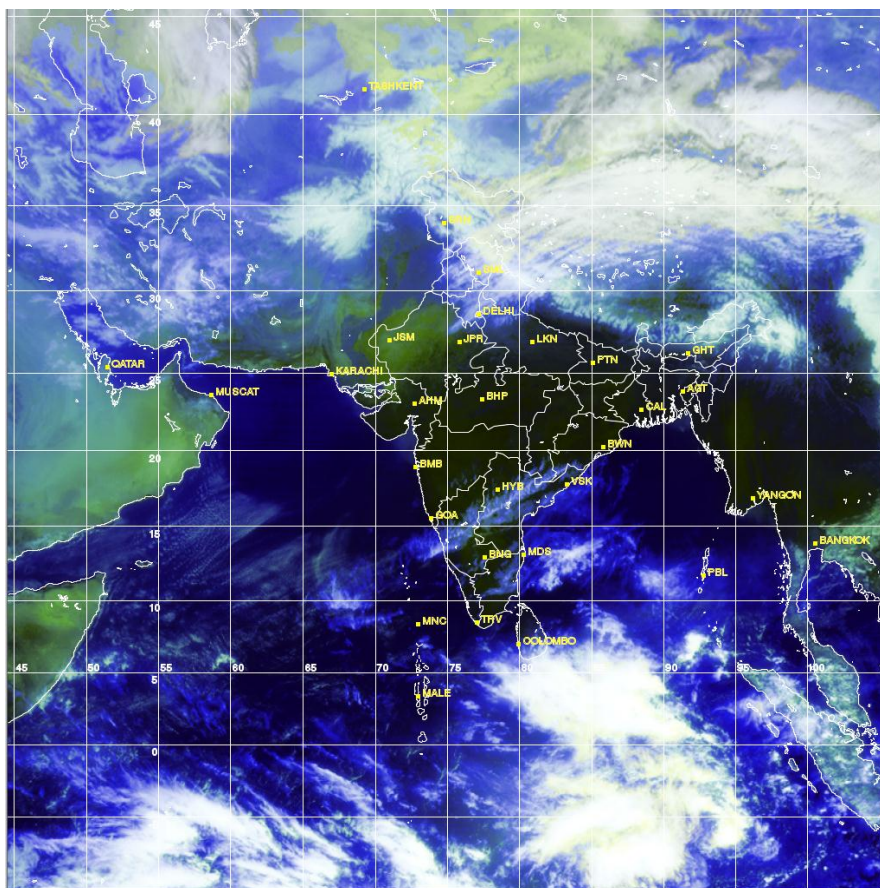




# National Agromet Advisory Bulletin

*Thursday, 23<sup>rd</sup> February, 2012*  
*(For the period 23<sup>rd</sup> to 27<sup>th</sup> February, 2012)*



*Satellite image 0600 UTC dated 24<sup>th</sup> February, 2012*



*Issued by*

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

**The bulletin is also displayed in the website (<http://www.imdagrimet.gov.in>) of the Division**

## Executive Summary

Cold wave to severe cold wave conditions prevailed over some parts of Punjab, Haryana and Delhi and isolated pockets of west Uttar Pradesh and cold wave conditions over isolated pockets of Uttarakhand, north Rajasthan, west Madhya Pradesh and north Madhya Maharashtra during early part of last week. Minimum temperatures rose by 2-5°C over many parts of Punjab, Haryana, Himachal Pradesh, Delhi, Uttar Pradesh, Rajasthan and north Madhya Pradesh during later part of the week. Minimum temperatures are near normal over rest of the country. Major *rabi* crops are wheat in North West and Central India, mustard, sarson, toria, lentil and gram in East and North West India. The prevailing temperatures are conducive for growth of wheat which is at milk stage in North West India. Due to favourable weather, the condition of mustard, sarson, toria, gram and lentil which are at pod formation stage in East and North West India are good. Farmers are advised to apply irrigation at the critical stages of the standing crops.

Significant rain / snowfall occurred over Sirmaur and Shimla districts of Himachal Pradesh, Baramula, Ganderwal, Kupwara and Ramban districts of Jammu & Kashmir, Balasore, Kandhamal and Sundargarh districts in Orissa and Upper Siang district of Arunachal Pradesh during last week. Also scattered rainfall has occurred over Jharkhand and Gangetic West Bengal. Farmers in these regions are advised to postpone irrigation to the standing *rabi* crops. As there was no significant rain over most of the remaining parts of the country and either isolated rainfall or dry / mainly dry weather is likely to prevail, farmers are advised to provide irrigation to the standing *rabi* crops.

Due to favourable weather conditions, incidences of wilt and aphids in lentil in Assam, downey mildew in cole crops in Himachal Pradesh, aphids in mustard in Punjab, shoot and fruit borer in brinjal in Karnataka, brown spot in rice in Tamil Nadu, Tikka leaf spot disease in groundnut, stem borer in maize, stem borer in wheat, pod borer in gram and pea in Orissa, fruit borer in brinjal and tomato in Madhya Pradesh, blast in *boro* rice in West Bengal and brown plant hopper, sheath blight and bacterial leaf blight in rice in Kerala are noticed below economic threshold level (ETL). Farmers are advised to undertake appropriate plant protection measures to control the pests and diseases, if their population goes beyond ETL.

Due to favourable weather, farmers are advised to undertake sowing of summer crops under irrigated conditions. The crops in different States of the country are mentioned below.

**Assam:** Sowing of *Capsularis* jute, summer vegetables, summer pulses, direct seeded *ahu* rice, summer green gram and black gram

**Uttarakhand:** sowing of moong and planting of litchi

**Uttar Pradesh:** sowing of bitter gourd, bottle gourd, pumpkin, cucumber and bhindi

**Himachal Pradesh:** sowing of tomato, chilli, capsicum, brinjal, cucurbits, bhindi and French bean.

**Orissa:** sowing of summer vegetables, cucurbitaceous vegetables, papaya, marigold, cowpea and maize and planting of sugarcane.

**Jharkhand:** sowing of summer maize in Bihar, transplanting of rice, transplanting of onion, chilli and tomato.

**Madhya Pradesh:** sowing of bhindi.

**Chhattisgarh:** transplanting of summer rice.

**Delhi:** sowing of French bean, cluster bean and summer radish and transplanting of tomato, chilli and cole crops.

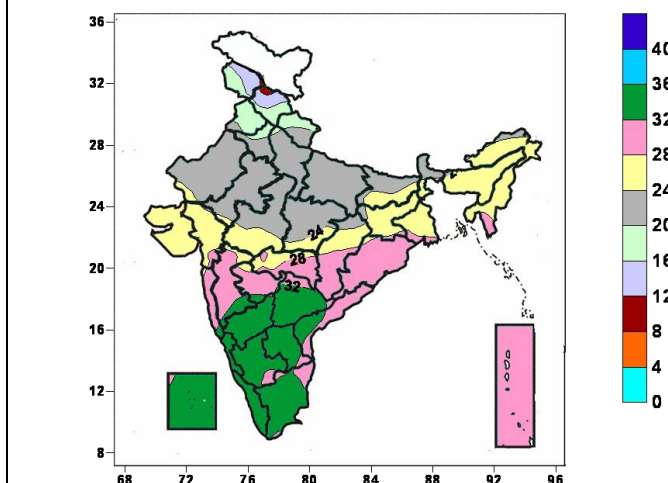
**Maharashtra:** sowing of okra and water melon and bajra.

**Gujarat:** sowing of bajra, groundnut and moong and transplanting of summer rice.

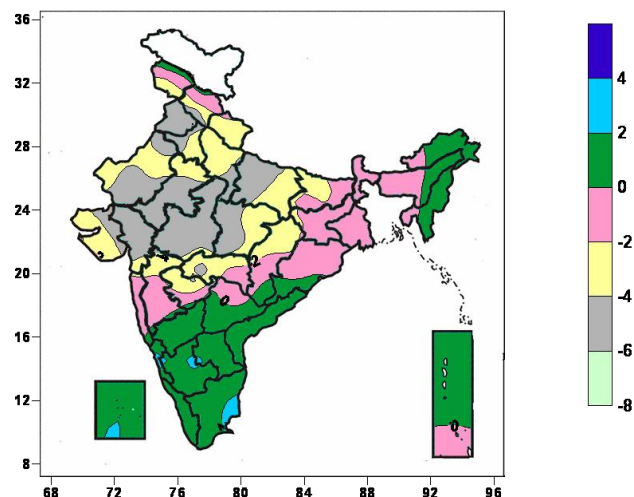
**Karnataka:** sowing of groundnut, sunflower and transplanting of onion.

## Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 22.02.2012

Actual Mean Maximum Temperature ( $^{\circ}\text{C}$ ) in India for the week ending 22.02.2012



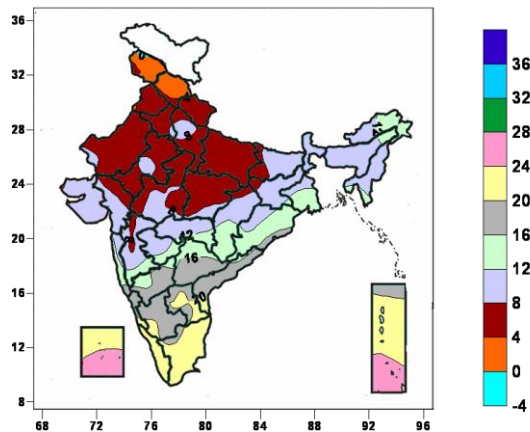
Maximum Temperature ( $^{\circ}\text{C}$ ) Anomaly in India for the week ending 22.02.2012



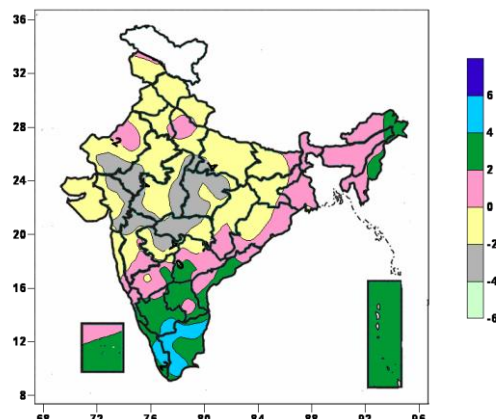
Actual Mean Maximum temperature ranged above  $32^{\circ}\text{C}$  over many parts of Tamil Nadu, Kerala, Karnataka, Andhra Pradesh, Lakshadweep, some parts of Goa, Madhya Maharashtra, Marathwada,  $28$  to  $32^{\circ}\text{C}$  over many parts of Orissa, Mizoram, Chattisgarh, Maharashtra, Andaman & Nicobar Islands, some parts of Gangetic West Bengal, Gujarat, Coastal Andhra Pradesh, Raylaseema, Tamil Nadu, Kerala, South Interior Karnataka, Lakshadweep Islands and below  $28^{\circ}\text{C}$  over remaining parts of the country

Actual Mean Maximum temperature anomaly ranged above  $2^{\circ}\text{C}$  over some parts of South Interior Karnataka, Tamil Nadu, Lakshadweep Islands,  $0$  to  $2^{\circ}\text{C}$  over many places of Arunachal Pradesh, Nagaland, Manipur, Mizoram, South India, some parts of Jammu & Kashmir, Himachal Pradesh, Orissa, Assam & Meghalaya, Chattisgarh, Goa, Madhya Maharashtra, Marathwada, and below  $0^{\circ}\text{C}$  over rest of the country.

Actual Mean Minimum Temperature ( $^{\circ}\text{C}$ ) in India for the week ending 22.02.2012



Minimum Temperature ( $^{\circ}\text{C}$ ) Anomaly in India for the week ending 22.02.2012



Actual Mean Minimum Temperature ranged between  $24^{\circ}\text{C}$  and above over some parts of Lakshadweep, Andaman Nicobar Islands,  $20$  to  $24^{\circ}\text{C}$  above over many parts of Tamil Nadu, Kerala, Andaman & Nicobar Islands, some parts of Coastal Andhra Pradesh, Raylaseema, Coastal & South Interior Karnataka, Lakshadweep Islands and below  $20^{\circ}\text{C}$  over remaining parts of the country.

Minimum Temperature anomaly ranged above  $4^{\circ}\text{C}$  over some parts of Tamil Nadu, Kerala, South Interior Karnataka,  $2$  to  $4^{\circ}\text{C}$  over many parts of Coastal Andhra Pradesh, Raylaseema, South Interior Karnataka, Lakshadweep and Andaman & Nicobar Islands, some parts of Arunachal Pradesh, Assam, Nagaland, Manipur, Telengana, North Interior Karnataka, Coastal Karnataka and below  $2^{\circ}\text{C}$  remaining parts of the country.

### Distribution of rainfall of the country during week ending on 22.02.2012

| State/Districts            | Actual (mm) | % Dep. |
|----------------------------|-------------|--------|
| <b>Arunachal Pradesh</b>   |             |        |
| Anjaw                      |             |        |
| Changlang                  | 7.4         | -87    |
| East Kameng                | 0           | -100   |
| East Siang                 | 11.6        | -44    |
| Kurung Kumey               | **          | **     |
| Lohit                      | 5.3         | -82    |
| Lower Dibang Valley        | 8           | -84    |
| Lower Subansiri            | 1.5         | -94    |
| Papumpara                  | 0.1         | -99    |
| Tawang                     | 1           | -92    |
| Tirap                      | 10.4        | -63    |
| Upper Dibang Valley        | 20          | -61    |
| Upper Siang                | 36.6        | -41    |
| Upper Subansiri            | **          | **     |
| West Kameng                | 0           | -100   |
| West Siang                 | 3           | -82    |
| <b>Himachal Pradesh</b>    |             |        |
| Bilaspur                   | 5.4         | -71    |
| Chamba                     | 0           | -100   |
| Hamirpur                   | 0.8         | -97    |
| Kangra                     | 1.3         | -93    |
| Kinnaur                    | 0.7         | -97    |
| Kullu                      | 15.2        | -49    |
| Lahaul and Spiti           | 3           | -85    |
| Mandi                      | 5.2         | -76    |
| Shimla                     | 33.1        | 11     |
| Sirmaur                    | 30.2        | 92     |
| Solan                      | 14.2        | -60    |
| Una                        | 4.9         | -74    |
| <b>Jammu &amp; Kashmir</b> |             |        |
| Anantnag                   | 27          | -12    |
| Badgam                     | 18.9        | -3     |
| Bandipore                  | **          | **     |
| Baramulla                  | 52.8        | 43     |
| Doda                       | 10.8        | -81    |
| Ganderwal                  | 38.4        | 105    |
| Jammu                      | 2.7         | -87    |
| Kargil                     | 0           | -100   |
| Kathua                     | 4.3         | -78    |

| State/Districts  | Actual (mm) | % Dep. |
|------------------|-------------|--------|
| Kistwar          | **          | **     |
| Kulgam           | 23.9        | -22    |
| Kupwara          | 51.2        | 50     |
| Ladakh(Leh)      | 0.2         | -90    |
| Poonch           | 40          | 8      |
| Pulwama          | 19.5        | 28     |
| Rajouri          | 3.5         | -85    |
| Ramban           | 36.5        | -36    |
| Reasi            | 11.2        | -63    |
| Samba            | 1.6         | -92    |
| Shopian          | 0.0         | -100   |
| Srinagar         | 14.8        | -21    |
| Udhampur         | 2.8         | -91    |
| <b>Jharkhand</b> |             |        |
| Bokaro           | 14.2        | 264    |
| Dhanbad          | 1.1         | -70    |
| Dumka            | 1.5         | -40    |
| East Singbhum    | 17.6        | 389    |
| Garhwa           | 5           | -44    |
| Giridih          | 5.1         | 54     |
| Godda            | 0           | -100   |
| Gumla            | 14.4        | 72     |
| Hazaribagh       | 15.8        | 327    |
| Jamtara          | 5.9         | 43     |
| Pakur            | 0           | -100   |
| Palamau          | 0.2         | -97    |
| Ramgarh          | 5.8         | 57     |
| Ranchi           | 24.8        | 335    |
| Sahebganj        | **          | **     |
| Saraikela        | 29.9        | 535    |
| Simdega          | 16.6        | 253    |
| West Singbhum    | 7.4         | 48     |
| <b>Orissa</b>    |             |        |
| Angul            | 5.7         | 138    |
| Balasore         | 26.1        | 121    |
| Bargarh          | 7.5         | 83     |
| Bhadrak          | 5           | -54    |
| Bolangir         | 0           | -100   |
| Boudh            | 6           | 3      |
| Cuttack          | 0           | -100   |
| Deogarh          | 2.6         | -27    |
| Dhenkanal        | 0           | -100   |
| Gajapati         | 0           | -100   |
| Ganjam           | 0           | -100   |
| Jagatsingpur     | 0           | -100   |
| Jajpur           | 0           | -100   |

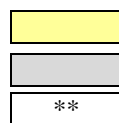
| State/Districts    | Actual (mm) | % Dep. |
|--------------------|-------------|--------|
| Jharsuguda         | 6.4         | 145    |
| Kalahandi          | 4.5         | 32     |
| Kandhamal          | 23.5        | 305    |
| Kendrapara         | 0           | -100   |
| Keonjhar           | 3.4         | -45    |
| Khurda             | 0           | -100   |
| Koraput            | 3.5         | -51    |
| Malkangiri         | 0           | -100   |
| Mayurbhanj         | 17.3        | 285    |
| Nawapara           | 0           | -100   |
| Nawarangpur        | 0           | -100   |
| Nayagarh           | 0           | -100   |
| Puri               | 0.1         | -99    |
| Rayagada           | 0           | -100   |
| Sambalpur          | 11          | 204    |
| Sonepur            | 3           | 15     |
| Sundargarh         | 24.2        | 1110   |
| <b>West Bengal</b> |             |        |
| <b>GWB</b>         |             |        |
| Bankura            | 16.2        | 573    |
| Birbhum            | 5.9         | 50     |
| Burdwan            | 7.1         | 51     |
| East Midnapore     | 1.6         | -66    |
| Hooghly            | 13.4        | 59     |
| Howrah             | 14          | 155    |
| Kolkata            | 14.5        | 184    |
| Murshidabad        | 2           | -35    |
| Nadia              | 0.5         | -84    |
| 24 Pargana (N)     | 20.2        | 494    |
| Purulia            | 25.9        | 662    |
| 24 Pargana (S)     | 25.4        | 185    |
| West Midnapore     | 26.2        | 589    |
| <b>SHWB</b>        |             |        |
| Cooch Behar        | 0           | -100   |
| Darjeeling         | 0.4         | -96    |
| East Sikkim        | 12.6        | 37     |
| Jalpaiguri         | 0           | -100   |
| Malda              | 0           | -100   |
| North Dinajpur     | 0           | -100   |
| North Sikkim       | 4.1         | -83    |
| South Dinajpur     | 0           | -100   |
| South Sikkim       | 1.1         | -88    |
| West Sikkim        | 3           | -88    |



