



National Agromet Advisory Service Bulletin

Friday 6th May 2016

(For the period 6th to 10th May 2016)



Issued by

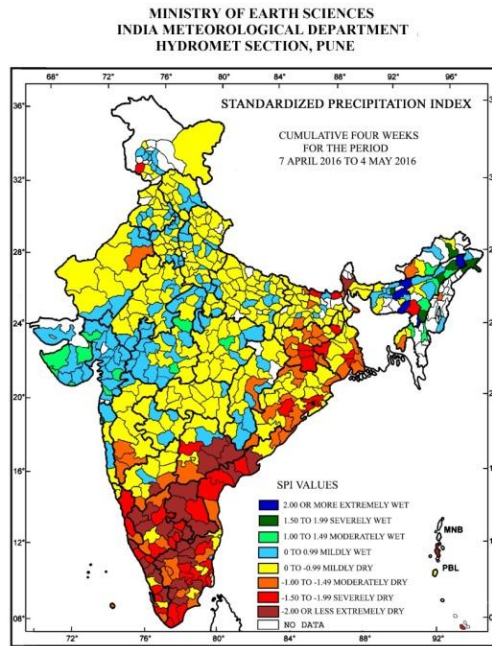
*National Agrometeorological Advisory Service Centre,
Agricultural Meteorology Division,
India Meteorological Department, Shivajinagar, Pune.*

Weblink For

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

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

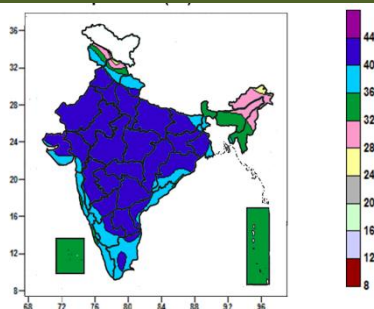
Standardised Precipitation Index Four Weekly for the Period 7th April to 4th May 2016



- Extremely/Severely wet conditions experienced in few districts of Arunachal Pradesh, Assam; East Khasi Hills district of Meghalaya; Mumbai Suburban district of Maharashtra.
- Extremely/Severely dry conditions experienced most districts of Andaman & Nicobar Islands, West Bengal, Andhra Pradesh, TamilNadu, Karnataka; few districts of Kerala; Jaintia Hills, district of Meghalaya; Angul, Bhadrak, Dhenkanal, Jajpur, Kalahandi, Keonjhar, Koraput districts of Odisha; Dumka, West Singhum, districts of Jharkhand; Sitamarhi, districts of Bihar; Rajouri, districts of Jammu & Kashmir and Lakshadweep.
- Moderately dry conditions experienced in many districts of Jharkhand; few districts of Arunachal Pradesh, West Bengal, Odisha, Telangana; Ri-Bhoi districts of Meghalaya; Kohima district of Nagaland; Banka, Bhagalpur, East Champaran, Jamui, Katihar, Khagaria, Monghyr, Siwan, districts of Bihar; Kolhapur, Sangli, Satara districts of Maharashtra; Jashpur, Kanker, districts of Chhattisgarh; Nellore, Prakasam, Srikakulam, districts of Andhra Pradesh; Khammam, Medak, Rangareddy districts of Telangana, Kanchipuram, Madurai, Nagapattinam, Ramanathapuram, Sivaganga, Tirunelveli, Tiruvallur, Ariyalur, districts of TamilNadu; Dakshin Kannada, Belgam, Chitradurga, Chickballapur, districts of Karnataka; Kottayam, Kollam, districts of Kerala.
- Rest of the country experienced moderately wet/ mildly dry/mildly wet conditions.

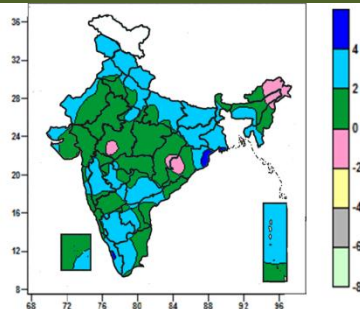
Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 04.05.2016

Actual Mean Maximum Temperature (°C) in India for the week ending 04.05.2016



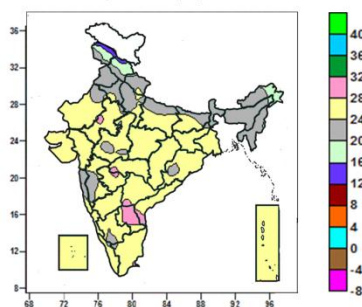
- Mean maximum temperature was between 40 to 44°C over Punjab, Haryana & Delhi, Uttar Pradesh, Rajasthan, Madhya Pradesh, Vidarbha, Marathwada, Telangana, Rayalaseema, many parts of Bihar, Jharkhand, Gangetic West Bengal, Chhattisgarh, Odisha, Gujarat, Madhya Maharashtra, North Interior Karnataka, some parts of Uttarakhand, Coastal Andhra Pradesh, South Interior Karnataka, Tamil Nadu and isolated pockets of Himachal Pradesh.
- Mean maximum temperature was between 36 to 40°C over rest of the country except Sikkim, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram, Lakshadweep, Andaman and Nicobar Islands, many parts of Jammu & Kashmir, Himachal Pradesh, Sub-Himalayan West Bengal, Tripura, some parts of Coastal Karnataka and isolated pockets of Konkan and Kerala where it was between 24 to 36°C.

Mean Maximum Temperature (°C) Anomaly in India for the week ending 04.05.2016



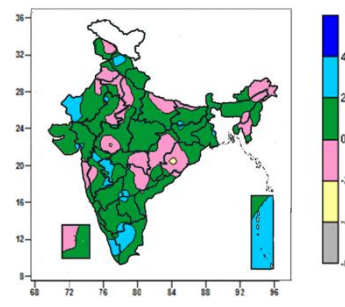
- Mean maximum temperature was above normal by 4 to 6°C over some parts of Odisha and isolated pockets of Gangetic West Bengal and Kerala.
- Mean maximum temperature was above normal by 2 to 4°C over Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Bihar, Meghalaya, Tripura, many parts of Punjab, Uttar Pradesh, Jharkhand, West Bengal, Mizoram, Madhya Maharashtra, Marathwada, Telangana, Rayalaseema, South Interior Karnataka, Kerala, Tamil Nadu and Andaman & Nicobar Islands, some parts of West Rajasthan, Saurashtra & Kutch, Odisha, Konkan, Coastal Andhra Pradesh, Lakshadweep and isolated pockets of Haryana, West Madhya Pradesh, Assam, Chhattisgarh, Vidarbha Gujarat Region, North and Coastal Karnataka.
- It was normal to near normal over rest of the country.

Actual Mean Minimum Temperature (°C) in India for the week ending 04.05.2016



- Mean minimum temperature was between 12 to 16°C over some parts of Jammu and Kashmir and isolated pockets of Himachal Pradesh.
- Mean minimum temperature was between 16 to 20°C over many parts of Himachal Pradesh, some parts of Jammu & Kashmir, Arunachal Pradesh and isolated pockets of Uttarakhand, Assam and Manipur.
- Mean minimum temperature was between 20 to 28°C over rest of the country except many parts of Rayalaseema, isolated pockets of East Rajasthan, Vidarbha, Marathwada, Telangana and Coastal Andhra Pradesh, where it was between 28 to 32°C.

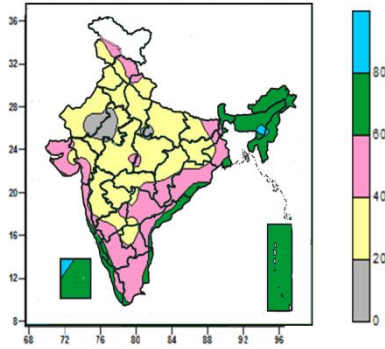
Mean Minimum Temperature (°C) Anomaly in India for the week ending 04.05.2016



- Mean minimum temperature was above normal by 2 to 4°C over many parts of Andaman and Nicobar Island, some parts of Himachal Pradesh, West Rajasthan, Marathwada, Kerala, Tamil Nadu and isolated pockets of East Rajasthan, Bihar, Jharkhand Madhya Maharashtra, Gangetic West Bengal, Gujarat, Telangana, Interior Karnataka and Rayalaseema.
- Mean minimum temperature was normal to near normal over rest of the country except isolated pockets of West Madhya Pradesh and Odisha where it was below normal by 2 to 4°C.

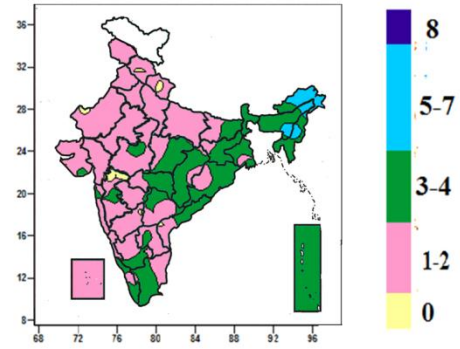
Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 20.04.2016

Relative Humidity (%) over India for the week ending 04.05.2016



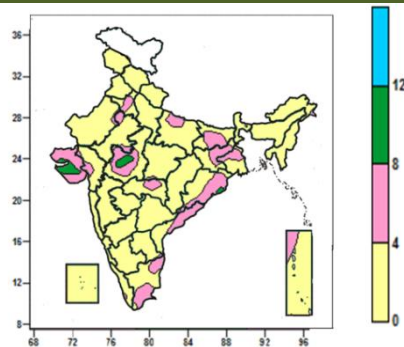
- Mean Relative humidity was above 80% over isolated pockets of Assam & Meghalaya, Manipur and Lakshadweep.
- Mean Relative humidity was between 60 to 80% over Sikkim, Arunachal Pradesh, Nagaland, Mizoram, Tripura, Andaman & Nicobar Islands, many parts of Sub-Himalayan West Bengal, Coastal Karnataka, Kerala, Lakshadweep, some parts of, Gangetic West Bengal, Odisha, Coastal Andhra Pradesh, Konkan and Goa, Tamil Nadu and isolated pockets of Konkan & Goa, Rayalaseema.
- Mean Relative humidity was between 20 to 60% over rest of the country except some parts of Rajasthan, isolated pockets of Uttar Pradesh and Madhya Pradesh, where it was below 20%.

Cloud amount (okta) over India for the week ending 04.05.2016



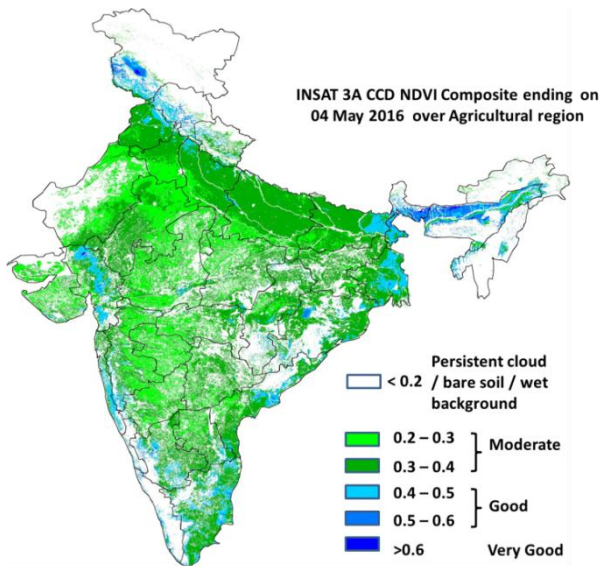
- Sky remained generally cloudy (5-7 okta) over many parts of Arunachal Pradesh, Assam & Meghalaya, Manipur, some parts of Nagaland.
- Sky remained partly cloudy/mainly clear (3-4 okta/1 to 2) over rest of the country except some parts of Madhya Maharashtra, isolated pockets of Himachal Pradesh, Uttarakhand, West Rajasthan, North Interior Karnataka and Coastal Andhra Pradesh, where it was clear sky (0 okta).

Wind speed (knots) over India for the week ending 04.05.2016



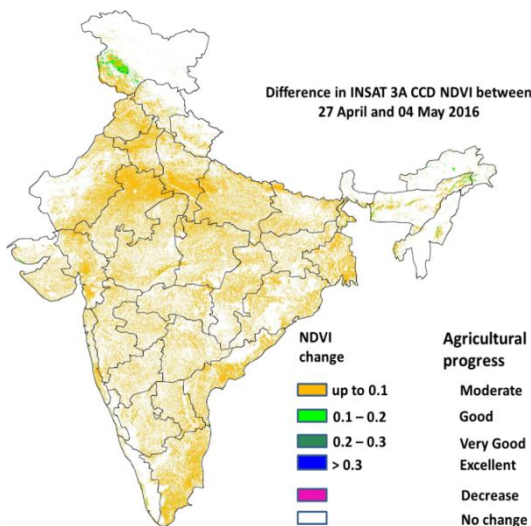
- Mean wind speed was 8 to 12 knots over some parts of Saurashtra & Kutch and isolated pockets of West Madhya Pradesh and Odisha.
- Mean wind speed was 4 to 8 knots over many parts of Saurashtra & Kutch, some parts of Haryana & Delhi, East Uttar Pradesh, Bihar, Jharkhand, Gangetic West Bengal, Gujarat Region, West Madhya Pradesh, Vidarbha, Odisha, Coastal Andhra Pradesh, Andaman & Nicobar Islands, Tamil Nadu and isolated pockets of Rajasthan, East Madhya Pradesh, Chhattisgarh, Kerala and Rayalaseema.
- Mean wind speed was less than 4 knots over rest of the country.

INSAT 3A CCD NDVI COMPOSITE ENDING ON 4th MAY 2016 OVER AGRICULTURAL REGION OF INDIA



- Agricultural vigour is good over Gujarat Region, patches in East Bihar, Coastal Andhra Pradesh, West Bengal, Coastal Odisha, Assam, Coastal Maharashtra, South Interior Karnataka and Tamil Nadu where NDVI varies from 0.4 to 0.6. Agricultural growth was moderate 0.2 to 0.4 over most parts of Punjab, Haryana, Uttar Pradesh, Rajasthan, Madhya Pradesh, Saurashtra & Kutch, Telangana, Maharashtra, Karnataka and Odisha.

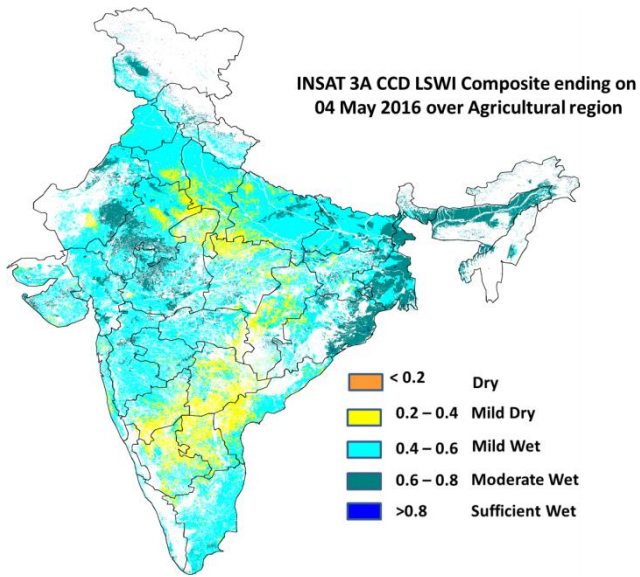
Difference in INSAT 3A CCD NDVI between 27th April and 4th May 2016



- Good progress in NDVI is observed in patches of Jammu & Kashmir. Moderate progress of NDVI is observed over rest of Country.

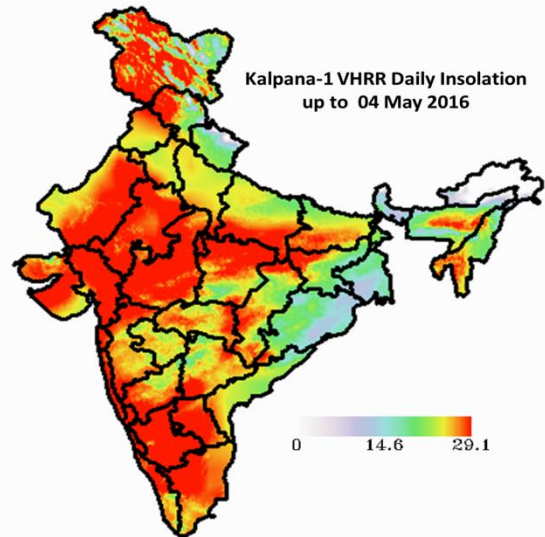
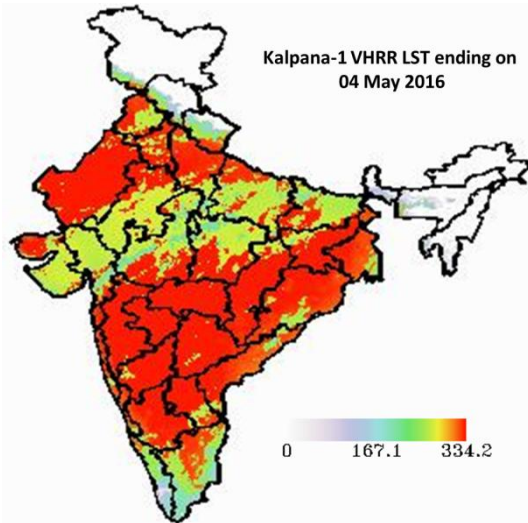
- INSAT 3A CCD NDVI composite maps for the week ending on 4th May 2016 for different States are given in Annexure II.

INSAT 3A CCD LSWI COMPOSITE ENDING ON 4th MAY OVER AGRICULTURAL REGION OF INDIA



- Mild Dry conditions are observed in Karnataka, Telangana, Andhra Pradesh, Patches in eastern Rajasthan, Northern Madhya Pradesh, southern part of Haryana and southern parts of west Uttar Pradesh. Moderate wet conditions are observed in coastal Odisha, West Bengal, patches in Bihar, patches in Rajasthan and North East region. The remaining regions of India show mild wet conditions.

OTHER SAT MET PRODUCTS



Weather Forecast for next 5 days valid upto 0830 hours of 11th May 2016

- Meteorological sub-division wise detailed 5 day rainfall forecast is given below.
- Gradual rise in day temperature over plains of northwest and central India during next 2-3 days.

