

National Agromet Advisory Service Bulletin

Friday 8th November, 2013

(For the period 8th to 11th November 2013)

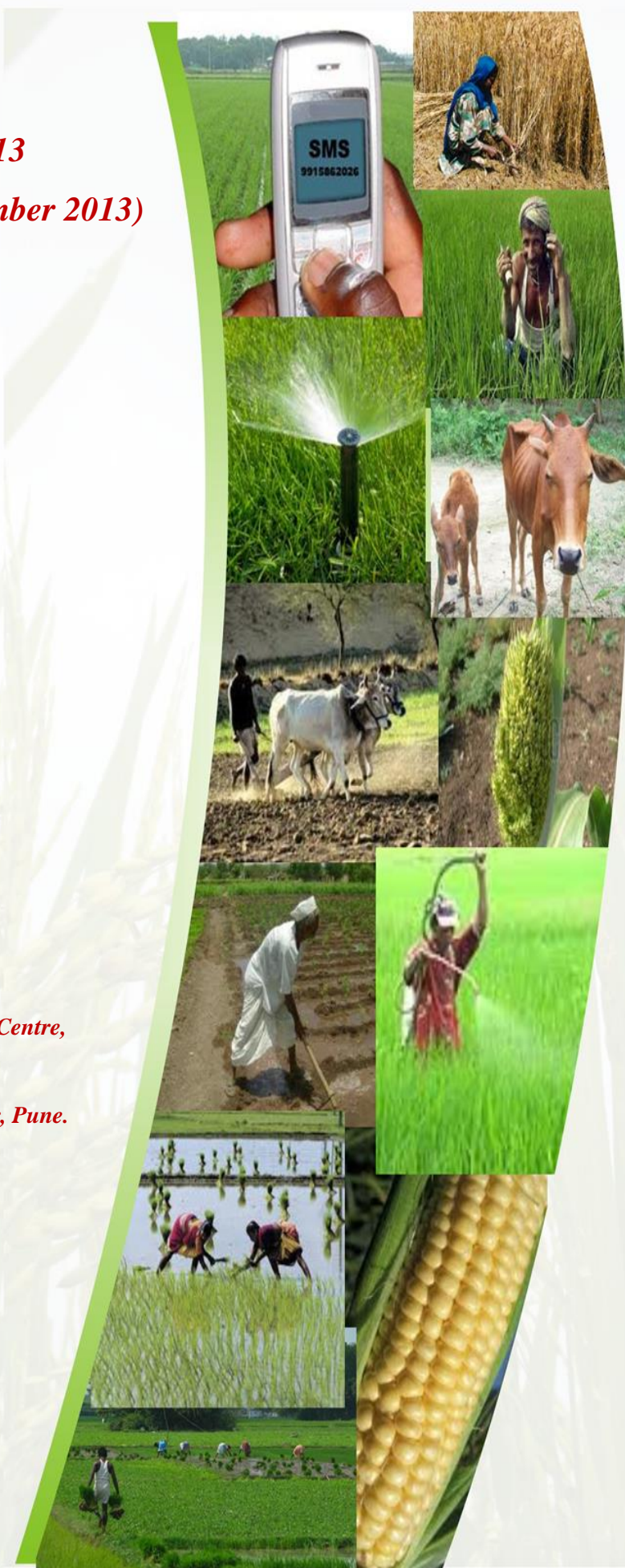


Issued by

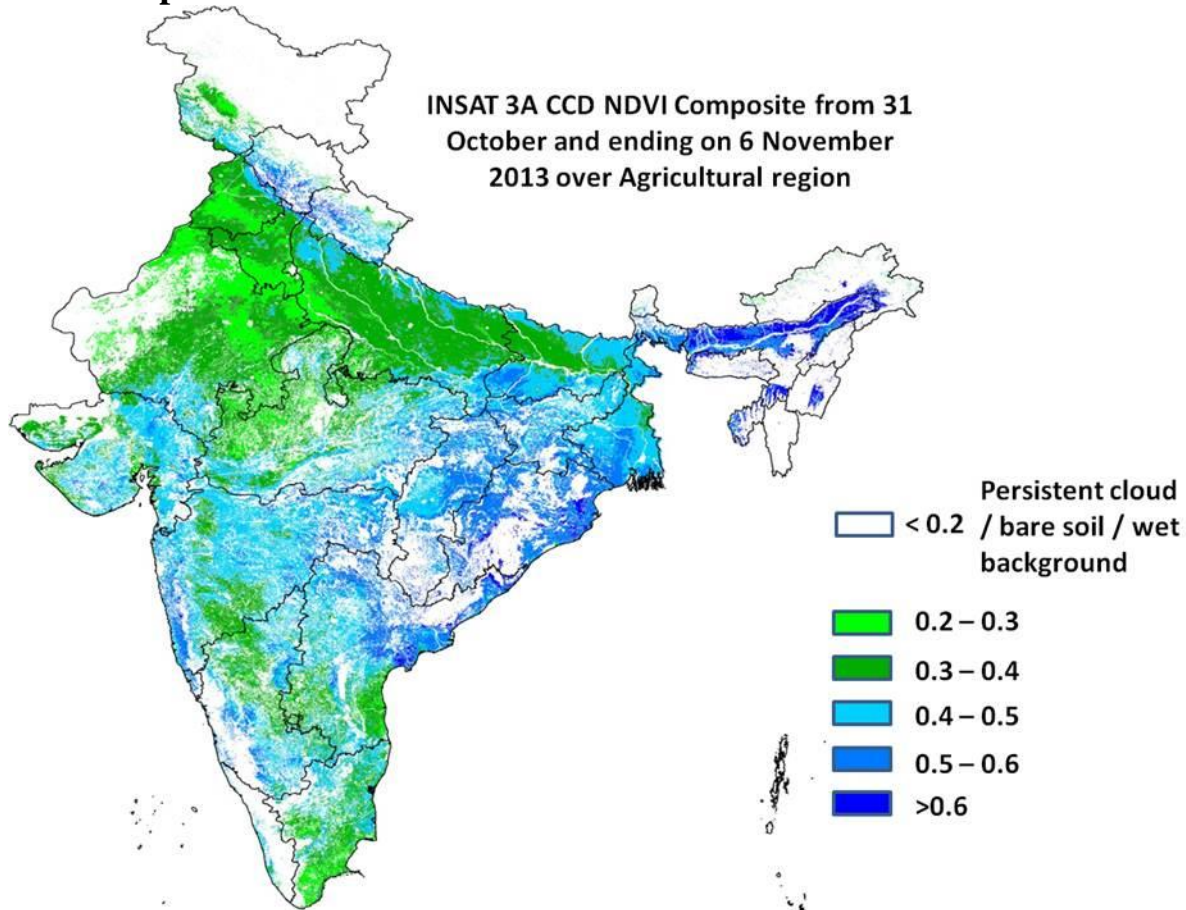
National Agrometeorological Advisory Service Centre,

Agricultural Meteorology Division,

India Meteorological Department, Shivajinagar, Pune.



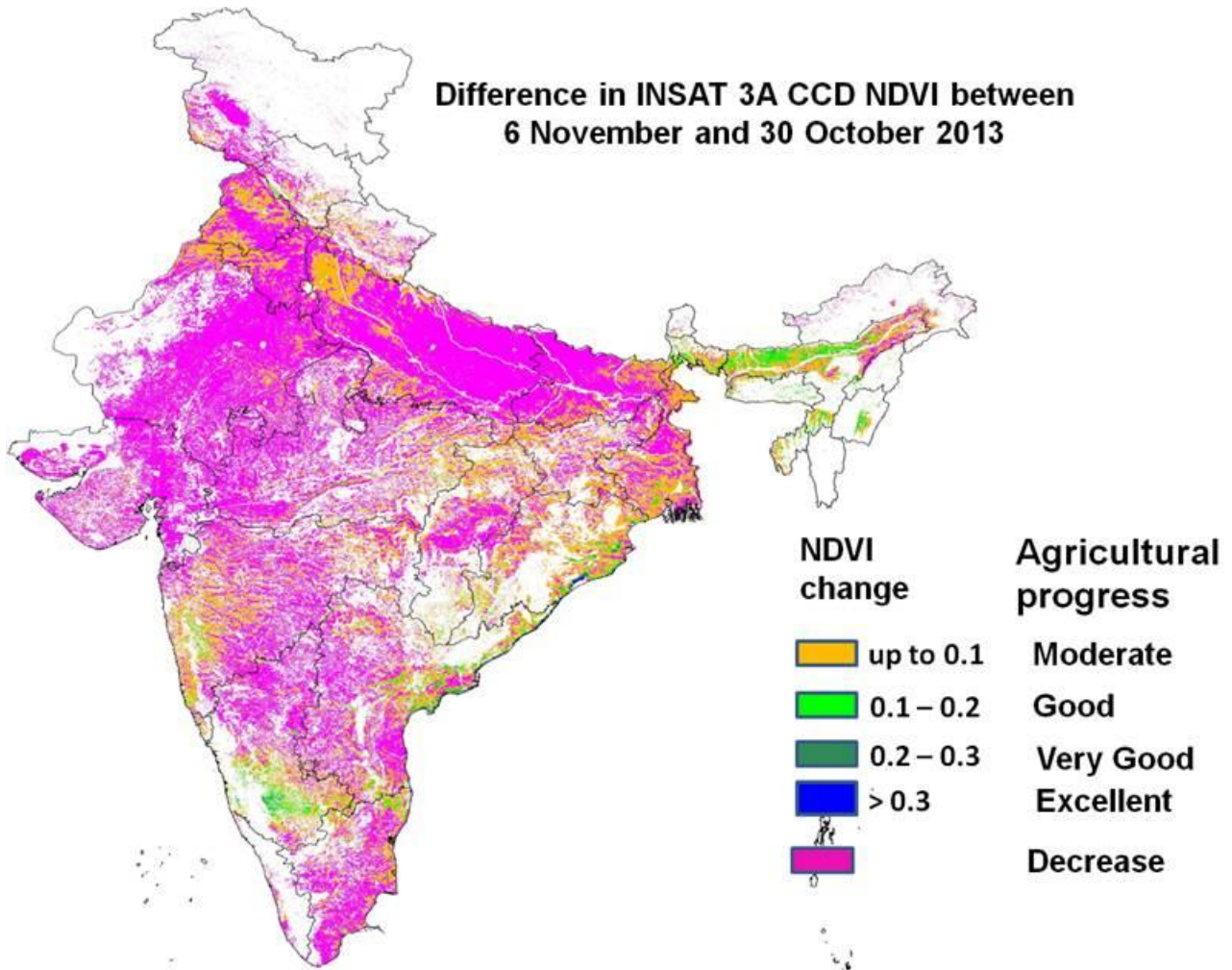
Crop condition based on Rainfall and INSAT 3A CCD NDVI **



Source: SAC, Ahmedabad

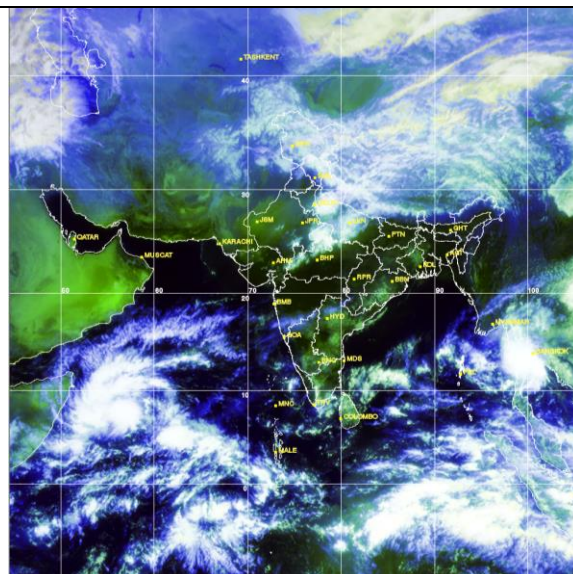
Overall Agricultural Situation: Agricultural conditions is in general good over south-west Bihar, pockets of central West Bengal and Chhattisgarh, eastern and central MP also in pockets of north MP, north and central Gujarat and adjoining pockets of Rajasthan and eastern Maharashtra, pockets of north Karnataka, north and coastal AP, Odisha as NDVI vigour showed the range from 0.4 to 0.6 upto 6th November 2013. The NDVI remain low within range of 0.2 to 0.4 over states of Punjab, Haryana, UP, Rajasthan, north MP and northern Bihar.

**Difference in INSAT 3A CCD NDVI between
6 November and 30 October 2013**



Source: SAC, Ahmedabad

Progress of crop performance during last week: Agricultural progress between 6th November and 30th October 2013 was found to be moderate over few pockets of Orissa, Costal AP and western Maharashtra, south Karnataka, few pockets of costal AP and few parts in north east states. Rest of India showed decrease in NDVI which may be due to end of Kharif crop season.

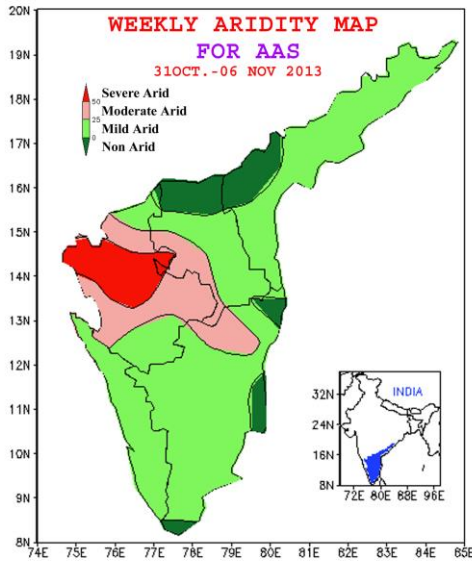


Satellite image dated 08.11.2013, 0500 UTC

Aridity Anomaly Map for the week ending 06.11.2013

भारत मौसम विज्ञान विभाग
अनाद्युटि अनुसंधान अनुभाग - पुणे
INDIA METEOROLOGICAL DEPARTMENT
DROUGHT RESEARCH UNIT - PUNE
राष्ट्रीय ओझुप्रदेश, रायलसेमा, दक्षिण अंतर्गत कर्नाटका,
केरल, तमिऴनाडू और पॉण्डिचेरी के लिए

FOR
COASTAL ANDHRA PRADESH, RAYALASEEMA, SOUTH INTERIOR KARNATAKA,
KERALA, TAMIL NADU AND PONDICHERRY



During the week (31 October to 06 November 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:

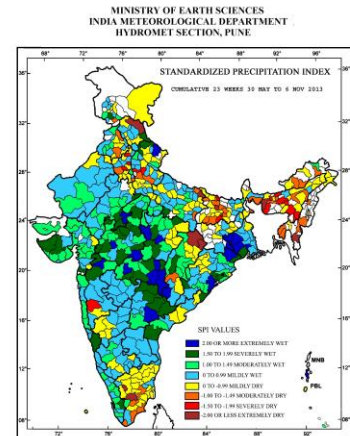
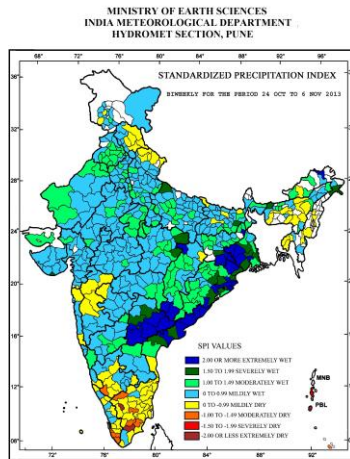
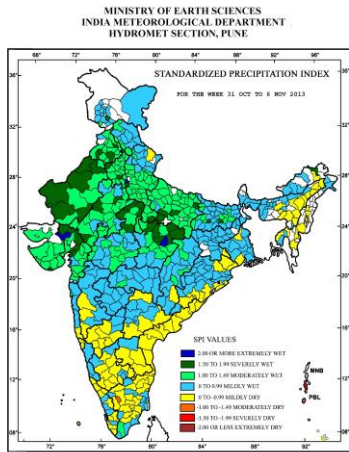
1.1 Areas affected by severe arid conditions :

Some western and central parts of South Interior Karnataka.

1.2 Areas affected by moderate arid conditions :

Most of the parts of South Interior Karnataka, southwestern parts of Rayalaseema and adjoining some northern parts of Tamil Nadu.

Standardised Precipitation Index weekly, fortnightly and seasonal



Weekly SPI values:

- Extremely wet/severely wet conditions over some parts of Gujarat, Rajasthan, Madhya Pradesh, and Punjab.

Cumulative SPI values (bi-weekly):

- Extremely wet/severely wet conditions over some parts of Andhra Pradesh, Odisha, West Bengal and Chhattisgarh.
- Extremely dry/severely dry conditions were observed over Some parts of Tamil Nadu.

Cumulative SPI values of 22nd weeks form 30th May to 6th Nov. 13) (i.e. since the beginning of southwest monsoon:

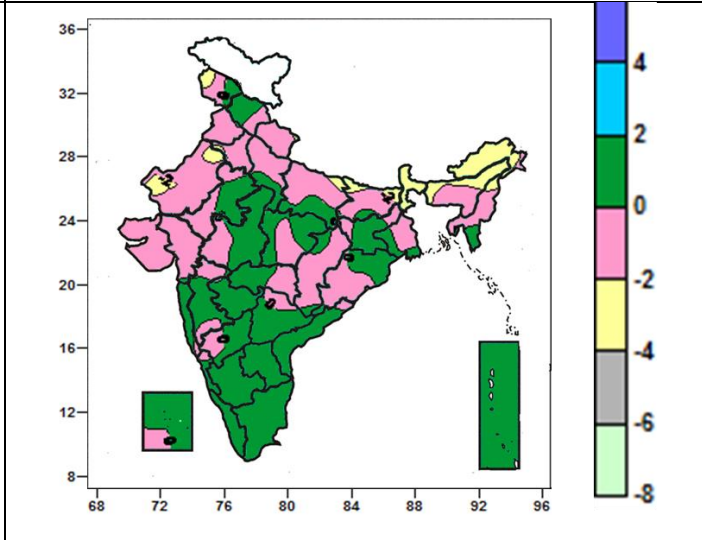
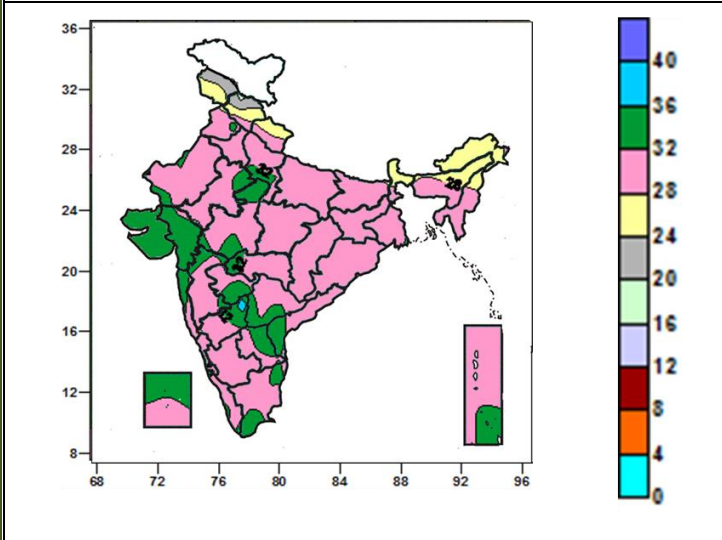
- Extremely wet/severely wet conditions over some part of Madhya Pradesh, Andhra Pradesh, Gujarat, Maharashtra, odisha, West Bengal and Uttarakhand.
- Extremely dry/ severely dry conditions were observed over some parts of Assam, Mizoram and Tamil Nadu .