(20% or more) excess rainfall

(-19 to +19%) normal rainfall

(-20 to -59%) deficient rainfall

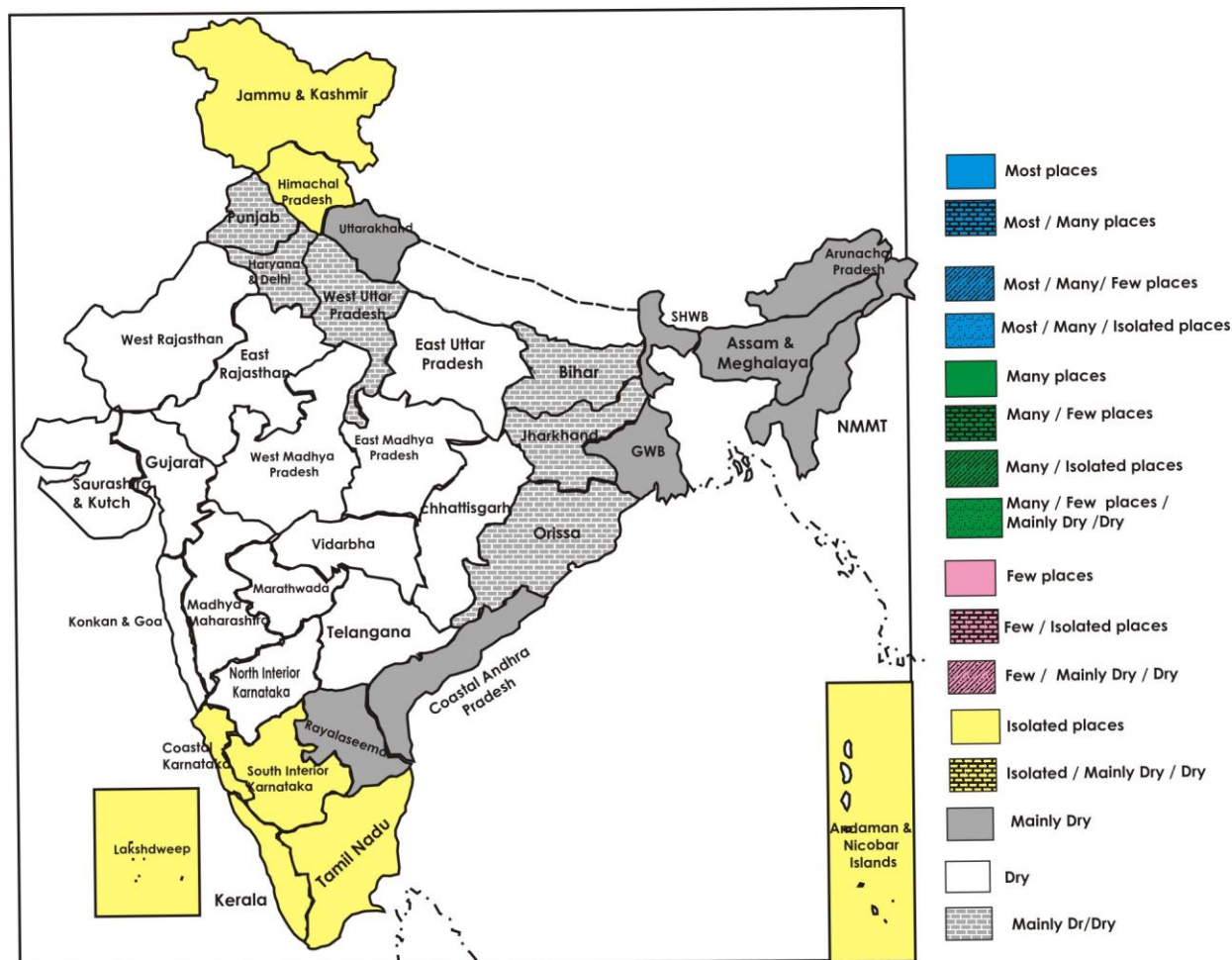


(-60 to -99%) scanty rainfall

(-100%) no rainfall

\*\* Data not available

## Weather Forecast (Valid upto 1430 hours of 26<sup>th</sup> February, 2012)



### Major Feature of Weather Forecast upto 0830 hours IST of 26<sup>th</sup> February, 2012

- Rain/snowfall would occur at one or two places over Jammu & Kashmir and Himachal Pradesh.
- Rain/thundershowers would occur at one or two places over Andaman & Nicobar Islands, Tamilnadu, Kerala, south Karnataka and Lakshadweep.
- Above normal temperature conditions prevailing over plains of northwest, west and adjoining central India would become normal during next 2 days as both the maximum and minimum temperatures would fall by 2-3°C.
- Weather would be mainly dry over remaining parts of the country.

### Weather Warning

- No weather warning.

### Weather Outlook up to 0830 hours IST of 28<sup>th</sup> February, 2012

- A fresh western disturbance would affect western Himalayan region from 27<sup>th</sup> onwards.
- The fresh easterly wave would affect extreme south peninsular India.
- Weather would be mainly dry over rest parts of the country.

## Zonewise Agromet Advisories

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

- **Realised Rainfall:** No significant rain occurred in most of the districts of the States of the region except Upper Siang district of Arunachal Pradesh during last week.
- **Rainfall Forecast:** Mainly dry weather will prevail over the States of the region during next three days.
- **Advisories**
  - As there was significant rain in Upper Siang district of Arunachal Pradesh during last week, farmers are advised to postpone irrigation to the crops in these districts. As there was no significant rain during last few weeks in most of the remaining districts of the States of the region and no significant rain is likely to occur during the period, farmers are advised to apply irrigation to the standing crops.
  - Farmers in Assam are advised to complete transplanting of *boro* rice.
  - Farmers in the Hill Zone of Assam are advised to continue sowing of okra and cucurbits crops.
  - Farmers in the Hill Zone and Central Brahmaputra Valley Zone of Assam are advised to harvest timely sown matured toria and potato crops. Undertake land preparation and sowing for *Capsularis* jute, summer vegetables, summer pulses.
  - Farmers of Upper Brahmaputra Valley Zone of Assam are advised to continue land preparation and planting of sugarcane.
  - Farmers of Lower Brahmaputra Valley Zone of Assam are advised to continue land preparation and sowing of *ahu* rice, pointed gourd, musk melon, water melon, pumpkin etc., planting of sugarcane and undertake land preparation and sowing of black and green gram, *kharif* maize and jute.
  - Farmers of Barak Valley Zone of Assam are advised to harvest the matured potato, cabbage and knolkhol. Farmers are also advised to raise nurseries for the cultivation of transplanted early *ahu* rice.
  - Farmers in North bank plain zone of Assam are advised to complete sowing of direct seeded *ahu* rice. Undertake land preparation and start sowing of summer green gram and black gram.
  - Farmers in Sub Tropical Hill Zone of Arunachal Pradesh are advised to harvest the matured cole crops, potato, mustard, maize, pea, turmeric, ginger etc. and continue land preparation for new maize crop.
  - Farmers in Mild Tropical Plain Zone of Tripura are advised to complete transplanting of *boro* rice in lowland. As dry weather prevailed during last few weeks, farmers in Mild Tropical Plain Zone of Tripura are advised to apply irrigation to *boro* rice at tillering / flowering stage. Undertake land preparation and sowing of summer vegetables.
  - Farmers in Temperate Sub Alpine Zone of Meghalaya are advised to complete transplanting of *boro* rice. Continue sowing of spring potato, ladies finger, pumpkin and French beans.
  - Farmers of Sub tropical Plain Zone of Manipur are advised to continue sowing of cucurbits like watermelon, cucumber and sponge gourd. Complete land preparation and transplanting of rice and complete land preparation for transplanting of tomato, brinjal and chilli.
  - As there was no significant rain during last few weeks in Mild Tropical Hill Zone of Mizoram, lack of moisture coupled with present weather conditions caused fruit cracking in tomato and banana; hence farmers are advised to ensure sufficient soil moisture. Farmers are advised to support plant with two bamboos in the way of 'X', shape against high wind. Maize crops at cob formation stage are more critical to moisture and nutrients; hence ensure irrigation and nutrient management for high yield and attain full length of cob with grains.
  - In Mild Tropical Hill Zone of Nagaland farmers are advised to harvest mustard crop in the morning hours to avoid shattering loss. Also, provide sufficient moisture during flowering, fruit setting of pea crop.
  - Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
  - Incidence of wilt disease and aphid has been observed in lentil and khesari at vegetative stages. Farmers in the Hill Zone of Assam are advised to drench the soil with Bavistin @ 1ml/lit of water or apply malathion 50EC @ 2 ml/lit of water to protect the crop from wilt.
  - Due to prevailing weather conditions, there is chance of late blight and early blight diseases in potato in Mild Tropical Plain Zone of Tripura. To manage the attack of blight diseases, spray Indofil M-45 or Ridomil or Mancozeb @ 2 g per litre of water or Cut Zed @ 2.5 g per litre of water. There is also chance of attack of fruit borer in tomato. Spray Neem seed Kenel 5%. There is also chance of attack of

stem borer in *boro* rice; spray Rogor or Monocrotophos @ 2 ml per liter of water or granular insecticide like Carbofuran 3 G @ 5 kg per kani.

