

National Agromet Advisory Service Bulletin

Friday 06th December 2013

(For the period 6th to 10th December 2013)



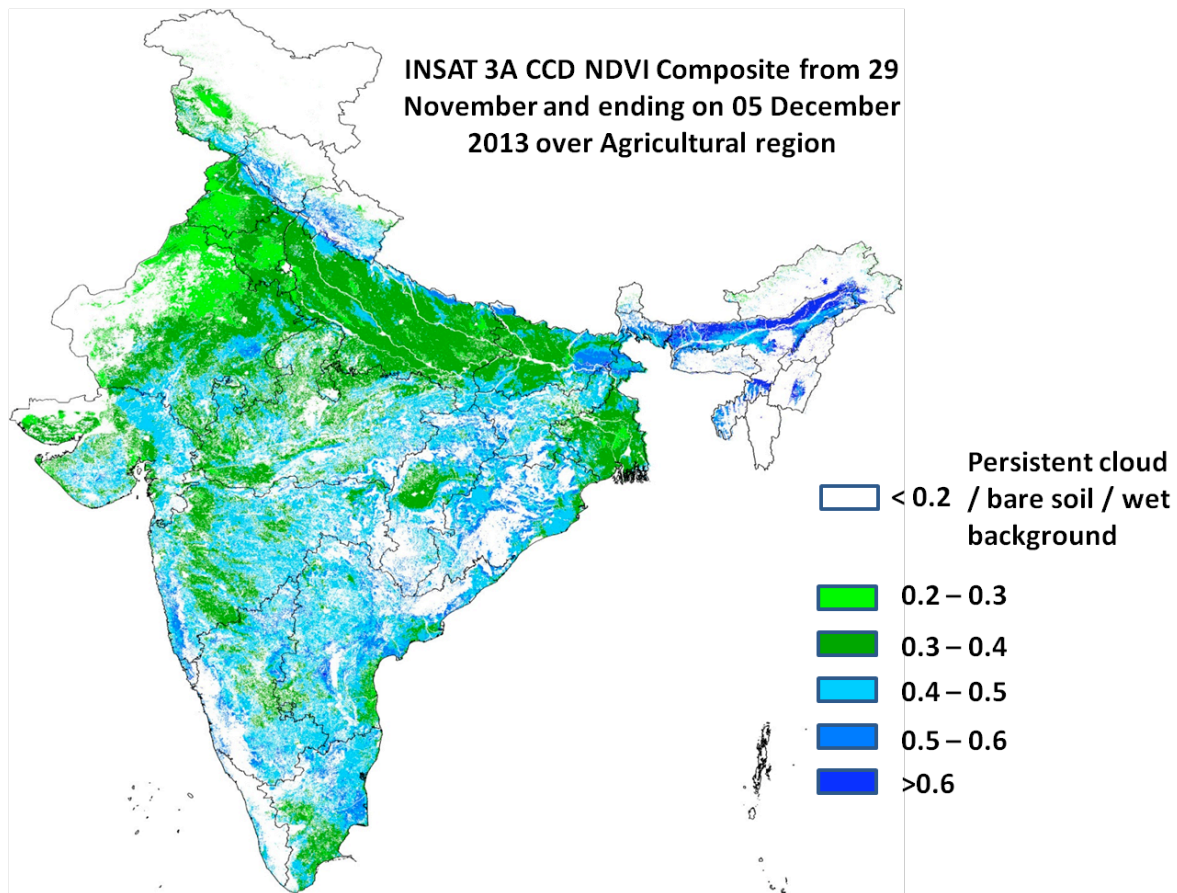
Issued by

National Agrometeorological Advisory Service Centre,

Agricultural Meteorology Division,

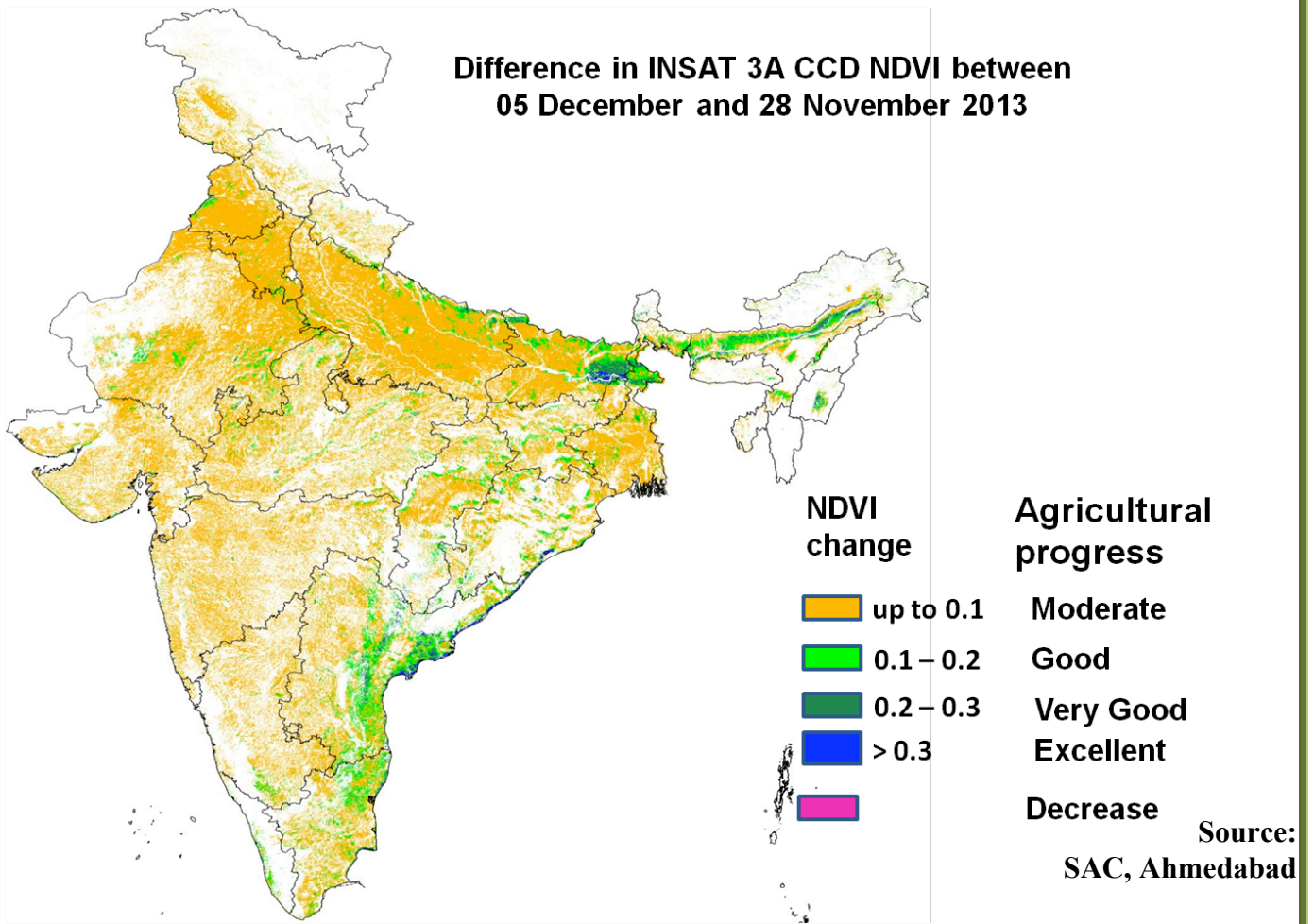
India Meteorological Department, Shivajinagar, Pune.



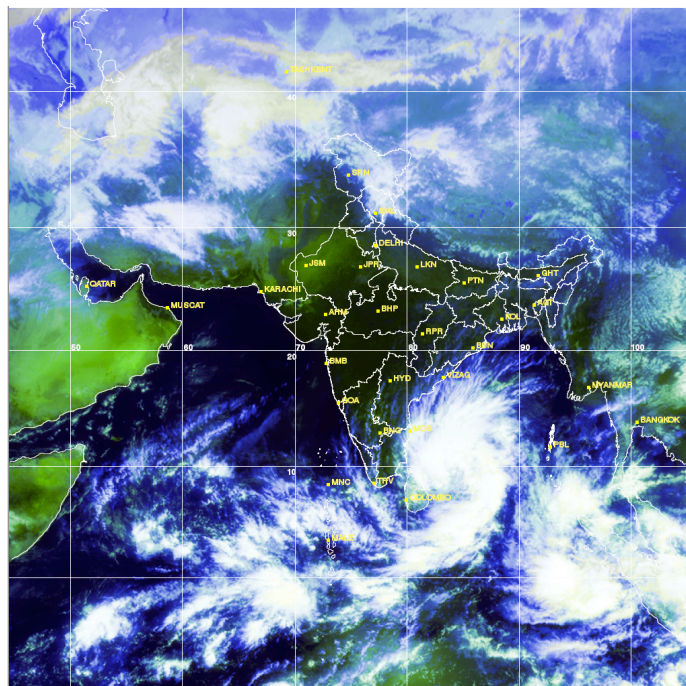


Source: SAC, Ahmedabad

Agricultural conditions is in general very good over few pockets of western Rajasthan, eastern Bihar and pockets of western Maharashtra and north Karnataka as NDVI value range between 0.5 to 0.6. Agricultural conditions is good over pockets of northwest and central UP, extreme north of Punjab, eastern Rajasthan (Bharatpur districts and adjoining area), eastern Bihar, south-west Chhattisgarh, eastern pockets of MP, and pockets of central MP, north and central Gujarat, eastern Maharashtra, pockets of north Karnataka, north-eastern AP, parts of Odisha as NDVI vigour showed the range from 0.4 to 0.5 and few upto 5th December 2013. The NDVI remain low within range of 0.2 to 0.4 over states of major parts of Punjab, Haryana, Rajasthan, UP, north-west MP, central Maharashtra and western part of Bihar and West Bengal and south Tamil Nadu.



Agricultural progress between 5th December and 28th November 2013 was found to be very good over few pockets of eastern Bihar and coastal AP. Agricultural progress was moderate over few pockets of north-west and central UP, pockets of central and west Punjab, few pockets of Haryana, eastern and central Rajasthan and adjoining MP, central and eastern MP, pockets of central AP. Moderate progress was observed over rest of India. As compared to previous week this week showed the *rabi* crop activities were in full swing.



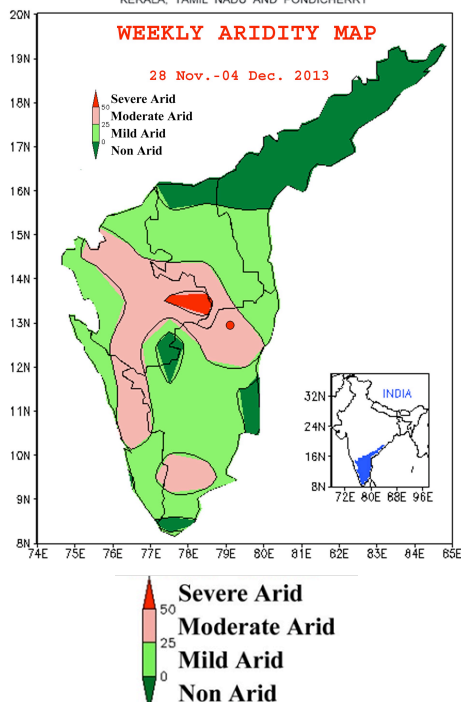
Satellite image dated 6/12/2013 0600 UTC

Aridity Anomaly Map for the week ending 4.12.2013

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

राष्ट्रीय आर्द्रता, रायलसेमा, दक्षिण अंतर्गत कर्नाटका,
केरल, तमिलनाडु और पॉन्डिचेरी के लिए

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



During the week (28 November to 04 December, 2013) the aridity anomaly map indicated the following aridity conditions over the five Meteorological sub-divisions viz. Coastal Andhra Pradesh, Rayalaseema, South Interior Karnataka, Tamil Nadu & Pondicherry and Kerala.

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

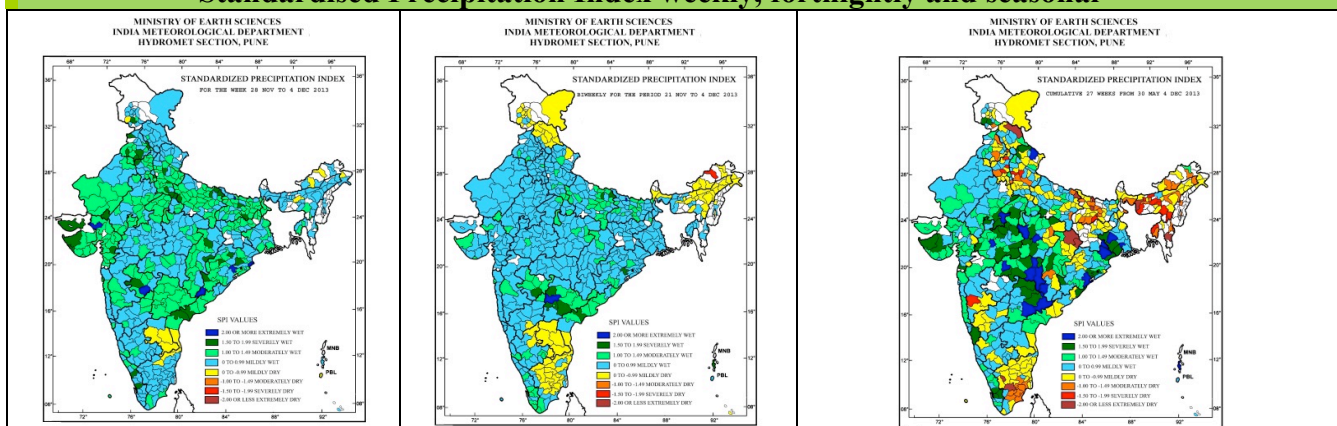
1.1 Areas affected by severe arid conditions :
Isolated areas around Aroyavaram (Rayalaseema) and Vellore (Tamil Nadu).