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

06.11.2013

Actual Mean Maximum Temperature (°C) in India for the week ending 06.11.2013

Mean Maximum Temperature (°C) Anomaly in India for the week ending 06.11.2013

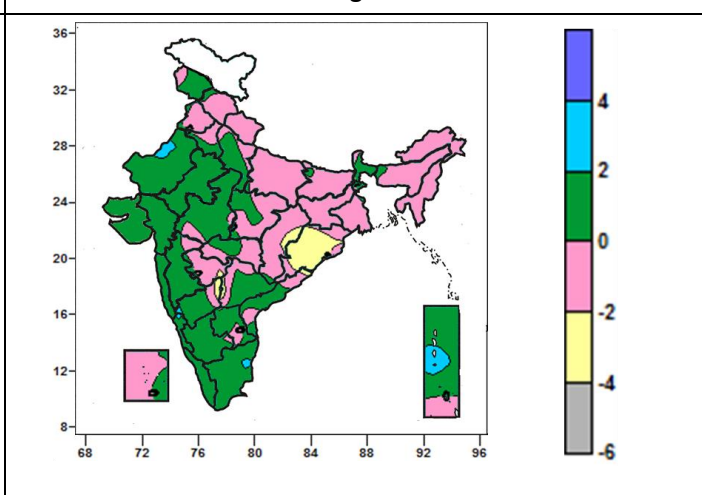
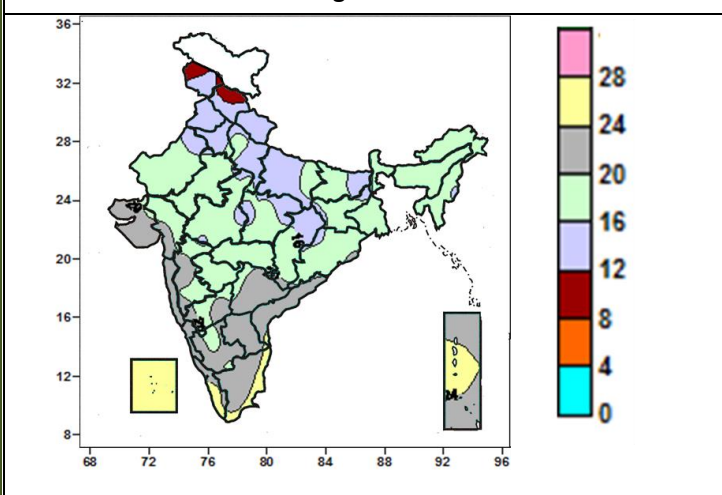


- 36 to 40°C over some parts of North Interior Karnataka.
- 28 to 36°C over entire country (except many parts of Jammu & Kashmir, Himachal Pradesh, Sub-Himalayan West Bengal, Sikkim, Arunachal Pradesh, Nagaland, some parts of Uttarakhand, Assam & Meghalaya, North Interior Karnataka).
- 20 to 28°C over many parts of Jammu & Kashmir, Himachal Pradesh, Sub-Himalayan West Bengal, Sikkim, Arunachal Pradesh, Nagaland, some parts of Uttarakhand, Assam & Meghalaya.

- -2 to 2°C over entire country (except many parts of Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Nagaland, some parts of Jammu & Kashmir, East Uttar Pradesh, West Rajasthan, Bihar, Assam & Meghalaya).
- -4 to -2°C over many parts of Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Nagaland, some parts of Jammu & Kashmir, East Uttar Pradesh, West Rajasthan, Bihar, Assam & Meghalaya.

Actual Mean Minimum Temperature (°C) in India for the week ending 06.11.2013

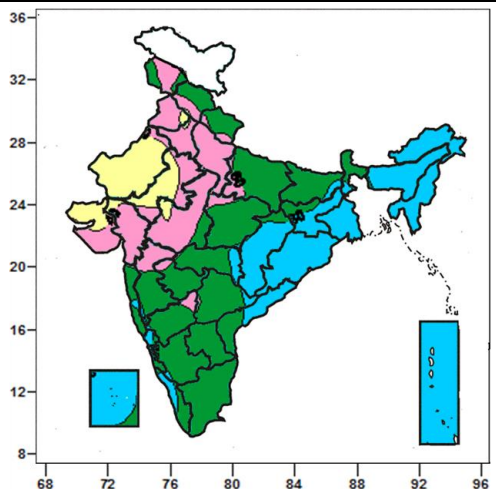
Mean Minimum Temperature (°C) Anomaly in India for the week ending 06.11.2013



- 24 to 28°C over many parts of Kerala, Lakshadweep, some parts of Coastal Andhra Pradesh, Coastal Tamil Nadu and Andaman & Nicobar Islands.
- 16 to 24°C all over the country (except many parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Uttar Pradesh, Kerala, Lakshadweep, some parts of Rajasthan, Madhya Pradesh, Bihar, Jharkhand, Chattisgarh, Odisha, Coastal Andhra Pradesh, Coastal Tamil Nadu and Andaman & Nicobar Islands).
- 8 to 16°C over many parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Uttar Pradesh, some parts of Rajasthan, Madhya Pradesh, Bihar, Jharkhand, Chattisgarh, Odisha.

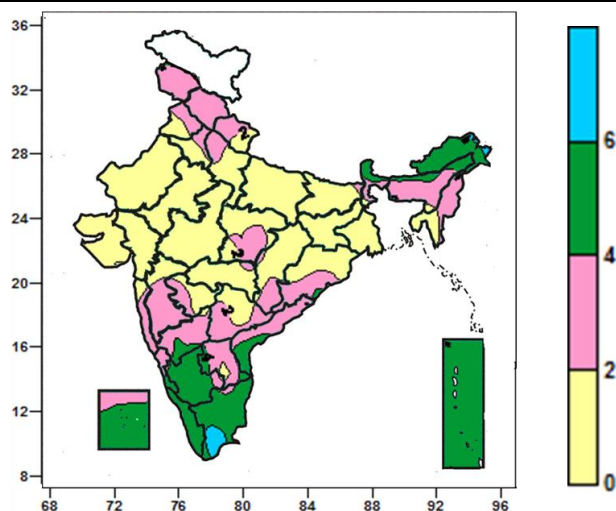
- 2 to 4°C over some parts of West Rajasthan, Tamil Nadu, Andaman & Nicobar Islands.
- -2 to 2°C over all parts of country (except many parts of Odisha, some parts of Chattisgarh, Marathwada, North Interior Karnataka, Telanagana, West Rajasthan, Tamil Nadu, Andaman & Nicobar Islands).
- -4 to -2°C over many parts of Odisha, some parts of Chattisgarh, Marathwada, North Interior Karnataka, Telanagana.

Relative Humidity (%) over India for the week ending 06.11.2013



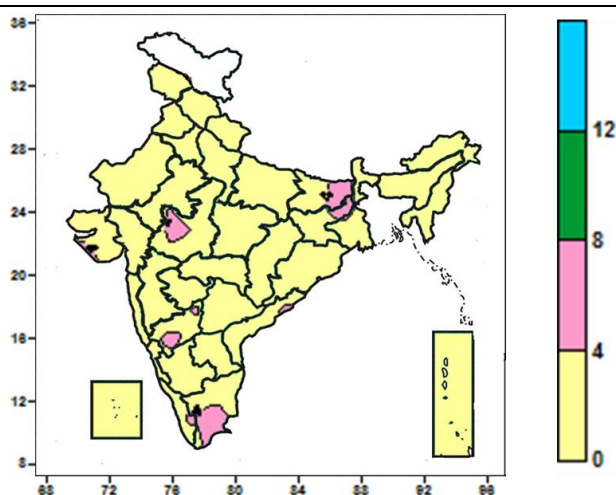
- 60 to 100% over entire country (except many parts of Jammu & Kashmir, Punjab, Haryana, Delhi, Rajasthan, West Uttar Pradesh, Gujarat, Saurashtra & Kutch, West Madhya Pradesh, some parts East Uttar Pradesh, East Madhya Pradesh, North Madhya Maharashtra, Marathwada, North Interior Karnataka).
- 20 to 60% over many parts of Jammu & Kashmir, Punjab, Haryana, Delhi, Rajasthan, West Uttar Pradesh, Gujarat, Saurashtra & Kutch, West Madhya Pradesh, some parts East Uttar Pradesh, East Madhya Pradesh, North Madhya Maharashtra, Marathwada, North Interior Karnataka.

Cloud amount (okta) over India for the week ending 06.11.2013



- 6 to 8 okta over some parts of Tamil Nadu.
- 2 to 6 okta over many parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, North East India (except Mizoram, Tripura), Sub-Himalayan West Bengal & Sikkim, Konkan & Goa, Madhya Maharashtra, South India, some parts of Punjab, Haryana, Delhi, West Uttar Pradesh, Bihar, East Madhya Pradesh, Chattisgarh, Odisha, Marathwada, Vidarbha, Lakshadweep Islands).
- 0 to 2 okta over entire country (except many parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, North East India (except Mizoram, Tripura), Sub-Himalayan West Bengal & Sikkim, Konkan & Goa, Madhya Maharashtra, South India, some parts of Punjab, Haryana, Delhi, West Uttar Pradesh, Bihar, East Madhya Pradesh, Chattisgarh, Odisha, Marathwada, Vidarbha, Tamil Nadu, Lakshadweep Islands).

Wind speed (knots) over India for the week ending 06.11.2013



- 4 to 8 knots over some parts of Bihar, Jharkhand, West Madhya Pradesh, North Interior Karnataka, Coastal Tamil Nadu, Kerala.
- 0 to 4 knots over entire country (except some parts of Bihar, Jharkhand, West Madhya Pradesh, North Interior Karnataka, Coastal Tamil Nadu, Kerala).

Weather Forecast

Weather Forecast for next 3 days (upto 0830 hours IST of 11th November, 2013)

- Rain/snow would occur at many places over Jammu & Kashmir during next 24 hours and decrease thereafter.
- Rain/snow would occur at a few places over Himachal Pradesh during next 48 hours and decrease thereafter.
- Rain/snow would occur at isolated places over Uttarakhand.
- Rain/thundershowers would occur at isolated places over Punjab, Haryana & Delhi, West Uttar Pradesh, East Rajasthan and West Madhya Pradesh during next 48 hours and West Rajasthan during next 24 hours and mainly dry thereafter.
- Isolated rain/thundershowers would occur over Lakshadweep, Kerala and Tamilnadu.
- Rain/thundershowers would occur at a few places over Andaman & Nicobar Islands during next 24 hours and increase thereafter.
- Fog/shallow fog may also occur at some places over Punjab, Haryana, Delhi, Uttar Pradesh and north Rajasthan from 9th.
- Fall in minimum temperatures by 2-4°C over many parts of northwest India and some parts of adjoining Central & West India on 9th and 10th.
- Weather would be mainly dry/dry over rest of the country.

Weather Warning during next 3 days

08 November : Isolated heavy rain/snowfall (> 3 cms) would occur over Jammu & Kashmir.

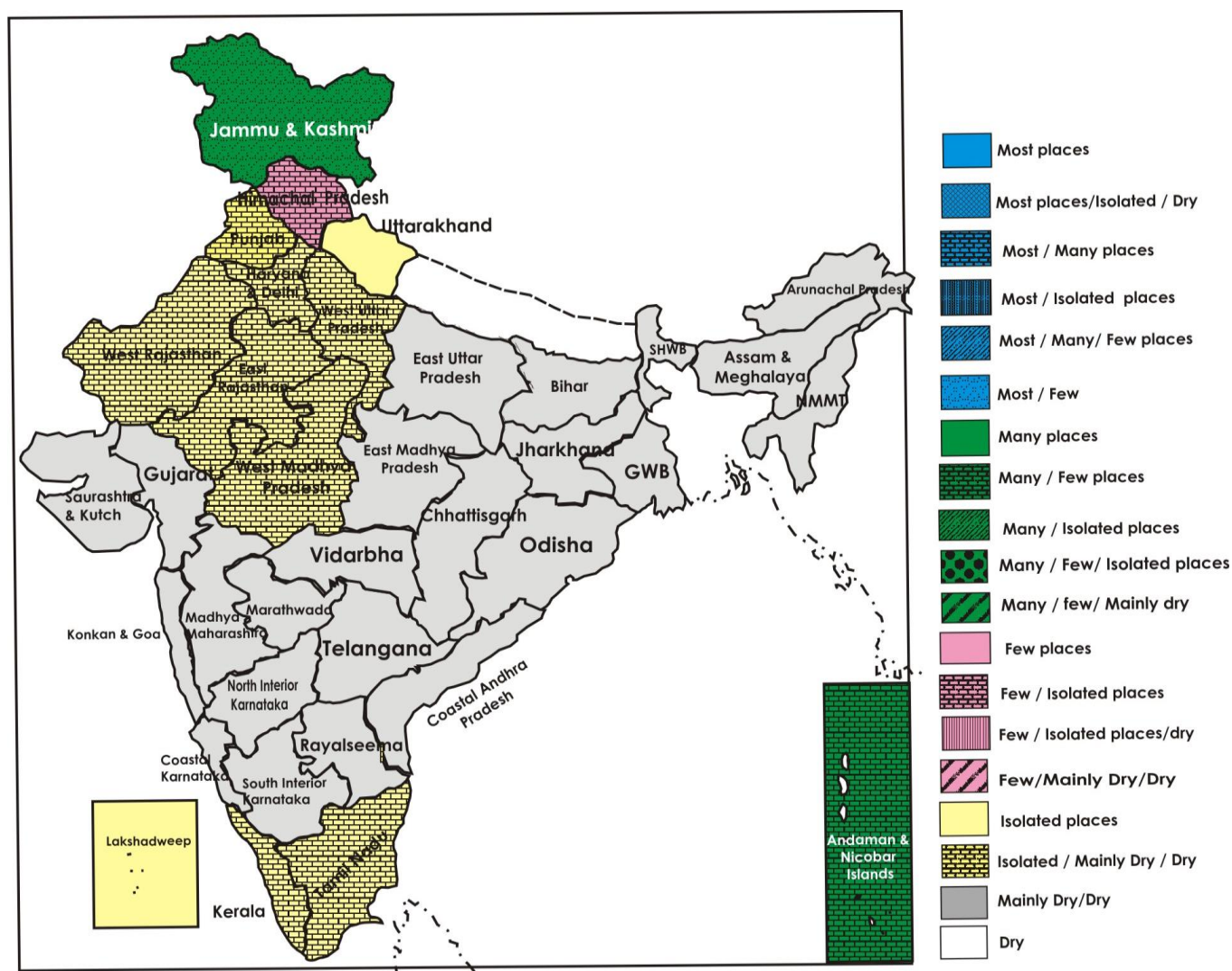
09 November: Isolated heavy rainfall would occur over Andaman & Nicobar Islands.

10 November: Isolated heavy rainfall would occur over Andaman & Nicobar Islands.

Weather Outlook for subsequent 4 days from 11th to 15th November, 2013

- Rain/thundershowers would occur at many places over Andaman & Nicobar Islands.
- Isolated rain/thundershowers would occur over extreme south peninsular India.
- Fog/shallow fog would occur some parts of northwest and adjoining central and east India.
- Weather would be mainly dry/dry over rest parts of the country.

Weather Forecast Map
(Valid upto 0830 hours of 11th November, 2013)



Salient Advisories

East Region:

- In East and South Eastern Coastal Plain Zone of Odisha, continue transplanting of cabbage, cauliflower and tomato and nursery raising of onion and sowing of mustard, groundnut, green pea, beans and cluster beans utilising the residual soil moisture.
- In South Eastern Plateau Zone of Jharkhand, continue sowing of green pea and mustard, nursery raising and transplanting of winter vegetables like brinjal, cabbage, cauliflower, tomato, capsicum etc utilising the residual soil moisture. Also undertake nursery raising of onion.
- In New Alluvial Zone of West Bengal, continue harvesting of *aman* rice. After harvesting of *aman* rice prepare the field and undertake sowing of mustard. Also undertake transplanting of cauliflower and cabbage.
- In Terai Zone of West Bengal, undertake land preparation and sowing of wheat, planting of potato and transplanting of cabbage and cauliflower.
- Due to present temperature and humidity conditions in Terai Zone of West Bengal, Neck blast and BPH may occur in late planted *aman* rice which is in milking to dough stage. To manage neck blast, spray Carbendazim @ 1 g / litre of water. To manage BPH, spray Buprofezin 25 SC @ 16 ml / 10 litres of water. Also, there is a possibility of downy mildew in cucumber. To manage the disease, spray Metalaxyl 8% + Mancozeb 64% @ 1-1.5 g / litre of water.
- In North West Alluvial Plain Zone of Bihar, continue harvesting of matured rice crop. Apply light pre-sowing irrigation and continue sowing of pea, lentil, gram, rajmah and planting of potato. Continue sowing of *rabi* maize.