- As there was no significant rain during last few weeks in Mild Tropical Hill Zone of Mizoram, lack of moisture coupled with present weather conditions caused blight in tomato and banana; hence farmers are advised to spray of Mencozeb @ 1 gm per litre of water. Due to prevailing weather as well stage of tomato crops, fruit borer are congenial in tomato. Spray 5% neem seed kenel or spray NPV@250-500 LE/ha with teepol 100 ml.
- Due to congenial weather, there is chance of attack of late blight in potato in Mild Tropical Hill Zone of Nagaland; farmers are advised to monitor crops and apply appropriate plant protection measures.
- Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**
  - Farmers in Lower Bramhaputra Valley Zone of Assam are advised to vaccinate cattle, goat and pigs against the Foot and mouth disease.
  - Poultry farmers in Upper Bramhaputra Valley Zone and North bank plain zone of Assam are advised to provide artificial heating through lighting of electric bulb at poultry house during night time. Vaccinate poultry against the ranikhet disease.
  - Wet bedding and cold weather are prerequisite for pneumonia; Farmers in Arunachal Pradesh are advised to provide dry bedding material to pig / piglets and deworm pig / piglets and goat.
  - The farmers in Mild Tropical Hill Zone of Mizoram are advised to deworm calves against round worms and fluke worms.
  - The poultry farmers in Nagaland are advised to vaccinate against bird flu and vaccinate pig / piglet against swine flu. Vaccinate cattle, buffalo, pig, sheep and goat against FMD.
  - The poultry farmers in Manipur are advised to vaccinate against Ranikhet, IBD / Gumboro disease and deworm pig / piglet. Vaccinate and deworm cattle and buffalo against B.Q. & H.S
  - Farmers in Mild Tropical Plain Zone of Tripura are advised to deworm calves.

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

- **Realised Rainfall:** Scattered rainfall has occurred over Jharkhand and Gangetic West Bengal. Balasore, Kandhamal and Sundargah districts in Orissa received scattered rainfall. Mainly dry weather prevailed over the remaining States of the region during last week.
- **Rainfall Forecast:** Weather would be mainly dry over the States of the region.
- **Advisories:**
  - As there was no significant rain during last week over the States of the region, farmers are advised to apply irrigation to the standing crops.
  - Undertake sowing of oilseed crops like summer groundnut in Western Undulating Zone, East and South Eastern Coastal Plain Zone and North Central Plateau Zone of Orissa.
  - Farmers in Western Undulating Zone of Orissa are advised for planting of sugarcane. Farmers are also advised to complete transplanting of summer rice and harvesting of cotton on sunny days. Apply irrigation to mustard wherever the crops are at seed formation stage.
  - In view of prevailing dry weather, farmers in North Eastern Plateau Zone of Orissa are advised to apply irrigation to mustard and sunflower.
  - Farmers in East and South Eastern Coastal Plain Zone of Orissa are advised to complete transplanting of summer rice. Farmers are also advised to undertake harvesting of sugarcane, sowing of summer sunflower and groundnut and transplanting of ragi crop. The farmers are also advised to apply irrigation to *rabi* sunflower at flowering stage.
  - It is optimum weather for sowing of sesame; farmers of East and South Eastern Coastal South Eastern Coastal Plain Zone of Orissa are advised to undertake sowing of sesame.
  - Farmers in North Central Plateau Zone of Orissa are advised to complete transplanting of summer rice and apply irrigation to wheat crop. Taking the advantage of dry weather, farmers are also advised to undertake intercultural operation in groundnut and sunflower, apply irrigation to mustard crop and undertake sowing of early summer vegetables. Also complete sowing of summer maize.

- Farmers of East and South Eastern Coastal Plain zone of Orissa are advised to undertake sowing of papaya, marigold and cowpea and also to complete sowing of maize taking the advantage of favourable weather.
  - In North Eastern Plateau Zone of Orissa, farmers are advised to undertake sowing of summer vegetables, cucurbitaceous crops like sponge gourd, bottle gourd, pumpkin, water melon, musk melon etc.
  - As temperature condition is now congenial for transplanting of *boro* rice, planting of autumn planted sugarcane, onion, sowing of summer vegetables and summer maize in North West Plain Zone of Bihar, farmers are advised to undertake these operations.
  - As dry weather is prevailing, farmers in the districts of North Bihar are advised to apply irrigation to wheat, maize, potato, vegetable crops and harvest matured tobacco crop.
  - Apply irrigation to wheat and undertake intercultural operation in maize, carrot, radish, turnip and sweet potato crops in South Bihar Alluvial Zone. Transplanting of onion crop should be done as soon as possible.
  - Undertake nursery preparation for sowing of chilli, tomato, early cucurbitaceous crops and brinjal in poly house for summer season in South Bihar Alluvial Zone.
  - As sufficient moisture is available in the soil, farmers are advised to plough the fallow field without planking. This operation will minimize/destroyes the existing weeds and pests of the field in Western Plateau Zone of Jharkhand.
  - Farmers in Western, Central and North Eastern Plateau Zone of Jharkhand are advised to prepare the field for sowing of vegetables like long gourd, round gourd, bitter gourd, sponge gourd, cucumber, water melon, musk melon and complete transplanting of rice.
  - Farmers in New Alluvial Zone of West Bengal are advised to undertake land preparation and sowing of sesame and groundnut and top dress the early *boro* rice at 24 days after transplanting or at the beginning of tillering stage @ 15 kg urea per bigha.
  - Farmers in Coastal Saline Zone of West Bengal are advised for planting of onion and sowing of ladies finger.
  - Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
  - Infestation of early shoot borer in sugarcane in Western Undulating Zone in Orissa, spray chloropyriphous @2ml/ltr of water. 1000ml Chloropyriphous should be sprayed in 500ltr of water per hectare of sugarcane crop.
  - In North Central Plateau Zone of Orissa, infestation of pod borer is observed, spray Endosulfan @ 2ml/litre of water.
  - There is occurrence of tikka disease and white ant on groundnut crop in Nayagarh, Jagatsingpur and Puri districts of Orissa, spray 500 g Blitox - 50 in 200 litre water per acre for tikka and spray 2 ml Chloropyriphos in 1 litre water for controlling white ant attack. Infestation of leaf minor and bud necrosis has been occurred, spray 2 ml Endosulphan or Ekalux or Hostathion in 1 litre water.
  - Stem borer infestation has been found on maize crop in Jagatsingpur district of Orissa, spray 2 ml Chloropyriphos or Monocrotophos or Quinalphos in 1 litre water.
  - In Coastal Saline Zone of West Bengal, *boro* paddy seedlings are attacked by blast in the main field. Spray Ediphenphos50EC @1ml/liter of water or Trycyclazole75WP@0.6g/litre of water. Mustard are attacked by aphid To control their spray Dimethoate@1.5ml per liter of water or Imidachlorpid @0.5ml per liter of water.
  - Due to fog in Coastal Saline Zone of West Bengal mango may be attacked by plant hopper and powdery mildew, spray Monocrotophos@1.5ml/litre of water or Carbaryl@2.5g/litre of water Spraying should be done at the evening time. Coconut may be attacked by black headed caterpillar, spray neem oil@2.5ml/liter at 15 days interval.
  - Due to alternatively warm and cold weather in Coastal Saline Zone of West Bengal, rose may be attacked by red mite. Keep pH level at 6.7 to 7 and spray Propazite 50%EC @1ml/liter of water.
  - Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**
    - Due to low temperature, calves and kids are susceptible to respiratory infection, mostly pneumonia. Farmers in North Eastern Coastal Plain Zone and North Central Plateau Zone of Orissa are advised to



provide warm and comfortable housing and good ventilation to animals and birds. Vaccination of FMD (Foot and Mouth Disease) to animals is also recommended. In case of disease outbreak, strict isolation of affected animals should be done.

- **Pisciculture**

- Farmers in North Central Plateau Zone and North Eastern Coastal Plain Zone of Orissa are advised to prevent the EUS disease in fish during winter; apply Cifax @ 400 ml per pond of 1 acre area and 1 meter depth of water.
- Now as the temperature is rising, it is favourable for the growth of fishes. The farmers in North Eastern Plateau Zone and North Central Plateau Zone of Orissa are advised to add cow dung and lime in the pond as a natural foods for them and alternative feeds may also be used like rice bran and mustard cake (each of 5 kg per day per acre area of pond).
- In Coastal Saline Zone of West Bengal, due to cold weather, reddish wound may be formed at the base of tail of fishes. Apply lime and Potassium permanganate.

