



National Agromet Advisory Service Bulletin



Friday 28th October 2016

(For the period 28th October to 1st November 2016)



Issued by

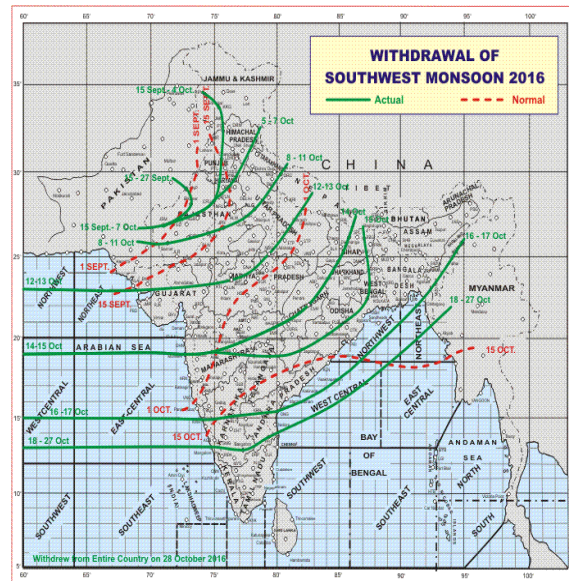
**National Agrometeorological Advisory Service Centre,
Agricultural Meteorology Division,
India Meteorological Department, Shivajinagar, Pune.**

Weblink For

District AAS Bulletin: <http://www.imdagrimet.gov.in/node/3545>

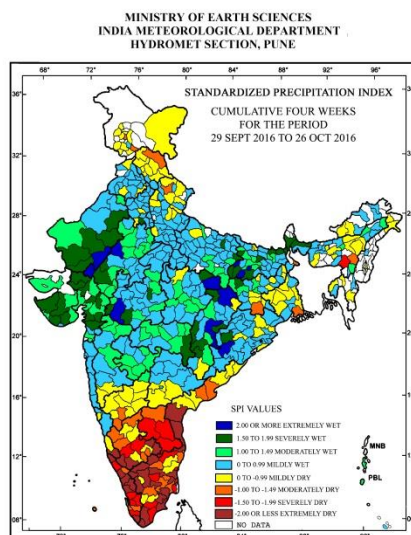
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

Monsoon Watch



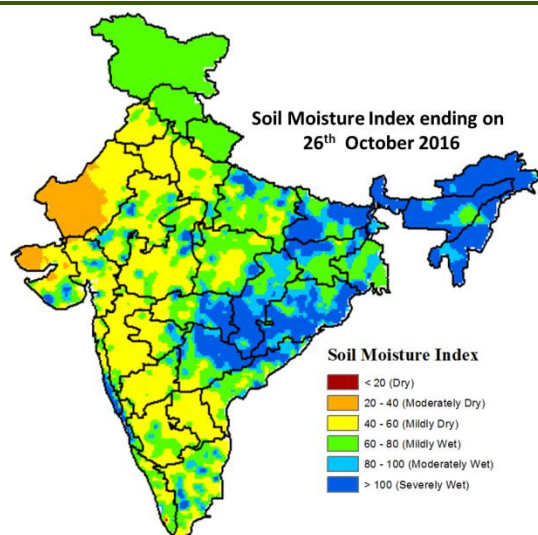
- Setting in of northeasterly winds along southern parts of the east coast indicates that southwest monsoon has withdrawn from the remaining parts of the country, Bay of Bengal and Arabian sea. Thus, it has withdrawn from the entire country, today, the 28th October 2016.
- Also, conditions are favourable for commencement of northeast monsoon rains over Tamilnadu, Kerala and adjoining parts of Andhra Pradesh & Karnataka around 30th October 2016.

Standardised Precipitation Index Four Weekly for the Period 29th September 2016 to 26th October 2016



- Extremely/severely wet conditions experienced in many districts of Gujarat Region, Saurashtra, Kutch & Diu; few districts of Bihar, Rajasthan, Chhattisgarh; Darjeeling, Jalpaiguri districts of West Bengal; Bolangir, Kalahandi districts of Odisha; Palamu, district of Jharkhand; Ballia, Sant Kabir Nagar districts of Uttar Pradesh; Rewari, district of Haryana; Bhopal, Dhar, Khargone, Alirajpur, Rewa, Singrauli districts of Madhya Pradesh; Gadchiroli district of Maharashtra.
- Extremely/Severely dry conditions experienced in many districts of Tamil Nadu & Puducherry; few districts of Andhra Pradesh, Kerala; Jaintia Hills district of Meghalaya; Chamarajanagar, Hassan, Kodagu, Kolar, Mysore, Tumkur, Chickballapur districts of Karnataka.
- Moderately dry conditions experienced in N. C. Hills district of Assam; South Dinajpur, Howrah district of West Bengal; West Singhbhum district of Jharkhand; Garhwal Tehri district of Uttarakhand; Lahaul & Spiti district of Himachal Pradesh; Doda, Pulwama districts of Jammu & Kashmir; East Godavari, Kurnool districts of Andhra Pradesh; Dharmapuri, Dindigul, Kanchipuram, Perambalur, Thanjavur, Trichy districts of Tamil Nadu & Puducherry; Gadag, Haveri, Bangalore Urban, Bellary, Chikmagalur, Shimoga, Ramanagara districts of Karnataka; Alappuzha, Pathanamthitta, Wynad districts of Kerala and Lakshadweep district of Lakshadweep.
- Rest of the country experienced moderately wet mildly dry/mildly wet conditions.

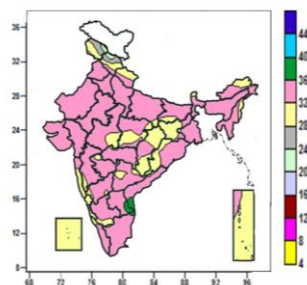
Soil Moisture Index for the week ending on 26th October 2016



- Soil moisture index indicates moderately dry condition in some parts of West Rajasthan and Kutch. Mild dry condition in many parts of Haryana & Delhi, Punjab, Rajasthan, Madhya Pradesh, West Uttar Pradesh, Maharashtra, Gujarat, Karnataka, Rayalaseema, Tamil Nadu and some parts of Coastal Andhra Pradesh, Kerala. Mild wet condition in many parts of Jammu & Kashmir, Uttarakhand, Himachal Pradesh and some parts of West Bengal, Uttar Pradesh, Tamil Nadu, Coastal Andhra Pradesh, Telangana, Kerala, East Rajasthan, Gujarat, Jharkhand and Madhya Pradesh. Rest of the country shows moderate and severe wet condition.

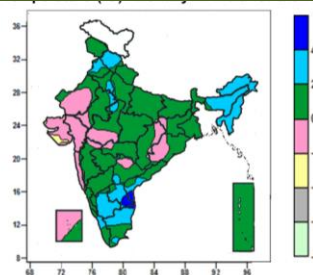
Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 26.10.2016

Actual Mean Maximum Temperature (°C) in India for the week ending 26.10.2016



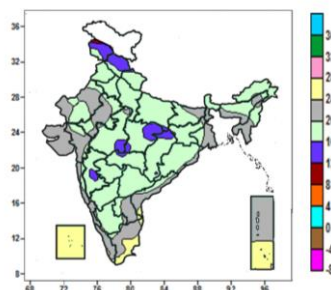
- Mean maximum temperature was between 36 to 40°C over isolated pockets of Coastal Andhra Pradesh, Rayalaseema and Tamil Nadu.
- Mean maximum temperature was between 28 to 36°C over rest of the Country except some parts of Jammu & Kashmir and Himachal Pradesh where it was between 20 to 28°C.

Mean Maximum Temperature (°C) Anomaly in India for the week ending 26.10.2016



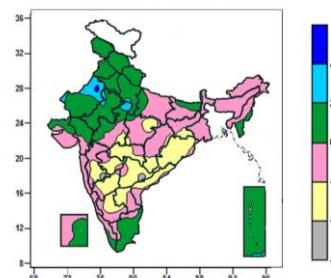
- Mean maximum temperature was above normal by 4 to 6°C over some parts of Rayalaseema and isolated pockets of Coastal Andhra Pradesh and Tamil Nadu.
- Mean maximum temperature was above normal by 2 to 4°C over Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura, many parts of Himachal Pradesh, Assam & Meghalaya Rayalaseema, South Interior Karnataka, Tamil Nadu, some parts of Punjab, Coastal Andhra Pradesh, Kerala and isolated pockets of Haryana & Delhi, West Uttar Pradesh, East Rajasthan, West Madhya Pradesh and Telangana.
- It was normal to near normal over rest of the country except some parts of Saurashtra, where it was below normal by 2 to 4°C.

Actual Mean Minimum Temperature (°C) in India for the week ending 26.10.2016



- Mean minimum temperature was between 8 to 12°C over isolated pocket of Jammu & Kashmir.
- Mean minimum temperature was between 12 to 16°C over many parts of Jammu & Kashmir, Himachal Pradesh, some parts of East Madhya Pradesh and isolated pockets of Uttarakhand, East Uttar Pradesh, West Madhya Pradesh, Chhattisgarh, Jharkhand, Madhya Maharashtra and Vidarbha.
- Mean minimum temperature was between 16 to 24°C over rest of the country except Lakshadweep, some parts of Tamil Nadu, Andaman & Nicobar Islands and isolated pockets of Coastal Andhra Pradesh and Rayalaseema, where it was between 24 to 28°C.

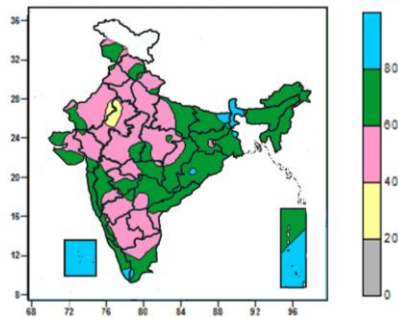
Mean Minimum Temperature (°C) Anomaly in India for the week ending 26.10.2016



- Mean minimum temperature was above normal by 4 to 6°C over isolated pocket of West Rajasthan.
- Mean minimum temperature was above normal by 2 to 4°C over some parts of West Rajasthan and isolated pockets of West Uttar Pradesh, East Rajasthan, West Madhya Pradesh and Andaman & Nicobar Islands.
- Mean minimum temperature was normal to near normal over rest of the country except many parts of Odisha, Vidarbha, Marathwada, North Interior Karnataka, Telangana, Coastal Andhra Pradesh, some parts of Madhya Pradesh, Chhattisgarh, Jharkhand, Madhya Maharashtra, South Interior Karnataka, Rayalaseema, where it was below normal by 2 to 4°C and isolated pockets of Madhya Maharashtra, Marathwada, North Interior Karnataka, Telangana and Coastal Andhra Pradesh, where it was below normal by 4 to 6°C.

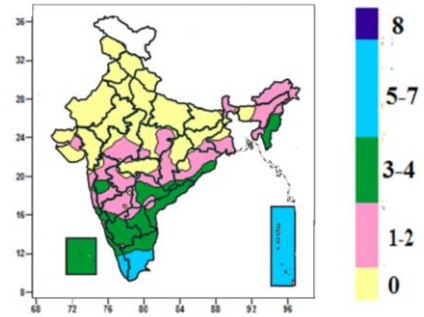
Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 26.10.2016

Relative Humidity (%) over India for the week ending 26.10.2016



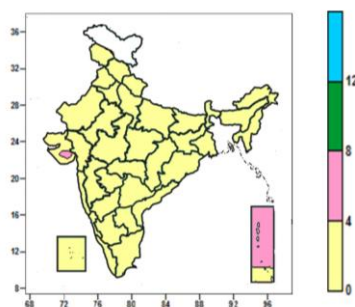
- Mean Relative Humidity was above 80% over Sikkim, Lakshadweep, many parts of Sub-Himalayan West Bengal, Andaman & Nicobar Islands, some parts of Bihar and isolated pockets of Jharkhand, Gangetic West Bengal, Odisha, Kerala and Tamil Nadu.
- Mean Relative Humidity was between 60 to 80% over North East India, Konkan & Goa, many parts of Jammu & Kashmir, East Uttar Pradesh, Bihar, Jharkhand, Gangetic West Bengal, Chhattisgarh, Odisha, Saurashtra & Kutch, Madhya Maharashtra, Marathwada, Vidarbha, Telangana, Coastal Andhra Pradesh, Coastal Karnataka, Kerala, Tamil Nadu, some parts of Himachal Pradesh, West Rajasthan, Gujarat Region, Madhya Pradesh, North Interior Karnataka, Andaman & Nicobar Islands and isolated pockets of Uttarakhand and Punjab.
- Mean Relative Humidity was between 40 to 60% over rest of the country except some parts of East Rajasthan and isolated pockets of West Rajasthan, where it was between 20 to 40%.

Cloud amount (okta) over India for the week ending 26.10.2016



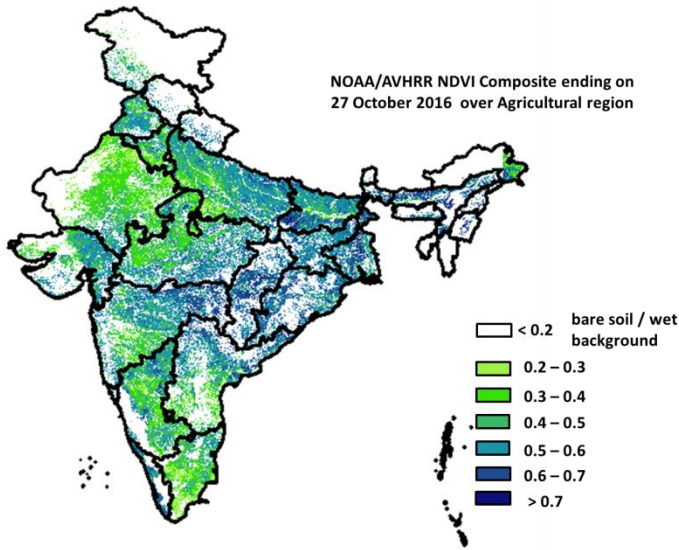
- Sky remained generally cloudy (5-7okta) over Andaman & Nicobar Islands, many parts of Kerala and Tamil Nadu.
- Sky remained partly cloudy (3-4 okta) over Manipur, Mizoram, Lakshadweep, many parts of Telangana, Coastal Andhra Pradesh, Coastal Karnataka, South Interior Karnataka, Rayalaseema, some parts of Odisha, Madhya Maharashtra, Konkan & Goa, Kerala, Tamil Nadu and isolated pockets of North Interior Karnataka and Chhattisgarh.
- Sky remained mainly clear/clear sky (1-2okta/0 okta) over rest of the country.

Wind speed (knots) over India for the week ending 26.10.2016



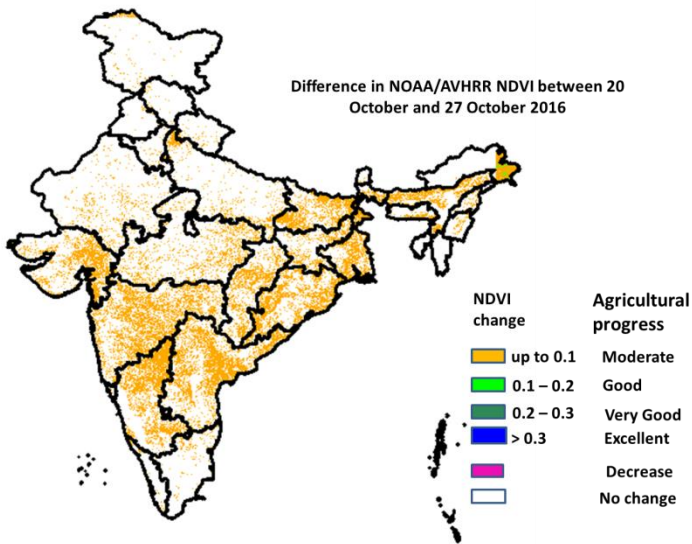
- Mean wind speed was between 0 to 4 knots over the country except many parts of Andaman & Nicobar Islands and isolated pocket of Saurashtra, where it was between 4 to 8 knots.

NOAA/AVHRR NDVI composite ending on 27th October 2016 over Agricultural region of India



- Agricultural vigour is very good in east M.P, Bihar, Odisha, West Bengal, Vidarbha region, patches in Karnataka, Kerala, Gujarat and North-east, where NDVI value are > 0.7. Agriculture vigour is good in north Andhra Pradesh, Telangana, Uttar Pradesh, Gujarat, Punjab and Haryana, where NDVI varies from 0.5 to 0.7. NDVI is moderate in Rajasthan, west M.P, Madhya Maharashtra, rest parts of Andhra Pradesh, Karnataka and Tamil Nadu (NDVI 0.3 to 0.5).

Difference in NOAA/AVHRR NDVI between 20th and 27th October 2016



- Moderate progress in NDVI was observed in Maharashtra, Gujarat, Karnataka, Bihar, West Bengal, Odisha, Andhra Pradesh and Tamil Nadu.

- NOAA/AVHRR NDVI composite maps for the week ending on 27th October 2016 for different States are given in Annexure II.

Weather Forecast for next 5 days valid upto 0830 hours of 2nd November 2016

- Meteorological sub-division wise detailed 5 day rainfall forecast is given below.
- Gradual fall by 1-2°C in day & night temperatures very likely over northwest India during next 3-4 days.