South Region:

- Continue sowing of Bengal gram, *rabi* groundnut utilising the residual soil moisture and undertake harvesting of late sown *kharif* groundnut in Anantpur district and continue sowing of *rabi* jowar, Bengal gram, sunflower in Kurnool district of Scarce Rainfall Zone of Andhra Pradesh.
- Undertake sowing of *rabi* crops like groundnut, pulses and maize in Northern Telangana Zone of Andhra Pradesh utilizing the residual soil moisture. Undertake harvesting of cotton and rice in clear weather.
- Complete sowing of chick pea and undertake harvesting of groundnut and fodder maize in clear weather in North Dry Zone of Karnataka.
- Continue harvesting of groundnut and maize and continue sowing of pulses in the Southern Transition Zone of Karnataka in harvested fields of groundnut and maize .
- Continue sowing of *puncha* rice in Kottayam district in the Problem Area Zone in Kerala.
- Continue transplanting of *thaladi* rice in Cauvery Delta Zone of Tamilnadu. Undertake sowing of pearl millet and sunflower in South Zone of Tamilnadu.
- Complete transplanting of *Mundakan* rice in Northern and Southern zone of Kerala. Undertake planting of banana, vegetables and fodder grass in coconut gardens as intercrops in the Southern Zone of Kerala.

Northeast Region:

- In Sub Tropical Hill Zone of Arunachal Pradesh, continue sowing of pea and planting of potato utilising the residual soil moisture.
- In Meghalaya, continue transplanting of cauliflower and winter vegetables. Also continue harvesting of matured groundnut. Undertake harvesting of matured *sali* rice. Cover space between rows with rice straw mulch in rapeseed / mustard crop to conserve soil moisture.
- In Sub Tropical Plain Zone of Manipur, apply light pre-sowing irrigation and continue nursery raising of cole crops, sowing of rapeseed, mustard and pea and planting of potato. Drain out water from rice fields 10 days before harvesting of rice.
- In Mild Tropical Hill Zone of Mizoram, continue nursery raising and transplanting of cole crops and tomato utilising the residual soil moisture.
- In Mild Tropical Hill Zone of Nagaland, apply light pre-sowing irrigation and continue transplanting of cabbage and tomato and complete sowing of mustard at the earliest.
- In Mid Tropical Plain Zone of Tripura, apply light pre-sowing irrigation and continue land preparation and planting of potato and sowing of toria, sesame and lentil. Complete sowing of *rabi* maize. Continue harvesting of

aman rice. Provide mulching in the field of winter vegetables

- In Central Brahmaputra Valley Zone of Assam, continue field preparation and sowing of rapeseed, mustard and wheat, transplanting of the seedlings of cole crops, which are 30-35 days old. Continue field preparation and planting of potato utilising the residual soil moisture..
- In Lower Brahmaputra Valley Zone of Assam, continue sowing of niger, transplanting of brinjal, mid cauliflower, cabbage and knolkhol and land preparation and nursery sowing of onion and sowing of pumpkin, spinach and beet. Farmer are also advised to undertake relay cropping of pea in the standing crop of rice about 15-25 days before harvesting.

West Region

- In Vidarbha continue intercultural operation and application of fertilizers in vegetables followed by irrigation. Continue harvesting of matured *kharif* rice. Continue sowing of gram with the help of residual moisture in Central Vidarbha Zone and undertake sowing of gram, wheat, safflower and linseed in Eastern Vidarbha zone.
- In Madhya Maharashtra, continue harvesting of mid late and late maturing rice varieties in Kolhapur region and sun dry harvested produce for 1-2 days and thresh them. Continue harvesting of already matured *adsali* and pre-seasonal sugarcane and complete harvesting of already matured jowar. Continue intercultural operations and application of fertilizers in sugarcane and vegetable crops like onion, brinjal, tomato, okra and guar. Thinning and weeding may be done in early sown *rabi* jowar. Apply irrigation to sugarcane, vegetable crops and early sown jowar. Continue planting of pre seasonal sugarcane and sowing of gram and wheat.
- In Marathwada, continue harvesting of matured *adsali* and pre-seasonal sugarcane. Apply irrigation to sugarcane, vegetable crops and early sown jowar. Continue sowing of wheat and gram and planting of pre-seasonal sugarcane. Start picking of fully opened cotton bolls.
- Complete sowing of wheat up to 15th November in South Saurashtra Zone. Carry out picking of cotton during early morning hours and spray Napthelic Acetic Acid in 10 liters of water to reduce dropping of flower and immature cotton balls. Continue sowing of chickpea, mustard and nursery sowing of garlic and onion in North Saurashtra Zone.
- Continue land preparation and sowing of wheat, gram and mustard in Bhal and Coastal Zone of Gujarat, mustard in North West Zone of Gujarat and continue land preparation and sowing of *rabi* crops like wheat and mustard and planting of potato in Middle Gujarat Zone. Apply light pre-sowing irrigation before sowing or planting of crops.

Central Region

- In Satpura Plateau and Hill Zone of Madhya Pradesh, undertake sowing of wheat, gram and mustard utilising the residual soil moisture..
- In Kymore Plateau Zone of Madhya Pradesh, continue sowing of gram, linseed, mustard and lentil and also undertake sowing of toria and planting of potato utilising the residual soil moisture. Prepare nursery for cabbage, cauliflower, radish, carrot and onion. Apply irrigation in tomato and brinjal and harvest the matured fruits.
- In Northern Hill Zone of Chattishgarh, utilising the residual soil moisture, continue sowing of toria, mustard, green peas and planting of potato and winter sugarcane. Undertake transplanting of cabbage, cauliflower, tomato and onion.
- In Chattisgarh Plain Zone, continue sowing of gram in upland area. Continue harvesting of rice.

North Region

- As rain/snow would occur at many places over Jammu & Kashmir during next 24 hours, postpone irrigation, intercultural operations, application of fertilizers and plant protection measures in the standing crops. Provide adequate drainage facilities in the standing crops to avoid waterlogging as heavy rain/snow would occur at isolated places over Jammu & Kashmir on 8th November.
- In Sub Tropical Zone of Jammu & Kashmir, continue sowing of wheat and chickpea and transplanting of mature seedlings of cauliflower, cabbage and tomato, also continue sowing of wheat, toria, gobhi sarson, oat, mustard, barley, field pea, gram in Intermediate zone after current spells of heavy rain/snowfall.
- In Bhabar and Tarai Zone of Uttarakhand, undertake top dressing of 1.5 kg Urea per Nali & weeding & thinning operations in 30 days old toria and mustard crops. Continue sowing of wheat, barley, oat, barseem in mid and

high hills. Undertake sowing of pulses (viz. chickpea, pea, rajmah in this week. Complete nursery raising of onion, tomato and planting of autumn sugarcane.

- In Sub-Humid and Sub-Tropical zone of Uttarakhand, complete sowing of toria, chickpea, lentil, mustard and also continue sowing of wheat, planting of potato utilising the residual soil moisture. Also continue planting of onion in Hill Zone .
- In Sub-Montane & Low Hills Sub-Tropical Zone and Mid Hills Sub-Humid Zone of Himachal Pradesh undertake sowing of wheat, barley and oat.
- In Semi Arid Eastern Plain Zone of Rajasthan complete sowing of mustard, gram, undertake planting nursery of late cauliflower, cabbage & *rabi* onion and sowing of wheat, barley, gram, carrot, radish & garlic. In Southeastern Humid Plain Zone of Rajasthan, continue sowing of wheat, gram, sarson utilising the residual soil moisture.
- In Sub Humid Southern Plain and Aravali Hill Zone of Rajasthan, continue sowing of wheat, continue sowing of barley, mustard, gram and nursery raising of chilli, brinjal and tomato.
- In Western Zone of Punjab continue sowing of wheat, barley, lentil and oats. Complete sowing of kabuli gram upto 10th November under irrigated conditions. Continue nursery sowing of rabi onion in Central Plain Zone of Punjab and also in Haryana and Delhi.
- In West Uttar Pradesh, continue sowing of wheat and gram in non-irrigated areas, continue planting of winter season sugarcane and maize. Apply irrigation in toria and mustard. Undertake sowing of gram, pea lentil, barley, potato and barseem.
- In East Uttar Pradesh, undertake land preparation and continue sowing of wheat, mustard, pea, lentil, linseed, chickpea utilising the residual soil moisture and undertake sowing of early potato.

Detailed Zonewise Agromet Advisories

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



Rice

Groundnut

Sugarcane

Maize

Jowar

- **Realised Rainfall:** Significant rainfall occurred over Ganderbal and Anantanag districts of Jammu & Kashmir. Weather remained mainly dry over rest parts of the region.
- **Weather Forecast:** Rain/snow would occur at many places over Jammu & Kashmir during next 24 hours and decrease thereafter and at a few places over Himachal Pradesh during next 48 hours and decrease thereafter, at isolated places over Uttarakhand. Rain/thundershowers would occur at isolated places over Punjab, Haryana & Delhi, west Uttar Pradesh, east Rajasthan during next 48 hours, West Rajasthan during next 24 hours and mainly dry thereafter. Fall in minimum temperatures by 2- 4°C over many parts of northwest India on 9th and 10th.
- **Weather Warning:** Isolated heavy rain/snowfall (> 3 cms.) would occur over Jammu & Kashmir on 8th November.
- **Weather Outlook:** Weather would be mainly dry/dry over the region.
- **Advisory :**
 - As rain/snow would occur at many places over Jammu & Kashmir during next 24 hours, postpone irrigation, intercultural operations, application of fertilizers and plant protection measures in the standing crops. Provide adequate drainage facilities in the standing crops to avoid waterlogging as heavy rain/snow would occur at isolated places over Jammu & Kashmir on 8th November.
 - In Sub Tropical Zone of Jammu & Kashmir, continue sowing of wheat and chickpea and transplanting of mature seedlings of cauliflower, cabbage and tomato after current spells of heavy rain/snowfall.
 - In Intermediate zone of Jammu & Kashmir, continue sowing of wheat, toria, gobhi sarson, oat, mustard, barley, field pea, gram after current spells of heavy rain/snowfall.
 - In Bhabar and Tarai Zone of Uttarakhand, undertake top dressing of 1.5 kg Urea per Nali & weeding & thinning operations in 30 days old toria and mustard crops. Continue sowing of wheat, barley, oat, barseem in mid and high hills. Undertake sowing of pulses (viz. chickpea, pea, rajmah in this week. Complete nursery raising of onion, tomato and planting of autumn sugarcane.
 - In Hill Zone of Uttarakhand, continue land preparation and sowing of wheat. Continue sowing of barley, garlic, vegetables like turnip, radish, palak, rai and planting of onion.
 - In Sub-Humid and Sub-Tropical zone of Uttarakhand, complete sowing of toria, chickpea, lentil, mustard and also continue sowing of wheat, planting of potato utilising the residual soil moisture..
 - In Sub-Montane & Low Hills Sub-Tropical Zone and Mid Hills Sub-Humid Zone of Himachal Pradesh undertake sowing of wheat, barley and oat.
 - In Flood Prone Eastern Plain Zone of Rajasthan, undertake land preparation for sowing of wheat and apply 2.5-5 t/ha FYM at last ploughing. Undertake sowing barley, potato, gram and lentil and weeding and thinning operations in mustard within 20-25 days after sowing.
 - In Semi Arid Eastern Plain Zone of Rajasthan complete sowing of mustard, gram, undertake planting nursery of late cauliflower, cabbage & rabi onion and sowing of wheat, barley, gram, carrot, radish & garlic. In Southeastern Humid Plain Zone of Rajasthan, continue sowing of wheat, gram, sarson.
 - In Arid Western Plain Zone of Rajasthan, undertake sowing of cumin, funugreek and Rijka.
 - In Sub Humid Southern Plain and Aravali Hill Zone of Rajasthan, continue sowing of wheat, continue sowing of barley, mustard, gram and nursery raising of chilli, brinjal and tomato utilising the residual soil moisture.
 - In Irrigated North Western Plain Zone of Rajasthan, complete sowing of sarson, undertake sowing of gram, barley, wheat.
 - In West Uttar Pradesh, continue sowing of wheat and gram in non-irrigated areas, continue planting of winter season sugarcane and maize. Apply irrigation in toria and mustard. Undertake sowing of gram, pea lentil, barley, potato and barseem.
 - In East Uttar Pradesh, undertake land preparation and continue sowing of wheat, mustard, pea, lentil,

- linseed, chickpea and undertake sowing of early potato utilising the residual soil moisture..
 - In Central Plain Zone of Uttar Pradesh, undertake sowing of mustard, gram and linseed and complete the sowing of pea and planting of potato. Apply light irrigation to vegetables, toria and early planted potato.
 - In Western Zone of Punjab continue sowing of wheat, barley, lentil and oats. Complete sowing of kabuli gram upto 10th November under irrigated conditions.
 - In Sub Montane Undulating Zone of Punjab, continue sowing of gobhi sarson, taramira and African sarson.
 - In Central Plain Zone of Punjab, continue nursery sowing of *rabi* onion and tomato and sowing of desi varieties of radish and turnip. Undertake planting of potato and garlic.
 - In Delhi continue harvesting of mature rice crop and sowing of wheat crop. Undertake sowing of gram, lentil, pea, mustard, carrot, oat, barseem and Sarson Saag, Bathua, Radish, spinach, funugreek, coriander, turnip. Transplanting of mature seedlings of cauliflower, cabbage, broccoli and tomato may also be done in raised beds
 - In Haryana, undertake nursery sowing of onion and winter vegetables.
 - In Mild-Hills Sub Humid Zone of Himachal Pradesh, weather is favourable for the attack of woolly aphid in apple, to control, apply 25-30gms of Phorate dust or 70-80 gms of Carbofuran as soil treatment. To control the aerial infestation, spray 400 ml of Chlorpyrifos in 200 litres of water on a non rainy day.
 - Stages of major crops are mentioned in Annexure I.
 - Varieties are mentioned in Annexure III.
- **Apiculture**
 - In Mild-Hills Sub Humid Zone and Sub Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh due to expected fall in temperature, give winter packing immediately to bee colonies. Check the colonies for nectar and give artificial food to honey bees as there is scarcity of flowers during these days and keep colonies in sun on clear day.
 - **Animal Husbandry**
 - In Western Plain Zone of Punjab, in the present weather animals are susceptible to get diarrhoea due to internal parasites, to control, undertake deworming and treatment for diarrhoea in calves.

CENTRAL INDIA [M.P., CHHATTISGARH]



Rice



Sugarcane



Maize

- **Realised Rainfall:** No significant rainfall occurred in the region during last week.
- **Weather forecast:** Isolated rain/thundershowers would occur over west Madhya Pradesh during next 48 hours and mainly dry thereafter. Weather would be mainly dry/dry over rest part of the region. Fall in minimum temperature by 2-4⁰C over some parts of central India, adjoining Northwest India on 9th and 10th.
- **Weather Warning:** Nil
- **Weather Outlook:** Weather would be mainly dry/dry over the region. Fog/shallow fog would occur at some parts of central India, adjoining Northwest India
- **Advisories:**
 - In Satpura Plateau and Hill Zone of Madhya Pradesh, undertake sowing of wheat, gram and mustard utilising the residual soil moisture.
 - In Kymore Plateau Zone of Madhya Pradesh, continue sowing of gram, linseed, mustard and lentil and also undertake sowing of toria and planting of potato. Prepare nursery for cabbage, cauliflower, radish, carrot and onion. Apply irrigation in tomato and brinjal and harvest the matured fruits.
 - In Bundelkhand Zone of Madhya Pradesh, continue sowing of mixed crops of chickpea, mustard, lentil, pea and linseed and local and early maturing variety of wheat.
 - In Central Narmada Valley Zone, Jhabua Hill Zone of Madhya Pradesh, continue land preparation and sowing of wheat till 15th November under semi-irrigated condition and from 10th to 25th November in irrigated situation. Continue sowing of safflower and linseed in rainfed condition and planting of potato. Undertake sowing of mustard.
 - In Vindhya Plateau zone of Madhya Pradesh, undertake sowing of wheat, lentil and gram and start sowing of winter season sugarcane. Prepare nursery for planting of cabbage, cauliflower and vegetables.

- In Gird Zone and Malwa Plateau Zone of Madhya Pradesh, undertake sowing gram and planting of potato and winter vegetables.
- In Northern Hill Zone of Chattishgarh, continue sowing of toria, mustard, green peas and planting of potato and winter sugarcane utilising the residual soil moisture. Undertake transplanting of cabbage, cauliflower, tomato and onion.
- In Chattisgarh Plain Zone, continue sowing of gram in upland area. Continue harvesting of rice.
- In Jhabua Hill Zone of Madhya Pradesh, for control of sucking pests in cotton and vegetables, spray Thiomethaxim / Acetameprid @ 0.3 gm/liter of water. Also for control of stem & fruit borer in brinjal, tomato & okra, spray Trizofos @ 30 ml/pump (15 l. tank).
- In Vindhya Plateau Zone of Madhya Pradesh, due to cloudy weather, there is chances of attack of fruit borer, jassid and leaf roller in arhar, for control, spray 1.5 liter Trizophos / 500 liter of water per ha. To control pyrilla in sugarcane, spray Malathion 50 EC 1.5 lit in 700-800 liter water/ha.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure III
- **ANIMAL HUSBANDRY & POULTRY**
 - In Madhya Pradesh, vaccinate the catles against H.S., B.Q. and FMD diseases and also deworming in cattles and goats. Use potassium permanganate @ 5 ml per liter of water for infected animals.

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



Rice



Sugarcane



Maize



Groundnut



Turmeric

- **Realised Rainfall:** Significant rainfall occurred in North and East Sikkim. No Significant rainfall occurred in Odisha, Bihar, Jharkhand and West Bengal during last week.
- **Weather Forecast:** Weather would be mainly dry / dry over the States of the region.
- **Weather Warning:** Nil.
- **Weather Outlook:** Weather would be mainly dry / dry over the States of the region.
- **Advisories:**
 - In East and South Eastern Coastal Plain Zone of Odisha, continue transplanting of cabbage, cauliflower and tomato and nursery raising of onion and sowing of mustard, groundnut, green pea, beans and cluster beans utilising the residual soil moisture.
 - In Laterite and Red Soil Zone of West Bengal, continue harvesting of matured *aman* rice. Undertake nursery preparation and transplanting of cabbage and cauliflower. After the harvest of *aman* rice, prepare land and undertake sowing of mustard and planting of potato.
 - In New Alluvial Zone of West Bengal, continue harvesting of *aman* rice. After harvesting of *aman* rice prepare the field and undertake sowing of mustard. Also undertake transplanting of cauliflower and cabbage.
 - In Coastal Saline Zone of West Bengal, continue sowing of mustard.
 - In North West Alluvial Plain Zone of Bihar, continue harvesting of matured rice crop. Apply light pre-sowing irrigation and continue sowing of pea, lentil, gram, rajmah and planting of potato. Continue sowing of *rabi* maize.
 - In South Bihar Alluvial Zone, continue harvesting of matured rice crop. Apply light pre-sowing irrigation and complete sowing of winter maize, sunflower, mustard, toria, linseed, vegetable pea etc. and planting of potato and continue transplanting of cauliflower and nursery raising of late variety of cauliflower. Continue sowing of fodder crop like barseem, lucern and oat.
 - In Western Plateau Zone of Jharkhand, undertake harvesting of matured rice crop. Continue sowing of pea, green pea, mustard, gram, wheat, linseed and lentil and planting of potato.
 - In South Eastern Plateau Zone of Jharkhand, continue sowing of green pea and mustard, nursery raising and transplanting of winter vegetables like brinjal, cabbage, cauliflower, tomato, capsicum etc. Undertake nursery raising of onion. Undertake intercultural operations in toria and pigeon pea.
 - Due to present temperature and humidity conditions in Terai Zone of West Bengal, Neck blast and BPH may occur in late planted *aman* rice which is in milking to dough stage. To manage neck blast, spray Carbendazim @ 1 g / litre of water. To manage BPH, spray Buprofezin 25 SC @ 16 ml / 10 litres of water.

