

National Agromet Advisory Service Bulletin

Friday 27th December 2013

(For the period 27th to 30th December 2013)

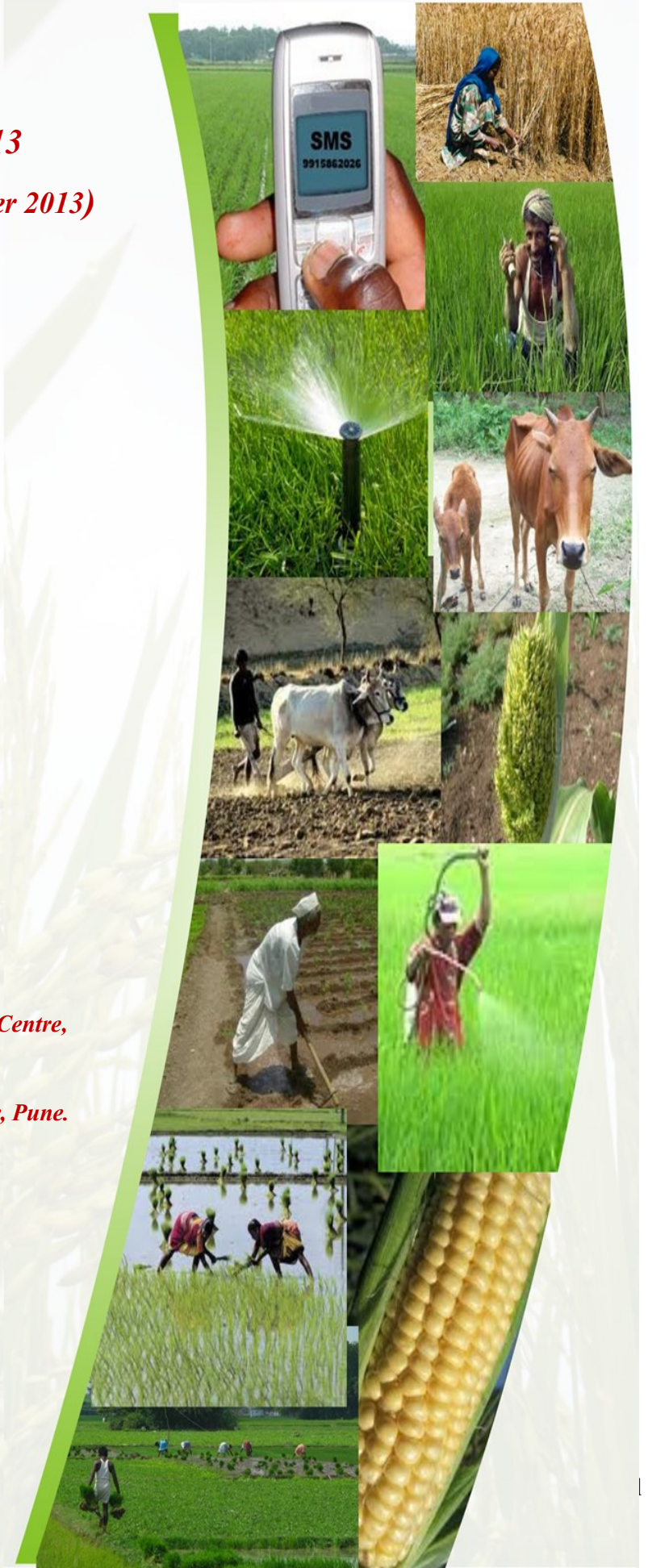


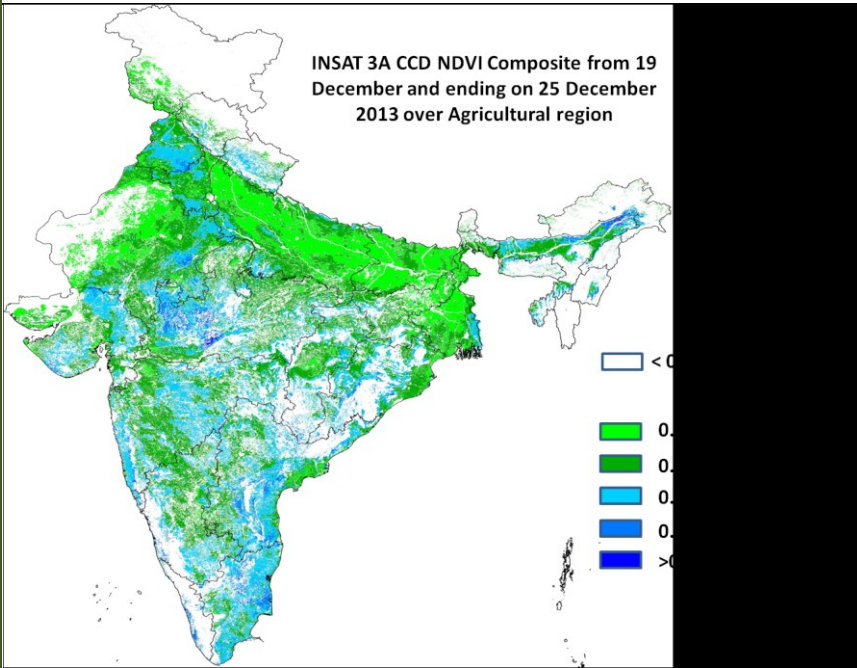
Issued by

National Agrometeorological Advisory Service Centre,

Agricultural Meteorology Division,

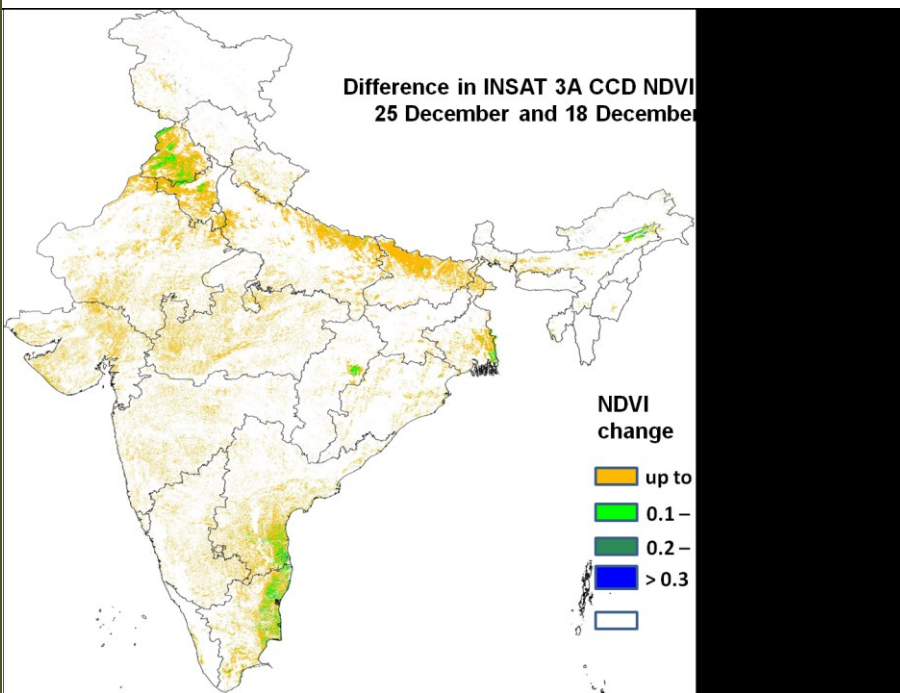
India Meteorological Department, Shivajinagar, Pune.





Source: SAC, Ahmedabad

Agricultural conditions is in general very good over pockets of south-east Punjab, pockets of western Rajasthan and adjoining MP, central MP, coastal Tamil Nadu and pockets of central AP as NDVI value range between 0.5 to 0.6. Agricultural conditions is good over central Punjab and adjoining Haryana, north and east MP, eastern Rajasthan, central and south Gujarat, south Chhattisgarh, central Maharashtra and AP, parts of Odhisha, pockets of north and south Karnataka, north-eastern AP, parts of Odisha as NDVI vigour showed the range from 0.4 to 0.5 upto 25th December 2013. The NDVI remain low within range of 0.2 to 0.3 over states of north Punjab, central Haryana, interior of Rajasthan, larger part of UP, Bihar, West Bengal and central Karnataka



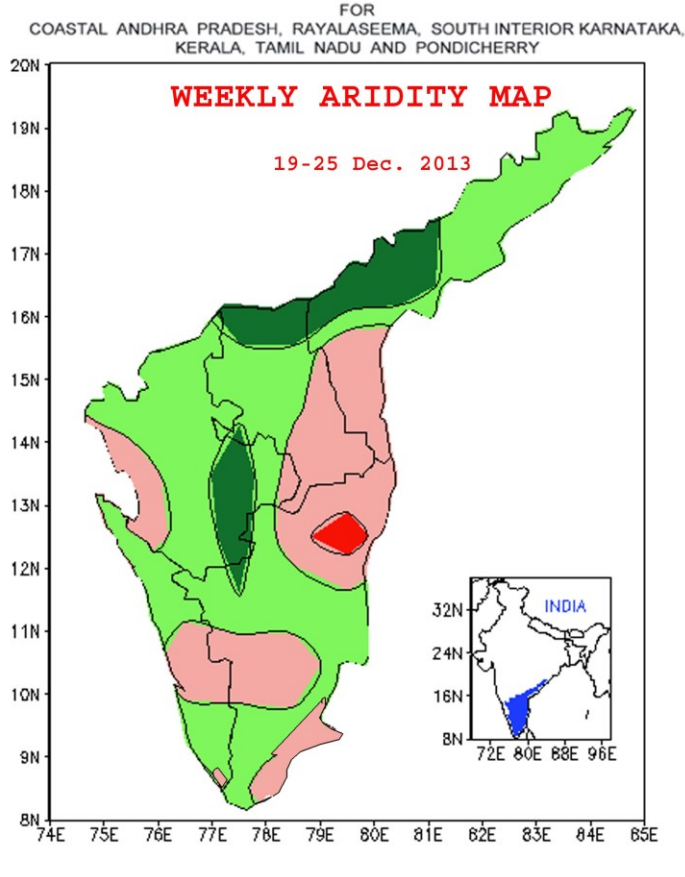
Source: SAC, Ahmedabad

Agricultural progress between 25th December and 18th December 2013 was found to be good over few pockets of central Punjab, south Punjab and central Haryana, scattered pockets in central Chhattisgarh and coastal Tamil Nadu and AP. Agricultural progress was moderate over Punjab, Haryana, UP, Rajasthan, part of Bihar, Gujarat, and other states.

Aridity Anomaly Map for the week ending 25.12.2013

भारत मौसम विज्ञान विभाग
अनावृष्टि अनुसंधान अनुभाग - पुणे
INDIA METEOROLOGICAL DEPARTMENT
DROUGHT RESEARCH UNIT - PUNE

तटीय आंध्रप्रदेश, रायलसीमा, दक्षिण आंतरिक कर्नाटका,
केरल, तमिलनाडू और पॉन्डिचेरी के लिए



During the week (19 to 25 December, 2013) the aridity anomaly map indicated the following aridity conditions over the five Meteorological sub-divisions viz. Coastal Andhra Pradesh, Rayalaseema, South Interior Karnataka, Tamil Nadu & Pondicherry and Kerala.

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

1.1 Areas affected by severe arid conditions :

Isolated area around Vellore (Tamil Nadu).

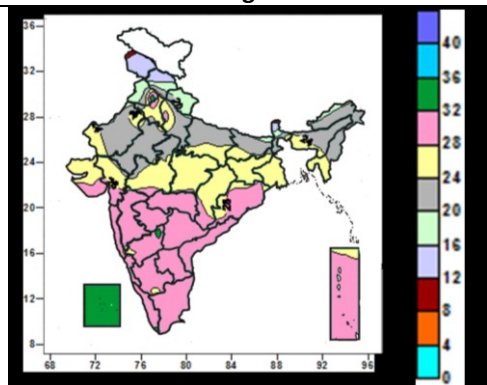
1.2 Areas affected by moderate arid conditions :

Southern parts of Coastal Andhra Pradesh, eastern and southern parts of Rayalaseema and some eastern and northeastern parts of Tamil Nadu; some western parts of South Interior Karnataka; central and western parts of Tamil Nadu and adjoining some central parts of Kerala; some southeastern parts of Tamil Nadu.

Isolated area around Thiruvanthapuram (Kerala).