5 Day Rainfall Forecast (MID DAY) 6th May 2016

Met Sub-divisions	06 May	07 May	08 May	09 May	10 May
1. Andaman & Nicobar Islands	ISOL	ISOL	ISOL	DRY	DRY
2. Arunachal Pradesh	SCT	SCT	FWS	FWS	FWS
3. Assam & Meghalaya	FWS	FWS	FWS	SCT	FWS
4. N.M.M. & T.	SCT	SCT	SCT	SCT	FWS
5. S.H. West Bengal & Sikkim	FWS	FWS	FWS	FWS	FWS
6. Gangetic West Bengal	ISOL	SCT	SCT	ISOL	ISOL
7. Odisha	ISOL	ISOL	ISOL	SCT	SCT
8. Jharkhand	ISOL	ISOL	DRY	DRY	ISOL
9. Bihar	ISOL	ISOL	ISOL	ISOL	ISOL
10. East Uttar Pradesh	ISOL	ISOL	ISOL	ISOL	ISOL
11. West Uttar Pradesh	ISOL	DRY	ISOL	ISOL	ISOL
12. Uttarakhand	SCT	SCT	ISOL	ISOL	SCT
13. Haryana, Chd & Delhi	ISOL	DRY	ISOL	ISOL	ISOL
14. Punjab	ISOL	DRY	DRY	SCT	SCT
15. Himachal Pradesh	ISOL	ISOL	ISOL	SCT	SCT
16. Jammu & Kashmir	ISOL	ISOL	ISOL	SCT	SCT
17. West Rajasthan	DRY	DRY	DRY	DRY	DRY
18. East Rajasthan	ISOL	DRY	ISOL	ISOL	ISOL
19. West Madhya Pradesh	ISOL	ISOL	ISOL	ISOL	ISOL
20. East Madhya Pradesh	ISOL	ISOL	ISOL	ISOL	SCT
21. Gujarat Region	ISOL	ISOL	DRY	DRY	DRY
22. Saurashtra & Kutch	ISOL	ISOL	DRY	DRY	DRY
23. Konkan & Goa	DRY	DRY	DRY	DRY	DRY
24. Madhya Maharashtra	SCT	ISOL	ISOL	ISOL	ISOL
25. Marathwada	SCT	SCT	ISOL	ISOL	ISOL
26. Vidarbha	SCT	SCT	ISOL	SCT	ISOL
27. Chhattisgarh	SCT	SCT	ISOL	SCT	ISOL
28. Coastal Andhra Pradesh	SCT	FWS	SCT	SCT	SCT
29. Telangana	FWS	FWS	SCT	SCT	SCT
30. Rayalaseema	SCT	FWS	SCT	SCT	ISOL
31. Tamil Nadu & Puducherry	ISOL	ISOL	SCT	SCT	SCT
32. Coastal Karnataka	DRY	ISOL	ISOL	ISOL	ISOL
33. North Interior Karnataka	SCT	SCT	SCT	ISOL	SCT
34. South Interior Karnataka	FWS	FWS	FWS	SCT	SCT
35. Kerala	FWS	FWS	FWS	FWS	FWS
36. Lakshadweep	DRY	DRY	ISOL	ISOL	ISOL

% 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

- **06 May (Day 1):** Heat wave conditions likely at isolated places over Odisha. Thunderstorm accompanied with squall/hail likely isolated places over Himachal Pradesh, Uttarakhand, East Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Odisha, Assam & Meghalaya, Madhya Maharashtra, Marathawada, Konkan & Goa, north Coastal Andhra Pradesh and Telangana. Thundersquall likely at isolated places over West Uttar Pradesh, Bihar and Gangetic West Bengal. Heavy rain likely at isolated places over Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, north Coastal Andhra Pradesh, Telangana, South Interior Karnataka and Kerala. Dust/thunderstorm likely at isolated places over Haryana, Chandigarh and Delhi.
- **07 May (Day 2):** Heat wave conditions likely at isolated places over Odisha. Thunderstorm accompanied with squall/hail likely isolated places over Vidarbha, Chhattisgarh, Madhya Maharashtra, Marathawada, north Coastal Andhra Pradesh and Telangana. Heavy rain likely at isolated places over Sub Himalayan West Bengal & Sikkim, South Interior Karnataka and Kerala.
- **08 May (Day 3):** Heavy rain likely at isolated places over Arunachal Pradesh, Assam & Meghalaya and

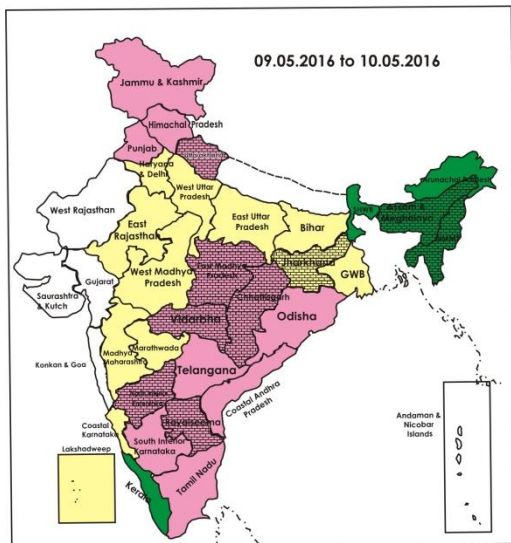
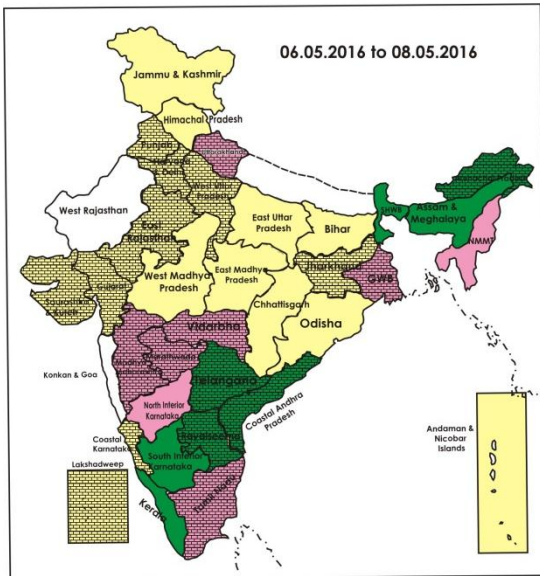
Kerala.

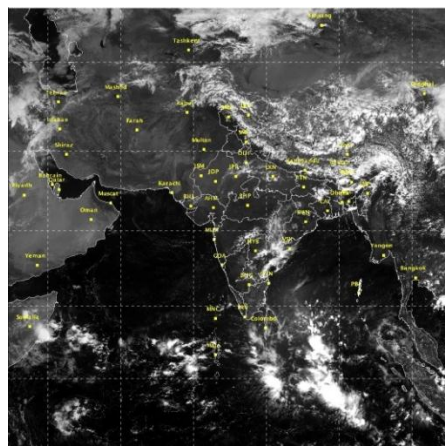
- **09 May (Day 4):** Heavy rain likely at isolated places over Arunachal Pradesh.
- **10 May (Day 5):** Heavy rain likely at isolated places over Arunachal Pradesh.

Weather Outlook for subsequent 2 days from 11th and 13th May 2016

- Rain/thunderstorms likely at many places over northeastern states and at a few places over plains of northwest, central, east and Peninsula India.
- Rain/snow likely at many places over Western Himalayan region.

Weather Forecast Map (Valid upto 0830 hours of 11th May, 2016)





Salient Advisories

- As heat wave conditions prevailed and very likely to prevail at isolated places over **Odisha** on 6th and 7th May, apply light and frequent irrigation to standing crops to cope up with the excess evaporative demand. Young saplings may be protected by arranging for temporary shade. Undertake soil mulching/mulching with straw/polythene to conserve soil moisture in dry land areas. Cover the young vegetable nurseries with polythene or with straw. Apply irrigation using drip and sprinkler wherever possible. Farmers are advised to adopt the following measures:
 - **For Livestock:** Cattles/goats may preferably be allowed for grazing during early morning and late evening hours to avoid exposure to extreme hot conditions and during hot hours, they must be tied and fed in shaded place or under the tree.
 - Sprinkle cold water 2-3 times a day on the body of the animal to overcome the heat. Apply 4-6 inch thick hay thatch as a roofing material. Undertake spraying of water on floor and roof of animal shelter periodically during peak hot hours which lowers the temperature and consequently reduces the heat load on animals.
 - Proper ventilation should be maintained for free circulation of air in the sheds. Provide plenty of clean drinking water to animals and use anti-stress medicines like Zee-stress.
 - **For poultry:** Cover water tank and lines with gunny bags to provide cool water, use foggers/fans and sprinklers to reduce temperature and to increase air flow, cover roofs of the sheds with coconut tree leaves or grass, white wash roofs and water tanks to reduce heat absorption, ensure proper cross ventilation to avoid ammonia accumulation and provide feed during cooler parts of the day (early morning or late evening). Add electrolytes and vitamin-C in drinking water.
- In view of prevailing above normal temperature, apply light irrigation to standing crops in **Odisha, Tamil Nadu, Central and West India** during evening hours. Also undertake soil mulching or mulching with straw/polythene to conserve soil moisture.
- As thunderstorm accompanied with squall/hail likely at isolated places over **Chhattisgarh, Madhya Maharashtra, Marathwada, Vidarbha, North Coastal Andhra Pradesh and Telangana** on 6th and 7th May, over **Himachal Pradesh, Uttarakhand, East Rajasthan, Madhya Pradesh, Konkan & Goa, Odisha and Assam & Meghalaya** on 6th May, farmers are advised to provide hail net/hail caps for orchard crops, arrange mechanical support to banana, young fruit plants and staking of vegetables to prevent the crops from lodging due to strong winds.
- As thundersquall likely at isolated places over **West Uttar Pradesh, Bihar and Gangetic West Bengal** on 6th May, farmers are advised to arrange mechanical support to young fruit plants and staking of vegetables to prevent the crops from lodging due to strong winds.
- As dust/thunderstorm likely at isolated places over **Haryana, Chandigarh & Delhi** on 6th May, farmers are advised to provide mechanical support to young fruit plants and staking in vegetables to prevent the crops from

- lodging due to strong winds. Undertake propping in sugarcane and keep harvested produce at safer places.
- As rain/thundershowers likely at many places over **Arunachal Pradesh** from 8th to 10th May and over **Assam & Meghalaya** from 6th to 8th and on 10th May and over **Nagland Manipur, Mizoram & Tripura** on 10th May along with heavy rain likely at isolated places over Arunachal Pradesh from 8th to 10th May, over Assam & Meghalaya on 6th and 8th May, farmers are advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields.
 - As rain/thundershowers would occur at many places over **Kerala** during the period and over **South Interior Karnataka** from 6th to 8th May, over **Telangana** on 6th and 7th May and over **Coastal Andhra Pradesh** and **Rayalaseema** on 7th May, along with heavy rain at isolated palces over Kerala from 6th to 8th May, over South Interior Karnataka on 6th and 7th May, over North Coastal Andhra Pradesh and Telangana on 6th May, postpone intercultural operations and application of plant protection measures and fertilizers to the standing crops. Keep harvested produce at safer places. Farmers are advised to utilize the rain water for raising rice nursery and also undertake rain water harvesting for agricultural activities.
 - Undertake land preparation/sowing of the following summer crops:
 - In **West Bengal**, postpone transplanting of chilli and sowing of maize, bhindi and French bean in Sub-Himalayan West Bengal & Sikkim as rain/thundershowers likely to occur at many places from 6th to 10th May along with heavy rain likely at isolated places on 6th and 7th May and continue land preparation and sowing of jute in New Alluvial Zone.
 - In **Uttar Pradesh**, continue sowing of cowpea, maize, urad and moong.
 - In **Jharkhand** continue sowing of green gram/black gram, maize and vegetables.
 - In **Punjab** and **Haryana**, continue planting of sugarcane and sowing of *desi* cotton.
 - As mainly dry weather would prevail, complete harvesting of wheat in **Rajasthan, Punjab** and **Haryana** and continue harvesting in **Uttar Pradesh, Bihar** and **Uttarakhand**.

Detailed Zonewise Agromet Advisories

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



Banana



Groundnut



Sugarcane



Cotton

- **Realised Rainfall:** Rainfall occurred in Kottayam and Pathanamthitta districts of Kerala; Bidar district of North Interior Karnataka. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As thunderstorm accompanied with squall/hail likely isolated places over North Coastal Andhra Pradesh and Telangana on 6th and 7th May, farmers are advised to provide hail net/hail caps in orchard crops, arrange mechanical support to banana, young fruit plants and staking of vegetables to prevent the crops from lodging due to strong winds.
 - As rain/thundershowers would occur at many places over Kerala during the period and over South Interior Karnataka from 6th to 8th May, over Telangana on 6th and 7th May and over Coastal Andhra Pradesh and Rayalaseema on 7th May, along with heavy rain at isolated palces over Kerala from 6th to 8th May, over South Interior Karnataka on 6th and 7th May, over North Coastal Andhra Pradesh and Telangana on 6th May, postpone intercultural operations and application of plant protection measures and fertilizers to the standing crops and keep harvested produce at safer places. Farmers are advised to utilize the rain water for raising rice nursery and also undertake rain water harvesting for agricultural activities.
 - **Tamil Nadu:**
 - In the Cauvery Delta Zone, undertake field preparation for cultivation of rice (Navarai season) and provide irrigation to sesame and sugarcane.
 - In the Western Zone, considering the favourable soil temperature, undertake cultivation of turmeric rhizome after land preparation. Since the wind speed is more than 10 kmph with high maximum temperature and low humidity,

wind eddies may develop and lodge the banana of more than 5 months old. Protect banana crop by propping. Considering the present dry weather, undertake harvesting of sesame based on the capsule maturity.

- In the Southern Zone (Kannivadi) and South Zone, since the vegetable crops are at flowering to fruiting stage and due to increase in temperature, apply the nutrients through fertigation or foliar spray. Coconut basins may be harrowed upto 5 m distance from the root portion of the tree to conserve rain water.
- In the High Rainfall Zone, provide irrigation to pepper and bananas because of inadequate rainfall.
- In the Cauvery Delta Zone, occurrence of aphid, thrips, mite, hoppers and white flies are noticed in rice fallow cotton and irrigated blackgram, due to the prevailing hot weather. To control, spray Azadirachtin @ 0.03% (3 ml/litre of water) along with sticking agent in the morning or evening using hand sprayer on a non rainy day.
- In the North Western Zone, incidence of *Helicoverpa armigera* is severe in Bhendi crop. To control, set pheromone traps @ 5 nos./acre followed by foliar spraying of Nuclear Polyhedrosis Virus solution @ 2 ml/litre of water and at the rate of 20 tanks/acre on a non rainy day.
- In the High Altitude Hilly Zone, apply Trichoderma and Pseudomonas @ 4 kg in the field and 20 g/kg on seed rhizome while planting ginger to control rhizome rot on a non rainy day.
- Suitable varieties for sowing are given in Annexure III.

▪ **Andhra Pradesh:**

- In the Krishna Godavari Zone, continue harvesting of summer black gram and green gram after current spells of rain.
- In the North Coastal Zone, continue summer ploughings for planting rainfed sugarcane, intercultivation in plant and ratoon crops of sugarcane in between rows and land preparation for pre *kharif* crops viz. sesamum, bajra etc. and green manure crops .
- In the Scarce Rainfall Zone, undertake deep summer ploughing in Hirchal, Raydurgam, Brahmasamudram, Dhramavaram and Gooty mandals utilizing the realized and expected rainfall.
- In the High Altitude Tribal Zone, continue harvesting of rice after current spells of rain.
- In the Southern Zone, continue sowing of summer groundnut (Dharani, TAG-24) and harvesting of *rabi* groundnut after current spells of rain.
- In the Southern Zone, prevailing increasing temperature conditions are highly congenial for incidence of sucking pests in 15-30 days summer groundnut crop. To control, spray Monocrotophos @ 1.6 ml/litre of water after current spells of rain.

▪ **Telangana:**

- In the Northern Telangana Zone, undertake summer ploughings in the areas which have received sufficient rainfall and undertake harvesting of all vegetables after current spells of rain.
- In the Southern Telangana Zone, prevailing hot weather conditions are congenial for the incidence of mites in sweet orange. To control, spray Wettable Sulphur @ 3 g or Dicofol @ 2.7 ml per litre of water after current spells of rain.

▪ **Karnataka:**

- In Southern Transition Zone, undertake land preparation for sowing of ginger/turmeric utilizing the realised and expected rainfall.
- In Eastern Dry Zone of Karnataka, undertake land preparation for sowing of *kharif* crops. Keep the seeds ready for pre-monsoon sowing of ragi (Indaf -9), sesame (Navile-1, T-7), cowpea (TVX-944, KBC-1), green gram (PS-16, PDM-84,178), black gram (Karagao-3, T-9, Rashmi (LBG-625).Mulching and weeding is recommended in mango orchard to conserve soil moisture.
- In Southern Dry Zone, continue summer deep ploughing utilizing the realised and expected rainfall and keep the inputs ready for pre-monsoon sowing.
- In North East Transition Zone, North Transition Zone and North East Dry Zone, continue summer deep ploughing utilising realised and expected rainfall.
- In North East Transition Zone, the farmers are advised to follow some technology tips in sugarcane:
 - Apply 50 kg of Potash fertilizer per hectare with last irrigation.
 - Adopt alternate furrow irrigation method where there is scarcity of irrigation water.
 - Weed control through herbicides in late planted Sugarcane (2, 4-D @ 3.3 kg/ha).
 - Mulching by dry leaves and grasses to conserve soil moisture.
 - Spraying of 2.5% urea or MOP in the situations of prolonged dry condition.
 - The hoeing in inter row spacing to create dust mulch to break soil capillaries for checking surface moisture loss.
- In North Dry Zone, provide irrigation to sugarcane in alternative rows or irrigate the crop through drip irrigation. Apply Sulphur in the form of Gypsum @ 500 kg/ha to Sulphur deficient soils to increase the cane yield and juice quality. Keep the fodder heaped properly so that it is not damaged due to rains.
- In North Transition Zone of Karnataka, continue picking of matured fruits of sapota. Apply irrigation in sugarcane either in alternate rows or by drip irrigation method in North Transition Zone and North East Transition Zone. Provide irrigation to vegetables and other crops.
- In Hill Zone, provide irrigation to areca nut, coconut and black pepper gardens either in furrows or by drip irrigation.