Also, there is a possibility of downy mildew in cucumber. To manage the disease, spray Metalaxyl 8% + Mancozeb 64% @ 1-1.5 g / litre of water.

- In Mid Central Table Land Zone of Odisha, there is chance of red rot disease in sugarcane at grand growth stage. Bunding of affected fields should be done to avoid movement water from affected field to non-affected fields. Destroy trashes from the infected plants by burning and spray Carbendazim @ 2 g / litre of water. Severely affected plants or canes should be uprooted and destroyed.

- **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 animals outside at night.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure III.

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



Sugarcane



Rice



Groundnut



Maize



Cucurbits

- **Realised Rainfall:** No Significant rainfall occurred in all districts of the region except Dibang Valley, Tawang, Upper Siang, Upper Subansari districts of Arunachal Pradesh during last week.
- **Weather Forecast:** Weather would be mainly dry / dry over the States of the region.
- **Weather Warning:** Nil
- **Weather Outlook:** Weather would be mainly dry / dry over the States of the region.
- **Advisories:**
 - Drain out water from the fields of *aman* rice in Tripura, *sali* rice in Meghalaya and regular WRC rice in Arunachal Pradesh 10-15 days before harvesting.
 - In Lower Bramhaputra Valley Zone of Assam, continue sowing of niger, transplanting of brinjal, mid cauliflower, cabbage and knolkhol and land preparation and nursery sowing of onion and sowing of pumpkin, spinach and beet utilising the residual soil moisture. Farmer are also advised to undertake relay cropping of pea in the standing crop of rice about 15-25 days before harvesting.
 - In Barak Valley Zone of Assam, continue planting of potato and sowing of rapeseed and mustard.
 - In Central Bramhaputra Valley Zone of Assam, continue field preparation and sowing of rapeseed, mustard and wheat, transplanting of the seedlings of cole crops, which are 30-35 days old. Continue field preparation and planting of potato.
 - In Hill Zone of Assam, continue transplanting of winter vegetables and continue land preparation and sowing of rapeseed and mustard. Undertake land preparation and sowing of lentil.
 - In North Bank Plain Zone of Assam, continue sowing of rapeseed and mustard, planting of potato and transplanting of cole crops utilising the residual soil moisture.
 - In Sub Tropical Hill Zone of Arunachal Pradesh, continue sowing of pea and planting of potato.
 - In Meghalaya, continue transplanting of cauliflower and winter vegetables. Also continue harvesting of matured groundnut. Undertake harvesting of matured *sali* rice. Cover space between rows with rice straw mulch in rapeseed / mustard crop to conserve soil moisture.
 - In Sub Tropical Plain Zone of Manipur, apply light pre-sowing irrigation and continue nursery raising of cole crops, sowing of rapeseed, mustard and pea and planting of potato. Drain out water from rice fields 10 days before harvesting of rice.
 - In Mild Tropical Hill Zone of Mizoram, continue nursery raising and transplanting of cole crops and tomato.
 - In Mild Tropical Hill Zone of Nagaland, apply light pre-sowing irrigation and continue transplanting of cabbage and tomato and complete sowing of mustard at the earliest.
 - In Mid Tropical Plain Zone of Tripura, apply light pre-sowing irrigation and continue land preparation and planting of potato and sowing of toria, sesame and lentil. Complete sowing of *rabi* maize. Continue harvesting of *aman* rice. Provide mulching in the field of winter vegetables.
 - In Central Bramhaputra Valley Zone of Assam, there is chance of rat infestation in *sali* rice. To control these rats, apply Aluminium Phosphide (Celphos / Phostoxin / Quickphos) @ 2-3 tablets / burrow and

block the entire burrow with soil.

- In Sub Tropical Hill Zone of Arunachal Pradesh, under present weather condition, severe attack of leaf eating caterpillars has been reported in cauliflower, cabbage, broccoli and knolkhol and likely to continue; spray Chlorpyrifos or Imidacloprid 17SL @ 1-2 ml per litre of water for leaf eating caterpillars.
- In Mild Tropical Hill Zone of Mizoram, there is chance of occurrence of leaf blotch in turmeric; spray Carbendazim @ 1 g / litre of water or Mancozeb @ 2.5 g / litre of water + 1 ml Sandovit.
- 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 poultry, pigs and cattle.
- In Mild Tropical Hill Zone of Nagaland, for brooder chicks, provide artificial lighting in the shed so as to minimize their mortality.
- The present weather condition in Mild Tropical Plain Zone of Tripura is favourable for infestation of round worm, flukes and tapeworms in cattle. De-worming may be done.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]



Rice



Groundnut



Cotton



Sugarcane



Cotton

- **Realised Rainfall:** Mainly dry weather prevailed over the States of the region during last week.
- **Weather Forecast:** Weather would be mainly dry / dry over the States of the region. Fall in minimum temperature by 2-4⁰C over some parts of west India adjoining to northwest India on 9th and 10th November.
- **Weather Warning:** Nil.
- **Weather Outlook:** Weather would be mainly dry / dry over the region.
- **Advisories:**
 - In Vidarbha continue intercultural operation and application of fertilizers in vegetables followed by irrigation. Continue harvesting of matured *kharif* rice. Continue sowing of gram with the help of residual moisture in Central Vidarbha Zone and undertake sowing of gram, wheat, safflower and linseed in Eastern Vidarbha zone.
 - In Konkan, continue intercultural operations and application of fertilizers in vegetable fields and mango, cashew and sapota orchards followed by irrigation. Continue harvesting of mid late rice varieties and start harvesting of late maturing varieties in morning hours.
 - In Madhya Maharashtra, continue harvesting of mid late and late maturing rice varieties in Kolhapur region and sun dry harvested produce for 1-2 days and thresh them. Continue harvesting of already matured *adsali* and pre-seasonal sugarcane and complete harvesting of already matured jowar. Continue intercultural operations and application of fertilizers in sugarcane and vegetable crops like onion, brinjal, tomato, okra and guar. Thinning and weeding may be done in early sown *rabi* jowar. Apply irrigation to sugarcane, vegetable crops and early sown jowar. Continue planting of pre seasonal sugarcane and sowing of gram and wheat.
 - Complete preparatory tillage in Western Ghat region and undertake transplanting of tomato, brinjal, chilli and undertake nursery sowing of *rabi* onion.
 - In Marathwada, continue harvesting of matured *adsali* and pre-seasonal sugarcane. Continue intercultural operations and application of fertilizers in vegetables, orchards and sugarcane. Apply irrigation to sugarcane, vegetable crops and early sown jowar. Continue sowing of wheat and gram and planting of pre-seasonal sugarcane. Start picking of fully opened cotton bolls. Do not apply irrigation during boll bursting.
 - Continue land preparation and sowing of wheat, gram and mustard in Bhal and Coastal Zone of Gujarat, mustard in North West Zone of Gujarat and continue land preparation and sowing of *rabi* crops like wheat and mustard and planting of potato in Middle Gujarat Zone. Apply light pre-sowing irrigation before sowing or planting of crops.
 - Complete sowing of wheat up to 15th November in South Saurashtra Zone. Carry out picking of cotton during early morning hours and spray Napthelic Acetic Acid in 10 liters of water to reduce dropping of flower and immature cotton balls. Continue sowing of chickpea, mustard and garlic in North Saurashtra

Zone.

- Complete harvesting and threshing of early varieties of *kharif* rice in South Gujarat Heavy Rainfall Zone and sun-dry the harvested rice. Undertake mulching in sugarcane crop with its leaves for control of stem borer and to prevent moisture loss in South Gujarat Zone.
 - Carry out gap filling in castor in South Gujarat Heavy Rainfall Zone. Continue planting of sugarcane and transplanting of cauliflower.
 - Rise in maximum temperature and high humidity is favourable for the spread of downy mildew in cucumber and vegetable crops in Pune region; spray Metelaxil 8% + Mancozeb 64% @ 20 g per 10 liters of water.
 - Due to present weather conditions, there may be attack of tea mosquito bug, leaf miner and leaf eating / cutting beetle in cashew in South Konkan; spray 36% Monocrotophos @ 14 ml per 10 litres of water.
 - Weather conditions are favourable for occurrence of mealy bug in cotton in South Gujarat Zone; spray Profenophos 50 EC @ 20 ml / 10 liters of water.
 - Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**
 - In Gujarat, spray Deltamethrin or Amitraz @ 2 ml / litre of water for the control of tick and for prevention of foot & mouth disease in animals, do vaccination with FMD vaccine. Maintain proper nutrient supplements in animal's diet.

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



Rice



Sugarcane



Groundnut



Black gram



Cotton

- **Realized rainfall:** Significant rainfall occurred in Ariyalur, Cuddalore, Nagapattinam, Thanjavur and Tiruvarur districts of Tamilnadu; Nellore district of Andhra Pradesh; Dakshin Kannad and Udupi districts of Karnataka; all the districts of Kerala except Kannur, Kasargod and Wayanad. No significant rainfall occurred in the remaining parts of the region during week ending 06.11.13.
- **Rainfall Forecast:** Rain/thundershowers would occur at isolated places over Kerala, Tamil Nadu. Weather would be mainly dry/dry over rest of the region.
- **Weather Warning:** Nil
- **Weather Outlook (10th -14th November):** Rain/thundershowers would occur at isolated places over extreme south peninsular India. Weather would be mainly dry/dry over rest parts of the region.
- **Advisory:**
 - Continue sowing of Bengal gram, *rabi* groundnut utilising the residual soil moisture. and undertake harvesting of late sown *kharif* groundnut in Anantpur district and continue sowing of *rabi* jowar, Bengal gram, sunflower in Kurnool district of Scarce Rainfall Zone of Andhra Pradesh.
 - Undertake sowing of chickpea and safflower and sowing of *rabi* crops like maize, groundnut and sunflower under irrigated dry conditions in Southern Telangana Zone of Andhra Pradesh utilizing the residual soil moisture.
 - Undertake sowing of *rabi* crops like groundnut, pulses and maize in Northern Telangana Zone of Andhra Pradesh utilizing the residual soil moisture. Undertake harvesting of cotton and rice in clear weather.
 - Undertake sowing of *rabi* pulses in the Krishna Godavari zone of Andhra Pradesh.
 - Continue nursery sowing of *rabi* rice and sowing of *rabi* pulses in Nellore district in the Southern Zone of Andhra Pradesh.
 - Undertake harvesting of groundnut in Eastern dry zone of Karnataka in clear weather.
 - Complete sowing of chick pea and undertake harvesting of groundnut and fodder maize in clear weather in North Dry Zone of Karnataka.
 - Undertake sowing of sunflower and intercultural operations & plant protection measures in standing crops in Hill Zone of Karnataka.
 - Continue harvesting of groundnut and maize and continue sowing of pulses in the Southern Transition Zone of Karnataka in harvested fields of groundnut and maize.
 - Undertake harvesting of *kharif* rice and maize in Uttarkannad district of Central Dry zone Karnataka.

- Undertake harvesting of ginger and intercultural operations in the crops of coffee, pepper, cardamom, banana, arecanut and coconut in High altitude zone of Kerala.
 - Continue sowing of *puncha* rice in Kottayam district in the Problem Area Zone in Kerala.
 - Continue sowing of *Mundakan* rice in the Central Zone of Kerala.
 - Complete transplanting of *Mundakan* rice in Northern and Southern zone of Kerala. Plough the coconut fields for conserving moisture and undertake planting of banana, vegetables and fodder grass in coconut gardens as intercrops in the Southern Zone of Kerala.
 - Continue transplanting of *thalladi* rice in Cauvery Delta Zone of Tamilnadu.
 - Undertake sowing of pearl millet and sunflower in South Zone of Tamilnadu.
 - In North Coastal zone of Andhra Pradesh, due to inundation of water in the rice fields there is chance of pest and diseases attack like sheath blight, blast, neck blast and sheath rot. Spray Tricyclozole @ 0.6 g/l as prophylactic for control of blast and neck blast, Hexaconazole or Validamycin @ 2 ml/l for sheath blight & Carbendizim @ 1 g/l for sheath rot where the crop is in boot leaf to panicle emergence stage. Monitor for incidence of white fly in sugarcane, if noticed spray Acephate @ 1.5 g/l or Dimethoate @ 1.7 ml/l of water on lower surface of the leaf.
 - Leaf folder incidence is noticed on Red gram in the Kurnool district of Scarce Rainfall zone of Andhra Pradesh. To control spray Monocrotophos @ 1.6 ml per litre of water.
 - Prevailing weather conditions are congenial for incidence of wilt, leaf spot and grey mildew in cotton in the Southern Telangana zone of Andhra Pradesh. To control wilt drench the soil with Copper Oxy Chloride @ 3 g per litre of water, Leaf spot spray Copper-Oxy-Chloride @ 30 g and Plantomycin @ 1 g per 10 litres of water and Grey mildew spray wettable Sulphur @ 3 g per litre of water.
 - Stages of major crops are mentioned in Annexure I.
 - Varieties are mentioned in Annexure III.
- **Animal Husbandry**
 - Avoid water leakage in cattle and poultry sheds and protect feeds of animals and poultries from rain to avoid spreading of diseases in the Western Zone of Tamil Nadu. Vaccinate animals to prevent spread of foot and mouth disease in cattle.
 - De-worm the animals for round worm and tape worm during the season in the North Western Zone of Tamil Nadu.

Annexure I Stages of Major Crops

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

- Wheat, barley, oat, gobhi sarson, early peas (sowing), tomato, brinjal, chilli (fruiting/picking), French bean, okra

(fruiting/ harvesting), rice (grain formation), maize (harvesting), peas (maturity/harvesting), cauliflower (transplanting), cucurbits viz. khira, bitter gourd, tori (fruiting/maturity), radish, carrot, turnip, beet leaf and fenugreek (direct sowing), onion (planting), potato (tuber maturity/harvesting), apple (harvesting) in Himachal Pradesh.

- Wheat, barley, oat(sowing), ginger (vegetative), sugarcane (vegetative / active vegetative), sesame in low land area (early vegetative / vegetative), vegetable pea (sowing / germination), toria, chickpea, lentil (sowing/germination), tomato (transplanting), potato(planting / transplanting), Autumn sugarcane(planting), sarson, masoor (field preparation /sowing), coriander, spinach, radish, fenugreek (sowing/germination) in Uttarakhand.
- Rice (harvesting), wheat (sowing), toria, gobi sarson, mustard (sowing /germination), brown sarson, oat, lentil, berseem (land preparation/sowing), potato(planting), palak, radish, carrot, turnip, garlic, methi, spinach (sowing / germination), pole type beans (vegetative), radish, spinach (transplanting / early vegetative), carrot, turnip (sowing), onion, cole crops (nursery sowing / transplanting), fruit crops (planting) in Jammu & Kashmir.
- Wheat, barley (sowing), lentil (sowing), sesame(capsule maturity/harvesting), rainfed taramira, toria, gram and mustard, potato (sowing/seedling), tomato, brinjal, chilli (nursery sowing / transplanting), Shimla mirch (early vegetative / vegetative), new sugarcane (early vegetative / vegetative), castor (flowering), cucurbits (sowing), radish, Desi carrot (sowing), cabbage and cauliflower (nursery sowing/transplanting), onion(nursery raising/ transplanting) in Rajasthan.
- Rice (grain maturity/ harvesting), wheat(sowing), *Kharif* maize (maturity), fodder maize, bajra, sorghum and other fodder crops(vegetative / cutting), Lady's finger, chilli and cucurbits crop (flowering / fruiting / picking), brinjal, tomato, early (cauliflower and cabbage) (vegetative / flowering), soybean (pod formation /maturity), cauliflower, cabbage, broccoli and tomato (transplanting), early radish, spinach and coriander (vegetative), Sarson Saag, Bathua, radish, spinach, fenugreek, coriander and turnip (sowing), guar, bajra (flowering / grain filling), *rabi* onion (nursery sowing), mustard, gram, pea, carrot, garlic (sowing), oat, barseem (sowing) in Delhi.
- Jowar, bajra, (flowering/grain filling/ milking/maturity), pigeon pea (vegetative/branching) rice (flowering/early grain formation/maturity/harvest), groundnut, arhar, moong and urad (vegetative/ branching), tomato, brinjal, chilli (fruiting/picking), black gram, green gram (flowering/pod formation), spring sugarcane (active vegetative/grand growth), toria, potato (sowing / sprouting/early vegetative) in Uttar Pradesh.
- New sugarcane (tillering / vegetative), cotton (picking), cucurbits, cowpea (sowing), rice (grain formation / harvesting), black gram, green gram, soybean, arhar (vegetative/pod formation), moong, mash (vegetative) maize (cob formation / cob maturity) sesamum (vegetative), cauliflower (transplanting), potato (land preparation / planting) in Punjab.
- New sugarcane (vegetative), cotton (picking), rice (grain formation/maturity) in Haryana.

CENTRAL INDIA [M.P., CHHATTISGARH]

- *Kharif* rice (grain maturity/harvesting), *Kharif* onion (maturity/harvesting), jowar (grain maturity/harvesting), arhar (pod formation/ pod maturity), groundnut (pod formation/ maturity), sesame (capsule maturity/ harvesting), sugarcane (grand growth), vegetables (flowering/ fruiting), wheat, chick pea, safflower, mustard, gram and linseed (sowing) , potato ,onion (planting) in Madhya Pradesh.
- Sugarcane (elongation), *kharif* rice (grain maturity/harvesting), jowar, (grain formation), groundnut (pod formation/ maturity), ragi and kodo millet (vegetative), ginger, turmeric, papaya (vegetative), onion (vegetative), vegetable crops (flowering/ fruiting), wheat, chick pea, safflower (sowing) in Chhattisgarh.

