Kargil	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kathua	0.0	-100	0.0	-100	39.0	491	21.7	43	0.0	-100
Kistwar	**	**	**	**			0.0	-100	0.0	-100
Kulgam	0.0	-100	0.0	-100	14.0	5	30.8	65	5.1	-62
Kupwara	0.0	-100	0.0	-100	3.9	-73	8.0	-61	3.9	-77
Ladakh(Leh)	0.0	-100	0.0	-100	0.3	-76	0.0	-100	0.0	-100
Poonch	0.0	-100	0.0	-100	0.2	-99	0.0	-100	0.2	-99
Pulwama	0.0	-100	0.0	-100	25.7	459	18.6	112	7.4	17
Rajouri	0.0	-100	0.0	-100	0.6	-82	0.0	-100	0.0	-100
Ramban	0.0	-100	0.0	-100	38.8	34	59.9	70	6.2	-80
Reasi	0.0	-100	0.0	-100	6.3	-69	14.7	-48	0.0	-100
Samba	0.0	-100	0.0	-100	4.7	-37	6.8	-50	0.0	-100
Shopian	0.0	-100	0.0	-100	3.0	-35	3.0	-66	0.5	-92
Srinagar	0.0	-100	0.0	-100	12.0	60	31.3	86	1.3	-87
Udhampur	0.0	-100	0.0	-100	4.8	-76	28.3	1	7.3	-73
East Madhya Pradesh										
Anuppur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.2	-94
Balaghat	0.0	-100	0.0	-100	0.0	-100	0.0	-100	4.0	-34
Chhatarpur	0.0	-100	0.0	-100	0.0	-100	9.7	549	7.8	288
Chindwara	0.0	-100	0.0	-100	0.0	-100	0.0	-100	1.7	-58
Damoh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	2.0	-29
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	1.6	-51
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	1.2	-20
Sagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	2.7	-14
Satna	0.0	-100	0.0	-100	0.0	-100	0.0	-100	1.7	-56
Seoni	0.0	-100	0.0	-100	0.0	-100	0.0	-100	3.5	9
Shahdol	0.0	-100	0.0	-100	0.0	-100	0.0	-100	1.0	-60
Sidhi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	6.0	88
Singrauli	0.0	-100	0.0	-100	0.0	-100	0.0	-100	1.0	-41