▪ **Kerala:**

- In the Problem Area Zone, continue land preparation for dry sowing of rice utilizing the realized and expected rainfall.
- In the Central Zone, undertake harvesting of rice (Jyothi variety) after current spells of heavy rain.
- In the Southern Zone, continue planting of bananas (poovan, njalippoovan, robusta and palayankodan varieties), harvesting of puncha rice and land preparation for sowing of *Virippu* rice after proper seed treatment to reduce the incidence of fungal diseases after current spells of heavy rain.
- In the Southern Zone, prevailing dry and humid conditions are congenial for fungal diseases in rubber. Apply Bordeaux mixture on the bark of rubber plants which is tapped this year and apply lime on the stem of 2- 3 year old plants. Protect young plants from fungal diseases by spraying Copper oxychloride @ 4 g/litre of water after current spells of rain.
- In the Problem Area Zone, prevailing hot weather condition is congenial for incidences of sucking pest like mites and thrips in vegetables. To control, spray Oberon @ 0.6g/litre of water. Monitor for white fly attack in vegetables. Yellow sticky trap must be installed in fields to control the attack after current spells of rain.
- In the Central Zone, increase in temperature and humidity is congenial for formation of yellow colour in banana crop which is caused by sucker Erwinia rot. To control, mix 25gms of Kocide and 6 gms of Streptocycline in 25 ml of water and apply 5 litre of the solution to each banana basin after current spells of rain.

❖ **Animal Husbandry**

- In the Krishna Godavari Zone of Andhra Pradesh, avoid grazing of animals during day time, provide good thatched sheds for cooling, increase the frequency of drinking water facility and provide ragi and horsegram malts.
- In the Scarce Rainfall Zone, cover water tank and lines with gunny bags to provide cool water, ensure cool drinking water available throughout the day, use foggers and sprinklers to reduce temperature, cover roofs with coconut tree leaves or grass, white wash the roofs and water tanks to reduce heat absorption, ensure proper cross ventilation to avoid ammonia accumulation, use pedestrian fans to increase air flow and distribute feed in cooler parts of the day (early morning or late evening).
- In the Southern and Northern Telangana Zone, protect the poultry birds by arranging fans and foggers in sheds, cover the sheds with paddy straw and arrange sprinklers, feed with wet mash to increase the feed intake and provide cool water for drinking and provide green fodder to milch animals to improve the butter percentage in the milk.
- In the Western Zone of Tamil Nadu, with increase in temperature and low humidity, mastitis disease may occur milch animals. Clean the udder with 1% potassium permanganate solution before and after milking.
- In the Southern Zone of Tamil Nadu, calves above 3 months and goat above 2 months should be vaccinated against foot and mouth disease.
- In the High Altitude Hilly Zone of Tamil Nadu, since prevailing daytime temperature is high, pure drinking water should be provided to the cattle, four times in a day.
- In Southern Dry Zone of Karnataka, vaccinate cow, buffalo and bullock before onset of monsoon against foot and mouth disease (FMD vaccination), BC vaccination against Black Quarter and also vaccinate against Haemorrhagic Septicaemia. Vaccinate (ET vaccine) sheep and goats against Enterotoxemia before onset of monsoon.
- In North Interior Karnataka, leave the buffaloes in ponds during afternoon hours or sprinkle cold water 2-3 times a day on the body of the animal to overcome the heat, animals may preferably be grazed during early morning and late evening to avoid exposure to extreme hot conditions. To minimize thermal stress, keep animals under shade or tie the animals under the tree; it will also help in reducing the water requirement. Apply 4-6 inch thick hay thatch as a roofing material.

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



Banana



Rice



Okra



Cabbage

- **Realised Rainfall:** Rainfall occurred in Changlang, East Kameng, East Siang, Lohit, Lower Dibang Valley, Tawang, Tirap, Upper Siang and Upper Subansari districts of Arunachal Pradesh; all districts of Assam except Dhemaji and Sonitpur; East Garo Hills, East Khasi Hills, Ri-Bhoi and West Garo Hills districts of Meghalaya; Aizwal and Saiha districts of Mizoram; Chandel, Imphal East, Imphal West and Thoubal districts of Manipur; Dimapur, Kohima and Phek districts of Nagaland; all districts of Tripura. Weather remained mainly dry over rest of the region.

• **Advisories:**

- As rain/thundershowers likely at many places over Arunachal Pradesh from 8th to 10th May and over Assam & Meghalaya from 6th to 8th and on 10th May and over Nagland Manipur, Mizoram & Tripura on 10th May along with heavy rain likely at isolated places over Arunachal Pradesh from 8th to 10th May, over Assam & Meghalaya on 6th and 8th May, farmers are advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields.
- **Assam, Meghalaya & Arunachal Pradesh:**
- As thunderstorm accompanied with squall/hail likely isolated places over Assam & Meghalaya on 6th May farmers are advised to provide hail net/hail caps in orchard crops, arrange mechanical support to banana, young fruit plants and staking of vegetables to prevent the crops from lodging due to strong winds.
- In Hill Zone of Assam, continue transplanting of normal *ahu* rice and undertake nursery raising of Sali rice after current spells of heavy rain. Replanting of dead hills should be done within 7-10 days of transplanting with seedlings of same age.
- In Lower Bramhapurtra Valley Zone of Assam, continue nursery bed preparation for sowing of Sali rice of varieties Ranjit and Bahadur in LBV Zone and undertake sowing of *Olitorius* jute and mesta. Complete sowing of *ahu* rice after current spells of heavy rain .
- In Upper Bramhaputra Valley Zone of Assam, continue land preparation for Sali rice. Undertake planting of banana, guava and fodder crops after current spells of heavy rain.
- In Barak Valley Zone of Assam, undertake planting of lemon after current spells of heavy rain.
- In Central Bramhaputra Valley Zone of Assam, complete sowing of normal direct seeded early *ahu* rice and transplanting of early *ahu* rice at the earliest. Continue sowing of *bao* rice, summer vegetables, *Olitorius* jute and planting of ginger, turmeric, papaya and spring sugarcane after current spells of heavy rain.
- In North Bank Plain Zone of Assam, farmers are advised to complete planting of the high yielding varieties of ginger & turmeric at the earliest. Continue planting of banana of dwarf variety – Jahaji and medium tall variety - Chenichampa, Malbhog , Barjahaji and sowing of the HYV of maize (Ganga-5; High Starch etc.) or composite maize (NLD, Dhawal, Naviot etc.) seed after current spells of heavy rain.
- In Meghalaya, complete sowing of maize in high and mid altitude region and continue sowing of bottle guard and ash guard. Undertake transplanting of brinjal and tomato and land preparation and planting of ginger/turmeric and continue land preparation and sowing of *jhum* rice after current spells of heavy rain.
- In Arunachal Pradesh, continue sowing/transplanting of summer vegetables like cucumber, sponge gourd, bottle gourd and ladies finger after current spells of rain. Continue nursery sowing/transplanting of rice after current spells of heavy rain. Avoid water stagnation in the newly sown vegetable field.
- In Arunachal Pradesh, spray Triazophos 40 EC @ 4 ml/litre against stem borer in rice nursery as well as in main field and spray Difenconazole 5 EC @ 0.5 ml/litre against powdery mildew in citrus at flowering stage after current spells of rain.
- In Hill Zone of Assam, there is chance of attack of stem borer in sugarcane due to the prevailing weather conditions. Spray Phosphamidon @ 400-500 ml/ha in 800 litre of water. Also spray Malathion 50 EC @ 1-1.5 litre/ ha in 500-700 litre of water against aphids, jassids and flea beetle diseases in summer green gram and black gram after current spells of rain.
- In Lower Bramhapurtra Valley Zone of Assam, in the prevailing weather, there is chance of attack of stem bore in sugarcane. To control stem borer attack, spray Phosphamidone @ 60-70 ml or Monocrotophos@ 150-200ml in 120-150 litre of water after current spells of rain. Apply Deltamethin (Decis 2.8 EC) @0.5 ml/litre or Dichlorvovs 100 EC @ 0.5 ml/litre or Malathion 50 EC @2 ml/litre to control fruit and shoot borer in summer vegetable like okra, different Gourd family vegetables, cucumber after current spells of rain.
- In North Bank Plain Zone of Assam, spray Mencozeb (Dithene M-45) @ 2g/litre or Carbendazime (Dirosol) @1g/litre of water for controlling blast disease in *early ahu* rice at tillering stage after current spells of rain. Due to prevailing weather there is chance of stem borer attacks on citrus plants. Apply a paste made by mixing lime, water and 5% Malathion dust on the stems of the plants up to a height of about 1m from the ground to prevent the attack after current spells of rain.
- In Barak Valley Zone of Assam, there may be Gundhi bug attack in the *boro* rice fields; to control the pest apply Malathion @ 1.5 ml/litre of water after current spells of rain.
- In Central Bramhaputra Valley Zone of Assam, spray Quinalphos @ 2.5 ml/litre for pod borer infestation and Quinalphos followed by Dimethoate 2ml/litre of water for pod bug in summer black gram and green gram crops after current spells of rain.
- In Meghalaya, there may be attack of rice Gundhi bug and stem borer in *boro* rice during grain formation stage. Spray Malathion 5% dust @ 6.25kg/ha against rice gandhi bug and Chloropyriphos @ 0.02% or Monocrotophos @ 0.04% against stem borer after current spells of rain.
- **Nagaland, Manipur, Mizoram and Tripura:**
- In Nagaland, undertake transplanting of chilli. During this season, light earth work should be carried out in the plant basin of citrus and mulching should be carried out with locally available dry grasses/leaves/straw near the base of the trunk to conserve soil moisture. Undertake pit preparation for plantation of fruit crops after current spells of rain.
- In Manipur, maintain water depth of 2-3cm in the field of early *kharif* rice after transplanting. Complete planting of ginger/turmeric and land preparation for sowing of soybean, groundnut, black gram and pit preparation for fruit

plants like banana, lime, lemon, orange, kiwi. Continue land preparation for sowing of *kharif* rice after current spells of rain.

- In Mizoram, continue transplanting of brinjal and chilli in the main fields and sowing of French bean, cow pea and maize after current spells of rain.
- In Tripura, keep water level in the fields of *boro* rice 5 cm during flowering stage.
- In Tripura, there is chance of attack fruit and shoot borer on summer brinjal and tomato. Apply Cypermethrin @ 1.5 ml or Flubendamid 0.5 ml per litre of water to manage the attack after current spells of rain.
- Suitable varieties for sowing are given in Annexure III.

❖ **Animal Husbandry**

- In Northeastern states, carry out immunizations against FMD, HS and BQ in cattle & buffaloes and swine-fever in pigs during this time. Keep animals indoor during thunderstorm activity.
- In Nagaland, deworm piglets regularly. To prevent diseases in poultry, provide clean drinking water; avoid overcrowding, regular cleaning and disinfection of feeders, water, poultry house and disposal of dead birds by burning or burial.

❖ **Fishery**

- In Assam, complete the work of digging or re-digging of fish pond by next one or two weeks. After digging, apply FYM 2400 kg and Lime 80 kg per kani before rain.
- In Hill Zone and Lower Brahmaputra Valley Zone of Assam, new batches of fishes can be released in pond during this period. Fingerling should be treated with Potassium permanganate @ 3-5% before release.
- In Barak Valley Zone of Assam, changing weather could lead to viral diseases to the poultry. So farmers may provide sufficient water with 1% salt and mineral mixture. Farmers are also advice to clean the sanitary condition of poultry. Provide balanced feed, fresh water.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]



Green gram



Sugarcane



Groundnut



Banana

- **Realised Rainfall:** Weather remained mainly dry over the region.

• **Advisories:**

- As thunderstorm accompanied with squall/hail likely isolated places over Vidarbha, Madhya Maharashtra and Marathwada on 6th and 7th May and over Konkan & Goa on 6th May, farmers are advised to provide hail net/hail caps in orchard crops, cover banana bunch with skirting bags, provide mechanical support to young fruit plants and staking of vegetables to prevent the crops from lodging due to strong winds. Keep the harvested produce in safer place.
- In Marathwada, continue preparatory tillage in fallow lands for *kharif* crops.
- In Madhya Maharashtra, continue preparatory tillage in fallow lands for *kharif* crops. Apply irrigation to summer groundnut, vegetable crops and banana orchards. Also apply irrigation to sugarcane by alternate furrow method.
- In Vidarbha, maintain water level of 8-10 cm in summer rice field in East Vidarbha. Continue preparation of raised nursery bed in fallow lands for *kharif* vegetables.
- In Konkan, continue preparatory tillage in fallow lands for *kharif* crops like rice and finger millet. Complete harvesting of already matured rice crop. The Mango fruits are at ripening stage in some parts of the region. Harvest the mature fruits during early morning or in late evening.

▪ **Gujarat:**

- In South Gujarat Zone, undertake deep ploughing. Prepare seedling of papaya for *kharif* season. Plan for sowing of cotton under irrigation facility.
- In North West Zone of Gujarat, undertake harvesting of matured castor. Under high temperature condition, apply irrigation in vegetable crops, fruit crops (mango, citrus, sapota and pomegranate), cucurbits, groundnut (pegging), green gram (pod initiation), pearl millet (flag leaves/ear head stages).
- In Bhal and Coastal Zone, carry out weeding and inter cultural operations in timely sown cluster bean and green gram, apply irrigation at 8 to 10 days interval. Pluck matured vegetables viz. bhindi, tomato, cucumbers, water melon and muskmelon regularly. Continue mulching in mango orchard using leaves residues or paddy husk to avoid impact of heat on mango against spongy tissue effect. This effect is particularly observed in Aphush and Jamadar varieties.
- In Middle Gujarat Zone, undertake mulching in acid lime for conservation of available soil moisture, cover banana fruits with polythene covers To protect from direct sunlight, provide irrigation to pearl millet (at 8 to 10 days interval), green gram, cucurbits and mango orchard. Undertake deep ploughing in harvested fields for

- destruction soil pest and fungal spores.
- In North Saurashtra Zone, apply light irrigation to green gram, black gram, sesame, groundnut (pod development), mango orchards and vegetable crops.
- In South Saurashtra Zone, apply irrigation to groundnut (at 6 to 7 days interval) black gram, green gram and vegetable crops (flowering/fruitletting stage). Keep the vegetable crops weed free.
- In North Gujarat Zone, under high temperature and moderately dry condition, timely irrigate orchards like mango, citrus and sapota which are in fruit development stage. Apply irrigation in groundnut crop (pegging stage), pearl millet, green gram, cowpea, cucurbits and vegetable crops at regular intervals.
- In South Gujarat Heavy Rainfall Zone, apply irrigation (5cm) in transplanted rice field 2 days after disappearance of water. Carry out intercultural operations in groundnut and green gram. Apply irrigation in cluster bean (at 10-12 days interval), sugarcane, green gram, groundnut, sweet corn as per requirement. Undertake mulching in mango and cucurbits. Apply light irrigation in mango to reduce fruit drop and undertake mulching with paddy straw or black polythene.
- Under present weather condition infestation of heliothis was observed in summer sown groundnut and sesame in North Saurashtra Zone; to control spray Emamectin Benzoate @ 7 g/10 litres of water. Due to high temperature mites infestation is observed in lemon orchard in North Saurashtra Zone; to control, spray Propargite 57 % EC @ 1 ml/litre of water.
- ❖ **Animal Husbandry**
- In Gujarat, keep animals under shade or in sheds during noon hours, avoid grazing of animals during hot time, provide plenty of cool water mixed with minerals for drinking and shower the animals with cold water two to three times in a day. Increase the green fodder quantity for feeding. Supplementary feeding of vitamins A and D should be given. Provide ragi and horse gram malts.

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



Rice



Okra



Maize



Green gram

- **Realised Rainfall:** Rainfall occurred in Araria, Darbhanga, Kishanganj, Madhepura, Purnia, Saharsa and Supaul districts of Bihar; East Singbhum district of Jharkhand; Gajapati district of Odisha; West Midnapore district of Gangetic West Bengal; Jalpaiguri, North Sikkim and West Sikkim districts of Sub-Himalayan West Bengal & Sikkim. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As thundersquall likely at isolated places over Gangetic West Bengal and Bihar on 6th May, farmers are advised to provide mechanical support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Keep already harvested produce at safer places.
 - **West Bengal:**
 - As rain/thundershowers likely at many places over Sub-Himalayan West Bengal & Sikkim during the period, along with heavy rain likely at isolated places on 6th and 7th May, farmers are advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Farmers are advised to conserve rain water for agricultural activities.
 - In New Alluvial Zone, undertake harvesting of rice crop and carry out proper intercultural operation in jute. Apply first dose of top-dressing @ 9 Kg per Bigha for Capsularis @ 6 Kg per Bigha for Olitorious.
 - In Laterite and Red soil zone, undertake harvesting the rice crop.
 - In Hill Zone, continue transplanting of round chilli and complete planting of ginger after current spells of heavy rain.
 - In Coastal Saline Zone, due to rise in temperature there may be attack of black headed caterpillar in coconut tree. Apply neem oil @ 2.5ml/litre of water at 15 days interval. Apply Carbofuran mixed with fertilizer and apply as ring application.
 - In New Alluvial Zone, in the prevailing weather condition, attack of white fly may be observed in bhindi. To control it, apply Imidachloprid @ 5 ml per 10 litre of water at an interval of 15 days. Apart from this, attack of fruit borer is also reported from some areas. Spray Carbaryl (Sevin) @ 2 g or Malathion @ 2 ml per litre of water.
 - In Terai and Old Alluvial Zone, weather is congenial for attack of stem borer, leaf folder, gundhi bug in rice. For leaf folder apply Lambda-Cyhalothrin 5% EC @ 10 ml/tank (15 litre) of water. For gundhi bug spray Fipronil 5 EC @ 1ml/litre of water after current spells of rain.