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

- *Kharif* rice (harvesting), maize (harvesting), sugarcane (cane maturity / harvesting), onion (transplanting), urad (grain maturity), yam (vegetative / tuber development), arhar (vegetative), winter maize, sunflower, mustard, toria, pea, lentil, gram, rajmah (sowing), cauliflower, cabbage, chilli, tomato, brinjal (transplanting) in Bihar.
- *Kharif* rice (maturity / harvesting), maize (harvesting), urad, marua (harvesting), arhar (vegetative), groundnut (grain maturity), onion (vegetative), ginger and turmeric (late vegetative), *kharif* vegetables viz. bhindi, bean, French bean (flowering / fruiting), tomato, cauliflower, cabbage (nursery sowing / transplanting), niger, horse gram (harvesting), sweet potato (stem elongation), green peas, potato, bell pepper (sowing) in Jharkhand.
- Rice (grain maturity / harvesting), pigeon pea (pod formation / pod maturity), turmeric, ginger, yam (vegetative / rhizome formation), *rabi* vegetables (transplanting), sugarcane (grand growth), banana (vegetative), mustard (sowing / seedling), groundnut, cluster bean, green pea (sowing) in Odisha.
- *Aman* rice (milk / dough / maturity / harvesting), ginger, turmeric (rhizome formation), *kharif* vegetables (harvesting), brinjal, okra, tomato and chilli (fruiting / harvesting), pointed gourd (fruiting / harvesting), tomato (nursery sowing / transplanting), cabbage and cauliflower (nursery preparation / transplanting), wheat, mustard (sowing), potato (planting), winter flower (seedbed preparation) in West Bengal.

Arunachal Pradesh										
Anjaw	**	**	**	**	**	**	**	**	**	**
Changlang	73.7	-25	3.1	-96	24.6	-58	54.3	239	0.8	-96
Dibang Valley	78.0	36	5.0	-91	92.0	238	105.0	919	37.0	47
East Kameng	73.0	107	0.0	-100	1.2	-97	0.0	-100	0.0	-100
East Siang	117.2	35	4.2	-87	65.7	63	59.6	308	0.2	-98
Kurung Kumey	**	**	**	**	**	**	**	**	**	**
Lohit	46.5	-40	2.0	-93	23.6	-31	44.5	298	10.5	22
Lower Dibang Valley	96.1	68	0.0	-100	78.5	189	136.2	1222	11.8	-53
Lower Subansari	**	**	**	**	0.0	-100	**	**	**	**
Papumpara	70.2	-18	0.0	-100	16.1	-66	63.8	224	0.9	-85
Tawang	67.0	-21	9.0	-84	7.0	-83	47.0	139	28.0	284
Tirap	64.5	-21	0.0	-100	24.3	-51	78.1	637	1.4	-88
Upper Siang	35.0	-49	16.1	-80	76.3	32	112.2	302	71.0	64
Upper Subansari	19.2	32	0.0	-100	34.2	9	26.8	253	21.2	458
West Kameng	90.6	7	0.0	-100	37.7	-11	79.2	302	0.8	-89
West Siang	11.9	-59	6.0	-81	25.2	-15	51.0	99	7.0	-38
Assam										
Baksa	20.6	-64	0.0	-100	9.7	-65	34.7	224	0.0	-100
Barpeta	74.0	28	1.0	-97	15.2	-46	30.2	182	5.8	100
Bongaigaon	147.4	130	5.2	-88	2.9	-91	28.6	118	0.0	-100
Cachar	103.5	42	2.0	-96	8.1	-69	59.8	222	0.0	-100
Chirang	132.1	106	4.5	-90	11.3	-64	28.4	117	0.0	-100
Darrang	56.0	91	0.0	-100	5.0	-70	18.0	67	4.0	-27
Dhemaji	22.0	-57	0.0	-100	8.5	-69	21.0	67	0.0	-100
Dhubri	89.2	15	12.3	-57	0.5	-97	10.2	-7	7.4	-31
Dibrugarh	96.5	112	0.1	-99	39.9	72	31.4	132	0.2	-98
Goalpara	83.5	46	4.1	-91	0.0	-100	6.8	-54	2.0	-72
Golghat	84.2	199	2.8	-92	4.9	-69	45.9	155	0.0	-100
Hailakandi	83.3	26	5.1	-89	16.9	-5	67.2	585	0.0	-100
Jorhat	79.6	108	0.0	-100	18.6	8	39.1	140	0.0	-100
Kamrup(Rural)	104.1	188	0.0	-100	0.1	-99	10.1	-17	0.0	-100
Kamrup(Metro)	120.9	234	0.4	-98	16.5	-22	5.3	-56	0.0	-100
Karbi Anglong	62.6	66	1.9	-92	1.2	-96	9.8	60	0.0	-100
Karimganj	108.3	-4	0.0	-100	9.6	-39	36.0	22	0.0	-100
Kokrajhar	98.0	116	29.5	-34	1.1	-98	56.0	559	0.0	-100
Lakhimpur	53.1	4	0.2	-99	24.7	-10	26.9	113	0.0	-100
Morigaon	84.4	157	2.6	-94	2.3	-92	5.4	-50	0.0	-100
N.C.Hills	54.8	56	0.0	-100	2.3	-76	28.4	-75	0.0	-100
Nowgong	102.0	165	5.9	-80	0.0	-100	4.1	-78	0.0	-100
Nalbari	96.2	148	1.1	-94	5.1	-74	36.7	174	1.7	-43
Sonitpur	53.7	112	0.0	-100	6.7	-74	14.2	2	1.2	-79
Sibsagar	48.1	58	0.0	-100	9.4	-40	36.5	157	0.0	-100
Tinsukia	70.0	75	0.0	-100	29.8	-9	55.7	406	2.8	-73
Udalgiri	46.7	59	0.3	-99	2.6	-85	13.2	22	0.0	-100
Meghalaya										
East Garo Hills	**	**	**	**	**	**	**	**	**	-100
East Khasi Hills	274.8	184	2.4	-96	11.8	-75	24.2	-36	0.2	-98
Jaintia Hills	147.0	-37	0.0	-100	14.0	-79	15.0	-72	0.0	-100

Ribhoi	71.6	110	2.7	-92	59.2	83	51.1	202	0.0	-100
South Garo Hills	81.0	13	16.0	-52	0.0	-100	23.0	65	0.0	-100
West Garo Hills	50.8	-29	0.4	-99	4.4	-78	0.6	-96	10.0	45
West Khasi Hills	5.0	-92	6.0	-91	0.0	-100	**	**	0.0	-100
Mizoram										
Aizwal	44.8	-53	7.7	-85	38.2	10	31.6	-25	0.0	-100
Champhai	47.0	-46	1.0	-98	12.0	-64	84.0	95	0.0	-100
Kolasib	13.0	-86	1.0	-98	47.0	60	26.0	-13	0.0	-100
Lawngtlai	56.0	-40	1.0	-98	**	**	0.0	-100	0.0	-100
Lunglei	55.0	-42	8.0	-85	10.5	-72	106.0	215	0.0	-100
Mamit	50.0	-48	12.0	-77	8.0	-77	12.0	-71	0.0	-100
Saiha	65.0	-33	15.0	-50	48.5	55	119.0	289	0.0	-100
Serchhip	50.0	-23	23.0	-40	1.5	-94	9.0	-52	0.0	-100
Manipur										
Bishnupur	69.0	-15	0.0	-100	9.0	-44	19.0	-48	0.0	-100
Chandel	31.0	-60	0.0	-100	12.0	-59	7.0	-82	0.0	-100
Churachandpur	52.0	-11	1.0	-97	6.0	-62	24.0	-32	0.0	-100
Imphal east	46.8	-9	0.2	-99	10.1	-24	18.9	-32	0.0	-100
Imphal west	**	**	**	**	**	**	**	**	**	**
Senapati	75.0	32	6.0	-83	2.0	-88	14.0	-30	0.0	-100
Tamenglong	**	**	**	**	**	**	**	**	**	**
Thoubal	46.0	94	3.0	-84	3.5	-56	15.0	-36	0.0	-100
Ukhrul	94.0	173	5.0	-85	4.0	-65	10.5	-42	0.0	-100
Nagaland										
Dimapur	102.3	77	0.0	-100	0.0	-100	34.1	245	0.0	-100
Kephire	6.0	-88	2.0	-93	2.5	-75	8.0	-13	1.0	-92
Kohima	50.5	11	5.5	-82	28.6	28	15.3	-27	0.0	-100
Longleng	**	**	**	**	**	**	**	**	**	**
Mokokchung	55.0	-23	9.0	-50	12.0	-49	8.0	-35	0.0	-100
Mon	**	**	**	**	**	**	**	**	**	**
Paren	**	**	**	**	**	**	**	**	**	**
Phek	119.0	161	1.0	-97	18.0	-20	11.5	-45	0.0	-100
Tuensang	**	**	**	**	**	**	**	**	**	**
Wokha	117.0	127	11.0	-55	3.0	-89	4.0	-75	0.0	-100
Zunheboto	**	**	**	**	**	**	**	**	**	**
Tripura										
Dhalai	68.4	10	0.0	-100	16.5	-44	5.5	-81	0.0	-100
North tripura	65.8	7	3.0	-93	29.4	28	58.6	142	0.0	-100
South tripura	109.6	93	5.7	-88	16.3	-42	15.3	-37	0.0	-100
West tripura	138.8	114	10.1	-76	13.7	-44	11.5	-51	0.0	-100
Himachal Pradesh										
Bilaspur	3.3	-68	2.9	-42	0.0	-100	0.0	-100	2.6	-14
Chamba	0.0	-100	0.0	-100	0.0	-100	0.0	-100	11.9	191
Hamirpur	14.4	-7	8.0	-44	0.0	-100	0.0	-100	0.0	-100
Kangra	32.6	36	37.5	275	0.0	-100	0.0	-100	1.4	-48
Kinnaur	0.0	-100	4.8	-59	0.0	-100	0.0	-100	0.0	-100
Kullu	0.9	-90	8.5	33	0.3	-98	0.0	-100	0.1	-98
Lahaul and Spiti	0.0	-100	1.1	-93	0.0	-100	0.0	-100	1.3	-78
Mandi	7.0	-48	5.2	-34	0.0	-100	0.0	-100	0.0	-99

Shimla	6.6	-45	2.5	-69	0.0	-100	0.0	-100	2.1	-42
Sirmaur	31.3	77	1.4	-90	0.2	-97	0.0	-100	7.9	367
Solan	4.4	-74	2.1	-85	0.0	-100	0.0	-100	7.5	128
Una	27.5	37	24.6	402	0.0	-100	0.0	-100	3.7	38
Punjab										
Amritsar	4.8	-69	24.9	329	0.0	-100	0.0	-100	0.0	-100
Barnala	0.0	-100	4.5	-6	0.0	-100	0.0	-100	0.0	-100
Bhatinda	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Faridkot	0.0	-100	36.0	1900	0.0	-100	0.0	-100	2.0	18
Fatehgarh Saheb	20.0	108	5.0	6	0.0	-100	0.0	-100	8.0	122
Ferozpur	0.0	-100	9.3	211	0.0	-100	0.0	-100	0.5	-64
Gurdaspur	45.5	126	26.4	277	0.0	-100	0.0	-100	2.5	26
Hoshiarpur	8.8	-43	3.4	-50	0.0	-100	0.0	-100	2.3	-6
Jalandhar	0.0	-100	2.9	-50	0.0	-100	0.0	-100	2.7	27
Kapurthala	0.0	-100	13.1	58	0.0	-100	0.0	-100	0.0	-100
Ludhiana	4.7	-64	10.1	90	0.0	-100	0.0	-100	6.1	222
Mansa	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Moga	6.2	-56	6.0	67	0.0	-100	0.0	-100	0.5	-44
Muktesar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nawashahar	5.4	-55	4.0	-52	0.0	-100	0.0	-100	3.0	58
Patiala	0.0	-100	3.7	-33	0.0	-100	0.0	-100	1.0	-54
Ropar	5.2	-33	3.5	-31	0.0	-100	0.0	-100	3.6	38
Sangrur	0.0	-100	6.4	19	0.0	-100	0.0	-100	1.0	-44
Mohali	10.0	28	4.0	-38	0.0	-100	0.0	-100	2.0	-23
TarnTaran	0.0	-100	28.7	616	0.0	-100	0.0	-100	0.0	-100
Haryana										
Ambala	5.0	-70	3.7	-60	0.0	-100	0.0	-100	5.6	370
Bhiwani	0.0	-100	9.5	333	0.0	-100	0.0	-100	0.0	-97
Chandigarh	17.7	6	5.6	-14	0.0	-100	0.0	-100	12.9	257
Faridabad	0.0	-100	1.3	-64	0.0	-100	0.0	-100	0.0	-100
Fatehabad	0.8	-87	1.0	-38	0.0	-100	0.0	-100	0.0	-100
Gurgaon	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Hissar	1.0	-85	0.4	-68	0.0	-100	0.0	-100	0.0	-100
Jhajar	0.3	-92	1.0	-44	0.0	-100	0.0	-100	0.0	-100
Jind	0.0	-100	2.2	-2	0.0	-100	0.0	-100	0.0	-100
Katihah	0.0	-100	6.3	69	0.0	-100	0.0	-100	0.8	-60
Karnal	0.0	-100	17.2	173	0.0	-100	0.0	-100	0.6	-73
Kurukshetra	0.0	-100	7.7	51	0.0	-100	0.0	-100	0.0	-100
Mahendragarh	0.0	-100	0.1	-96	0.0	-100	0.0	-100	0.0	-100
Mewat	0.0	-100	15.0	456	0.0	-100	0.0	-100	0.0	-100
Palwal	0.0	-100	17.8	224	0.0	-100	0.0	-100	0.0	-100
Panchkkula	17.5	165	0.5	-92	0.0	-100	0.0	-100	6.7	251
Panipat	1.4	-85	16.2	252	0.0	-100	0.0	-100	1.0	-58
Rewari	0.0	-100	44.2	5425	0.0	-100	0.0	-100	0.0	-100
Rohtak	0.0	-100	17.0	639	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	39.4	604	0.0	-100	0.0	-100	0.0	-100
Yamunanagar	1.5	-90	14.2	45	0.0	-100	0.0	-100	7.8	169
Delhi	0.7	-93	40.1	832	0.0	-100	0.0	-100	0.4	-68

Jammu & Kashmir										
Anantnag	0.0	-100	18.5	81	0.3	-97	0.0	-100	23.1	157
Badgam	0.0	-100	11.0	67	0.0	-100	0.0	-100	4.1	-53
Bandipore	**	**	**	**	**	**	**	**	**	**
Baramula	0.7	-90	15.9	123	3.5	-77	0.0	-100	14.8	-1
Doda	0.8	-92	21.4	100	0.0	-100	0.0	-100	16.8	113
Ganderwal	0.0	-100	18.4	212	0.0	-100	0.0	-100	22.2	231
Jammu	47.9	405	27.5	644	0.0	-100	0.0	-100	2.2	69
Kargil	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kathua	144.0	714	4.1	-20	0.0	-100	0.0	-100	2.8	250
Kistwar	**	**	**	**	**	**	**	**	**	**
Kulgam	0.0	-100	14.0	37	0.5	-95	0.0	-100	12.4	38
Kupwara	0.0	-100	9.6	-32	0.0	-100	1.0	-93	17.3	33
Ladakh(Leh)	0.0	-100	0.6	-57	0.0	-100	0.0	-100	0.0	-100
Poonch	0.0	-100	22.3	243	2.3	15	0.0	-100	0.0	-100
Pulwama	0.0	-100	0.3	-92	0.0	-100	0.0	-100	8.2	82
Rajouri	11.5	-7	3.5	-40	0.0	-100	0.0	-100	0.2	100
Ramban	0.0	-100	11.3	6	0.0	-100	0.0	-100	9.8	24
Reasi	71.0	330	58.4	446	0.0	-100	0.0	-100	6.0	50
Samba	13.2	39	15.8	327	0.0	-100	0.0	-100	2.1	62
Shopian	0.0	-100	23.0	435	0.0	-100	0.0	-100	10.0	122
Srinagar	0.0	-100	13.1	122	0.0	-100	0.0	-100	11.4	70
Udhampur	1.3	-92	54.8	412	0.0	-100	0.0	-100	3.9	-3
East Madhya Pradesh										
Anuppur	115.8	460	17.8	100	0.0	-100	36.0	634	0.0	-100
Balaghat	50.2	134	31.4	202	0.0	-100	7.2	-9	0.0	-100
Chhatarpur	122.7	593	8.5	27	0.0	-100	0.0	-100	0.0	-100
Chindwara	111.8	577	31.9	184	0.0	-100	3.1	-26	0.0	-100
Damoh	62.2	364	18.1	130	0.0	-100	0.0	-100	0.0	-100
Dindori	33.9	171	0.0	-100	0.0	-100	28.0	306	0.0	-100
Jabalpur	68.2	398	3.0	-63	0.0	-100	11.1	455	0.0	-100
Katni	64.5	451	2.0	-78	0.0	-100	0.0	-100	0.0	-100
Mandla	87.2	518	12.9	65	0.0	-100	4.4	-5	0.0	-100
Narsingpur	62.4	369	65.2	873	0.0	-100	0.2	-86	0.0	-100
Panna	193.8	1142	2.5	-56	0.0	-100	0.0	-100	0.0	-100
Rewa	114.0	555	11.2	180	0.0	-100	5.6	833	0.0	-100
Sagar	44.0	190	4.3	-45	0.0	-100	0.2	-93	0.0	-100
Satna	135.7	645	6.6	19	0.0	-100	0.0	-100	0.0	-100
Seoni	115.8	633	6.9	-38	0.0	-100	1.5	-65	0.0	-100
Shahdol	50.5	234	17.0	198	0.0	-100	3.0	-32	0.0	-100
Sidhi	54.4	191	19.0	222	0.0	-100	2.9	32	0.0	-100
Singrauli	24.0	24	35.5	810	0.0	-100	8.0	627	0.0	-100
Tikamgarh	94.5	605	9.3	17	0.0	-100	0.0	-100	0.0	-100
Umaria	29.2	54	5.5	-30	0.0	-100	4.2	56	0.0	-100
West Madhya Pradesh										
Alirajpur	48.5	276	22.4	143	0.0	-100	0.0	-100	0.0	-100
Asoknagar	115.3	1076	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Badwani	11.9	3	9.6	-28	0.0	-100	0.0	-100	0.0	-100
Betul	51.3	204	31.7	79	0.0	-100	2.7	-37	0.0	-100