Tikamgarh	0.0	-100	0.0	-100	0.0	-100	27.0	1700	1.0	-68
Umara	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	5.6	331
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	9.5	373
Bhopal	0.0	-100	0.0	-100	0.0	-100	0.0	-100	11.7	736
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	3.3	122	3.7	307
Dewas	0.0	-100	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	7.6	260	0.0	-100
Gwalior	0.0	-100	0.0	-100	0.0	-100	20.7	1280	2.5	-17
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	0.4	-81
Indore	0.0	-100	0.0	-100	0.0	-100	0.1	-73	0.0	-100
Jhabua	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Khandwa	0.0	-100	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	8.0	186
Rajgarh	0.0	-100	0.0	-100	0.0	-100	7.0	400	0.3	-82
Ratlam	0.0	-100	0.0	-100	0.0	-100	24.8	3443	0.0	-100
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	18.0	1100	0.0	-100
Sheopur Kalani	0.0	-100	0.0	-100	0.0	-100	7.0	678	3.5	6
Shivpuri	0.0	-100	0.0	-100	0.0	-100	8.5	347	3.3	117
Ujjain	0.0	-100	0.0	-100	0.0	-100	6.2	593	0.2	-89
Vidisha	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.6	-79
Chhattisgarh										
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	1.0	-61
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	1.0	900	0.0	-100	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	1.5	-58
East Uttar Pradesh										
Allahabad	0.0	-100	0.0	-100	0.0	-100	0.3	-81	1.1	-11
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	0.5	-76	0.4	-76
Bahraich	0.0	-100	0.0	-100	0.0	-100	1.0	-81	0.0	-100
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	23.8	1222	3.9	96
Barabanki	0.0	-100	0.0	-100	0.0	-100	1.1	-74	0.0	-100
Basti	0.0	-100	0.0	-100	0.0	-100	0.3	-91	0.0	-100
Chandauli	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.8	-47
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	1.3	-65	0.0	-100
Farrukhabad	0.0	-100	0.0	-100	0.0	-100	6.2	226	0.0	-100
Fatehpur	0.0	-100	0.0	-100	0.0	-100	3.3	43	0.3	-84
Gazipur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.5	-79
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	3.9	44	0.0	-100
Jaunpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.3	-84
Kannauj	0.0	-100	0.0	-100	0.0	-100	15.0	582	0.0	-100
Kanpur City	0.0	-100	0.0	-100	0.0	-100	12.2	190	4.0	164
Kanpur Dehat	0.0	-100	0.0	-100	0.0	-100	3.6	33	3.4	180
Kaushambi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	1.2	-20
Kheri	0.0	-100	0.0	-100	0.0	-100	4.5	-13	0.0	-100
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	3.6	6	0.1	-98
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	0.5	-77
Mirzapur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.3	-82
Pratapgarh	0.0	-100	0.0	-100	0.0	-100	4.3	79	0.3	-84
RaiBareilly	0.0	-100	0.0	-100	0.0	-100	2.4	-14	0.1	-92
Sahuji Maharajnagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	6.5	333
Sant Kabirnagar	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	1.6	7
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	3.1	-18	0.0	-100
Sonbhadra	0.0	-100	0.0	-100	0.0	-100	0.0	-100	3.5	216
Sultanpur	0.0	-100	0.0	-100	0.0	-100	4.1	37	0.0	-100
Unnao	0.0	-100	0.0	-100	0.0	-100	3.5	-8	3.6	138
Varanasi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.2	-93
West Uttar Pradesh										
Agra	0.0	-100	0.0	-100	0.0	-100	5.0	213	0.5	-80