#### **NORTHWEST INDIA [JAMMU & KASHMIR, HIMACHAL PRADESH, UTTARAKHAND, PUNJAB, HARYANA, DELHI, UTTAR PRADESH & RAJASTHAN]**

- **Realised Rainfall:** Rainfall occurred in many districts of Jammu & Kashmir and few districts of Himachal Pradesh. Mainly dry weather prevailed over remaining States in the region.
- **Rainfall Forecast:** Rain/snowfall would occur at one or two places over Jammu & Kashmir and Himachal Pradesh during next 48 hours and mainly dry weather thereafter. Mainly dry / dry weather is likely to occur over remaining parts of the region.
- **Advisory:**
  - Significant rain / snowfall occurred over Sirmaur and Shimla districts of Himachal Pradesh, Baramula, Ganderwal, Kupwara and Ramban districts of Jammu & Kashmir during last week. Farmers in the above districts of these regions are advised to postpone irrigation to the standing *rabi* crops. As there was no significant rain over most of the remaining parts of the region and dry / mainly dry weather is likely to prevail, farmers are advised to provide irrigation to the standing *rabi* crops.
  - Sowing of French bean, cluster bean, summer radish is advised in Delhi as present temperature is suitable for germination of seeds. Procurement of seeds should be done from a certified source. Also in the present weather conditions, continue transplanting of young seedlings of tomato, chilli and cole crops may be done in this week.
  - In Flood Prone Eastern Plain Zone of Rajasthan, farmers are advised to harvest early mustard crop when 75% pods turn yellow and seed moisture content about 35% seed weight. Oil content is maximum at this stage. Harvesting should be done during morning hours to avoid shattering losses.
  - In Semi-Arid Eastern Plain Zone of Rajasthan, farmers are advised to undertake sowing of summer cucurbits and field preparation for sowing of summer grounds. Before sowing treat the seeds with Bavistan @ 2 gm per kg seed. Soak the seeds for 24 hours in order to increase germination.
  - Farmers in Punjab and Haryana are advised to continue preparation of fields for planting of spring sugarcane from second fortnight of this month. Apply irrigation to autumn planted crop as per need of intercrops and sugarcane. Start the planting of new nursery plants of peach, plum and pear. In some areas of Western Plain Zone of Punjab there are reports of Mn deficiency in wheat crop, in such areas, spray the crop with 0.5% MnSo<sub>4</sub>. Repeat the spray if necessary.
  - In Sub Tropical Zone of Jammu and Kashmir, farmers are advised to transplanting of tomato, brinjal, chilli crop. Apply top dressing of urea in normal sown wheat before boot stage (ear initiation) i.e 60-70 DAS under rainfed and irrigated areas as sufficient moisture is present in the soil. Also pruning in grapevine, phalsa, peach and plum crop can be done during these days. Application of nitrogenous fertilizer as top dressing in newly planted fruit plant. Also farmers are advised to ensure the water drainage from the pulses, wheat, mustard, vegetables field in order to avoid the water stagnation in crop.
  - In Valley Temperate zone of Jammu & Kashmir, wheat, brown sarson, pea, lentil, oat are in dormant stage, no agronomic activities in the field during this period is recommended. Farmers are advised to provide adequate drainage to avoid water stagnation after rain/snowfall. In vegetable crops at vegetative stages, prepare hot beds.
  - In Intermediate Zone of Jammu & Kashmir, farmers are advised to raise cucurbits under protection in polythene bags and also transplanting of tomato, brinjal, onion, knolkhol.

- Farmers in Leh region of Jammu & Kashmir are advised to harvest Chinese cabbage, lettuce, beet leaf var. Mongol at 10 to 15 days interval. It is advised to clear the snow from the poly houses and trenches to avoid excessive weight on the UV film and cover the polythene of green houses with black polythene in the night for proper growth of crops. They are also advised to give one light irrigation to garlic crop germinated in the low tunnel during day time.
- In Sub Tropical Zone in Jammu, weather condition are favourable for yellow rust in wheat (rust susceptible varieties), farmers are advised to spray the crop with propiconazole (Tilt) @ 0.1 or mancozeb @ 0.2% at disease appearance during clear weather. Due to the cloudy weather high humidity, chances of white rust disease in late sown mustard crop under such situation farmer can go for spray the crop with Diathane- M45 @ 0.3 present in 500 litres of water/ha during clear weather.
- In High Hill Temperate Dry Zone of Himachal Pradesh, treat the apple plants damaged by snow with chowbatia paste / fungicides and remove heavy snow from branches particularly in orchards where pruning is yet to be done.
- Farmers in Mid Hills Sub-Humid Zone of Himachal Pradesh are advised to continue planting of apple and stone fruits plants. In high hills planting can be done after melting of snow. Remove snow from the branches of the tree. Prepare nursery beds for tomato, capsicum, brinjal and chilli.
- Farmers in Sub-Montane & Low Hills Sub-Tropical Zone are advised to complete sowing of potato in mid hills and lower regions and sowing of surgmukhi. Prepare field for sowing of Chari, bajra and maize in low hills. They are also advised for nursery sowing of tomato, chilli, capsicum and brinjal in lower and mid hills in the field and inside polyhouse. Undertake nursery sowing of cucurbits viz. Cucumber, bitter gourd, bottle guard and summer squash in polytubes inside polyhouse. Also undertake nursery sowing for bush type French bean (Contender) and bhindi.
- Farmers in Uttar Pradesh are advised to give light irrigation in normal wheat, *rabi* pulses, *rabi* oilseeds, potato, already transplanted vegetable crops. Start field preparation for planting of sugarcane, sowing of sunflower, sowing of vegetables viz. bitter gourd, bottle gourd, pumpkin, cucumber, taroi, lady's finger, tomato, brinjal etc. Start digging of matured potato and field preparation for sowing of moong or urad in vacated field.
- In sub-humid sub tropic zones of Uttarakhand, farmers are advised to carry out weeding in early sown garlic & onion nursery and apply irrigation and also to coriander, spinach, radish, menthe etc. as per the crop need for their better growth. However, if irrigation facilities are not available, then put straw mulch in between rows for moisture conservation. Continue digging of matured potato. Remove weeds from other standing vegetable crops and keep grass lying on the ground for conservation of soil moisture. If pods of Vegetable pea are matured then pluck them.
- In Bhabar and Tarai Zone of Uttarakhand, farmers are advised to undertake sowing of moong, planting of litchi plants. Farmers are advised to irrigate wheat crop during evening or morning hours. Also top dress Urea @ 25 kg per acre to boost the ear head.
- In Bhabar and Tarai Zone of Uttarakhand, take plant protection measures to control rodents in wheat crop. Under these weather conditions blight is expected and will damage the wheat crop, for this purpose spray of 25 EC-Propiconazole fungicide @ 200 ml per 400 liters of water per acre crop area when sky is clear. It will control yellow rust also.
- In Sub-Montane Undulating Zone of Punjab, due to low humidity and cloudy weather cause of yellow rust in wheat crops, if the symptoms occurs of yellow rust then farmers are advised to spray the Propiconazole( Tilt) @200ml per/acre to control it.
- In Western plain zone of Punjab and Western Zone of Haryana, conditions are favorable for the incidence of yellow rust in wheat. Farmers are advised to monitor the symptoms of the disease and spray Tilt 25 EC (propiconazole) @ 200ml in 200 liter water/acre. Also there can be attack of aphid on wheat. If noticed, spray 40 ml Imidachloprid 200SL per acre in 80-100 liters of water.
- In Flood Prone Eastern Plain Zone of Rajasthan, there are chances of black spot disease in the mustard crop at pod formation stage. Farmers are advised to spray 2% Mencozeb 30EC solution to manage the disease. There are chances of white dust formation on young shoots in fruit trees. To control, advised to spray 0.5% Karathane solution on affected trees. Spray Imidachloprid @ 0.3 ml/ l water for sucking pest attack in vegetables. spray at the most three times 0.1% Melathion solution at 10 day interval to manage the aphid attack in rose.

- The cloudy weather conditions there may be chances of aphid attack in mustard, fenugreek and cumin to control it the spray of metasystox at 0.03 percent or imidaclopride at 0.5 ml /liter or thiamethoxam at 0.3 g per liter in Arid Western Plain Zone of Rajasthan.
- In Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh, Downy mildew in cole crops is appearing as weather is conducive, to control farmers are advised to spray Dithane M-Z 2-3 g per litres of water at the interval of 10-15 days.
- Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**
  - Due to expected increase in temperature conditions in the night, farmers are advised to keep animals outside the shed from this week. Give them balanced feed including green fodder and clear water. Clean their place of sitting. As rise in temperature will cause increase in mosquitoes population in Bhabar and Tarai Zone of Uttarakhand.
  - Farmers in Bundelkhand zone and in western plain zone in Uttar Pradesh are advised to tie young cattle in closed shelter and feed them with big cardamom, ajwain and jaggery, keep cattle shelter clean and take special care of young ones to protect from cold in this season.
  - In sub-humid sub tropic zones vaccinate the animals for various diseases as they are more prone to diseases in this weather. For the control of cough use piperazine citrate @50-30 ml/animal.