Bhind	79.7	366	19.5	33	0.0	-100	0.0	-100	0.0	-100
Bhopal	25.9	116	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Burhanpur	23.1	53	41.3	124	0.0	-100	0.0	-100	0.0	-100
Datia	75.0	291	1.4	-90	0.0	-100	0.0	-100	0.0	-100
Dewas	36.5	157	6.6	-44	0.0	-100	0.0	-100	0.0	-100
Dhar	56.2	267	18.8	65	0.0	-100	0.0	-100	0.0	-100
Guna	36.1	123	11.8	202	0.0	-100	0.0	-100	0.0	-100
Gwalior	58.5	215	15.1	7	0.0	-100	0.0	-100	0.0	-100
Harda	31.2	92	34.7	159	0.0	-100	0.0	-100	0.0	-100
Hosangabad	30.3	120	11.6	-3	0.0	-100	4.9	123	0.0	-100
Indore	73.5	287	35.2	346	0.0	-100	0.0	-100	0.0	-100
Jhabua	70.3	563	7.5	-40	0.0	-100	0.0	-100	0.0	-100
Khandwa	6.5	-57	20.5	83	0.0	-100	0.0	-100	0.0	-100
Khargone	10.7	-27	29.8	273	0.0	-100	0.0	-100	0.0	-100
Mandsaur	17.8	2	12.2	53	0.0	-100	0.0	-100	0.0	-100
Morena	57.0	371	15.0	70	0.0	-100	0.0	-100	0.0	-100
Neemuch	8.2	-48	15.3	113	0.0	-100	0.0	-100	0.0	-100
Raisen	57.1	329	12.4	36	0.0	-100	0.0	-100	0.0	-100
Rajgarh	44.4	308	1.3	-86	0.0	-100	0.0	-100	0.0	-100
Ratlam	61.8	220	17.4	39	0.0	-100	0.0	-100	0.0	-100
Sehore	15.1	12	7.5	-34	0.0	-100	0.0	-100	0.0	-100
Shajapur	31.3	104	4.0	-57	0.0	-100	0.0	-100	0.0	-100
Sheopur Kalani	20.7	43	30.0	341	2.0	-51	0.0	-100	0.0	-100
Shivpuri	51.5	239	0.8	-91	0.0	-100	2.3	221	0.0	-100
Ujjain	41.6	157	11.3	0	0.0	-100	0.0	-100	0.0	-100
Vidisha	17.9	79	1.6	-74	0.0	-100	1.5	-21	0.0	-100
Chattisgarh										
Bastar	10.2	-65	15.2	-11	38.2	232	60.1	401	0.0	-100
Bijapur	33.3	0	45.0	107	7.8	-46	126.3	1229	0.0	-100
Bilaspur	174.1	717	19.2	199	3.7	-69	30.3	283	0.0	-100
Dantewara	10.3	-69	36.0	79	42.4	165	110.3	931	0.0	-100
Dhamtari	115.8	459	5.6	-49	25.4	142	39.4	418	0.0	-100
Durg	65.6	208	52.1	460	1.0	-90	19.8	164	0.0	-100
Janjgir	78.8	501	30.5	349	1.8	-81	20.9	227	0.0	-100
Jashpurnagar	43.6	74	103.8	631	2.6	-77	3.8	-69	0.0	-100
Kanker	74.0	226	45.7	213	16.3	14	38.8	234	0.0	-100
Korba	98.0	508	18.5	146	0.0	-100	22.1	427	0.0	-100
Koriya	44.0	368	31.8	412	5.0	-18	41.2	1548	0.0	-100
Kawardha	63.0	151	74.0	663	0.0	-100	58.0	695	0.0	-100
Mahasumund	42.3	127	23.3	97	0.5	-93	8.7	21	0.0	-100
Narayanpur	33.7	20	31.2	38	7.3	-34	35.1	200	0.0	-100
Raigarh	87.3	439	21.9	81	0.0	-100	3.8	-55	0.0	-100
Raipur	62.2	255	10.4	-14	17.9	84	10.9	60	0.0	-100
Rajandgaon	52.6	119	32.9	210	12.8	3	46.7	484	0.0	-100
Surguja	39.7	132	35.5	299	1.3	-87	14.0	129	0.0	-100
East Uttar Pradesh										
Allahabad	168.0	839	44.2	474	6.1	14	0.0	-100	0.0	-100
Ambedkar Nagar	80.0	340	73.0	602	1.0	-88	0.0	-100	0.0	-100
Azamgarh	77.0	267	71.3	850	3.5	-45	0.0	-100	0.0	-100

Bahraich	23.7	-8	8.6	-42	0.5	-90	0.0	-100	0.0	-100
Ballia	60.3	277	55.2	416	42.6	536	0.0	-100	0.0	-100
Balrampur	24.7	-45	29.0	110	0.8	-89	0.0	-100	0.0	-100
Banda	114.5	598	5.8	-51	0.0	-100	0.0	-100	0.0	-100
Barabanki	25.3	18	9.0	-47	0.0	-100	0.0	-100	0.0	-100
Basti	75.7	288	51.0	227	2.7	-52	0.0	-100	0.0	-100
Chandauli	25.0	57	44.2	750	0.0	-100	0.0	-100	0.0	-100
Deoria	86.5	215	106.8	853	36.0	490	0.0	-100	0.0	-100
Faizabad	35.7	47	5.5	-53	0.5	-95	0.0	-100	0.0	-100
Farrukhabad	30.9	22	7.1	-46	0.0	-100	0.0	-100	0.0	-100
Fatehpur	43.6	177	17.4	11	0.0	-100	0.0	-100	0.0	-100
Gazipur	95.3	325	102.3	1117	16.9	138	0.0	-100	0.0	-100
Gonda	118.3	311	6.7	-59	0.3	-95	0.0	-100	0.0	-100
Gorakhpur	63.6	97	92.2	396	3.0	-67	0.0	-100	0.0	-100
Hardoi	27.1	8	6.6	-68	0.0	-100	0.0	-100	0.0	-100
Jaunpur	79.4	403	46.8	508	21.7	456	0.0	-100	0.0	-100
Kannauj	56.6	87	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kanpur City	88.7	253	3.5	-82	0.0	-100	0.0	-100	0.0	-100
Kanpur Dehat	57.3	148	1.3	-89	0.0	-100	0.0	-100	0.0	-100
Kaushambi	59.6	314	10.9	-9	0.0	-100	0.0	-100	0.0	-100
Kheri	22.0	-37	11.9	-32	0.0	-100	5.3	2550	0.0	-100
Kushi nagar	40.5	17	53.0	172	0.0	-100	0.0	-100	0.0	-100
Lucknow	31.2	33	10.3	-39	0.0	-100	0.0	-100	0.0	-100
Maharajganj	7.2	-80	94.1	390	0.0	-100	0.0	-100	0.0	-100
Mau	71.0	229	46.0	304	22.5	341	0.0	-100	0.0	-100
Mirzapur	79.8	422	53.1	589	10.9	153	0.0	-100	0.0	-100
Pratapgarh	67.9	392	28.0	172	6.0	-6	0.0	-100	0.0	-100
RaiBareilly	40.4	67	18.4	-7	4.0	-38	0.0	-100	0.0	-100
Sahuji Maharajnagar	91.5	310	8.0	3	0.0	-100	0.0	-100	0.0	-100
Sant Kabirnnagar	45.0	82	96.0	674	2.0	-68	0.0	-100	0.0	-100
Sant Ravidas Nagar	116.0	630	63.0	1112	12.0	380	0.0	-100	0.0	-100
Shrawasti	17.2	-33	19.2	28	0.0	-100	**	**	**	**
Sidharthnagar	14.3	-57	41.1	184	0.1	-98	0.0	-100	0.0	-100
Sitapur	22.2	-29	1.1	-92	0.0	-100	0.0	-100	0.0	-100
Sonbhadra	62.3	292	48.0	713	0.0	-100	0.3	-87	0.0	-100
Sultanpur	33.8	110	7.9	-53	10.8	44	0.0	-100	0.0	-100
Unnao	92.9	302	7.8	-66	0.0	-100	0.0	-100	0.0	-100
Varanasi	91.4	405	49.2	478	13.8	253	0.0	-100	0.0	-100
West Uttar Pradesh										
Agra	71.3	514	12.0	106	0.0	-100	0.0	-100	0.0	-100
Aligarh	9.5	-42	26.9	169	0.0	-100	0.0	-100	0.0	-100
Auraiya	23.0	7	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Badaun	45.6	56	4.4	-73	0.0	-100	0.0	-100	0.0	-100
Baghpat	0.0	-100	57.8	1652	0.0	-100	0.0	-100	0.0	-100
Bareilly	33.1	18	12.5	-27	0.0	-100	0.0	-100	0.0	-100
Bijnor	1.5	-90	38.8	300	0.0	-100	0.0	-100	0.0	-100
Bulandsahar	6.8	-56	12.7	74	0.0	-100	0.0	-100	0.0	-100
Etah	47.7	155	5.3	-60	0.0	-100	0.0	-100	0.0	-100
Etawah	15.0	-32	2.0	-86	0.0	-100	0.0	-100	0.0	-100

Firozabad	68.6	246	4.6	-45	0.0	-100	0.0	-100	0.0	-100
GBNagar	0.0	-100	17.0	68	0.0	-100	0.0	-100	0.0	-100
Ghaziabad	0.0	-100	4.5	-42	0.0	-100	0.0	-100	0.0	-100
Hamirpur	103.5	448	1.0	-86	0.0	-100	0.0	-100	0.0	-100
Jalaun	122.7	401	18.7	54	0.0	-100	0.0	-100	0.0	-100
Jhansi	149.7	656	7.9	-19	0.0	-100	0.0	-100	0.0	-100
Jotirba Phule Nagar	0.0	-100	17.0	40	0.0	-100	0.0	-100	0.0	-100
Kanshiramnagar	84.0	270	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Lalitpur	84.5	422	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mahamaya Nagar	23.5	112	25.0	160	0.0	-100	0.0	-100	0.0	-100
Mahoba	64.4	491	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mainpuri	59.5	169	6.6	-38	0.0	-100	0.0	-100	0.0	-100
Mathura	31.3	192	3.0	-50	0.0	-100	0.0	-100	0.0	-100
Meerut	0.0	-100	56.4	781	0.0	-100	0.0	-100	0.0	-100
Moradabad	6.1	-67	31.0	152	0.0	-100	0.0	-100	0.0	-100
Muzzaffarnagar	0.0	-100	65.4	891	0.0	-100	0.0	-100	0.0	-100
Pilibhit	26.7	-29	7.3	-45	0.0	-100	0.0	-100	0.0	-100
Rampur	6.4		21.5	79	0.0	-100	0.0	-100	0.0	-100
Saharanpur	2.7	-84	69.3	670	0.0	-100	0.0	-100	0.0	-100
Shahjahanpur	15.7	-51	17.4	4	0.0	-100	0.0	-100	0.0	-100
Uttarakhand										
Almora	10.6	-53	2.4	-85	0.0	-100	0.0	-100	0.0	-100
Bageshwar	5.5	-75	2.2	-86	2.0	-59	0.0	-100	0.0	-100
Chamoli	1.3	-90	9.2	-37	0.3	-96	0.0	-100	0.0	-100
Champawat	15.0	-33	20.5	-37	0.0	-100	0.0	-100	0.0	-100
Dehradun	31.2	13	0.8	-96	3.0	-50	0.0	-100	0.4	-93
Garhwal Pauri	0.0	-100	0.7	-96	0.0	-100	0.0	-100	0.0	-100
Garhwal Tehri	0.2	-99	0.2	-99	2.7	-65	0.0	-100	0.7	-83
Haridwar	0.0	-100	22.7	203	0.0	-100	0.0	-100	0.0	-100
Nainital	5.0	-84	8.7	-69	0.0	-100	0.0	-100	0.0	-100
Pithorgarh	4.5	-79	12.4	-45	2.8	-59	0.0	-100	0.0	-100
Rudraprayag	0.9	-96	1.8	-88	1.0	-77	0.0	-100	0.0	-100
Udham Sing Nagar	11.7	-56	54.3	148	0.0	-100	0.0	-100	0.8	-50
Uttarkashi	11.0	-54	18.2	22	9.0	33	0.7	-90	0.0	-100
Bihar										
Araria	62.4	79	169.2	944	0.0	-100	0.0	-100	0.0	-100
Arwal	11.4	2	143.2	1810	0.0	-100	0.0	-100	0.0	-100
Aurangabad	43.8	170	71.2	748	0.0	-100	2.3	-54	0.0	-100
Banka	81.8	126	184.6	1083	14.0	57	21.4	219	0.0	-100
Begusarai	20.0	-7	199.7	1838	3.0	-79	0.0	-100	0.0	-100
Bhabua	28.8	50	52.6	611	0.7	-85	0.0	-100	0.0	-100
Bhagalpur	15.1	-55	235.0	1143	44.3	195	42.6	847	6.8	70
Bhojpur	55.9	144	173.4	2308	66.6	1181	0.0	-100	0.0	-100
Buxar	43.2	29	105.2	1518	0.4	-92	0.0	-100	0.0	-100
Darbhanga	62.4	90	143.5	1349	4.8	-36	0.0	-100	0.0	-100
East Champaran	92.4	137	112.8	667	22.4	220	0.0	-100	0.0	-100
Gaya	33.2	51	111.6	1495	1.0	-89	6.1	1	0.0	-100
Gopalganj	95.3	278	81.5	758	53.5	430	0.0	-100	0.0	-100
Jahanabad	8.1	-48	99.5	1099	0.0	-100	0.0	-100	0.0	-100

Jamui	14.9	-50	153.9	1215	26.1	129	17.1	287	0.0	-100
Kathihar	14.9	-58	282.1	2193	20.8	70	6.7	110	1.2	-66
Khagadia	21.6	-34	124.1	848	0.4	-98	0.2	-95	1.6	-16
Kishanganj	22.8	-32	98.6	309	0.0	-100	0.0	-100	0.0	-100
Lakhisarai	5.0	-83	75.0	440	0.0	-100	0.0	-100	0.0	-100
Madhepura	41.7	19	259.9	1692	0.0	-100	0.4	-83	6.0	131
Madhubani	74.8	117	108.6	634	7.5	-56	0.0	-100	0.0	-100
Monghyar	5.5	-81	167.8	1107	0.0	-100	2.8	-53	3.2	39
Muzaffarpur	80.5	145	123.4	828	26.9	327	0.0	-100	0.0	-100
Nalanda	23.0	0	123.3	1544	16.9	94	0.0	-100	0.0	-100
Nawada	25.0	-5	95.7	1067	2.5	-70	15.3	104	0.0	-100
Patna	27.1	0	129.1	1042	32.5	460	0.0	-100	0.0	-100
Purnea	8.0	-79	203.2	1211	1.8	-88	12.6	688	0.0	-100
Rohtas	36.9	65	72.7	870	0.0	-100	0.0	-100	0.0	-100
Saharsha	10.4	-70	132.2	818	0.0	-100	0.0	-100	0.0	-100
Samstipur	26.5	-24	169.5	1595	18.3	358	0.0	-100	0.0	-100
Saran	62.9	145	103.3	903	86.0	1079	0.0	-100	0.0	-100
Sheikpura	11.0	-58	113.3	930	7.7	-35	0.7	-76	0.0	-100
Sheohar	89.6	195	59.2	345	13.6	19	0.0	-100	0.0	-100
Sitamarhi	36.3	19	97.2	631	17.0	49	0.0	-100	0.0	-100
Siwan	133.2	770	102.0	1278	147.7	1723	0.0	-100	0.0	-100
Supaul	45.0	22	126.4	920	0.0	-100	0.0	-100	0.0	-100
Vaishali	50.4	49	97.8	743	24.5	158	0.0	-100	0.0	-100
West Champaran	25.6	7	110.5	542	5.9	-39	0.0	-100	0.0	-100
Jharkhand										
Bokaro	38.1	16	221.8	1182	15.2	48	39.1	483	0.0	-100
Chatra	71.2	175	67.3	774	7.7	-5	23.4	655	0.0	-100
Deoghar	19.2	-32	0.0	-100	3.9	-74	24.9	168	0.0	-100
Dhanbad	49.0	25	151.4	877	3.3	-79	41.5	400	0.0	-100
Dumka	68.8	35	0.0	-100	**	**	**	**	**	**
East Singbhum	34.7	53	155.7	873	15.8	18	102.1	1757	0.0	-100
Garhwa	28.0	43	46.9	178	6.0	28	5.0	72	0.0	-100
Giridih	82.0	152	136.4	1086	3.0	-76	18.0	210	0.0	-100
Godda	24.8	-22	194.8	1125	14.9	-22	27.3	876	0.0	-100
Gumla	88.8	267	136.7	951	**	**	**	**	**	**
Hazaribagh	54.9	109	124.8	1035	14.9	-38	8.1	1	0.0	-100
Jamtara	60.2	15	112.9	689	2.8	-87	44.0	358	0.0	-100
Khunti	17.5	-35	137.0	735	30.0	216	56.0	657	0.0	-100
Koderrna	38.8	6	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Latehar	98.5	316	80.5	730	0.0	-100	16.5	162	0.0	-100
Lohardagga	49.5	110	79.5	803	7.6	-42	22.0	323	0.0	-100
Pakur	70.4	25	196.8	484	8.0	-65	142.5	1150	0.0	-100
Palamau	63.3	286	113.7	864	2.0	-67	13.7	217	0.0	-100
Ramgarh	64.4	110	123.4	964	1.0	-92	13.2	181	0.0	-100
Ranchi	43.3	81	120.3	697	6.2	-59	23.6	136	0.0	-100
Sahebganj	72.6	103	0.0	-100	0.0	-100	32.8	315	0.0	-100
Saraikela	17.3	-30	3.0	-78	0.0	-100	59.4	1349	0.0	-100
Simdega	53.5	143	119.6	813	0.0	-100	**	**	**	**
West Singbhum	71.5	215	224.8	1222	0.0	-100	63.5	1196	0.0	-100