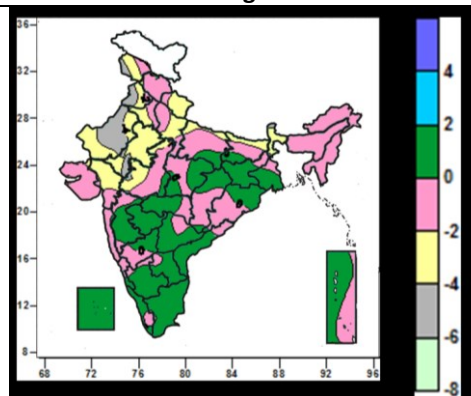
Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 25.12.2013

Actual Mean Maximum Temperature ($^{\circ}\text{C}$) in India for the week ending 25.12.2013



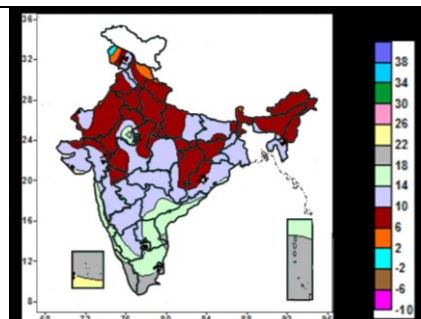
- 32 to 36 $^{\circ}\text{C}$ over many parts of Lakshadweep.
- 24 to 32 $^{\circ}\text{C}$ over many parts of West India, Central India, South India, Haryana, Delhi, Jharkhand, Gangetic West Bengal, Tripura, Orissa, Andaman & Nicobar Islands, some parts of Punjab, Uttar Pradesh, Bihar, Assam, North & South Interior Karnataka.
- 16 to 24 $^{\circ}\text{C}$ over many parts of Uttarakhand, Haryana, Delhi, Rajasthan, Uttar Pradesh, Bihar, Sub-Himalayan West Bengal & Sikkim, North East India(except Tripura), , some parts of Himachal Pradesh, Haryana, East Madhya Pradesh.
- 8 to 16 $^{\circ}\text{C}$ over many parts of Jammu & Kashmir, some parts of Himachal Pradesh.

Mean Maximum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 25.12.2013



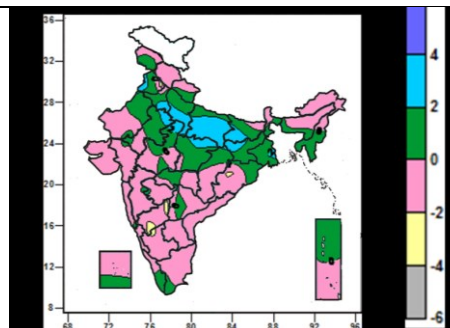
- 0 to 2 $^{\circ}\text{C}$ over many parts of Jharkhand, Gangetic West Bengal, Vidarbha, Madhya Maharashtra, Marathwada, South India, some parts of East Uttar Pradesh, Bihar, Orissa, Chattisgarh, Madhya Pradesh.
- -2 to 0 $^{\circ}\text{C}$ over many parts of Himachal Pradesh, East Uttar Pradesh, North East India, Saurashtra & Kutch, Chattisgarh, Orissa, Konkan & Goa, some parts of Jammu & Kashmir, Punjab, Haryana, West Uttar Pradesh, Bihar, Gangetic West Bengal, Madhya Pradesh, Madhya Maharashtra, Vidarbha, Andhra Pradesh, Karnataka, Kerala.
- -6 to -2 $^{\circ}\text{C}$ over many parts of Jammu & Kashmir, Uttarakhand, Punjab, Haryana, Rajasthan, Gujarat, Sub-Himalayan West Bengal & Sikkim, some parts of East Uttar Pradesh, Bihar, West Madhya Pradesh.

Actual Mean Minimum Temperature ($^{\circ}\text{C}$) in India for the week ending 25.12.2013



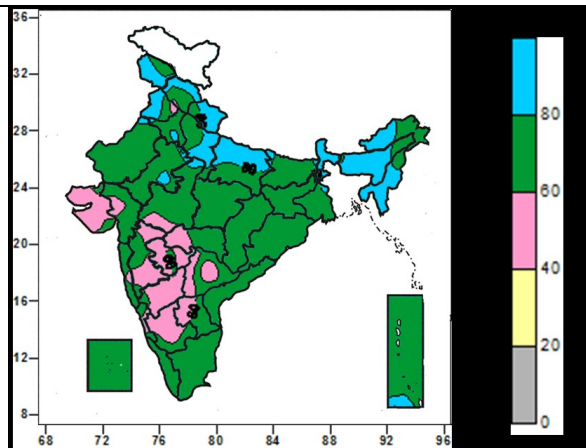
- 14 to 26 $^{\circ}\text{C}$ over many parts of Konkan & Goa, Coastal Karnataka, Andhra Pradesh, Tamil Nadu, Kerala, Lakshadweep, Andaman & Nicobar Islands, some parts of West Rajasthan, South Interior Karnataka.
- 10 to 14 $^{\circ}\text{C}$ over many parts Bihar, Gangetic West Bengal, Tripura, Madhya Pradesh, Gujarat, Saurashtra & Kutch, Madhya Maharashtra, Marathwada, Vidarbha, Coastal Orissa, Telanagana, North & South Interior Karnataka, some parts of Jammu & Kashmir, Himachal Pradesh, Punjab, Jharkhand, Assam, Chattisgarh, Raylaseema.
- 6 to 10 $^{\circ}\text{C}$ over many Uttarakhand, Punjab, Haryana, Delhi, Rajasthan, Uttar Pradesh, Jharkhand, North East India(except Tripura), West Madhya Pradesh, Chattisgarh, some parts of Jammu & Kashmir, Himachal Pradesh, Bihar, Gujarat, Kutch, East Madhya Pradesh, Madhya Maharashtra.
- -2 to 6 $^{\circ}\text{C}$ over many parts of Jammu & Kashmir, Himachal Pradesh.

Mean Minimum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 25.12.2013

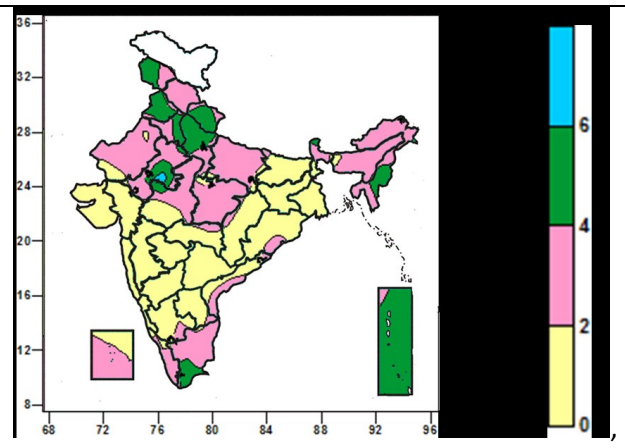


- 2 to 4 $^{\circ}\text{C}$ over many parts of Uttar Pradesh, some parts of Punjab, Haryana, East Rajasthan, Madhya Pradesh, Bihar, Jharkhand.
- -2 to 2 $^{\circ}\text{C}$ over all parts of country (except over many parts of Uttar Pradesh, some parts of Punjab, Haryana, East Rajasthan, Madhya Pradesh, Bihar, Jharkhand, South & North Interior Karnataka).
- -4 to -2 $^{\circ}\text{C}$ over some parts of South & North Interior Karnataka.

**Relative Humidity (%) over India for the week ending
25.12.2013**



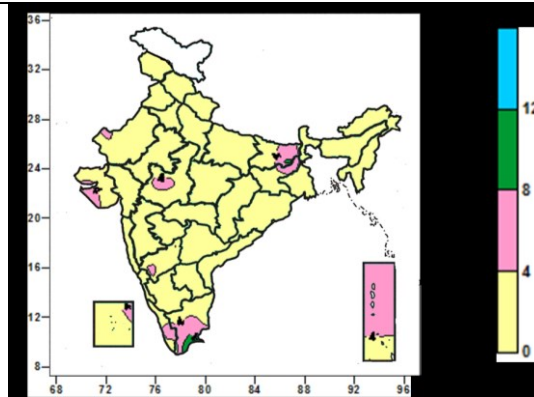
**Cloud amount (okta) over India for the week ending
25.12.2013**



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

- 6 to 8 okta over some parts of East Rajasthan.
- 4 to 6 okta over many parts of Sikkim, Jammu & Kashmir, Punjab, Uttarakhand, West Uttar Pradesh, Manipur, Andaman & Nicobar Islands, some parts of Mizoram, East Rajasthan, West Madhya Pradesh, Tamil Nadu.
- 0 to 4 okta over entire country (except over many parts of Sikkim, Jammu & Kashmir, Punjab, Uttarakhand, West Uttar Pradesh, Manipur, Andaman & Nicobar Islands, some parts of Mizoram, East Rajasthan, West Madhya Pradesh, Tamil Nadu).

Wind speed (knots) over India for the week ending 25.12.2013



- 8 to 12 knots over some parts of Tamil Nadu.
- 4 to 8 knots over many parts over Tamil Nadu, Andaman & Nicobar Islands, some parts of West Rajasthan, West Madhya Pradesh, Bihar, Jharkhand, North Interior Karnataka, Kerala, Lakshadweep Islands.
- 0 to 4 knots over entire country (except Tamil Nadu, Andaman & Nicobar Islands, some parts of West Rajasthan, West Madhya Pradesh, Bihar, Jharkhand, North Interior Karnataka, Kerala, Lakshadweep Islands).

Weather Forecast

Weather Forecast for next 3 days (upto 0830 hours IST of 30th December, 2013)

- Rain/snow would occur at isolated places over Jammu & Kashmir and Himachal Pradesh.
- Light rain/thundershowers would occur at isolated places over Punjab, Haryana, Delhi, Uttar Pradesh and north Rajasthan during next 48 hours and mainly dry thereafter.
- Light rain/thundershowers could occur at isolated places over Arunachal Pradesh and Assam & Meghalaya on 28th and 29th.
- Rain/thundershowers would occur at isolated places over Nicobar Islands, Tamilnadu, Kerala and Lakshadweep.
- Weather would be mainly dry/dry over rest of the country.
- Fog/shallow fog would occur at a few places over east Uttar Pradesh, north Bihar, SubHimalayan West Bengal, south Assam, Nagaland, Manipur, Mizoram & Tripura in morning hours during next 24 hours.
- The maximum temperatures would rise by 1-2°C at a few places over Punjab, Haryana, Delhi, Rajasthan, Uttar Pradesh, Bihar and Madhya Pradesh during next 48 hours.
- Fall in minimum temperatures by about 2°C over east and central India

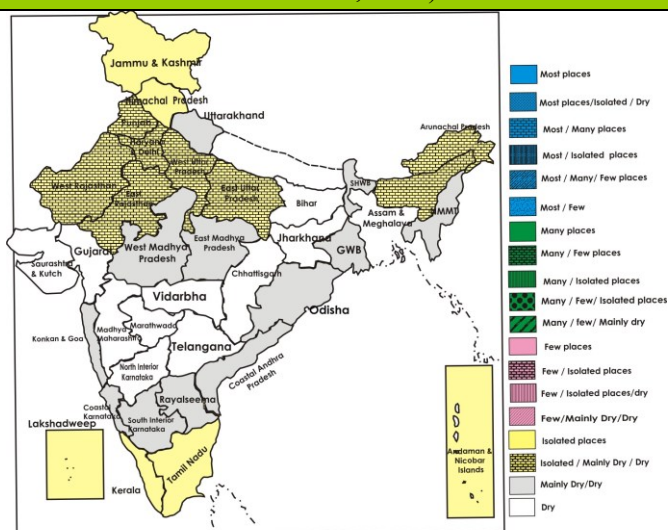
Weather Warning during next 3 days

- **27 December** (Day 1): Ground frost (minimum temperature <4°C) would occur at isolated places over Punjab, Haryana and north Rajasthan.
- Cold wave would occur at a few places over Punjab, Haryana and north Rajasthan.
- Dense fog (visibility <200 M) would occur at isolated places over east Uttar Pradesh, north Bihar, SubHimalayan West Bengal & Sikkim, south Assam and Nagaland, Manipur, Mizoram & Tripura.
- **28 December** (Day 2): No weather warning.
- **29 December** (Day 3): Cold wave would occur at a few places over Punjab, Haryana and north Rajasthan.