1.2 Areas affected by moderate arid conditions :

Most of the parts of South Interior Karnataka, adjoining southwestern parts of Rayalaseema, northern parts of Tamil Nadu, eastern and central parts of Kerala and small northwestern parts of Tamil Nadu.

Isolated areas around Madurai (Tamil Nadu).

Standardised Precipitation Index weekly, fortnightly and seasonal



Weekly SPI values:

- Extremely wet/severely wet conditions over many parts of Saurashtra & Kutch, Punjab and some parts Jammu & Kashmir, Uttar Pradesh, Bihar, Orissa, Chattisgarh, Marathwada, North Coastal Andhra Pradesh and Kerala.

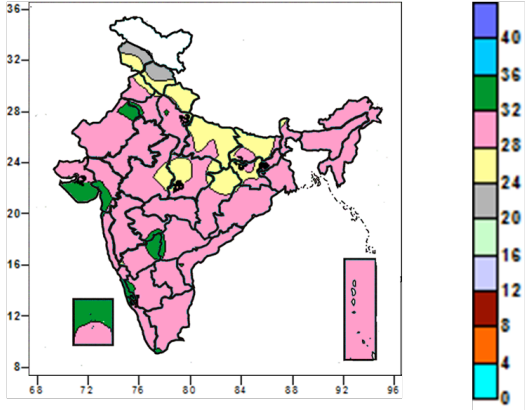
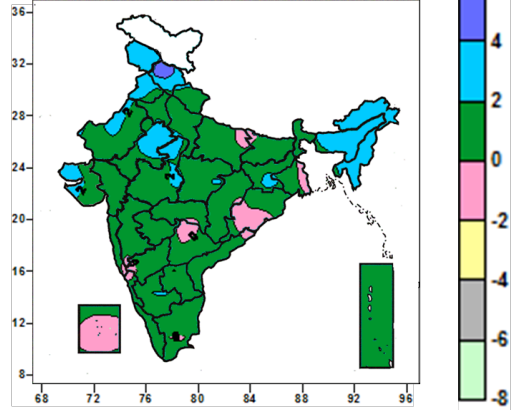
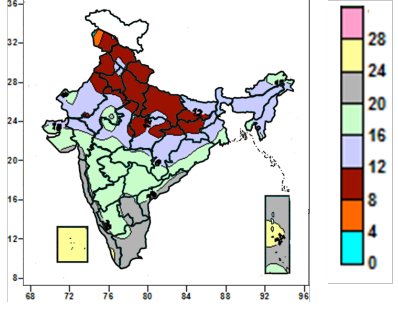
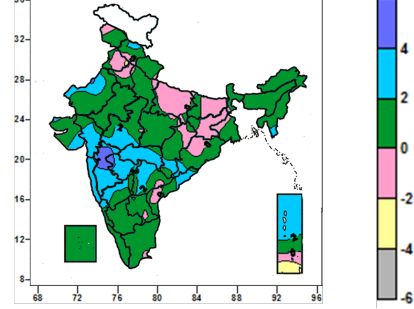
Cumulative SPI values (bi-weekly):

- Extremely wet/severely wet conditions over many parts of Telangana, some parts of East Uttar Pradesh, Marathwada, Coastal Andhra Pradesh and Kerala.
- Extremely dry/severely dry conditions were observed over Some parts of Arunachal Pradesh.

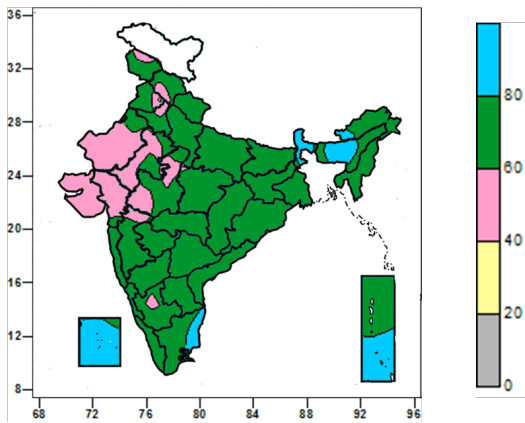
Cumulative SPI values of 27 weeks: (i.e. since the beginning of southwest monsoon.)

- Extremely wet/severely wet conditions over many parts of North Andhra Pradesh, Madhya Pradesh, Vidarbha, Gangetic West Bengal and some part of Jammu & Kashmir, Marathwada, Saurashtra & Kutch, East Uttar Pradesh, East Rajasthan, odisha, Chattisgarh, Coastal Karnataka, Uttarakhand, Kerala and Rajasthan.
- Extremely dry/ severely dry conditions were observed over many parts of Haryana, West Uttar Pradesh, Bihar, Sub-Himalayan West Bengal, some parts of Jammu & Kashmir, Himachal Pradesh, Punjab, Utta Pradesh, Jharkhand, North East India, Chattisgarh, Tamil Nadu, Madhya Maharashtra, East Madhya Pradesh.

Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 04.12.2013

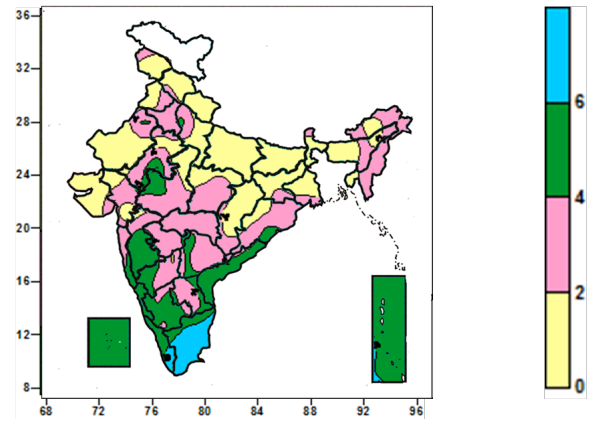
Actual Mean Maximum Temperature (°C) in India for the week ending 04.12.2013	Mean Maximum Temperature (°C) Anomaly in India for the week ending 04.12.2013
	
<ul style="list-style-type: none"> • 32 to 36°C over many parts of Saurashtra, Lakshadweep, some parts of Gujarat, Coastal & South Interior Karnataka, Marathwada, Telangana. • 28 to 36°C over entire country (except many parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, East Uttar Pradesh, Bihar, Jharkhand, Saurashtra, Lakshadweep, some parts of Gujarat, Coastal & South Interior Karnataka, Marathwada, Telangana, Punjab, West Uttar Pradesh, Sikkim, Central India.. • 20 to 28°C over many parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, East Uttar Pradesh, Bihar, Jharkhand, some parts of Punjab, West Uttar Pradesh, Sikkim, Central India. 	<ul style="list-style-type: none"> • 4 to 6°C over some parts of Himachal Pradesh. • 2 to 4°C over many places Jammu & Kashmir, Himachal Pradesh, Punjab, North East India, some parts of Rajasthan, Madhya Pradesh, Jharkhand, Saurashtra & Kutch. • -2 to 2°C over entire country (except many places Jammu & Kashmir, Himachal Pradesh, Punjab, North East India, some parts of Rajasthan, Madhya Pradesh, Jharkhand, Saurashtra & Kutch).
Actual Mean Minimum Temperature (°C) in India for the week ending 04.12.2013	Mean Minimum Temperature (°C) Anomaly in India for the week ending 04.12.2013
	
<ul style="list-style-type: none"> • 24 to 28°C over many parts of Lakshadweep, some parts of Kerala and Andaman & Nicobar Islands. • 16 to 24°C all over many parts of West India, South India, some parts of Rajasthan, West Madhya Pradesh, Coastal Orissa, Sub-Himalayan West Bengal, Arunachal Pradesh, Tripura. • 8 to 16°C over many parts of North India, Central India, East India, North East India, some parts of Gujarat, Saurashtra. • 4 to 8°C over some parts of North Jammu & Kashmir. 	<ul style="list-style-type: none"> • 2 to 6°C over many parts of Maharashtra, Gujarat, Telangana, Andaman & Nicobar Islands, some parts of Himachal Pradesh, West Rajasthan, West Madhya Pradesh, Saurashtra, Chattisgarh, Orissa, Coastal Andhra Pradesh, Coastal & North Interior Karnataka, Andaman & Nicobar Islands. • -2 to 2°C over all parts of country (except many parts of Maharashtra, Gujarat, Telangana, Andaman & Nicobar Islands, some parts of Himachal Pradesh, Punjab, West Rajasthan, West Madhya Pradesh, Saurashtra, Chattisgarh, Orissa, Coastal Andhra Pradesh, Coastal & North Interior Karnataka, Andaman & Nicobar Islands). • -4 to -2°C over some parts of Punjab, Andhaman & Nicobar Islands.

Relative Humidity (%) over India for the week ending 04.12.2013



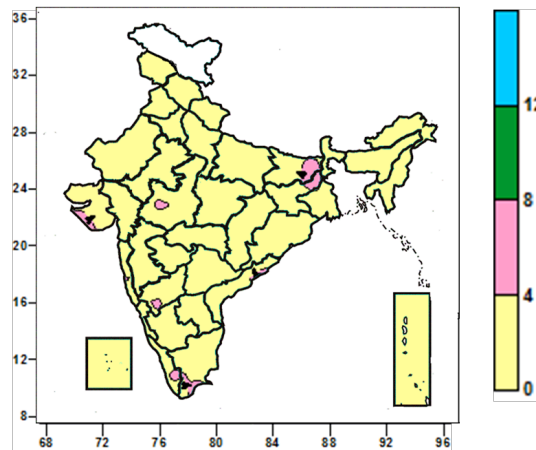
- 80 to 100% over many parts of Sub-Himalayan West Bengal & Sikkim Lakshadweep, Andaman & Nicobar Islands, some parts of Arunachal Pradesh, Assam & Meghalaya, Tamil Nadu.
- 40 to 80% over entire country (Sub-Himalayan West Bengal & Sikkim Lakshadweep, Andaman & Nicobar Islands, some parts of Arunachal Pradesh, Assam & Meghalaya, Tamil Nadu).

Cloud amount (okta) over India for the week ending 04.12.2013



- 6 to 8 okta many places over Tamil Nadu, some parts of some Kerala, Andaman & Nicobar Islands.
- 4 to 6 okta over many parts of Goa, Madhya Maharashtra, Karnataka, Coastal Andhra Pradesh, Lakshadweep, Andaman & Nicobar Islands, some parts of West Uttar Pradesh, East Rajasthan, West Madhya Pradesh, Konkan, Coastal Orissa, Telanagana, Raylaseema, Tamil Nadu, Kerala.
- 0 to 4 okta over entire country (many parts of Goa, Madhya Maharashtra, Karnataka, Coastal Andhra Pradesh, Tamil Nadu, Lakshadweep, Andaman & Nicobar Islands, some parts of West Uttar Pradesh, East Rajasthan, West Madhya Pradesh, Konkan, Coastal Odisha, Telanagana, Raylaseema, Kerala).

Wind speed (knots) over India for the week ending 04.12.2013



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

Weather Forecast for next 3 days (upto 0830 hours IST of 9th December, 2013)

- Rain/thundershowers would occur at many places over coastal Tamilnadu and isolated places over rest Tamilnadu during next 48 hours and increase thereafter.
- Rain/thundershowers would occur at a few places over Andaman & Nicobar Islands.
- Rain/thundershowers would occur at isolated places over Kerala and Lakshadweep.
- Rain/thundershowers would occur at isolated places over south coastal Andhra Pradesh on 8th December.
- Rain/snow would occur at isolated places over high reaches of Jammu & Kashmir.
- Weather would be mainly dry/dry over rest of the country.
- No significant change in minimum temperatures over northwest and adjoining central & east India.
- Shallow fog (visibility upto 500 meters) would occur at isolated pockets of Punjab, Haryana & Delhi, east Uttar Pradesh, Bihar and Jharkhand in the morning hours.

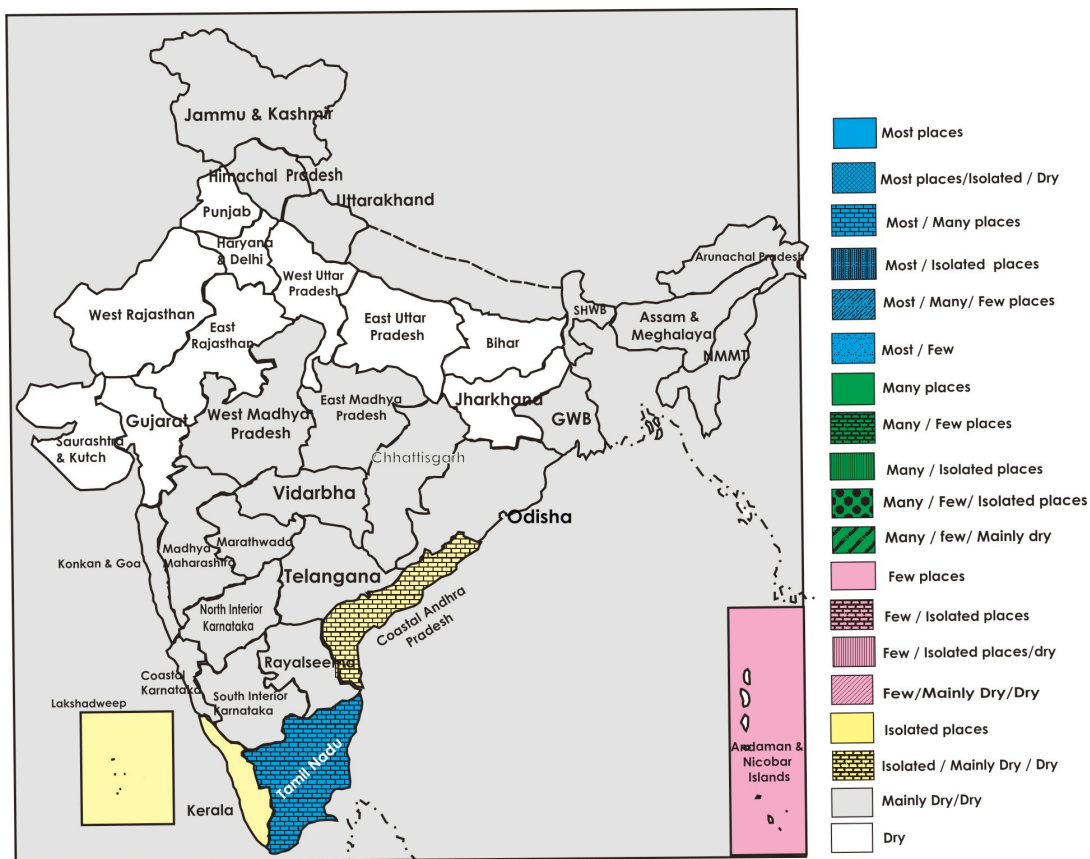
Weather Warning during next 3 days

- **06 December:** Isolated heavy rainfall would occur over coastal Tamilnadu.
- **07 December:** Isolated heavy rainfall would occur over coastal Tamilnadu.
- **08 December:** Heavy to very heavy rainfall would occur at isolated places over coastal Tamilnadu.