East Rajasthan										
Ajmer	0.0	-100	9.5	375	0.0	-100	0.0	-100	0.0	-100
Alwar	**	**	20.8	372	0.0	-100	0.0	-100	0.0	-100
Banswara	28.7	178	7.2	-19	0.0	-100	0.0	-100	0.0	-100
Baran	31.8	208	0.5	-93	0.0	-100	0.0	-100	0.0	-100
Bharatpur	28.3	272	2.3	-60	0.0	-100	0.0	-100	0.0	-100
Bhilwara	0.3	-93	1.7	-33	0.0	-100	0.0	-100	0.0	-100
Bundi	12.7	78	18.8	214	0.0	-100	0.0	-100	0.0	-100
Chittorgarh	5.9	-23	5.9	20	0.0	-100	0.0	-100	0.0	-100
Dausa	0.2	-97	26.6	478	0.0	-100	0.0	-100	0.0	-100
Dholpur	115.8	1216	13.3	13	0.0	-100	0.0	-100	0.0	-100
Dungarpur	53.1	717	10.8	134	0.0	-100	0.0	-100	0.0	-100
Jaipur	0.0	-99	14.9	365	0.0	-100	0.0	-100	0.0	-100
Jhalawar	27.2	155	3.5	-65	0.0	-100	0.0	-100	0.0	-100
Jhunjhunu	0.0	-100	8.4	265	0.0	-100	0.0	-100	0.5	-34
Karauli	0.3	-95	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kota	51.0	530	8.2	-23	0.0	-100	0.0	-100	0.0	-100
Pratapgarh	46.8	169	11.0	57	0.0	-100	0.0	-100	0.0	-100
Rajsamand	16.9	356	4.7	68	0.0	-100	0.0	-100	0.0	-100
Sawai Madhopur	12.5	24	0.4	-93	0.0	-100	0.0	-100	0.0	-100
Sikar	0.4	-91	8.1	329	0.0	-100	0.0	-100	0.0	-100
Sirohi	67.4	2148	22.6	630	0.0	-100	0.0	-100	0.0	-100
Tonk	1.6	-73	8.7	90	0.0	-100	0.0	-100	0.0	-100
Udaipur	6.4	18	26.5	615	0.0	-100	0.0	-100	0.0	-100
West Rajasthan										
Barmer	5.1	361	4.5	457	0.0	-100	0.0	-100	0.0	-100
Bikaner	0.0	-100	1.7	108	0.0	-100	0.0	-100	0.0	-100
Churu	6.2	48	0.1	-94	0.0	-100	0.0	-100	0.1	-91
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	13.6	1034	18.6	1142	0.0	-100	0.0	-100	0.0	-100
Jodhpur	0.4	-70	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nagaur	1.4	-52	10.1	1022	0.0	-100	0.0	-100	0.0	-100
Pali	10.7	312	4.7	74	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	52.5	540	8.0	63	0.0	-100	0.0	-100	0.3	-78
Anand	18.6	205	1.1	-84	0.0	-100	0.0	-100	0.3	-86
Banaskantha	46.8	1238	27.7	432	0.0	-100	0.0	-100	0.0	-100
Baroda	32.0	213	8.5	1	0.0	-100	0.0	-100	0.0	-100
Broach	37.2	284	3.5	-39	0.2	-84	0.0	-100	0.0	-100
DNH	17.4	85	62.7	465	21.0	176	0.0	-100	0.0	-100
Dahod	20.1	69	12.1	50	0.0	-100	0.0	-100	0.0	-100
Daman	63.8	579	9.0	-19	0.0	-100	0.0	-100	0.0	-100
Dangs	25.8	29	15.3	-26	3.3	-68	0.0	-100	0.0	-100
Gandhinagar	54.7	693	14.4	167	0.3	-89	0.0	-100	0.8	-20
Kheda	37.6	453	4.3	-18	0.0	-100	0.0	-100	0.0	-100
Mehsana	40.5	523	19.6	232	0.0	-100	0.0	-100	0.0	-100
Narmada	36.1	268	10.0	8	0.0	-100	0.0	-100	0.0	-100

Navsari	31.7	138	8.7	-29	0.0	-100	0.0	-100	0.0	-100
Panchmahal	36.7	358	8.3	4	0.1	-97	0.1	-93	0.0	-100
Patan	42.0	1034	9.8	324	0.0	-100	0.0	-100	0.0	-100
Sabarkantha	35.3	326	30.6	386	0.0	-100	0.0	-100	0.0	-100
Surat	33.5	199	15.8	86	0.0	-100	0.0	-100	0.0	-100
Tapi	26.6	221	30.0	417	0.0	-100	0.0	-100	0.0	-100
Valsad	32.8	119	24.5	76	0.0	-99	0.0	-100	0.0	-100
S K & Diu region										
Amreli	52.0	752	31.8	405	0.0	-100	0.0	-100	0.0	-100
Bhavnagar	23.6	252	22.1	206	0.0	-100	0.1	-98	0.1	-95
Diu	82.6	1080	13.0	-23	0.0	-100	0.0	-100	0.0	-100
Jamnagar	0.1	-98	17.1	167	0.0	-100	0.0	-100	0.0	-100
Junagarh	36.4	461	12.6	73	0.0	-100	0.0	-100	0.0	-100
Kutch	2.7	8	7.3	16	0.0	-100	0.0	-100	0.0	-100
Porbandar	26.4	355	7.3	86	0.0	-100	0.0	-100	0.0	-100
Rajkot	19.4	146	9.1	40	0.0	-100	0.0	-100	0.0	-100
Surendranagar	17.3	128	2.8	-42	0.0	-100	0.0	-100	0.0	-100
Maharashtra										
Konkan & Goa										
Goa	98.6	74	22.2	-3	18.9	-43	41.6	94	0.0	-100
Mumbai	23.5	-34	34.1	97	8.6	-9	0.0	-100	0.0	-100
Raigad	46.5	2	30.9	16	5.6	-65	22.6	179	2.2	-55
Ratnagiri	190.9	252	35.1	20	12.5	-47	16.5	36	0.3	-96
Sindhudurg	80.1	52	16.4	-37	17.4	-31	12.0	-33	0.0	-100
Thane	47.3	46	45.3	98	9.2	-19	0.0	-100	0.0	-100
Madhya Maharashtra										
Ahmednagar	26.6	9	41.5	113	0.6	-95	3.2	-61	0.0	-100
Dhule	8.5	-51	48.5	301	0.0	-99	0.0	-100	0.0	-100
Jalgaon	20.7	27	33.6	133	0.1	-97	0.0	-100	0.0	-100
Kolhapur	15.6	-65	4.7	-79	5.7	-75	37.9	113	0.0	-100
Nandurbar	28.0	124	18.2	32	0.7	-80	0.0	-100	0.0	-100
Nasik	30.0	27	48.8	170	2.1	-78	0.0	-99	0.0	-100
Pune	12.2	-58	5.3	-70	9.0	-44	6.0	-47	0.0	-100
Sangli	2.1	-95	6.6	-68	9.0	-55	34.9	139	0.0	-100
Satara	11.9	-65	3.5	-78	5.0	-76	15.1	19	0.0	-100
Solapur	7.5	-77	13.4	-32	5.8	-67	10.5	-21	4.9	-31
Marathwada										
Aurangabad	44.2	166	40.7	118	0.0	-100	0.2	-97	0.0	-100
Beed	30.5	34	18.6	6	1.7	-89	15.1	74	0.0	-100
Hingoli	111.6	407	22.4	18	0.0	-100	2.8	-69	0.0	-100
Jalna	55.3	192	38.2	97	0.0	-100	2.6	-60	0.0	-100
Latur	45.2	43	23.5	55	0.3	-98	34.2	198	0.0	-100
Nanded	72.8	157	18.5	26	0.3	-99	18.0	71	0.0	-100
Usmanabad	15.6	-45	14.2	-28	2.4	-87	22.9	144	0.0	-100
Parbhani	60.2	135	21.3	3	0.0	-100	4.2	-42	0.0	-100
Vidarbha										
Akola	79.7	292	70.3	417	0.1	-97	3.5	-54	0.0	-100
Amraoti	62.2	214	33.9	120	0.4	-94	1.8	-69	0.0	-100
Bhandara	80.2	286	8.4	-40	0.0	-100	12.9	38	0.0	-100

Buldhana	39.9	127	27.7	71	0.3	-96	3.5	-35	0.0	-100
Chandrapur	125.3	475	25.0	123	0.1	-99	34.5	291	0.0	-100
Gadchiroli	110.9	393	28.6	91	3.4	-71	38.3	378	0.0	-100
Gondia	58.6	173	17.4	66	0.0	-100	6.7	-23	0.0	-100
Nagpur	87.4	343	17.8	45	0.6	-93	2.4	-79	0.0	-100
Wardha	83.8	286	23.6	191	0.7	-94	2.9	-68	0.0	-100
Washim	89.2	300	24.9	39	0.0	-100	0.0	-100	0.0	-100
Yeotmal	85.3	318	33.9	171	0.2	-98	9.0	3	0.0	-100
Odisha										
Angul	26.2	-6	137.3	390	39.7	117	96.1	512	0.0	-100
Balasore	87.3	62	235.1	467	58.4	101	198.2	533	0.0	-100
Bargarh	73.5	340	44.3	285	6.5	-39	13.9	162	0.0	-100
Bhadrak	69.8	64	219.6	340	125.5	408	183.3	725	0.0	-100
Bolangir	19.4	-10	63.6	361	21.6	61	43.4	302	0.0	-100
Boudh	11.5	-74	41.8	28	35.8	138	64.7	426	0.0	-100
Cuttack	52.8	16	220.7	656	108.2	408	224.4	1416	0.0	-100
Deogarh	15.1	-26	97.9	766	30.1	162	53.4	529	0.0	-100
Dhenkanal	33.3	-11	151.4	345	44.5	114	162.5	645	0.0	-100
Gajapati	12.5	-73	157.9	297	51.4	63	303.8	3898	0.0	-100
Ganjam	32.2	-45	226.4	454	110.5	123	348.4	1028	0.0	-100
Jagatsingpur	32.2	-27	158.7	368	63.4	101	223.2	1161	0.0	-100
Jajpur	56.5	17	240.0	515	78.7	312	200.9	1276	0.0	-100
Jharsuguda	42.3	69	66.5	344	5.9	-44	29.9	368	0.0	-100
Kalahandi	21.8	-26	75.2	453	36.0	161	39.5	490	0.0	-100
Kandhamal	33.6	-23	166.3	409	58.5	290	86.4	603	0.0	-100
Kendrapara	90.2	27	145.3	249	96.2	234	275.0	1395	0.0	-100
Keonjhar	46.4	45	188.7	445	26.1	17	72.4	479	0.0	-100
Khurda	26.1	-56	242.6	556	110.0	241	225.9	829	0.0	-100
Koraput	35.0	-26	26.0	-24	28.7	-14	73.9	371	0.0	-100
Malkangiri	64.4	89	3.0	-90	28.5	31	62.6	256	0.0	-100
Mayurbhanj	83.6	130	263.3	787	22.1	14	166.8	1019	0.0	-100
Nawapara	17.0	-30	24.9	106	7.5	-27	45.0	552	0.0	-100
Nawarangpur	47.1	31	17.5	-36	38.1	154	95.4	601	0.0	-100
Nayagarh	27.1	-49	244.8	521	96.1	329	324.3	1361	0.0	-100
Puri	60.3	8	245.7	494	102.4	192	162.1	387	0.0	-100
Rayagada	28.1	-29	63.9	123	47.1	100	96.5	1362	0.0	-100
Sambalpur	42.6	109	100.3	787	36.6	218	26.4	211	0.0	-100
Sonepur	31.6	52	80.0	900	18.2	102	25.9	146	0.0	-100
Sundargarh	38.6	124	73.1	397	17.6	117	21.7	294	0.0	-100
West Bengal										
GWB										
Bankura	59.7	81	121.6	511	66.6	294	93.4	502	0.0	-100
Birbhum	113.3	243	90.0	323	30.2	58	57.1	376	0.0	-100
Burdwan	83.3	180	110.1	419	48.1	157	83.1	604	0.0	-100
East Midnapore	78.2	44	70.5	64	53.1	96	171.5	472	0.0	-100
Hooghly	99.0	165	84.5	347	25.5	34	71.5	438	0.0	-100
Howrah	72.6	88	80.0	270	47.8	167	65.3	920	0.0	-100
Kolkata	114.2	134	157.0	429	28.6	-6	184.0	868	0.0	-100
Murshidabad	19.8	-53	69.0	132	18.0	4	24.0	88	0.0	-100

Nadia	47.2	107	85.1	191	15.4	48	70.5	317	0.0	-100
24 Pargana (N)	91.3	141	77.7	232	45.5	93	101.6	308	0.0	-100
Purulia	74.0	153	197.8	1011	13.9	-31	107.9	1320	0.0	-100
24 Pargana (S)	73.3	11	83.5	86	28.0	-25	133.1	261	0.3	-99
West Midnapore	96.5	179	80.8	262	26.4	59	137.2	1114	0.0	-100
SHWB										
Cooch Behar	51.9	-8	113.0	241	3.7	-87	0.5	-91	6.4	-4
Darjeeling	36.0	-19	146.2	446	16.9	-8	13.8	57	14.1	85
East Sikkim	18.3	-64	109.2	109	29.5	181	55.1	206	41.6	1199
Jalpaiguri	78.2	33	78.1	97	16.7	-49	29.3	257	6.5	63
Malda	23.9	-39	148.1	633	4.3	-75	26.5	372	2.8	-44
North Dinajpur	29.0	2	52.0	41	31.0	97	9.0	1025	**	**
North Sikkim	63.2	-28	65.8	-13	38.5	4	34.1	0	107.5	851
South Dinajpur	58.9	3	137.7	494	6.0	-52	8.2	-9	0.0	-100
South Sikkim	16.3	-68	90.7	73	9.6	-9	21.4	19	2.2	-31
West Sikkim	9.0	-90	93.7	24	23.3	-37	27.0	-21	3.2	-72
Karnataka										
Coastal Karnataka										
Dakshin Kannada	78.4	13	49.7	0	94.1	97	39.9	-14	28.0	7
Udupi	82.0	24	65.6	60	61.6	45	41.6	-5	21.6	-6
Uttar Kannada	82.3	62	25.3	-20	20.4	-24	65.3	144	12.1	4
N I Karnataka										
Bagalkote	5.6	-86	19.6	3	19.0	-6	74.1	274	0.0	-100
Belgaum	10.1	-73	9.0	-56	6.7	-73	51.4	185	0.0	-100
Bidar	51.0	62	7.2	-63	0.1	-99	58.8	250	0.1	-99
Bijapur	9.5	-75	13.9	-30	17.4	-3	45.0	114	1.4	-87
Dharwad	7.7	-79	12.1	-53	15.3	-44	34.2	93	0.0	-100
Gadag	3.3	-92	16.7	-25	12.7	-51	42.8	147	0.0	-100
Gulbarga	17.6	-55	4.9	-72	11.5	-28	37.0	91	2.4	-67
Haveri	9.1	-73	6.4	-77	8.9	-65	44.8	136	0.0	-100
Koppal	17.8	-47	22.5	19	28.2	50	75.4	297	0.0	-100
Raichur	22.1	-40	12.0	-52	25.7	36	63.7	311	0.0	-100
Yadgir	11.3	-71	18.1	-21	36.2	98	71.2	142	0.0	-100
S I Karnataka										
Bangalore Rural	55.0	6	14.2	-62	25.5	-13	40.2	49	11.2	-48
Bangalore Urban	28.6	-41	22.8	-25	20.6	-35	22.3	-9	10.1	-47
Bellary	13.5	-63	5.5	-74	46.3	120	45.6	113	7.6	-38
Chamarajnaragar	20.2	-49	1.6	-95	77.6	128	4.7	-86	10.4	-52
Chichballapur	42.8	-14	14.4	-59	37.1	37	33.3	36	6.6	-71
Chickmagalur	17.8	-60	17.4	-49	16.2	-54	17.6	-47	5.6	-70
Chitradurga	0.5	-98	5.5	-77	27.5	27	14.0	-26	1.8	-85
Davangere	5.2	-86	4.1	-86	23.2	5	34.9	70	1.1	-92
Hassan	12.9	-69	13.9	-58	34.2	9	15.3	-54	3.1	-84
Kodagu	16.0	-69	17.9	-61	80.2	94	13.5	-66	9.1	-58
Kolar	71.1	65	25.0	-29	26.3	4	26.4	2	3.5	-83
Mandya	9.6	-77	11.1	-69	50.4	69	26.8	-7	7.0	-62
Mysore	9.1	-76	13.8	-61	80.1	145	12.0	-62	8.1	-51
Ramnagara	2.5	-95	11.4	-70	55.2	63	39.1	33	6.4	-69
Shimoga	37.3	-10	22.8	-26	39.2	55	32.3	34	9.3	-19