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

- **Realised Rainfall:** No significant rainfall occurred in most states of the region.
- **Rainfall Forecast:** Rain/thundershowers would occur at one or two places over Tamilnadu, Kerala, Coastal and South Karnataka. Weather would be mainly dry over remaining parts of the region.
- **Advisories:**
  - As no significant rainfall occurred in most states of the region and no significant rainfall is likely during next three days, apply irrigation to the standing crops.
  - Farmers in the Eastern Dry Zone of Karnataka are advised to carry out sowing of pulses like black gram, green gram.
  - Due to low temperature, high aeration is observed in cracks in arecanut field in the Southern Transition Zone of Karnataka. Farmers are advised to provide irrigation whenever irrigation facilities are available.
  - Farmers in the North Dry Zone of Karnataka are advised to continue sowing of groundnut, sunflower and transplanting of onion under irrigated condition and harvest chickpea, sorghum and sunflower as early as possible. Use crop residue of sunflower after harvesting and threshing for making compost or vermin compost.
  - Farmers in the Western Zone of Tamil Nadu are advised to first treat gingelly seeds with bio control agent and then sow the seeds.
  - Farmers in the High Altitude Hilly Zone of Tamil Nadu are advised to initiate land preparation for summer sowing. Apply dolomite in extremely acidic fields, apply farm yard manures prior to sowing season, undertake sowing during Feb- Mar for crops like carrot, potato, peas, radish, beetroot and turnip selecting high yielding and resistant varieties and raise nursery for crops like cabbage, cauliflower, knolkol and exotic vegetables.
  - Farmers in the North East Transition Zone of Tamil Nadu are advised to provide irrigation to fruit crops, as the fruits are in marble stage and this will helps for the better development of fruits and provide irrigation to summer groundnut because of continuation of dry weather and no rains.
  - Farmers in the Scarce Rainfall Zone of Andhra Pradesh are advised to clip tips of rice seedlings before transplanting and harvest the November sown groundnut crop before the pods get germinated in the field, only after observing its maturity.
  - Farmers in the Northern Telangana Zone of Andhra Pradesh are advised to irrigate bengal gram and sugarcane at frequent intervals during summer.
  - High incidence of shoot and fruit borer is observed in brinjal in the North East Transition Zone of Karnataka. Farmers are advised spray Malathion 2 ml or rynaxpir 0.3 ml per litre of water.
  - Incidence of brown spot is noticed in rice in the South Zone of Tamil Nadu due to moderate cloud cover and humid weather. Farmers are advised to spray edifenphos 50 EC 500 ml/ha to control it. Present weather is also conducive for the incidence of ear head bug in rice and fruit borer and thrips in chillies.

Farmers are also advised to spray quinolphos 25 EC 2 ml/l to control ear head bug, dimethoate 30 EC 2 ml/l to control thrips and apply quinalphos 1.5 D 25 kg/ha twice at weekly intervals to control ear head bug.

- Farmers in the Southern Telangana Zone of Andhra Pradesh are advised to monitor paddy for the incidence of stem borer and leaf folder, thrips and leaf miner in groundnut, scale insects in sugarcane, aphids in cabbage and cauliflower, hoppers, powdery mildew and anthracnose in mango and mealy bugs and powdery mildew in grapes and undertake plant protection measures.
- Incidences of brown plant hopper, sheath blight and bacterial leaf blight is noticed in paddy fields in the Problem Area Zone of Kerala. The farmers are advised to keep regular watch over the fields and if the attack is found, they are advised to drain off the field completely and spray 20 gm of *Pseudomonas fluorescens* in 1 litre water for the control of foliar diseases like blast and brown leaf spot & sheath blight. Severe rice blast is also observed in some areas at heading stage. Hence farmers are advised to take precautions.
- Incidence of mahali disease in arecanut, pseudostem weevil / rhizome weevil, bunchy top in banana and attack of red palm weevil, rhinoceros beetle, leaf eating caterpillar, stem bleeding in coconut is seen in the High Altitude Zone of Kerala. Farmers are advised to undertake plant protection measures.

#### WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** Dry weather prevailed over the States during last week.
- **Rainfall Forecast:** Weather would be mainly dry over the States of the region during the period.
- **Advisories:**
  - As mainly dry weather prevailed during last week and dry weather is likely to prevail during the period, farmers are advised to apply irrigation to standing crops.
  - Due to favourable weather, farmers in Maharashtra are advised to complete sowing of summer groundnut, summer moong, and summer bajra.
  - Prevailing weather is favourable for sowing of okra and water melon in Central Vidarbha Zone, farmers are advised to undertake land preparation and sowing.
  - Due to cold weather there may be wilting of new sugarcane sprouts of new plantation and ratoon in North Madhya Maharashtra, farmers are advised to apply 50 kg Urea per acre followed by light irrigation.
  - Due to cold weather, there may be apex wilting and fruit cracking in tomato, farmers are advised to apply irrigation in the evening and spray 0:0:50 fertilizer @ 50 g in 10 litres of water.
  - There may be occurrence of recurrent flowering in mango in South Konkan region of Maharashtra. To avoid this, spray Gibberellic acid 50 ppm on the whole tree twice. In some places mango fruits are in pea stage. Taking into consideration the rise in temperature, apply 150- 200 litres of water per tree at 15 days interval as per the availability.
  - Farmers in Middle Gujarat Zone are advised to carry out transplanting of summer paddy after root treatment @1 kg/ ha of azotobacter or azospirillum dissolved in 30 litre water for 15 min. Apply irrigation in wheat and potato. Do not irrigate in potato crop during high wind speed hours to avoid lodging. Harvesting of isabgol & cumin be done in early morning, if leaves are dried.
  - Farmers in Bhal and Coastal Zone are advised to irrigate mustard crop.
  - Farmers in South Saurashtra Zone of Gujarat are advised to undertake sowing of summer moong, groundnut and pearl millet. Apply 87 kg DAP and 10 kg Urea at the time of sowing of moong and 87 kg DAP and 55 kg of Urea in pearl millet. Apply irrigation in mango.
  - Farmers in South Gujarat Heavy Rainfall Zone are advised to undertake land preparation and sowing of summer crops like groundnut, moong and pearl millet. Taking advantage of dry weather, carry out hand weeding and other intercultural operations. Provide the second split of nitrogen of about 100 kg N/ha. Spray 2% potassium Nitrate in mango crop for effective control of fruits dropping and higher flowering setting.
  - Farmers in South Gujarat Zone are advised to apply irrigation to wheat crops with fertilizer and vegetable crops at an interval of 3 to 4 days as there is increase in temperature.
  - Taking advantage of dry weather, harvest the matured *rabi* crops at the earliest in North Gujarat Zone and carry out land preparation for sowing of summer crops. Sowing of early varieties of summer

groundnut and bajra be carried out after seed treatment. Pluck the matured guava and papaya fruits. Carry out weeding in citrus orchard and apply fertilizers.

- Farmers in North Saurashtra Zone are advised to irrigate garlic, onion, pigeon pea, gram and mustard at critical stages. Carry out sowing of summer groundnut. Farmers are advised to spray wettable sulphur 80 % 30 gm or Dinocap 10ml or Tridemorph 5ml/10 lt of water at initiation of flowering in mango crop. Taking the advantage of dry weather, apply supplementary dose of Nitrogen @ 25 kg / ha in isabgol and 37.5 kg Nitrogen / ha as top dressing in onion at 30 to 45 DAS ensuring optimum soil moisture level.
- Farmers in North West Zone of Gujarat are advised to apply supplementary irrigation and top dressing dose of Nitrogen in wheat. Apply 2<sup>nd</sup> irrigation in mustard at flowering stage.
- Suitable varieties of the crops for sowing are mentioned in Annexure II.
- Due to favourable weather conditions, there may be incidence of anthracnose on mango inflorescence in Konkan region of Maharashtra, spray Carbendazim @ 10 g or Thiophenate methyl @10 g or Propineb @ 20 g per 10 litres of water.
- Prevailing weather is congenial for attack of jassids on mango inflorescence in East Vidarbha, spray Quinolphos 25 % 20 ml or Carbaryl 50 % WS powder @ 20 g or Dimethoate 30 % @10 ml per 10 litres of water.
- There may be infestation of blight in late sown wheat in Central Vidarbha Zone, spray Mancozeb@25g in 10 litres of water.
- Due to rise in temperature there may be infestation of sap sucking pests in okra, cucumber, chilli and tomato in Pune region, spray Imidachloprid @ 4ml or Dimethoate @10ml or Methyl dimeton@10 ml in 10 litres of water.
- Prevailing weather is congenial for incidence of tikka disease in groundnut crop in Konkan; spray Mancozeb @ 25 g or Carbandazim @ 10 g or Benlet @ 10 g per 10 litres of water.
- Weather conditions are favorable for infestation of late blight disease in tomato crop in South Gujarat Heavy Rainfall Zone. Farmers are advised to spray 0.25% Mancozeb @ 30 g in 10 litres of water with 10 g desi soap solution to manage the disease.
- Stages of major crops are mentioned in Annexure-I.

#### CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Mainly dry weather prevailed over the region.
- **Rainfall Forecast:** Weather would be mainly dry over the States of the region during the period.
- **Advisories:**
  - As dry weather prevailed during last week and dry weather is likely to continue, farmers in this region are advised to provide irrigation to the standing crops.
  - Due to forecast of clear weather and no rainfall farmers in Kymore Plateau and Satpura Hills region of Madhya Pradesh are advised to irrigate wheat crop at critical stages as per requirement. Carry out intercultural operations in sugarcane sown in the month of November. The average temperature is now suitable for proper germination of summer vegetables like pumpkin, bitter gourd, bottle gourd, okra etc. Hence the sowing of these vegetables should be completed at the earliest.
  - Farmers in Jhabua Hills region of Madhya Pradesh are advised to give fifth irrigation in fully irrigated wheat and maize crops at 85-90 DAS. For control of rats stand thick wooden in the field for standing owl at night and eat rats. For seed production roging should be done. They are also advised to arrange seed of summer vegetables i.e. water melon, musk melon, okra, chilli, tomato, brinjal etc. and sown these crops soon due to proper time.
  - In Nimar Valley region of Madhya Pradesh farmers are advised to irrigate wheat and gram crops; also start planting of sugarcane and prepare nursery of chilli, brinjal, okra and tomato.
  - In view of dry weather conditions farmers in Central Narmada Zone of Madhya Pradesh are advised to irrigate the standing crops. Harvest the matured pigeon pea. Prepare nursery for chilli and brinjal for planting.
  - Farmers in Satpura Plateau region of Madhya Pradesh are advised to irrigate and top dressing of urea in wheat crop.
  - Farmers in Vindhyan Plateau region of Madhya Pradesh are advised give light irrigation in wheat crop. Undertake sowing of summer okra and prepare nursery for brinjal, chilli and tomato.

- Farmers in Bundelkhand Zone of Madhya Pradesh are advised to irrigate all crops also harvest the mature mustard and lentil crops. Present weather is favorable for direct sowing of vegetables like- pumpkin, bitter guard, etc. hence, Farmers are advised to sowing the crops.
- Farmers in Grid Zone of Madhya Pradesh are advised to give irrigation and recommended dose of fertilizer to wheat crop. They are also advised to prepare nursery for summer vegetables, moong and urad.
- In Chattisgarh Plain Zone, inter-culture, fertilizer application, earthing followed by irrigation is advised in sugarcane crop wherever the crop is at knee height stage. Farmers are also advised for sowing of cucurbitaceous crop in the poly houses, sowing of leafy vegetables, complete the transplanting of summer rice and land preparation for summer vegetables.
- Farmers in Bastar Plateau Zone of Chhatisgarh are advised to complete sugarcane planting at the earliest and earlier planted sugarcane should be irrigated. Summer crop seeds like moong, urad and maize crops of high yielding varieties should be selected and sowing should be done. Wheat crop should be irrigated and second dose of nitrogen should be applied. Arrange for irrigation in linseed and mustard crop at an interval of 15 days.
- Farmers in Bundelkhand region of Madhya Pradesh are advised that fruit borer insect is being observed in brijal and tomato crops. Therefore, to monitor the crop spray the crop with melathion 50 E.C. @ 1.0 ml. per liter of water for their control also leaf curl disease is being observed in chilly crop. Therefore, farmers are advised to monitor the crop and if observed then spray Methyl dematon 25 E.C. @ 2.0 ml. / litre or imadacloprid 5.0 ml. / litre of water for their control.
- Chickpea crop is being damaged by the caterpillar in Central Narmada region of Madhya Pradesh so farmers are advised to monitor the chickpea crop and when pest reaches at ETL level, then spray quinalphos 20E.C @ 2.0 ml. per liter of water. Farmers are also advised that there is attack of semi looper in cauliflower and cabbage crop for controlling measures spray Malathion 50 E.C @ 2ml/litre of water and do not pick up curds within 7days of spray.
- **Animal Husbandry & Poultry**
  - As there are chances of clear sky conditions during next 5 days in Bundelkhand region of Madhya Pradesh, Farmers are advised hence sheep raiser are advised to do medicine bath in sunny condition to control parasites.
  - Farmers in Kymore Plateau and Satpura Hills region, Central Narmada region and Satpura Plateau of Madhya Pradesh are advised to keep cattle in dry and clean place to protect from mosquitoes and other deleterious insects. Burn neem leaves to create smoke in night to protect from mosquitoes and bees.
  - Farmers in Vindhya Plateau Zone of Madhya Pradesh are advised to vaccinate cattle.

## Annexure I Major Crops

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

- Sugarcane (old) (harvesting), sugarcane (new) (land preparation / planting), *boro* rice (tillering/vegetative), *ahu* rice (sowing), wheat (ear initiation / flowering), tomato, brinjal (vegetative / flowering / fruiting / harvesting), cauliflower, cabbage, knoll khol (head formation / harvesting), *rabi* pulses like pea, lentil (pod formation), onion (vegetative), potato (tuber development / maturity / harvesting), rapeseed and mustard (seed formation / maturity/harvesting), pumpkin, bottle gourd (flowering / fruiting), okra, pointed gourd, musk melon, water melon, ridge gourd, sponge gourd (sowing), black gram, green gram (sowing), *rabi* maize (vegetative), *kharif* maize (sowing), summer pulses, *Capsularis* jute, summer vegetables (sowing) in Assam.
- Cabbage, cauliflower, knolkhol etc. (head formation / maturity / harvesting), maize (cob formation / maturity / harvesting), mustard (seed formation / maturity/harvesting), potato (tuber formation / maturity / harvesting), pea (pod formation / maturity / harvesting), okra, beans (sowing) in Arunachal Pradesh.
- Rice (sowing), cucurbits (sowing / transplanting / vegetative), rapeseed and mustard (siliqua formation / seed formation/maturity), tomato, brinjal, chilli (transplanting / vegetative), potato (tuber formation), cauliflower and cabbage (head formation / maturity), pea (pod formation / maturity / harvesting), onion (vegetative / bulb formation) in Manipur.
- *Boro* rice (late varieties) (tillering / panicle initiation / flowering), *boro* rice (early varieties) (flowering / grain formation / milk), wheat (flowering / grain formation), mustard, rapeseed (siliqua formation / seed formation / maturity), spring potato (sowing / vegetative), potato (tuber formation / maturity), lentil, pea (pod formation / maturity), *rabi* onion (bulb formation), Bengal gram (pod formation), cabbage and knol-khol (head formation / maturity), okra (sowing / vegetative), pumpkin, French bean (vegetative / flowering / fruiting) in Meghalaya.
- *Khasi* mandarin (vegetative), banana (vegetative / fruiting / maturity / harvesting), cole crops (head formation / maturity / harvesting), tomato (fruiting / harvesting), pea, bean (pod formation / maturity / harvesting), maize (cob formation / maturity), okra, cucurbits (sowing) in Mizoram.
- Cabbage (head formation / maturity/ harvesting), pea (pod formation / maturity / harvesting), rapeseed, mustard (siliqua formation / seed formation / harvesting), French bean (flowering / pod formation), potato (tuber formation), brinjal (flowering / fruiting / maturity), broccoli (flowering) and maize (tasseling / silking / cob formation/harvesting), tomato (transplanting) in Nagaland.
- *Boro* rice (tillering), pulse crop, pea, beans (pod formation / maturity / harvesting), mustard (siliqua formation / seed formation), cole crop and tomato (flowering / fruiting / maturity / harvesting), potato (tuber formation / maturity/harvesting), summer vegetables (sowing) in Tripura.

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

- Sugarcane (vegetative), lobia for green fodder (vegetative), mishrikand (vegetative), cauliflower, cabbage (head formation / maturity), fruit trees (transplanting), potato, sweet potato (tuber formation / maturity), rapeseed, mustard (pod formation / seed formation / early maturity), wheat (tillering / booting), pigeon pea (pod formation / seed formation), vegetables (flowering / fruiting / harvesting), maize (tasseling / silking / cob formation, pulses (pod formation / grain formation), sugarcane, onion (planting), *boro* rice (transplanting / tillering), summer maize (sowing) in Bihar.
- Pigeon pea (pod formation / seed formation), turmeric and ginger (vegetative / rhizome formation), elephant foot yam (tuber elongation), potato (tuber formation / maturity), sweet potato (stem elongation / tuber elongation / maturity / harvesting), mustard (seed formation / pod formation / early maturity), linseed (pod formation / seed formation), toria (maturity), green pea (pod formation / maturity / harvesting), cauliflower, cabbage (head formation / maturity), chilli, tomato (flowering / fruiting / maturity), wheat (tillering / jointing), papaya (transplanting), gram (pod formation / grain formation), summer vegetables (transplanting), summer maize(sowing) in Jharkhand.

- Summer rice (transplanting / tillering), summer groundnut, sunflower (land preparation / sowing), arhar (pod formation / seed formation), mustard (pod formation / seed formation), sugarcane (maturity / harvesting), sugarcane (new) (planting), Bengal gram, lentil, linseed, green pea (pod formation / grain / seed formation), wheat (tillering), banana and marigold (vegetative), potato (maturity / harvesting), tomato (flowering / fruiting / maturity), cauliflower, cabbage, knol-khol (head formation / maturity), onion (vegetative) in Orissa.
- *Boro* rice (transplanting / tillering), winter vegetables (flowering / fruiting / harvesting), mustard (pod formation / seed formation), wheat (tillering), lentil, gram, sunflower (pod formation / grain / seed formation), potato (maturity / harvesting), groundnut (land preparation / sowing), chilli (flowering / fruiting) in West Bengal.
- *Rabi* vegetables (flowering / fruiting / harvesting), orange (harvesting), Large cardamom (vegetative), wheat (flowering / milk), mustard (pod formation / pod maturity), *rabi* potato (tuber formation) in Sikkim.