5 Day Rainfall Forecast (MID DAY) 28th October 2016

Met Sub-divisions	28 Oct	29 Oct	30 Oct	31 Oct	01 Nov
1. Andaman & Nicobar Islands	ISOL	SCT	FWS	FWS	FWS
2. Arunachal Pradesh	ISOL	DRY	DRY	DRY	DRY
3. Assam & Meghalaya	ISOL	ISOL	ISOL	DRY	DRY
4. N.M.M. & T.	SCT	ISOL	ISOL	ISOL	ISOL
5. S.H. West Bengal & Sikkim	DRY	DRY	DRY	DRY	DRY
6. Gangetic West Bengal	ISOL	ISOL	ISOL	DRY	DRY
7. Odisha	ISOL	SCT	ISOL	ISOL	DRY
8. Jharkhand	DRY	DRY	DRY	DRY	DRY
9. Bihar	DRY	DRY	DRY	DRY	DRY
10. East Uttar Pradesh	DRY	DRY	DRY	DRY	DRY
11. West Uttar Pradesh	DRY	DRY	DRY	DRY	DRY
12. Uttarakhand	DRY	DRY	DRY	DRY	DRY
13. Haryana, Chd & Delhi	DRY	DRY	DRY	DRY	DRY
14. Punjab	DRY	DRY	DRY	DRY	DRY
15. Himachal Pradesh	DRY	DRY	DRY	DRY	DRY
16. Jammu & Kashmir	DRY	DRY	DRY	DRY	DRY
17. West Rajasthan	DRY	DRY	DRY	DRY	DRY
18. East Rajasthan	DRY	DRY	DRY	DRY	DRY
19. West Madhya Pradesh	DRY	DRY	DRY	DRY	DRY
20. East Madhya Pradesh	DRY	DRY	DRY	DRY	DRY
21. Gujarat Region	DRY	DRY	DRY	DRY	DRY
22. Saurashtra & Kutch	DRY	DRY	DRY	DRY	DRY
23. Konkan & Goa	DRY	DRY	DRY	ISOL	ISOL
24. Madhya Maharashtra	DRY	DRY	DRY	ISOL	ISOL
25. Marathwada	DRY	DRY	DRY	ISOL	ISOL
26. Vidarbha	DRY	DRY	DRY	DRY	DRY
27. Chhattisgarh	DRY	ISOL	ISOL	DRY	DRY
28. Coastal Andhra Pradesh	SCT	FWS	FWS	FWS	SCT
29. Telangana	DRY	ISOL	ISOL	ISOL	DRY
30. Rayalaseema	ISOL	ISOL	SCT	SCT	ISOL
31. Tamil Nadu & Puducherry	ISOL	SCT	FWS	WS	FWS
32. Coastal Karnataka	DRY	DRY	ISOL	ISOL	ISOL
33. North Interior Karnataka	DRY	DRY	DRY	ISOL	ISOL
34. South Interior Karnataka	DRY	ISOL	ISOL	SCT	SCT
35. Kerala	ISOL	SCT	FWS	WS	WS
36. Lakshadweep	ISOL	ISOL	ISOL	ISOL	SCT

% Station Reporting Rainfall

% Stations	Category	% Stations	Category
76-100	Widespread (WS/ Most Places)	26-50	Scattered (SCT/ A Few Places)
51-75	Fairly Widespread (FWS/ Many Places)	1-25	Isolated (ISOL)
No Rain	Dry		

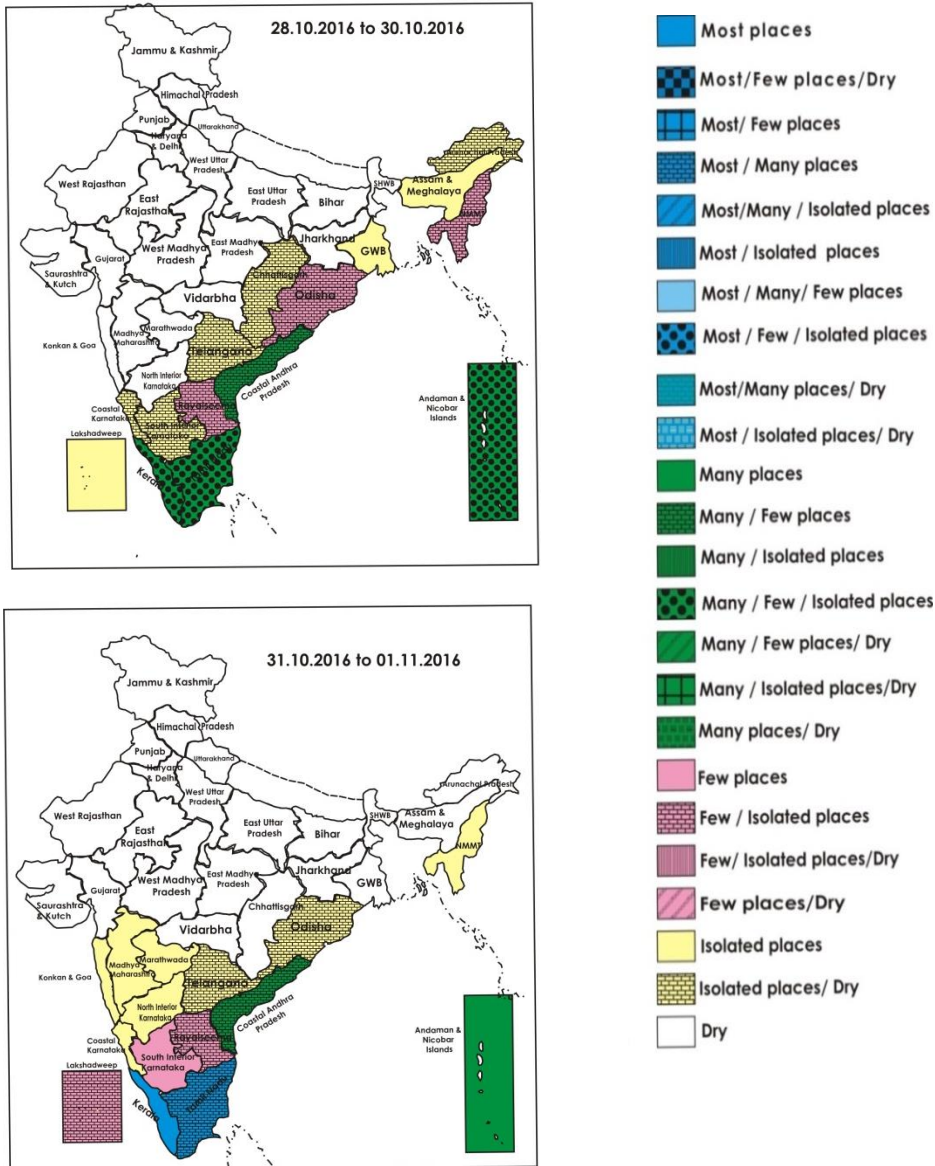
Weather Warning during next 5 days

- **28 October (Day 1):** Squally winds speed reaching 35-45 kmph gusting to 55 kmph is very likely to prevail along & off Andhra Pradesh coast. Sea condition will be moderate to rough along & off Andhra Pradesh Coast. Fishermen are advised to be cautious while venturing into sea along and off Andhra Pradesh coast. Heavy rainfall at isolated places very likely to occur over Coastal Andhra Pradesh and Tamilnadu.
- **29 October (Day 2):** Heavy rainfall at isolated places very likely to occur over Coastal Andhra Pradesh and coastal Tamilnadu.
- **30 October (Day 3):** Heavy rainfall at isolated places very likely over Coastal Andhra Pradesh and Tamilnadu.
- **31 October (Day 4):** Heavy rainfall at isolated places very likely over Kerala and Tamilnadu.
- **01 November (Day 5):** Heavy rainfall at isolated places very likely over Kerala.

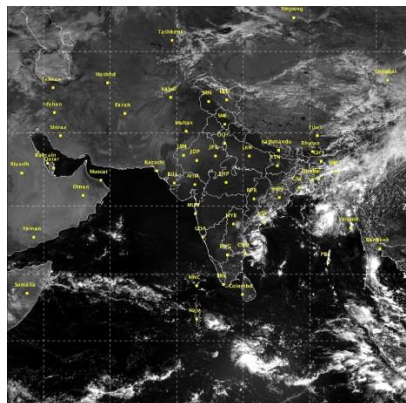
Weather Outlook for subsequent 2 days from 2nd to 4th November 2016

- Rain at many places likely over Andaman & Nicobar Islands and at a few places over south peninsular India.
- Rain at isolated places likely over northeastern states and north peninsular India.

Weather Forecast Map (valid upto 0830 hours 2nd November 2016)



Satellite image dated, 28.10.2016, 0600 UTC



Salient Advisories

- As squally wind speed reaching 35-45 kmph gusting to 55 kmph is very likely to prevail along and off **Andhra Pradesh coast** on 28th Oct., provide support to banana, propping up in sugarcane and staking of vegetables to prevent the crops from lodging due to strong winds.
- As rain/thundershowers likely at **many places** over Coastal Andhra Pradesh from 29th to 31st, **many/most places** over Tamil Nadu & Puducherry and Kerala on 30th, 31st Oct. & 1st Nov., do not apply irrigation, application of plant protection measures and fertilizers to the standing crops. Postpone harvesting of matured crops in Coastal Andhra Pradesh. Keep the already harvested produce at safer places.
- As heavy rain very likely at isolated places over **Coastal Andhra Pradesh** from 28th to 30th Oct., over **Tamil Nadu** on 28th, 30th Oct. to 1st Nov., over **Coastal Tamil Nadu** on 29th Oct. and over **Kerala** on 31st Oct. & 1st Nov., provide adequate drainage in standing crop fields to avoid water stagnation.
- Utilising the expected rainfall, undertake land preparation for transplanting of *Thaladi* season rice in Cauvery Delta Zone and Southern Zone and continue sowing of millets, pulses and oil seeds in Western Zone and Southern Zone of **Tamil Nadu**. Continue transplanting of *Mundakan* rice in **Kerala**.
- Continue sowing of chickpea, safflower, *rabi* maize, groundnut and sorghum in Telangana and continue sowing of Bengal gram, sorghum, safflower and niger and undertake sowing of wheat in **North Interior Karnataka**. Continue sowing of mustard, rapeseed, pea, gram and maize in **Bihar**, lentil, gram, green pea and potato in **Jharkhand**, mustard, rapeseed, pea in **Chhattisgarh**, mustard, green pea and sesame in **Odisha**, mustard and Bengal gram in **North Saurashtra** and **North Gujarat**. Undertake sowing of gram and mustard in **East Rajasthan** and gram, pea and mustard in **East Uttar Pradesh**. Continue sowing of rapeseed and mustard and planting of potato in **Assam**. Undertake land preparation and sowing of wheat in **Punjab** and sowing of mustard, raya and gram in **Haryana**.
- As dry weather would prevail during the period, complete harvesting of soybean and pulses in **Madhya Pradesh**, rice, maize and groundnut in **Chhattisgarh**, groundnut, sesame, bajra, green gram, cowpea, maize and picking of cotton in North West and North **Gujarat**, pulses in **South Gujarat**, continue harvesting of maize in **Bihar**, rice in **Jharkhand**, maize, soybean and Black gram in **East Rajasthan** and groundnut and rice in Irrigated North Western Plain Zone of **west Rajasthan**, rice and pulses in **Himachal Pradesh**, rice and rice, pulses in **Jammu & Kashmir** and **Uttarakhand**. In **Rayalaseema**, continue harvesting of groundnut, bajra and korra.

Detailed Zonewise Agromet Advisories

SOUTH INDIA [TAMIL NADU, TELANGANA, ANDHRA PRADESH, KARNATAKA, KERALA]



Banana



Rice



Sugarcane



Red gram

- **Realised Rainfall:** Rainfall occurred in Alappuzha, Ernakulam, Kollam and Kottayam districts of Kerala, Dindigul, Erode, Madurai, Pudukottai, Ramanathapuram, Sivaganga, Theni, Tirupur, Toothukudi and Trichy districts of Tamil Nadu. Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at many places over Coastal Andhra Pradesh from 29th to 31st, many/most places over Tamil Nadu & Puducherry and Kerala on 30th, 31st Oct & 1st Nov., do not apply irrigation, application of plant protection measures and fertilizers to the standing crops. Postpone harvesting of matured crops in Coastal Andhra Pradesh. Keep the already harvested produce at safer places.
 - As heavy rain very likely at isolated places over Coastal Andhra Pradesh from 28th to 30th Oct, over Tamil Nadu

on 28th, 30th Oct. to 1st Nov., over Coastal Tamil Nadu on 29th Oct. and over Kerala on 31st Oct. & 1st Nov., provide adequate drainage in standing crop fields to avoid water stagnation.

▪ **Andhra Pradesh:**

- As squally winds speed reaching 35-45 kmph gusting to 55 kmph is very likely to prevail along and off Andhra Pradesh coast on 28th Oct., provide support to banana, propping up in sugarcane and staking of vegetables to prevent the crops from lodging due to strong winds.
- In Rayalaseema, continue sowing of Bengal gram in Black soils and harvesting of groundnut, bajra and korra; In Ananthapuram district, undertake sowing of safflower and land preparation for sowing of *rabi* groundnut.
- In High Altitude Tribal Zone, undertake harvesting of Maize, Groundnut and Ragi.
- In Krishna Godawari Zone, undertake sowing of *Rabi* black gram (Varieties: LBG-752, LBG-20, T-9, LBG-623, PU-31, LB-402, LBG-709 and LBG-787).
- In Scarce Rainfall Zone of Rayalaseema, pink boll worm incidence was noticed in cotton growing in black soils. To control, undertake spraying of Chloropyrifos @ 2 ml per litre + Nuvan @ 1ml per litre or profenophos @ 2ml per liter or Larvin @ 1.5g per liter of water.
- In Nellore and Kadapa district of Southern Zone, present weather is favourable for attack of stem borer in paddy nurseries, to control, apply Carbofuron 3G granules @ 150 gm/cent on a non rainy day.

▪ **Telangana:**

- In North Telangana Zone, continue sowing of Bengal gram after proper seed treatment.
- In South Telangana Zone, continue sowing of chickpea and safflower under residual soil moisture conditions in Black soils and undertake sowing of *rabi* maize, sorghum, groundnut and sunflower under irrigated condition after proper seed treatment with fungicides.
- In North Telangana Zone, attack of Brown Plant Hopper is noticed in rice at grain formation stage in some parts of Adilabad district, spray Ethofenprox @ 2.0 ml or Buprofezin @ 1.6ml/litre of water for control.
- In Mahabubnagar, Nalgonda, Medak, Rangareddy, Khammam and Warangal districts (South Telangana Zone), prevailing weather conditions are congenial for the incidence of leaf spot on cotton. To control, spray Copper-Oxy-Chloride @ 30 g and Plantomycin @ 2g in 10 liters of water also prevailing weather conditions are congenial for gray mold incidence on castor, to control, spray Carbendazim @ 1g or Propiconazole @ 1 ml per litre of water.

▪ **Kerala:**

- In North Zone, undertake transplanting of *Mundakan* rice.
- In Thiruvananthapuram district in Southern Zone, complete transplanting of *Mundakan* rice and continue planting of Nendran banana.
- In Kollam District of Southern Zone, undertake land preparation for transplanting of *Mundakan* rice and apply lime @600 kg/ha 10-15 days before transplanting.
- In Central Zone, continue transplanting of *Mundakan* rice with seedlings at 4-5 leaf stage. Continue nurseery sowing of winter vegetables.
- In Idukki and Wynad districts of High Altitude Zone, undertake sowing of Bhindi, Amaranthus and planting of banana; continue harvesting of cardamom and undertake harvesting of green ginger.
- In Problem Area Zone, undertake land preparation for sowing of Bhindi, Amaranthus and planting of banana.
- In Northern Zone, to control bud rot disease in coconut, cut and remove the affected tissues from the crown in early stages of the disease and apply Bordeaux paste and protect it from rain falls. Adopt complete field sanitation in banana gardens. Remove all dried leaves. If infestation is noticed, spray the pseudo stem and fill the leaf axils with neem based insecticide @15 ml per litre of water at monthly intervals (starting from 5th month onwards).
- In Central Zone, there is a chance of pollu beetle attack at the time of berry maturing stage of Pepper, to control undertake spraying of Rogar or Quinalphos @ 2 ml/litre of water after current spells of rain.

▪ **Tamil Nadu:**

- In Ariyalur, Perambalur, Thanjavur, Thiruvarur and Trichy districts of Cauvery Delta Zone, undertake land preparation for transplanting of Thaladi season rice. For 1 acre Thaladi rice, apply 200 kg of gypsum, 10 kg zinc sulphate, 30 kg of urea, 40 kg DAP and 10 kg potash as basal fertilizers. Apply 100 kg of neem cake before transplanting to avoid insect and nematode attack.
- In Coimbatore, Tiruppur and Erode districts of Western Zone, continue sowing of millets, pulses and oil seeds.
- In South Zone, undertake direct wet-seeding of rice and machine transplanting method for rice and also undertake sowing of pulses, minor millets, cumbu and sunflower.
- In North Eastern Zone, continue nursery sowing of rice after proper seed treatment.
- In Cauvery Delta Zone, due to prevailing weather condition, Leaf mite incidence has been noticed in the Samba paddy fields. To manage this, undertake spraying of Dicofol @ 600 ml per acre or wettable Sulphur @ 400 g per acre with 200 litre of water after current spells of rain.
- In High Altitude Hilly Zone, to control powdery mildew disease in vegetables, undertake spraying of wettable Sulphur @ 2 g/litre of water after current spells of rain and repeat after 15 days.

▪ **Karnataka:**

- Continue sowing of chickpea, wheat and safflower in Dharwad, Belagavi and Haveri districts of North Transition Zone under sufficient soil moisture condition. Complete harvesting of soybean, maize and groundnut. Undertake intercultural operation in 25 - 30 days old *rabi* sorghum crop to control the weeds and for moisture conservation.

- In Bidar district of North East Transition Zone, continue sowing of wheat, Bengal gram, sorghum, safflower, niger under optimum soil moisture condition and planting of sugarcane.
 - Continue sowing of sorghum, chickpea, wheat, sunflower and safflower wherever there is sufficient soil moisture condition in Vijayapura, Bagalkote and Gadag districts of North Dry Zone. Intercropping of *rabi* sorghum + chickpea (2: 1 row proportion) is recommended. Give preference to sowing of fodder crops. Complete harvesting, threshing and drying of soybean, groundnut, onion and maize.
 - Continue sowing of Bengal gram and sorghum in Raichur, Kalaburgi, Ballari, Yadgir, Koppal districts of North East Dry Zone under sufficient moisture condition.
 - In Bengaluru, Rural, Bengaluru Urban, Ramnagara, Chikaballapura and Kolar districts of Eastern Dry Zone, undertake sowing of short duration varieties of ragi and short duration crops like cowpea, field bean, sunflower under sufficient moisture condition. Undertake harvesting of maize and groundnut in clear weather.
 - Continue sowing of cotton under irrigated condition in Central Dry Zone.
 - Continue harvesting of matured maize in Southern Transition Zone and picking of cotton in Hill Zone in clear weather.
 - Weather is congenial for taking up pruning in grapes in North Dry Zone. Before taking up pruning, remove the dead bark of the main stem of the vine by rubbing with gunny bag and then apply 5 % neem based insecticide or smear the paste to the stem prepared by dissolving Carbaryl @ 50 g in one liter of water.
 - Potassium deficiency is noticed in rice field in Hill Zone; to overcome, spray 1% Potassium (10 g Potassium Nitrate in 1 litre of water).
 - Due to prevailing weather conditions infestation of stemborer/thrips in rice is noticed in most of the villages in Southern Dry Zone; to manage, spray Chlorophyriphos @ 2ml/litre of water or application of Phorate @ 8kg/litre of water wherever the pest is noticed.
 - Pod borer attack is noticed in short duration pigeon pea crop in North East Transition Zone and North East Dry Zone, spray Profenophos @ 2 ml or Thiodicarb @ 0.6 g or Methomyl @ 0.6 g per litre of water for control.
 - There is chance of attack of stem borer in ginger, turmeric and cardamom in Hill Zone; for control, spray Chloropyriphos @ 2 ml /litre of water. As a precautionary measure, for the control of Katte Roga in black pepper spray 1% Bordeaux mixture solution and pour 5 litres of 0.2 % Copper Oxychloride solution to the root of the vine in the soil.
 - Suitable varieties for sowing are given in Annexure III.
- ❖ **Animal Husbandry**
- In Scarce Rainfall Zone of Rayalaseema of Andhra Pradesh, vaccinate sheep in time against sheep pox and keep them in dry sheds.
 - In Telangana, prevailing weather conditions are congenial for the occurrence of Ranikhet disease in poultry, Hemorrhagic Septicemia and FMD in Cattle/ Buffaloes. To prevent the diseases, vaccinate the livestock and also against sheep pox in sheep/goat.
 - Vaccinate the livestock for Black Quarter and foot and mouth diseases in North East Transition Zone in Karnataka. Proper ventilation should be maintained for free circulation of air in the sheds.
- ❖ **Sericulture**
- In Eastern Dry Zone of Karnataka, use nylon mess to control UJI fly entering into sericulture unit. Use recommended chemical for control of UJI fly.