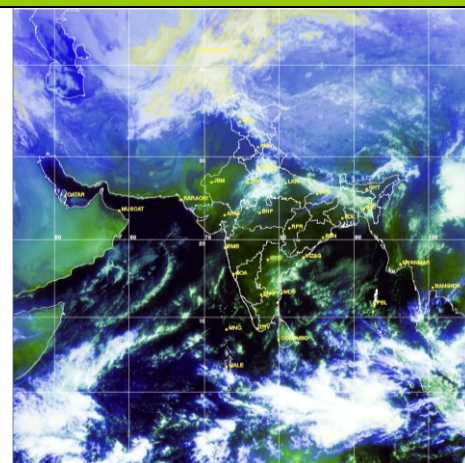
Weather Outlook for subsequent 4 days from 30th December 2013 to 03rd January, 2014

- A fresh western disturbance as an upper air system would affect Western Himalayan region from 30th onwards.
- Rain/thundershowers would occur at isolated places over south Tamilnadu and south Kerala.
- Weather would be mainly dry/dry over rest of the country.

Weather Forecast Map (Valid upto 0830 hours of 30th December, 2013)



Satellite image dated 27.12.2013, 0530 UTC



Salient Advisories

North Region

- As there are chances of cold wave conditions at a few places along with ground frost over isolated places in Punjab, Haryana and north Rajasthan, farmers are advised to undertake the following protection measures to safeguard the crops:
- Due to prevailing low temperature conditions in Punjab, there are chances of ground frost in the standing crops. Apply light and frequent irrigation to safeguard the crops from cold / frost injury. Make heap of dry leaves and grasses and slow burning of these heaps to prevent young kinnow fruit plants from frost. Evergreen fruit plants like litchi, mango, papaya, citrus are susceptible to frost damage, whenever frost is expected, temperature of orchard should be raised by irrigation or smudging (i.e. creating smoke screen in orchard). Young plants of evergreen fruit trees are very susceptible to frost damage and these should be protected by covering with polythene sheets or straw thatches. Provide polythene sheet/sarkanda/kahi rice straw to save the tomato seedlings from frost.
- In Haryana apply light and frequent irrigation to vegetable & young fruit plants to protect from cold / frost injury. Also, arrange for smoking around the crop field.
- Due to prevailing low temperature in the Semi-Arid Eastern Plain Zone of Rajasthan, protect standing crops of mustard, rajmah, potato and gram from frost by spraying dilute Sulphuric acid @ 0.1% (1 litre H₂SO₄ in 1000 litre water) or Thiourea @ 500 ppm (500 gm Thiourea in 1000 litre water) or apply light irrigation to these crops.
- In Delhi apply light and frequent irrigation in evening time to tomato, chilli, capsicum, marigold, peas and gram crop to safeguard the crops from cold / frost injury.
- In Haryana, apply irrigation to wheat crop at CRI stage in view of prevailing dry weather condition. Undertake intercultural operations for conserving the moisture and removing weeds in mustard crop.
- In Sub-humid sub-tropical Zone of Uttarakhand, apply 1st irrigation in late sown wheat crop at Crown Root Initiation stage. Apply light & frequent irrigation in standing crops in the evening to protect crops from cold injury. Also arrange for smoking around the fields during night. In Bhabar and Tarai Zone of Uttarakhand, apply 2nd irrigation in wheat crop of 45 to 50 days duration.
- In Valley Temperate Zone of Jammu & Kashmir, as minimum temperature has been recorded around 0°C, sowing operations should be suspended / stopped. For brown sarson and pulses, thinning and weeding operations should be continued. Also prepare drainage channels or keep the existing channels clean in fields, especially where there is apprehension of water accumulation.

South Region

- In the South zone of Tamilnadu wilting in pulses is noticed due to moisture stress. Apply mulching with coir pith and sprinkler irrigation may be provided. Weather is favourable to undertake sowing of groundnut and rice fallow pulses in Cauvery delta zone of Tamil Nadu and harvesting of matured rice in North Eastern zone of Tamilnadu
- As dry weather is prevailing in Karnataka for the past three weeks apply irrigation to the standing crops of wheat, sorgum and vegetables. Continue harvesting of kharif pigeon pea and cotton in the North East Dry Zone of Karnataka taking advantage of the dry weather prevailing in the region.
- Prevailing day temperatures (>30°C) may favour attack of blast and stem borer on rice in Kerala. Spray Bavistin @ 2g per litre of water to control blast and Trichogramma cards @ 2 cards per acre is an efficient control measure for the rice stem borer.
- Farmers who have not taken up rice sowing are advised to go for sowing of alternate crops like jowar or maize instead of rice or go in for short duration rice varieties in water deficit areas in Kurnool district of Scarce Rainfall Zone of Andhra Pradesh.

East Region

- In New Alluvial Zone of West Bengal, to protect the seedlings of *boro* rice from cold, cover the nursery bed with polythene or keep stagnant water in the nursery bed especially in the night time. For timely sown wheat crop, at 21 days after sowing, thinning and other intercultural operation may be done taking the advantage of dry weather condition.
- In South Eastern Plateau Zone of Jharkhand, undertake sowing of late sown wheat varieties. In view of prevailing dry weather during last few weeks, apply irrigation in wheat crop which is at crown root initiation stage. Undertake transplanting of onion and cabbage.
- In North West Alluvial Plain Zone of Bihar, due to prevailing dense foggy conditions, there is chance of occurrence of early blight in potato; spray Dithane M-45 @ 2 g / litre or Carbendazim (Bavistin) @ 2 g / litre of water.
- In South Eastern Plateau Zone of Jharkhand pigeon pea crop is at flowering to pod formation stage and dry with cool temperature favours the attack of leaf eating and sucking pests; spray Monochrotophos @ 1 ml per litre of water at flowering stage and Indoxacarb at pod formation stage @ 0.5 – 1 ml per litre of water.
- Undertake pyra cropping of green gram, black gram, lentil and mustard etc. in North Eastern Ghat Zone of Odisha under residual soil moisture.

Northeast Region:

- In view of prevailing dry weather, in Meghalaya, undertake first weeding in cauliflower, cabbage and broccoli followed by light irrigation. Continue sowing of pea in low land rice field with residual soil moisture. Cover space between rows with rice straw mulch to conserve soil moisture in rapeseed and mustard.
- In Sub Tropical Plain Zone of Manipur, apply light irrigation in rapeseed, mustard and pulses. Cover nursery bed of tomato with gunny bags to protect from cold. Continue land preparation and sowing of *rabi* maize followed by light irrigation.
- In Mild Tropical Hill Zone of Mizoram, continue transplanting of cole crops and tomato followed by light irrigation.
- In Mid Tropical Plain Zone of Tripura, as dry weather is prevailing for last few weeks, apply irrigation to cabbage, cauliflower and tomato. Also maintain moisture in the field of toria through irrigation at pod initiation stage.
- In Assam, continue nursery preparation of *boro* rice. Due to low temperature during night hours seed germination percentage as well as seedling growth may reduce in nursery bed of boro rice. Therefore black polythene or ultra violet protected polythene sheet and dry banana leaf can be used for covering nursery bed to maintain temperature. During day time this covering material may be removed for penetration of sunlight.
- In Lower Brahmaputra Valley Zone, Central Brahmaputra Valley Zone and North Bank Plain Zone in Assam due to foggy and cloudy weather, there is chance of attack of late blight in potato; Spray Ridomil MZ-27 @ 2 g / litre of water as prophylactic measure or Dithane M-45 @ 2.5 g / litre of water or spray Mancozeb 75 % a.i. @ 2.5 g / litre of water.

West Region

- In Konkan, as prevailing minimum temperature is around 14-18 °C, complete nursery sowing of *rabi* rice and sowing of *rabi* groundnut followed by light irrigation after three days. As there is no significant rain during last few weeks, apply irrigation to orchards, vegetable crops and pulses.
- In Madhya Maharashtra, due to prevailing low temperature condition (9-10°C) in North Madhya Maharashtra and no significant change in night temperatures during next 48 hours is expected, apply light and frequent irrigation to banana and fig or apply mulch of crop residue and other plant waste products. As dry weather is prevailing since last few weeks, apply mulch of plant waste products in *rabi jowar* to preserve the soil moisture. As there is no significant rain during last few weeks, apply irrigation to sugarcane, vegetable crops, jowar and maize and also to gram at flowering / pod development stage and wheat at crown root initiation stage.
- In Marathwada, as night temperature is prevailing below normal (around 10-12°C), give light irrigation to banana orchard in the evening. As there was no significant rain during last few weeks, apply irrigation to sugarcane, vegetable crops and maize and jowar and also to gram at flowering / pod development stage and wheat at crown root initiation stage.
- In Vidarbha, due to prevailing low temperature condition (around 10-12°C) in parts of Vidarbha, cover the rice nursery bed with plastic or hay for 2-3 days for better germination. As there is no significant rain during last few weeks, apply irrigation to safflower, gram, wheat, vegetable crops and orchards.
- Irrigate the wheat crop at critical stages, CRI in North Gujarat Zone and Middle Gujarat Zone and tillering stage in South Saurashtra Zone of Gujarat to avoid moisture stress. Also apply irrigation in vegetables in Bhal and Coastal Zone and North Saurashtra Zone of Gujarat

Central Region

- In Madhya Pradesh as dry weather is prevailing for the past five weeks, apply irrigation in wheat crop at CRI stage (20-25 days after sowing), mustard crop and vegetables
- In Chattisgarh Plain Zone, undertake earthing up in potato crop and provide irrigation to vegetable crops.
- In Bastar Plateau Zone of Chhattisgarh, undertake sowing of linseed, safflower, pulse and pea. Continue transplanting of onion.
- In Bundelkhand Zone of Madhya Pradesh, there is chance of attack of semi lopper and Diamond back in cauliflower and cabbage crops; spray Quinalphos 25 E.C. @ 2.0ml/l of water and for shoot and fruit borer in tomato and brinjal crops, spray of trizophos 40 E.C. @ 2.0 ml. per litre of water for control.
- In Northern Hill Zone and Plain Zone of Chattisgarh, in the present weather conditions there may be chances of attack of late blight in potato. For its control, spray Mancozeb or any copper based fungicide @ 3 grams per litre of water.

Detailed Zonewise Agromet Advisories

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



Wheat



Sugarcane



Late blight on potato



Mustard

- **Realised Rainfall:** Significant rainfall occurred in Yamunanagr district in Punjab, Anantnag, Doda, Ganderwal, Kathua, Pulwama, Ramban in Jammu & Kashmir and most of the districts of Himachal Pradesh except Kinnaur, Lahual & Spiti, Shimla. Weather remained mainly dry / dry in the remaining parts of the region.
- **Weather Forecast:** Rain / snow would occur at isolated places over Jammu & Kashmir and Himachal Pradesh during the period. Rain / snow would occur at isolated places over Punjab, Haryana, Delhi, Uttar Pradesh and North Rajasthan during next 48 hours and mainly dry there after.
- Fog would occur at a few places over East Uttar Pradesh in morning hours during next 24 hours; Maximum temperatures would rise by 1-2 °C at few places Punjab, Haryana, Delhi, Rajasthan and Uttar Pradesh during next 48 hours.
- **Weather Warning during next three days:** Ground frost (Minimum temperature < 4°C) would occur at isolated places over Punjab, Haryana and North Rajasthan and dense fog (visibility < 200 mtrs) would occur at isolated places over East Uttar Pradesh on 27th December. Cold wave would occur at a few places over Punjab, Haryana and North Rajasthan on 27th and 28th December.
- **Weather Outlook (for subsequent 4 days from 30th December 2013 to 03rd January, 2014):** A fresh western disturbance as an upper air system would affect western Himalayan Region from 30th December onwards.
- **Advisories :**
 - As there are chances of cold wave conditions at a few places along with ground frost over isolated places in Punjab, Haryana and north Rajasthan, farmers are advised to undertake the following protection measures to safeguard the crops:
 - Due to prevailing low temperature conditions in Punjab, there are chances of ground frost in the standing crops. Apply light and frequent irrigation to safeguard the crops from cold / frost injury. Make heap of dry leaves and grasses and slow burning of these heaps to prevent young kinnow fruit plants from frost. Evergreen fruit plants like litchi, mango, papaya, citrus are susceptible to frost damage, whenever frost is expected, temperature of orchard should be raised by irrigation or smudging (i.e. creating smoke screen in orchard). Young plants of evergreen fruit trees are very susceptible to frost damage and these should be protected by covering with polythene sheets or straw thatches. Provide polythene sheet/sarkanda/kahi rice straw to save the tomato seedlings from frost.
 - In Haryana apply light and frequent irrigation to vegetable & young fruit plants to protect from cold / frost injury. Also, arrange for smoking around the crop field.
 - Due to prevailing low temperature in the Semi-Arid Eastern Plain Zone of Rajasthan, protect standing crops of mustard, rajmah, potato and gram from frost by spraying dilute Sulphuric acid @ 0.1% (1 litre H₂SO₄ in 1000 litre water) or Thiourea @ 500 ppm (500 gm Thiourea in 1000 litre water) or apply light irrigation to these crops.
 - In Delhi apply light and frequent irrigation in evening time to tomato, chilli, capsicum, marigold, peas and gram crop to safeguard the crops from cold / frost injury.
 - In Haryana, apply irrigation to wheat crop at CRI stage in view of prevailing dry weather condition. Undertake intercultural operations for conserving the moisture and removing weeds in mustard crop.
 - In Sub-humid sub-tropical Zone of Uttarakhand, apply 1st irrigation in late sown wheat crop at Crown Root Initiation stage. Apply light & frequent irrigation in standing crops in the evening to protect crops from cold injury. Also arrange for smoking around the fields during night. In Bhabar and Tarai Zone of Uttarakhand, apply 2nd irrigation in wheat crop of 45 to 50 days duration.
 - In Southern Humid Plain Zone of Rajasthan, due to dry weather, it is advised to apply irrigation to wheat at CRI stage (21 DAS) with 1/3rd Nitrogen as top dressing. For winter maize, thinning is to be completed with intercultural operation and also irrigate maize, gram and mustard at 45 days after sowing.
 - In Valley Temperate Zone of Jammu & Kashmir, as minimum temperature has been recorded around 0°C, sowing operations should be suspended / stopped. For brown sarson and pulses, thinning and weeding operations should be continued. Also prepare drainage channels or keep the existing channels clean in fields, especially where there is apprehension of water accumulation.
 - In East Uttar Pradesh, complete sowing of wheat, barley, gram, lentil and pea and apply light and frequent irrigation in early sown wheat, maize, mustard, pea, sugarcane (autumn), potato, onion, garlic, coriander and carrot to protect