Aligarh	0.0	-100	0.0	-100	0.0	-100	11.1	455	0.0	-100
Auraiya	0.0	-100	0.0	-100	0.0	-100	7.0	192	0.0	-100
Badaun	0.0	-100	0.0	-100	0.6	-77	11.4	500	0.0	-100
Baghpat	0.0	-100	0.0	-100	0.0	-100	3.0	-29	0.0	-100
Bareilly	0.0	-100	0.0	-100	1.0	-58	9.5	217	0.0	-100
Bijnor	0.0	-100	0.0	-100	6.9	16	4.3	-17	0.0	-100
Bulandsahar	0.0	-100	0.0	-100	0.0	-100	4.2	75	0.0	-100
Etah	0.0	-100	0.0	-100	0.0	-100	6.7	294	0.0	-100
Etawah	0.0	-100	0.0	-100	0.0	-100	14.0	438	0.0	-100
Firozabad	0.0	-100	0.0	-100	0.0	-100	13.2	529	0.0	-100
GBNagar	0.0	-100	0.0	-100	0.0	-100	3.0	25	0.0	-100
Ghaziabad	0.0	-100	0.0	-100	0.0	-100	8.3	196	0.0	-100
Hamirpur	0.0	-100	0.0	-100	0.0	-100	11.3	371	1.3	-3
Jalaun	0.0	-100	0.0	-100	0.0	-100	10.3	281	1.1	3
Jhansi	0.0	-100	0.0	-100	0.0	-100	23.7	812	4.4	159
Jotirba Phule Nagar	0.0	-100	0.0	-100	1.0	-67	8.0	116	0.5	-84
Kanshiramnagar	0.0	-100	0.0	-100	0.0	-100	13.0	584	0.0	-100
Lalitpur	0.0	-100	0.0	-100	0.0	-100	7.0	233	5.0	163
Mahamaya Nagar	0.0	-100	0.0	-100	0.0	-100	11.0	686	0.0	-100
Mahoba	0.0	-100	0.0	-100	0.0	-100	6.0	216	2.0	-5
Mainpuri	0.0	-100	0.0	-100	0.0	-100	17.0	448	0.0	-100
Mathura	0.0	-100	0.0	-100	0.0	-100	1.0	-9	0.0	-100
Meerut	0.0	-100	0.0	-100	0.9	-79	1.5	-65	0.0	-100
Moradabad	0.0	-100	0.0	-100	2.0	-46	7.4	118	0.0	-100
Muzzaffarnagar	0.0	-100	0.0	-100	2.7	-37	8.8	52	0.0	-100
Pilibhit	0.0	-100	0.0	-100	0.0	-100	8.5	130	0.0	-100
Rampur	0.0	-100	0.0	-100	0.0	-100	5.8	4	0.0	-100
Saharanpur	0.0	-100	0.0	-100	18.7	466	6.0	-29	0.0	-100
Shahjahanpur	0.0	-100	0.0	-100	0.7	-80	8.7	149	0.0	-100
Uttarakhand										
Almora	0.0	-100	0.0	-100	0.0	-100	9.8	-19	0.0	-100
Bageshwar	0.0	-100	0.0	-100	0.0	-100	3.9	-68	0.0	-100
Chamoli	0.0	-100	0.0	-100	0.0	-100	0.2	-98	0.1	-99
Champawat	0.0	-100	0.0	-100	0.0	-100	7.0	-32	0.0	-100
Dehradun	0.0	-100	0.0	-100	4.2	31	0.9	-92	0.0	-100
Garhwal Pauri	0.0	-100	0.0	-100	0.0	-100	1.1	-89	0.0	-100
Garhwal Tehri	0.0	-100	0.0	-100	0.2	-97	1.0	-91	0.8	-93
Haridwar	0.0	-100	0.0	-100	4.6	17	3.6	-53	0.0	-100
Nainital	0.0	-100	0.0	-100	0.0	-100	11.3	49	0.0	-100
Pithorgarh	0.0	-100	0.0	-100	0.0	-100	7.5	-18	0.0	-100
Rudraprayag	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Udham Sing Nagar	0.0	-100	0.0	-100	0.0	-100	6.4	56	0.0	-100
Uttarkashi	0.0	-100	0.0	-100	0.4	-91	0.0	-100	0.8	-93
Bihar										
Araria	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Arwal	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
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	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										
Bokaro	0.0	-100	0.0	-100	0.0	-100	0.0	-100	5.4	200
Chatra	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Deoghar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dhanbad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	1.3	-21
Dumka	0.0	-100	**	**	**	**	0.0	-100	0.0	-100
East Singbhum	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.1	-97
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	0.2	-92
Godda	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Gumla	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
Koderna	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	4.1	215

Lohardagga	0.0	-100	0.0	-100	0.0	-100	0.0	-100	4.9	113
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	0.2	-88
Ramgarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	10.2	1357
Ranchi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	4.7	38
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 Singhbhum	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	0.3	0	0.3	-80
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	0.1	-95
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	1.8	800	0.0	-100
Kota	0.0	-100	0.0	-100	0.0	-100	3.2	256	2.2	27
Pratapgarh	0.0	-100	0.0	-100	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	0.1	0	0.6	-74
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	0.4	0	0.0	-100
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
Tapi	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										
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	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jamnagar	0.0	-100	0.0	-100	0.0	-100	0.0	-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	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mumbai	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Raigad	0.0	-100	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	**	**	**	**	**	**	**	**	**	**
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		0.0	-100	0.0	-100
Nandurbar	**	**	**	**	**	-100	0.0	-100	**	**
Nasik	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Pune	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sangli	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Satara	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Solapur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Marathwada										
Aurangabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Beed	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100