Weather Outlook for subsequent 4 days from 9th to 13th December, 2013

- Rain/thundershowers would occur at many places over Andaman & Nicobar Islands.
- Rain/thundershowers would occur at a few places over coastal Tamilnadu.
- Rain/thundershowers would occur at isolated places over rest south peninsular India.
- Light rain/snow would occur at a few places over Jammu & Kashmir and Himachal Pradesh.
- Weather would be mainly dry/dry over rest of the country.

**Weather Forecast Map
(Valid upto 0830 hours of 9th December, 2013)**



Salient Advisories

South Region

- In Coastal Tamil Nadu, as rain/thundershowers would occur at many places along with heavy rainfall at isolated places, postpone intercultural operations, application of fertilizers and pesticides in rice. Provide adequate drainage channels in standing crop fields.
- In Coastal Andhra Pradesh, continue sowing of rabi pulses.
- Continue sowing of *rabi* groundnut and maize in Anantpur district of Scarce Rainfall Zone of Andhra Pradesh.
- In the North Dry Zone of Karnataka, continue sowing of wheat and sunflower in irrigated areas and continue harvesting of onion and maize.
- Continue transplanting of *rabi* rice in the Coastal Zone of Karnataka.
- Continue sowing of *puncha* rice and planting of winter vegetables in the Problem Area Zone in Kerala.

East Region

- In East and South Eastern Coastal Plain Zone of Odisha, complete sowing of lentil, field pea and chickpea. Continue sowing of irrigated mustard and sunflower. Apply light irrigation after sowing of crops.
- In Coastal Saline Zone of West Bengal, complete harvesting of aman rice and Prepare upland field for nursery bed preparation of *Boro* rice. Sow lathyrus as payra crop before harvesting of *aman* rice using the residual moisture. After harvesting of *aman* rice prepare land and undertake sowing of lentil and planting of onion and potato utilising the residual soil moisture.
- In Laterite and Red soil Zone of West Bengal, complete harvesting of late sown rice and undertake land preparation for sowing of mustard and planting of potato. Also, Sowing of seasonal flower like marigold, verbena, jarberra, jinia etc can be done.
- In North East Alluvial Plain Zone of Bihar, continue harvesting of matured rice crop, sugarcane, ginger and turmeric. Continue sowing of wheat and maize. Start transplanting of winter vegetables like cauliflower, cabbage, chillies, tomato, brinjal etc. Undertake planting of autumn season sugarcane. Start nursery sowing of early autumn vegetables. Apply light irrigation after sowing, transplanting and planting of crops. Undertake nursery sowing of *boro* rice.
- In Western Plateau Zone of Jharkhand continue sowing of pea, green pea, mustard, gram, wheat, linseed, lentil and barley followed by light irrigation. Undertake planting of late variety of potato and apply urea @ 50 kg per acre after earthing up in one month old crop.

Northeast Region:

- In Assm, continue nursery sowing of *boro* rice.
- In Central Bramhaputra Valley Zone of Assam, continue sowing of rapeseed, mustard and wheat, transplanting of seedlings of cole crops, which are 30-35 days old and planting of potato followed by light irrigation. Complete harvesting of matured *sali* rice immediately and continue sowing of *rabi* pulses and oil seeds.
- In Sub Tropical Hill Zone of Arunachal Pradesh, apply irrigation in mustard at flowering stage.
- In Meghalaya, complete transplanting of cauliflower, cabbage and broccoli. Cover space between rows with rice straw mulch in rapeseed / mustard crop to conserve soil moisture.
- In Sub Tropical Plain Zone of Manipur, continue sowing of rapeseed, mustard, pulses. Continue land preparation for sowing of *rabi* maize. Apply light irrigation after sowing, transplanting and planting of crops.
- In Mild Tropical Hill Zone of Mizoram, continue transplanting of cole crops followed by light irrigation.

West Region

- In Konkan, continue intercultural operations and application of fertilizers in vegetables, mango, cashew and sapota orchards. Prepare raised nursery bed for *rabi* rice. Undertake sowing of chilli, brinjal, cabbage, knol-khol.
- In Madhya Maharashtra, apply irrigation to sugarcane, vegetable crops, jowar and maize. Continue late sowing of irrigated wheat upto 15th December. Continue picking of fully opened cotton bolls during morning hours in North Madhya Maharashtra.

West Region

- In Konkan, continue intercultural operations and application of fertilizers in vegetables, mango, cashew and sapota orchards. Prepare raised nursery bed for *rabi* rice. Undertake sowing of chilli, brinjal, cabbage, knol-khol.
- In Madhya Maharashtra, apply irrigation to sugarcane, vegetable crops, jowar and maize. Continue late sowing of irrigated wheat upto 15th December. Continue picking of fully opened cotton bolls during morning hours in North Madhya Maharashtra.
- In Marathwada, continue intercultural operations, application of fertilizers in jowar, gram, maize, vegetables, orchards and sugarcane. Apply irrigation to sugarcane, wheat, gram, vegetable crops, jowar and maize. Continue picking of fully opened cotton bolls during morning hours. Store the first and second picked cotton separately. Continue late sowing of irrigated wheat upto 15th December.
- In Vidarbha, continue intercultural operation, application of fertilizers in safflower, vegetables and orchards. Apply irrigation to vegetable crops, early sown safflower, wheat and orchards. Continue late sowing of irrigated wheat upto 15th December. Continue picking of fully opened cotton bolls during morning hours.
- Apply irrigation in sapota crop and sugarcane at regular intervals in South Gujarat Heavy Rainfall Zone. Complete sowing of wheat and spices and planting of potato followed by light irrigation in North Gujarat Zone. Apply irrigation in cotton and potato crops at regular intervals.

Central Region

- In Jhabua Hill Zone of Madhya Pradesh, undertake sowing of late sown wheat and winter maize utilising the residual soil moisture.
- In Bundelkhand Zone of Madhya Pradesh, continue sowing of mixed crops of chickpea, mustard, lentil, pea, linseed and wheat. Undertake intercultural operation in vegetables.
- In Northern Hill Zone of Chattishgarh, continue sowing of wheat, gram and planting of potato and winter sugarcane utilising the residual soil moisture. Continue transplanting of cabbage, cauliflower, tomato and onion.
- In Chattisgarh Plain Zone, continue sowing of gram and undertake sowing of wheat and vegetable crops in upland area. Complete harvesting of rice.

North Region

- In Intermediate Zone of Jammu & Kashmir, complete sowing of vegetables viz. radish, carrot, turnip, garlic, peas etc, planting of potato and transplanting of onion. Undertake hoeing and thinning in mustard and pulse crops.
- In Hill Zone of Uttarakhand, complete sowing of wheat, barley, mustard, lentil, garlic and planting of onion and potato.
- In Sub humid Sub tropic of Uttarakhand, complete sowing of wheat, planting of late potato and continue sowing of barseem. Maintain proper moisture in toria, chickpea and lentil by applying light irrigation. Apply first irrigation in late sown wheat crop at crown root initiation stage.
- In Mid-Hills Sub-Humid Zone of Himachal Pradesh complete sowing of late sown varieties of pea and apply light irrigation as the weather remains dry. Also complete transplanting of onion
- In Flood Prone Eastern Plain Zone of Rajasthan, continue sowing of gram, lentil, planting of potato and late sowing varieties of mustard. Apply light irrigation before sowing/planting of crops. Also undertake weeding and thinning operations in early sown mustard within 20-25 days after sowing. Apply irrigation to potato in 10-15 days interval.
- In West Uttar Pradesh, continue sowing of wheat and gram in non-irrigated areas, sowing of pea, lentil, barley, potato and berseem and planting of winter season sugarcane and maize. Also apply irrigation in toria and mustard.
- In East Uttar Pradesh, continue sowing of wheat, mustard, pea, lentil, linseed, chickpea and planting of early potato utilising the residual soil moisture. Undertake the intercultural operations in maize. Apply irrigation to wheat crop at CRI stage and barley at tillering stage.
- In Western Zone of Punjab, continue transplanting of gobhi sarson. Also complete sowing of radish, turnip and transplanting of 4 to 6 weeks old seedlings of cabbage and late season cauliflower.

Detailed Zonewise Agromet Advisories

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



Wheat



Sugarcane



Field preparation / sowing of rabi crops



- **Realised Rainfall:** Weather remained mainly dry over the region during the week.
- **Weather Forecast:** Rain/snow would occur at isolated places over high reaches of Jammu & Kashmir and weather would be mainly dry over rest part of the region. Shallow fog (visibility upto 500 meters) would occur at isolated pockets of Punjab, Haryana, Delhi and east Uttar Pradesh in the morning hours. No significant change in minimum temperature over Northwest India.
- **Weather Warning:** Nil.
- **Weather Outlook:** Light rain/snow would occur at a few places over Jammu and Kashmir and Himachal Pradesh.
- **Advisories :**
 - As dry weather prevailed during last two weeks and also likely to prevail during next three days, apply irrigation in the early sown *rabi* crops in the States of the region.
 - In Intermediate Zone of Jammu & Kashmir, complete sowing of vegetables viz. radish, carrot, turnip, garlic, peas etc, planting of potato and transplanting of onion. Undertake hoeing and thinning in mustard and pulse crops.
 - In Valley Temperate Zone of Jammu & Kashmir, complete sowing of spinach, methi, planting of garlic and transplanting of onion seedlings. For brown sarson and pulses, weeding and thinning operations should be continued.
 - In Bhabar and Tarai Zone of Uttarakhand, weeding & thinning operations may be done in standing crops like pea, chickpea, rajmash, garlic, onion nursery etc. for their better growth and also mulching may be done by putting grass in between rows to conserve soil moisture.
 - In Hill Zone of Uttarakhand, complete sowing of wheat, barley, mustard, lentil, garlic and planting of onion and potato.
 - In Sub humid Sub tropic of Uttarakhand, complete sowing of wheat, planting of late potato and continue sowing of barseem. Maintain proper moisture in toria, chickpea and lentil by applying light irrigation. Apply first irrigation in late sown wheat crop at crown root initiation stage.
 - In Mid-Hills Sub-Humid Zone of Himachal Pradesh complete sowing of late sown varieties of pea and apply light irrigation as the weather remains dry. Also complete transplanting of onion.
 - In Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh, continue sowing of late sown varieties of wheat, barley and oat and nursery sowing of onion and cole crops.
 - In Flood Prone Eastern Plain Zone of Rajasthan, continue sowing of gram, lentil, planting of potato and late sowing varieties of mustard. Apply light irrigation before sowing/planting of crops. Also undertake weeding and thinning operations in early sown mustard within 20-25 days after sowing. Apply irrigation to potato in 10-15 days interval.
 - In Semi-Arid Eastern Plain Zone of Rajasthan, complete transplanting of late cauliflower, mid cabbage, rabi onion and sowing of wheat, barley, cumin, ajwain, methi, isabgol, carrot, radish & garlic. In Southeastern Humid Plain Zone, complete sowing of wheat and gram. Apply light irrigation before sowing/planting of crops.
 - In West Uttar Pradesh, continue sowing of wheat and gram in non-irrigated areas, sowing of pea, lentil, barley, potato and berseem and planting of winter season sugarcane and maize. Also apply irrigation in toria and mustard.
 - In East Uttar Pradesh, continue sowing of wheat, mustard, pea, lentil, linseed, chickpea and planting of early potato utilising the residual soil moisture. Undertake the intercultural operations in maize. Apply irrigation to wheat crop at CRI stage and barley at tillering stage.
 - In Western Zone of Punjab, continue transplanting of gobhi sarson than direct sowing as it is more profitable. Also complete sowing of radish, turnip and transplanting of 4 to 6 weeks old seedlings of cabbage and late season cauliflower. Withhold the irrigation to deciduous fruits such as pear, peach so that the trees enter dormancy and become sufficiently hardened to withstand cool weather.
 - In Western plain zone of Punjab, apply light and frequent irrigation at regular interval in sugarcane to

protect from cold injury. Also continue sowing of late sown and short duration varieties of wheat. Complete transplanting of tomato seedlings in the first fortnight of this month. Provide polythene sheet/*Sarkanda/Kahi*/ rice straw to save the plants from frost.