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



Banana



Rice



Cauliflower



Land preparation/Sowing

- **Realised Rainfall:** Weather remained mainly dry/dry over the region.
- **Advisories:**
 - **Assam, Meghalaya & Arunachal Pradesh:**
 - In Dhemaji, Lakhimpur, Sonitpur, Dibrugarh, Golghat, Jorhat and Sibsagar districts of Upper Brahmaputra Valley Zone of Assam, continue sowing of toria and planting of potato.
 - In Karimganj, Hailakandi and Cachar districts of Barak Valley Zone of Assam, continue nursery raising for winter vegetables and planting of potato.
 - In Karbi Anglong and NC Hills districts of Hill Zone of Assam, continue nursery raising of winter vegetables and transplanting of early cauliflower and sowing of onion. Undertake land preparation for sowing of rapeseed and

- mustard and land preparation and planting of potato.
- In Marigaon and Nagaon districts of Central Bramhaputra Valley Zone of Assam, continue sowing of rabi pulses, rapeseed and mustard, nursery sowing of brinjal, cole crops, early radish and land preparation for sowing of wheat. Also continue land preparation and planting of potato.
- In Barpeta, Bongaigaoin, Dhubri and Goalpara districts of Lower Bramhaputra Valley Zone of Assam, continue sowing of pumpkin, radish, tomato, onion, planting of potato and nursery preparation of cabbage, cauliflower and land preparation for sowing of rapeseed and mustard. Undertake land preparation for sowing of oats.
- In North Bank Plain Zone of Assam, continue land preparation and sowing of rapeseed/mustard. Farmers are advised to adopt relay cropping with pea in the rice fields 20- 25 days before harvesting the Sali paddy, suitable varieties of pea such as T-136, bonneville etc. should be sown maintaining a spacing of 30cm x 10cm. Continue planting of potato.
- In Arunachal Pradesh, continue nursery sowing of winter vegetables and sowing of pea, black gram and green gram. Continue harvesting of soybean at the earliest. Undertake harvesting of pulses. Cover bunches of banana with bunch covers or sacks or locally available materials to protect from cold/frost.
- In Meghalaya, continue nursery sowing/transplanting of cauliflower/cabbage/broccoli and harvesting of matured soybean and groundnut.
- In Hill Zone of Assam, spray Copper Oxychloride @ 0.3% at an interval of 7-10 days or alternatively Carbendazim @ 0.05% can be sprayed at an interval of 12-15 days against infestation of Cercospora leaf spot in black gram and green gram at vegetative stage.
- In Upper Bramhaputra Valley Zone of Assam, due to favourable weather conditions, there is chance of attack of Gundhi bug in *sali* rice at milky stage. To control, Malathion 5% dust @ 2.5 kg/bigha of land is recommended. Holding fires around the field at night hours will also reduce the Gundhi bug population.
- In North Bank Plain Zone, Central Bramhaputra Valley Zone and Barak Valley Zone of Assam, to control rice bug on Sali rice at flowering/ grain formation stage, undertake dusting with 5% Malathion dust @ 20 kg per ha. Also to control the aphid and saw fly in rapeseed/ mustard at vegetative stage, spray Dimethoate (Rogar) @ 1 ml/litre of water.
- In Central Bramhaputra Valley Zone of Assam, attack of leaf folder and aphids are seen in many fields of black gram and green gram in Nagaon and Marigaon district. Farmers are advised to spray Quinalphos @ 2.5 ml/litre of water or Dimethoate @ 2ml/litre of water.
- In Arunachal Pradesh, undertake drenching with 0.05% Dichlorvos at base of citrus plant for rectification of trunk-borer.
- In Meghalaya, to control gundhi bug/stem borer in upland rice at milky to dough stage, spray Imidacloprid 17.8 SC @ 2ml/litre of water and Chloropyriphos @ 0.02% or Monocrotophos @ 0.04%.
- **Nagaland, Manipur, Mizoram and Tripura:**
- In Nagaland, continue sowing of toria and *rabi* maize. Also continue nursery preparation for cabbage, cauliflower, knol-khol, broccoli, radish and tomato. Undertake timely harvesting of *kharif* crops. Undertake seed treatment in all *rabi* crops before sowing with fungicides (@ 2 to 3 g/kg seed) prevents seed borne diseases, promotes better germination and crop stand leading to higher productivity.
- In Manipur, continue sowing of garden pea and nursery raising and transplanting of cole crops/onion and for planting of potato. Continue land preparation for sowing rapeseed/mustard. Continue harvesting of *Kharif* rice, soybean and groundnut.
- In Mizoram, continue harvesting of *khasi* mandarin/acid lime, passion fruit, banana, *kharif* maize. Drain out water from the fields of *kharif* rice to create stress for early maturity.
- In Tripura, continue land preparation for planting of potato, land preparation and sowing of sesame. Undertake harvesting of *Aman* rice and sowing of *rabi* maize.
- In Manipur, to control leaf blotch & leaf spot in ginger/ turmeric, application of Carbendazim @ 0.1% alternately with spraying of Mancozeb (2.5 g/litre) is also recommended on a non rainy day.
- In Mizoram, apply insecticide like Imidacloprid 0.5 ml or Phosolone 1.5 ml or Acephate 1.0 g or Dimethoate 2 ml/litre of water on a non rainy day against banana rhizome weevil disease in banana.
- Suitable varieties for sowing are given in Annexure III.
- ❖ **Animal Husbandry**
- In Arunachal Pradesh, undertake disinfecting the animal/bird sheds with lime powder/ bleaching powder/ 4% NaOH at regular interval.
- In Lower Bramhaputra Valley Zone of Assam, to protect poultry from cold, gunny bags or plastic sheath curtains should be installed on the side walls of shed and bedding material (litter) should be increased by six inches. Care should be taken not to restrict ventilation.
- In Nagaland, prevailing high humidity may cause ammonia fumes which irritate the respiratory tract and eyes of the poultry. Good ventilation provides a comfortable environment without draft. Farmers are advised to provide clean drinking water round the clock and water troughs/ feeders should be regularly cleaned. Antibiotics or other stress medications may be added to water if desired.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]



Maize



Mustard



Rice



Land preparation/Sowing

- **Realised Rainfall:** Weather remained dry over the region.
- **Advisories:**
 - **Maharashtra:**
 - In Konkan, continue harvesting of rice, finger millet and matured groundnut. Continue intercultural operations like weeding and earthing up in newly planted mango, cashew and sapota orchards. Undertake nursery sowing of vegetables like chilli, brinjal, cabbage, knol-khol. Undertake land preparation for sowing of seasonal fodder crops viz. maize, multicus sorghum, sorghum, bajra etc.
 - In Madhya Maharashtra, complete sowing of *rabi* jowar, Bengal gram and safflower. Undertake harvesting of matured rice in morning hours in Western Ghat Region. Drain out water from rice fields 10 days before harvesting in late maturing rice variety. Complete harvesting of matured groundnut and jowar. Continue transplanting of onion. Undertake sowing of wheat. Continue nursery sowing of tomato, chilli, brinjal & cole crops. Undertake planting of pre-seasonal sugarcane.
 - In Marathwada, complete sowing of *rabi* jowar, Bengal gram and safflower. Continue planting of pre seasonal sugarcane. Complete harvesting of matured groundnut and jowar. Undertake sowing of wheat. Undertake pruning in vine yards. Apply hydrogen cyanamide within 48 hrs after pruning. Undertake sowing of fodder maize. Undertake sowing of leafy vegetables like fenugreek and spinach.
 - In Vidarbha, undertake harvesting of early maturing rice in East Vidarbha region. Drain out water from rice fields 10 days before harvesting in late maturing rice variety. Complete sowing of Bengal gram and safflower. Complete harvesting of matured groundnut and jowar. Continue nursery sowing of vegetables like tomato, chilli and brinjal. As dry weather is prevailing, apply irrigation to vegetable crops.
 - Due to humid weather condition in Madhya Maharashtra, there are chances of downy mildew in cucurbitaceous crops, spray Copper Oxychloride @ 25 g per 10 liters of water.
 - **Gujarat:**
 - Continue sowing of chickpea, wheat, mustard, garlic, onion, coriander in Rajkot, Amreli, Jamnagar and Surendranagar districts of North Saurashtra Zone.
 - Continue sowing of mustard, gram in Kutch district of North West Zone, mustard, gram, *rabi* fennel, lucerne, nursery preparation of cabbage, brinjal and tomato in North Gujarat Zone under optimum moisture condition; Continue harvesting of groundnut, sesame, bajra, maize, sorghum, picking of matured pods of cowpea and matured cotton bolls in North West Zone and North Gujarat Zone. Carry out weeding in castor and fennel in North Gujarat Zone.
 - In South Gujarat Zone, undertake intercropping of groundnut and moong in sugarcane; continue picking of matured capsules of castor during early morning hours to avoid shattering.
 - In South Gujarat Heavy Rainfall Zone, continue sowing of *rabi* pulses (Indian bean, gram, green gram), sweet corn; continue planting of sugarcane and nursery preparation for cole crops.
 - Undertake harvesting of matured bajra in Middle Gujarat Zone. Apply regular irrigation in cluster bean. As early sown groundnut crop is in maturity stage, stop irrigation at this stage. As the temperature range (max-min), bright sunshine is increasing and relative humidity is decreasing; reduce the irrigation interval to maintain the proper growth of standing crops (castor, cotton, rice, vegetables, grass etc).
 - Continue sowing of gram and garlic in South Saurashtra Zone.
 - Suitable varieties for sowing are given in Annexure III.
- ❖ **Animal Husbandry**
 - For the control of ticks in cattle spray Deltamethrin or Amitral @ 2 ml/litre of water. Keep animal shed hygienic and clean to avoid flies and mosquitoes in Gujarat State.

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



Red gram



Okra



Maize



Rice

- **Realised Rainfall:** Rainfall occurred in all districts of Andaman & Nicobar Islands. Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
 - **Odisha:**
 - In East and South Eastern Coastal Plain Zone, continue sowing of mustard (varieties like Parbhathi, Anuradha, TS-29 & M-27), green pea in fallow uplands. Continue nursery raising of cole crops such as cabbage and cauliflower for early planting.
 - In Mayurbhanj and Keonjhar districts, continue sowing of green pea in fallow uplands. Grow High Yielding varieties such as Rachana, Arkel and T -163. Use 30 kg seeds/acre and continue nursery raising of tomato, cauliflower and cabbage.
 - In Malkangiri district of South Eastern Ghat Zone, due to the high humidity and cloudy weather, there is chance of bacterial leaf blight in Kharif rice, spray Streptomycin 1 g along with 20 g Copper oxy chloride in 10 litres of water.
 - In North Eastern Coastal Plain Zone, prevailing cloudy weather with high humidity will increase the incidence of blast and sheath blight of *kharif* rice. To control it spray Tebuconazole+Trifloxystrobin 75WG @200g/ha in 500 litres of water or spray Tricyclazole @ 0.5g/litre of water.
 - In Kalahandi and Nuapara districts of Western Undulating Zone, sucking pests like aphids, jassids infestation may occur on cotton crop at square formation to flowering stage. Spray Buprofezin 2ml/litre water for controlling sucking pests.
 - In East and South Eastern Coastal Plain Zone and North Central Plateau Zone, stem borer infestation and Bacterial Leaf Blight is noticed in rice. Spray Trypophos or Chloropyrifos @ 2 ml per litre water to control Stem borer. For control of Bacterial Leaf Blight, spray 200 g Plantomycin in 200 litres of water per acre. Also high humidity, low temperature and cloudy weather favours the infestation of blast in rice. Spray 1g Beam and 1.5 g Hinosan in 2 litres of water twice at 15 days interval.
 - In Mid Central Table Land Zone, high humidity with low night temperature condition is favourable for spread of blast disease. To control, spray Tricyclazole @ 0.5g/litre of water. To control leaf folder and stem borer above ETL, spray Deltamethrin + Triazophos @ 2ml/litre of water or Prophenophos 50 EC @ 2 ml/litre of water and use 200 litre/acre.
 - In North Central Plateau Zone, fluctuation in day and night temperature is congenial for attack of BPH on Kharif rice. To control it, drain out water from the field and spray Thiomethoxam 25 WG @ 60g/acre or Acephate+Imidacloprid @ 750 g/acre or Buprofezin @300ml/acre +Neem Oil @ 600ml/acre with 200 litres of water. Make alleys in the field at a distance of 2 m for proper aeration and penetration of sunlight.
 - In North Central Plateau Zone, high humidity with low night temperature and night dew is favourable for spread of blast disease on Kharif paddy. To control it spray Tebuconazole+Trifloxystrobin 75WG @ 200g/ha in 500 litres of water or spray Tricyclazole @ 0.5g/litre of water on a non rainy day.
 - **West Bengal:**
 - In Burdwan, Murshidabad, Nadia, North 24 Parganas districts of New Alluvial Zone, undertake land preparation for sowing of mustard and raising seedling for late varieties of Cauliflower and Cabbage. In late sown *Aman* rice, maintain 2-3 cm standing water in the fields.
 - In Purba Midnapore and South 24-parganas districts of Coastal Saline Zone, undertake land preparation and sowing of early mustard. Before seed sowing, apply Azophos @ 2kg/bigha with compost as field preparation. Prepare upland for seedling preparation of winter vegetables like cabbage, cauliflower, knolkhol, chilli, tomato etc.
 - In Laterite and Red Soil Zone, undertake harvesting the matured rice crop. Undertake land preparation for sowing of wheat and potato crops after the harvest of rice crop.
 - In Malda & Dakshin Dinajpur districts, undertake transplanting of cabbage and cauliflower and sowing of lentil. Before seed sowing, seed should be treated with Carbendazim 50% W.P. and with rhizobium culture.
 - In New Alluvial Zone, in the prevailing hot and humid weather, there is a chance of spread of sheath blight in rice. For control, spray Carbendazim @1.5 g/litre of water. In case of stem borer attack, spray Carbosulfan 25 EC @ 2ml/litre or Profenphos 40% + Cypermethrin 4% @1ml/litre of water on a non rainy day.

- In Old Alluvial Zone, prevailing weather condition is favourable for attack of sucking pests and false smut in Aman rice. To control sucking pests spray with Dadeci @ 1ml/litre of water and to control false smut of rice, spray Chlorothalonil 75 W.P 2ml/litre of water at evening hour.
- In Terai Zone, for control of blast/brown spot, sheath blight in rice, apply Tricyclazole @ 0.75g/litre of water against blast/brown spot and Validamycin @ 2ml/litre of water against sheath blight. For Gundhi bug apply Fipronil SSC @ 1ml/litre of water. Also to control aphids, white fly, jassid and mosaic in legume vegetables, apply Thiamethoxam @ 1g/3 litre or Acetamiprid @ 1ml/litre of water.
- **Andaman and Nicobar Islands:**
- In North, South and Middle Andaman, undertake sowing of brinjal in raised bed nursery of 20 to 25 cm height (seeds @ 400 to 500 g/ha). Prepare the land for sowing of beans and other vegetables and incorporate farm yard manure @ 20 to 25 t/ha at the time of last ploughing.
- In Nicobar, undertake land preparation for sowing vegetable like bhindi and radish.
- **Bihar:**
- In Araria, Katihar, Kishanganj, Madhepura, Purnea, Saharsa and Supaul districts in North East Alluvial Zone, continue sowing of mustard, pulses, lentil, pea, sunflower and rai. Before sowing seeds must be treated with Carbendazin @ 2g/kg of seed. Undertake planting of early potato.
- In Darbhanga, East Champaran, Gopalganj, Samastipur, West Champaran districts of North West Alluvial Plain Zone, undertake sowing of garlic, rai, pea, sunflower, lentil, coriander and land preparation for sowing of gram, rabi maize, rajma, methi and potato nursery sowing of rabi onion.
- In South Bihar Alluvial Zone, undertake land preparation for sowing of potato and transplanting of mature seedlings of cauliflower, cabbage and tomato, sowing of carrot may be done in raised bed. Undertake field preparation for sowing of other rabi crops. Ploughing and planking should be done properly to conserve the moisture in the soil.
- In North East Alluvial Zone, humidity & temperature conditions fruit and shoot borer infestation are favourable. In okra and brinjal, if is there, apply Emamectin benzoate @ 1g/2 litre or (Profenfos 40% EC+ Cypermethrin 4% EC) 44% EC @ 2.5 ml/litre of water.
- **Jharkhand:**
- In South Eastern Plateau Zone, in fallow uplands, continue sowing of mustard. Before sowing, treat the seed with Bavistin @ 2 g per kg of seed. Undertake planting of potato and nursery raising of Onion.
- In Western Plateau Zone, continue harvesting of matured rice. In harvested fields, undertake land preparation and sowing of wheat, lentil, gram, green pea and planting of potato.
- In Central and North Eastern parts of Jharkhand, continue sowing of gram and planting of potato.
- In South Eastern Plateau Zone, present weather is conducive for occurrence of pests like hairy caterpillar on groundnut crop. So, in early stage of caterpillar, apply Dichlorvos @ 0.5 ml per litre of water. For control of adult caterpillar, provide bamboo perch in the fields for predatory birds.
- In South Eastern Plateau Zone, low land rice crop are at milky stage and this stage is susceptible to the attack of Gundhi bug. To control the insects, dusting of Chlorpyrifos/Quinolphos/Methyl Parathion dust @ 10 kg per acre is recommended.
- In South Eastern Plateau Zone, there may be attack of leaf eating and sucking pests in pigeon pea, for control, spray Monochrotophos @ 1 ml per litre of water by mixing Teepol @ 0.5 ml per liter of water.
- In South Eastern Plateau Zone, green pea crop is mostly seen with the infestation of leaf eating insects and can be controlled by spraying of prepared concentration of neem or tobacco leaf extract diluted in the ratio of 1:10 liters or neem oil @ 5 ml per liter of water. Also attack of leaf eating insects have been increased in cucurbitaceous crops like sponge gourd, ridge gourd, bottle gourd, cowpea, French bean etc, brinjal, cauliflower and cabbage. Hence, Imidachlorpid @ 1g or Kung fu @ 2 ml per litre of water should be sprayed.
- Suitable varieties for sowing are given in Annexure III.
- ❖ **Animal Husbandry**
- In Jharkhand, weather is favourable for Foot and Mouth Disease (FMD), vaccinate FMD vaccine to the cattle with the consultation of veterinary doctor. Also due to decrease in temperature, PPR Disease may increase in Goat & Sheep. farmer are advised to vaccinate their animal with PPR vaccine @ 1ml S/C.
- In Terai Zone of West Bengal, vaccinate cattle against BQ and HS (BQ, HS Vaccine/ HS+BQ).