- In Old Alluvial Zone, in the prevailing weather condition fruit cracking may occur due to high temperature, low humidity and low moisture condition. To control fruit cracking spray of 1% borax at 15 days interval. To control fruit drop of litchi spray NAA (Planofix) @ 3-4 ml/15 litre of water and spray fresh & cold water after current spells of rain.
- **Andaman and Nicobar Islands:**
- In South, North and Middle Andaman, postpone land preparation for nursery raising as the chances for rainfall is very less. Provide life saving irrigation to pepper and pineapple through drip irrigation to manage moisture stress as the condition is expected to continue for the next five days.
- In Nicobar, Clean the channels and harvest rain water for further use in vegetable crops.
- **Odisha:**
- As heat wave conditions prevailed and very likely to prevail at isolated places over Odisha on 6th May, apply light and frequent irrigation to standing crops to cope up with the excess evaporative demand. Young saplings may be protected by erecting temporary shade. Undertake soil mulching/mulching with straw/polythene to conserve soil moisture in dry land areas.
- As thunderstorm accompanied with squall/hail likely isolated places over Odisha on 6th May farmers are advised to provide hail net/hail caps in orchard crops, arrange mechanical support to banana, young fruit plants and staking of vegetables to prevent the crops from lodging due to strong winds.
- In East and South Eastern Coastal Plain Zone, postpone transplanting of summer vegetables till the end of heatwave conditions, otherwise plant in the evening and cover with paper cap during day time. Apply irrigation in groundnut crops at flowering stage. Cover the young vegetable nurseries with polythene or with straw. Resort to drip and sprinkler irrigation practices wherever possible.
- As mainly dry weather along with high temperature is prevailing, apply light and frequent irrigation in maize at tasseling stage in North Eastern Coastal Plain Zone and in sugarcane crop during the tillering stage in Western Undulating Zone.
- In Western Undulating Zone, continue harvesting matured crops as dry weather is prevailing.
- In Western Undulating Zone and North Central Plateau Zone, dry weather may increase the water requirement of crops. Plan for irrigation observing the soil moisture and crop need.
- In East and South Eastern Coastal Plain Zone, infestation of thrips has been occurred in summer groundnut. Spray 2 ml Endosulphan in 1 litre water. Increased temperature may aggravate the white ant and white grub attack in groundnut. Go for thorough soil drenching with Chloropyriphos @ 2ml/litre of water on a non rainy day.
- In North Central Plateau Zone, abrupt rise in maximum temperature and widening of gap between day and night temperature will aggravate disease and pest problem like Blast, Stem borer. Use pheromone trap @ 20-25 no. per hectare for control of adult population of stem borer. Go for alternate spray of Fipronil @ 2ml/litre and Indoxacarb @ 0.6ml/litre at 15days interval when stem borer population reaches at ETL level. In case of Blast attack, spray Tricyclazole @ 0.5g/litre or Kasugamycin @ 1.5g/litre of water on a non rainy day.
- In North Eastern Coastal Plain Zone, the higher differential between day and night temperature will aggravate whitefly problem in summer green gram. To control whitefly, spray Thiomethoxam @ 80g/acre on a non rainy day.
- In Mid Central Table Land Zone, due to very high temperature the papaya fruits are affected by papaya mealy bug. To control, spray Propenophos @ 2ml/litre of water. For better result add surfactant like APSA 80 @ 5ml/10 litre on a non rainy day.
- In Mid Central Table Land Zone, due to high temperature and wide difference in maximum and minimum relative humidity there is severe infestation of white fly and aphids in groundnut, green gram and black gram and other vegetables. Spray Thiamethoxam @ 1g/3l of water to control it. Spray during morning hours on a non rainy day.
- In West Central Table Land Zone, the milking stage in rice is susceptible to attack of gundhi bug. The adult and nymph suck the juice from developing grain at early stage of grain development. To control it, broadcast Quinalphos 1.5% dust @ 10 kg/acre on a non rainy day.
- In North Eastern Ghat Zone, stem borer infestation has been found. Spray 2 ml Chloropyriphos or Monocrotophos or Quinalphos in 1 litre of water or apply granular Carbofuran in the leaf whorls on a non rainy day.
- In North Central Plateau Zone, there are chances of attack of stem borer in summer paddy crop. Spray Triazophos/Profenophos/Monocrotophos @ 400ml/acre or Flubendiamide 39.5 SC @ 20ml/acre dissolved in 200 litre of water on a non rainy day.
- **Bihar:**
- In South Bihar, apply irrigation in late winter maize crop, vegetables and fodder crop.
- In North West Alluvial Plain Zone, complete the sowing of elephant foot yam. Continue harvesting of wheat, arhar and *rabi* maize crop.
- In North East Alluvial Zone, undertake land preparation for sowing of jute. Maintain minimum water (2-3 inch) in the fields of boro rice. Undertake harvesting of matured *rabi* maize.
- In South Bihar Alluvial zone, in prevailing weather condition fruit and shoot borer may be found in brinjal and tomato. To control spray Spinosad 48 EC @ 1 ml/4 litres of water.
- In North West Alluvial Plain Zone, in prevailing weather condition red pumpkin beetle may be found in cucurbitaceous crops. If population of red pumpkin beetle exceeds economic threshold level, spray Dichlorvos 76 EC @ 1 ml/litre of water.

- In North East Alluvial Zone, prevailing temperature and humidity is congenial for incidence of yellow stem borer in rice and maize. For control, apply Fipronil 0.3% GR @ 20-25 Kg/ha or Chlorantraniliprole 0.4% GR @ 10Kg/hectare. To control brinjal fruit & shoot borer or tomato fruit borer, apply Indoxacarb 15.8 EC @ 1ml/litre of water.

- **Jharkhand:**

- In Western Plateau Zone, continue sowing of vegetables like sponge gourd, bottle gourd, pumpkin, water melon, musk melon etc. Continue sowing of green gram and broadcasting of urea in standing vegetable crops. To conserve the moisture, undertake intercultural operations in vegetables.
- In South Eastern Plateau Zone, continue sowing of summer moong.
- In Central and North Eastern Plateau Zone, if irrigation facilities are available, cultivate summer maize with high yielding variety - Birsa Makka-1, Birsa Makka-2, Suwan-1(Hybrid), HQPM (Hybrid) with recommended dose of fertilizer.
- In South Eastern Plateau Zone, summer moon is at vegetative elongation stage, apply light and frequent irrigation.
- In Western Plateau Zone, as mainly dry weather is prevailing, irrigate the fruit bearing trees at regular interval. Spray Planofix @ 5 ml per 10 litre of water to check dropping of tiny fruits. Spray Sulfex @ 2 g per litre of water against Powdery mildew disease.
- In South Eastern Plateau Zone, high temperature favours blast disease occurrence in summer rice. Hence, spraying of Tricyclazole @ 0.5 g per liter of water is recommended. Don't broadcast urea for 4-5 days after the application of chemicals. Maintain water level upto 3-4 cms.
- In South Eastern Plateau Zone, in mango, to increase the size as well as for controlling fruit dropping, it is advisable to spray, Planofix or Acimone or Multiplex @ 5-10 ml per litre of water. Spray Malathion 50 % @ 2 ml along with Carbendazim and Sulfex @ 2-3 g per litre of water control the insects attack and anthracnose disease. In litchi, to protect from mites and bug attack on leaves, spray Dicofol @ 2 ml per litre of water for mites and Monocrotophos @ 1ml per litre of water for bug.
- In Central and North Eastern Plateau Zone, to control Pirella nymph and adult on sugarcane crop spray Monocrotophos or Emidacloropid @ one litre per hectare. And for shoot borer apply Chlorpyrifos 10 G granules 2 to 3g in apical leaf part in 30 day after transplanting.
- In Central and North Eastern Plateau Zone, in mango fruit there may be attack of anthracnose disease, (symptom – in fruit there is brown and black spot and fruit drop), to control apply Indofil M- 45@ 2.5 g/litre of water.
- In Western Plateau Zone, the day temperature remained 40^oC or above for last few days and same will prevail for next few days. Hence, apply irrigation in fields of different vegetables, crops and fruit trees at a regular interval. Farmers wishing to cultivate ginger and turmeric may arrange the improved seeds for timely sowing.
- Suitable varieties for sowing are given in Annexure III.

- ❖ **Animal Husbandry**

- As heat wave conditions are prevailing and also very likely to prevail at isolated places over Odisha from 8th to 10th May, keep animals under shade/shed during noon hours and provide plenty of water mixed with minerals for drinking. Grazing/feeding of cattle/goats may be done during morning/evening hours. Leave the buffaloes in ponds during afternoon hours or sprinkle the cold water 2-3 times a day on the body of the animal to overcome the heat.
- In Coastal Saline Zone of West Bengal, due to increasing temperature, cover the poultry cage with wet jute bag. vaccinate with F-strain drop in nostril for ranikhet disease.
- In South, North and Middle Andaman, provide cool drinking water along with vitamin C to the poultry birds to prevent heat stress.

CENTRAL INDIA [M.P., CHHATTISGARH]



Cauliflower



Green gram



Okra



Sugarcane

- **Realised Rainfall:** Weather remained mainly dry over the region.

- **Advisories:**

- As thunderstorm accompanied with squall/hail likely at isolated places over Madhya Pradesh and Chhattisgarh on 6th and 7th May, farmers are advised to provide hail net/hail caps in orchard crops, arrange mechanical support to young fruit plants and staking of vegetables to prevent the crops from lodging due to strong winds.

- **Madhya Pradesh:**

- In Satpura Plateau Zone, as dry weather is prevailing, apply irrigation in cucurbits, moong and maize.
- In Malwa Plateau Zone, apply irrigation in moong, urad, vegetables, mango, orange and pomegranate orchards.

- Continue picking up of matured okra and cucurbit crops. Undertake nursery preparation for *kharif* vegetables.
- In Kymore Plateau and Satpura Hill Zone, as temperature is rising, apply irrigation in cucurbit crops, vegetables, moong and urad. Also undertake mulching to conserve soil moisture.
- In Bundelkhand Zone, apply irrigation in orchard crops. Continue seed bed preparation for sowing of *kharif* onion. Continue digging of pits for planting of new orchards.
- In Central Narmada Valley Zone, as dry weather would prevail, apply irrigation in orchards, sugarcane, moong and vegetables. Continue transplanting of chilli in main fields. Undertake raising of young seeds of papaya in polythene bags.
- In Jhabua Hill Zone, apply irrigation in moong, tomato, chilli, brinjal, okra, onion crops. Continue harvesting of vegetables. Continue digging of pits for planting of new orchards. Undertake mulching in orchards to conserve soil moisture.
- In Satpura Plateau Zone, due to prevailing weather there may be chances of attack of shoot and fruit borer in brinjal and tomato, for control, collect infested fruits and shoots and burry inside the soil. If pest population is high, spray Spinosad 48 EC @ 1 ml/4 litres of water.
- In Jhabua Hill Zone, due to rise in temperature, there may be attack of sucking pests in moong and in Vindya Plateau Zone in vegetables, spray Thiamethoxam or Acetamiprid @ 0.35-0.45 g/litre of water.
- In Bundelkhand Zone, due to prevailing weather, there are chances of attack of jassids in okra; spray Methyl demeton @ 1.5 ml per litre of water on a non rainy day.
- Suitable varieties for sowing are given in Annexure III.
- **Chhattisgarh:**
- In North Hill Zone, as temperature is rising, apply irrigation in summer rice, moong, sugarcane, orchards and vegetables. Continue digging up of matured onion and garlic. Undertake earthing up in sugarcane.
- In Bastar Plateau Zone, continue intercultural operations in cucurbit crops and apply irrigation at regular intervals.
- In Chhattisgarh Plain Zone, apply irrigation in summer rice, vegetables and orchards. Apply irrigation and undertake intercultural operations in sugarcane.
- In Bastar Plateau Zone, there may be attack of mango hopper in mango. Spray Dimethoate @ 1.5ml/litre of water on a non rainy day.
- In Chhattisgarh Plain Zone, due to prevailing weather there may be chances of attack of aphids in summer rice, apply Imidacloprid @ 150 ml dissolved in 500 litre of water on a non rainy day.
- ❖ **Animal Husbandry**
- In Madhya Pradesh and Chhattisgarh, due to prevailing high temperature special attention should be given to milch animals, provide adequate water and green fodder to animals and keep them in shade. Cover poultry house with mat and keep it wet to maintain normal temperature.

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



Wheat



Sugarcane



Cauliflower



Okra

- **Realised Rainfall:** Rainfall occurred in Bahraich district of East Uttar Pradesh. Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
 - As thunderstorm accompanied with squall/hail likely at isolated places over Himachal Pradesh, Uttarakhand and East Rajasthan on 6th May, farmers are advised to provide hail net/hail caps in orchard crops, arrange mechanical support to young fruit plants and staking of vegetables to prevent the crops from lodging due to strong winds.
 - **Jammu & Kashmir:**
 - In Sub Tropical Zone, continue sowing of summer moong and mash in irrigated areas. Continue sowing of summer fodder (maize+cowpea+charri) and bajra. Continue harvesting of late sown wheat.
 - In Intermediate Zone, farmers are advised to complete sowing of maize in higher reaches. Continue transplanting of tomato, chilli, capsicum and cucurbits. Continue sowing of okra in lower to mid hill regions.
 - In Valley Temperate Zone continue transplanting of cole, solanaceous and cucurbits crops in the main field. Chillies may be transplanted on raised beds or ridges and cucurbits in the main field.
 - In cold Arid Zone of Jammu and Kashmir, undertake sowing of wheat and barley at proper spacing and adequate moisture conditions. continue harvesting of cabbage, broccoli, Chinese cabbage, beet leaf, lettuce,

spinach, coriander and turnip crop in the lower belts of the district. In the lower & middle belts replant the carrot roots in the fields for seed production. Undertake transplanting of cole crops.

▪ **Uttarakhand:**

- In Bhabar and Tarai Zone, continue harvesting of mustard, potato, tomato and sugarcane crop.
- In Hill Zone, continue nursery sowing of tomato crop. Continue sowing of French bean and okra. Do not sow the vegetable crops in the field where it were already sown during last year to avoid re occurrence of pest/diseases. Conserve the rainwater and use it for irrigation of vegetable crops. In Sub Humid and Sub Tropic Zone, continue harvesting of mid sown wheat.

▪ **Himachal Pradesh:**

- In Sub-Montane and Low Hills Sub-Tropical Zone, complete sowing of sunflower and fodder crops such as maize, cowpea, chari and bajra in irrigated areas. Continue sowing of cucurbits such as cucumber, bitter gourd, bottle gourd and summer squash, ageti okra, French bean and radish. Complete sowing of zaidmoong and mash in irrigated areas. Continue transplanting of tomato, brinjal, chilli and capsicum.
- In Mid Hills Sub-Humid Zone, complete sowing of bhindi, cucurbits, French bean, moong and mash and nursery raising and transplanting of tomato, chilli, capsicum and brinjal and. Continue sowing of fodder crops like maize, cowpea and soybean. In high hilly regions undertake sowing of peas, turnip, carrot, palak.
- In High Hills Temperate Dry Zone, complete the pruning operations in apple orchard. Undertake sowing of vegetable seeds in nursery beds.
- In Mid Hills Sub-Humid Zone, weather is conducive for attack of purple blotch in onion, for control spray Redomil MZ @ 25 g per 10 litres of water on a non rainy day.
- In Mid Hills Sub-Humid Zone, weather is conducive for attack of red pumpkin beetle in cucurbitaceous crops, for control spray Diclorvos 76 EC (DDVP) @ 1 ml per litre of water on a non rainy day.
- In Mid Hills Sub-Humid Zone, weather is conducive for ariel attack of woolly apple aphid apply Dursban @ 400 ml or Marshal @ 200 ml in 200 litres of water on a non rainy day.
- In Mid Hills Sub-Humid Zone, weather is conducive for leaf spots on young leaves in soft seeded varieties (Sindhuri and Mridula) spray Bavistin @ 100 gm. + Streptocycline @ 20 g in 200 litres of water on a non rainy day.

▪ **Rajasthan:**

- In East Rajasthan, continue field preparation for sowing of zaid moong and planting of sugarcane, apply irrigation in maize in Southern Humid Plain Zone. In Flood Prone Eastern Plain Zone, continue harvesting of matured wheat and gram continue raising of nursery summer chilli, summer marigold, sowing of okra and leafy vegetables like spinach and amarathus and also transplanting of tomato.
- In Southern Humid Plain Zone, complete sowing of mung, groundnut and fodder like SSG-59-3, MP chari, Rajasthan chari, Pratap maize chari-6A.
- In Sub Humid Southern Plain and Aravali Hill Zone, apply irrigation in vegetables. Complete harvesting of matured normal sown wheat and barley crop. Continue sowing of cucurbits also papaya in nursery.
- In Semi-Arid Eastern Plain Zone, undertake picking of summer watermelon and muskmelon.
- In Arid Western Plain Zone, continue land preparation for sowing of cotton and undertake sowing of jeera. Continue harvesting of matured crops like cumin, coriander, fennel and isabgol at ripening stage. Continue transplanting of chilli. Continue sowing of green fodder viz. pearl millet, sorghum and cowpea.
- In Irrigated North Western Plain Zone, continue harvesting of matured wheat and gram. Continue sowing of cotton. Continue sowing of zaidmoong (SML 668). Continue land preparation for sowing of summer moong.
- In Transitional Plain Zone of Inland Drainage, due to rise in temperature, there may be chances of attack of Hadda beetle & Red pumpkin beetle in cucurbits, for control undertake dusting of Malathion 5% or Methyl Parathion 2 % @ 25 Kg per hectare.
- In Transitional Plain Zone of Inland Drainage, due to rise in temperature, there may be chances of attack of fruit borer in tomato and chilli, for control, apply NPV (Nuclear Polyhedrosis Virus) when 50 % flowering has been completed in the crops.
- In Flood Prone Eastern Plain Zone, due to rise in temperature, there may be chances of attack of fruit fly in cucurbits, for control spray Malathion 50 EC @ 1 ml per litre of water during morning or evening hours at 15 days interval. Prepare trap by mixing Malathion 50 EC @ 10 ml in 1 litre sugar solution. Keep several traps at random places in field.
- In Irrigated North Western Plain Zone, due to rise in temperature, there may be chances of attack of thrips and leaf miner in kinnow fruits, for control spray Monocrotophos 36 SL @ 1 ml. per litre of water.
- In Irrigated North Western Plain Zone, due to rise in temperature, there may be chances of attack of termites in sugarcane, for control apply Emidacloprid 17.8 SL @ 125 ml or Chlorpyrifos 20 EC @ 1.25 litres with irrigation.
- In Arid Western Plain Zone and Semi-Arid Eastern Plain Zone due to rise in temperature, there may be chances of attack of fruit fly in watermelon and muskmelon, for control spray Malathion 50 EC @ 1 ml per litre of water.
- In Semi-Arid Eastern Plain Zone, due to rise in temperature, there may be chances of attack of leaf curl & mosaic disease in chilli, for control, spray Dimethoate 30 EC @ 1 ml per litre of water.
- In Sub Humid Southern Plain and Aravali Hill Zone, due to rise in temperature, there may be chances of attack of stem and fruit borer in okra, for control spray Malathion @ 2 ml or Thioron @ 1 ml/litre of water.