from cold injury.

- In Arid Western Plain Zone of Rajasthan due to clear sky after fog, chances of aphid infestation may increase in timely sown mustard crop; to control spray Malathion 50 EC @ 1200 ml/ha or Dimethoate 30 EC @ 1200 ml/ha.
- In Undulating Plain Zone of Punjab, due to foggy weather white rust may appear in irrigated mustard crop; spray 250 g Blitox or Indofil-M 45 in 100 liters of water per acre if disease appears.
- In Western Zone of Haryana, due to foggy weather white rust may appear in mustard crop; spray 0.2% Redomil or Mancozeb.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure III.
- **Animal Husbandry**
- In Hill Zone of Uttarakhand, spread dry leaves of pine tree and other trees inside cattle shed. Keep small animals covered in morning and evening time to protect from cold.
- In East Uttar Pradesh, protect animals from cold by keeping them inside the shed during night, spread rice straw on floor of cattle shed, cover animals with gunny bag in morning and evening time. Vaccination should be done for prevention of foot and mouth disease (FMD). Before any vaccination de-worming should be compulsory to get better results.
- In Punjab and Haryana new born calves need special care from cold weather, so provide them dry bedding and clothing (Jhull). The energy content of the concentrate mixture should be increased by 5-10% where the protein in the concentrate can be reduced by 2-3% during cold season. Feed well chaffed barseem mixed with wheat straw to avoid Tympany. Provide curtains at the windows in the poultry sheds. Keep poultry sheds clean, dry and warm. Poultry ration should have more energy. Therefore, increase cereals by 5-8% in the ration and adjust the rice bran content.
- In Himachal Pradesh, protect the newly born calves and animals from cold. Feed pregnant and lactating cows and buffaloes with balanced feed including mineral mixture. Also keep the cowshed clean and do not allow the water to stagnate in the cow shed.

CENTRAL INDIA [M.P., CHHATTISGARH]



Wheat

Sugarcane

Gram

- **Realised Rainfall:** Mainly dry weather prevailed over the region during the week
- **Weather forecast:** Weather would be mainly dry/dry over the region. Maximum temperatures would rise by 1-2 °C at few places over Madhya Pradesh during next 48 hours and fall in Minimum temperatures by 2°C over the region.
- **Weather Warning during next three days:** Nil
- **Weather Outlook for subsequent 4 days from 30th December 2013 to 03rd January, 2014:** Weather would be mainly dry / dry over the region.
- **Advisories:**
 - In Madhya Pradesh as dry weather is prevailing for the past five weeks, apply irrigation to wheat crop at CRI stage (20-25 days after sowing) and mustard crop, gram and winter vegetables.
 - As dry weather is prevailing in the region of Kymore Plateau and Satpura Hill Zone of Madhya Pradesh undertake weeding and intercultural operations after 20-25 days after sowing in wheat, chickpea, mustard and lentil.
 - In Central Narmada Valley Zone of Madhya Pradesh, undertake intercultural operations in mango, papaya, citrus crops and guava orchards and chick pea, linseed, mustard and pea taking advantage of dry weather prevailing.
 - In Jhabua Hill Zone of Madhya Pradesh, undertake sowing of winter maize and use 1/4th of recommended dose of nitrogen fertilizer (55 kg/ha urea) as top dressing in wheat.
 - In Gird Zone of Madhya Pradesh, to protect from moisture stress and cold apply irrigation to wheat, gram, potato and winter vegetables.
 - In Malwa Plateau Zone of Madhya Pradesh, prepare field for planting of potato, prepare beds for onion seedling raising, tomato, brinjal, chilli, cabbage and cauliflower may be transplanted and apply light

irrigation to field crops.

- In Satpura Plateau Zone of Madhya Pradesh, harvest/picking of mature fruit of cauliflower, tomato, brinjal, chilli, capsicum, pea etc.
- In Bastar Plateau Zone of Chhattisgarh, continue sowing of wheat with irrigation facility. Undertake sowing of linseed, safflower, pulse and pea. Continue transplanting of onion.
- In Bundelkhand Zone of Madhya Pradesh, for control of semi lopper and Diamond back in cauliflower and cabbage crops, spray Quinalphos 25 E.C. @ 2.0ml/l of water and for shoot and fruit borer in tomato and brinjal crops, spray of trizophos 40 E.C. @ 2.0 ml. per litre of water.
- In Jhabua Hill Zone of Madhya Pradesh, for control of Gamossis & anthecnose disease in citrus plants, spray Blitox or Phytolon @2.5gm/l solution and for control of Pod borer in pigeon pea, spray Profenofos 50 EC @ 1.5 l/ha.
- In Northern Hill Zone and Plain Zone of Chattishgarh, in the present weather conditions there may be chances of attack of late blight in potato. For its control, spray Mancozeb or any copper based fungicide @ 3 grams per litre of water.
- In Bastar Plateau Zone of Chhattisgarh, for control of powdery mildew infestation in lathyrus and lentils, apply sulphur containing fungicides.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure III
- **Animal Husbandry**
- In Bundelkhand Zone of Madhya Pradesh, provide 5-6 hours light in poultry houses during night and cover the poultry shed with gunny bags in order to protect the birds from cold weather.
- In Kymore Plateau and Satpura Hill Zone of Madhya Pradesh, provide concentrated feed to cattle, mix with dry and green fodder and enrich diet with protein, carbohydrate, fat, vitamins etc. Due to cold condition the poultry birds should be protected from cold injury using electric bulb (300 watt for 10sq.ft.) to prevent coryza disease.
- In Central Narmada Valley Zone of Madhya Pradesh, to protect the animals from cold during night time take precautionary measures.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure III

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



Mustard

Sugarcane

Transplanting of rice

Cole crops

Onion

- **Realised Rainfall:** Dry weather prevailed over the region during the week.
- **Weather Forecast:** Weather would be mainly dry / dry over the region. Shallow Fog would occur at few places over North Bihar, Sub Himalayan West Benagl in morning hours during next 24 hours. Maximum temperature would rise by 1-2⁰C at few places over Bihar during next 48 hours and fall in Minimum temperature by 2⁰C over the region.
- **Weather Warning:** Dense fog (visibility < 200 m) would occur at isolated places over North Bihar and Sub Himalayan West Bengal and Sikkim on 27th December.
- **Weather Outlook (for subsequent 4 days from 30th December 2013 to 3rd January, 2014):** Weather would be mainly dry / dry over rest of the country.
- **Advisories:**
- In East and South Eastern Coastal Plain Zone of Odisha, complete nursery sowing of rice, complete intercultural operations in mustard. If the crop is affected by Crocidollema and aphids, spray 400 ml Dimethoiate or 200 ml Ethofenprox or Deltamethrin per acre in 200 litres of water. Taking the advantage of prevailing dry weather, undertake weeding and hoeing operations in groundnut and potato.
- Undertake pyra cropping of green gram, back gram, lentil and mustard etc. in North Eastern Ghat Zone of Odisha under residual soil moisture.
- As dry weather is prevailing in Western Undulating Zone of Odisha, light hoeing, weeding should be done in onion crop at four week stage and apply 43 kg urea/acre followed by earthing up followed by

irrigation.

- In Coastal Saline Zone of West Bengal, prepare upland field for nursery bed preparation of *boro* rice. Due to decrease in temperature, apply ash in the seed bed of *boro* rice to protect seedlings from cold. Also, undertake sowing of lentil and continue planting of potato.
- In Laterite and Red Soil Zone of West Bengal, continue nursery bed preparation of *boro* rice in uplands, transplanting of winter vegetables and complete planting of potato. Apply light irrigation after sowing / planting of vegetable crops and in mustard. Also undertake sowing of seasonal flower like marigold, verbena, jarbera, jinia etc.
- In New Alluvial Zone of West Bengal, to protect the seedlings of *boro* rice from cold, cover the nursery bed with polythene or keep stagnant water in the nursery bed especially in the night time. For timely sown wheat crop, at 21 days after sowing, thinning and other intercultural operation may be done taking the advantage of dry weather condition.
- As dry weather is prevailing during last few weeks, in North West Alluvial Plain Zone of Bihar, apply irrigation in wheat at 30-35 day stage and apply light and frequent irrigation in potato crop.
- In South Eastern Plateau Zone of Jharkhand, undertake sowing of late sown wheat varieties. In view of prevailing dry weather during last few weeks, apply irrigation in wheat crop which is at crown root initiation stage. Undertake transplanting of onion and cabbage. Undertake intercultural operations in toria, green pea and pigeon pea and apply light irrigation. Do earthing up in one month old potato crop followed by light irrigation.
- In North West Alluvial Plain Zone of Bihar, due to prevailing dense foggy conditions, there is chance of occurrence of early blight in potato; spray Dithane M-45 @ 2 g / litre or Carbendazim (Bavistin) @ 2 g / litre of water.
- In Western Undulating Zone of Odisha, present weather conditions are conducive for occurrence of *Alternaria* blight in mustard crop. For controlling this disease, spray Indofil M 45 @ 3 g / litre of water.
- In East and South Eastern Coastal Plain Zone of Odisha, the cloudy weather may favour infestation of aphids and powdery mildew in pulses; spray 5 ml Imidachloprid or 20 ml Metacystox in 10 litres of water. For controlling powdery mildew spray 5 g Sulfex in 1 litre water.
- In South Eastern Plateau Zone of Jharkhand pigeon pea crop is at flowering to pod formation stage and dry with cool temperature favours the attack of leaf eating and sucking pests; spray Monochrotophos @ 1 ml per litre of water at flowering stage and Indoxacarb at pod formation stage @ 0.5 – 1 ml per litre of water.
- Due to possibility of lower temperature in Terai Zone of West Bengal, there may be chance of late blight attack in potato. To prevent the attack by late blight, spray the mixture of Metalaxyl 8% and Mancozeb 64% @ 1 to 1½ g per litre of water at 10-12 days interval by completely wetting the leaves.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure III.
- **Animal Husbandry**
- Low temperature condition may adversely affect the milk production and performance of domestic animals. Farmers in North West Alluvial Plain Zone of Bihar are advised to give protein enriched diet to the animals. Do not keep the animal in the open during night.
- In Coastal Saline Zone of West Bengal, cattle may be affected by viral pneumonia due to cold. Cowshed should be kept dry. Cover the openings of cowshed by jute bags.