CENTRAL INDIA [M.P., CHHATTISGARH]



Maize



Rice



Soybean



Land preparation/Sowing

- **Realised Rainfall:** Weather remained dry over the region.
- **Advisories:**
 - **Madhya Pradesh:**
 - In Indore and Ujjain districts, undertake field preparation for sowing of wheat, continue harvesting of soybean and maize, nursery preparation for early winter vegetables, onion and field preparation for sowing of potato, pea and garlic. Continue transplanting cauliflower and cabbage and sowing of gram.
 - In Gwalior, Bhind, Morena, Guna, Ashoknagar and Shivpuri districts, continue sowing mustard and planting of potato. Continue land preparation for sowing of pea and gram.
 - In Chhindwara and Betul districts, continue nursery preparation for tomato, chilli, brinjal and nursery sowing of cabbage, cauliflower and sowing of garlic, coriander etc. Continue sowing of mustard, linseed and safflower with available soil moisture. Undertake field preparation and sowing of wheat.
 - In Vindhya Plateau Zone, continue nursery preparation for winter vegetables like brinjal, chilli, cabbage, cauliflower, tomato and onion and sowing of green pea and garlic. Continue field preparation for sowing of wheat and gram and sowing of lentil.
 - In Tikamgarh, Chhatarpur and Datia districts, continue sowing of radish, fenugreek, spinach, coriander and turnip and seed bed preparation for sowing of onion. Continue sowing of potato and garlic. Continue sowing of linseed, mustard, lentil, pea and chickpea.
 - In Jhabua, Alirajpur and Dhar districts, continue harvesting of matured maize and soybean. Continue nursery preparation for winter vegetables and field preparation for pea. Continue sowing of mustard and gram. Continue sowing of non irrigated and semi irrigated varieties of wheat and planting of potato.
 - In Jabalpur, Rewa, Satna districts, continue sowing of mustard, gram, lentil and pea and harvesting of matured soybean, urad and moong. Continue nursery preparation for cauliflower and cabbage. Continue harvesting of short duration variety of rice.
 - In Jhabua Hill Zone, in the prevailing weather, there are chances of attack of shoot borer in ginger and turmeric, spray Triazophos @ 2 ml/litre of water.
 - In Grid Zone, in the present weather, there are chances of attack of pod borer in red gram, spray Triazophos @ 750 ml/hectare dissolved in 500-600 litres of water.
 - **Chhattisgarh:**
 - In North Hill Zone, continue transplanting of winter vegetables like cauliflower, cabbage, chilli, tomato, brinjal etc., complete sowing of mustard, linseed, green pea and potato. Complete harvesting of maize, rice, groundnut, finger millet. Continue sowing of radish, turnip, spinach and carrot.
 - In Chhattisgarh Plain Zone, complete sowing of *rabi* crops like green gram, black gram, gram, sunflower, safflower, lathyrus etc. by end of October. Continue nursery sowing of cauliflower, cabbage, KnolKhol, tomato, brinjal, chillies and capsicum.
 - In Bastar Plateau Zone, continue harvesting of matured rice. Continue sowing of pea.
 - In, Bastar Plateau Zone due to humid weather there are chances of attack of white fly in niger, spray Triazophos @ 1 ml/litre of water.
 - In Chhattisgarh Plain Zone, panicle mite is observed in rice, spray Propiconazole + Profenophos @ 2ml/litre of water.
 - Suitable varieties for sowing are given in Annexure III.
 - ❖ **Animal Husbandry**
 - In Chhattisgarh, provide concentrate feed to milch animals mixed with dry and green fodder and insure for enrich diet having protein, carbohydrate, fat, vitamins etc.
 - In Madhya Pradesh, keep cattle in dry and shaded place and provide green fodder, fresh and clean water. Vaccinate the goats for control of PPR disease.

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



Mustard



Maize



Rice



Land preparation/Sowing

- **Realised Rainfall:** Weather remained dry over the region.
- **Advisories:**
 - **Rajasthan:**
 - In East Rajasthan, in Bhilwara, Chittorgarh, Rajsamand, Sirohi and Udaipur districts, continue harvesting of

- matured maize, pulses, urad, mung. Complete sowing of gram and mustard.
- In Arid Western Plain Zone, in Barmer, Churu, Jalore, Jodhpur, Pali districts, continue sowing of gram, mustard crops, garlic and fenugreek. Undertake sowing of rijka and jai for fodder crops. In Jaisalmer and Bikaner districts, undertake sowing of mustard and gram in irrigated areas and continue sowing of fodder crops like Lucerne, Berseem, oat in irrigated areas. Continue sowing of leafy vegetables like spinach, coriander.
 - In Alwar, Bharatpur, Dhawalpur, Karauli, Sawaimadhapur districts of Flood Prone Eastern Plain Zone, undertake sowing of barley, apply Quinalphos 1.5% dust @ 25 kg per hectare at last ploughing to manage soil borne pests and treat seed with 3g thiram/kg seeds before sowing. Undertake sowing of lentil, treat the seed with Carbendazim @ 1g/kg followed by with Rhizobium culture @ 1 packet/10 kg seeds before sowing. Undertake sowing of mustard. Continue land preparation for planting of potato.
 - In Dungarpur and Banswara districts of Southern Humid Plain Zone, undertake harvesting of matured urd, soybean and maize crops. Undertake sowing of mustard, gram and rabi maize. Plough the vacant fields for soil moisture conservation and sow the Rabi crops under rain-fed condition.
 - In Dungarpur and Banswara districts of Southern Humid Plain Zone, prevailing weather condition is congenial for attack of bollworms and mealy bug in cotton, for control bollworms spray Quinalphos 25 EC @ 1 litre per hectare and for control of mealy bug spray Profenophos @ 1.25 litres per hectare, add 1 spoon of washing powder as sticker.
 - In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, undertake sowing of early pea, gram, taramira and mustard. Undertake sowing of garlic, desi carrot and radish.
 - In Irrigated North Western Plain Zone, Hanumangarh and Sriganganagar, undertake harvesting of matured groundnut, paddy. Continue sowing of jou, mustard and gram. Apply irrigation to paddy, narma and desi cotton crops as per requirement.
 - In Irrigated North Western Plain Zone, Hanumangarh and Sriganganagar, prevailing weather condition is congenial for attack of pyrila in sugarcane, for control spray Dimethoate 30 EC @ 1 litre per hectare.
 - **Jammu & Kashmir:**
 - In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, continue land preparation for sowing of wheat. Undertake sowing of barley, mustard, gram and pea. Continue sowing of berseem as fodder for animals. Continue nursery sowing of late cauliflower (Snow Ball Group) and onion crop.
 - In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, continue harvesting of matured the rice cultivars.. Continue thinning and hoeing in 15-20 days old toria crop. Start land preparation for sowing of wheat and rabi pulses. Undertake sowing of mustard, potato and mid season peas.
 - In Valley Temperate Zone of Jammu and Kashmir, undertake sowing of wheat, oats, peas and brown sarson where the field is ready.
 - In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, transplant all cole crops (knol khol, cabbage, cauliflower and broccoli) without any delay. Complete sowing of garlic at the earliest.
 - In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone of Jammu and Kashmir, farmers are advised to sprinkle the nursery beds of vegetable (Cole) crops with 0.2% Bavistine solution (2g/litre of water) to control damping off.
 - **Uttarakhand:**
 - In Udham Singh Nagar district of Bhabar and Tarai Zone, continue sowing of rai and mustard crop. Continue harvesting of soybean and maize. After picking of corn, green plants of maize should be used as a fodder for animals.
 - In Tehri Garhwal, Chamoli, Champawat, Pithoragarh, Rudraprayag and Uttarkashi districts of Hill Zone, undertake sowing of wheat. Continue nursery raising of onion crop. Undertake cultivation of mushroom crop. Undertake sowing of carrot, spinach, methi, dhania and radish. Give light irrigation to all vegetable crops. Give light irrigation to toria crop.
 - In Dehradun, Pauri and Haridwar districts of Sub Humid Sub Tropic Zone, give irrigation to late maturing varieties of paddy. Undertake short and medium maturing varieties of paddy. This is right time for sowing of chickpea, potato, lentil, Autumn berseem and field pea.
 - In Udham Singh Nagar district of Bhabar and Tarai Zone of Uttarakhand, field should be prepared for the sowing of pea and nursery for tomato crop. Late sowing varieties of pea like Bomble, Aachar matar, Jawahar matar 2, NLP etc can be sown.
 - In Bhabar and Tarai Zone, continue sowing of potato of varieties Kufri Ashoka or Kufri Jyoti. Undertake picking up of capsicum, tomato from the polyhouse.
 - In Bhabar and Tarai Zone, due to prevailing weather condition there may be chances of attack of leaf blight disease in Maize crop, for control spray Mancozeb @ 1.5 kg per 750 to 800 litres of water per hectare.
 - In Dehradun, Pauri and Haridwar districts of Sub Humid Sub Tropic Zone, under prevailing weather conditions there is possibility of attack of Gundhi bug and Army worm on rice. To control apply Chlorpyrifos 20 EC @ 1.5 litre or Endosulphan 35EC @ 1.25 litre per hectare.
 - **Himachal Pradesh:**
 - In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, continue sowing of mustard, gobhi sarson, early pea, gram, lentil and early wheat in lower region. Continue sowing of turnip and radish in lower rainfed areas. Continue nursery sowing of Chinese cabbage and direct sowing of

radish, carrot, broccoli, lettuce and onion. Continue sowing of potato in lower and mid hill regions. Continue sowing of berseem, lucerne and oats for fodder. Continue sowing of mushroom and maintain room temperature 18-22°C for successful cultivation of dhingri mushroom. Continue nursery sowing of cauliflower (late group), cabbage, knolkhol, broccoli and chinese cabbage and direct sowing of radish, carrot, turnip, palak and methi in mid hill areas. Continue transplanting of mid season cauliflower in low hill areas.

- In High Hills Temperate Dry Zone of Himachal Pradesh, in Kinnaur and Lahaul & Spiti, Continue harvesting of matured potato, oat crops.
- In High Hills Temperate Dry Zone of Himachal Pradesh, in Kinnaur and Lahaul & Spiti, present weather is conducive for fall of leaves in apple trees, for control spray mixture of Mancozeb @ 500 gm and Carbendazim @ 100 gm in 20 litres of water at 20 days interval.
- In Mid Hills Sub-Humid Zone of Himachal Pradesh, in Bilaspur, Solan, Shimla and Sirmour districts, continue nursery sowing of cauliflower and transplanting of cabbage.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, present weather is conducive for attack of blister blight in tea in shady and high humid areas, for control spray Calixin @ 0.2% or Folicure @ 0.1% and if attack is severe then repeat spray at 15 days with alternate spray of Blitox @ 0.3% at seven days interval.
- In Mild Hills Sub-Humid Zone, in Kullu and Mandi districts, present weather is conducive for attack of woolly aphids in Apple, for control spray Marshal @ 200 ml per 200l itres of water.
- **Punjab, Haryana and Delhi:**
- In Western Zone of Punjab, continue sowing wheat varieties (PBW 725, PBW 677, HD-3086, WH 1105, PBW 621, HD 2967), durum wheat (WHD 943 and PDW 29) under irrigated conditions and PBW 660 and PBW-644 under rainfed conditions. Start transplanting of 4-6 weeks old seedlings of cabbage, mid season cauliflower, Chinese cabbage and broccoli. Apply irrigation in transplanted vegetables once a week. Undertake sowing of Palak by using 5 kg seed per acre at a spacing of 20 cm between rows. Apply 10 tonnes FYM, 35 kg urea, and 75 kg single superphosphate per acre before sowing.
- In Punjab, in Ferozepur and Faridkot districts, farmers are advised to complete the planting of autumn sugarcane. Intercropping of wheat, raya, toria, gobhi sarson, pea, gram, potato, cabbage, radish, garlic etc. can be done with this sugarcane crop. The best time of sowing Kabuli gram (L 552, L 550 & BG-1053) is 25 October to 10 November under irrigated conditions. Farmers are advised to sow the raya varieties PBR 357, RLC-1, PBR-210, RLM-619, PBR-91 under irrigated conditions and PBR-97 under rainfed conditions.
- In Undulating Plain Zone, farmers are advised to start sowing wheat. Continue harvesting of matured rice. Farmers are advised to grow gram variety PBG5 which has resistance to gram blight in the sub-montaneous districts and PBG7 under irrigated conditions. The sowing should be done during Oct25 to Nov10 for better yield and quality. Undertake sowing of raya varieties RLC3, PBR357, PBR210 under irrigated conditions. Weather conditions are suitable for planting cauliflower, cabbage and sowing of other seasonal vegetables can be done with available soil moisture. Irrigate the vegetable crops at regular interval as per crop need as dry weather is expected in coming days.
- In Western Zone of Haryana, as temperature is favourable, farmers are advised to undertake sowing of mustard, raya and gram. Undertake sowing of gram crop with recommended varieties for irrigated area - C 235, HC 5 and un-irrigated/rainfed variety HC 1. Undertake harvesting and threshing of matured bajra crop and picking of cotton crops after sunrise.
- In Eastern Zone of Haryana, prepare field and make arrangements for sowing of wheat. Continue harvesting of matured rice crop.
- In Western Semi-Arid Zone of Delhi, complete harvesting of rice crop. In the areas where paddy crop is about to mature, irrigation should be stopped two weeks before harvesting. Farmers are advised to procure good quality seeds of wheat and undertake field preparation. Recommended cultivars: - H.D. 2687, H.D. 2851, H.D. 2894, H.D. 2967, H.D. 3086, D.B.W.-17. Sowing of mustard should be done at the earliest. Line sowing is beneficial. In non-spreading varieties, row to row spacing should be 30 cm and in spreading cultivars spacing should be 45-50 cm. After germination, plant to plant spacing should be maintained at 12-15 cm by thinning. Present weather conditions are suitable for planting of winter sugarcane. Row to row spacing should be 90 cm. Potato, mustard, gram, pea, wheat etc. may be taken as intercrop. Complete sowing of gram. Varieties:- Kabuli type - Pusa 267, Pusa 1003, Pusa Chamatkar; local type – C235, Pusa 246, P.B.G. 1, Pusa 372. Complete sowing of pea as late sowing reduces the seed yield and exposes the crop to insect damage. Recommended cultivars: - Pusa Pragati, Arkel, Azad Matar-3, Pant Matar-3 and Bournville. Farmers are advised for planting of potato. The crop matures in 60-90 days. Recommended varieties:- Kufri Badshah, Kufri Bahar, Kufri Aanand, Chipsona-1, Chipsona-2, Chipsona-3. Weather is suitable for sowing of *rabi* onion. Transplanting of mature seedlings of cauliflower, cabbage, broccoli and tomato may also be done in raised bed.
- In Undulating Plain zone of Punjab, the attack of fruit and shoot borer in brinjal can be controlled by spraying Malathion @ 250ml/acre.
- **Uttar Pradesh:**
- In Central Plain Zone of Uttar Pradesh, continue harvesting of matured rice, urad, mung. Continue sowing of gram, pea, mustard, maize, linseed and garlic, planting of sugarcane and potato. Continue transplanting of mid season brinjal, cauliflower, cabbage, tomato and capsicum. Continue sowing of winter vegetable like spinach,

fenugreek, coriander, carrot, radish, tomato, vegetable pea etc. Continue nursery sowing of cabbage. Undertake sowing of berseem for fodder crop. Apply irrigation in timely sown toria.

- In Eastern Plain Zone of Uttar Pradesh, continue harvesting of matured paddy. Undertake sowing of gram, pea and linseed. Continue sowing of garlic, coriander, fenugreek. Continue sowing of toria, potato, vegetable pea.
- In Western Plain Zone of Uttar Pradesh, complete harvesting of rice crop during the week. Present weather is suitable for planting of winter sugarcane. Undertake planting of potato and sowing of *rabi* onion. Procure good quality seeds of wheat and undertake land preparation for sowing of wheat. Undertake transplanting of matured seedlings of cauliflower, cabbage, broccoli and tomato in raised beds.
- In North Eastern plain Zone of Uttar Pradesh, undertake sowing of *rabi* maize, lentil, mustard, pea, gram and wheat.
- In Bundelkhand Zone of Uttar Pradesh, undertake harvesting of matured groundnut, soybean, jowar, arhar. Continue sowing of linseed, mustard, vegetable pea, gram, pea, lentil, and toria in irrigated areas. Undertake sowing of jou and wheat. Continue transplanting of late sowing brinjal, chilli, tomato, cabbage, cauliflower. Continue sowing of radish, cabbage, carrot, coriander.
- In Central Plain Zone of East Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of pod borer in early pigeon pea, for control, spray Monocrotophos 36 EC @ 800 ml or Carbaryl 50% soluble granule @ 2 kg in 800 litres of water.
- In North Eastern plain Zone, due to prevailing weather condition, there may be chances of attack of damping off, blight and aphid in tomato, for control, spray mixture of Mencozeb 0.2% @ 400 g or Carbendazim 0.2% @ 400 gm and 0.2% Monocrotophos @ 200 ml in 200 litres of water per acre.
- Suitable varieties for sowing are given in Annexure III.

❖ **Horticulture**

- In Western zone of Punjab, it is optimum time for the planting of fruit plants like mango, sweet orange, mandarin, lime, lemon, litchi, guava, loquat and papaya.
- In Central Plain Zone of East Uttar Pradesh due to prevailing weather condition, there may be chances of attack of mosaic in papaya, for control, spray Mencozeb @ 2 ml per litres of water.
- In Irrigated North Western Plain Zone of Rajasthan, there may be fruit drops in kinnow fruits, for control spray mixture of Carbendazim 50 WP @ 1 g per litre of water or Propineb 70 WP @ 2 g and Gibbrellic acid @ 20 mg per litre of water.
- In Arid Western Plain Zone, in Jaisalmer and Bikaner districts, ber plants are in flowering stage, avoid heavy irrigation to prevent flower drop.
- In Alwar, Bharatpur, Dhauipur, Karauli, Sawaimadhopur districts of Flood Prone Eastern Plain Zone, prevailing weather condition is congenial for attack of fruit rot in aonla for control spray Mancozeb @ 0.2% solution.
- In Dungarpur and Banswara districts of Southern Humid Plain Zone, prevailing weather condition is congenial for attack of mealy bug in horticultural crops, for control spray Profenophos 50 EC @ 2ml per litre of water or Emidacloprid 17.8 SL @ 0.6 ml per litre of water add washing powder as sticker.
- In Himachal Pradesh, undertake land preparations for planting of strawberry and undertake picking in tea at 8 days interval to maintain the quality and productivity. Undertake lopping of shade trees in tea orchards.
- In Nainital district of Bhabar and Tarai Zone of Uttarakhand, give irrigation to newly transplanted orchard of Mango and Litchi. For grafting of plants like Malta, Orange and Lemon, their seeds should be sown. If Rai plants are ready for transplanting then these plants should be transplanted at a distance of 50cm X 40cm in the evening.

❖ **Apiculture**

- In Himachal Pradesh, to control mites attack on honeybees, dust Sulphur on sealed brood in the colony and not on larvae. For protection from ants put the legs of apiary into water so that ants could not attack apiary.
- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, Spray Chloropyriphos around boxes of apiary for protection from termites or put the leg of these beehives stand in water pot. Give artificial sugar feeding in the ratio of 2:1. Reduce wasp attack by reducing the entrance of hives, destruction of wasp nest giving baits.