- In Delhi, continue sowing of wheat and apply irrigation to timely sown mustard crop and also thinning and weeding operation may be undertaken. Also continue planting of late cultivars of potato, carrot, radish, beetroot, *rabi* onion and turnip. This is suitable time for sowing of leafy vegetables like-sarson saag, bathua, spinach, fenugreek and coriander. Continue transplanting of mature seedlings of cauliflower, cabbage and broccoli. Undertake intercultural operations in vegetables and remove the weeds. Also apply remaining doses of fertilizer in 15-25 days old crops.
- In Semi-arid Eastern Plain Zone of Rajasthan, spray Dithane M-45 @ 2 g per litre of water in nursery onion to control pink root rot.
- In Flood Prone Eastern Plain Zone of Rajasthan, weather conditions are conducive for weevil, painted bug and saw fly in mustard seedlings and to control it dust 1.5% quinolphos.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure III.
- **Animal Husbandry**
 - In Hill Zone of Uttarakhand, spread dry leaves of pine tree and other trees inside cattle shed. Keep small animals covered in morning and evening time to protect from cold.
 - In Bhabar and Tarai Zone of Uttarakhand, farmers are advised to keep animals inside the shed during night time. Put rice straw in the floor of animal sheds for warmth. Keep down curtains in Poultry Farm in the night for safety of birds from these cold weather conditions.
 - In Western Plain Zone of Punjab vaccination should be done for prevention of Gal Ghotu and Foot and Mouth disease. Regularly deworm the calves with piperazine liquid (4 ml/kg body weight) first at 15 days of age, then 7 days later twice and then on 3 months of age and then 3 months after upto 1 year of age.

CENTRAL INDIA [M.P., CHHATTISGARH]



Sugarcane

Field preparation / sowing for rabi crops

- **Realised Rainfall:** Mainly dry weather prevailed over the region during the week ending 04.12.13.
- **Weather forecast:** Weather would be mainly dry/dry over the region. No significant change in minimum temperature over the region.
- **Weather Warning:** Nil
- **Weather Outlook:** Weather would be mainly dry over the region.
- **Advisories:**
 - In Jhabua Hill Zone of Madhya Pradesh, undertake sowing of late sown wheat and winter maize utilising the residual soil moisture.
 - In Kymore Plateau and Satpura Hill Zone of Madhya Pradesh, continue sowing of wheat and gram, nursery raising of cabbage, cauliflower, onion and sowing of carrot, coriander and fenugreek. Apply irrigation in tomato and brinjal as per requirement and harvest the matured fruits.
 - In Bundelkhand Zone of Madhya Pradesh, continue sowing of mixed crops of chickpea, mustard, lentil, pea, linseed and wheat. Undertake intercultural operation in vegetables.
 - In Central Narmada Valley Zone of Madhya Pradesh, continue sowing of safflower and linseed in rainfed condition and planting of potato. Continue sowing of mustard. Apply irrigation in early sown wheat at CRI stage and top dressing with nitrogenous fertilizer.
 - In Vindhya Plateau Zone of Madhya Pradesh, continue nursery preparation for planting of cabbage, cauliflower and vegetables. Continue transplanting of onion.
 - In Gird Zone and Malwa Plateau Zone of Madhya Pradesh, continue sowing of wheat, gram and planting of potato and winter vegetables.
 - In Northern Hill Zone of Chattishgarh, continue sowing of wheat, gram and planting of potato and winter sugarcane utilising the residual soil moisture. Continue transplanting of cabbage, cauliflower, tomato and onion.

- In Chattisgarh Plain Zone, continue sowing of gram and undertake sowing of wheat and vegetable crops in upland area. Complete harvesting of rice.
- In Bastar Plateau Zone of Chhattisgarh, continue harvesting of rice and harvested rice should be collected and brought to the threshing floor.
- In Vindhya Plateau zone of Madhya Pradesh, for control of stem borer in chilli, brinjal and tomato, spray Trizophos 40 E.C. 800 ml per hectare and for control of jassids, aphids, sucking pest and fruit borer in gram and arhar, spray Chloropyriphos 20 E.C./hectare.
- In Jhabua Hill Zone of Madhya Pradesh, if attack of Gram pod borer increases by (2-3 caterpillars per meter row), spray Profenofos 50EC @ 1.5 lit/ha, for the control of sucking pest in okra and chilli, spray thiomithaxim/ acetameprid @ 0.3 gm/l and stem & Fruit borer in brinjal, tomato & okra spray Trizofos @ 30 ml/pump(15 l. tank).
- In Central Narmada Zone of Madhya Pradesh, for control of fruit borer beetle spray of Deltamethrin 28 E.C. @ 0.5 ml/litre of water or Monocrotophos 20 E.C. @ 2 ml/litre of water at 15 days interval and repeat 2 – 3 times, for control of thrips, white fly and epileekna beetle spray of enida chloprid 17.8% SL at 30 days interval or rogot 1.5 ml per litre of water at 15 days interval should be applied.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure III
 - **Animal Husbandry**
- In Jhabua Hills Zone of Madhya Pradesh, vaccinate the 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.
- In Kymore Plateau and Satpura Hill Zone of Madhya Pradesh, provide concentrated feed to cattle, mix with dry and green fodder and enrich diet with protein, carbohydrate, fat, vitamins etc.

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



Rice



Sugarcane



*Field preparation /
sowing for rabi crops*



Cole crops



Onion

- **Realised Rainfall:** Dry weather prevailed over the states of the region during the week.
- **Weather Forecast:** Weather would be mainly dry/dry over the State. Shallow fog (visibility upto 500 meters) would occur at isolated pockets of Bihar and Jharkhand in the morning hours. No significant change in minimum temperature in the region.
- **Weather Warning:** Nil.
- **Weather Outlook:** Weather would be mainly dry/dry over the region.
- **Advisories:**
- In East and South Eastern Coastal Plain Zone of Odisha, complete sowing of lentil, field pea and chickpea. Continue sowing of irrigated mustard and sunflower. Apply light irrigation after sowing of crops.
- In North Eastern Plateau Zone of Odisha, continue sowing of wheat, toria, groundnut and sunflower and planting of potato followed by light irrigation.
- 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 utilizing the residual soil moisture and planting of potato. Also continue transplanting the seedling of cauliflower, cabbage, tomato and brinjal followed by light irrigation.
- In Coastal Saline Zone of West Bengal, complete harvesting of aman rice and Prepare upland field for nursery bed preparation of *Boro* rice. Sow lathyrus as payra crop before harvesting of aman rice using the residual moisture. After harvesting of aman rice prepare land and undertake sowing of lentil and planting of onion and potato utilising the residual soil moisture.
- In Laterite and Red soil Zone of West Bengal, complete harvesting of late sown rice and undertake land preparation for sowing of mustard and planting of potato. Also, Sowing of seasonal flower like

- marigold, verbena, jarberra, jinia etc can be done.
- In North East Alluvial Plain Zone of Bihar, continue harvesting of matured rice crop, sugarcane, ginger and turmeric. Continue sowing of wheat and maize. Start transplanting of winter vegetables like cauliflower, cabbage, chillies, tomato, brinjal etc. Undertake planting of autumn season sugarcane. Start nursery sowing of early autumn vegetables. Apply light irrigation after sowing, transplanting and planting of crops. Undertake nursery sowing of *boro* rice.
- In Western Plateau Zone of Jharkhand continue sowing of pea, green pea, mustard, gram, wheat, linseed, lentil and barley followed by light irrigation. Undertake planting of late variety of potato and apply urea @ 50 kg per acre after earthing up in one month old crop.
- In South Eastern Plateau Zone of Jharkhand continue sowing of wheat, chick pea and mustard, nursery raising of onion, nursery raising and transplanting of winter vegetables like brinjal, cabbage, cauliflower, tomato, capsicum etc. followed by light irrigation.
- In Western Plateau Zone of Jharkhand there are chances of powdery mildew disease in green pea, spray Karathen @ 1 ml per litre of water or Sulfex @ 3 gm per litre of water.
- In New Alluvial Zone of West Bengal, under present weather condition, there is chance of attack of fungal root rot disease in brinjal and tomato. Before transplanting dip the roots of seedling to the solution of Carbendazim 12% + Mancozeb 63% @ mixture (2 g per litre of water).
- In North West Alluvial Plain Zone of Bihar, early sown Rabi Maize are at 4-5 leaf stage, apply Sevin 5% or Carbofurodon 3% @ 3-4 granules in leaf sheath/ plant to save the crop from stem borer.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure III.
- **Animal Husbandry**
 - Low temperature condition may adversely affect the milk production and performance of domestic animals. Farmers in North West Alluvial Plain Zone of Bihar are advised to give protein enriched diet to the animals. Do not keep the animal in the open.
 - Weather is favourable for attack of F.M.D. in milch animals. Farmers in Western Plateau Zone of Jharkhand are advised to take preventive measures to control this disease and vaccinate animals twice in a year.
 - In Coastal Saline Zone of West Bengal, deworm cattle, feed Albomer @ 1.5 g bolus per 150 kg weight and keep them in proper shed.

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



Sugarcane



Rice



Field preparation/ sowing of rabi crops



cole crops

- **Realised Rainfall:** Dry weather prevailed over the States of the region during the week ending 04.12.13.
- **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 Assm, continue nursery sowing of *boro* rice.
 - In Central Bramhaputra Valley Zone of Assam, continue sowing of rapeseed, mustard and wheat, transplanting of seedlings of cole crops, which are 30-35 days old and planting of potato followed by light irrigation. Complete harvesting of matured *sali* rice immediately and continue sowing of *rabi* pulses and oil seeds.
 - In Hill Zone of Assam, complete transplanting of winter vegetables, planting of potato. Apply light irrigation after transplanting and planting of crops.
 - In North Bank Plain Zone of Assam, continue sowing of wheat, *rabi* pulses like lentil, rajmah, pea, lathyrus and planting of potato. Apply light irrigation after sowing and planting of crops. Undertake

- **Realised Rainfall:** Dry weather prevailed over the States of the region during the week ending 04.12.13.
 - **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 Assm, continue nursery sowing of *boro* rice.
 - In Central Bramhaputra Valley Zone of Assam, continue sowing of rapeseed, mustard and wheat, transplanting of seedlings of cole crops, which are 30-35 days old and planting of potato followed by light irrigation. Complete harvesting of matured *sali* rice immediately and continue sowing of *rabi* pulses and oil seeds.
 - In Hill Zone of Assam, complete transplanting of winter vegetables, planting of potato. Apply light irrigation after transplanting and planting of crops.
 - In North Bank Plain Zone of Assam, continue sowing of wheat, *rabi* pulses like lentil, rajmah, pea, lathyrus and planting of potato. Apply light irrigation after sowing and planting of crops. Undertake transplanting of *boro* rice.
 - In Sub Tropical Hill Zone of Arunachal Pradesh, apply irrigation in mustard at flowering stage.
 - In Meghalaya, complete transplanting of cauliflower, cabbage and broccoli. Cover space between rows with rice straw mulch in rapeseed / mustard crop to conserve soil moisture.
 - In Sub Tropical Plain Zone of Manipur, continue sowing of rapeseed, mustard, pulses. Continue land preparation for sowing of *rabi* maize. Apply light irrigation after sowing, transplanting and planting of crops.
 - In Mild Tropical Hill Zone of Mizoram, continue transplanting of cole crops followed by light irrigation.
 - In Hill Zone of Assam, humid and cloudy weather is congenial for occurrence of late blight in tomato. Apply Ridomil MZ-72 (2g/ lit) and Indofil M-45 2.5g / lit alternately.
 - In Mid Tropical Plain Zone of Tripura, humid weather is conducive for the attack of leaf blight in *rabi* maize. Spray Zineb, 3g per liter of water to control the attack. Also there is chance of leaf spot disease in banana due to soil moisture stress. Propiconazole or Soaf @ 2g/L at 20-30 day interval may be applied to manage the attack. There is chance of attack of aphids in toria at flowering stage. The attack may become severe in case of cloudy condition. Spray Monocrotophos @ 2ml per liter of water.
 - Stages of major crops are mentioned in Annexure I.
 - Varieties are mentioned in Annexure III.
-
- **Realised Rainfall:** Significant rainfall occurred in Beed and Latur in Marathwada region and mainly dry weather prevailed over rest of the region.
 - **Weather Forecast:** Weather would be mainly dry over the region.
 - **Weather Warning:** Nil
 - **Weather Outlook:** Weather would be mainly dry over the region.
 - **Advisories:**
 - In Konkan, continue intercultural operations and application of fertilizers in vegetables, mango, cashew and sapota orchards. Prepare raised nursery bed for *rabi* rice. Undertake sowing of chilli, brinjal, cabbage, knol-khol on raised nursery beds followed by light irrigation and prepare field for sowing of *rabi* groundnut.
 - In Madhya Maharashtra, continue intercultural operations and application of fertilizers in sugarcane, *rabi* jowar, maize and vegetable crops like onion, brinjal, tomato, okra and guar. Apply irrigation to sugarcane, vegetable crops, jowar and maize. Continue late sowing of irrigated wheat upto 15th December. Continue picking of fully opened cotton bolls during morning hours in North Madhya Maharashtra.
 - In Marathwada, continue intercultural operations, application of fertilizers in jowar, gram, maize, vegetables, orchards and sugarcane. Apply irrigation to sugarcane, wheat, gram, vegetable crops, jowar and maize. Continue harvesting of already matured *adsali* and pre-seasonal sugarcane. Continue picking of fully opened cotton bolls during morning hours. Store the first and second picked cotton separately. Continue late sowing of irrigated wheat upto 15th December.