▪ **Punjab, Haryana and Delhi:**

- As dust/thunderstorm accompanied with squall likely at isolated places Haryana, Chandigarh & Delhi on 6th May, farmers are advised to provide mechanical support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane and keep harvested produce at safer places.
- In Western Plain Zone of Punjab, continue sowing of cotton, complete sowing of summer mung and mash, continue sowing of okra, spring maize and planting of sugarcane. Continue transplanting of chilli and cucurbits on the ridges. Complete the harvesting and threshing of wheat crop.
- In Undulating Plain Zone of Punjab, undertake intercultural operations in vegetable crops from time to time to conserve soil moisture as temperature is expected to increase. Irrigate the nursery plant of mango and litchi and other fruit crops twice in a week according to the prevailing weather conditions.
- In Western and Undulating Plain of Punjab undertake the planting of turmeric.
- In Central and Undulating Plain Zone of Punjab, continue planting of sugarcane and summer pulses.
- In Central, Western and Undulating Plain Zone of Punjab, continue planting of peach, plum, pear, pomegranate and ber plants.
- In Western Zone of Punjab, undertake transplanting of chilli, tomato, bell pepper. Undertake sowing of cucurbits, round gourd, sponge gourd, and other summer vegetables viz. okra, and cluster bean. Complete the sowing of cotton.
- In Undulating Plain Zone of Punjab, complete the harvesting/threshing of matured oilseed crops and store the product in proper place.
- In Western Zone of Haryana, undertake harvesting and threshing of wheat crop. Continue sowing of green gram and black gram. Complete the sowing of leafy vegetable, bottle gourd, cucumber, ridge gourd summer radish and direct sowing with certified seed and apply the irrigation as per the requirement of vegetables crops. Undertake the sowing of cotton. Complete the sowing of fodder crop i.e. gwar, maize, bajra. Undertake transplanting of young seedlings of brinjal, chilli and direct sowing of cucurbits. Irrigation should be done after transplantation. Apply light irrigation to matured onion and garlic crops. In Eastern Zone, complete the planting of sugarcane and undertake harvesting of wheat crop.
- In Western Semi-Arid Zone of Delhi, undertake field preparation for sowing of pigeon pea and cotton, continue sowing of green gram, black gram. Undertake sowing of okra, French bean, cluster bean, baby corn and fodder crops such as sorghum, bajra and maize.
- In Western Zone of Punjab, due to prevailing weather condition, there may be chances of attack of fruit borer in tomato and bell pepper, for control spray Profenofos @ 600ml per acre or Decis @ 160 ml per acre or Fame @ 30 ml per acre in 100 litres of water at 14 days of intervals on a non rainy day.
- In Western Zone of Punjab, due to prevailing weather condition, there may be chances of attack of red pumpkin beetle in cucurbits, for control spray Carbaryl @ 75 to 150 gm per acre in 50 to 100 litres of water and repeat after 10 days intervals. The incidence of the powdery mildew disease may be reduced by spraying the ber plantation with karathane 40 EC @ 50 ml or Bayleton 25 WP 50 g per 100 litres of water on a non rainy day .
- In Undulating Plain Zone of Punjab, due to prevailing weather condition, there may be chances of attack of fruit borer larvae in tomato, for control spray Fame 480 SL @ 30 ml or Fenvalerate 20 EC @ 100 ml or Deltamethrin 2.8 EC @ 160 ml or Cypermethrin 25 EC @ 80 ml. in 80 to 100 litres of water per acre on a non rainy day.

▪ **Uttar Pradesh:**

- As thundersquall likely isolated places over West Uttar Pradesh on 6th May, farmers are advised to arrange mechanical support to young fruit plants and staking of vegetables to prevent the crops from lodging due to strong winds.
- In Central Plain Zone, continue harvesting of matured wheat, barley, gram, pea and oat. Continue planting of sugarcane. Continue sowing of summer fodder crops like cowpea, maize, lobia and sowing of urad, mung, lobia, bhindi as inter crop in sugarcane, land preparation and sowing of cowpea, maize, garlic, turmeric. Continue sowing of sunhemp and dhaincha for green manuring. Continue nursery sowing of brinjal and *kharif* onion and transplanting of guava.
- In Eastern Plain Zone, continue sowing of fodder crop dhaincha, continue sowing of lobia, maize, urad, mung and transplanting of onion.
- In Western Plain Zone, continue harvesting of matured wheat and sowing baby corn and summer fodder crops jowar, bajra, lobia, maize. Continue transplanting of tomato, chilli and sowing of bhindi, cucurbits, planting of autumn sugarcane and sowing of sunflower, urad, mung, maize.
- In Bundelkhand Zone, apply irrigation in mung, bhindi, torai, cucurbits, cabbage, cauliflower, tomato, brinjal and chilli as per requirement.
- In Central Plain Zone, due to rise in temperature, there may be chances of attack of shoot fly in maize, for control, spray Methyl-O-Demeton 25 EC or Monocrotophos 36 EC @ 1 litre in 700 to 800 litres of water per hectare In Central Plain Zone, due to rise in temperature, there may be chances of attack of thrips or white fly in urad/mung, for control, spray Methyl-O-Demeton 25 EC or Dimethoate 30 EC @ 1 litre in 600 to 800 litres of water per hectare.
- In Central Plain Zone, due to rise in temperature, there may be chances of attack of red insect in pumpkin and leaf hopper in green gram and black gram; for control of red insect in pumpkin, spray Endosulphan 20 EC @ 200 to

300 ml per litre of water and for control of leaf hopper in green gram and black gram spray Endosulphan 35 EC @ 1.25 litres per 1000 litres of water.

- In Central Plain Zone, due to rise in temperature, there may be chances of attack of grass hopper and hairy caterpillar in sunflower; for control, spray Phosphamidon 250 ml or Endosulphan 35 EC @ 1.25 litres in 600 litres of water.
- In Central Plain Zone, due to rise in temperature, there may be chances of attack of purple blotch/ stemphylium in onion, for control, spray Mencozeb @ 2.5 g or Copper Oxychloride @ 3 g per litre of water.
- In North Eastern plain Zone, due to prevailing weather condition, there may be chances of attack of 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 Plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of fruit drop in mango; for control spray N.A.A. @ 15 mg per litre of water.
- In Central Plain Zone of Uttar Pradesh, due to rise in temperature, there may be chances of attack of maggot in mango, for control, spray 17.8 % Emidacloprid S.L. @ 1 ml in 3 litres of water or 25 % Quinalphos EC @ 2 ml per litre of water.
- In North Eastern Plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of mango hopper and mealy bug in mango trees; for control, spray mixture of 0.2 % Emidacloprid @ 400 ml and 0.2 % Carbendazim @ 400 g per 200 litres of water per 20 plants.
- In Sub-Montane and Low Hills Sub-Tropical Zone of Himachal Pradesh, there may be chance of attack of aphid in pomegranate; for control, spray Emidacloprid @ 60 ml per 200 litres of water on a non rainy day.
- In Arid Western Plain Zone of Rajasthan, undertake pruning operation in Ber.
- In Transitional Plain Zone of Inland Drainage and in Semi-Arid Eastern Plain Zone of Rajasthan, due to rise in temperature, there may be chances of flower and fruit drops in citrus fruits; for control, spray Planofix @ 1 ml per 4.5 litres of water.
- In Semi-Arid Eastern Plain Zone of Rajasthan, due to rise in temperature, there may be chances of attack of mango hopper in mango, for control, spray Malathion 50 EC @ 1 ml per litre of water.
- In Cold Arid Zone of Jammu and Kashmir undertake planting of fruit plants in the orchards.

❖ **Animal Husbandry**

- In Sub-Montane and Low Hills Sub-Tropical Zone of Himachal Pradesh, for milch animals, follow schedule of 1 kg feed+50 g mineral mixtures per 2 litres of milk. Get the animals vaccinated against Foot and Mouth disease.
- In sub tropical Zone of Jammu Kashmir, farmers are advised to add calcium supplement in the feed of dairy animals and heifers especially fed rice straw these days to prevent calcium deficiency and intestinal blockage. Sheeps and goats need to be vaccinated against Sheep and Goat pox. Black Quarter vaccination must be carried among heifers above 4 month age.
- In Valley Temperate Zone of Jammu and Kashmir, farmers are advised to vaccinate sheeps and goats against Enterotoxaemia (ETV vaccine 2ml/sub cut) and FMD (FMD vaccine 1ml /Intra muscular). **Floriculture**
- In Valley Temperate Zone of Jammu & Kashmir, undertake planting of liliium, gladiolus and dahlia.

❖ **Apiculture:**

- In Sub Tropical Zone of Jammu and Kashmir, migrate bee colonies near to floral resources. Prepare colonies for honey flow. It is the right time to start bee keeping especially for beginners as pollen and nectar are in plenty and bee activity is at its peak.

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

Annexure I

Week by week Rainfall Distribution

Sub-Divisions	20.04.16		27.04.16		04.05.16	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
Arunachal Pradesh						
Anjaw	**	**	**	**	**	**
Changlang	70.8	-28	237.1	-28	122.3	-6
Dibang Valley	17.0	-69	8.0	-69	1.0	-99
East Kameng	22.3	-41	16.1	-41	26.7	-27
East Siang	67.9	41	155.0	41	43.3	-40
Kurung Kumey	**	**	**	**	**	**
Lohit	124.2	69	217.2	69	117.3	49
Lower Dibang Valley	287.4	423	356.6	423	201.2	126
Lower Subansari	**	**	**	**	**	**
Papumpare	73.3	30	155.8	30	10.7	-82
Tawang	135.0	251	200.0	251	61.0	11
Tirap	105.8	57	169.6	57	87.0	-5
Upper Siang	32.0	-56	133.0	-56	59.2	-40
Upper Subansari	18.0	-25	50.7	-25	23.8	-20
West Kameng	8.9	-77	37.4	-77	0.0	-100
West Siang	1.0	-99	1.0	-99	3.0	-94
Assam&Meghalaya						
Assam						
Baksa	46.2	9	97.0	99	24.6	-68
Barpeta	74.0	74	122.6	152	32.9	-58
Bongaigaon	72.6	50	122.4	117	38.0	-55
Cachar	150.6	174	228.6	274	54.2	-30
Chirang	67.0	39	134.0	137	27.4	-67
Darrang	**	**	**	**	**	**
Dhemaji	1.0	-97	0.0	-100	0.0	-100
Dhubri	66.1	74	36.1	-16	57.0	-16
Dibrugarh	86.8	49	150.6	152	75.9	16
Goalpara	166.8	258	77.5	35	83.9	-4
Golghat	112.6	184	112.6	280	37.3	-30
Hailakandi	112.2	150	302.5	362	110.6	18
Jorhat	146.5	210	195.3	349	31.9	-53
Kamrup(Rural)	200.3	397	138.4	262	70.2	-4
Kamrup(Metro)	105.3	161	47.9	25	37.6	-49
Karbi Anglong	60.7	170	11.3	-67	38.6	19
Karimganj	254.0	289	281.2	244	103.3	-11
Kokrajhar	148.3	263	61.7	-22	31.9	-54
Lakhimpur	45.1	23	111.1	146	27.8	-54
Morigaon	89.6	258	10.8	-66	20.8	-57
N.C.Hills	126.4	123	285.7	469	128.1	179
Nagaon	82.4	175	11.9	-65	31.4	-35
Nalbari	109.1	246	155.9	293	42.4	-64

Sonitpur	45.1	22	130.2	270	9.7	-85
Sibsagar	87.4	155	217.6	609	62.5	17
Tinsukia	114.8	132	155.6	214	103.6	84
Udalgiri	110.8	126	176.6	405	24.3	-66
Meghalaya						
East Garo Hills	125.4	289	61.0	-28	51.0	-43
East Khasi Hills	374.9	375	332.1	363	80.7	-47
Jaintia Hills	20.0	-69	1.0	-99	1.0	-99
Ribhoi	39.4	68	21.8	-55	42.1	-18
South Garo Hills	18.0	-53	20.0	-62	4.0	-95
West Garo Hills	86.6	127	12.6	-76	43.4	-47
West Khasi Hills	14.0	-66	46.0	5	16.0	-82
NMMT						
Mizoram						
Aizwal	75.6	142	44.6	-31	96.7	25
Champhai	**	**	**	**	**	**
Kolasib	**	**	**	**	**	**
Lawngtlai	**	**	**	**	**	**
Lunglei	**	**	**	**	**	**
Mamit	**	**	**	**	**	**
Saiha	0.0	-100	34.0	2	78.0	96
Serchhip	4.8	-73	2.6	-94	5.1	-88
Manipur						
Bishnupur	**	**	**	**	**	**
Chandel	43.0	69	49.0	717	58.0	161
Churachandpur	**	**	**	**	**	**
Imphal east	49.3	48	117.6	339	46.2	16
Imphal west	57.4	84	316.7	1549	71.6	132
Senapati	**	**	**	**	**	**
Tamenglong	**	**	**	**	**	**
Thoubal	34.0	12	144.0	1090	50.0	268
Ukhrul	1.0	-95	2.0	-85	0.0	-100
Nagaland						
Dimapur	97.3	1058	4.7	-63	31.7	-12
Kephire	**	**	**	**	**	**
Kohima	23.5	49	0.4	-98	21.5	-38
Longleng	**	**	**	**	**	**
Mokokchung	1.0	-97	2.0	-92	2.0	-95
Mon	**	**	**	**	**	**
Paren	**	**	**	**	**	**
Phek	33.0	109	9.0	-65	40.0	16
Tuensang	**	**	**	**	**	**
Wokha	1.0	-95	0.0	-100	1.0	-99
Zunheboto	**	**	**	**	**	**
Tripura						
Dhalai	45.2	-31	5.6	-91	88.8	3
NorthTripura	89.3	14	81.7	38	145.3	88
SouthTripura	0.4	-99	5.4	-88	46.7	-28
West Tripura	16.1	-70	3.9	-92	46.1	-36

Himachal Pradesh						
Bilaspur	0.3	-94	0.7	-91	0.1	-97
Chamba	9.8	-37	2.8	-69	3.0	-74
Hamirpur	4.7	-29	1.7	-77	0.0	-100
Kangra	8.3	-12	0.7	-91	0.3	-98
Kinnaur	42.9	119	7.9	-42	2.3	-88
Kullu	46.1	147	8.7	-42	3.4	-82
Lahaul and Spiti	28.9	3	10.7	-49	1.7	-93
Mandi	6.0	-49	8.5	1	0.8	-92
Shimla	15.2	16	5.2	-43	6.8	-44
Sirmaur	0.7	-91	0.3	-93	0.0	-100
Solan	0.4	-95	1.2	-69	0.0	-100
Una	1.0	-73	0.0	-100	0.0	-100
Punjab						
Amritsar	0.0	-100	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	0.5	-62	2.0	25
Fatehgarh Sahib	0.0	-100	0.0	-100	0.0	-100
Ferozpur	0.0	-100	0.0	-100	0.3	-90
Gurdaspur	0.5	-94	0.0	-100	0.3	-96
Hoshiarpur	0.6	-85	0.1	-95	0.0	-100
Jalandhar	0.4	-92	0.8	-36	0.0	-100
Kapurthala	0.0	-100	0.5	-50	0.0	-100
Ludhiana	0.0	-100	0.0	-98	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	0.0	-100	2.1	-23	0.3	-92
Patiala	0.0	-100	0.0	-100	0.0	-100
Ropar	0.0	-100	1.0	-33	0.0	-100
Sangrur	0.0	-100	0.3	-72	0.0	-100
Mohali	3.0	-42	0.0	-100	0.0	-100
TarnTaran	0.0	-100	0.0	-100	0.0	-100
Haryana,Chd,Delhi						
Haryana						
Ambala	0.3	-81	0.4	-76	0.0	-100
Bhiwani	0.0	-100	0.0	-100	0.0	-100
Chandigarh	0.1	-99	0.3	-80	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	0.3	-58	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	0.5	-87	0.0	-100	0.0	-100
Panipat	0.0	-100	0.0	-100	0.0	-100
Rewari	0.0	-100	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	1.7	-59	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	0.0	-100	0.0	-100	0.0	-100
Jammu & Kashmir						
Anantnag	31.0	4	17.3	-29	3.9	-83
Badgam	27.8	33	11.0	-47	1.0	-94
Bandipore	**	**	**	**	**	**
Baramula	42.2	-15	11.4	-67	3.8	-87
Doda	33.5	15	13.6	-32	3.8	-85
Ganderbal	15.6	-22	17.6	-14	4.8	-75
Jammu	1.8	-79	2.2	-52	0.5	-91
Kargil	**	**	**	**	**	**
Kathua	1.9	-55	0.5	-88	11.2	261
Kistwar	**	**	**	**	**	**
Kulgam	31.1	5	22.6	-7	2.4	-89
Kupwara	15.4	-59	6.4	-81	6.3	-78
Ladakh(Leh)	0.7	-67	0.0	-100	0.0	-100
Poonch	**	**	**	**	**	**
Pulwama	23.7	6	10.7	-46	0.9	-96
Rajouri	3.0	-68	9.5	164	3.0	-59
Ramban	31.4	8	5.9	-71	4.9	-81
Reasi	6.5	-56	1.4	-84	1.0	-93
Samba	0.0	-100	0.0	-100	0.6	-89
Shopian	**	**	**	**	**	**
Srinagar	30.6	53	10.5	-49	1.4	-93
Udhampur	5.0	-66	14.0	56	0.2	-99
East Madhya Pradesh						
Anuppur	0.0	-100	0.0	-100	0.0	-100
Balaghat	0.0	-100	0.1	-99	1.9	58
Chhatarpur	0.0	-100	0.0	-100	0.2	-63
Chindwara	0.0	-100	0.0	-100	0.0	-100
Damoh	0.0	-100	0.0	-100	0.0	-100