❖ **Floriculture**

- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, undertake transplanting of seedlings of winter season annuals.
- In Valley Temperate Zone of Jammu and Kashmir, complete sowing of nursery for spring flowering annuals at earliest.
- In Himachal Pradesh, in Una, Hamirpur, Kangra and Chamba districts, present weather is conducive for attack of blue beetle in balsam, zinnia, cleome and rose, for control spray Cypermethrin @ 20 ml in 10 litres of water. In poly house there may be attack of thrips and beetle, for control spray Rogor @ 20 ml in 10 litres of water for thrips and for beetle spray Dicofol @ 20 ml in 10 litres of water.
- In Himachal Pradesh, in Una, Hamirpur, Kangra and Chamba districts, undertake transplanting of chrysanthemum and marigold in raised bed and sowing of gladiolus.
- In Himachal Pradesh, in Una, Hamirpur, Kangra and Chamba districts, undertake earthing up operation in gladiolus and disbudding in carnation.

❖ **Animal Husbandry**

- In High Hills Temperate Dry Zone of Himachal Pradesh, in Kinnaur and Lahaul&Spiti, there may be attack of

ringworm (fungal infection) in animals, for control, after clipping hair and scrubbing with soap and water, apply Salicylic or Benzoic acid ointment (2 to 5%) or Iodine once daily until lesions heal.

- In Himachal Pradesh, weather is conducive for the attack of pink eye disease in newly born calves, for control, prepare the solution of 1% boric acid in boiled water and wash eyes at regular interval of three hours. To control ecto as well as endo parasites in animals, especially calves consult local veterinarian.
- In Nainital district of Bhabar and Tarai Zone, to save the animals from Gal-Ghotu disease, keep them in neat and clean places. When symptoms of Gal-Ghotu disease appears in the animals, then contact immediately to the nearest Veterinarian for advice.
- In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, Nomads are advised to vaccinate and deworm their flocks in order to avoid the economic losses caused by viral and parasitic diseases.
- In Undulating Plain zone of Punjab, keep animals in proper shed during night time to save animals from low night temperature. Provide adequate fresh drinking water and feed well chaffed green fodder mixed with wheat straw to keep animals healthy.

❖ Poultry

- In Himachal Pradesh, ensure plenty of drinking water to the poultry birds, proper space for egg laying of birds and provide 14 to 16 hours light including day light. Normal feeding schedule should be continued and add mineral in the diet if stress is observed.
- In Nainital district of Bhabar and Tarai Zone, there is a chance of Aflatoxicosis disease in poultry due to occurrence of fungus in the feed which causes death of poultry birds. So, medicine should be administered to the poultry birds on the advice of veterinarian.

❖ Fisheries

- In Himachal Pradesh, in fish ponds, maintain water depth at least 5 feet. On cloudy days, reduce the feed quantity to fish. It is better to agitate water with stick from side early in morning before sun rise and after sun set.
- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, apply regular supplementary feed on daily basis @ 2-3% of estimated total fish biomass in the pond. Keeping in view water quality, apply Liming @ 25-30kg/ha/month & manuring @ 1000 kg/ha/year should be done at the interval of 7-10 days.

Districtwise realised rainfall and % departure for past three weeks is given below in Annexure I

Annexure I

Week by week Rainfall Distribution

Sub-Divisions	12.10.16		19.10.16		26.10.16	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
Arunachal Pradesh						
Anjaw	**	**	**	**	**	**
Changlang	45.2	-32	18.6	-75	0.0	-100
Dibang Valley	190.0	344	31.0	-22	0.0	-100
East Kameng	28.2	-34	0.0	-100	0.0	-100
East Siang	199.3	253	15.5	-45	0.0	-100
Kurung Kumey	**	**	**	**	**	**
Lohit	79.5	61	4.1	-87	0.0	-100
Lower Dibang Valley	343.5	703	41.0	3	0.0	-100
Lower Subansari	**	**	**	**	**	**
Papumpare	132.8	125	47.9	-28	0.0	-100
Tawang	34.0	-52	4.0	-93	3.0	-89
Tirap	10.4	-80	16.0	-66	0.0	-100
Upper Siang	0.4	-99	78.0	1	0.0	-100
Upper Subansari	15.2	-41	63.2	221	0.0	-100
West Kameng	66.8	-6	10.4	-81	0.0	-100
West Siang	107.4	211	49.4	52	0.0	-100
Assam&Meghalaya						
Assam						
Baksa	51.2	-9	34.3	23	0.0	-100

Barpeta	79.3	42	33.9	21	0.0	-100
Bongaigaon	57.4	-10	36.2	20	0.0	-100
Cachar	77.4	29	17.5	-49	0.6	-98
Chirang	71.0	12	27.2	-10	0.0	-100
Darrang	**	**	**	**	**	**
Dhemaji	144.0	208	10.0	-66	0.0	-100
Dhubri	128.6	151	39.5	80	0.0	-100
Dibrugarh	93.4	134	6.8	-77	0.0	-100
Goalpara	63.6	25	74.4	95	0.0	-100
Golaghat	31.3	-6	2.8	-88	0.0	-100
Hailakandi	47.5	-17	17.6	-51	0.0	-100
Jorhat	89.5	144	1.7	-94	0.0	-100
Kamrup(Rural)	30.1	-13	4.4	-83	0.0	-100
Kamrup(Metro)	69.1	99	1.7	-93	0.0	-100
Karbi Anglong	20.8	-39	24.6	-13	0.1	-99
Karimganj	193.9	91	5.2	-87	0.0	-100
Kokrajhar	112.6	112	54.0	11	0.0	-100
Lakhimpur	156.9	235	23.6	-19	0.0	-100
Morigaon	134.5	165	21.0	-23	0.0	-100
N.C.Hills	15.7	-57	0.0	-100	0.0	-100
Nagaon	33.6	-17	18.9	-27	0.0	-100
Nalbari	22.2	-31	30.3	34	0.0	-100
Sonitpur	53.0	58	21.4	6	1.0	-95
Sibsagar	69.7	170	5.7	-72	0.0	-100
Tinsukia	142.5	377	3.3	-89	0.0	-100
Udalgiri	60.3	86	12.4	-25	0.0	-100
Meghalaya						
East Garo Hills	194.6	268	5.3	-47	0.0	-100
East Khasi Hills	111.2	14	114.8	191	0.8	-98
Jaintia Hills	0.0	-100	0.0	-100	0.0	-100
Ribhoi	48.2	70	20.9	-54	6.4	-58
South Garo Hills	221.0	245	4.0	-78	0.0	-100
West Garo Hills	61.4	-4	3.2	-83	0.0	-100
West Khasi Hills	140.0	120	16.0	-76	0.0	-100
NMMT						
Mizoram						
Aizwal	69.9	-13	12.7	-69	20.7	-37
Champhai	**	**	**	**	**	**
Kolasib	**	**	**	**	**	**
Lawngtlai	**	**	**	**	**	**
Lunglei	24.7	-65	34.6	-29	8.8	-74
Mamit	**	**	**	**	**	**
Saiha	71.0	11	73.0	140	42.0	73
Serchhip	43.4	-16	24.4	-41	0.0	-100
Manipur						
Bishnupur	**	**	**	**	**	**
Chandel	**	**	13.0	-23	0.0	-100
Churachandpur	**	**	**	**	**	**
Imphal east	54.1	5	12.6	-29	7.8	-67

Imphal west	125.8	167	2.5	-76	0.0	-100
Senapati	**	**	**	**	**	**
Tamenglong	**	**	**	**	**	**
Thoubal	41.0	74	10.0	15	8.0	-54
Ukhrul	**	**	**	**	**	**
Nagaland						
Dimapur	0.2	-99	2.6	-71	0.0	-100
Kephire	6.0	-86	11.0	-15	8.0	-21
Kohima	56.5	51	18.6	-30	4.3	-80
Longleng	**	**	**	**	**	**
Mokokchung	16.0	-49	9.0	-74	3.0	-60
Mon	**	**	**	**	**	**
Paren	**	**	**	**	**	**
Phek	20.0	-47	11.0	-58	1.0	-95
Tuensang	**	**	**	**	**	**
Wokha	44.0	-2	0.0	-100	1.0	-95
Zunheboto	**	**	**	**	**	**
Tripura						
Dhalai	**	**	0.0	-100	0.0	-100
NorthTripura	38.1	-41	18.8	-38	0.0	-100
SouthTripura	105.2	73	11.3	-64	0.0	-100
West Tripura	51.9	-16	13.9	-52	0.0	-100
Himachal Pradesh						
Bilaspur	7.7	13	0.0	-100	0.0	-100
Chamba	2.3	-79	0.0	-100	0.0	-100
Hamirpur	0.0	-100	0.0	-100	0.0	-100
Kangra	0.8	-95	0.1	-98	0.0	-100
Kinnaur	1.7	-86	0.0	-100	0.0	-100
Kullu	1.0	-88	0.0	-100	0.0	-100
Lahaul and Spiti	0.0	-100	0.0	-100	0.0	-100
Mandi	7.1	-25	0.0	-100	0.0	-100
Shimla	2.9	-73	0.0	-100	0.0	-100
Sirmaur	0.3	-98	0.0	-100	0.0	-100
Solan	12.6	-30	0.0	-100	0.0	-100
Una	0.5	-94	0.0	-100	0.0	-100
Punjab						
Amritsar	3.5	-58	0.0	-100	0.0	-100
Barnala	0.0	-100	0.0	-100	0.0	-100
Bhatinda	0.0	-100	0.0	-100	0.0	-100
Faridkot	0.0	-100	0.0	-100	0.0	-100
Fatehgarh Saheb	0.0	-100	0.0	-100	0.0	-100
Ferozpur	1.8	-33	0.0	-100	0.0	-100
Gurdaspur	0.5	-96	0.0	-100	0.0	-100
Hoshiarpur	1.0	-88	0.0	-100	0.0	-100
Jalandhar	2.4	-62	0.0	-100	0.0	-100
Kapurthala	0.3	-97	0.0	-100	0.0	-100
Ludhiana	3.8	-25	0.0	-100	0.0	-100
Mansa	0.0	-100	0.0	-100	0.0	-100
Moga	0.0	-100	0.0	-100	0.0	-100

Muktesar	0.0	-100	0.0	-100	0.0	-100
Nawashahar	14.5	108	0.0	-100	0.0	-100
Patiala	0.0	-100	0.0	-100	0.0	-100
Ropar	10.3	35	0.0	-100	0.0	-100
Sangrur	0.0	-100	0.0	-100	0.0	-100
Mohali	0.0	-100	0.0	-100	0.0	-100
TarnTaran	0.0	-100	0.0	-100	0.0	-100
Haryana,Chd,Delhi						
Haryana						
Ambala	2.2	-81	0.0	-100	0.0	-100
Bhiwani	1.3	-51	0.0	-100	0.0	-100
Chandigarh	0.0	-100	0.0	-100	0.0	-100
Faridabad	0.0	-100	0.0	-100	0.0	-100
Fatehabad	0.0	-100	0.0	-100	0.0	-100
Gurgaon	0.0	-100	0.0	-100	0.0	-100
Hissar	0.0	-100	0.0	-100	0.0	-100
Jhajar	0.0	-100	0.0	-100	0.0	-100
Jind	0.0	-100	0.0	-100	0.0	-100
Katihah	0.0	-100	0.0	-100	0.0	-100
Karnal	0.0	-100	0.0	-100	0.0	-100
Kurukshetra	0.0	-100	0.0	-100	0.0	-100
Mahendragarh	0.0	-100	0.0	-100	0.0	-100
Mewat	0.0	-100	0.0	-100	0.0	-100
Palwal	0.0	-100	0.0	-100	0.0	-100
Panchkkula	1.3	-70	0.0	-100	0.0	-100
Panipat	0.0	-100	0.0	-100	0.0	-100
Rewari	4.2	67	0.0	-100	0.0	-100
Rohtak	0.0	-100	0.0	-100	0.0	-100
Sirsa	0.0	-100	0.0	-100	0.0	-100
Sonepat	0.0	-100	0.0	-100	0.0	-100
Yamunanagar	2.4	-84	0.0	-100	0.0	-100
Delhi						
Central Delhi	0.0	-100	0.0	-100	0.0	-100
East Delhi	0.0	-100	0.0	-100	0.0	-100
New Delhi	0.0	-100	0.0	-100	0.0	-100
North Delhi	0.0	-100	0.0	-100	0.0	-100
North East Delhi	0.0	-100	0.0	-100	0.0	-100
North West Delhi	0.0	-100	0.0	-100	0.0	-100
South Delhi	0.0	-100	0.0	-100	0.0	-100
South West Delhi	0.0	-100	0.0	-100	0.0	-100
West Delhi	**	**	**	**	**	**
Jammu & Kashmir						
Anantnag	2.9	-68	0.0	-100	0.0	-100
Badgam	0.0	-100	1.4	-72	0.0	-100
Bandipore	**	**	**	**	**	**
Baramula	3.4	-53	0.0	-100	0.4	-96
Doda	1.0	-89	0.0	-100	0.0	-100
Ganderbal	0.0	-100	0.0	-100	0.0	-100
Jammu	2.5	-81	0.0	-100	0.0	-100

Kargil	**	**	**	**	**	**
Kathua	5.2	-32	0.0	-100	0.0	-100
Kistwar	**	**	**	**	**	**
Kulgam	0.0	-100	0.0	-100	0.0	-100
Kupwara	0.0	-100	0.0	-100	3.8	-48
Ladakh(Leh)	0.0	-100	0.0	-100	0.0	-100
Poonch	**	**	**	**	**	**
Pulwama	0.0	-100	0.0	-100	0.0	-100
Rajouri	8.9	-30	0.0	-100	0.0	-100
Ramban	1.5	-83	0.0	-100	0.0	-100
Reasi	8.6	-26	0.0	-100	0.0	-100
Samba	0.0	-100	0.0	-100	0.0	-100
Shopian	**	**	**	**	**	**
Srinagar	0.0	-100	0.6	-93	0.0	-100
Udhampur	1.2	-91	0.0	-100	0.0	-100
East Madhya Pradesh						
Anuppur	17.3	8	0.0	-100	0.0	-100
Balaghat	12.7	-27	0.0	-100	0.0	-100
Chhatarpur	0.8	-95	0.0	-100	0.0	-100
Chindwara	17.1	27	0.0	-100	0.0	-100
Damoh	24.0	145	0.0	-100	0.0	-100
Dindori	2.2	-79	0.0	-100	0.0	-100
Jabalpur	10.7	3	0.0	-100	0.0	-100
Katni	10.1	-4	0.0	-100	0.0	-100
Mandla	26.8	113	0.0	-100	0.0	-100
Narsingpur	26.5	188	0.0	-100	0.0	-100
Panna	40.3	291	0.0	-100	0.0	-100
Rewa	19.6	88	0.0	-100	0.0	-100
Sagar	26.4	124	0.0	-100	0.0	-100
Satna	8.2	-28	0.0	-100	0.0	-100
Seoni	7.7	-49	0.0	-100	0.0	-100
Shahdol	4.0	-67	0.0	-100	0.0	-100
Sidhi	0.0	-100	0.0	-100	0.0	-100
Singrauli	83.0	476	0.0	-100	0.0	-100
Tikamgarh	34.0	196	0.0	-100	0.0	-100
Umaria	1.8	-89	0.0	-100	0.0	-100
West Madhya Pradesh						
Agar	25.2	241	0.0	-100	0.0	-100
Alirajpur	6.5	-44	0.0	-100	0.0	-100
Asoknagar	56.0	483	0.0	-100	0.0	-100
Badwani	14.7	6	0.0	-100	0.0	-100
Betul	29.2	61	0.0	-100	0.0	-100
Bhind	9.8	-43	0.0	-100	0.0	-100
Bhopal	52.7	402	0.0	-100	0.0	-100
Burhanpur	0.0	-100	0.0	-100	0.0	-100
Datia	30.9	58	0.0	-100	0.0	-100
Dewas	15.8	31	0.0	-100	0.0	-100
Dhar	27.8	114	0.0	-100	0.0	-100

Guna	8.5	-38	0.0	-100	0.0	-100
Gwalior	6.8	-67	0.0	-100	0.0	-100
Harda	0.2	-99	0.0	-100	0.0	-100
Hoshangabad	23.7	88	0.0	-100	0.0	-100
Indore	6.2	-51	0.0	-100	0.0	-100
Jhabua	1.7	-86	0.0	-100	0.0	-100
Khandwa	4.0	-64	0.0	-100	0.0	-100
Khargone	26.7	99	0.0	-100	0.0	-100
Mandsaur	12.4	-22	0.0	-100	0.0	-100
Morena	16.5	46	0.0	-100	0.0	-100
Neemuch	34.4	125	0.0	-100	0.0	-100
Raisen	9.1	-23	0.0	-100	0.0	-100
Rajgarh	17.7	46	0.0	-100	0.0	-100
Ratlam	4.9	-68	0.0	-100	0.0	-100
Sehore	7.2	-48	0.0	-100	0.0	-100
Shajapur	4.0	-71	0.0	-100	0.0	-100
Sheopur Kalani	10.0	-34	0.0	-100	0.0	-100
Shivpuri	13.0	-14	0.0	-100	0.0	-100
Ujjain	4.7	-66	0.0	-100	0.0	-100
Vidisha	27.0	275	0.0	-100	0.0	-100
Chhattisgarh						
Balod	148.2	792	0.0	-100	0.0	-100
Baloda Bazar	16.0	34	0.0	-100	0.0	-100
Balrampur	68.0	382	0.0	-100	0.0	-100
Bastar	124.2	317	0.0	-100	0.0	-100
Bemetara	155.9	926	0.0	-100	0.0	-100
Bijapur	67.3	129	0.0	-100	0.0	-100
Bilaspur	58.4	284	0.3	-95	0.0	-100
Dantewara	26.0	-14	0.0	-100	0.0	-100
Dhamtari	43.2	211	0.0	-100	0.0	-100
Durg	29.0	75	0.0	-100	0.0	-100
Gariaband	31.8	67	0.0	-100	0.0	-100
Janjgir	31.9	180	0.0	-100	0.0	-100
Jashpurnagar	28.6	66	0.0	-100	0.0	-100
Kabirdham	25.8	31	0.0	-100	0.0	-100
Kanker	82.1	277	0.0	-100	0.0	-100
Kondagaon	159.6	514	0.0	-100	0.0	-100
Korba	26.7	83	0.0	-100	0.0	-100
Koriya	31.6	300	0.0	-100	0.0	-100
Mahasumund	58.7	274	0.0	-100	0.0	-100
Mungeli	26.4	74	0.0	-100	0.0	-100
Narayanpur	100.3	231	0.0	-100	0.0	-100
Raigarh	41.8	185	0.0	-100	0.0	-100
Raipur	42.4	247	0.0	-100	0.0	-100
Rajnandgaon	71.2	224	0.0	-100	0.0	-100
Sukma	69.9	130	0.0	-100	0.0	-100
Surajpur	41.7	286	0.0	-100	0.0	-100
Surguja	37.4	127	0.0	-100	0.0	-100
East Uttar Pradesh						