- In Vidarbha, continue intercultural operation, application of fertilizers in safflower, vegetables and orchards. Apply irrigation to vegetable crops, early sown safflower, wheat and orchards. Continue late sowing of irrigated wheat upto 15th December. Continue picking of fully opened cotton bolls during morning hours.
- Apply light irrigation in cumin in North West Zone of Gujarat. Undertake sowing of Isabgol. Apply irrigation in wheat (CRI stage) in South Saurashtra Zone. Apply first dose of top dressing @ 132 kg Urea/ha in wheat in North and South Saurashtra Zone.
- Apply irrigation in sapota crop and sugarcane at regular intervals in South Gujarat Heavy Rainfall Zone. Complete sowing of wheat and spices and planting of potato followed by light irrigation in North Gujarat Zone. Apply irrigation in cotton and potato crops at regular intervals.
- Due to cloudy weather, there may be attack of leaf eating caterpillar in gram in Western Maharashtra Scarcity Zone; spray 5 % Neemark followed by Heliokil @500 ml /ha after 10-15 days.
- Prevailing cloudy weather is favourable for the incidence of mango hoppers in Konkan; spray Cypermethrin@ 3 ml per 10 litres of water on whole tree.
- Dew deposition in morning hours is congenial for incidence of powdery mildew in chilli, papaya and grapes in Pune region; spray Sulphur WS @ 2 g / litre water.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure III.
- **Animal Husbandry**
- In Gujarat, keep young calves indoors during night time to avoid cold stress.

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



Rice



Sugarcane



Transplanting of rice

- **Realized rainfall:** Significant rainfall occurred in Ernakulam and Malappuram districts in Kerala; Guntur, Prakasam and West Godavari districts in Coastal Andhra Pradesh; Ariyalur, Chennai, Cuddalore, Kancheepuram, Karaikal, Nagapattinam, Nilgiris, Perambalur, Puducherry, Pudukkottai, Ramanathapuram, Sivaganga, Thanjavur, Tirunelveli, Thiruvarur, Toothkudi and Virudhunagar districts in Tamil Nadu and Dakshin Karnataka in Coastal Karnataka (week ending 04.12.13)
- **Rainfall Forecast:** Rain/thundershowers would occur at many places over coastal Tamil Nadu and isolated places over rest Tamil Nadu during next 48 hours and increase thereafter; isolated places over Kerala and Lakshadweep; isolated places over south coastal Andhra Pradesh on 8th December. Weather would be mainly dry/dry over rest of the region.
- **Weather Warning:** Isolated heavy rainfall would occur over coastal Tamil Nadu on 6th and 7th; Heavy to very heavy rainfall would occur at isolated places over coastal Tamil Nadu on 8th December.
- **Weather Outlook (8th to 12th):** Rain/thundershowers would occur at few places over coastal Tamilnadu and at isolated places over rest south peninsular India.
- **Advisory:**
 - In Coastal Tamil Nadu, as rain/thundershowers would occur at many places along with heavy rainfall at isolated places, postpone intercultural operations, application of fertilizers and pesticides in rice. Provide adequate drainage channels in standing crop fields.
 - In Coastal Andhra Pradesh, continue sowing of *rabi* pulses.
 - Continue sowing of *rabi* groundnut and maize in Anantpur district of Scarce Rainfall Zone of Andhra Pradesh.
 - Continue sowing of *rabi* crops like groundnut, pulses and maize in Northern Telangana Zone of Andhra Pradesh.
 - Continue harvesting of groundnut, ragi red gram and fodder maize in clear weather in the Eastern Dry Zone of Karnataka.
 - In the North Dry Zone of Karnataka, continue sowing of wheat and sunflower in irrigated areas and continue harvesting of onion and maize.

- Continue transplanting of *rabi* rice in the Coastal Zone of Karnataka.
- Continue sowing of sunflower after proper seed treatment in the Hill Zone of Karnataka.
- Undertake picking of cotton and rice harvesting in the North East Dry Zone and Central Dry Zone of Karnataka.
- Undertake harvesting of rice and ragi in the Southern Dry Zone of Karnataka.
- Continue sowing of *puncha* rice and planting of winter vegetables in the Problem Area Zone in Kerala.
- Postpone nitrogen fertilizer application to samba/thaladi rice and provide proper drainage facility in the fields to drain the excess water in the Cauvery Delta Zone of Tamil Nadu.
- Due to expected high wind speed and rainfall in the North Eastern Zone of Tamil Nadu, provide horticultural crops with support and postpone spraying of insecticides to rice crop and top dressing of fertilizer.
- Continue sowing of groundnut, sunflower, chickpea, sesame, sunflower in the North Western Zone of Tamil Nadu after current spells of rain.
- Prevailing cold weather condition is congenial for blast incidence in rice and bacterial rot or heart rot disease in banana in the Western Zone of Tamil Nadu. Monitor the crops and spray Edifenphos 50 EC 500 ml or Carbendazim WP 250 g or Tricyclozole 75 WP 500 g or Iprobenphos (IBP) 500ml/ha to control blast incidence and drench with bleaching powder solution to control bacterial rot or heart rot disease if required after current spells of rain.
- Prevailing conditions are congenial for incidence of false smut and blast disease in rice crop, botrytis rot and capsule borer in castor crop, mealy bugs, rust and leaf hopper in sugar cane crop, choanephora blight in chillies and leaf spot / sigatoka disease on banana crop in the Scarce Rainfall Zone of Andhra Pradesh. Monitor the crops and undertake plant protection measures.
- Monitor for the incidence of bacterial leaf blight in rice crop and attack of skippers(mostly in hilly areas), hairy caterpillar & leaf swarming caterpillar in bananas in the Problem Area Zone of Kerala and undertake plant protection measures, if noticed.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure III.
- **Animal Husbandry**
- In Tamil Nadu, keep animals indoor during rain. Undertake preventive measures to control incidence of Foot and Mouth disease noticed in livestock due to prevailing weather in the Cauvery Delta Zone and Western Zone of Tamil Nadu.
- Cover the sides of poultry farms for at least 2 feet height with gunny bags or plastic sheets to prevent the entry of rain water or cool winds and give warmth to new born chicks in the North Western Zone of Tamil Nadu.
- Protect buffaloes and cattle from foot and mouth disease by periodic vaccination and sheep & goat from Blue tongue disease by giving antibiotics and tonics like Enrofaccin @10 ml per animal in the Scarce Rainfall Zone of Andhra Pradesh.

Annexure I Stages of Major Crops

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

- Wheat, barley, oat, late peas (sowing/germination), early peas, gobhi sarson (early vegetative / germination), cauliflower (transplanting), cucurbits viz. khira, bitter gourd, tori (fruiting/maturity), radish, carrot, turnip, beet leaf and fenugreek (direct sowing), onion (planting) in Himachal Pradesh.
- Wheat, barley, oat, berseem (sowing/germination), ginger (vegetative), sugarcane (active vegetative/grand growth), sesame in low land area (early vegetative / vegetative), vegetable pea (sowing / germination), toria, chickpea (germination/vegetative), tomato (transplanting), potato (planting / transplanting), Autumn sugarcane (planting), sarson, masoor (field preparation /sowing), coriander, spinach, radish, fenugreek (sowing/germination) in Uttarakhand.
- Wheat, barley (sowing/germination), toria, gobi sarson, mustard (sowing /germination), brown sarson, oat, lentil, berseem, gram, field pea (sowing / germination), potato (planting), palak, radish, carrot, turnip, garlic, methi, spinach (sowing / germination), pole type beans (vegetative), radish, spinach (transplanting / early vegetative), carrot, turnip (sowing/ germination), onion, cole crops (nursery sowing / transplanting), fruit crops (planting) in Jammu & Kashmir.
- Wheat, barley (sowing/germination), lentil (sowing/germination), toria (active vegetative/flowering), rainfed taramira, gram and mustard, potato (sowing/seedling), tomato, brinjal, Shimla mirch (early vegetative / vegetative), new sugarcane (early vegetative / vegetative), castor (flowering/spike formation), cucurbits (sowing/), radish, Desi carrot (sowing/ germination), cabbage and cauliflower (nursery sowing/transplanting), onion(nursery raising/ transplanting), cumin, Ajwain, methi, Isabgol (sowing) in Rajasthan.
- wheat(sowing/germination), oats, barseem (sowing/ germination), brinjal, tomato, early (cauliflower and cabbage) (vegetative / flowering), cauliflower, cabbage, broccoli and tomato (transplanting), early radish, spinach and coriander (vegetative), Sarson Saag, Bathua, radish, spinach, fenugreek, coriander and turnip (sowing), guar, bajra (flowering / grain filling), *rabi* onion (nursery sowing), mustard, gram, pea, carrot, garlic (sowing), oat, barseem (sowing) in Delhi.
- Wheat (sowing/ germination/ crown root initiation), Maize (knee height), barley/mustard/pea/chickpea/lentil/Linseed (seedling), Jowar, bajra, (grain filling/maturity), pigeon pea (vegetative/branching), 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, (pod formation) in Uttar Pradesh.
- Sugarcane (grand growth), wheat (sowing/germination), cucurbits, cowpea (sowing), black gram, green gram, soybean, arhar (vegetative/pod formation), moong, mash (vegetative) maize (cob formation / cob maturity) sesamum (vegetative), cauliflower (transplanting), potato (planting) in Punjab.
- 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), groundnut (pod formation/ maturity), pigeon pea (pod formation) sugarcane (grand growth), winter sugarcane (planting), vegetables (flowering/ fruiting), wheat, safflower, mustard, gram and linseed (sowing/ germination) , potato ,onion (planting) in Madhya Pradesh.
- Sugarcane (elongation), kharif rice (grain maturity/harvesting), jowar, (grain formation /maturity), groundnut (pod formation/ maturity), ragi and kodo millet (vegetative), ginger, turmeric, papaya (vegetative), onion (vegetative), vegetable crops (flowering/ fruiting), wheat, safflower and gram (sowing) ,potato, onion (planting) in Chhattisgarh.

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

- *Kharif* rice, sugarcane, ginger (harvesting), Onion (transplanting), yam (tuber development / harvesting), *arhar* (vegetative), winter maize, sunflower, mustard, toria, pea, lentil, gram, rajmah (sowing), cauliflower, cabbage, chilli, tomato, brinjal (vegetative), boro rice (sowing) in Bihar.
- *Kharif* rice, maize, urad, marua (harvesting), Arhar (vegetative / flowering), groundnut (grain maturity / harvesting), onion (vegetative), ginger and turmeric (rhizome maturity / harvesting), *kharif* vegetables viz. bhindi, bean, French bean (harvesting), tomato, cauliflower, cabbage (vegetative), sweet potato (stem elongation), potato (vegetative), green peas, bell pepper (vegetative), wheat(sowing) in Jharkhand.
- Rice (grain maturity / harvesting), pigeon pea (pod formation / pod maturity), turmeric, ginger (rhizome formation), *rabi* vegetables (transplanting), sugarcane (grand growth), banana (vegetative), mustard (sowing / seedling), wheat, groundnut, cluster bean, green pea (sowing) in Odisha.
- *Aman* rice (maturity / harvesting), ginger, turmeric (rhizome formation), tomato, brinjal (transplanting / early vegetative), cabbage and cauliflower (transplanting), wheat, mustard (sowing), potato (planting), winter flower like marigold (transplanting) in West Bengal.
- Wheat (tillering), *rabi* vegetables (vegetative / late vegetative), large cardamom (harvesting), rice (grain maturity / harvesting), ginger (maturity / harvesting), mustard (vegetative), *rabi* potato (planting / germination /vegetative) in Sikkim.

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

- *Boro* rice (nursery sowing/ transplanting), sugarcane (Autumn) (active vegetative), *sali* rice (grain maturity / harvesting), rapeseed and mustard (vegetative / flowering/ pod formation), *rabi* pulses like lentil, rajmah, pea, lathyrus etc. (sowing / early vegetative), wheat (sowing / early vegetative), winter vegetables (transplanting / early vegetative), potato (planting / vegetative/ stolon formation), cole crop (transplanting / vegetative) in Assam.
- Cauliflower, cabbage, broccoli and kholkhol (vegetative/maturity), spinach, carrot (vegetative), mustard (active

vegetative/ flowering), pea (early vegetative), winter maize (vegetative/ flowering) and potato (vegetative) in Arunachal Pradesh.

- Rapeseed and mustard, pea, pulses (sowing / early vegetative), *rabi* vegetables, cole crops (early vegetative / vegetative), potato (early vegetative), onion (early vegetative), ginger/turmeric (maturity/ harvesting), cucurbits (nursery raising) in Manipur.
- *Sali* rice (grain maturity / harvesting), potato (vegetative), rapeseed and mustard (vegetative), cauliflower and other winter vegetables (transplanting) in Meghalaya.
- Ginger and turmeric (vegetative / rhizome formation), banana (fruiting / maturity / harvesting), cole crops (transplanting) in Mizoram.
- Maize (vegetative/tasseling), mustard (vegetative), potato, rajmah (vegetative), cabbage, brocolli (vegetative/ head formation), tomato (early vegetative/ vegetative) in Nagaland.
- *Rabi* maize (vegetative), lentil (sowing), potato (planting), winter vegetables (transplanting), banana (vegetative / fruiting / harvesting), toria (active vegetative/ flowering), cole crops, tomato, brinjal and radish (vegetative) in Tripura.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- *Kharif* Cotton (boll development/boll maturity/picking in Madhya Maharashtra, Marathwada, Vidarbha), red gram (pod development in Madhya Maharashtra, Vidarbha and Marathwada), *rabi* jowar (early vegetative/vegetative in Madhya Maharashtra, Marathwada), safflower (early vegetative in Madhya Maharashtra, Marathwada and Vidarbha), gram (early vegetative/branching in Madhya Maharashtra, Marathwada, Vidarbha), wheat (germination/crown root initiation in Madhya Maharashtra, Marathwada and Vidarbha), Maize (early vegetative in Madhya Maharashtra), adsali and pre seasonal (maturity/harvesting), suru (elongation), New adsali (early tillering / tillering in Marathwada and Madhya Maharashtra), pre-seasonal sugarcane (sprouting/early tillering in Marathwada and Madhya Maharashtra).
- Wheat (germination / crown root initiation), gram (germination / vegetative), castor (maturity / harvesting), cotton (boll maturity / picking), vegetables (fruiting / maturity), sugarcane (elongation), new sugarcane (planting / vegetative), cumin (sowing / early vegetative), fenugreek (seedling), cauliflower, cabbage (vegetative), onion (vegetative), potato (planting) in Gujarat.