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



Pulses



Transplanting of rice



cole crops



Late blight in Potato

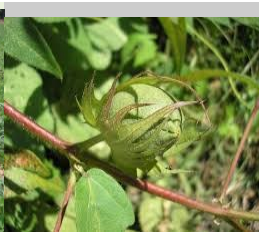
- **Realised Rainfall:** Weather remained mainly dry over the region. Mean Maximum and Minimum temperatures were below normal by 0-2°C in the region.
- **Weather Forecast:** Light Rain / thundershowers would occur at isolated places over Arunachal Pradesh, Assam and Meghalaya on 28th and 29th; fog /shallow fog would occur at few places over South Assam, Nagaland, Manipur, Mizoram and Tripura in morning hours during next 24 hours.
- **Weather Warning during next three days:** Dense fog (visibility <200 M) would occur at isolated places over south Assam and Nagaland, Manipur, Mizoram & Tripura on 27th.
- **Weather Outlook for subsequent 4 days from 30th December 2013 to 03rd January, 2014 :** Weather would be mainly dry/dry over the region

- **Advisories:**

- In Central Brahmaputra Valley Zone of Assam, continue sowing of wheat and transplanting of cole crops followed by light irrigation. Continue nursery bed preparation and sowing of *boro* rice.
- As dry weather is prevailing, apply irrigation in rapeseed and mustard at flowering stage in Barak Valley Zone of Assam.
- In Upper Brahmaputra Valley Zone of Assam, farmers are advised to apply mulching with water hyacinth, straw mulch etc. to conserve soil moisture in potato as dry weather is prevailing for last few weeks.
- In Hill Zone of Assam, continue weeding and thinning in mustard crops at 25-30 days after sowing by taking advantage of dry weather.
- In North Bank Plain Zone of Assam, complete sowing of *rabi* pulses like lentil, rajmah, pea, lathyrus followed by light irrigation. Earthing up of potato may be done at 25 days after planting (stolon formation stage) followed by first irrigation.
- In Lower Brahmaputra Valley Zone of Assam, continue nursery preparation of *boro* rice. Due to low temperature during night hours seed germination percentage as well as seedling growth may reduce in nursery bed of *boro* rice. Therefore black polythene or ultra violet protected polythene sheet and dry banana leaf can be used for covering nursery bed to maintain temperature. During day time this covering material may be removed for penetration of sunlight.
- In view of prevailing dry weather, in Meghalaya, undertake first weeding in cauliflower, cabbage and broccoli followed by light irrigation. Continue sowing of pea in low land rice field with residual soil moisture. Cover space between rows with rice straw mulch to conserve soil moisture in rapeseed and mustard.
- In Sub Tropical Plain Zone of Manipur, apply light irrigation in rapeseed, mustard and pulses. Cover nursery bed of tomato with gunny bags to protect from cold. Continue land preparation and sowing of *rabi* maize followed by light irrigation.
- In Mild Tropical Hill Zone of Mizoram, continue transplanting of cole crops and tomato followed by light irrigation.
- In Mid Tropical Plain Zone of Tripura, as dry weather is prevailing for last few weeks, apply irrigation to cabbage, cauliflower and tomato. Also maintain moisture in the field of toria through irrigation at pod initiation stage.
- In Lower Brahmaputra Valley Zone of Assam, cloudy and foggy weather is conducive for chance of attack of late blight in potato; Spray Ridomil MZ-27 @ 2 g / litre of water as prophylactic measure or Dithane M-45 @ 2.5 g / litre of water.
- In Central Brahmaputra Valley Zone and North Bank Plain Zone of Assam, cloudy and foggy weather is congenial for appearance and spread of late blight disease in potato; spray Mancozeb 75 % a.i. @ 2.5 g / litre of water against late blight.
- In Hill Zone of Assam, humid and cloudy weather is congenial for occurrence of late blight in tomato. Apply Ridomil MZ-72 (2 g / litre of water) and Indofil M-45 (2.5 g / litre of water) alternately.
- In Mid Tropical Plain Zone of Tripura, due to prevailing foggy condition, there is a chance of attack of leaf blight in maize, early blight in potato and white flies in tomato and brinjal; spray Zineb @ 3 g per liter of water to control leaf blight and spray Mancozeb @ 2.5 g per litre of water for early blight and spray Monocrotophos @ 3 ml per litre of water or Imidacloprid @ 2 g per litre of water as control measure against white flies.
- In Sub Tropical Hill zone of Arunachal Pradesh, due to prevailing day temperatures (20-24°C), there is a chance of early blight in Potato. As a precautionary measure spray Ridomil MZ-72 (2 g / litre of water) and Indofil M-45 (2.5 g / litre of water) alternately.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure III.

- **Animal Husbandry**

- In Sub Tropical Hill Zone of Arunachal Pradesh, maintain warmth by lighting with filament bulb in the shed of cattle.
- In Manipur, Nagaland, Mizoram and Tripura, cover or tie cattle with gunny bag during night to avoid cold. Also cover poultry house with gunny bags / polythene sheet and provide the heating during night for chicks less than 21 days old.
- In Central Brahmaputra Valley Zone and North Bank Plain Zone of Assam, protect poultry birds from cold by using electric bulbs (300 Watt for 100 sq. feet) to prevent *Coryza* disease.
- In Nagaland, if the water temperature of pond falls, the fish will require less food. Never over feed fish. Excess food will pollute the pond water, so only provide feed amounts that will be completely consumed by fish within 2 minutes



Transplanting of rice

Groundnut

Cotton

Grape vine

- **Realised Rainfall:** Mainly dry weather prevailed over the region during last week. Minimum temperatures were below normal by 2°C over Gujarat.
- **Weather Forecast:** Weather would be dry or mainly dry over the region.
- **Weather Warning during next three days:** Nil.
- **Weather Outlook for subsequent 4 days from 30th December 2013 to 03rd January, 2014 :** Weather would be dry or mainly dry over the region.
- **Advisories:**

- In Konkan, as prevailing minimum temperature is around 14-18 °C, complete nursery sowing of *rabi* rice and sowing of *rabi* groundnut followed by light irrigation after three days. As there is no significant rain during last few weeks, apply irrigation to orchards, vegetable crops and pulses.
- In Madhya Maharashtra, due to prevailing low temperature condition (9-10°C) in North Madhya Maharashtra and no significant change in night temperatures during next 48 hours is expected, apply light and frequent irrigation to banana and fig or apply mulch of crop residue and other plant waste products. As dry weather is prevailing since last few weeks, apply mulch of plant waste products in *rabi* jowar to preserve the soil moisture. As there is no significant rain during last few weeks, apply irrigation to sugarcane, vegetable crops, jowar and maize and also to gram at flowering / pod development stage and wheat at crown root initiation stage.
- In Marathwada, as night temperature is prevailing below normal (around 10-12°C), give light irrigation to banana orchard in the evening. As there was no significant rain during last few weeks, apply irrigation to sugarcane, vegetable crops and maize and jowar and also to gram at flowering / pod development stage and wheat at crown root initiation stage.
- In Vidarbha, due to prevailing low temperature condition (around 10-12°C) in parts of Vidarbha, cover the rice nursery bed with plastic or hay for 2-3 days for better germination. As dry weather is prevailing since last few weeks, undertake hoeing and weeding and apply mulch of plant waste products in *rabi* jowar and safflower to preserve soil moisture. As there is no significant rain during last few weeks, apply irrigation to safflower, gram, wheat, vegetable crops and orchards.
- In Middle Gujarat Zone, as dry weather is prevailing, carry out intercultural operations in gram to conserve soil moisture, irrigate the cotton crop at flowering stage and irrigate the wheat crop 21 days after sowing to avoid moisture stress.
- Irrigate the wheat crop at critical stages, CRI in North Gujarat Zone and Middle Gujarat Zone and tillering stage in South Saurashtra Zone of Gujarat to avoid moisture stress. Also apply irrigation in vegetables in Bhal and Coastal Zone and North Saurashtra Zone of Gujarat.
- In Bhal and Coastal Zone of Gujarat, as dry weather is prevailing carry out intercultural and weeding operations in vegetables like brinjal, chilli, tomato, cabbage, and cauliflower.
- Under prevailing dry and humid weather, there may be incidence of rust in wheat in Kolhapur region; spray Dithane M-45 @ 25 g per 10 litres of water.
- Due to partly cloudy weather forecast in Marathwada region, there may be attack of pod borer in gram; spray Imamectin Benzoate 5 % @ 4 g per 10 litres of water.
- Cold weather in Marathwada is congenial for the incidence of powdery mildew in pomegranate; spray Sulphur WS @ 30 g + Phosphomidon @ 20 ml per 10 litres of water.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure III.

Animal Husbandry

In Middle Gujarat Zone, keep animals indoor during night. Provide dry fodder bedding to protect from cold. Give warm water for drinking and include dry fodder in feeding

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:** Weather remained mainly dry /dry in the region. Minimum temperatures were below normal by 0-2°C over the region
- **Rainfall Forecast:** Rain/thundershowers would occur at isolated places over Tamilnadu and Kerala. Weather would be mainly dry/dry over rest of the region.
- **Weather Warning:** Nil.
- **Weather Outlook for subsequent four days from 30thDecember to 3rd January):** Rain/thundershowers would occur at isolated places over south Tamilnadu and south Kerala
- **Advisory:**
 - Farmers who have not taken up rice are advised to go for sowing of alternate crops like jowar or maize instead of sowing of rice or go in for short duration rice varieties in water deficit areas in Kurnool district of Scarce Rainfall Zone of Andhra Pradesh.
 - Apply irrigation to the standing crops of wheat, groundnut and chick pea in High altitude zone of Andhra Pradesh as dry weather is prevailing during last three weeks.
 - Prevailing low temperatures may cause cold injury in rice nurseries in the Southern Telangana Zone of Andhra districts. Cover the nursery beds with polythene sheet during night and remove in the morning better nursery growth, and apply 2 kg urea for 200 m² nursery area at 10-15 days after sowing.
 - In the North Transition Zone of Karnataka, apply irrigation in wheat (Durum) crop which is at late jointing to flowering stage and early sown sorghum which is at flowering phase. Avoid picking of cotton bolls during early morning hours as bolls will be moist due to morning dew. Complete harvesting of sugarcane within 8-10 days depending upon the maturity of crop.
 - Continue harvesting of kharif pigeon pea and cotton in the North East Dry Zone of Karnataka taking advantage of the dry weather prevailing in the region.
 - Continue sowing of *puncha* rice in Kottayam district of Problem Area Zone in Kerala.
 - Due to continuous dry weather aphids were noticed in safflower crop. For effective control of aphids, spray Dimethoate 30 EC @ 1.7ml/liter of water in the North East Dry Zone of Karnataka.
 - Prevailing high day temperature (>32oC) may aggravate blast disease in rice in Northern zone of Kerala. Spray Bavistin @ 2g per litre of water to control it.
 - Weather is congenial (T>30oC and RH 54-82%) for incidence of stem borer on rice in Southern zone of Kerala. As a precautionary measure spray Trichogramma cards @ 2 cards per acre is an efficient control measure for the rice stem borer. If the attack is more than this apply Quinalphos (Ekalux 25EC) @ 750ml per ha.
 - Weather is favorable to undertake sowing of groundnut in Cauvery delta zone of Tamil Nadu with varieties suitable for sowing during Margazhipattam viz., TMV 7, Co 2, Co 3, Co 4, VRI 2, VRI 3, VRI 5 and ALR 3. Treat the groundnut seeds with *Trichoderma viride* @ 4 gm / kg seed or *Pseudomonas fluorescense* @ 10 gm/ kg seeds before sowing.
 - Taking advantage of prevailing dry weather harvest the matured rice in North Eastern zone of Tamilnadu.
 - In the South zone of Tamilnadu wilting in pulses is noticed due to moisture stress. Mulching with coir pith is recommended and sprinkler irrigation may be provided.
 - The prevailing weather condition is favorable for the false smut attack in rice in Western zone of Tamilnadu as precautionary measure spray Kocide @ 2 gm/liter of water at the booting stage and repeat the spray in milking stage with the Hexaconazole @ 1ml/ liter of water.
 - Prevailing dry weather in the Scarce Rainfall zone of Andhra Pradesh is congenial for incidence of sucking pest in rabi groundnut. Spray Monocrotophos 1.6 ml or Dimethoate 2 ml or Imidacloprid 0.4 ml per litre of water as a control measure.
 - Prevailing temperatures (23-28oC) are congenial for pod borer in Red gram in North Coastal Andhra Pradesh. Spray Cloriphyriphos 2.5 ml or Quinolphos 2.0 ml per litre of water as precautionary measure.
 - Stages of major crops are mentioned in Annexure I.
 - Varieties are mentioned in Annexure III.
 - Animal Husbandry
 - Protect buffaloes and cattle from foot and mouth disease by periodic vaccination and sheep & goat from Blue tongue disease by giving antibiotics and tonics like Enfrofaccin @10 ml per animal in the Scarce Rainfall

Zone of Andhra Pradesh.