Allahabad	26.9	98	0.0	-100	0.0	-100
Ambedkar Nagar	5.0	-69	0.0	-100	0.0	-100
Azamgarh	8.3	-42	0.0	-100	0.0	-100
Bahraich	81.7	278	0.0	-100	0.0	-100
Ballia	29.0	282	0.0	-100	0.0	-100
Balrampur	35.3	15	0.0	-100	0.0	-100
Banda	11.0	-33	0.0	-100	0.0	-100
Barabanki	22.4	14	0.0	-100	0.0	-100
Basti	35.0	123	0.0	-100	0.0	-100
Chandauli	1.5	-85	0.0	-100	0.0	-100
Deoria	7.5	-16	0.0	-100	0.0	-100
Faizabad	33.4	96	0.0	-100	0.0	-100
Farrukhabad	10.3	-41	0.0	-100	0.0	-100
Fatehpur	24.2	60	0.0	-100	0.0	-100
Gazipur	20.3	82	0.0	-100	0.0	-100
Gonda	25.6	7	0.0	-100	0.0	-100
Gorakhpur	35.2	39	0.0	-100	0.0	-100
Hardoi	8.3	-62	0.0	-100	0.0	-100
Jaunpur	7.7	-30	0.0	-100	0.0	-100
Kannauj	17.5	-28	0.0	-100	0.0	-100
Kanpur City	31.5	56	0.0	-100	0.0	-100
Kanpur Dehat	24.5	30	0.0	-100	0.0	-100
Kaushambi	0.0	-100	0.0	-100	0.0	-100
Kheri	39.6	42	0.0	-100	0.0	-100
Kushi nagar	2.0	-88	0.0	-100	0.0	-100
Lucknow	28.0	61	0.0	-100	0.0	-100
Maharajganj	41.5	81	0.0	-100	0.0	-100
Mau	0.0	-100	0.0	-100	0.0	-100
Mirzapur	8.3	-33	0.0	-100	0.0	-100
Pratapgarh	30.3	114	0.0	-100	0.0	-100
RaiBareilly	18.7	-20	0.0	-100	0.0	-100
Sahuji Maharajnagar	3.5	-77	0.0	-100	0.0	-100
Sant Kabirnnagar	83.0	461	0.0	-100	0.0	-100
Sant Ravidas Nagar	6.0	-38	0.0	-100	0.0	-100
Shrawasti	17.8	-18	0.0	-100	0.0	-100
Sidharthnagar	22.7	-12	0.0	-100	0.0	-100
Sitapur	2.5	-91	0.0	-100	0.0	-100
Sonbhadra	26.6	74	0.0	-100	0.0	-100
Sultanpur	30.2	59	0.0	-100	0.0	-100
Unnao	23.8	11	0.0	-100	0.0	-100
Varanasi	8.9	-6	0.0	-100	0.0	-100
West Uttar Pradesh						
Agra	6.8	-34	0.0	-100	0.0	-100
Aligarh	0.0	-100	0.0	-100	0.0	-100
Auraiya	27.2	43	0.0	-100	0.0	-100
Badaun	16.0	-34	0.0	-100	0.0	-100
Baghpat	0.0	-100	0.0	-100	0.0	-100
Bareilly	6.2	-73	0.0	-100	0.0	-100

Bijnor	0.0	-100	0.0	-100	0.0	-100
Bulandsahar	3.2	-75	0.0	-100	0.0	-100
Etah	4.4	-69	0.0	-100	0.0	-100
Etawah	7.5	-67	0.0	-100	0.0	-100
Firozabad	13.2	-33	0.0	-100	0.0	-100
GBNagar	0.0	-100	0.0	-100	0.0	-100
Ghaziabad	0.0	-100	0.0	-100	0.0	-100
Hamirpur	20.8	60	0.0	-100	0.0	-100
Jalaun	31.8	60	0.0	-100	0.0	-100
Jhansi	20.6	20	0.0	-100	0.0	-100
Jotiba Phule Nagar	0.0	-100	0.0	-100	0.0	-100
Kanshiramnagar	0.0	-100	0.0	-100	0.0	-100
Lalitpur	13.0	-14	0.0	-100	0.0	-100
Mahamaya Nagar	0.0	-100	0.0	-100	0.0	-100
Mahoba	0.0	-100	0.0	-100	0.0	-100
Mainpuri	7.1	-61	0.0	-100	0.0	-100
Mathura	0.0	-100	0.0	-100	0.0	-100
Meerut	0.0	-100	0.0	-100	0.0	-100
Moradabad	0.2	-98	0.0	-100	0.0	-100
Muzzaffarnagar	0.0	-100	0.0	-100	0.0	-100
Pilibhit	1.6	-95	0.0	-100	0.0	-100
Rampur	0.0	-100	0.0	-100	0.0	-100
Saharanpur	4.0	-74	0.0	-100	0.0	-100
Shahjahanpur	7.6	-71	0.0	-100	0.0	-100
Uttarakhand						
Almora	0.0	-100	0.0	-100	0.0	-100
Bageshwar	2.5	-87	0.0	-100	0.0	-100
Chamoli	3.4	-78	0.0	-100	0.0	-100
Champawat	7.6	-68	0.0	-100	0.0	-100
Dehradun	12.7	-52	0.0	-100	0.0	-100
Garhwal Pauri	0.0	-100	0.0	-100	0.0	-100
Garhwal Tehri	0.1	-99	0.0	-100	0.0	-100
Haridwar	2.5	-82	0.0	-100	0.0	-100
Nainital	13.0	-55	0.0	-100	0.0	-100
Pithorgarh	12.6	-38	1.4	-92	0.0	-100
Rudraprayag	0.8	-97	0.0	-100	0.0	-100
Udham Sing Nagar	0.0	-100	0.0	-100	0.0	-100
Uttarkashi	0.5	-98	0.0	-100	0.0	-100
Bihar						
Araria	116.8	556	0.0	-100	0.0	-100
Arwal	96.5	885	0.0	-100	0.0	-100
Aurangabad	152.6	1120	0.0	-100	0.0	-100
Banka	66.2	185	0.0	-100	0.0	-100
Begusarai	23.3	117	0.0	-100	0.0	-100
Bhabua	29.9	177	0.0	-100	0.0	-100
Bhagalpur	21.3	-2	0.0	-100	0.0	-100
Bhojpur	7.0	-42	0.0	-100	0.0	-100
Buxar	132.0	495	0.0	-100	0.0	-100
Darbhanga	38.6	219	0.0	-100	0.0	-100

East Champaran	20.9	15	0.0	-100	0.0	-100
Gaya	113.1	719	0.0	-100	0.0	-100
Gopalganj	19.0	47	0.0	-100	0.0	-100
Jahanabad	38.5	274	0.0	-100	0.0	-100
Jamui	28.2	21	0.0	-100	0.0	-100
Kathihar	62.7	160	0.0	-100	0.0	-100
Khagadia	26.1	47	0.0	-100	0.0	-100
Kishanganj	110.1	405	26.9	30	0.0	-100
Lakhisarai	29.9	72	0.0	-100	0.0	-100
Madhepura	72.9	303	0.0	-100	0.0	-100
Madhubani	18.4	-20	0.0	-100	0.0	-100
Monghyar	31.0	78	0.0	-100	0.0	-100
Muzaffarpur	28.1	71	0.0	-100	0.0	-100
Nalanda	50.3	216	0.0	-100	0.0	-100
Nawada	48.8	226	0.0	-100	0.0	-100
Patna	52.3	206	0.0	-100	0.0	-100
Purnea	71.5	254	0.0	-100	0.0	-100
Rohtas	57.2	297	0.0	-100	0.0	-100
Saharsha	40.6	49	0.0	-100	0.0	-100
Samstipur	87.9	685	0.0	-100	0.0	-100
Saran	47.7	326	0.0	-100	0.0	-100
Sheikpura	105.8	570	0.0	-100	0.0	-100
Sheohar	0.0	-100	0.0	-100	0.0	-100
Sitamarhi	0.0	-100	0.0	-100	0.0	-100
Siwan	41.6	255	0.0	-100	0.0	-100
Supaul	117.5	535	0.0	-100	0.0	-100
Vaishali	53.6	182	0.0	-100	0.0	-100
West Champaran	30.8	65	0.0	-100	0.0	-100
Jharkhand						
Bokaro	47.1	100	0.0	-100	0.0	-100
Chatra	11.6	-43	0.0	-100	0.0	-100
Deoghar	1.1	-94	0.0	-100	0.0	-100
Dhanbad	29.1	29	0.0	-100	0.0	-100
Dumka	59.6	79	0.0	-100	0.0	-100
East Singbhum	25.4	62	0.0	-100	0.0	-100
Garhwa	48.1	97	0.0	-100	0.0	-100
Giridih	43.9	112	0.0	-100	0.0	-100
Godda	25.6	16	0.0	-100	0.0	-100
Gumla	47.8	140	0.0	-100	0.0	-100
Hazaribagh	86.5	363	0.0	-100	0.0	-100
Jamtara	29.2	7	0.0	-100	0.0	-100
Khunti	25.0	-1	0.0	-100	0.0	-100
Koderna	18.3	-16	0.0	-100	0.0	-100
Latehar	80.9	328	0.0	-100	0.0	-100
Lohardagga	52.7	249	0.0	-100	0.0	-100
Pakur	18.0	-60	0.0	-100	0.0	-100
Palamau	93.7	404	0.0	-100	0.0	-100
Ramgarh	94.0	359	0.0	-100	0.0	-100
Ranchi	29.6	55	0.0	-100	0.0	-100

Sahebganj	8.6	-64	0.0	-100	0.0	-100
Saraikela	8.1	-57	0.0	-100	0.0	-100
Simdega	28.6	60	0.0	-100	0.0	-100
West Singbhum	5.9	-70	0.0	-100	0.0	-100
East Rajasthan						
Ajmer	44.7	1108	0.0	-100	0.0	-100
Alwar	1.4	-84	0.0	-100	0.0	-100
Banswara	21.4	42	0.0	-100	0.0	-100
Baran	21.1	64	0.0	-100	0.0	-100
Bharatpur	17.3	88	0.0	-100	0.0	-100
Bhilwara	7.7	53	0.0	-100	0.0	-100
Bundi	16.5	81	0.0	-100	0.0	-100
Chittorgarh	29.1	227	0.0	-100	0.0	-100
Dausa	12.4	85	0.0	-100	0.0	-100
Dholpur	14.2	29	0.0	-100	0.0	-100
Dungarpur	11.5	28	0.0	-100	0.0	-100
Jaipur	14.7	199	0.0	-100	0.0	-100
Jhalawar	13.3	-10	0.0	-100	0.0	-100
Jhunjhunu	0.1	-96	0.0	-100	0.0	-100
Karauli	31.8	232	0.0	-100	0.0	-100
Kota	13.1	-10	0.0	-100	0.0	-100
Pratapgarh	18.0	-1	0.0	-100	0.0	-100
Rajsamand	32.7	922	0.0	-100	0.0	-100
Sawai Madhopur	21.3	93	0.0	-100	0.0	-100
Sikar	1.4	-49	0.0	-100	0.0	-100
Sirohi	17.3	380	0.0	-100	0.0	-100
Tonk	10.5	55	0.0	-100	0.0	-100
Udaipur	34.2	427	0.0	-100	0.0	-100
West Rajasthan						
Barmer	0.0	-100	0.0	-100	0.0	-100
Bikaner	2.3	287	0.0	-100	0.0	-100
Churu	0.6	-56	0.0	-100	0.0	-100
Hanumangarh	0.6	14	0.0	-100	0.0	-100
Jaisalmer	0.0	-100	0.0	-100	0.0	-100
Jalore	0.0	-100	0.0	-100	0.0	-100
Jodhpur	3.6	408	0.0	-100	0.0	-100
Nagaur	9.4	453	0.0	-100	0.0	-100
Pali	0.0	-100	0.0	-100	0.0	-100
Sri Ganganagar	0.1	-92	0.0	-100	0.0	-100
Gujarat Region						
Ahmedabad	25.3	164	0.0	-100	0.0	-100
Anand	6.0	-36	0.0	-100	0.0	-100
Aravalli	33.0	240	0.0	-100	0.0	-100
Banaskantha	19.0	458	0.0	-100	0.0	-100
Broach	18.7	87	0.0	-100	0.0	-100
Chhota Udepur	5.0	-60	0.0	-100	0.0	-100
DNH	7.6	-54	0.0	-100	0.0	-100
Dahod	12.5	-7	0.0	-100	0.0	-100
Daman	29.8	82	0.0	-100	0.0	-100

Dangs	13.8	-6	0.0	-100	0.0	-100
Gandhinagar	41.4	365	0.0	-100	0.0	-100
Kheda	36.2	269	0.0	-100	0.0	-100
Mahisagar	20.7	80	0.0	-100	0.0	-100
Mehsana	30.4	348	0.0	-100	0.0	-100
Narmada	23.7	116	0.0	-100	0.0	-100
Navsari	26.1	78	0.0	-100	0.0	-100
Panchmahal	18.7	85	0.0	-100	0.0	-100
Patan	15.9	270	0.0	-100	0.0	-100
Sabarkantha	16.8	36	0.0	-100	0.0	-100
Surat	25.2	142	0.0	-100	0.0	-100
Tapi	10.6	43	0.0	-100	0.0	-100
Vadodara	17.3	27	0.0	-100	0.0	-100
Valsad	22.0	45	0.0	-100	0.0	-100
S K & Diu region						
Amreli	52.4	789	0.0	-100	0.0	-100
Bhavnagar	17.4	126	0.0	-100	0.0	-100
Botad	51.3	541	0.0	-100	0.0	-100
Devbhoomi Dwarka	16.4	682	0.0	-100	0.0	-100
Diu	13.7	59	0.0	-100	0.0	-100
Gir Somnath	44.3	560	0.0	-100	0.0	-100
Jamnagar	14.3	250	0.0	-100	0.0	-100
Junagarh	74.9	1108	0.0	-100	0.0	-100
Kutch	5.4	238	0.0	-100	0.0	-100
Morbi	18.6	481	0.0	-100	0.0	-100
Porbandar	29.7	560	0.0	-100	0.0	-100
Rajkot	14.8	72	0.0	-100	0.0	-100
Surendranagar	15.8	105	0.0	-100	0.0	-100
Maharashtra						
Konkan & Goa						
Mumbai City	7.6	-69	0.0	-100	0.0	-100
Mumbai Suburban	20.4	-34	0.0	-100	0.0	-100
North Goa	96.3	124	0.1	-99	0.0	-100
Raigad	15.5	-63	1.3	-91	0.0	-100
Ratnagiri	34.7	-23	0.1	-99	0.0	-100
Sindhudurg	88.6	116	0.2	-99	0.0	-100
South Goa	48.7	38	0.1	-99	0.0	-100
Thane	12.6	-63	0.0	-100	0.0	-100
Madhya Maharashtra						
Ahmednagar	4.5	-79	0.0	-100	0.0	-100
Dhule	4.4	-73	0.0	-100	0.0	-100
Jalgaon	19.0	23	0.0	-100	0.0	-100
Kolhapur	31.7	-10	0.2	-99	0.0	-100
Nandurbar	18.5	25	0.0	-100	0.0	-100
Nasik	8.8	-57	0.0	-100	0.0	-100
Pune	7.8	-69	0.0	-100	0.0	-100
Sangli	5.3	-83	0.4	-98	0.0	-100
Satara	9.0	-66	0.5	-97	0.0	-100






Solapur	2.5	-90	0.0	-100	0.0	-100
Marathwada						
Aurangabad	7.6	-60	0.0	-100	0.0	-100
Beed	5.6	-74	0.0	-100	0.0	-100
Hingoli	46.8	134	0.0	-100	0.0	-100
Jalna	7.8	-68	0.0	-100	0.0	-100
Latur	19.8	-23	0.0	-100	0.0	-100
Nanded	37.5	50	0.0	-100	0.0	-100
Osmanabad	8.0	-63	0.0	-100	0.0	-100
Parbhani	24.0	13	0.0	-100	0.0	-100
Vidarbha						
Akola	15.7	0	0.0	-100	0.0	-100
Amraoti	32.0	82	0.0	-100	0.0	-100
Bhandara	55.7	201	0.0	-100	0.0	-100
Buldhana	4.9	-75	0.0	-100	0.0	-100
Chandrapur	62.7	241	0.0	-100	0.0	-100
Gadchiroli	65.6	230	0.0	-100	0.0	-100
Gondia	53.8	199	0.0	-100	0.0	-100
Nagpur	50.6	166	0.0	-100	0.0	-100
Wardha	37.0	108	0.0	-100	0.0	-100
Washim	20.7	-16	0.0	-100	0.0	-100
Yeotmal	33.3	86	0.0	-100	0.0	-100
Odisha						
Angul	65.9	171	0.0	-100	0.0	-100
Balasore	89.2	69	0.0	-100	0.0	-100
Bargarh	41.0	171	0.0	-100	0.0	-100
Bhadrak	44.0	-2	0.0	-100	0.0	-100
Bolangir	108.2	488	0.0	-100	0.0	-100
Boudh	52.1	40	0.0	-100	0.0	-100
Cuttack	60.5	64	0.0	-100	0.0	-100
Deogarh	29.4	92	0.0	-100	0.0	-100
Dhenkanal	37.7	23	0.0	-100	0.0	-100
Gajapati	83.0	97	0.0	-100	0.0	-100
Ganjam	96.2	89	0.0	-100	0.0	-100
Jagatsingpur	77.7	101	0.0	-100	0.0	-100
Jajpur	30.3	-25	0.0	-100	0.0	-100
Jharsuguda	29.0	31	0.0	-100	0.0	-100
Kalahandi	105.6	548	0.0	-100	0.0	-100
Kandhamal	49.3	32	0.0	-100	0.0	-100
Kendrapara	103.2	79	0.0	-100	0.0	-100
Keonjhar	30.2	-7	0.0	-100	0.0	-100
Khurda	55.2	2	0.0	-100	0.0	-100
Koraput	52.5	33	0.0	-100	0.0	-100
Malkangiri	73.4	105	0.0	-100	0.0	-100
Mayurbhanj	28.7	5	0.0	-100	0.0	-100
Nawapara	29.3	73	0.0	-100	0.0	-100
Nawarangpur	68.6	241	0.0	-100	0.0	-100
Nayagarh	57.4	11	0.0	-100	0.0	-100
Puri	56.3	5	0.0	-100	0.0	-100