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

- Bt.cotton (boll maturity/harvest), cotton (boll maturation/harvest),pulses (sowing to seedling / early vegetative), chilli (seedling / vegetative stage) in Krishna Godavari Zone of Andhra Pradesh},sugarcane (Jan-March planted) (cane development), late sown kharif rice (grain filling/maturity), castor(capsule maturity/harvest), banana (fruit development), *rabi* crops: rice (tillering), rabi groundnut (sowing/seedling), pulses (sowing), maize (dough stage), red gram (flowering/pod initiation), Bengal gram (flowering/pod development) and jowar (panicle initiation), chillies (maturity/harvest), vegetables (vegetative), onion (bulb development) in Andhra Pradesh.
- Sugarcane (grand growth), samba rice (tillering/panicle initiation to flowering), thaladi rice (tillering/sowing to vegetative of bapatla variety in Erode district), cotton(vegetative/maturity), maize(vegetative to flowering/maturity), onion (vegetative), sunflower (seedling), winter cotton (vegetative), groundnut (pod development / harvesting), vegetables (growing), black gram (flowering), rainfed cotton(squaring), rainfed maize, pearl millet and sorghum (flowering) and pulses (flowering) in Tamil Nadu.
- Mundakan rice (transplanting to tillering/ panicle initiation), Uma variety rice (harvesting) and *Puncha* rice (sowing) in Kottayam district, arecanut (harvesting), sugarcane (grand growth), rubber (tapping), *rabi* vegetables (planting), pepper (berry maturity), cardamom (harvesting), in Kerala.
- Sugarcane (grand growth), kharif crops: ragi (harvesting), maize (harvesting), red gram (harvesting), groundnut (harvesting), rice (harvesting), cotton (picking), *Rabi* Crops: Bengal gram, sunflower, sorghum, safflower and wheat (sowing),rice (transplanting in coastal Karnataka), sugarcane(planting) in Karnataka.

Annexure II
Week by week Rainfall Distribution

State/Districts	06.11.13		13.11.13		20.11.13		27.11.13		04.12.13	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
Arunachal Pradesh										
Anjaw	**	**	0.0	-100	0.0	-100	0.0	-100	**	**
Changlang	0.8	-96	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dibang Valley	37.0	47	0.0	-100	0.0	-100	0.0	-100	0.0	-100
East Kameng	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
East Siang	0.2	-98	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kurung Kumey	**	**	**	**	**	**	**	**	**	**
Lohit	10.5	22	0.0	-100	0.0	-100	0.0	-100	0.3	-96
Lower Dibang Valley	11.8	-53	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Lower Subansari	**	**	**	**	**	**	**	**	**	**
Papumpara	0.9	-85	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Tawang	28.0	284	0.0	-100	0.0	-100	0.0	-100	5.0	-38
Tirap	1.4	-88	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Upper Siang	71.0	64	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Upper Subansari	21.2	458	0.0	-100	0.0	-100	0.0	-100	0.0	-100
West Kameng	0.8	-89	0.0	-100	0.0	-100	0.0	-100	0.0	-100
West Siang	7.0	-38	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Assam										
Baksa	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Barpeta	5.8	100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bongaigaon	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Cachar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Chirang	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Darrang	4.0	-27	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dhemaji	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dhubri	7.4	-31	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dibrugarh	0.2	-98	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Goalpara	2.0	-72	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Golghat	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Hailakandi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jorhat	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kamrup(Rural)	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kamrup(Metro)	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Karbi Anglong	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Karimganj	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kokrajhar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Lakhimpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Morigaon	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
N.C.Hills	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nowgong	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nalbari	1.7	-43	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sonitpur	1.2	-79	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sibsagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100

Tinsukia	2.8	-73	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Udalgiri	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Meghalaya										
East Garo Hills	**	-100	0.0	-100	**	**	**	**	0.0	-100
East Khasi Hills	0.2	-98	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jaintia Hills	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Ribhoi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
South Garo Hills	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
West Garo Hills	10.0	45	0.0	-100	0.0	-100	0.0	-100	0.0	-100
West Khasi Hills	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mizoram										
Aizwal	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Champhai	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kolasib	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Lawngtlai	0.0	-100	0.0	-100	0.0	-100	0.0	-100	1.0	-84
Lunglei	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mamit	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Saiha	0.0	-100	0.0	-100	0.0	-100	0.0	-100	11.0	67
Serchhip	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Manipur										
Bishnupur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Chandel	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Churachandpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	**	**
Imphal east	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Imphal west	**	**	**	**	**	**	**	**	**	**
Senapati	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Tamenglong	**	**	**	**	**	**	**	**	**	**
Thoubal	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Ukhrul	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nagaland										
Dimapur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kephire	1.0	-92	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kohima	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Longleng	**	**	**	**	**	**	**	**	**	**
Mokokchung	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mon	**	**	**	**	**	**	**	**	**	**
Paran	**	**	**	**	**	**	**	**	**	**
Phek	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Tuensang	**	**	**	**	**	**	**	**	**	**
Wokha	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Zunheboto	**	**	**	**	**	**	**	**	**	**
Tripura										
Dhalai	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
North tripura	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
South tripura	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
West tripura	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Himachal Pradesh										
Bilaspur	2.6	-14	10.5	175	0.0	-100	0.0	-100	0.0	-100
Chamba	11.9	191	32.1	1361	0.0	-100	0.0	-100	0.0	-100

Hamirpur	0.0	-100	12.4	727	0.0	-100	0.0	-100	0.0	-100
Kangra	1.4	-48	19.5	926	0.0	-100	0.0	-100	0.0	-100
Kinnaur	0.0	-100	8.4	127	0.0	-100	0.0	-100	0.0	-100
Kullu	0.1	-98	21.8	328	0.0	-100	0.0	-100	0.0	-100
Lahaul and Spiti	1.3	-78	12.9	158	0.0	-100	0.0	-100	0.0	-100
Mandi	0.0	-99	17.6	469	0.0	-100	0.0	-100	0.0	-100
Shimla	2.1	-42	8.4	164	0.0	-100	0.0	-100	0.0	-100
Sirmaur	7.9	367	1.4	-11	0.0	-100	0.0	-100	0.0	-100
Solan	7.5	128	18.7	713	0.0	-100	0.0	-100	0.0	-100
Una	3.7	38	7.8	289	0.0	-100	0.0	-100	0.0	-100
Punjab										
Amritsar	0.0	-100	10.5	454	0.0	-100	0.0	-100	0.0	-100
Barnala	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bhatinda	0.0	-100	4.0	3900	0.0	-100	0.0	-100	0.0	-100
Faridkot	2.0	18	11.0	900	0.0	-100	0.0	-100	0.0	-100
Fatehgarh Saheb	8.0	122	3.0	650	0.0	-100	0.0	-100	0.0	-100
Ferozpur	0.5	-64	12.3	1956	0.0	-100	0.0	-100	0.0	-100
Gurdaspur	2.5	26	13.0	549	0.0	-100	0.0	-100	0.0	-100
Hoshiarpur	2.3	-6	3.7	103	0.0	-100	0.0	-100	0.0	-100
Jalandhar	2.7	27	2.6	189	0.0	-100	0.0	-100	0.0	-100
Kapurthala	0.0	-100	0.3	-77	0.0	-100	0.0	-100	0.0	-100
Ludhiana	6.1	222	0.2	-46	0.0	-100	0.0	-100	0.0	-100
Mansa	0.0	-100	2.5	400	0.0	-100	0.0	-100	0.0	-100
Moga	0.5	-44	4.6	667	0.0	-100	0.0	-100	0.0	-100
Muktesar	0.0	-100	2.0	567	0.0	-100	0.0	-100	0.0	-100
Nawashahar	3.0	58	6.4	108	0.0	-100	0.0	-100	0.0	-100
Patiala	1.0	-54	0.3	14	0.0	-100	0.0	-100	0.0	-100
Ropar	3.6	38	8.7	136	0.0	-100	0.0	-100	0.0	-100
Sangrur	1.0	-44	0.6	-25	0.0	-100	0.0	-100	0.0	-100
Mohali	2.0	-23	0.0	-100	0.0	-100	0.0	-100	0.0	-100
TarnTaran	0.0	-100	25.2	2420	0.0	-100	0.0	-100	0.0	-100
Haryana										
Ambala	5.6	370	1.0	90	0.0	-100	0.0	-100	0.0	-100
Bhiwani	0.0	-97	2.9	1350	0.0	-100	0.0	-100	0.0	-100
Chandigarh	12.9	257	0.4	-71	0.0	-100	0.0	-100	0.0	-100
Faridabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Fatehabad	0.0	-100	1.0	233	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	0.0	-100	5.7	5567	0.0	-100	0.0	-100	0.0	-100
Jhajar	0.0	-100	0.8	67	0.0	-100	0.0	-100	0.0	-100
Jind	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Katihah	0.8	-60	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Karnal	0.6	-73	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kurukshetra	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mahendragarh	0.0	-100	1.0	67	0.0	-100	0.0	-100	0.0	-100
Mewat	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Palwal	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Panchkkula	6.7	251	0.3	-70	0.0	-100	0.0	-100	0.0	-100
Panipat	1.0	-58	0.1	43	0.0	-100	0.0	-100	0.0	-100

Rewari	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Rohtak	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sirsa	0.0	-100	1.0	150	0.0	-100	0.0	-100	0.0	-100
Sonepat	0.0	-100	0.5	0	0.0	-100	0.0	-100	0.0	-100
Yamunanagar	7.8	169	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Delhi	0.4	-68	0.4	34	0.0	-100	0.0	-100	0.0	-100
Jammu & Kashmir										
Anantnag	23.1	157	10.7	69	0.0	-100	0.0	-100	0.0	-100
Badgam	4.1	-53	2.2	-44	0.0	-100	0.0	-100	0.0	-100
Bandipore	**	**	**	**	**	**	**	**	**	**
Baramula	14.8	-1	6.6	34	0.0	-100	0.0	-100	0.0	-100
Doda	16.8	113	19.2	262	0.0	-100	0.0	-100	0.0	-100
Ganderwal	22.2	231	22.3	321	0.0	-100	0.0	-100	0.0	-100
Jammu	2.2	69	13.1	671	0.0	-100	0.0	-100	0.0	-100
Kargil	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kathua	2.8	250	21.8	1717	0.0	-100	0.0	-100	0.0	-100
Kistwar	**	**	**	**	**	**	**	**	**	**
Kulgam	12.4	38	9.1	44	0.0	-100	0.0	-100	0.0	-100
Kupwara	17.3	33	11.1	31	0.0	-100	0.0	-100	0.0	-100
Ladakh(Leh)	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Poonch	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Pulwama	8.2	82	5.0	61	0.0	-100	0.0	-100	0.0	-100
Rajouri	0.2	100	64.8	21500	0.0	-100	0.0	-100	0.0	-100
Ramban	9.8	24	9.5	79	0.0	-100	0.0	-100	0.0	-100
Reasi	6.0	50	29.5	1129	0.0	-100	0.0	-100	0.0	-100
Samba	2.1	62	10.3	506	0.0	-100	0.0	-100	0.0	-100
Shopian	10.0	122	6.0	94	0.0	-100	0.0	-100	0.0	-100
Srinagar	11.4	70	5.2	-2	0.0	-100	0.0	-100	0.0	-100
Udhampur	3.9	-3	14.8	517	0.0	-100	0.0	-100	0.0	-100
East Madhya Pradesh										
Anuppur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Balaghat	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Chhatarpur	0.0	-100	0.6	-76	0.0	-100	0.0	-100	0.0	-100
Chindwara	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Damoh	0.0	-100	6.7	375	0.0	-100	0.0	-100	0.0	-100
Dindori	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jabalpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Katni	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mandla	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Narsingpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Panna	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Rewa	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sagar	0.0	-100	0.4	-87	0.0	-100	0.0	-100	0.0	-100
Satna	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Seoni	0.0	-100	0.9	-67	0.0	-100	0.0	-100	0.0	-100
Shahdol	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sidhi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Singrauli	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100

Tikamgarh	0.0	-100	1.0	-29	0.0	-100	0.0	-100	0.0	-100
Umaria	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
West Madhya Pradesh										
Alirajpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Asoknagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Badwani	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Betul	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bhind	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bhopal	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Burhanpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Datia	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dewas	0.0	-100	0.0	-100	0.0	-100	0.0	-100	1.2	-82
Dhar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Guna	0.0	-100	2.6	-17	0.0	-100	0.0	-100	0.0	-100
Gwalior	0.0	-100	2.5	36	0.0	-100	0.0	-100	0.0	-100
Harda	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Hosangabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Indore	0.0	-100	0.0	-100	0.0	-100	0.0	-100	5.2	126
Jhabua	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Khandwa	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.7	-88
Khargone	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mandsaur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Morena	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Neemuch	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Raisen	0.0	-100	1.6	123	0.0	-100	0.0	-100	0.0	-100
Rajgarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	8.2	83
Ratlam	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sehore	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Shajapur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sheopur Kalani	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Shivpuri	0.0	-100	0.3	-83	0.0	-100	0.0	-100	0.0	-100
Ujjain	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Vidisha	0.0	-100	0.0	-100	0.0	-100	0.0	-100	1.1	-78
Chattisgarh										
Bastar	0.0	-100	0.0	-100	0.3	-86	3.4	-6	0.0	-100
Bijapur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bilaspur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dantewara	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dhamtari	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Durg	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Janjgir	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jashpurnagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kanker	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Korba	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Koriya	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kawardha	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mahasumund	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Narayanpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100