- Considering the prevailing weather, sheep may get infected with blue tongue and enterotoxaemia diseases in the Western Zone of Tamil Nadu. Hence, vaccination.

Annexure I Stages of Major Crops

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

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

CENTRAL INDIA [M.P., CHHATTISGARH]

- Pigeon pea (pod formation) sugarcane (grand growth), winter sugarcane (planting), winter vegetables (sowing/transplanting), wheat, (sowing/germination/CRI), safflower, mustard, gram and linseed (germination/ early vegetative) , potato(planting/ stolan formation) ,onion (nursery raising/planting) in Madhya Pradesh.
- Sugarcane (elongation), ragi and kodo millet (vegetative), ginger, turmeric, papaya (vegetative), cole crops (transplanting), wheat, safflower and gram (sowing/ germination), potato, onion (planting) in Chhattisgarh.

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

- Onion (transplanting), arhar (vegetative), winter maize, sunflower, mustard, toria, pea, lentil, gram, rajma (vegetative), cauliflower, cabbage, chilli, tomato, brinjal (vegetative), wheat(crown root initiation), boro rice (sowing) in Bihar.
- Arhar (flowering/pod formation), onion (vegetative), tomato, cauliflower, cabbage (vegetative), sweet potato (stem elongation), potato (vegetative), green peas, bell pepper (vegetative), wheat(crown root initiation) in Jharkhand.
- Rice (harvesting), pigeon pea (pod formation / pod maturity), turmeric, ginger (rhizome formation), rabi vegetable (transplanting), sugarcane (grand growth), banana (vegetative), mustard (seedling), wheat, groundnut, cluster bean, green pea (sowing) in Odisha.
- Boro rice (sowing/ seedlings), ginger, turmeric (rhizome formation), tomato, brinjal (transplanting / earl

vegetative), cabbage and cauliflower (transplanting), wheat (seedling, crown root initiation), mustard (vegetative flowering), potato (planting), winter vegetables (early vegetative/ vegetative) in West Bengal.

- Wheat (tillering/ active tillering), *rabi* vegetables (vegetative / late vegetative/ harvesting), ginger (harvesting) mustard (vegetative/ flowering), potato (vegetative/tuber formation) in Sikkim.

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

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

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- Red gram (pod development / pod maturity in Madhya Maharashtra, Vidarbha and Marathwada), *rabi* jowar (vegetative / flag leaf initiation / grain formation in Madhya Maharashtra and Marathwada), safflower (vegetative in Madhya Maharashtra, Marathwada and Vidarbha), gram (branching / flowering / pod formation in Madhya Maharashtra, Marathwada and Vidarbha), wheat (germination / crown root initiation in Madhya Maharashtra, Marathwada and Vidarbha), maize (vegetative in Madhya Maharashtra), *adsali* and pre seasonal sugarcane (maturity / harvesting), *suru* sugarcane (elongation), New *adsali* (early tillering / tillering in Marathwada and Madhya Maharashtra), pre-seasonal sugarcane (sprouting / early tillering in Marathwada and Madhya Maharashtra), rice (nursery sowing / germination in Konkan, nursery preparation in East Vidarbha), groundnut (sowing in Konkan) in Maharashtra.
- Wheat (CRI in North Gujarat Zone) and tillering in South Saurashtra Zone), gram (vegetative / flowering), castor (spike development), cotton (flowering in Middle, North and North West Zone), sugarcane (elongation), new sugarcane (vegetative), cumin (vegetative), fenugreek (vegetative), vegetables (flowering / fruiting / harvesting in Middle Gujarat, Bhal and Coastal Zone and North Gujarat Zone), potato (vegetative) in Gujarat.

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

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

flowering), rice (transplanting in coastal Karnataka), sugarcane (planting) in Karnataka.

Annexure II
Week by week Rainfall Distribution

State/Districts	27.11.13		04.12.13		11.12.13		18.12.13		25.12.13	
	Actual	% dep.	Actual	% dep.	Actual	% dep.	Actual	% dep.	Actual	% dep.
Arunachal Pradesh										
Anjaw	0.0	-100	**	**	**	**	**	**	**	**
Changlang	0.0	-100	0.0	-100	0.0	-100	1.7	-94	0.0	-100
Dibang Valley	0.0	-100	0.0	-100	2.0	-71	6.0	-75	0.0	-100
East Kameng	0.0	-100	0.0	-100	1.0	-80	16.0	142	0.0	-100
East Siang	0.0	-100	0.0	-100	0.0	-100	4.5	-50	0.0	-100
Kurung Kumey	**	**	**	**	**	**	**	**	**	**
Lohit	0.0	-100	0.3	-96	0.0	-100	1.2	-83	0.0	-100
Lower Dibang Valley	0.0	-100	0.0	-100	0.0	-100	4.8	-80	0.0	-100
Lower Subansari	**	**	**	**	**	**	12.0	532	3.0	-67
Papumpara	0.0	-100	0.0	-100	0.0	-100	3.3	-18	0.1	-50
Tawang	0.0	-100	5.0	-38	2.0	-60	12.0	-7	0.0	-100
Tirap	0.0	-100	0.0	-100	0.0	-100	0.5	-89	0.0	-100
Upper Siang	0.0	-100	0.0	-100	0.0	-100	14.1	-58	0.0	-100
Upper Subansari	0.0	-100	0.0	-100	0.0	-100	24.2	357	0.0	-100
West Kameng	0.0	-100	0.0	-100	0.0	-100	34.6	168	0.0	-100
West Siang	0.0	-100	0.0	-100	1.0	-83	10.3	-9	0.0	-100
Assam										
Baksa	0.0	-100	0.0	-100	0.0	-100	6.9	116	0.0	-100
Barpeta	0.0	-100	0.0	-100	0.0	-100	0.5	-85	0.0	-100
Bongaigaon	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Cachar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	1.1	-30
Chirang	0.0	-100	0.0	-100	0.0	-100	0.1	-95	0.0	-100
Darrang	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dhemaji	0.0	-100	0.0	-100	0.0	-100	3.0	-53	0.0	-100
Dhubri	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dibrugarh	0.0	-100	0.0	-100	0.0	-100	3.8	-8	0.0	-100
Goalpara	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100

Golghat	0.0	-100	0.0	-100	0.0	-100	8.2	91	0.2	-94
Hailakandi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	1.6	-41
Jorhat	0.0	-100	0.0	-100	0.0	-100	1.2	-76	0.3	-81
Kamrup(Rural)	0.0	-100	0.0	-100	0.0	-100	2.9	16	0.0	-100
Kamrup(Metro)	0.0	-100	0.0	-100	0.0	-100	0.7	-73	0.0	-100
Karbi Anglong	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.8	-20
Karimganj	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kokrajhar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Lakhimpur	0.0	-100	0.0	-100	0.0	-100	5.7	-11	0.3	-91
Morigaon	0.0	-100	0.0	-100	0.0	-100	1.9	-34	0.0	-100
N.C.Hills	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nowgong	0.0	-100	0.0	-100	0.0	-100	8.2	193	0.0	-100
Nalbari	0.0	-100	0.0	-100	0.0	-100	1.8	22	0.0	-100
Sonitpur	0.0	-100	0.0	-100	0.0	-100	1.6	-64	0.2	-85
Sibsagar	0.0	-100	0.0	-100	0.0	-100	2.7	-33	2.0	67
Tinsukia	0.0	-100	0.0	-100	0.0	-100	2.2	-59	0.0	-100
Udalgiri	0.0	-100	0.0	-100	0.0	-100	1.2	-63	1.1	38
Meghalaya										
East Garo Hills	**	**	0.0	-100	**	**	**	**	2.0	200
East Khasi Hills	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.1	-95
Jaintia Hills	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Ribhoi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
South Garo Hills	0.0	-100	0.0	-100	0.0	-100	7.0	126	0.0	-100
West Garo Hills	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
West Khasi Hills	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mizoram										
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	1.0	-84	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	11.0	67	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	0.0	-100	0.0	-100	1.3	-41	0.0	-100
Imphal west	**	**	**	**	**	**	0.0	-100	0.1	-83
Senapati	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Tamenglong	**	**	**	**	**	**	**	**	**	**
Thoubal	0.0	-100	0.0	-100	0.0	-100	3.0	-57	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	0.0	-100
Kephire	0.0	-100	0.0	-100	0.0	-100	0.0	-100	1.0	-68

Kohima	0.0	-100	0.0	-100	1.5	150	0.0	-100	0.9	-10
Longleng	**	**	**	**	**	**	**	**	**	**
Mokokchung	0.0	-100	0.0	-100	0.0	-100	2.0	-69	3.0	200
Mon	**	**	**	**	**	**	**	**	**	**
Paren	**	**	**	**	**	**	**	**	**	**
Phek	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Tuensang	**	**	**	**	**	**	**	**	**	**
Wokha	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.5	-74
Zunheboto	**	**	**	**	**	**	**	**	**	**
Tripura										
Dhalai	0.0	-100	0.0	-100	0.0	-100	0.0	-100	1.0	-64
North tripura	0.0	-100	0.0	-100	0.0	-100	0.0	-100	12.6	367
South tripura	0.0	-100	0.0	-100	0.0	-100	0.0	-100	1.0	-33
West tripura	0.0	-100	0.0	-100	0.0	-100	0.0	-100	3.6	90
Himachal Pradesh										
Bilaspur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	22.9	160
Chamba	0.0	-100	0.0	-100	0.0	-100	0.0	-100	36.5	148
Hamirpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	24.1	191
Kangra	0.0	-100	0.0	-100	0.0	-100	0.0	-100	40.7	338
Kinnaur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	6.4	-50
Kullu	0.0	-100	0.0	-100	0.0	-100	0.0	-100	22.6	82
Lahaul and Spiti	0.0	-100	0.0	-100	1.3	-84	0.0	-100	8.6	-51
Mandi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	21.3	232
Shimla	0.0	-100	0.0	-100	0.0	-100	0.0	-100	11.7	54
Sirmaur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	23.8	138
Solan	0.0	-100	0.0	-100	0.0	-100	0.0	-100	21.6	157
Una	0.0	-100	0.0	-100	0.0	-100	0.0	-100	24.9	236
Punjab										
Amritsar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	2.1	-37
Barnala	0.0	-100	0.0	-100	0.0	-100	0.0	-100	1.0	-47
Bhatinda	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.5	-64
Faridkot	0.0	-100	0.0	-100	0.0	-100	0.0	-100	1.0	-41
Fatehgarh Saheb	0.0	-100	0.0	-100	0.0	-100	0.0	-100	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	0.0	-100	0.0	-100	5.8	-4
Hoshiarpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	11.5	77
Jalandhar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	1.0	-82
Kapurthala	0.0	-100	0.0	-100	0.0	-100	0.0	-100	17.2	560
Ludhiana	0.0	-100	0.0	-100	0.0	-100	0.0	-100	6.3	23
Mansa	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Moga	0.0	-100	0.0	-100	0.0	-100	0.0	-100	3.5	106
Muktesar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nawashahar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	10.8	24
Patiala	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.9	-86
Ropar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	12.7	90
Sangrur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	9.1	94
Mohali	0.0	-100	0.0	-100	0.0	-100	0.0	-100	2.0	-74