Hingoli	**	**	**	**	**	**	**	**	**	**
Jalna	**	**	**	**	0.0	-100	0.0	-100	**	**
Latur	0.0	-100	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	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Parbhani	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Vidarbha										
Akola	0.0	-100	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	0.3	-89
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										
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	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-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	0.1	-98
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	0.0	-100	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	0.2	-94

West Bengal										
GWB										
Bankura	0.0	-100	0.0	-100	0.0	-100	0.0	-100	1.1	-64
Birbhum	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.6	-73
Burdwan	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.7	-68
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	0.3	-88	0.0	-100	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	0.9	-55
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	1.7	24	0.0	-100	0.0	-100	0.0	-100
East Sikkim	0.1	-99	7.0	48	0.9	-38	0.0	-100	0.0	-100
Jalpaiguri	0.0	-100	0.2	-60	0.0	-100	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	7.1	97	3.3	-13	0.0	-100	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	13.5	187	0.0	-100	0.0	-100	0.0	-100
West Sikkim	0.0	-100	8.0	111	0.7	-88	0.0	-100	0.0	-100
Karnataka										
Coastal Karnataka										
Dakshin Kannada	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Udupi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Uttar Kannada	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
N I Karnataka										
Bagalkote	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Belgaum	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bidar	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
Dharwad	0.0	-100	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	0.0	-100	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	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Yadgir	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
S I Karnataka										
Bangalore Rural	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bangalore Urban	0.0	-100	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
Chamarajnar	0.0	-100	0.1	-98	0.0	-100	0.0	-100	0.0	-100
Chichballapur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100

Chickmagalur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Chitradurga	0.0	-100	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	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kodagu	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kolar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mandya	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mysore	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Ramnagara	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Shimoga	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Tumkur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kerala										
Alappuzha	0.0	-100	3.7	-60	0.0	-100	0.0	-100	0.0	-100
Kannur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Ernakulam	0.0	-100	0.8	-93	0.0	-100	0.0	-100	0.0	-100
Idukki	1.6	-91	8.5	13	0.0	-100	0.0	-100	0.0	-100
Kasaragod	0.0	-100	1.1	-78	0.0	-100	0.0	-100	0.0	-100
Kollam	0.0	-100	21.9	94	0.0	-100	0.0	-100	0.0	-100
Kottayam	0.0	-100	3.5	-54	0.0	-100	0.0	-100	0.0	-100
Kozhikode	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Malappuram	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Palakkad	0.0	-100	2.1	-56	0.0	-100	0.0	-100	0.0	-100
Pathanamthitta	0.0	-100	10.4	-3	0.0	-100	0.0	-100	0.0	-100
Thiruvananthapuram	0.4	-98	20.6	94	0.3	-97	0.0	-100	5.9	136
Thrissur	0.8	-95	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Wyanad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Tamil Nadu										
Ariyalur	4.8	-91	18.3	-30	0.0	-100	0.0	-100	0.0	-100
Chennai	14.5	-75	7.5	-73	0.3	-99	0.0	-100	0.0	-100
Coimbatore	0.1	-99	12.5	20	0.0	-100	0.0	-100	0.0	-100
Cuddalore	3.6	-95	26.3	-19	0.0	-100	0.0	-100	0.0	-100
Dharmapuri	0.0	-100	0.6	-93	0.0	-100	0.0	-100	0.0	-100
Dindigul	0.1	-99	30.2	50	0.0	-100	0.0	-100	0.7	-91
Erode	0.0	-100	6.1	-17	0.0	-100	0.0	-100	0.0	-100
Kanchipuram	4.1	-93	18.4	-26	0.2	-99	0.0	-100	0.5	-87
Kanyakumari	4.8	-73	54.9	332	0.7	-93	0.0	-100	10.4	235
Karikal	111.1	32	31.8	-50	0.0	-100	0.0	-100	4.9	-73
Karur	0.0	-100	19.5	119	0.0	-100	0.0	-100	0.0	-100
Krishnagiri	0.0	-100	0.1	-99	0.0	-100	0.0	-100	0.0	-100
Madurai	1.6	-91	33.1	143	0.0	-100	0.0	-100	3.0	-52
Nagapattinam	68.4	-33	21.2	-52	0.0	-100	0.0	-100	12.5	-24
Namakkal	0.0	-100	23.3	258	0.0	-100	0.0	-100	0.0	-100
Nilgiris	0.0	-100	26.1	54	0.0	-100	0.0	-100	0.0	-100
Perambalur	0.0	-100	18.6	3	0.0	-100	0.0	-100	0.0	-100
Puducherry	0.0	-100	102.3	145	0.0	-100	0.5	-98	0.0	-100
Pudukottai	1.2	-96	15.0	-17	0.0	-100	0.0	-100	1.3	-85
Ramanathapuram	2.6	-93	32.0	46	0.0	-100	0.0	-100	21.6	95
Salem	0.0	-100	30.2	208	0.0	-100	0.0	-100	0.0	-100
Sivaganga	0.4	-98	29.5	71	0.0	-100	0.0	-100	9.5	50