Agra	0.0	-100	0.2	-93	0.0	-100	0.0	-100	0.0	-100
Aligarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Auraiya	0.0	-100	6.0	186	0.0	-100	0.0	-100	0.0	-100
Badaun	0.0	-100	0.4	-64	0.0	-100	0.0	-100	0.0	-100
Baghpat	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bareilly	0.0	-100	0.4	-39	0.0	-100	0.0	-100	0.0	-100
Bijnor	0.0	-100	4.1	86	0.0	-100	0.0	-100	0.0	-100
Bulandsahar	0.0	-100	1.7	28	0.0	-100	0.0	-100	0.0	-100
Etah	0.0	-100	0.3	-33	0.0	-100	0.0	-100	0.0	-100
Etawah	0.0	-100	2.0	25	0.0	-100	0.0	-100	0.0	-100
Firozabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
GBNagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Ghaziabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Hamirpur	0.0	-100	1.7	4	0.0	-100	0.0	-100	0.0	-100
Jalaun	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jhansi	0.0	-100	4.0	48	0.0	-100	0.0	-100	0.0	-100
Jotirba Phule Nagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kanshiramnagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Lalitpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mahamaya Nagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mahoba	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mainpuri	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mathura	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Meerut	0.0	-100	0.1	-91	0.0	-100	0.0	-100	0.0	-100
Moradabad	0.0	-100	2.4	118	0.0	-100	0.0	-100	0.0	-100
Muzaffarnagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Pilibhit	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Rampur	0.0	-100	2.2	2067	0.0	-100	0.0	-100	0.0	-100
Saharanpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Shahjahanpur	0.0	-100	7.3	1117	0.0	-100	0.0	-100	0.0	-100
Uttarakhand										
Almora	0.0	-100	9.6	336	0.0	-100	0.0	-100	0.0	-100
Bageshwar	0.0	-100	2.3	5	0.0	-100	0.0	-100	0.0	-100
Chamoli	0.0	-100	3.3	58	0.0	-100	0.0	-100	0.0	-100
Champawat	0.0	-100	0.5	-71	0.0	-100	0.0	-100	0.0	-100
Dehradun	0.4	-93	8.5	174	0.0	-100	0.0	-100	0.0	-100
Garhwal Pauri	0.0	-100	0.1	-95	0.0	-100	0.0	-100	0.0	-100
Garhwal Tehri	0.7	-83	2.6	-6	0.0	-100	0.0	-100	0.0	-100
Haridwar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nainital	0.0	-100	1.7	24	0.0	-100	0.0	-100	0.0	-100
Pithorgarh	0.0	-100	5.5	82	0.0	-100	0.0	-100	0.0	-100
Rudraprayag	0.0	-100	3.1	182	0.0	-100	0.0	-100	0.0	-100
Udham Sing Nagar	0.8	-50	0.1	-91	0.0	-100	0.0	-100	0.0	-100
Uttarkashi	0.0	-100	2.3	-18	0.0	-100	0.0	-100	0.0	-100
Bihar										
Araria	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Arwal	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Aurangabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Banka	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100

Begusarai	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bhabua	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bhagalpur	6.8	70	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bhojpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Buxar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Darbhanga	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
East Champaran	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Gaya	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Gopalganj	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jahanabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jamui	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kathihar	1.2	-66	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Khagadia	1.6	-16	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kishanganj	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Lakhisarai	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Madhepura	6.0	131	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Madhubani	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Monghyar	3.2	39	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Muzaffarpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nalanda	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nawada	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Patna	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Purnea	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Rohtas	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Saharsha	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Samstipur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Saran	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sheikpura	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sheohar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sitamarhi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Siwan	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Supaul	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Vaishali	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
West Champaran	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jharkhand										
Bokaro	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Chatra	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Deoghar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dhanbad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dumka	**	**	**	**	**	**	0.0	-100	**	**
East Singbhum	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Garhwa	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Giridih	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Godda	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Gumla	**	**	**	**	**	**	0.0	-100	**	**
Hazaribagh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jamtara	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Khunti	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Koderma	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100

Latehar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Lohardagga	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Pakur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Palamau	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Ramgarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Ranchi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sahebganj	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Saraikela	0.0	-100	0.0	-100	**	**	0.0	-100	**	**
Simdega	**	**	**	**	**	**	0.0	-100	**	**
West Singbhum	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
East Rajasthan										
Ajmer	0.0	-100	0.3	-16	0.0	-100	0.0	-100	0.0	-100
Alwar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Banswara	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Baran	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bharatpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bhilwara	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bundi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Chittorgarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dausa	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dholpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dungarpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jaipur	0.0	-100	0.6	29	0.0	-100	0.0	-100	0.0	-100
Jhalawar	0.0	-100	0.2	-92	0.0	-100	0.0	-100	0.0	-100
Jhunjhunu	0.5	-34	13.3	4321	0.0	-100	0.0	-100	0.0	-100
Karauli	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kota	0.0	-100	0.4	-85	0.0	-100	0.0	-100	0.0	-100
Pratapgarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Rajsamand	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sawai Madhopur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sikar	0.0	-100	8.7	4257	0.0	-100	0.0	-100	0.0	-100
Sirohi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Tonk	0.0	-100	0.5	-59	0.0	-100	0.0	-100	0.0	-100
Udaipur	0.0	-100	0.0	-99	0.0	-100	0.0	-100	0.0	-100
West Rajasthan										
Barmer	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bikaner	0.0	-100	0.4	200	0.0	-100	0.0	-100	0.0	-100
Churu	0.1	-91	9.0	4400	0.0	-100	0.0	-100	0.0	-100
Hanumangarh	0.0	-100	0.7	43	0.0	-100	0.0	-100	0.0	-100
Jaisalmer	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jalore	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jodhpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nagaur	0.0	-100	0.9	125	0.0	-100	0.0	-100	0.0	-100
Pali	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sri Ganganagar	0.0	-100	3.4	1017	0.0	-100	0.0	-100	0.0	-100
Gujarat Region										
Ahmedabad	0.3	-78	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Anand	0.3	-86	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Banaskantha	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100

Baroda	0.0	-100	0.0	-100	0.0	-100	0.1	-97	0.0	-100
Broach	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
DNH	0.0	-100	0.0	-100	0.0	-100	0.0	-100	**	**
Dahod	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Daman	0.0	-100	0.0	-100	0.0	-100	0.0	-100	**	**
Dangs	0.0	-100	0.0	-100	0.0	-100	2.7	-55	0.0	-100
Gandhinagar	0.8	-20	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kheda	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Mehsana	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Narmada	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Navsari	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Panchmahal	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Patan	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sabarkantha	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Surat	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Tapi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Valsad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
S K & Diu region										
Amreli	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bhavnagar	0.1	-95	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Diu	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jamnagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Junagarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kutch	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Porbandar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Rajkot	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Surendranagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Maharashtra										
Konkan & Goa										
Goa	0.0	-100	0.0	-100	0.0	-100	7.0	27	1.4	0
Mumbai	0.0	-100	0.0	-100	0.0	-100	6.4	300	0.5	-64
Raigad	2.2	-55	0.0	-100	0.0	-100	0.9	-75	4.9	157
Ratnagiri	0.3	-96	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Sindhudurg	0.0	-100	0.0	-100	0.0	-100	6.4	8	0.0	-100
Thane	0.0	-100	0.0	-100	0.0	-100	0.3	-88	0.0	-100
Madhya Maharashtra										
Ahmednagar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dhule	0.0	-100	**	**	**	**	**	**	0.0	-100
Jalgaon	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kolhapur	0.0	-100	0.0	-100	0.0	-100	0.6	-90	0.0	-100
Nandurbar	0.0	-100	**	**	**	**	0.0	-100	0.0	-100
Nasik	0.0	-100	0.0	-100	0.0	-100	1.7	-66	0.0	-100
Pune	0.0	-100	0.0	-100	0.0	-100	13.6	142	5.1	65
Sangli	0.0	-100	0.0	-100	0.0	-100	7.6	65	2.4	85
Satara	0.0	-100	0.0	-100	0.0	-100	5.6	-10	4.1	65
Solapur	4.9	-31	0.0	-100	0.0	-100	0.0	-100	0.7	-68
Marathwada										
Aurangabad	0.0	-100	0.0	-100	0.0	-100	10.4	76	9.6	12

Beed	0.0	-100	**	**	**	**	3.0	-49	22.4	702
Hingoli	0.0	-100	**	**	**	**	**	**	1.0	-68
Jalna	0.0	-100	**	**	**	**	6.8	6	8.6	56
Latur	0.0	-100	0.0	-100	0.0	-100	2.9	-8	32.6	1023
Nanded	0.0	-100	0.0	-100	0.0	-100	13.9	673	0.0	-100
Usmanabad	0.0	-100	0.0	-100	0.0	-100	4.7	5	2.1	24
Parbhani	0.0	-100	0.0	-100	0.0	-100	6.2	78	16.5	449
Vidarbha										
Akola	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.1	-99
Amraoti	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bhandara	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Buldhana	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Chandrapur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Gadchiroli	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Gondia	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nagpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Wardha	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Washim	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Yeotmal	0.0	-100	0.0	-100	0.0	-100	0.2	-94	0.0	-100
Odisha										
Angul	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Balasore	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bargarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bhadrak	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Bolangir	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Boudh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Cuttack	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Deogarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Dhenkanal	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Gajapati	0.0	-100	0.0	-100	0.0	-100	7.4	200	0.2	-71
Ganjam	0.0	-100	0.0	-100	0.0	-100	2.6	-66	0.0	-100
Jagatsingpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jajpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jharsuguda	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kalahandi	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kandhamal	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kendrapara	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Keonjhar	0.0	-100	0.0	-100	0.0	-100	0.1	-87	0.0	-100
Khurda	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.1	-96
Koraput	0.0	-100	0.0	-100	0.0	-100	10.8	121	0.0	-100
Malkangiri	0.0	-100	0.0	-100	0.0	-100	10.0	355	0.0	-100
Mayurbhanj	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nawapara	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nawarangpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nayagarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Puri	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Rayagada	0.0	-100	0.0	-100	0.0	-100	1.7	68	0.0	-100
Sambalpur	0.0	-100	0.0	-100	0.0	-100	0.0	-98	0.0	-100
Sonepur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100

Sundargarh	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
West Bengal										
GWB										
Bankura	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Birbhum	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Burdwan	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
East Midnapore	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Hooghly	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Howrah	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kolkata	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Murshidabad	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nadia	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
24 Pargana (N)	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Purulia	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
24 Pargana (S)	0.3	-99	0.0	-100	0.0	-100	0.0	-100	0.0	-100
West Midnapore	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
SHWB										
Cooch Behar	6.4	-4	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Darjeeling	14.1	85	0.0	-100	0.0	-100	0.0	-100	0.0	-100
East Sikkim	41.6	1199	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Jalpaiguri	6.5	63	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Malda	2.8	-44	0.0	-100	0.0	-100	0.0	-100	0.0	-100
North Dinajpur	**	**	0.0	-100	0.0	-100	0.0	-100	0.0	-100
North Sikkim	107.5	851	0.0	-100	0.0	-100	0.0	-100	0.0	-100
South Dinajpur	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
South Sikkim	2.2	-31	0.0	-100	0.0	-100	0.0	-100	0.0	-100
West Sikkim	3.2	-72	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Karnataka										
Coastal Karnataka										
Dakshin Kannada	28.0	7	2.6	-89	16.5	-16	29.3	107	27.1	420
Udupi	21.6	-6	5.5	-78	10.3	-27	21.8	64	2.3	-73
Uttar Kannada	12.1	4	0.0	-100	0.0	-100	4.5	-34	0.8	-86
N I Karnataka										
Bagalkote	0.0	-100	0.0	-100	0.0	-100	0.3	-90	0.4	-88
Belgaum	0.0	-100	0.0	-100	0.0	-100	1.8	-61	0.6	-80
Bidar	0.1	-99	0.0	-100	0.0	-100	25.3	503	2.2	-20
Bijapur	1.4	-87	0.0	-100	0.0	-100	0.0	-100	0.3	-83
Dharwad	0.0	-100	0.0	-100	0.0	-100	0.4	-94	1.4	-77
Gadag	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Gulbarga	2.4	-67	0.0	-100	0.0	-100	2.9	-7	1.2	-52
Haveri	0.0	-100	0.0	-100	0.0	-100	1.7	-74	0.0	-100
Koppal	0.0	-100	0.0	-100	2.2	-68	0.0	-100	0.0	-100
Raichur	0.0	-100	0.0	-100	0.0	-100	2.3	-27	0.9	-49
Yadgir	0.0	-100	0.0	-100	0.0	-100	0.6	-82	0.6	-69
S I Karnataka										
Bangalore Rural	11.2	-48	0.0	-100	13.0	45	35.6	275	5.1	-22
Bangalore Urban	10.1	-47	0.0	-100	10.8	4	42.4	300	1.4	-79
Bellary	7.6	-38	0.0	-100	1.9	-75	0.8	-73	0.0	-100
Chamarajnaragar	10.4	-52	0.2	-99	36.0	181	3.2	-72	2.9	-67