Dindori	0.0	-100	0.0	-100	0.0	-100
Jabalpur	0.0	-100	0.0	-100	1.6	-24
Katni	0.0	-100	0.0	-100	1.0	233
Mandla	0.0	-100	0.0	-100	1.4	-22
Narsingpur	0.0	-100	0.0	-100	0.2	-17
Panna	0.0	-100	0.0	-100	0.0	-100
Rewa	0.0	-100	0.0	-100	1.2	-100
Sagar	0.0	-100	0.0	-100	2.7	800
Satna	0.0	-100	0.0	-100	1.4	250
Seoni	0.0	-100	0.0	-100	0.0	-100
Shahdol	0.0	-100	0.0	-100	0.0	-100
Sidhi	0.0	-100	0.0	-100	0.0	-100
Singrauli	0.0	-100	0.0	-100	0.0	-100
Tikamgarh	0.0	-100	0.0	-100	0.0	-100
Umaria	0.0	-100	0.0	-100	0.2	-78
West Madhya Pradesh						
Agar	0.0	-100	0.0	-100	0.0	-100
Alirajpur	0.0	-100	0.0	-100	0.0	-100
Asoknagar	0.0	-100	0.0	-100	0.0	-100
Badwani	0.0	-100	0.0	-100	0.0	-100
Betul	0.0	-100	0.0	-100	0.0	-100
Bhind	0.0	-100	0.0	-100	0.0	150
Bhopal	0.0	-100	0.0	-100	0.0	-100
Burhanpur	0.0	-100	0.0	-100	0.0	-100
Datia	0.0	-100	0.0	-100	0.0	-100
Dewas	0.0	-100	0.0	-100	0.0	-100
Dhar	0.0	-100	0.0	-100	0.0	-100
Guna	0.0	-100	0.0	-100	0.0	-100
Gwalior	0.0	-100	0.0	-100	0.0	-33
Harda	0.0	-100	0.0	-100	0.0	-100
Hosangabad	0.0	-100	0.0	-100	0.0	-100
Indore	0.0	-100	0.0	-100	0.0	-100
Jhabua	0.0	-100	0.0	-100	0.0	-100
Khandwa	0.0	-100	0.0	-100	0.0	-100
Khargone	0.0	-100	0.0	-100	0.0	-100
Mandsaur	0.0	-100	0.0	-100	0.0	-100
Morena	0.0	-100	0.0	-100	0.0	-100
Neemuch	0.0	-100	0.0	-100	0.0	-100
Raisen	0.0	-100	0.0	-100	0.0	-100
Rajgarh	0.0	-100	0.0	-100	0.0	-100
Ratlam	0.0	-100	0.0	-100	0.0	-100
Sehore	0.0	-100	0.0	-100	0.0	-100
Shajapur	0.0	-100	0.0	-100	0.0	-100
Sheopur Kalani	0.0	-100	0.0	-100	0.0	-100
Shivpuri	0.0	-100	0.0	-100	0.0	-100
Ujjain	0.0	-100	0.0	-100	0.0	-100
Vidisha	0.0	-100	0.0	-100	0.0	-100
Chhattisgarh						

Bastar	0.0	-100	23.0	164	8.9	5
Bijapur	0.0	-100	0.0	-100	0.0	-100
Bilaspur	0.0	-100	0.0	-100	3.2	-14
Dantewara	0.0	-100	0.0	-100	1.2	-63
Dhamtari	0.0	-100	1.8	50	0.0	-100
Durg	0.0	-100	0.0	-100	3.4	100
Janjgir	0.0	-100	0.0	-100	**	**
Jashpurnagar	0.0	-100	0.0	-100	0.0	-100
Kanker	0.0	-100	0.0	-100	0.0	-100
Korba	0.0	-100	0.0	-100	0.0	-100
Koriya	0.0	-100	0.0	-100	0.0	-100
Kawardha	0.0	-100	0.0	-100	**	**
Mahasumund	0.0	-100	0.0	-100	6.6	247
Narayanpur	0.0	-100	2.9	-48	**	**
Raigarh	0.0	-100	0.0	-100	2.2	-49
Raipur	0.0	-100	0.0	-99	11.2	195
Rajnandgaon	0.0	-100	0.0	-100	8.4	320
Surguja	0.0	-100	0.0	-100	2.7	0
East Uttar Pradesh						
Allahabad	0.0	-100	0.0	-100	0.4	-63
Ambedkar Nagar	0.0	-100	0.0	-100	0.0	-100
Azamgarh	0.0	-100	0.0	-100	12.7	452
Bahraich	0.0	-100	0.0	-100	25.8	617
Ballia	0.0	-100	0.0	-100	1.7	-43
Balrampur	0.0	-100	0.0	-100	0.0	-100
Banda	0.0	-100	0.0	-100	5.7	414
Barabanki	0.0	-100	0.0	-100	0.0	-100
Basti	0.0	-100	0.0	-100	0.0	-100
Chandauli	0.0	-100	0.0	-100	0.0	-100
Deoria	0.0	-100	0.0	-100	0.0	-100
Faizabad	0.0	-100	0.0	-100	0.0	-100
Farrukhabad	0.0	-100	0.0	-100	0.0	-100
Fatehpur	0.0	-100	0.0	-100	0.5	-69
Gazipur	0.0	-100	0.0	-100	13.1	368
Gonda	0.0	-100	0.0	-100	0.0	-100
Gorakhpur	0.0	-100	0.0	-100	0.0	-100
Hardoi	0.0	-100	0.0	-100	0.0	-100
Jaunpur	0.0	-100	0.0	-100	1.9	-26
Kannauj	0.0	-100	0.0	-100	0.0	-100
Kanpur City	0.0	-100	0.0	-100	0.0	-100
Kanpur Dehat	0.0	-100	0.0	-100	0.0	-100
Kaushambi	0.0	-100	0.0	-100	0.0	-100
Kheri	0.5	-78	0.0	-100	11.3	176
Kushi nagar	0.0	-100	0.0	-100	0.0	-100
Lucknow	0.0	-100	0.0	-100	0.0	-100
Maharajganj	0.0	-100	0.0	-100	0.0	-100
Mau	0.0	-100	0.0	-100	0.0	-100
Mirzapur	0.0	-100	0.0	-100	0.0	-100
Pratapgarh	0.0	-100	0.0	-100	0.0	-100

RaiBareilly	0.0	-100	0.0	-100	0.0	-100
Sahuji Maharajnagar	0.0	-100	0.0	-100	0.0	-100
Sant Kabirnagar	0.0	-100	0.0	-100	0.0	-100
Sant Ravidas Nagar	0.0	-100	0.0	-100	0.0	-100
Shrawasti	**	**	**	**	**	**
Sidharthnagar	0.0	-100	0.0	-100	0.0	-100
Sitapur	0.0	-100	0.0	-100	1.0	-60
Sonbhadra	0.0	-100	0.0	-100	0.0	-100
Sultanpur	0.0	-100	0.0	-100	5.1	63
Unnao	0.0	-100	0.0	-100	0.0	-100
Varanasi	0.0	-100	0.0	-100	0.1	-97
West Uttar Pradesh						
Agra	0.0	-100	0.0	-100	1.1	-8
Aligarh	0.0	-100	0.0	-100	1.3	-60
Auraiya	0.0	-100	0.0	-100	0.0	-100
Badaun	0.0	-100	0.0	-100	0.0	-100
Baghpat	0.0	-100	0.0	-100	0.0	-100
Bareilly	0.0	-100	0.0	-100	0.0	-100
Bijnor	0.0	-100	0.0	-100	0.0	-100
Bulandsahar	0.0	-100	0.0	-100	0.0	-100
Etah	0.0	-100	0.0	-100	0.0	-100
Etawah	0.0	-100	0.0	-100	0.0	-100
Firozabad	0.0	-100	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	0.0	-100	0.0	-100	0.0	-100
Jalaun	0.0	-100	0.0	-100	0.0	-100
Jhansi	0.0	-100	0.0	-100	0.5	-75
Jotiba Phule Nagar	0.0	-100	0.0	-100	0.0	-100
Kanshiramnagar	0.0	-100	0.0	-100	0.0	-100
Lalitpur	0.0	-100	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	0.0	-100	0.0	-100	0.0	-100
Mathura	0.0	-100	0.0	-100	0.0	-100
Meerut	0.0	-100	0.0	-100	0.3	-89
Moradabad	0.0	-100	0.0	-100	12.9	462
Muzzaffarnagar	0.0	-100	1.0	107	0.3	-88
Pilibhit	0.7	-71	0.0	-100	1.0	-60
Rampur	0.0	-100	0.0	-100	1.3	-57
Saharanpur	3.7	162	1.3	122	0.0	-100
Shahjahanpur	0.0	-100	0.0	-100	0.0	-100
Uttarakhand						
Almora	0.6	-91	1.8	-69	0.0	-100
Bageshwar	0.0	-100	0.0	-100	0.0	-100
Chamoli	2.7	-78	0.4	-93	8.0	-38
Champawat	5.0	-53	0.0	-100	3.5	-43
Dehradun	6.3	2	1.1	-64	3.7	-46

Garhwal Pauri	0.0	-100	0.0	-100	0.0	-100
Garhwal Tehri	1.7	-82	1.9	-65	0.0	-100
Haridwar	0.0	-100	0.0	-100	0.0	-100
Nainital	2.8	-53	1.7	-66	0.0	-100
Pithorgarh	6.5	-51	2.0	-84	4.0	-71
Rudraprayag	10.3	-26	0.5	-97	0.0	-100
Udham Sing Nagar	7.3	170	0.1	-98	0.0	-100
Uttarkashi	2.5	-80	4.5	-51	2.9	-75
Bihar						
Araria	1.0	-88	0.0	-100	30.6	38
Arwal	0.0	-100	0.0	-100	0.0	-100
Aurangabad	0.0	-100	0.0	-100	0.0	-100
Banka	0.0	-100	0.0	-100	0.0	-100
Begusarai	0.0	-100	0.0	-100	0.0	-100
Bhabua	0.0	-100	0.0	-100	0.0	-100
Bhagalpur	0.0	-100	0.0	-100	0.0	-100
Bhojpur	0.0	-100	0.0	-100	0.0	-100
Buxar	0.0	-100	0.0	-100	0.0	-100
Darbhanga	0.0	-100	0.0	-100	20.0	54
East Champaran	2.9	-30	0.0	-100	0.0	-100
Gaya	0.0	-100	0.0	-100	0.0	-100
Gopalganj	0.0	-100	0.0	-100	0.0	-100
Jahanabad	0.0	-100	0.0	-100	0.0	-100
Jamui	0.0	-100	0.0	-100	0.0	-100
Kathihar	0.0	-100	0.0	-100	0.0	-100
Khagadia	0.0	-100	0.0	-100	0.0	-100
Kishanganj	0.0	-100	0.0	-100	31.7	0
Lakhisarai	0.0	-100	0.0	-100	0.0	-100
Madhepura	0.0	-100	**	**	20.7	51
Madhubani	0.0	-100	0.0	-100	11.3	-13
Monghyar	0.0	-100	0.0	-100	0.0	-100
Muzaffarpur	0.0	-100	0.0	-100	15.5	91
Nalanda	0.0	-100	0.0	-100	0.0	-100
Nawada	0.0	-100	0.0	-100	0.0	-100
Patna	0.0	-100	0.0	-100	2.1	-57
Purnea	0.0	-100	**	**	20.5	1
Rohtas	0.0	-100	0.0	-100	0.0	-100
Saharsha	0.0	-100	**	**	22.6	7
Samstipur	0.0	-100	0.0	-100	7.8	21
Saran	0.0	-100	0.0	-100	3.2	-31
Sheikpura	0.0	-100	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	0.0	-100	0.0	-100	0.0	-100
Supaul	0.0	-100	0.0	-100	22.9	69
Vaishali	0.0	-100	0.0	-100	0.3	-95
West Champaran	8.2	140	0.0	-100	0.0	-100
Jharkhand						
Bokaro	0.0	-100	0.0	-100	1.4	-86

Chatra	0.0	-100	0.0	-100	0.0	-100
Deoghar	3.3	33	0.0	-100	0.0	-100
Dhanbad	0.4	-89	0.0	-100	0.0	-99
Dumka	0.0	-100	0.0	-100	0.0	-100
East Singbhum	0.0	-100	0.0	-100	24.1	146
Garhwa	0.0	-100	0.0	-100	0.0	-100
Giridih	0.5	-92	0.0	-100	0.0	-100
Godda	0.0	-100	0.0	-100	0.0	-100
Gumla	0.0	-100	0.0	-100	0.0	-100
Hazaribagh	0.0	-100	0.0	-100	12.2	139
Jamtara	0.6	-60	0.0	-100	1.1	-91
Khunti	0.0	-100	0.0	-100	0.0	-100
Koderrna	0.0	-100	0.0	-100	0.0	-100
Latehar	0.0	-100	0.0	-100	0.0	-100
Lohardagga	0.0	-100	0.0	-100	0.0	-100
Pakur	0.0	-100	0.0	-100	1.3	-91
Palamau	0.0	-100	0.0	-100	0.0	-100
Ramgarh	0.0	-100	0.0	-100	0.0	-100
Ranchi	0.0	-100	0.0	-100	4.9	-21
Sahebganj	0.0	-100	0.0	-100	0.0	-100
Saraikela	0.0	-100	0.0	-100	14.2	71
Simdega	0.0	-100	0.0	-100	0.0	-100
West Singbhum	0.0	-100	0.0	-100	0.0	-100
East Rajasthan						
Ajmer	0.0	-100	0.0	-100	0.2	-71
Alwar	0.0	-100	0.0	-100	0.0	-100
Banswara	0.0	-100	0.0	-100	0.0	-100
Baran	0.0	-100	0.0	-100	0.0	-100
Bharatpur	0.0	-100	0.0	-100	0.0	-100
Bhilwara	0.0	-100	0.0	-100	0.4	-65
Bundi	0.0	-100	0.0	-100	0.0	-100
Chittorgarh	0.0	-100	0.0	-100	0.0	-100
Dausa	0.0	-100	0.0	-100	0.0	-100
Dholpur	0.0	-100	0.0	-100	1.2	-27
Dungarpur	0.0	-100	0.0	-100	0.0	-100
Jaipur	0.0	-100	0.0	-100	0.4	-56
Jhalawar	0.0	-100	0.0	-100	0.0	-100
Jhunjhunu	0.0	-100	0.0	-100	0.4	-72
Karauli	0.0	-100	0.0	-100	0.0	-100
Kota	0.0	-100	0.0	-100	0.0	-100
Pratapgarh	0.0	-100	0.0	-100	0.0	-100
Rajsamand	0.0	-100	0.0	-100	0.0	-100
Sawai Madhopur	0.0	-100	0.0	-100	0.0	-100
Sikar	0.0	-100	0.0	-100	0.0	-100
Sirohi	0.0	-100	0.0	-100	0.0	-100
Tonk	0.0	-100	0.0	-100	0.0	-100
Udaipur	0.0	-100	0.0	-100	0.0	-100
West Rajasthan						
Barmer	0.0	-100	0.0	-100	0.0	-100

Bikaner	0.0	-100	0.0	-100	0.0	-100
Churu	0.0	-100	0.0	-100	0.0	-100
Hanumangarh	0.0	-100	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	0.0	-100	0.0	-100	0.0	-100
Nagaur	0.0	-100	0.0	-100	0.0	-100
Pali	0.0	-100	0.0	-100	0.0	-100
Sri Ganganagar	0.0	-100	0.0	-100	0.0	-100
Gujarat Region						
Ahmedabad	0.0	-100	0.0	-100	0.0	-100
Anand	0.0	-100	0.0	-100	0.0	-100
Banaskantha	0.0	-100	0.0	-100	0.0	-100
Baroda	0.0	-100	0.0	-100	0.0	-100
Broach	0.0	-100	0.0	-100	0.0	-100
DNH	**	**	**	**	**	**
Dahod	0.0	-100	0.0	-100	0.0	-100
Daman	**	**	**	**	0.0	-100
Dangs	0.0	-100	0.0	-100	0.0	-100
Gandhinagar	0.0	-100	0.0	-100	0.0	-100
Kheda	0.0	-100	0.0	-100	0.0	-100
Mehsana	0.0	-100	0.0	-100	0.0	-100
Narmada	0.0	-100	0.0	-100	0.0	-100
Navsari	0.0	-100	0.0	-100	0.0	-100
Panchmahal	0.0	-100	0.0	-100	0.0	-100
Patan	0.0	-100	0.0	-100	0.0	-100
Sabarkantha	0.0	-100	0.0	-100	0.0	-100
Surat	0.0	-100	0.0	-100	0.0	-100
Tapi	0.0	-100	0.0	-100	0.0	-100
Valsad	0.0	-100	0.0	-100	0.0	-100
S K & Diu region						
Amreli	0.0	-100	0.0	-100	0.0	-100
Bhavnagar	0.0	-100	0.0	-100	0.0	-100
Diu	0.0	-100	0.0	-100	0.0	-100
Jamnagar	0.0	-100	0.0	-100	0.0	-100
Junagarh	0.0	-100	0.0	-100	0.0	-100
Kutch	0.0	-100	0.0	-100	0.0	-100
Porbandar	0.0	-100	0.0	-100	0.0	-100
Rajkot	0.0	-100	0.0	-100	0.0	-100
Surendranagar	0.0	-100	0.0	-100	0.0	-100
Maharashtra						
Konkan & Goa						
Mumbai City	0.0	-100	0.0	-100	0.0	-100
Mumbai Suburban	0.0	-100	0.0	-100	0.0	-100
North Goa	0.0	-100	0.0	-100	0.0	-100
Raigad	0.0	-100	0.0	-100	0.0	-100
Ratnagiri	0.0	-100	0.0	-100	0.0	-100
Sindhudurg	0.0	-100	0.0	-100	0.0	-100