Thanjavur	13.1	-77	20.8	-8	0.0	-100	0.0	-100	3.0	-64
Theni	1.5	-91	21.7	53	0.0	-100	0.0	-100	0.2	-96
Tirunelveli	6.5	-73	20.3	-22	0.3	-98	0.0	-100	13.1	62
Tirupur	0.0	-100	17.4	107	0.0	-100	0.0	-100	0.0	-100
Tiruvallur	4.1	-91	7.1	-69	0.0	-100	0.0	-100	0.0	-100
Tiruvannamalai	0.0	-100	1.0	-94	0.0	-100	0.0	-100	0.0	-100
Tiruvarur	32.5	-57	23.6	-27	0.0	-100	0.0	-100	3.6	-73
Toothukudi	6.5	-73	21.9	4	0.0	-100	0.0	-100	7.7	31
Trichy	0.4	-99	18.1	28	0.0	-100	0.0	-100	0.0	-100
Vellore	0.0	-100	1.2	-90	0.0	-100	0.0	-100	0.0	-100
Villupuram	0.0	-100	56.1	141	0.0	-100	0.0	-100	0.0	-100
Virudhunagar	6.7	-64	50.9	198	0.0	-100	0.0	-100	1.1	-82
Andhra Pradesh										
Coastal Andhra Pradesh										
East Godavari	0.0	-100	0.0	-100	0.1	-50	0.0	-100	0.0	-100
Guntur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Krishna	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nellore	0.5	-99	7.8	-69	0.1	-99	0.1	-99	0.8	-70
Prakasam	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sirkakulam	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Visakhapatnam	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Vizianagram	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
West Godavari	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Telangana										
Adilabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Hyderabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Karimnagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Khammam	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mehabubnagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Medak	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nalgonda	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nizamabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Rangareddy	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Warangal	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Rayalaseema										
Anantapur	0.0	-100	0.0	-100	0.1	-84	0.1	-91	0.0	-100
Chittoor	0.0	-100	4.2	-59	0.0	-100	0.7	-83	0.0	-100
Cuddapah	0.0	-100	1.1	-74	0.0	-100	0.0	-100	0.0	-100
Kurnool	0.0	-100	0.0	-99	0.0	-100	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

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

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

Wheat: Sonalika, UP262

Summer Rice: Khandagiri, Lalat, MTU-1010, Sahabhagi, Konark

West Bengal

Onion: Rupsa, Sukhsagar.

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

Jharkhand

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

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

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 2.

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.

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

Vegetables :

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- Pusa-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: KufriJyoti, KufriGiriraj, KufriChandramukhi

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.

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.

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.

Suru sugarcane: CO – 86032, CO – 94012 and CO M – 0265).

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