Rayagada	52.5	33	0.0	-100	0.0	-100
Sambalpur	49.7	225	0.0	-100	0.0	-100
Sonepur	46.1	241	0.0	-100	0.0	-100
Sundargarh	37.7	143	0.0	-100	0.0	-100
West Bengal & Andaman Nicobar Islands						
A & N ISLAND						
Nicobar	7.3	-91	109.7	39	89.0	49
North & Middle Andaman	49.0	-32	44.1	-6	86.6	89
South Andaman	6.9	-90	46.4	-29	70.1	36
GWB						
Bankura	32.3	57	0.0	-100	0.0	-100
Birbhum	29.9	32	0.0	-100	0.0	-100
Burdwan	36.8	66	0.0	-100	0.0	-100
East Midnapore	90.7	116	0.0	-100	0.0	-100
Hooghly	64.0	134	0.0	-99	0.0	-100
Howrah	12.8	-66	0.0	-100	0.0	-100
Kolkata	82.9	109	0.0	-100	0.0	-100
Murshidabad	84.2	184	0.0	-100	0.0	-100
Nadia	44.0	89	0.0	-100	0.0	-100
24 Pargana (N)	34.6	18	0.0	-100	0.0	-100
Purulia	20.8	-4	0.0	-100	0.0	-100
24 Pargana (S)	24.3	-60	0.2	-99	0.0	-100
West Midnapore	33.6	57	0.0	-100	0.0	-100
SHWB & Sikkim						
Cooch Behar	68.6	75	32.9	-4	0.0	-100
Darjeeling	160.6	504	124.2	330	0.0	-100
East Sikkim	42.4	-31	42.3	36	0.0	-99
Jalpaiguri	165.0	231	56.5	54	0.0	-100
Malda	71.0	154	0.0	-100	0.0	-100
North Dinajpur	**	**	**	**	**	**
North Sikkim	84.4	14	35.2	-31	2.1	-95
South Dinajpur	0.0	-100	0.0	-100	0.0	-100
South Sikkim	71.8	18	40.8	31	0.0	-100
West Sikkim	**	**	**	**	**	**
Karnataka						
Coastal Karnataka						
Dakshina Kannada	36.1	-43	10.5	-77	0.0	-100
Udupi	51.9	-13	20.9	-44	0.0	-100
Uttara Kannada	105.0	155	2.7	-90	0.0	-100
NI Karnataka						
Bagalkote	14.3	-55	0.0	-100	0.0	-100
Belagavi	11.1	-65	0.3	-99	0.0	-100
Bidar	40.6	50	0.0	-100	0.0	-100
Dharwad	39.1	27	4.3	-85	0.0	-100
Gadag	0.3	-99	0.0	-100	0.0	-100
Haveri	7.4	-77	2.2	-91	0.0	-100
Kalaburgi	14.8	-48	0.0	-100	0.0	-100
Koppal	9.7	-67	0.0	-100	0.0	-100

Raichur	11.4	-66	0.0	-100	0.0	-100
Vijayapura	7.4	-71	0.0	-100	0.0	-100
Yadgir	8.4	-75	0.0	-100	0.0	-100
S I Karnataka						
Ballari	3.6	-88	9.6	-53	0.0	-100
Bangalore Rural	13.3	-72	36.4	17	0.0	-100
Bangalore Urban	12.1	-72	14.9	-49	0.0	-100
Chamarajanagar	0.0	-100	11.6	-65	0.0	-100
Chikaballapur	3.0	-93	0.5	-98	0.0	-100
Chikkamagaluru	18.3	-56	11.5	-65	0.0	-100
Chitradurga	31.7	-3	2.2	-89	0.0	-100
Davangere	3.3	-90	11.1	-57	0.0	-100
Hassan	1.1	-97	11.0	-66	0.0	-100
Kodagu	5.6	-88	39.3	-11	0.1	-99
Kolar	5.0	-89	0.3	-99	0.0	-100
Mandya	6.8	-82	34.1	3	0.0	-100
Mysuru	0.0	-100	4.7	-87	0.0	-100
Ramanagara	28.1	-38	28.9	-17	0.0	-100
Shivamogga	27.9	-20	22.4	-17	0.0	-100
Tumakuru	11.6	-69	3.8	-85	0.0	-100
Kerala						
Alappuzha	0.3	-99	24.9	-65	74.6	-3
Kannur	10.5	-82	32.0	-25	0.0	-100
Ernakulam	0.6	-99	81.4	26	34.0	-49
Idukki	4.4	-95	74.6	-8	17.6	-79
Kasaragod	18.6	-75	4.8	-86	0.0	-100
Kollam	4.0	-95	108.4	32	26.6	-68
Kottayam	0.5	-99	67.3	1	45.1	-39
Kozhikode	21.3	-68	4.8	-90	4.6	-93
Malappuram	1.8	-98	50.4	-28	16.3	-74
Palakkad	0.2	-99	43.1	-30	6.2	-90
Pathanamthitta	0.0	-100	143.0	70	19.8	-78
Thiruvananthapuram	0.6	-99	18.9	-72	12.8	-81
Thrissur	0.1	-99	38.1	-45	14.7	-77
Wyand	2.8	-94	45.6	6	0.0	-100
Tamil Nadu						
Ariyalur	0.3	-99	6.0	-85	3.2	-94
Chennai	5.0	-88	0.0	-100	0.0	-100
Coimbatore	0.6	-98	37.3	-1	2.5	-94
Cuddalore	22.9	-45	5.8	-88	2.3	-97
Dharmapuri	28.8	-39	19.4	-49	0.0	-100
Dindigul	0.0	-99	56.1	12	41.0	-9
Erode	1.6	-95	4.3	-89	23.8	-38
Kanchipuram	21.4	-45	5.5	-89	0.0	-100
Kanyakumari	0.3	-99	9.0	-83	9.7	-86
Karikal	16.1	-52	0.0	-100	0.0	-100
Karur	0.1	-99	4.4	-88	7.8	-78
Krishnagiri	16.3	-62	17.1	-54	0.0	-100
Madurai	18.3	-55	44.6	-20	62.3	28

Nagapattinam	37.2	13	0.0	-100	8.0	-90
Namakkal	2.2	-95	9.8	-75	9.5	-72
Nilgiris	0.8	-98	34.9	-32	0.9	-98
Perambalur	0.0	-100	8.0	-82	7.8	-84
Puducherry	10.3	-74	11.4	-76	0.0	-100
Pudukottai	2.9	-90	12.4	-71	21.1	-45
Ramanathapuram	0.0	-100	1.5	-97	35.0	-36
Salem	7.9	-83	18.9	-58	6.7	-84
Sivaganga	2.9	-92	8.8	-83	22.6	-55
Thanjavur	0.3	-99	13.6	-69	18.9	-60
Theni	0.0	-100	58.6	27	30.0	-33
Tirunelveli	0.0	-100	16.7	-56	17.8	-65
Tirupur	0.0	-100	61.1	60	36.8	-1
Tiruvallur	1.9	-95	0.0	-99	0.0	-100
Tiruvannamalai	29.2	-40	18.6	-56	0.0	-100
Tiruvarur	3.3	-90	0.0	-100	4.9	-92
Toothukudi	0.0	-100	4.0	-90	25.0	-48
Trichy	2.8	-93	15.0	-65	31.8	-13
Vellore	19.8	-55	3.6	-89	0.0	-100
Villupuram	27.9	-35	44.8	20	0.5	-99
Virudhunagar	0.1	-99	58.9	18	12.4	-73
Andhra Pradesh						
Coastal Andhra Pradesh						
East Godavari	33.2	-45	0.0	-100	0.0	-100
Guntur	33.0	-6	0.0	-100	0.0	-100
Krishna	23.4	-46	0.0	-100	0.0	-100
Nellore	6.8	-82	0.7	-99	0.0	-100
Prakasam	6.5	-83	0.0	-100	0.0	-100
Sirkakulam	46.0	-17	0.0	-100	0.0	-100
Visakhapatnam	48.1	-14	0.0	-100	0.0	-100
Vizianagram	51.9	0	0.0	-100	0.0	-100
West Godavari	21.6	-64	0.0	-100	0.0	-100
Rayalaseema						
Anantapur	2.4	-93	1.1	-94	0.0	-100
Chittoor	11.5	-72	1.1	-96	0.0	-100
Cuddapah	5.4	-84	0.0	-100	0.0	-100
Kurnool	6.7	-76	0.0	-100	0.0	-100
Telangana						
Adilabad	64.0	178	0.0	-100	0.0	-100
Hyderabad	39.5	34	0.0	-100	0.0	-100
Karimnagar	76.2	197	0.0	-100	0.0	-100
Khammam	70.3	108	0.1	-99	0.0	-100
Mehabubnagar	6.9	-74	0.0	-100	0.0	-100
Medak	28.4	11	0.0	-100	0.0	-100
Nalgonda	27.8	-16	0.0	-100	0.0	-100
Nizamabad	39.6	53	0.0	-100	0.0	-100
Rangareddy	20.6	-31	0.0	-100	0.0	-100
Warangal	54.8	107	0.0	-100	0.0	-100

Legends

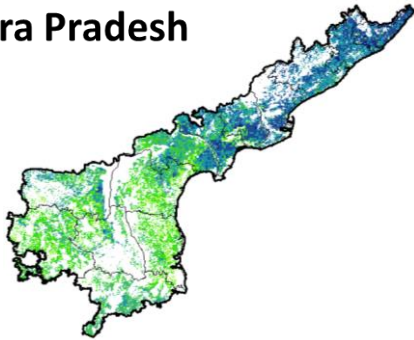
	(20% or more) excess rainfall		(-60 to -99 %) scanty rainfall
	(-19 to +19%) normal rainfall		(-100%) no rainfall
	(-20 to -59%) deficient rainfall	**	Data not available

Annexure II

NOAA/AVHRR NDVI COMPOSITE MAPS FOR THE WEEK ENDING ON

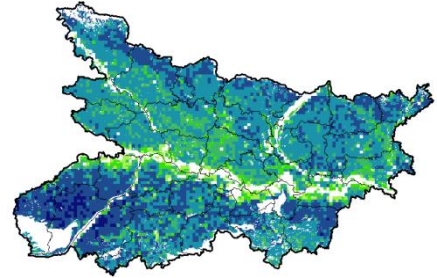
27th October 2016 FOR DIFFERENT STATES

Andhra Pradesh



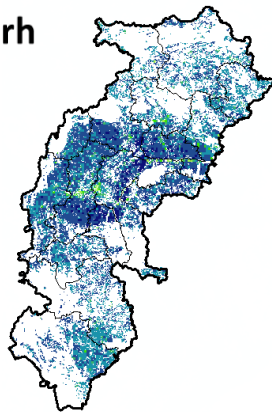
Agriculture vigour is moderate over central and southern part whereas, northern coastal parts show good NDVI in the state of Andhra Pradesh.

Bihar



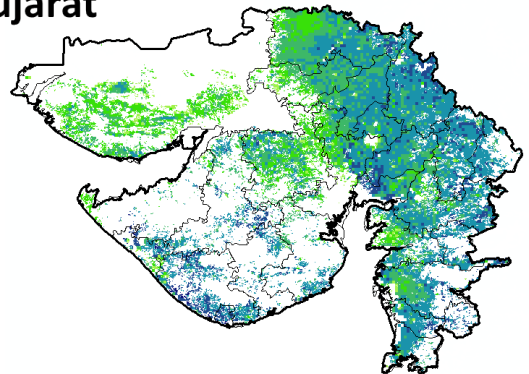
Agriculture vigour is good over central parts of Bihar whereas southern and patches in northern part shows good to very good NDVI values.

Chhattisgarh



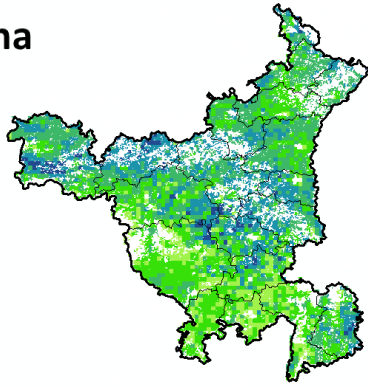
Agriculture vigour is good in southern region whereas, very good vigour is seen in central and northern region of Chhattisgarh.

Gujarat



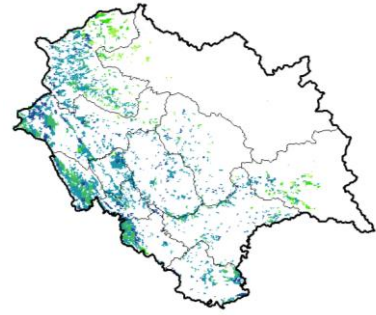
Moderate NDVI values are observed in patches in Kutch region whereas, good to very good NDVI is observed in Saurashtra and Gujarat.

Haryana



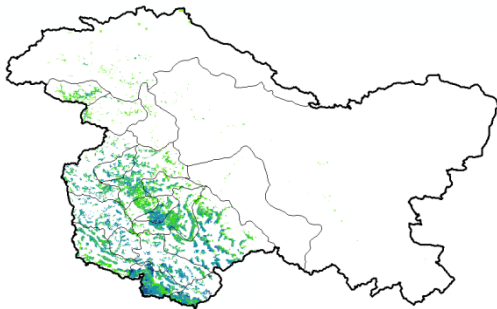
Agriculture vigour is good & very good over central region whereas, moderate agriculture vigour is observed in rest of the state.

Himachal Pradesh



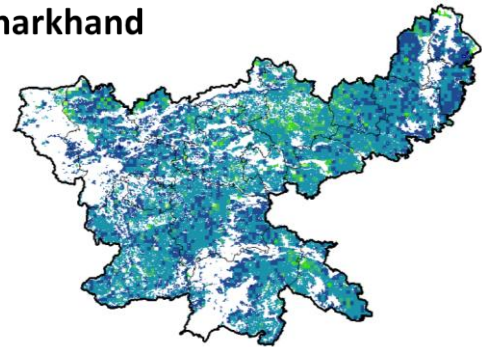
Agriculture vigour is moderate to good over southern parts of Himachal Pradesh.

Jammu & Kashmir



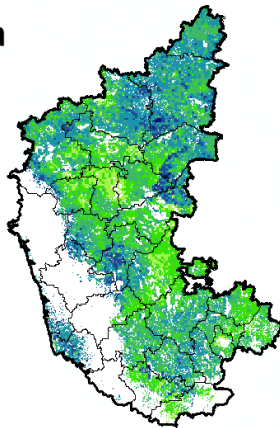
Agriculture vigour is good over south western part of Jammu & Kashmir, whereas the remaining region shows moderate NDVI.

Jharkhand



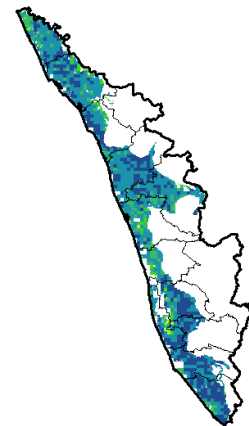
Agriculture vigour is very good over few patches in central region of Jharkhand whereas, remaining states shows good NDVI values.

Karnataka



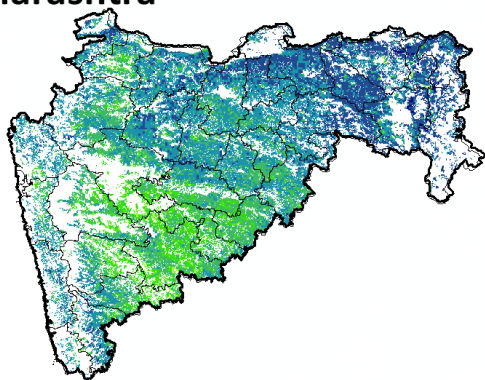
Agriculture vigour is moderate over patches in northern region of the state whereas good vigour is observed in the central and patches in northern regions.

Kerala



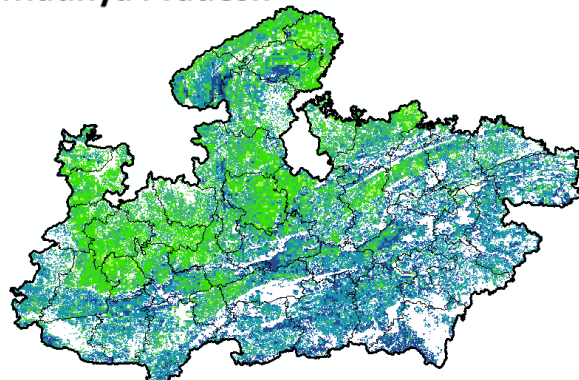
Agriculture vigour is good over entire state of Kerala except northern part which shows moderate NDVI values.

Maharashtra



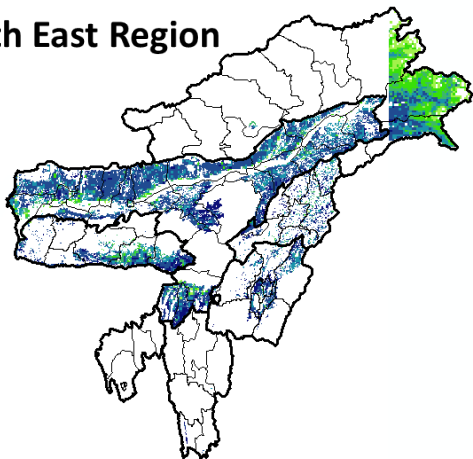
Agricultural vigour is moderate over central Maharashtra whereas, good to very good vigour is observed in the north and eastern regions.

Madhya Pradesh



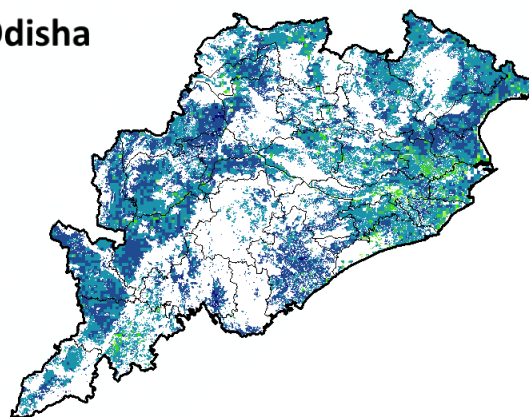
Agriculture vigour is moderate over patches in eastern and northern region of the state of Madhya Pradesh whereas, good & very good vigour is observed over central, western and southern region.

North East Region



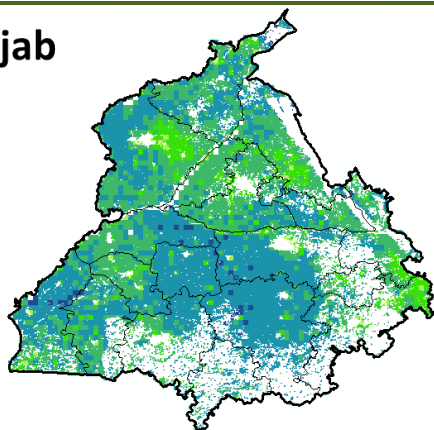
Agriculture vigour is good & very good over north-east states of country.

Odisha



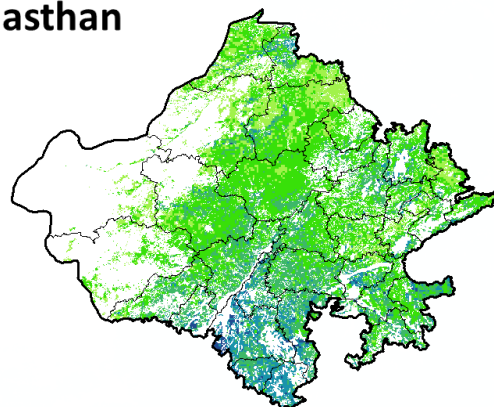
Agricultural vigour is moderate over few patches in coastal region of Odisha whereas, good to very good vigour is observed in entire state.