South Goa	0.0	-100	0.0	-100	0.0	-100
Thane	0.0	-100	0.0	-100	0.0	-100
Madhya Maharashtra						
Ahmednagar	0.0	-100	0.0	-100	0.0	-100
Dhule	0.0	-100	0.0	-100	0.0	-100
Jalgaon	0.0	-100	0.0	-100	0.0	-100
Kolhapur	0.0	-100	0.0	-100	0.0	-100
Nandurbar	0.0	-100	0.0	-100	0.0	-100
Nasik	0.0	-100	0.0	-100	0.0	-100
Pune	0.1	-94	0.0	-100	0.0	-100
Sangli	0.0	-100	0.0	-100	0.8	-93
Satara	0.7	-82	0.0	-100	0.0	-100
Solapur	0.0	-100	0.0	-100	0.4	-91
Marathwada						
Aurangabad	0.0	-100	0.0	-100	0.0	-100
Beed	0.0	-100	0.0	-100	0.8	-60
Hingoli	0.0	-100	0.0	-100	0.0	-100
Jalna	0.0	-100	0.0	-100	0.0	-100
Latur	0.0	-100	0.0	-100	4.1	58
Nanded	0.0	-100	0.0	-100	1.2	-17
Osmanabad	0.0	-100	0.0	-100	1.4	-51
Parbhani	0.0	-100	0.0	-100	0.3	-88
Vidarbha						
Akola	0.0	-100	0.0	-100	0.0	-100
Amraoti	0.0	-100	0.0	-100	0.0	-100
Bhandara	0.0	-100	0.0	-100	1.4	1
Buldhana	0.0	-100	0.0	-100	0.0	-100
Chandrapur	0.0	-100	0.0	-100	13.1	669
Gadchiroli	0.0	-100	0.0	-100	10.7	267
Gondia	0.0	-100	0.0	-100	2.4	240
Nagpur	0.0	-100	0.0	-100	0.1	-96
Wardha	0.0	-100	0.0	-100	0.3	-86
Washim	0.0	-100	0.0	-100	0.0	-100
Yeotmal	0.0	-100	0.0	-100	0.1	-95
Odisha						
Angul	0.0	-100	0.0	-100	3.3	-66
Balasore	5.7	-63	0.2	-99	8.4	-44
Bargarh	0.0	-100	0.0	-100	5.0	28
Bhadrak	0.1	-99	0.0	-100	0.0	-100
Bolangir	1.3	-78	5.3	15	5.9	22
Boudh	0.0	-100	0.0	-100	0.0	-100
Cuttack	0.0	-100	0.0	-100	2.8	-87
Deogarh	0.0	-100	0.0	-100	1.7	-75
Dhenkanal	2.1	-81	0.8	-94	0.8	-94
Gajapati	0.0	-100	0.4	-99	27.4	18
Ganjam	0.0	-100	2.3	-82	5.9	-44
Jagatsingpur	0.0	-100	0.0	-100	1.9	-90
Jajpur	0.0	-100	0.0	-100	0.3	-98
Jharsuguda	0.0	-100	0.0	-100	0.2	-97






Kalahandi	0.0	-100	0.8	-90	0.0	-100
Kandhamal	0.0	-100	0.0	-100	2.9	-80
Kendrapara	0.0	-100	0.0	-100	0.0	-100
Keonjhar	0.0	-100	6.3	-56	0.0	-99
Khurda	0.0	-100	0.0	-100	3.8	-60
Koraput	0.0	-100	1.9	-87	10.0	-44
Malkangiri	0.0	-100	0.0	-100	0.0	-100
Mayurbhanj	9.6	-39	1.1	-94	5.1	-75
Nawapara	0.0	-100	0.0	-100	0.0	-100
Nawarangpur	0.0	-100	15.6	-38	3.0	-79
Nayagarh	0.0	-100	10.5	-15	4.4	-68
Puri	0.0	-100	0.0	-100	0.7	-93
Rayagada	0.0	-100	5.5	-55	2.5	-79
Sambalpur	0.0	-100	0.0	-100	5.6	-19
Sonepur	0.0	-100	0.0	-100	2.7	-47
Sundargarh	0.0	-100	0.0	-100	1.2	-78
West Bengal & Andaman Nicobar Islands						
A & N ISLAND						
Nicobar	0.0	-100	0.6	-98	4.8	-92
North & Middle Andaman	0.0	-100	0.0	-100	0.0	-100
South Andaman	0.0	-100	0.0	-100	0.0	-100
GWB						
Bankura	0.8	-92	0.0	-100	4.8	-65
Birbhum	0.0	-100	0.0	-100	3.0	-75
Burdwan	0.0	-100	0.0	-100	0.5	-97
East Midnapore	0.9	-88	0.0	-100	6.9	-69
Hooghly	0.0	-100	0.0	-100	2.6	-86
Howrah	0.0	-100	0.0	-100	7.4	-65
Kolkata	0.0	-100	0.0	-100	4.6	-78
Murshidabad	0.0	-100	0.0	-100	1.0	-92
Nadia	0.0	-100	0.0	-100	1.6	-92
24 Pargana (N)	0.0	-100	0.0	-100	6.7	-75
Purulia	0.1	-99	0.0	-100	1.5	-87
24 Pargana (S)	0.0	-100	0.0	-100	3.6	-82
West Midnapore	8.5	-40	0.0	-100	30.1	81
SHWB & Sikkim						
Cooch Behar	20.5	-37	0.0	-100	7.3	-87
Darjeeling	12.0	-61	2.6	-94	10.0	-81
East Sikkim	70.2	88	115.5	163	14.7	-75
Jalpaiguri	20.0	-23	7.6	-82	42.4	-27
Malda	0.0	-100	0.0	-100	0.0	-100
North Dinajpur	**	**	**	**	**	**
North Sikkim	63.7	38	111.0	111	31.9	-56
South Dinajpur	0.0	-100	0.0	-100	0.0	-100
South Sikkim	8.1	-78	16.7	-62	12.4	-79
West Sikkim	34.0	-26	33.0	-37	38.5	-47
Karnataka						
Coastal Karnataka						

Dakshina Kannada	9.1	0	0.0	-100	2.4	-87
Udupi	0.0	-100	0.0	-100	0.0	-100
Uttara Kannada	0.0	-100	0.0	-100	0.1	-99
NI Karnataka						
Bagalkote	0.0	-100	0.0	-100	2.0	-70
Belagavi	0.0	-100	0.1	-99	5.2	-64
Bidar	3.3	-19	0.0	-100	20.0	325
Dharwad	2.3	-80	0.0	-100	4.3	-75
Gadag	0.0	-100	0.0	-100	2.8	-77
Haveri	0.0	-100	0.1	-99	0.0	-100
Kalaburgi	0.1	-98	0.9	-83	3.4	-35
Koppal	0.0	-100	0.0	-100	0.0	-100
Raichur	0.0	-100	0.0	-100	4.5	42
Vijayapura	0.4	-92	0.0	-100	8.3	45
Yadgir	0.0	-100	0.1	-99	0.9	-79
SI Karnataka						
Ballari	0.5	-91	0.0	-100	4.8	-49
Bangalore Rural	0.0	-100	2.3	-81	0.0	-100
Bangalore Urban	0.0	-100	5.4	-58	0.0	-100
Chamarajanagar	1.4	-93	4.9	-77	2.6	-90
Chikaballapur	2.8	-55	2.0	-75	6.4	-50
Chikkamagaluru	4.3	-68	0.2	-99	10.5	-53
Chitradurga	0.8	-83	0.0	-100	9.4	-17
Davangere	0.3	-95	0.0	-100	2.5	-81
Hassan	21.3	92	0.0	-100	8.1	-62
Kodagu	7.8	-59	2.0	-93	19.8	-31
Kolar	0.0	-100	0.0	-100	0.0	-100
Mandya	4.6	-57	6.3	-57	1.4	-93
Mysuru	6.3	-56	10.5	-46	9.5	-59
Ramanagara	0.0	-100	1.0	-94	0.9	-97
Shivamogga	0.4	-96	0.0	-100	6.4	-58
Tumakuru	0.9	-89	0.0	-100	4.0	-73
Kerala						
Alappuzha	9.3	-66	5.0	-85	16.1	-64
Kannur	0.0	-100	0.0	-100	3.3	-87
Ernakulam	5.0	-81	2.7	-90	16.3	-64
Idukki	8.4	-79	4.0	-90	2.7	-94
Kasaragod	0.0	-100	0.0	-100	0.0	-100
Kollam	19.5	-48	16.4	-64	11.2	-76
Kottayam	10.7	-62	6.4	-76	29.8	-32
Kozhikode	0.0	-100	0.0	-99	0.0	-100
Malappuram	0.0	-100	0.2	-99	0.2	-99
Palakkad	2.0	-91	0.0	-99	0.3	-99
Pathanamthitta	11.8	-73	38.3	-24	40.3	-28
Thiruvananthapuram	17.2	-40	9.8	-65	5.0	-86
Thrissur	0.7	-96	1.5	-93	0.0	-100
Wayanad	3.2	-83	3.0	-87	11.1	-55
Tamil Nadu						
Ariyalur	0.0	-100	0.0	-100	0.0	-100

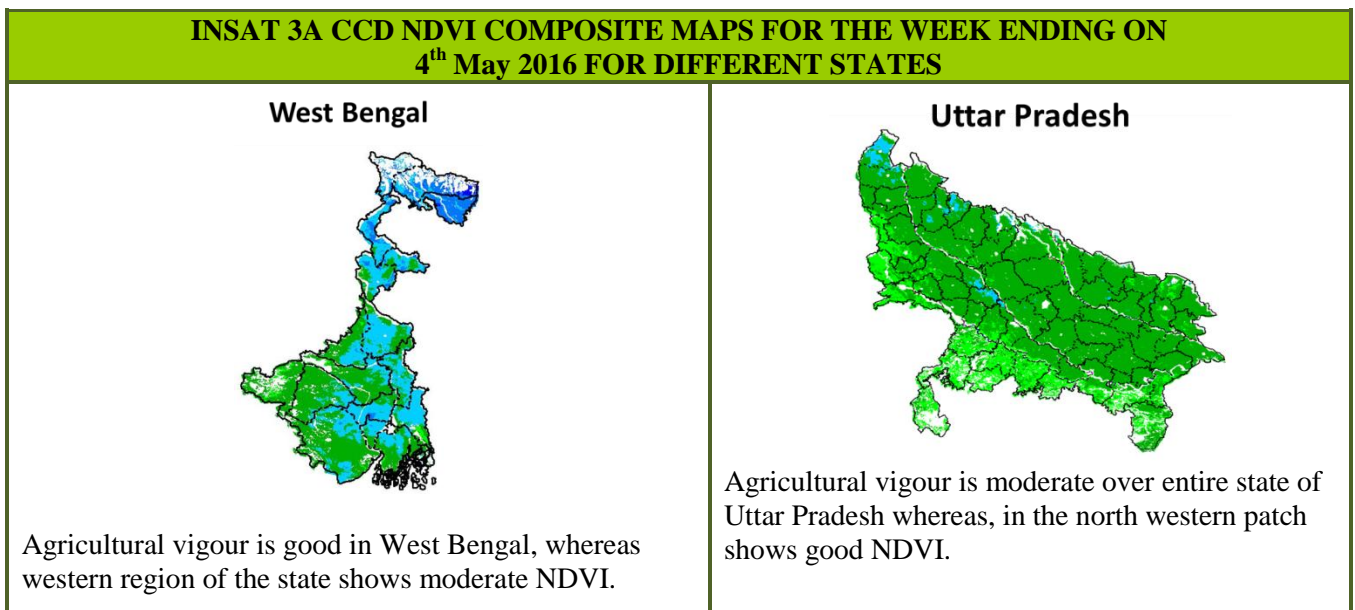
Chennai	0.0	-100	0.0	-100	0.0	-100
Coimbatore	0.6	-96	0.7	-96	0.5	-97
Cuddalore	0.0	-100	0.0	-100	0.0	-100
Dharmapuri	0.0	-100	0.0	-100	0.0	-100
Dindigul	1.1	-93	0.5	-97	0.0	-100
Erode	1.3	-89	1.3	-91	0.4	-98
Kanchipuram	0.0	-100	0.0	-100	0.0	-100
Kanyakumari	2.5	-91	4.1	-81	3.2	-90
Karikal	0.0	-100	0.0	-100	0.0	-100
Karur	0.0	-100	0.5	-96	0.0	-100
Krishnagiri	0.2	-98	2.5	-82	0.0	-100
Madurai	0.0	-100	1.3	-91	0.0	-100
Nagapattinam	0.0	-100	0.0	-100	0.0	-100
Namakkal	0.0	-100	0.0	-100	0.0	-100
Nilgiris	0.2	-99	5.2	-76	0.4	-98
Perambalur	0.0	-100	0.0	-100	0.0	-100
Puducherry	0.0	-100	0.0	-100	0.0	-100
Pudukottai	0.0	-100	0.0	-100	0.0	-100
Ramanathapuram	0.0	-100	0.5	-97	4.1	-57
Salem	0.0	-100	2.8	-79	0.0	-100
Sivaganga	0.0	-100	0.0	-100	0.0	-100
Thanjavur	0.9	-88	0.0	-100	0.0	-99
Theni	1.0	-94	2.7	-87	0.5	-97
Tirunelveli	2.9	-83	9.4	-37	1.3	-92
Tirupur	0.0	-100	0.0	-100	0.0	-100
Tiruvallur	0.0	-100	0.0	-100	0.0	-100
Tiruvannamalai	0.0	-100	0.0	-100	0.0	-100
Tiruvarur	0.0	-100	0.0	-100	0.0	-100
Toothukudi	0.0	-100	0.0	-100	0.0	-100
Trichy	0.0	-100	0.0	-100	0.0	-100
Vellore	0.0	-100	0.0	-100	0.0	-100
Villupuram	0.0	-100	0.0	-100	0.0	-100
Virudhunagar	0.0	-100	1.8	-89	0.0	-100
Andhra Pradesh						
Coastal Andhra Pradesh						
East Godavari	0.0	-100	0.0	-100	1.8	-80
Guntur	0.0	-100	0.2	-96	3.2	-27
Krishna	0.0	-100	0.0	-100	0.3	-96
Nellore	0.0	-100	0.0	-100	0.4	-95
Prakasam	0.0	-100	0.0	-100	2.3	-65
Sirkakulam	0.0	-100	0.7	-90	6.8	-26
Visakhapatnam	0.9	-92	4.6	-66	7.9	-51
Vizianagram	0.0	-100	0.6	-93	17.8	38
West Godavari	0.0	-100	0.0	-100	1.8	-72
Rayalaseema						
Anantapur	0.2	-96	0.0	-100	2.0	-77
Chittoor	0.0	-100	0.4	-96	0.1	-99
Cuddapah	0.0	-100	0.1	-98	0.4	-94

Kurnool	0.3	-93	0.0	-100	4.3	-32
Telangana						
Adilabad	1.6	-48	0.0	-100	7.9	217
Hyderabad	6.6	42	0.0	-100	7.3	86
Karimnagar	2.1	-51	6.5	81	5.7	36
Khammam	0.0	-100	1.7	-74	3.7	-48
Mehabubnagar	0.0	-98	0.0	-100	7.8	70
Medak	0.0	-100	0.0	-100	3.4	16
Nalgonda	0.0	-100	0.0	-100	8.3	176
Nizamabad	0.7	-79	0.5	-81	12.0	444
Rangareddy	1.3	-70	2.1	-68	3.6	-42
Warangal	0.0	-100	0.0	-100	10.6	193

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



Uttarakhand



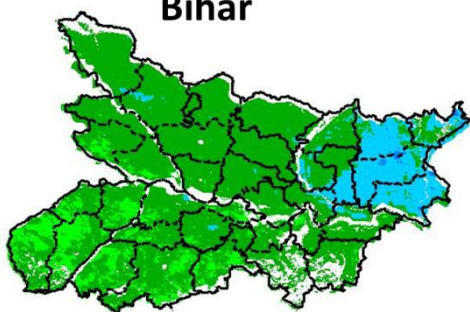
Agricultural vigour is moderate over entire state of Uttarakhand except few patches over west shows good values of NDVI.

Telangana



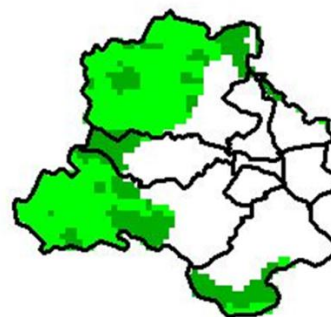
Agriculture vigour is moderate over entire state of Telangana. Few patches in eastern region shows good values of NDVI

Bihar



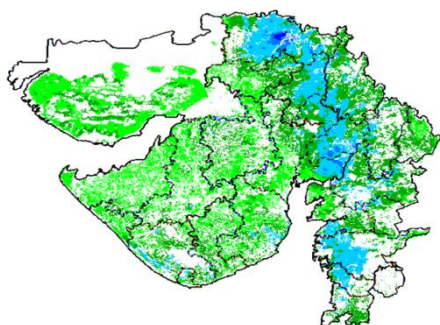
Agriculture vigour is moderate over major parts of Bihar whereas eastern part shows patches of good NDVI values.

Delhi



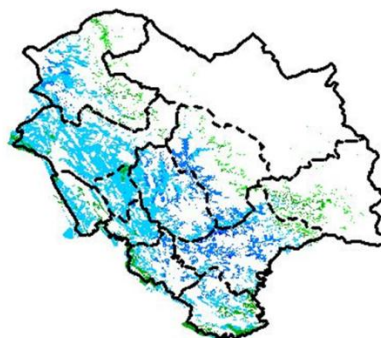
Agriculture vigour is moderate all over Delhi.

Gujarat



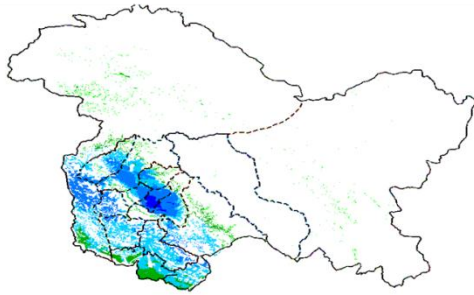
Agriculture vigour is moderate in Kutch and Saurashtra whereas, good agricultural vigour is observed over patches in Gujarat region.