TarnTaran	0.0	-100	0.0	-100	0.0	-100	0.0	-100	2.0	18
Haryana										
Ambala	0.0	-100	0.0	-100	0.0	-100	0.0	-100	7.1	60
Bhiwani	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Chandigarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	7.7	5
Faridabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Fatehabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	1.2	-8
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	0.0	-100	0.0	-100
Karnal	0.0	-100	0.0	-100	0.0	-100	0.0	-100	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	0.0	-100	0.0	-100
Panchkkula	0.0	-100	0.0	-100	0.0	-100	0.0	-100	3.7	2
Panipat	0.0	-100	0.0	-100	0.0	-100	0.0	-100	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	0.0	-100	0.0	-100
Yamunanagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	20.9	397
Delhi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jammu & Kashmir										
Anantnag	0.0	-100	0.0	-100	0.0	-100	0.0	-100	47.6	258
Badgam	0.0	-100	0.0	-100	0.0	-100	0.0	-100	19.7	218
Bandipore	**	**	**	**	**	**	**	**	**	**
Baramula	0.0	-100	0.0	-100	0.0	-100	1.6	-97	13.0	-20
Doda	0.0	-100	0.0	-100	0.0	-100	0.0	-100	54.4	88
Ganderwal	0.0	-100	0.0	-100	0.0	-100	0.0	-100	34.8	364
Jammu	0.0	-100	0.0	-100	0.0	-100	0.0	-100	4.4	-41
Kargil	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kathua	0.0	-100	0.0	-100	0.0	-100	0.0	-100	39.0	491
Kistwar	**	**	**	**	**	**	**	**		
Kulgam	0.0	-100	0.0	-100	0.0	-100	0.0	-100	14.0	5
Kupwara	0.0	-100	0.0	-100	0.0	-100	0.0	-100	3.9	-73
Ladakh(Leh)	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.3	-76
Poonch	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.2	-99
Pulwama	0.0	-100	0.0	-100	0.0	-100	0.0	-100	25.7	459
Rajouri	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.6	-82
Ramban	0.0	-100	0.0	-100	0.0	-100	0.0	-100	38.8	34
Reasi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	6.3	-69
Samba	0.0	-100	0.0	-100	0.0	-100	0.0	-100	4.7	-37
Shopian	0.0	-100	0.0	-100	0.0	-100	0.0	-100	3.0	-35
Srinagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	12.0	60

Udhampur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	4.8	-76
East Madhya Pradesh										
Anuppur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Balaghat	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Chhatarpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Chindwara	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Damoh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dindori	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jabalpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Katni	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mandla	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Narsingpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Panna	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Rewa	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Satna	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Seoni	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Shahdol	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sidhi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Singrauli	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Tikamgarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Umaria	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
West Madhya Pradesh										
Alirajpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Asoknagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Badwani	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Betul	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bhind	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bhopal	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Burhanpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Datia	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dewas	0.0	-100	1.2	-82	0.0	-100	0.0	-100	0.0	-100
Dhar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Guna	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Gwalior	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Harda	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Hosangabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Indore	0.0	-100	5.2	126	0.0	-100	0.0	-100	0.0	-100
Jhabua	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Khandwa	0.0	-100	0.7	-88	0.0	-100	0.0	-100	0.0	-100
Khargone	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mandsaur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Morena	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Neemuch	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Raisen	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100

Rajgarh	0.0	-100	8.2	83	0.0	-100	0.0	-100	0.0	-100
Ratlam	0.0	-100	0.0	-100	0.0	-100	0.0	-100	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	0.0	-100	0.0	-100
Sheopur Kalani	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Shivpuri	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Ujjain	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Vidisha	0.0	-100	1.1	-78	0.0	-100	0.0	-100	0.0	-100
Chhattisgarh										
Bastar	3.4	-6	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bijapur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bilaspur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dantewara	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dhamtari	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Durg	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Janjgir	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jashpurnagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kanker	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Korba	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Koriya	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kawardha	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mahasumund	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Narayanpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	1.0	900
Raigarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Raipur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Rajandgaon	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Surguja	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
East Uttar Pradesh										
Allahabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Ambedkar Nagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Azamgarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bahraich	0.0	-100	0.0	-100	0.0	-100	0.0	-100	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	0.0	-100	0.0	-100
Barabanki	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Basti	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Chandauli	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Deoria	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Faizabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Farrukhabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Fatehpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Gazipur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Gonda	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Gorakhpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Hardoi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jaunpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100

Kannauj	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kanpur City	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kanpur Dehat	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kaushambi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kheri	0.0	-100	0.0	-100	0.0	-100	0.0	-100	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	0.0	-100	0.0	-100
Maharajganj	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mau	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mirzapur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Pratapgarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
RaiBareilly	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sahuji Maharajnagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
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	0.0	-100
Shrawasti	**	**	**	**	**	**	0.0	-100	0.0	-100
Sidharthnagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sitapur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sonbhadra	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sultanpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Unnao	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Varanasi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
West Uttar Pradesh										
Agra	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Aligarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Auraiya	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Badaun	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.6	-77
Baghpat	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bareilly	0.0	-100	0.0	-100	0.0	-100	0.0	-100	1.0	-58
Bijnor	0.0	-100	0.0	-100	0.0	-100	0.0	-100	6.9	16
Bulandsahar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Etah	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Etawah	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Firozabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
GBNagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Ghaziabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Hamirpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jalaun	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jhansi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jotirba Phule Nagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	1.0	-67
Kanshiramnagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Lalitpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mahamaya Nagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mahoba	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mainpuri	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mathura	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100

Meerut	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.9	-79
Moradabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	2.0	-46
Muzzaffarnagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	2.7	-37
Pilibhit	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Rampur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Saharanpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	18.7	466
Shahjahanpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.7	-80
Uttarakhand										
Almora	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bageshwar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Chamoli	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Champawat	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dehradun	0.0	-100	0.0	-100	0.0	-100	0.0	-100	4.2	31
Garhwal Pauri	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Garhwal Tehri	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.2	-97
Haridwar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	4.6	17
Nainital	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Pithoragarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	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	0.0	-100	0.0	-100
Uttarkashi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.4	-91
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	0.0	-100
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	0.0	-100
Dumka	0.0	-100	**	**	0.0	-100	**	**	**	**
East Singbhum	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Garhwa	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Giridih	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Godda	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
Koderrna	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Latehar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Lohardagga	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Pakur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Palamau	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Ramgarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Ranchi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sahebganj	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Saraikela	0.0	-100	**	**	0.0	-100	**	**	**	**
Simdega	0.0	-100	**	**	0.0	-100	**	**	**	**
West Singbhum	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
East Rajasthan										
Ajmer	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Alwar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Banswara	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Baran	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bharatpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bhilwara	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bundi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100

Chittorgarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dausa	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dholpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dungarpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jaipur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jhalawar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jhunjhunu	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Karauli	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kota	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
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	0.0	-100	0.0	-100
Sikar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sirohi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Tonk	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-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	0.1	-97	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	0.0	-100	**	**	**	**	**	**	**	**
Dahod	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Daman	0.0	-100	**	**	**	**	**	**	**	**
Dangs	2.7	-55	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	7.0	27	1.4	0	0.0	-100	0.0	-100	0.0	-100
Mumbai	6.4	300	0.5	-64	0.0	-100	0.0	-100	0.0	-100
Raigad	0.9	-75	4.9	157	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	6.4	8	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Thane	0.3	-88	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Madhya Maharashtra										
Ahmednagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dhule	**	**	0.0	-100	**	**	**	**	**	**
Jalgaon	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kolhapur	0.6	-90	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nandurbar	0.0	-100	0.0	-100	**	**	**	**	**	**
Nasik	1.7	-66	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Pune	13.6	142	5.1	65	0.0	-100	0.0	-100	0.0	-100
Sangli	7.6	65	2.4	85	0.0	-100	0.0	-100	0.0	-100
Satara	5.6	-10	4.1	65	0.0	-100	0.0	-100	0.0	-100
Solapur	0.0	-100	0.7	-68	0.0	-100	0.0	-100	0.0	-100
Marathwada										
Aurangabad	10.4	76	9.6	12	0.0	-100	0.0	-100	0.0	-100
Beed	3.0	-49	22.4	702	0.0	-100	0.0	-100	0.0	-100
Hingoli	**	**	1.0	-68	**	**	**	**	**	**
Jalna	6.8	6	8.6	56	**	**	**	**	0.0	-100
Latur	2.9	-8	32.6	1023	0.0	-100	0.0	-100	0.0	-100
Nanded	13.9	673	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Usmanabad	4.7	5	2.1	24	0.0	-100	0.0	-100	0.0	-100
Parbhani	6.2	78	16.5	449	0.0	-100	0.0	-100	0.0	-100
Vidarbha										
Akola	0.0	-100	0.1	-99	0.0	-100	0.0	-100	0.0	-100
Amraoti	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bhandara	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Buldhana	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Chandrapur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Gadchiroli	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100

Gondia	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nagpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Wardha	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Washim	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Yeotmal	0.2	-94	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	7.4	200	0.2	-71	0.0	-100	0.0	-100	0.0	-100
Ganjam	2.6	-66	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jagatsingpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jajpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jharsuguda	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kalahandi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kandhamal	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kendrapara	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Keonjhar	0.1	-87	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Khurda	0.0	-100	0.1	-96	0.0	-100	0.0	-100	0.0	-100
Koraput	10.8	121	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Malkangiri	10.0	355	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	1.7	68	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sambalpur	0.0	-98	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sonepur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sundargarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
West Bengal										
GWB										
Bankura	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Birbhum	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Burdwan	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
East Midnapore	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Hooghly	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Howrah	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kolkata	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Murshidabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100

Nadia	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.3	-88
24 Pargana (N)	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Purulia	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
24 Pargana (S)	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
West Midnapore	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
SHWB										
Cooch Behar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Darjeeling	0.0	-100	0.0	-100	0.0	-100	1.7	24	0.0	-100
East Sikkim	0.0	-100	0.0	-100	0.1	-99	7.0	48	0.9	-38
Jalpaiguri	0.0	-100	0.0	-100	0.0	-100	0.2	-60	0.0	-100
Malda	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
North Dinajpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
North Sikkim	0.0	-100	0.0	-100	7.1	97	3.3	-13	0.0	-100
South Dinajpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
South Sikkim	0.0	-100	0.0	-100	0.0	-100	13.5	187	0.0	-100
West Sikkim	0.0	-100	0.0	-100	0.0	-100	8.0	111	0.7	-88
Karnataka										
Coastal Karnataka										
Dakshin Kannada	29.3	107	27.1	420	0.0	-100	0.0	-100	0.0	-100
Udupi	21.8	64	2.3	-73	0.0	-100	0.0	-100	0.0	-100
Uttar Kannada	4.5	-34	0.8	-86	0.0	-100	0.0	-100	0.0	-100
N I Karnataka										
Bagalkote	0.3	-90	0.4	-88	0.0	-100	0.0	-100	0.0	-100
Belgaum	1.8	-61	0.6	-80	0.0	-100	0.0	-100	0.0	-100
Bidar	25.3	503	2.2	-20	0.0	-100	0.0	-100	0.0	-100
Bijapur	0.0	-100	0.3	-83	0.0	-100	0.0	-100	0.0	-100
Dharwad	0.4	-94	1.4	-77	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	2.9	-7	1.2	-52	0.0	-100	0.0	-100	0.0	-100
Haveri	1.7	-74	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	2.3	-27	0.9	-49	0.0	-100	0.0	-100	0.0	-100
Yadgir	0.6	-82	0.6	-69	0.0	-100	0.0	-100	0.0	-100
S I Karnataka										
Bangalore Rural	35.6	275	5.1	-22	0.0	-100	0.0	-100	0.0	-100
Bangalore Urban	42.4	300	1.4	-79	0.0	-100	0.0	-100	0.0	-100
Bellary	0.8	-73	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Chamarajnagar	3.2	-72	2.9	-67	0.0	-100	0.1	-98	0.0	-100
Chichballapur	7.6	-32	3.7	-34	0.0	-100	0.0	-100	0.0	-100
Chickmagalur	9.8	-6	4.3	-8	0.0	-100	0.0	-100	0.0	-100
Chitradurga	0.4	-91	0.1	-95	0.0	-100	0.0	-100	0.0	-100
Davangere	3.9	-32	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Hassan	18.9	108	7.4	116	0.0	-100	0.0	-100	0.0	-100
Kodagu	17.9	10	6.9	16	0.0	-100	0.0	-100	0.0	-100
Kolar	0.5	-96	3.6	-53	0.0	-100	0.0	-100	0.0	-100
Mandya	18.9	137	4.0	43	0.0	-100	0.0	-100	0.0	-100