Punjab

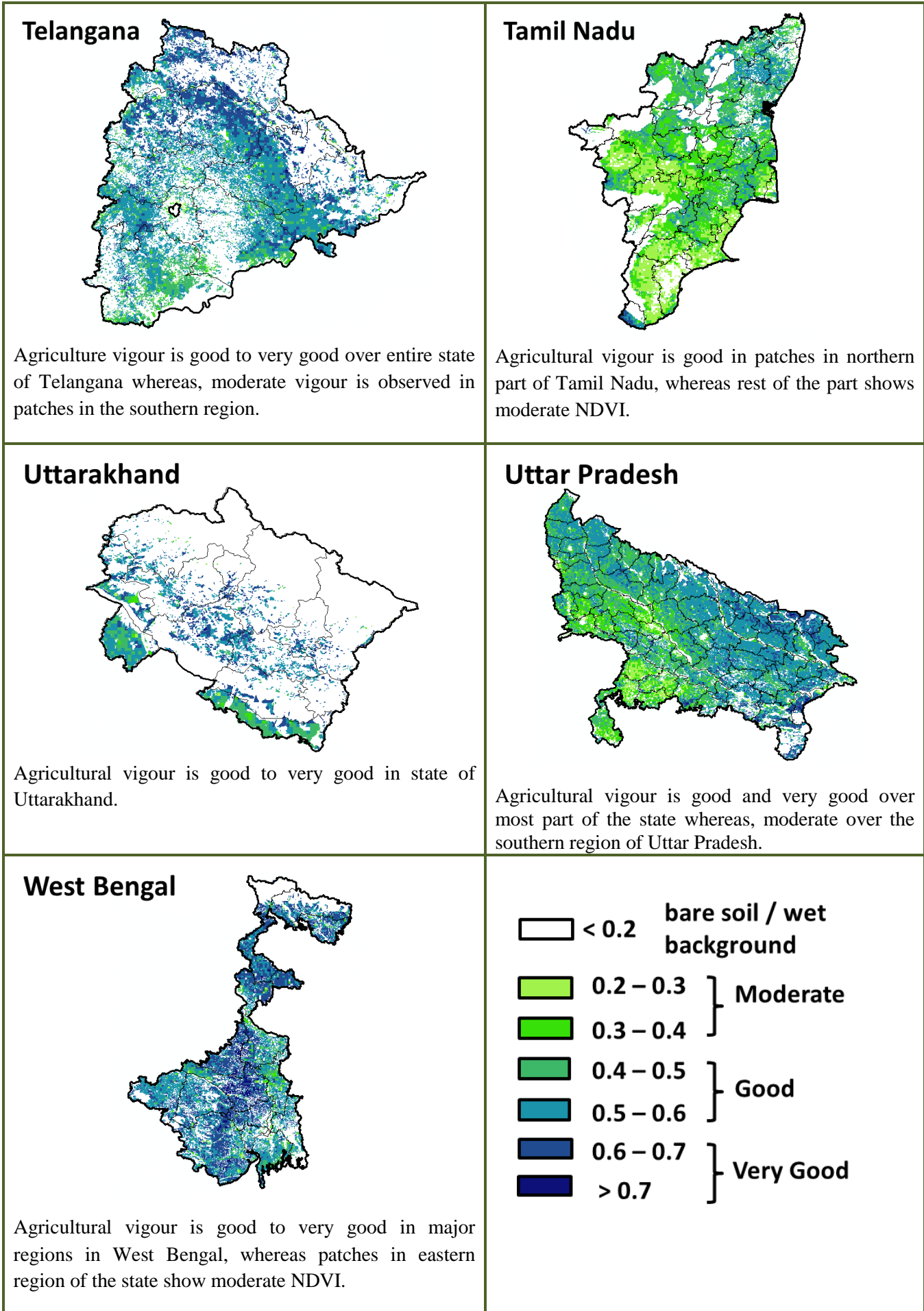


Agricultural vigour is good over central and eastern region whereas moderate vigour is observed in the entire state of Punjab.

Rajasthan



Agriculture vigour is moderate over western and northern Rajasthan whereas, good vigour is observed over southern region.



* For New Delhi NOAA/AVHRR NDVI COMPOSITE Map is not available due to some problem in data set.

Annexure III

Assam

Okra: Pusa Sawani, Arka Anamika, Parbhdani Kranti.

Cauliflower : Early Kunwari, Pusa Ketki, Pusa Dipali.

Winter brinjal: Pusa Kranti, Pusa Purple Long, Pusa Purple Round, Pusa Vairab, Pant Samra.

Pumpkin: Arke Suryamukhi, Arka Chandan.

Radish : Pusa Desi, Pusa Chetki.

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).

Brinjal : Cluster, Barbengena, JC-1, Kuchia, Pusa Kranti, Pusa Purple Long (for long varieties).

Pusa Purple Round, Pusa Vairab, JC-2, BWR-12 (round varieties).

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

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

Cauliflower : Early Kunwari, Pusa Katki and Pusa Deepali (for early maturity).

Improved Japanese, Pusa Synthetic, Pusa Snowhall (for mid maturity).

Snowball-16, Pusa Snowball, K-1 and Hissar 1 (for late maturity) etc.

Cabbage : Golden Acre, Pride of India, Pusa Mukta (Sel – 8) (for early maturity).

Drum Head and Eclipse Drum Head (for late maturity).

Knol-Khol : White Vienna (for early maturity).

Purple Viena (for late maturity).

Manipur

Pea : Arkel.

Tripura

Tomato: Trishul, Allrounder, T- 1408, T- 1458, Anup.

Cauliflower: CFL- 4048, Pusa early synthetic, Kamaya, Suhasihi.

Cabbage: BC- 76, Pusa Drum Head, Pusa Synthetic.

Broccoli: Everest, Ayeshwaria.

Odisha:

Green pea: Rachana, Arkel. and T -163.

Bihar

Pigeon pea: Bahar, Pusa-9, Narendra Arher-1, Rajendra Arher-1 and Maalvia-13.

Sesame : Kanak, kalika, Uma, Usha, Tilottama, Neelima and Prachi

Green gram : K -851, PDM -54, PDM -11, OUM 11-5

Balck gram : T-9, Pant-U-19. Pant –U-30, Pant –U-11

Niger : Deomali

Horsegram : Urmi, DS 1-2-2, DS 1-2

Jharkhand

Mustard: Shivani, Varuna, Pusa bold, Kranti, Pusa jaikisan , Vardan etc.

Potato: Kufri Ashoka, Kufri Pukhraj, Kufri Lalima, Kufri Pushkar and Kufri Kanchan.

Toria: BR-23, T.-9, P.T. 303, Panchali and Bhavani.

Gram: KAK-2, ICC-2, HK94-134(Kabuli) and Pusa 256, Pusa 372, Pant G-114, KWR 108, ICC 37.

Lentil: P.L.- 406, P.L.-639, D.P.L.-15, D.P.I.- 62 etc.

Green pea: Arkel or Azad pea.

Wheat: HDR-77, K-8027, C-306, Birsa genhu – 3 etc. HDR-77, K-8027, C-306, Birsa genhu – 3 etc.

Linseed: Sweta, Shubhra, T-397 etc.

West Bengal:

Mango: Himsagar, Mallicka, Langra

Guava: Safeda, L-49

Coconut: Eastcoastal, Hazari

Banana: Mortoman, Chapa, Kathali, Singapuri,

Mustard: Varuna, Sita and Bhagirathi.

Jute : Chaitali, Basudev, Naveen, Sonali, Sobujsona, Shyamali etc.

Cabbage : Pride of India, Pusa early, Kranti.

Cauliflower : Jawhar moti, Bharat Jyoti, Early banaras.

Uttarakhand

Wheat: HS-562, VL-616, VL-829, VL-802, VL-802

Onion: VL-Pyaj-3, Nasik Red, Pusa Red

Pea: Vivek 10, Vivek 11, Pant 3,

Radish: Meenu early, Japanese white, Pusa Himani.

Carrot: Pusa Vrishi,

Rai: Varuna, Rohini, Krishna, Kanti, Vardan, Vaibhav, Basanti, Narendra, Early rai-4, Urvashi and varieties **Yellow Mustard:** Ragini, Binoy (B-9), Pant peeli Sarso-1.

Jammu and Kashmir

Wheat: PBW-175, PBW-396, RSP-81 (Jitto).

Pea: AP-1, Bonnevillea, Rachna and Arkel

Chickpea: K-468, Gourav

Lentil: L-4147, L-9/12, PL-406.

Berseem: Vardan, mascavi, pusa giant, BL-1

Potato: Kufri Badshah, K. Sinduri, K. Chipsona & K. Sona

Gram: C-235, Gaurav, K-468, SCS-3, PBG-1

Toria: RSPT-1 and RSPT-2

Himachal Pradesh

Cauliflower: snowball and Giant snowball.

Radish: Japanese white, Chinese pink and mino early white

Turnip: PTWG-1

Carrot: Pusakesar

Peas: Mater ageta-6 (early variety).

Cabbage: Pride of India, golden achor and hybrid

East Uttar Pradesh

Turmeric: Kasturi, Paspu, Amlapuram, Madhukar, Sugna, Rajendra

Ginger: -suprabha, suruchi, surbhi and Himgiri

Urad Bean: Pant U-19, Azad URD-1, KU 91-2, Shekhar-1, KU-301

Arahar: Bahar, Amar, Narendra Arahar-1,2, pusa-2001, pusa-991, pusa-992, parasmanak, UPAS 120.

Moong: Type-27, 56

Toria: TA-9, Bhawani, PT-30, PT-507, TA-36, PT-303.

Potato: Kufarichandramukhi, Kufarisadabhar, or Kufri Ashoka.

Mustard: Narendra ageti, rai-4, Varuna (T59), Basti (Pili), rohini, Maya, Narendra swarna-rai-8 (pili), Narendra rai (NDR-8501), vaibhav.

Kabuli gram: chatmatkar, Puse-1003, Subhra as good varieties.

Pea: Rachna, Pantmatar-5, Aparna Malviya Matar-2, Malviya Matar-15, Shikha and Sapna are good varieties.

Radish: kalyanpur No.1, Pusa Rashmi, Hisar selection-1, Japni Safed, pusa Chetaki, Pusa Himani, Pusa deshi, Arka Nishant and Jaunpuri.

West Uttar Pradesh

Barseem: V.L.1, V.L.10, maskavi, jai, K-8027, K-9565, Mandakini.

Baby corn: M.H.-4.

Toria: bhavani

Mustard: Urvashi, Rohini, Maya, Giriraj, Vardan, Vaibhav

Linseed: Parvati, sharda, Padmini

Vegetable pea: Azad-3, Aakril

Gram: Zaki-9218, KGD-1168, KWR-108, Uday

Pea: KPRM-522, KPRM-400, Vikas, Prakash

Lentil: DPL-62, Malika

Punjab

Sugarcane: CoJ-85, CoJ-83, CoJ-64 (early maturing), COH-119, CoJ-88, CoS-8436 for and CoJ-89, CO118, COJ85, COJ64.

Rice: Pusa-44, T.R-112 and T.R-113.

Onion: Punjab Naroya, Punjab White and PRO 6.

Radish: Punjab Pasand and Japanese white.

Turnip: L-1.

Carrot: Punjab Black Beauty, Punjab Carrot Red and PC-34.

Tomato: TH-1, Punjab Ratta, Punjab NR 7, Punjab Chuhara, Punjab Upma, Castle Rock.

Rice: Hybrid varieties: K. R. H 2, PHB 71, Pant hybrid Dhan 1, Narendra hybrid dhan 1, P R H 10

High yielding varieties: Pusa 44, Pant Dhan-4, Pant Dhan-10, Pusa-834, Pusa basmati-1, Pusa basmati-1509, Pusa improved basmati, Pusa sugandha-5, Pusa sugandha-4 (Pusa 1121), Ranvir basmati and Taravadi basmati.

Pigeon pea: Pusa 2001, Pusa 992, Paras, Manak.

Maize: PMH1, Parbhat, PMH2

Paddy: PR-124, PR-123, PR-121, PR-122, PR-114, PR 113, PR-126, PR-115.

Okra: Punjab-8 and Punjab-7

Cauliflower: Pusa Snow Ball-1, Pusa Snow Ball K-1

Delhi

Oat: J.H.O-822, O.L.-9, Pusa oat-5.

Barseem: Vardan, Buland Barseem-1, Masakavi, J.B-3;

Radish:Japani White, Hill queen, French Radish;

Spinach: PusaBharti.

Amaranths: PusalalChaulai, PusaKiran.

Ladyfinger: Pusa A-4.

Radish:Japani White, Hill queen, French Radish.

Spinach:All Green, PusaBharti;

Fenugreek:PusaKasuri;

Coriander:PantHaritama, Hybrids.

Turnip:Pusa Swati, Local Red variety.

Bottle Gourd- Pusa Naveen, PusaSamridhi

Bitter Gourd- PusaVisesh, Pusa-2 mosumi

Pumpkin- PusaVisvash, PusaVikash

Ridge Gourd- PusaChikni

Cucumber- PusaUday, PusaBarkha

East Rajasthan:

pearl millet: HHB 67, HHB 60, Raj 171, ICMH 356 and ICTP 8201(improved varieties)

Raj-171, ICTP-8203, RHB-173, RHB-177, RHB-121, HHB-67(improved varieties)

Sorghum: CSH-6, CSH-9, CSV-10, CSV-15.

TG37-A, DH-86, Pratap Mungfali-1.

Maize: Aravali Makka-1, Pratap Makka-1, Pratap Makka-5, Pratap Hybrid Maize-1, Pratap Hybrid Maize-2 and bio-9637.

Hybrid varieties are-MahiDhawal, PEHM- 2, Pratap Hybrid Maize-1, Pratap Makka-3, Pratap Makka-5, Bio-9637, Bio-9681, Pratap

HQPM-1, Pratap Hybrid Maize-3, Pratap Makka-9

Ageti-76, Bassi Selected, MahiKanchan

Greengram:RMG-62, RMG-268. RMG-492 & RMG-344, IPM-02-3.

Cowpea: FS-68, RC-19 and RC-101.

Moth: RMO-40, IPCMO-912, RMO-257, RMO-225, RMO-435 (Vikash) (improved varieties)

Pea(early): Arkil, Hara bona, VL-3, Jawahar Matar-4, Matar Ageti-6 improved varieties.

Cauliflower: Pusa snow ball K-1, Hisar-1, Dania and Selection-7 are improved varieties.

Carrot: PusaKeshar is improved variety.

Mustard: Pusa jai kisan, RH-30, Pusa bold, Laxmi, kranti.

Radish: Japanese white & hill queen.

West Rajasthan

Pearl millet: R.H.B. -177, ICTP-8203, RHB-121, RHB-173, RHB-154, GHB-538, HHB-67(improved varieties)

Bhindi: Ark Anamika, varshauphar, Parbhanikranti, pusamakhamali.

Groundnut: HNG-123, HNG-69, ICHG-00440, HNG-10, TG-37 A, Girnar-2, R.G.-425, GG-20, TG-39.

Narma cotton:R.S.T.-9, R.S.-810, R.S.-2013, Bikanerinarma, R.S.875, MaruVikas(Raj. H.H.16)

BT Narma cotton:M.R.C.H.6304, M.R.C.H.6025, R.C.H.650, Bioseed-6588, Bioseed-6488, R.C.H.-314, J.K.C.H. 1947, M.R.C.-7017 (BG-II) or N.E.C.H.6.

Gram: c-235, RSG-44, GNG-663(vardan), RSG-888

GNG-469(samrat), GNG_1581(gangour), for kabulichana-GNG-1499(gouri) and GNG-1292

Mustard: RGN-13, RGN-73, Laxmi, Pusa bold, RGN-298, RGN-229, RGN-48, barni (timely sowing) RGN-145, RGN-236 (for late sowing)

Radish: Japanese white & hill queen.

Madhya Pradesh

Wheat: (Irrigated- JW 1203, 1215, HI 1544).

Non irrigated- JW 3288, 3173. HI-1500, HI- 1531, HW-2004, JWS-17.

Gram: JG 130, JG 218, JG 11, JG 16, JG 6, JG 315, RVJ 202, JAKI-92-18, RVG-201, RVG-203.

Garlic:G 282, 223.

Lentil:RVL 31, JL 2.

Mustard: Pusa Jaikisan, RH-749, RH-406, IJ-31, NRCHB-101, RVM- 1, RVM-2.

Chhattisgarh

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

Toria:Indira toria-1, Pant toria-30 & T-9.

Maharashtra

Jowar :Maldandi (M-35 – 1), SPV-655, SPV-839, Phule Yashoda, Parbhani Moti, Swati.

Wheat: NIAW-301 (Trimbak), NIAW-917 (Tapowan), NIDW-295 (Godavari), Late sowing- NIDW-15 (Panchavati), NIAW- 1495, NIAW-5439, MACS-1967, Ajinta.

For irrigated- NIAW-34, Tapovan, Godavari, Trimbak and PBN – 51.

Gujarat

Chick pea: Gujarat chana-2 (Unirrigated), Gujarat chana-3 (irrigated), Dahod Yellow, Chaffa.

Garlic: Gujarat Garlic-4 or Local, GG- 2,3,4, G-41, 50, 282.

Mustard: Gujarat Mustard 1, 2, 3, 4, Varuna.

Carrot: Patan Local, Pusa Kesar and Pusa Chamdagni.
Wheat: Lok-1, GW-496.
Cabbage: Kranti, Golden Acaire Pride of India, Coppen Market.
Coriander: Gujarat Coriander-1, Gujarat Coriander-2.

Karnataka

Sorghum: DSH-4, M-35-1, Muguthi, DSV-4, DSV-5, Maldandi, CSV-29R, SPV-2217, BJV-44.
Safflower : A-1, A-2, S-144.
Sunflower: Morden, KBSH-1, 41, 44 & 52.
Cowpea: KBC-1, 2.
Ragi: GPU 26, 45, 48, Indaf 7, 9, 15.
Field bean: Hebbal Avare-3, 4.
Rabi sorghum: Maldandi Muguthi, DSV-4, DSV-5, BJV-44 variety or Hybrid-DSH-4, M 35-1 Muguthi, CSV-29R, SPV-2217.
Chickpea: A-1, GBS-964, JG-11, BGD-103, GB-1105, Annigeri-1, ICCV-10, BG-1105, JG-1, KAK-2, Vishal.
Wheat: DWR-162, DWR-225, DWR-415, 185, 195, DWR-2006, DWR-1006, DDK-1001, DWR-137, HD-2189, UAS-304, 428.
Niger : KBN-1, No.71, RCR-18.
Sugarcane: CO-86032, 740, 671.

Andhra Pradesh

Sorghum: CSH-9, CSH-13, CSH-14, PSV-15, PSV-19
Bajra: ICTP 8203, PBH 3
Korra: Prasad, Krishnadevaraya, Narashimharaya, Srilakshmi, Surya nandi
Cowpea: C 152 GC3 CO-4 CO-5
Sunflower: NDSH1 KBSH1 KBSH 44 DRSH 1
Green gram: LGG 407 LGG 450 LGG 460 MGG 295 ML 267
Field bean: TFB-1 TFB-5

Tamil Nadu

Samba rice: CR 1009 and ADT 50.

Telangana

Cotton: American Cotton varieties, Desi Cotton varieties (G. arboreum. L and G. herbaceum. L, Intra/Inter – specific Cotton hybrids, Bt. cotton.