Himachal Pradesh



Agriculture vigour is good over entire state of Himachal Pradesh, except few patches over south and east shows moderate values of NDVI.

Jammu & Kashmir



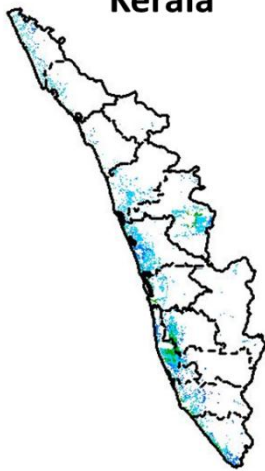
Agriculture vigour is good over central and northern part of Jammu & Kashmir, whereas the remaining region shows moderate NDVI.

Jharkhand



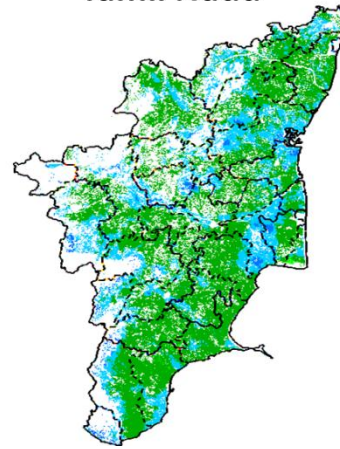
Agriculture vigour is moderate over entire state of Jharkhand.

Kerala



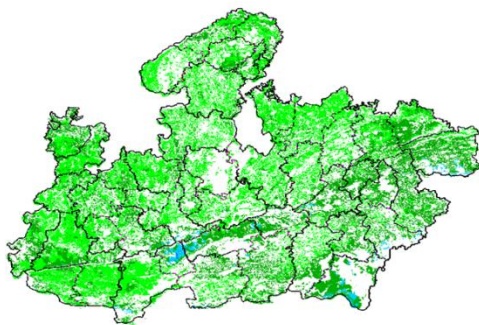
Agriculture vigour is good over entire state of Kerala.

Tamil Nadu



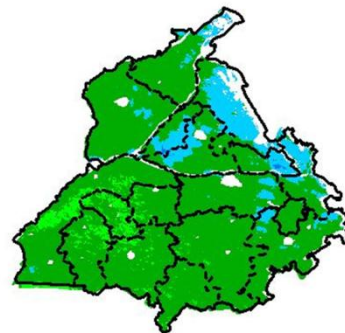
Agricultural vigour is good over major part of Tamil Nadu, except for southern and central part shows moderate NDVI.

Madhya Pradesh



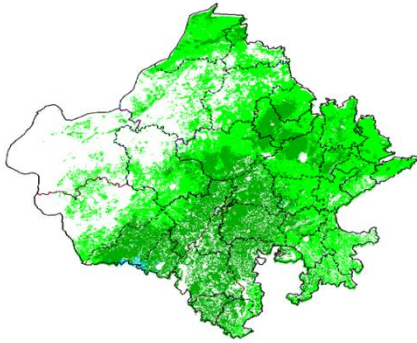
Agriculture vigour shows moderate values of NDVI over entire state of Madhya Pradesh.

Punjab



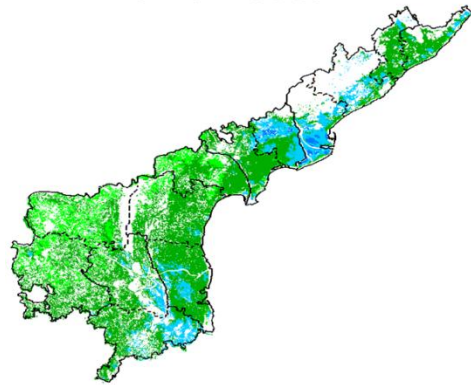
Agricultural vigour is good over northern and eastern parts of Punjab whereas, the remaining region shows moderate NDVI.

Rajasthan



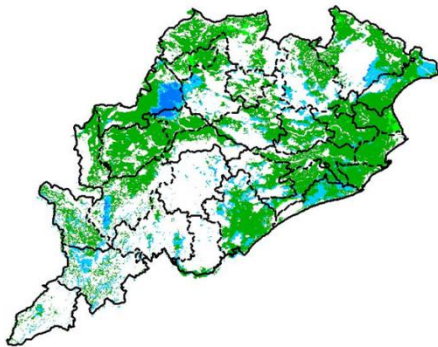
Agriculture vigour is moderate over the entire state of Rajasthan.

Andhra Pradesh



Agriculture vigour is very good over coastal part of Andhra Pradesh whereas other region shows moderate values.

Odisha



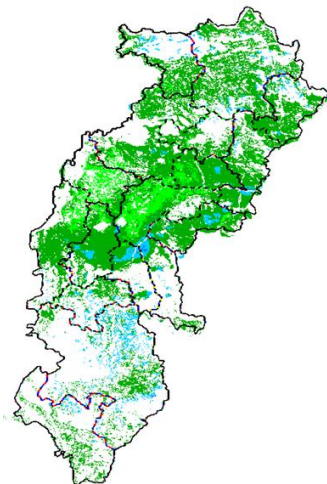
Agricultural vigour is good in patches of coastal and western parts of Odisha where rest of region shows moderate NDVI.

Haryana



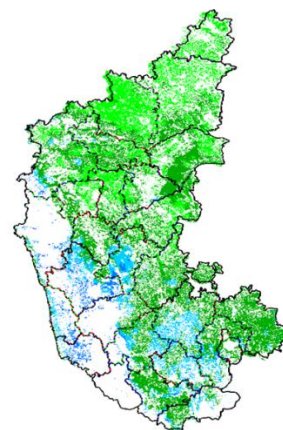
Agriculture vigour is moderate over entire state of Haryana.

Chhattisgarh

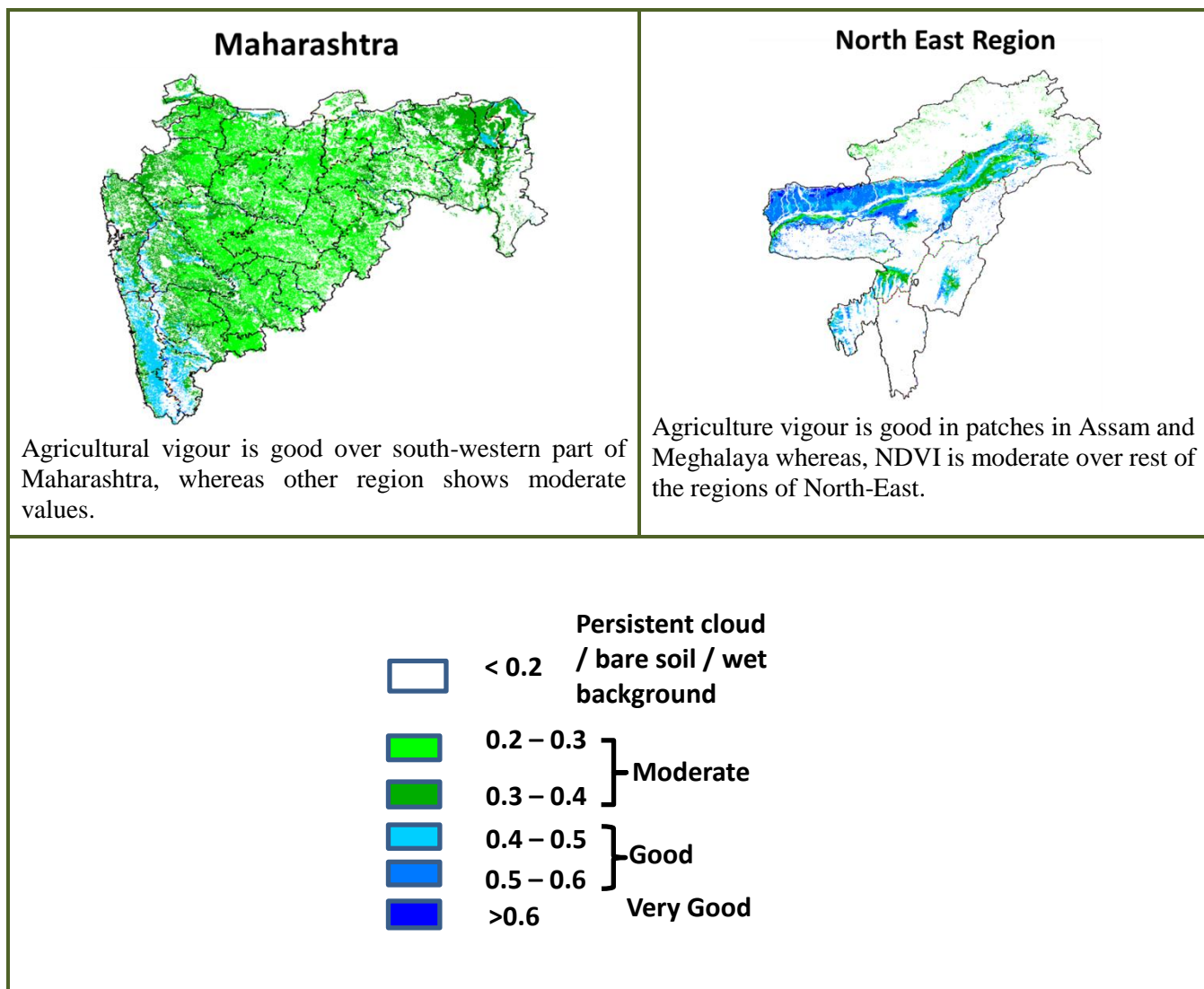


Agriculture vigour is moderate in the state of Chhattisgarh with few patches of good NDVI in central region.

Karnataka



Agriculture vigour is good over patches in central and Southern part of Karnataka state. Rest of the state shows moderate values of NDVI.



Annexure III

- Assam**
- Early *ahu* rice:** semi dwarf *ahu* rice varieties like Luit, Kopilee, Cauvery, Culture -1, Rasi, Banglami, Puthichapali, Nilajee, Hasakumra.
- Early *ahu* rice (for low lying area):** IR-50, Pusa 2-21, Rasi, Culture -1, Luit, Kopilee (Semi-dwarf varieties); Rongadoria, Dubaichenga, Nilajee (Tall varieties).
- Transplanted normal *ahu* rice:** Gobind, IR-36, IR-50.
- Bao rice:** Maguri, Kekua Bao, Negheri Bao, Tara Bao.
- Kharif maize:** Hybrid variety like Ganga 5, Hi starch and Composite variety like NLD, Dhawal, Naviot, Diara.
- Capsularis jute:** JRC 321 and UPC 94.
- Green gram:**Pratap, T-44, Kopergaon, AAU-39, K-851 and ML-55.
- Black gram:**T-9, Pant-U-19, UG-157.
- Sugarcane:** Kolong, Luhit, Dhansiri, Co 1148, CO-Jor- 1, CO-Jor- 2.
- Okra:**Pusa Sawani, Arka Anamika, Parbhdani Kranti.
- Ridge gourd:** Pusa Nashdar or other local varieties like AAU-1, AAU-2, AAU-3 etc.
- Sponge gourd:** Pusa Chikni or other local varieties.
- Tapioca:** H-43, H-97, H-165, S-865, H-2304.
- Maize:** Ganga 5, Navjot.
- Banana:** Dwarf Cavendish (Dwarf Cultivar), Cheni Champa, Malbhog (Medium Tall cultivars).
- Okra:**Parvani Kranti, Arka Anamica.
- Ginger:** Nadia, Karkai, Maran, Jorhat, chaina etc.
- Turmeric:** Shillong type, CL-24, PTS-38, PCT-13, VK-145.

- Meghalaya**
- Brinjal :**Local Umroi, Muta Kesh, Narrow.
- Bottle gourd:** Pusa Summer, Prolific Long, Prolific Round, Pusa Meghdoot, Pusa Hybrid 2.

Manipur

Pre-kharif rice: RC Maniphou 4, 5 and 12.

Tripura

Jhumrice : Garo Malati, Binnietc.

Odisha

Sugarcane: Nilamadhaha, Sabitri, Co 7508, Co 7704, Co 62175, Co 740, Co 7219, CoJ 8201, Co 975, Co 7706, Co 8402, Co 62175.

Groundnut: Smruti, AK 12-24 TAG

Jharkhand

Lentil: P.L.-406, P.L.-639, K.L.S -218, K-75

Barley: Jyoti, Ratna, D.L.-36, B.R.-32

Linseed: Sweta, Shubhra, T-397

Onion: N-53, Pusa red, Arka nicketan, Arka kalia

Jammu & Kashmir

Cabbage: Golden Acre, Pride of India and Pusa Mukta.

Cauliflower: Giant Snow Ball, Pant Gobh 2 & 3 and Pusa Synthetic.

Uttarakhand

Sugarcane: Pant 84211, Co-238, Co-241, Co Pant 3220, COS-8436, COS-88230 etc. and medium to late sown varieties like Co Pant 90223, Co Pant-96219, COS-97222, COS-767, COS-1148, COS-96268 etc.

Capsicum: California Vander, Pus Dipti, Anupam. Heera, Indira, Supriya & Bharat.

Brinjal: (brinjal-4, ARU-1 etc) and potato (Kufri Jyoti, Kufri Ashok & Kufri Anand etc.

Tomato: Tomato-3, Pant T-3, Him Sona, Him Shikhar etc variety in nursery).

Himachal Pradesh

Cauliflower: snowball and Giant snowball.

Radish: Japanese white, Chinese pink and mino early white

Turnip: PTWG-1

Carrot: Pusakesar

Fenugreek : I.C. 74, kasoori.

Peas : Mater ageta-6 (early variety).

Cabbage: Pride of India, golden achor and hybrid

East Uttar Pradesh

Sugarcane: coj-64, cos-96268, cos-98231, cos-767, cos-84, cos-32, copant-84212, Ko.Sha.-88230, 95255, Ko.Sha.-95436, 01235.

Tomato: pusa early, pusa ruby, HS 101, Pant Ta-2, Azad Ta-2, Narendra Tamatar-1,2,4,5,6

Cauliflower: pusaDipali.

Okra: PusaSawani, VarsaUphar, Azad kranti.

Brinjal: Pant Samrat, Pant Rituraj, Pusa hybrid-6.

Cabbage: Japani, PusaDieepali, PusaKartiki

cowpea: Lobia-263 & Pusa phaguni

Chilli: Pant C-1, Jwala and Sadabahar etc.

Grapes: parlet, beauty seedless, pusa seedless.

Maize: nawjyoti, kanchan, gaurav, surya, navin, shweta, Azad uttam, prakash, dikalb-7074, payridikalp-8144, dakkan-115, mmh-135, pro-4212, ganga-11, pusa, makka-2, J.H.-3459,

Urad: TA-9, narendra urad-1, Azad urad-1, Uttara, azad urad-2, shekhar-2, pant. u. 19, pant u. 30, pant u. 35, P.D.U.-1

Mung: k-851 and JM-721, Narendra mung-1, Malviya jagruti, Janpriya, Meha, H.U.M.-16, Malviya Jyoti, T.M.V.-37, Samrat, P.D.M.-139, H.U.M.-12, pusa vaishakhi, T.A.-44, Pant mung 12, pusa vishal, pusa-9531, P.D.M.-11, S.M.L.668

Onion: Agrifound light red, Nashik selection-1

Radish: pusa chetaki, pusa himani, pusa saris, pusa reshmi, japanis white radish.

West Uttar Pradesh

Ladies finger: VRO-6, VRO-5.

Sugarcane: ko.sha 88230, ko.sha 8436, ko 0238, ko.sha 07250 or U.P. 0512.

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

Onion: pusa red, pusa white.

Sugarcane: The mid and late maturing varieties of sugarcane: CO Pant 211, Co Sa 687 and Co Sa 8436.

The varieties recommended in areas with poor water drainage: B.O.54 and B.O.91.

Baby corn: M.H.-4

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.

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.

West Rajasthan

Isabgol: RI 89 & GI-2.

Fenugreek: R Mt 1 & R Mt 305.

Barley: RD 2052, RD 2035 (suitable for saline and alkali soils) and RD 2715 (dual purpose), RD2058, 2503, 103, NDB1173.

cumin: GC 4, RZ -19, RZ 223, RZ19, 209, 223 and GC4b.

Cowpea: RC-19, RC-101, RCP-27.

Oat: OS 6, OS 9.

Berseem: BL 10, BL 22.

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

Radish: PusaRashmi.

Carrot: PusaKeshar.

Zaid moong: K-851, PDM-11, SML-668 Pusa Baisakhi, RMG-62, RMG-268 etc.

Tinda: Bikaneri green, dilpasand

Cucurbit: Lakhnau ageti and Arka sital,

Muskmelon: Durgapura madhu, Punjab sunehri, Punjab hybrid and pusa madhuras

Watermelon: sugar baby, Durgapura mitha, Durgapura lal and khira

Sugarcane: CO-6617, 7717; COS- 95255, 767

Desi cotton: RG-8, 18, HD-123, hyb Raj- DH 9

East Rajasthan

Muskmelon: Durgapura madhu, Punjab sunehri, Punjab hybrid, arkajeet, hara madhu, pusa madhuras.

Water melon: Sugar baby, Durgapura meetha, durgapura kesar, arka jyoti (hybrid), madhu (hybrid).

Tinda: Beekaneri green, Dil pasand, arka tinda.

Kakri: Lucknow ageti and arka sheetal.

Zaid Pearl millet (fodder): raj bajra chari, rajko Zaint, L-72, L-74.

Zaid sorghum (fodder): Raj chari-3, Raj chari-1, Raj chari-2 for single cutting and SSG59-3, M.P. chari for many cutting.

Okra: Pusa Savani, Arka anamika, Arka Abhya, Aajad kranti, Prabhni kranti, Pusa-A-4, Pusa Makhmali.

Cowpea: Short durC-152, RS-9, FS-68, RC-19 and RC-101, C-152, RS-9.

Onion: Punjab safed goal, Udaipur 102, nasik red.

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

Berseem: Muskavivardan and PusaJiant.

Summer groundnut: T.A.G.24, T.G.37A, G.G.2, D.H.86.

Madhya Pradesh

Okra: Pusa Makhmali, Pusa Sawani, A-4, Parbhani Kranti.

Moong: HUM -1, PDM -139, TJM-3, SML-668.

Tamil Nadu

Cotton: Surabhi and SVPR-2