Mysore	22.6	159	0.2	-95	0.0	-100	0.0	-100	0.0	-100
Ramnagara	20.8	115	3.7	-15	0.0	-100	0.0	-100	0.0	-100
Shimoga	3.3	-54	1.2	-68	0.0	-100	0.0	-100	0.0	-100
Tumkur	18.7	92	0.3	-92	0.0	-100	0.0	-100	0.0	-100
Kerala										
Alappuzha	58.1	87	12.6	-30	0.0	-100	3.7	-60	0.0	-100
Kannur	21.7	30	19.8	133	0.0	-100	0.0	-100	0.0	-100
Ernakulam	53.3	113	48.5	362	0.0	-100	0.8	-93	0.0	-100
Idukki	79.7	219	17.4	5	1.6	-91	8.5	13	0.0	-100
Kasaragod	14.7	7	9.5	83	0.0	-100	1.1	-78	0.0	-100
Kollam	67.3	118	17.6	-1	0.0	-100	21.9	94	0.0	-100
Kottayam	90.1	202	15.1	34	0.0	-100	3.5	-54	0.0	-100
Kozhikode	25.7	31	14.7	56	0.0	-100	0.0	-100	0.0	-100
Malappuram	42.1	82	40.7	422	0.0	-100	0.0	-100	0.0	-100
Palakkad	30.0	30	7.1	-38	0.0	-100	2.1	-56	0.0	-100
Pathanamthitta	66.5	128	14.9	-2	0.0	-100	10.4	-3	0.0	-100
Thiruvananthapuram	95.1	256	13.7	-37	0.4	-98	20.6	94	0.3	-97
Thrissur	19.4	-11	9.5	-17	0.8	-95	0.0	-100	0.0	-100
Wyanad	6.8	-63	19.1	136	0.0	-100	0.0	-100	0.0	-100
Tamil Nadu										
Ariyalur	0.0	-100	29.8	-27	4.8	-91	18.3	-30	0.0	-100
Chennai	0.0	-100	71.4	38	14.5	-75	7.5	-73	0.3	-99
Coimbatore	1.9	21	17.5	10	0.1	-99	12.5	20	0.0	-100
Cuddalore	0.0	-100	61.2	5	3.6	-95	26.3	-19	0.0	-100
Dharmapuri	0.0	-100	5.5	-64	0.0	-100	0.6	-93	0.0	-100
Dindigul	0.0	-100	19.9	-22	0.1	-99	30.2	50	0.0	-100
Erode	0.0	-100	9.6	-39	0.0	-100	6.1	-17	0.0	-100
Kanchipuram	0.0	-100	38.8	-14	4.1	-93	18.4	-26	0.2	-99
Kanyakumari	0.0	-100	16.4	-25	4.8	-73	54.9	332	0.7	-93
Karikal	0.0	-100	120.2	63	111.1	32	31.8	-50	0.0	-100
Karur	0.0	-100	15.4	-5	0.0	-100	19.5	119	0.0	-100
Krishnagiri	0.0	-100	7.9	-21	0.0	-100	0.1	-99	0.0	-100

Madurai	0.1	-94	10.6	-41	1.6	-91	33.1	143	0.0	-100
Nagapattinam	0.0	-100	111.7	28	68.4	-33	21.2	-52	0.0	-100
Namakkal	0.0	-100	7.8	-51	0.0	-100	23.3	258	0.0	-100
Nilgiris	2.1	-16	30.4	4	0.0	-100	26.1	54	0.0	-100
Perambalur	0.0	-100	21.6	-24	0.0	-100	18.6	3	0.0	-100
Puducherry	0.0	-100	39.5	-36	0.0	-100	102.3	145	0.0	-100
Pudukottai	0.0	-100	32.1	1	1.2	-96	15.0	-17	0.0	-100
Ramanathapuram	0.0	-100	93.2	147	2.6	-93	32.0	46	0.0	-100
Salem	0.0	-100	12.4	-37	0.0	-100	30.2	208	0.0	-100
Sivaganga	0.0	-100	30.8	26	0.4	-98	29.5	71	0.0	-100
Thanjavur	0.0	-100	52.2	20	13.1	-77	20.8	-8	0.0	-100
Theni	0.5	-69	10.8	-22	1.5	-91	21.7	53	0.0	-100
Tirunelveli	2.2	-49	64.5	107	6.5	-73	20.3	-22	0.3	-98
Tirupur	0.0	-100	19.2	26	0.0	-100	17.4	107	0.0	-100
Tiruvallur	0.3	-96	18.5	-53	4.1	-91	7.1	-69	0.0	-100
Tiruvannamalai	0.0	-100	16.1	-35	0.0	-100	1.0	-94	0.0	-100
Tiruvarur	0.0	-100	94.7	33	32.5	-57	23.6	-27	0.0	-100
Toothukudi	0.0	-100	52.3	72	6.5	-73	21.9	4	0.0	-100
Trichy	0.0	-100	19.2	-13	0.4	-99	18.1	28	0.0	-100
Vellore	0.0	-100	2.6	-86	0.0	-100	1.2	-90	0.0	-100
Villupuram	0.0	-100	30.7	-16	0.0	-100	56.1	141	0.0	-100
Virudhunagar	0.6	-84	15.1	-31	6.7	-64	50.9	198	0.0	-100
Andhra Pradesh										
Coastal Andhra Pradesh										
East Godavari	37.0	136	13.2	371	0.0	-100	0.0	-100	0.1	-50
Guntur	39.3	236	21.7	538	0.0	-100	0.0	-100	0.0	-100
Krishna	68.8	488	18.9	721	0.0	-100	0.0	-100	0.0	-100
Nellore	11.5	-78	1.9	-95	0.5	-99	7.8	-69	0.1	-99
Prakasam	10.6	-47	21.4	158	0.0	-100	0.0	-100	0.0	-100
Sirkakulam	37.3	171	1.0	-61	0.0	-100	0.0	-100	0.0	-100
Visakhapatnam	70.9	403	9.0	222	0.0	-100	0.0	-100	0.0	-100

Vizianagram	28.0	61	1.1	-48	0.0	-100	0.0	-100	0.0	-100
West Godavari	24.5	95	20.2	819	0.0	-100	0.0	-100	0.0	-100
Telangana										
Adilabad	0.6	-74	3.8	79	0.0	-100	0.0	-100	0.0	-100
Hyderabad	11.2	332	4.6	185	0.0	-100	0.0	-100	0.0	-100
Karimnagar	8.6	195	0.7	-51	0.0	-100	0.0	-100	0.0	-100
Khammam	17.5	298	3.1	179	0.0	-100	0.0	-100	0.0	-100
Mehabubnagar	3.2	-16	3.8	48	0.0	-100	0.0	-100	0.0	-100
Medak	31.5	799	1.7	11	0.0	-100	0.0	-100	0.0	-100
Nalgonda	20.3	350	9.1	469	0.0	-100	0.0	-100	0.0	-100
Nizamabad	16.9	504	2.7	83	0.0	-100	0.0	-100	0.0	-100
Rangareddy	21.7	579	3.2	113	0.0	-100	0.0	-100	0.0	-100
Warangal	6.8	107	5.8	240	0.0	-100	0.0	-100	0.0	-100
Rayalaseema										
Anantapur	1.4	-78	0.0	-100	0.0	-100	0.0	-100	0.1	-84
Chittoor	17.0	-36	0.4	-98	0.0	-100	4.2	-59	0.0	-100
Cuddapah	2.1	-85	0.0	-100	0.0	-100	1.1	-74	0.0	-100
Kurnool	0.5	-90	0.9	-59	0.0	-100	0.0	-99	0.0	-100

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

Annexure III
List of Varieties

Odisha

Cauliflower: Pusa Ketaki and Pusa Deepali.

Cabbage: Pride of India.

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

Onion: Nasik Red, Patna Red, Pune Red, Bellary Red, Pusa Ratnar, Pusa Madhavi, Arka Niketan, Arka Pragati, Agrifound Light Red, Agrifound Dark, Punjab Selection, Patna White, Bombay White, Pusa White Round etc.

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

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

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

West Bengal

Cabbage: Pride Of India, Pusa Early, Kranti.

Cauliflower: Jawhar Moti, Bharat Jyoti, Early Banaras.

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

Onion: Rupsa, Sukhsagar.

Jharkhand

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

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

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

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

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

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

Bihar

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

Potato: Kufri Chandramukhi, Kufri Ashoka, Kufri Pukharaj, Kufri Badhsha, Kufri Lalima, Kufri Jyoti and Rajendra Alu 2.

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

Berseem: Vardan-1 and Skavi.

Oat: Kent.

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

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

8, LRG-41, WRG-27.

Assam

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

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

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

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

Onion: Pusa Red, Pusa Ratnar, Pusa White (Round), Pusa White (Flat), N-53, Agrifound Light Red, Punjab Red Round, Pusa Madhuri, Arka Niketa.

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

Maharashtra

Wheat (Late sown): NIAW – 34, AKAW-4627 (for Pune), Niphad 34, Trimbak NACS-6122, NIAW-294 and Tapowan in Western Ghat region, AKW – 1071, AKW 4627 in East Vidarbha, AKW 1071, Washim 1472 and Vimal for Yavatmal districts, HD-2189, Parbhani 51, Lokwan and Trimbak in Marathwada.

Rabi groundnut : TG-26, TAG-24, TPG-41, Konkan Gaurav, Konkan Tapora in Konkan.

Gujarat

Late sown wheat: GW 173, GW 11 or Lok-1.

Cumin: Guj. Cumin 1, GC-2.

Coriander: Guj. Coriander 1.

Isabgol: Gujarat Isabgol 2, Gujarat Isabgol 3.

Jammu & Kashmir

Wheat: (irrigated) PBW-550, PBW-502, DPW-621-50, DBW-17, Raj-3077, HD-2967, HD-2687, RSP-303, VL-738, VL-804, HS-240, PBW-154, Raj-1555, Raj-3765, Lok-1, WH-147, GW-190, GW-322 and GW-273 (unirrigated) PBW-175, RSP-81(Jitto)WH-1080, Raj 3077, PBW-396, HI-1500 and HI-1531

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

Potato: (Kufri Chandramukhi), K Badshah, K. Sinduri, K. Chipsona & K. Sona.

Cole crops (Cauliflower (var. Snowball-16, Pusa Snowball K-1), Knol-khol (var. White Vienna, Purple Vienna, King of Market),) and rare crops (broccoli, lettuce, celery, chienesese cabbage, pakchoi).

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

Wheat: HD-2329, HD-2687, HD-2009 (Arjun), HD-2967, WH 147, PBW 373, PBW502, PBW 550, RAJ 1482, RAJ 1555, RAJ 3077, RAJ 3777, RAJ 3765, RAJ 376, Raj 4037, RAJ 4120, HI 8381, HI 8498, HI 1544, HI-1500, HI-1531, WH 147, GW 273, GW 322, GW 190, GW 366, DL 803-3, PDW 215 and LOK 1.

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

Wheat : malvie-234, VL-829, VL-802, VL-804, VL-892, VL-738, VL-719, HS-277, UP-2572, 2338, 2328, Pusa- 256, KWR- 108, K-850, 9107, KGD- 1168, PVW- 343, 443, WH- 542, 1021, K- 9107, 9006, 9423, 307, 8020, Raj-3077, 3765, PBW-373, 544, 590, DBW-16, 17, HUW-510, HP-1731, NW-1012, UP-2382, HD-2733, HD-2888, Ganga, Narendra-1014, Trivani, Halna

Gram: Ta-3, Radhe, K-850, Pant, Kabuli, PDG-3, GPF-2, C-235, Gurav

Lentil: Ta.-8, Pant L- 406 & 234

Alsi- L.C.2023, L.C. 74

Onion- Pusa Red, Pusa White.

Berseem : VL- 01, 10, Maskavi

Himachal Pradesh

Wheat: HPW-89, 147 VL-738 and HS-240

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.

Andhra Pradesh

Blackgram: LBG-20, T-9, LBG: 623, WBG: 26, PU: 31, BG: 752

Green gram: LGG: 407, LGG: 410, LGG: 450, WGG:2, WGG: 37, LGG: 460, ML:267, Pusa:105, MGG: 348, TM-96-2

Bengalgram: Kranthi (ICCC: 37), Svetha (ICCC:2), Annegiri, Jyothi, ICCV: 10 KAK:2, JG:1, Lamsanga:7

Redgram: Laksmi (ICCPL85063), LRG-38, LRG-41, WRG-27.

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.

Potato: K. surya, K.khyati, K Loukar, K Badshah.

Pea: Arkel, PSM3 arkil, PUSA Pragati, Jawahar Pea 1, Jawahar Pea 2, Jawahar Pea 5 and Bonvile etc.

Maize: JVM 421, JM 16.

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

Lentil: RVL-31, JL-2

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

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

Chhattisgarh.

Wheat: Arpa, Vidisha, Kanchan

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

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

Pulse(lathyrus) : Mahatiwada.

Pea: Ambika and Subra.