Tumkur	5.7	-87	14.7	-51	44.3	76	27.9	5	4.3	-76
Kerala										
Alappuzha	41.5	-50	16.0	-76	100.2	28	11.6	-84	40.3	-43
Kannur	71.4	29	44.5	-7	107.2	104	75.0	58	15.2	-59
Ernakulam	66.4	-4	32.7	-51	131.7	102	72.1	4	60.8	12
Idukki	34.1	-55	40.3	-49	111.8	24	40.0	-38	33.0	-51
Kasaragod	47.7	-25	33.7	-35	59.1	25	30.8	-36	7.4	-75
Kollam	56.8	-30	36.0	-55	158.8	74	31.3	-62	36.3	-59
Kottayam	47.9	-35	33.1	-53	214.1	215	35.1	-53	41.2	-42
Kozhikode	56.9	-6	128.0	131	62.6	16	17.7	-73	27.6	-42
Malappuram	20.4	-67	30.7	-56	86.4	17	49.9	-11	68.5	25
Palakkad	10.2	-81	21.6	-64	139.1	119	56.0	-8	24.9	-56
Pathanamthitta	14.2	-81	28.6	-65	209.2	139	2.7	-97	80.9	8
Thiruvananthapuram	12.1	-79	3.6	-94	114.7	56	6.7	-89	34.4	-57
Thrissur	73.1	6	52.6	-20	153.3	121	113.7	75	37.1	-28
Wyanad	36.0	-27	11.0	-72	96.2	75	30.6	-36	18.7	-30
Tamil Nadu										
Ariyalur	7.3	-84	27.3	-20	23.5	-55	15.5	-65	28.3	217
Chennai	17.5	-58	24.0	-35	128.7	50	15.9	-79	0.0	-100
Coimbatore	6.5	-75	26.9	-13	107.9	152	10.3	-75	0.6	-89
Cuddalore	9.3	-76	51.4	27	43.2	-32	10.9	-82	21.7	39
Dharmapuri	88.9	98	22.2	-43	56.9	39	33.3	-6	2.3	-54
Dindigul	17.7	-52	26.3	-34	67.7	30	10.7	-75	10.8	20
Erode	12.7	-61	23.7	-25	84.9	104	6.7	-82	0.2	-96
Kanchipuram	17.5	-54	25.2	-31	51.2	-26	36.6	-41	0.2	-99
Kanyakumari	1.9	-95	2.7	-94	56.7	-21	10.5	-81	0.1	-99
Karikal	25.2	-31	23.1	-50	48.1	-28	17.8	-84	18.9	-42
Karur	52.9	70	22.3	-30	31.4	-20	7.0	-77	6.5	-10
Krishnagiri	62.3	35	17.3	-51	43.5	14	19.7	-39	0.3	-90
Madurai	13.4	-66	45.4	3	116.8	97	18.2	-59	3.6	-47
Nagapattinam	1.5	-96	36.9	-5	53.7	-31	14.7	-79	50.6	153
Namakkal	26.4	-28	17.7	-48	69.7	80	11.6	-64	0.8	-88
Nilgiris	24.5	-43	45.5	2	83.7	51	46.2	-19	1.1	-86
Perambalur	23.8	-46	22.0	-49	57.0	6	22.5	-40	9.0	27
Puducherry	7.3	-82	0.2	-99	49.2	-36	7.3	-92	0.4	-98
Pudukottai	35.3	9	16.8	-51	39.4	-12	11.3	-68	5.6	-8
Ramanathapuram	5.1	-78	1.4	-96	74.4	34	0.0	-100	1.9	-78
Salem	33.8	-25	9.8	-76	59.0	30	20.0	-50	4.0	-22
Sivaganga	14.7	-56	13.4	-70	114.6	129	2.0	-96	4.3	-46
Thanjavur	11.7	-66	14.5	-57	50.0	-2	14.5	-70	34.2	183
Theni	5.2	-80	24.3	-34	107.7	127	3.8	-92	6.6	3
Tirunelveli	1.3	-93	4.2	-86	49.4	-3	2.0	-96	14.9	64
Tirupur	3.3	-88	20.7	-32	77.9	82	0.0	-100	0.0	-100
Tiruvallur	44.6	13	31.5	-13	65.9	15	44.8	-21	0.0	-100
Tiruvannamalai	79.5	76	41.5	2	37.1	-29	9.0	-77	0.0	-100
Tiruvarur	7.0	-78	8.1	-78	50.7	-19	2.2	-96	21.8	51
Toothukudi	6.3	-67	3.5	-89	56.2	14	5.5	-87	7.3	-19
Trichy	20.8	-49	14.5	-61	37.1	-16	13.1	-65	15.9	141
Vellore	41.0	-2	31.9	-12	35.5	-4	27.4	-13	0.0	-100

Villupuram	30.2	-27	25.1	-28	44.4	-13	22.7	-48	2.7	-72
Virudhunagar	13.5	-59	20.8	-44	101.8	94	0.8	-98	1.1	-89
Andhra Pradesh										
Coastal Andhra Pradesh										
East Godavari	38.8	-36	30.0	-31	127.4	156	293.9	965	2.0	-92
Guntur	39.0	1	37.3	46	74.8	96	196.6	639	9.1	-69
Krishna	35.9	-20	45.1	30	72.5	69	221.6	783	1.3	-96
Nellore	11.4	-72	9.1	-75	143.4	78	59.1	-15	48.8	-49
Prakasam	24.0	-45	29.8	-3	102.7	120	189.3	348	9.4	-79
Sirkakulam	27.1	-57	102.9	164	152.0	198	366.6	845	0.0	-100
Visakhapatnam	30.9	-52	27.5	-31	104.4	107	280.1	900	0.0	-100
Vizianagram	13.2	-76	43.4	11	86.2	66	219.4	760	0.0	-100
West Godavari	52.9	-9	27.6	-36	87.6	88	173.8	506	1.3	-95
Telangana										
Adilabad	93.8	257	34.2	169	2.8	-87	30.2	144	0.0	-100
Hyderabad	10.8	-64	78.3	326	26.5	39	110.7	492	0.0	-100
Karimnagar	109.1	280	27.3	133	7.0	-64	99.8	540	0.0	-100
Khammam	42.8	10	51.5	133	21.7	15	110.2	698	0.0	-100
Mehabubnagar	30.4	0	25.2	70	33.9	108	151.0	1127	0.0	-100
Medak	43.4	54	39.1	188	9.2	-48	84.7	392	0.0	-100
Nalgonda	35.5	-1	44.1	98	42.9	108	237.3	1412	0.0	-100
Nizamabad	55.3	84	33.4	191	3.7	-83	38.8	111	0.0	-100
Rangareddy	31.5	-9	43.0	144	22.6	43	116.7	620	0.7	-90
Warangal	37.6	24	32.7	110	12.1	-26	149.3	845	16.4	52
Rayalaseema										
Anantapur	14.0	-64	2.4	-89	31.0	48	31.8	83	3.4	-79
Chittoor	60.0	42	6.0	-80	63.8	62	50.8	37	17.3	-58
Cuddapah	47.3	17	5.7	-75	94.3	178	36.2	37	7.0	-76
Kurnool	15.2	-54	6.4	-68	44.5	106	52.4	229	4.9	-60

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

Annexure III List of Varieties

Jammu & Kashmir

Toria : local toria, RSPT-1 & RSPT-2

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

Mustard :- Pusa Sarson-25, Pusa Sarson-26, PusaAgrni, PusaTaraka, PusaMahak, NPJ 112, EJ17, PusaMahak and Kanti, Maya, Rohini, PusaJaikisan, Varuna, RGN13, RGN73, Bharat Sarson-1 (NRCDR-2), Bharat Sarson-2 (NRCHB 101), Bharat Sarson-3,(NRCHB 506), Arawali, RGN48, Geeta and PBR 97, CS52, CS54, NarendraRai 1, Karan Tara, Narendra, - NRCYS-05-02, YSH401Tara, RSPR-01, RLM-514, RLM-619, Kranti, P. Gold, P. Basant.

Cabbage : Golden Acre, Pride of India and PusaMukta,

Carrot :PusaKesar,P.Yamdagani.

Turnip :PTWG).

Garlic :yamunasafedagrifoundparvati

Methi :pusa early bunching and kasurimethi.

Radish (var. P. Reshmi), carrot (var. Pusa Kesar, P.Yamdagani).

Wheat: PBW-550, PBW-502, DPW-621-50,DBW-17,Raj-3077,HD-2967, HD-2687 and RSP-303.

Chickpea: C-235,K-468,Gourav and PBG-1;Pea- AP-1, Bonnevillea, Rachna and Arkel; Chickpea-K-468, Gourav; Lentil- L-4147, L-9/12,PL-406

Rajasthan

Wheat: HD-2329, HD-2009 (Arjun), HD-2967, WH 147, PBW502, PBW 550, RAJ 1482, RAJ 3077, RAJ 3777, RAJ 376, Raj 4037 and LOK 1.

Lentil: T 36, BL 406, Sihore 74-7 and K 75

Onion:Pusa Red, ArkaNiketan, Pusa White & Local Red

Deshi carrot:PusaKeshar:

Tomato: Pusa Rubi, Pusa Early and Vihar, T-27, RTM 314

Brinjal: Pusa Summer Prolific Round, Pusa Summer Prolific Long, Meghdoot and Arka Bahar

Cauliflower: Pusa Snowball 1 and Hissar 1

Cabbage: Pusa Drum Head and Hybrid 10

Potato: late sowing var.-Kufri-Ashok and Chandramukhi, Mid sowing var.-Kufri-Anand, Chipsona-1, 2, Jyoti and Pukhraj.

Gram : RSG 44, C 235, G 130, H208, Dahod yellow, GNG 16, GNG 663 (Vardan), GNG 469 (Samrat), GNG 1581 (Gangaur), for Kabuli Chana (GNG 1449 (Gauri), GNG 1958 (Marudhar), GNG 1292), ICCV 10, RSG 888, GNG 469 and Pratap chana 1, RSG-888 (Anubhav), CSJD-884 (Aakash), RSG-2, Pusa-209, C-235, H-208.

Barley: RD- 2052, RD 2035, RD 2660, RD 2552, RD 2592, RD2503, for normal sowing DWRUB 52, DWRUB 64 (for late sowing), RD 2668, BL 2.

Toria :T-9, Sangam, TL-15.

Mustard: PR 48, T-59, Bio-902, Laxmi, Aravali, Swarna Jyoti and Vasundhara, Bio- 902, Laxmi, RH 30, Pusa bold , T 59

Lucerne: T-9, Anand-2, LLC-3, RL-88.

Cumin: RZ-19, RZ-209, RZ-223, GC-4,

Funugreek: RMT-1, RMT-143, Rajendra Kranti,

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

Uttarakhand

Pea : VL Ageti Mater-7, Vivel Mater-10, Pant Subjee Mater-3, Azad Mater-3 and Arkel.

Toria : Type -9, Pant Toria-30, Pant Toria-303, Uttara, Pant Toria-507, P.T.-303, P.T.-507,

Garlic : VL-Garlic or DARL-52.

Sugarcane : Co-238, Co-241, Co Pant, 3220, Co Pant 84211, COS-8436, COS-88230 etc. and medium to late sown varieties like Co Pant 90223, Co Pant-96219, COS-97222, COS-767, COS-1148 etc.

Wheat: VL-829, 802, 804, 892, 738, 719, HL-272, UP 2572., VL-421, HS-240, UP-1109, VL-616, HS-277, VL-829, HD 2687, PBW 343, UP 2338, HD 2329, Raj 3077, etc.

Sarson:Varun, Kanti

Masoor:Masoor-4, 5, VL masoor-1, 4, 203, pant masoor-5, VL masoor-1, VL masoor-4, VLmasoor-203

Uttar Pradesh

Toria-T-1, T-303, T-9, T-36, PT-506, PT-507, Bhawani, Pant-303,

Potato: Kuphari Chanramukhi, Kuphari Ashoka, Kuphari Bahar, Kuphari Surya, Kuphari Sutlaj, Kuphari Pukharaj

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

Bengal gram: Pusa, Shubhra

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

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

Wheat : VL-829, VL-802,VL-804,VL-892, VL-738, VL-719, HS-277, UP-2572

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.

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 ArkaMatar.
Raddish: Japanese white, Chinese pink and mino early white
Turnip :PTWG-1
Carrot :Pusa kesar
Fenugreek: I.C. 74, kasoori

Punjab

Radish: Punjab Pasand & Punjab Safed,
Turnip: L-1 & 4-white
Carrot: PC-34), potato and palak (Punjab Green).
Cauliflower: Pusa Snow ball 1 & Pusa Snow ball K-1.
Pea: Punjab 87, Punjab 88, Punjab 89 and Mithi Phali.
Raya: RLC-1, PBR-210, RLM-619, PBR-91 under irrigated conditions and PBR-97 under rainfed conditions.
Garlic: PG-17 .
Wheat: PBW 621, HD 2967, DBW-17, PBW-502, PBW-343, WH-542, and durum wheat WHD 943, PDW 291 and PDW-233 under irrigated conditions and PBW-644, PBW-527, PBW-175 under rainfed conditions.
Gram: L 552, L 550 & BG-1053.

Delhi

Wheat: H.D. 2687, H.D. 2851, H.D. 2894, H.D. 2967, D.B.W.-17
Gram: Kabuli type - Pusa 267, Pusa 1003, Pusa Chamatkar; local type – C235, Pusa 246, P.B.G. 1, Pusa 372.
Oat: J.H.O-822, O.L.-9, Pusa oat-5 and for barseem – Vardan, Buland Barseem-1, Masakavi, J.B-3
Lentil: Pusa Masoor -5 (L-4594).
Pea: Pusa Pragati, Arkel, Azad Matar-3, Pant Matar-3 and Bournville
Potato: Kufri Badshah (Late blight tolerant), Kufri Jyoti (Short duration), Kufri Alankar, Kufri Chandramukhi.
Garlic: G-1, G-41, G-50, G-282.
Carrot: Pusa Rudhira and Pusa Kesar
Sarson Saag- Pusa Saag-1; **Bathua-** Pusa Bathua-1; **Radish-** Japni White, Hill queen, French Radish; **Spinach-** All Green, Pusa Bharti;
Fenugreek- Pusa Kasuri; **Coriander-** Pant Haritama, Hybrids; **Turnip-** Pusa Swati, Local Red variety.

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.
Black Gram: JG-130, JG-315, JG-16, Jaki-9218, JG 6 and JG 11, JG-14, JG-74, JG-322, JG-01.
Chickpea: KAK-2, JGK-1, J.G-11, J.G-315.
Pulse (Masoor): RVL-31, JL-2, Jawahar Lentil 1 & 2, K-75, J.L.S-4076, J.L.S-3.
Potato: K. surya, K.khyati.
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.
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.
Mustard: Pusa Mahak, Pusa Agrani., Pusa Bold Jaggnath, Pusa Jay-Kisan, N.R.C.H.B- 506, J.M-02, 03.

Odisha

Cauliflower: Pusa Ketaki and Pusa Deepali.
Cabbage: Pride of India.
Beans: Pusa Parvati and Arka Komal.
Tomato: BT 2. BT 10, BT 12 Neeladri, Sada Bahar, Madhuri, Maharathi, Rashmi and Navin.
Mustard: Parbhathi, Anuradha, TS-29 and M-27.
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.

West Bengal

Banana: Mortoman, Chapa, Kathali, Singapuri.
Cabbage: Pride Of India, Pusa Early, Kranti.
Cauliflower: Jawhar Moti, Bharat Jyoti, Early Banaras.
Mustard: Agrani (B-54), Panchali (TWC-3), B-9, Rai-5 and Bhagirothi (RW-351) etc

Jharkhand

Potato: Kufri Ashok, Kufri Kanchan.
Green Peas: Arkel, Kashi Nandini, P.E.-6, Birsa Matar.
Horse Gram: Birsa Kulthi-1, G.H.G.-20.
Sweet potato: Birsa Sakarkand-1 and Sri Bhadra.

Toria: T-9, B.R.-23 and P.T.-303.

Mustard: Shiwani, Varuna, Pusa Bold, BR-40.

Onion: N-53, Agrifound Dark Red and 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.

Bihar

Radish: Pusa Chetki, Pusa Himani, Pusa Rashmi, Japani Saphed.

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

Sweet potato (Shakarkand): Rajendra Shakarkand 5, Rajendra Shakarkand 35, Rajendra Shakarkand 43, Rajendra Shakarkand 47, Kalmegh, Shree Bhadra and Rajendra Shakarkand 92.

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.

Mustard: Varuna, Pusa bold, Kranti.

Assam

Wheat: Sonalika, UP 262, K 7410, WH 291 and HDR-77.

Rabi maize: HQPM- 1.

Early cauliflower: Early Kunwari, Pusa Katki, Pusa Deepali, CFL- 4048, Pusa Early Synthetic, Kamaya, Suhasihi.

Mid Cauliflower: Improved Japanese, Pusa Synthetic, Pusa Snowball.

Tomato: Punjab Chhuhara, S-12, Punjab Kesri, Pusa Early Dwarf, Sioux, Pusa Ruby, VC- 48-1, Arka Abha (BWR-1), Arka Alok (BWR-5), BT-1, Bilahi-1, Bilahi-2, Trishul, Allrounder, T- 1408, T- 1458, Anup.

Cabbage: Golden Acre, Pride of India, BC- 76, Pusa Drum Head, Pusa Synthetic.

Knolkhol: White Vienna, Purple Vienna.

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

Rapeseed and mustard: M-27, TS-36, TS-38.

Pumpkin: Arka Suryamukhi, Arka chandan and local varieties.

Spinach beet: Jobner Green, All Green, S-23, Pusa Jyoti.

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

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

Manipur

Rapeseed and mustard: M-27.

Pea: Rachana.

Potato: Kufri Megha and Kufri Jyoti.

Tripura

Rabi maize: HQPM- 1.

Toria: TRC-T-1-1-5-1.

Lentil: WBL – 58.

Maharashtra

Gram (Irrigated): Vikas, Vishwas, Phule G 12, Vijay, Vishal, Virat for Madhya Maharashtra and Akash, Vikas, Vishwas and Vijay for Marathwada.

Preseasonal sugarcane: CO.740, CO.7219 (Sanjivani), CO.88121 (Krishna), CO.8014 (Mahalaxmi), CO.86032 (Nira), CO.94012 (Phule Savitri), CO.M.0265 (Phule 265), CO.V.S.I.9805, CO.C.671 for Madhya Maharashtra and CO.94012, CO-86032, CO.V.S.I.9805, CO-C-671, Co-8014 for Marathwada.

Wheat: NIAW-301, NIAW-917 and NIDW-295 (for Madhya Maharashtra).

Gujarat

Wheat: GW-366, GW-496, GW-273, GW-322,OR GW-503.

Chick pea (unirrigated): Gujarat Chana-2.

Chick pea (irrigated): Gujarat Chana-3, Gujarat Chick Pea-1, Dahod Pila, ICC-4.

Mustard: Varuna, Gujarat Mastard 1 or 2 or 3.

Garlic: Gujarat Garlic-4 or Local.

Cabbage: Kranti, Golden Acre, Pride of India, Coppen Market.

Cauliflower: Pusa Early, Pusa Dipali , Pusa Kartiki, Early Kuvari (for early maturity), Pusa Synthetic, Early Snowball, Snowball (for medium duration).

Brinjal: Guj. Brinjal-6, P.L.R. 1, Junagadh Lambagoal, Mahicco- 11, 16.

Onion: Pusa Red, Nashik Lal, N 53 & H 48.

Raddish: Pusa Hemadri, White ICL, Japanees White, Pusa Rashmi, Pusa Chetaki.**Brinjal:** Guj. Brinjal-6, P.L.R. 1, Junagadh Lambagoal, Mahicco- 11, 16.

Onion: Pusa Red, Nashik Lal, N 53 & H 48.

Raddish: Pusa Hemadri, White ICL, Japanees White, Pusa Rashmi , Pusa Chetaki.