Chichballapur	6.6	-71	0.0	-100	8.8	4	7.6	-32	3.7	-34
Chickmagalur	5.6	-70	0.6	-97	0.2	-99	9.8	-6	4.3	-8
Chitradurga	1.8	-85	0.0	-100	1.6	-82	0.4	-91	0.1	-95
Davangere	1.1	-92	0.0	-100	0.0	-100	3.9	-32	0.0	-100
Hassan	3.1	-84	2.9	-82	4.7	-59	18.9	108	7.4	116
Kodagu	9.1	-58	3.8	-83	1.3	-90	17.9	10	6.9	16
Kolar	3.5	-83	0.0	-100	16.9	49	0.5	-96	3.6	-53
Mandya	7.0	-62	1.2	-92	15.6	79	18.9	137	4.0	43
Mysore	8.1	-51	1.0	-92	15.0	25	22.6	159	0.2	-95
Ramnagara	6.4	-69	0.0	-100	9.1	1	20.8	115	3.7	-15
Shimoga	9.3	-19	0.0	-100	1.4	-90	3.3	-54	1.2	-68
Tumkur	4.3	-76	0.0	-100	6.4	-19	18.7	92	0.3	-92
Kerala										
Alappuzha	40.3	-43	45.3	-12	26.7	-30	58.1	87	12.6	-30
Kannur	15.2	-59	0.0	-100	5.5	-67	21.7	30	19.8	133
Ernakulam	60.8	12	28.1	-31	64.6	122	53.3	113	48.5	362
Idukki	33.0	-51	40.4	-22	28.1	-9	79.7	219	17.4	5
Kasaragod	7.4	-75	0.0	-100	6.5	-66	14.7	7	9.5	83
Kollam	36.3	-59	65.4	3	44.9	-1	67.3	118	17.6	-1
Kottayam	41.2	-42	58.8	19	52.9	68	90.1	202	15.1	34
Kozhikode	27.6	-42	1.0	-97	41.4	66	25.7	31	14.7	56
Malappuram	68.5	25	16.0	-51	21.8	-23	42.1	82	40.7	422
Palakkad	24.9	-56	4.3	-88	14.5	-42	30.0	30	7.1	-38
Pathanamthitta	80.9	8	79.0	31	74.9	41	66.5	128	14.9	-2
Thiruvananthapuram	34.4	-57	113.2	132	32.4	-15	95.1	256	13.7	-37
Thrissur	37.1	-28	1.5	-97	50.0	110	19.4	-11	9.5	-17
Wyanad	18.7	-30	0.2	-99	1.8	-90	6.8	-63	19.1	136
Tamil Nadu										
Ariyalur	28.3	217	13.3	-79	89.5	82	0.0	-100	29.8	-27
Chennai	0.0	-100	0.0	-100	127.9	63	0.0	-100	71.4	38
Coimbatore	0.6	-89	7.9	-79	20.6	-10	1.9	21	17.5	10
Cuddalore	21.7	39	11.8	-85	91.6	25	0.0	-100	61.2	5
Dharmapuri	2.3	-54	0.0	-100	79.1	291	0.0	-100	5.5	-64
Dindigul	10.8	20	0.6	-99	17.6	-44	0.0	-100	19.9	-22
Erode	0.2	-96	1.8	-94	35.8	78	0.0	-100	9.6	-39
Kanchipuram	0.2	-99	0.0	-100	77.8	46	0.0	-100	38.8	-14
Kanyakumari	0.1	-99	75.7	26	66.2	61	0.0	-100	16.4	-25
Karikal	18.9	-42	2.1	-98	159.6	85	0.0	-100	120.2	63
Karur	6.5	-10	0.0	-100	59.0	188	0.0	-100	15.4	-5
Krishnagiri	0.3	-90	0.0	-100	55.7	238	0.0	-100	7.9	-21
Madurai	3.6	-47	0.9	-98	6.6	-75	0.1	-94	10.6	-41
Nagapattinam	50.6	153	32.4	-71	143.0	46	0.0	-100	111.7	28
Namakkal	0.8	-88	0.0	-100	47.5	167	0.0	-100	7.8	-51
Nilgiris	1.1	-86	4.1	-93	64.9	81	2.1	-16	30.4	4
Perambalur	9.0	27	0.8	-98	117.1	236	0.0	-100	21.6	-24
Puducherry	0.4	-98	1.7	-98	126.0	64	0.0	-100	39.5	-36
Pudukottai	5.6	-8	7.2	-81	17.1	-52	0.0	-100	32.1	1
Ramanathapuram	1.9	-78	13.3	-73	3.1	-91	0.0	-100	93.2	147
Salem	4.0	-22	0.0	-100	55.7	101	0.0	-100	12.4	-37

Sivaganga	4.3	-46	19.1	-54	0.6	-98	0.0	-100	30.8	26
Thanjavur	34.2	183	8.6	-84	56.0	24	0.0	-100	52.2	20
Theni	6.6	3	4.5	-89	19.8	-25	0.5	-69	10.8	-22
Tirunelveli	14.9	64	11.8	-80	64.2	46	2.2	-49	64.5	107
Tirupur	0.0	-100	0.0	-100	21.5	3	0.0	-100	19.2	26
Tiruvallur	0.0	-100	1.0	-99	81.2	47	0.3	-96	18.5	-53
Tiruvannamalai	0.0	-100	0.0	-100	91.1	144	0.0	-100	16.1	-35
Tiruvarur	21.8	51	15.7	-79	64.7	-12	0.0	-100	94.7	33
Toothukudi	7.3	-19	30.4	-34	36.4	-8	0.0	-100	52.3	72
Trichy	15.9	141	4.0	-90	94.9	244	0.0	-100	19.2	-13
Vellore	0.0	-100	0.0	-100	38.5	47	0.0	-100	2.6	-86
Villupuram	2.7	-72	1.3	-98	99.4	114	0.0	-100	30.7	-16
Virudhunagar	1.1	-89	4.4	-90	15.6	-56	0.6	-84	15.1	-31
Andhra Pradesh										
Coastal Andhra Pradesh										
East Godavari	2.0	-92	0.0	-100	0.0	-99	37.0	136	13.2	371
Guntur	9.1	-69	0.0	-100	0.2	-99	39.3	236	21.7	538
Krishna	1.3	-96	0.0	-100	0.0	-100	68.8	488	18.9	721
Nellore	48.8	-49	0.1	-99	87.9	43	11.5	-78	1.9	-95
Prakasam	9.4	-79	0.0	-100	3.7	-84	10.6	-47	21.4	158
Sirkakulam	0.0	-100	0.0	-100	0.0	-100	37.3	171	1.0	-61
Visakhapatnam	0.0	-100	0.0	-100	0.0	-100	70.9	403	9.0	222
Vizianagram	0.0	-100	0.0	-100	0.0	-100	28.0	61	1.1	-48
West Godavari	1.3	-95	0.0	-100	0.1	-99	24.5	95	20.2	819
Telangana										
Adilabad	0.0	-100	0.0	-100	0.0	-100	0.6	-74	3.8	79
Hyderabad	0.0	-100	0.0	-100	0.0	-100	11.2	332	4.6	185
Karimnagar	0.0	-100	0.0	-100	0.0	-100	8.6	195	0.7	-51
Khammam	0.0	-100	0.0	-100	0.0	-100	17.5	298	3.1	179
Mehabubnagar	0.0	-100	0.0	-100	0.0	-100	3.2	-16	3.8	48
Medak	0.0	-100	0.0	-100	0.0	-100	31.5	799	1.7	11
Nalgonda	0.0	-100	0.0	-100	0.0	-100	20.3	350	9.1	469
Nizamabad	0.0	-100	0.0	-100	0.2	-93	16.9	504	2.7	83
Rangareddy	0.7	-90	0.0	-100	0.0	-100	21.7	579	3.2	113
Warangal	16.4	52	0.0	-100	0.0	-100	6.8	107	5.8	240
Rayalaseema										
Anantapur	3.4	-79	0.0	-100	0.8	-89	1.4	-78	0.0	-100
Chittoor	17.3	-58	0.0	-100	39.6	40	17.0	-36	0.4	-98
Cuddapah	7.0	-76	0.0	-100	12.6	-8	2.1	-85	0.0	-100
Kurnool	4.9	-60	0.0	-100	0.0	-100	0.5	-90	0.9	-59

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

Annexure III List of Varieties

Andhra Pradesh

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

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

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

Redgram: Laksmi (ICCP185063), LRG-38, LRG-41, WRG-27

Tamil Nadu

Groundnut: TMV-13 or CO-6

Gingelly: TMV-7 or SVPR-1

Chickpea: CO-4

Sunflower: TMV-13, CO-6

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, JG 11, JG-14, JG-74, JG-322, JG-01,

Cicer *kabulinum* (Kabuli chana): KAK-2, JGK-1, JGK-2, JGK-3

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, K Loukar, K Badshah.

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

Maize: JVM 421, JM 16.

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

Lentil: RVL-31, JL-2

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

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

Mustard: Pusa Mahak, Pusa Agrani,, Pusa Bold Jaggnath, Pusa Jay-Kisan, N.R.C.H.B- 506, J.M-02, 03

Chhattisgarh.

Wheat: Arpa, Vidisha, Kanchan

Gram: JG-16, 11, 74, 130, 315, indira chana-1 and vaibhav.

Maharashtra

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

Linseed: NL-97, PKV NL-260 in East Vidarbha.

Gujarat

Potato: Punkharaj, Kufari Chandramukhi, Kufari Jawahar, Kufari Bahar, Asoka (short duration), Kufari Laukar, Kufari Jyoti, Kufari Badshah, Kufar Sinduri, Satalaj (long duration).

Assam

Boro rice: Mahsuri, IR-50, Dinanath, Bishnuprasad, Jyotiprasad, Kanaklata, Dinanath.

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

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.

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

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

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

Manipur

Rapeseed and mustard: M-27.

Pea: Rachana.

Potato: Kufri Megha, Kufri Chipsona and Kufri Jyoti.

Jammu & Kashmir

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

Barley: RD-2552, RD-2052, RD-2035, RD-2503, RD-2715, RD-2660, RD-2508, Ratna, Jyoti and Sonu

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

Field pea: T-163, PG-2 and Rachna

Oat : Kent, Sabzar

Gram: C-235, Gaurav, K-468, SCS-3, PBG-1, RSG 44, Dahod yellow, GNG 16, ICCV 10, RSG 888, GNG 469 and Pratap chana 1

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

Vegetables:

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

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

Cabbage : Golden Acre, Pride of India and Pusa Mukta, Carrot :PusaKesar, P.Yamdagani. Turnip :PTWG (Purple Top White Globe). **Garlic** : Large Segmented, Yamuna Safed-3 Agrifound parvati, Methi :pusa early bunching and kasurimethi., Radish (var. P. Reshmi, Japanese White, Minowase) carrot (var. Pusa Kesar, P.Yamdagani), Peas var. Bonnevillea, AP-1, AP-3 & Punjab -89, Onion (Pusa Red ,N-53, Agrifound Dark Red & Agrifound Light Red), Knolkhol (King of Market and White Vienna), Spinach Beet (All Green).

Rajasthan

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

Barley: RD- 2052, RD 2035, RD 2624, RD 2660, RD 2668, RD 2552, RD 2592, RD2503, RD-2508, RD-2715, for normal sowing DWRUB 52 DWRUB 64 (for late sowing), RD 2668, BL 2.

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

Vegetables :

Onion:Pusa Red, ArkaNiketana, 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 Badshah and Kufri Sindoori, Kufri-Ashok and Chandramukhi, Mid sowing var.- Kufri-Anand, Chipsona-1, 2, Jyoti and Pukhraj. Methi: RMT-1, RMT-143, RMT-305, Pusa, Rajendra Kranti, Radish : Japanese white and hill queen

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, Kak-2), ICCV 10, RSG 888, GNG 469 GNG 149 and Pratap chana 1, RSG-888 (Anubhav) CSJD-884 (Aakash), RSG-2, BG-256, Phule G 5.

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

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

Uttarakhand

Chickpea : Avrodhi, Radhey, Pant G-114, Pant G-186, BG-56, Uday etc.

Gram: Kabuli Chana are BG-1003, BG-1053

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(Mundri wheat), 719, HL-272, VL-421, HS-240, VL-616, HS-277, VL-829, HD 2687, HD 2329, PBW 343 PBW-550, PBW-502, Raj 3077, UP 2338, UP-1109, UP-2382, UP-2584, UP-2572, UP-2554 etc.

Barley: Jow-1, VL Jow-56, 85, PRB-502, 507, 701.

Sarson:Varun, Kanti, Peeli sarson.

Masoor: Pant Masoor-4, 5, PL-234, PL- 639. Var. sown under sufficient soil moisture are VL masoor-1, 4, 203,

Potato : Kufri Satluj, Kufri Jawahar, Kufri Chipsoma-1, Kufri Chipsoma-2, Kufri Jyoti, Kufri Giriraj etc.

Onion : Pusa Red, Pusa Ratnar, Nasik Red, Pusa Madhavi, Punjab Round Red etc

Uttar Pradesh

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, 2338, Pusa- 256, KWR- 108, K-850, KGD- 1168, PVW- 343, 443 WH- 542, K- 9107, 9006, 9423,307, Raj-3077.

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

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

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

Onion- Pusa Red, Pusa White.

Berseem : VL- 01, 10, Maskavi

Himachal Pradesh

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

Barley: HBL-316 and Dolma

Oat: Palampur-1

Cauliflower : Patna snowball and joint snowball.

Pea: Ageta-6 and ArkalMatar.

Raddish: Japanese white, Chinese pink and mino early white

Turnip :PTWG-1

Carrot :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

Tomato: (TH-1/TH-2312/TH 802/Punjab NR 7/Punjab Tropic/ Pb Chhuara/Punjab kesri)

Chilli: CH-1, CH-3, Punjab Surkh, Punjab Tej, Punjab Sindhuri or Punjab Guchhedar.

Delhi

Wheat: H.D. 2687, H.D. 2851, H.D. 2894, H.D. 2967, D.B.W.-17

Oat: J.H.O-822, O.L.-9, Pusa oat-5 and for barseem – Vardan, Buland Barseem-1, Masakavi, J.B-3

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.

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.

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: Parbhati, 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.

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

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

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

West Bengal

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.

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

Onion: Rupsa, Sukhsagar.

Jharkhand

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

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

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

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

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

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

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

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

Bihar

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

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.

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