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

- Wheat (tillering/flowering), mustard (pod maturity/harvesting), sugarcane (planting), *rabi* onion (vegetative), cauliflower, cabbage, broccoli, knolkhol (vegetative / fruiting/harvesting), carrot, turnip, early sown tomato radish, spinach and coriander (vegetative/fruiting/harvesting), pea, gram (flowering / pod formation/pod maturity), Chilli, tomato, brinjal, cucurbits (nursery preparation in polyhouse), ladies finger(sowing), onion (transplanting), french bean, cluster bean, summer radish (sowing) in Delhi.
- Wheat (vegetative), vegetables (bhindi, cucurbits), potato (sowing/germination), mirch, brinjal (nursery sowing in polyhouses), cucurbits viz. cucumber, summer squash, bitter gourd, bottle gourd (nursery sowing in polutubes inside polyhouse), bush type French bean (Contender), bhindi, surajmukhi (field preparation / nursery sowing), tur, brinjal, Shimla mirch, and tomato (transplanting/seedling), Apple and other temperate fruits (dormant stage in High Hill Temperate Dry Zone), arbi, amaranthus, turmeric, rice, maize, barley, radish, onion, pea, garlic, coriander, cabbage, knolkhol, parsley, lettuce, fennel, cauliflower, broccoli (sowing / planting), in Himachal Pradesh.
- Very late sown Wheat (jointing), early/normal sown wheat (ear head emergence/flag leaf initiation), early/normal sown barley (jointing / tillering), late sown barley (jointing), onion (transplanting), cole crops viz. early cauliflower, cabbage, knoll khol, broccoli (vegetative/flowering), *rabi* oilseeds i.e. gobisarson(bud formation), mustard (pod formation/ reproductive stage), late sown mustard (flowering/reproduction), brown sarson (rosette stage), *rabi* pulses i.e. lentil, gram, (vegetative/flowering)], pea(pod formation), fodder crops like oats (vegetative (2nd cut)), berseem (vegetative), tomato, brinjal and chilli (sowing/transplanting), Horticultural crops viz. [Apricot, Apple (nursery sowing), orange & guava (fruiting), citrus fruits (harvesting)] in Jammu & Kashmir. Wheat, Brown Sarson, pea, lentil and Oat are in dormant stage in Srinagar.
- Chilli, capsicum, cauliflower, broccolli (seedling/germination), sugarcane (planting), litchi, loquat, peach, citrus (flowering / fruiting), mango (early varieties) (flowering), foxtail millet, okra, bottle gourd, bitter gourd, ginger, turmeric (germination / vegetative), mustard (Siliqua formation), papaya (planting), sorghum, pigeon pea (vegetative/pod formation/pod maturity), urd and pearl millets (early vegetative/vegetative), potato (maturity / digging), barley, sarson (germination/ vegetative),onion, garlic (transplanting/germination), wheat (ear head emergence/flowering/milking), lentil, brinjal, potato (sowing/germination), sunflower(Sowing) in Uttarakhand.
- Wheat (vegetative growth/booting/flowering), winter sugarcane (vegetative growth), sunflower, summer moong, urad (field preparation/ sowing), early cucurbits like bottle gourd, bitter gourd, cucumber, etc. and other early planted vegetables like lady's finger, tomato, brinjal, chilli, etc. (vegetative / flowering / fruiting), new planting of vegetables [tomato, brinjal, lady's finger, cucurbits like bottle gourd, bitter gourd, cucumber] (sowing), coriander (vegetative/ flowering), onion (transplanting / vegetative growth), potato (tuber formation / maturity/digging), mustard/ sarson (flowering / siliqua formation/ grain formation), barley (vegetative / tillering), arhar, jai, gram, alsii,



maize, masoor, pea, pigeon pea, chick pea (flower initiation / pod formation / grain formation), berseem (vegetative growth), fodder maize, lobia (sowing), sugarcane (planting) in Uttar Pradesh.

- Spring sugarcane (sprouting/tillering), berseem (vegetative), gram, lentil, mustard, rape seed (flowering/pod formation), barley (heading) radish, carrot, turnip, onion, cauliflower (transplanting/vegetative), wheat (flowering Pre-Heading/ - timely sown), tomato, cucurbits, okra, sunflower(sowing) in Punjab.
- Sugarcane (spring season) (early vegetative), barseem (vegetative), moong, mash, pigeon pea (vegetative), cauliflower, cabbage, carrot, potato (transplanting), barley (heading/pre heading), mustard, sarson, raya (vegetative/flowering), radish, turnip (sowing), wheat (flag leaf initiation) in Haryana.
- Wheat (flowering/milking), very late sown wheat (tillering), sweet potato, chilli and cluster bean (vegetative/pod formation), mustard (pod maturity/harvesting), gram (flowering / pod formation), coriander (vegetative/maturity/harvesting), barley, oats, lentil, lucerne, taramira, linseed, opium poppy, vegetables (potato, fenugreek, brinjal, radish, chilli, carrot, palak, berseem, cumin, isabgol, ajwain, garlic (vegetative growth/flowering), green pea (pod maturity/harvesting), summer tomato (germination/vegetative), cauliflower, cabbage, rabi onion (transplanting/germination), summer cucurbits(sowing/germination), summer groundnut(sowing) in Rajasthan.

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

- Sugarcane (early vegetative), summer groundnut(vegetative), groundnut (harvesting), maize (maturity/harvesting), sunflower (heading/maturity), bengal gram (maturity), red gram (storage), *rabi* jowar (maturity/harvesting), late planted paddy (maturity/ harvest), wheat (maturity), finger millet (harvest), black/green gram (vegetative), mango (fruiting), cotton(boll bursting), chilli & capsicum (fruiting), bitter gourd(fruiting), ginger (vegetative), vegetable (nursery) and horticultural crops (fruit development) in Karnataka
- *Rabi* groundnut (pod development/pegging/harvesting), *rabi* paddy (tillering/ panicle initiation), maize (cob setting), sunflower (heading), sugarcane (planting/tillering/ ratooning), jowar (panicle formation / grain setting), bengal gram (pod formation), cotton(picking), rabi pulses (flowering/ maturity), red gram (maturity/harvesting), castor (flowering), vegetables (fruiting), chilli (fruiting), green gram & black gram (pod development), tomato (fruiting stages) and bhendi (various stages), mango (flowering/fruiting), water-melon(sowing) in Andhra Pradesh.
- Arecanut (harvesting), pepper (harvesting/post-harvesting), rubber(tapping), ginger (land preparation), cardamom (harvesting), nutmeg (maturity), sugarcane (harvesting/ planting), vegetables (flowering/harvest), mundakan paddy (heading/harvesting), pancha paddy(land preparation), virippu paddy (nursery sowing), coconut (harvesting) in Kerala.
- Rice - Samba (flowering/maturity), Thaladi (maturity), rice fallow pulses (vegetative), gingelly (sowing), pulses(sowing/harvesting), cotton (flowering to boll bursting /maturity), vegetables (vegetative/ harvest), sorghum(harvesting), sugarcane (various stages), maize (various stages), sunflower(harvesting), pearl millet, sunflower & sorghum(maturity), groundnut (pod filling/maturity), chilli (fruiting), ginger and turmeric (pod development /harvest) in Tamil Nadu.

#### **WEST INDIA [GOA, MAHARASHTRA, GUJARAT]**

- Sugarcane (old *adsali* and old pre-seasonal) (cane maturity / harvesting), sugarcane (old *suru*) (elongation / cane maturity), sugarcane (new *adsali*) (early vegetative growth), sugarcane (new pre-seasonal) (sprouting / early tillering), sugarcane (new *suru*) (planting/ sprouting in Madhya Maharashtra and Marathwada), *rabi* jowar (grain maturity/ harvesting), safflower (seed maturity), irrigated gram (pod maturity / harvesting), irrigated wheat (dough formation / dough maturity), sunflower (seed maturity), maize (cob maturity), summer rice (tillering in South Konkan and early tillering in East Vidarbha), summer groundnut (vegetative / flowering in South Konkan and sowing / germination / early vegetative in Madhya Maharashtra, Marathwada and West Vidarbha) in Maharashtra.

➤ Summer groundnut (sowing), summer rice (transplanting), summer bajra (sowing), summer moong (sowing), wheat (booting / flowering / milking), gram (pod development / maturity), *rabi* maize (tasseling / siliking / cob formation), isabgol (branching / flowering), sugarcane (planting / early vegetative), jowar (grain formation), cotton (picking), castor (maturity / harvesting), mustard (siliqua formation / seed formation), vegetables (vegetative / flowering / fruiting / maturity / harvesting), cluster bean (pod formation), cauliflower, cabbage (head formation / maturity) and potato (tuber development) in Gujarat.

#### **CENTRAL INDIA [M.P., CHHATTISGARH]**

- Sugarcane (knee height stage), vegetables (fruiting), mustard (siliqua formation), wheat (jointing and ear head emergence), maize (tillering), onion, garlic, tomato, brinjal, chilli (sowing/transplanting), gram (pod maturity/harvesting) in Madhya Pradesh.
- Sugarcane (planting), groundnut, arhar, green gram and sesame (late vegetative), ginger, turmeric, papaya, mango and guava (vegetative) cauliflower, pigeon pea (pod filling), potato (planting), linseed (flowering stage) tomato, brinjal, chilli, niger, horsegram, ramtil, toria, cauliflower, cabbage, niger, kulthi (sowing), wheat (crown root initiation / tillering), onion (planting), summer rice(nursery),summer vegetables (land preparation), moong, urad and maize(sowing)in Chhattisgarh.

## **Annexure II**

### **List of Varieties**

#### **Assam**

**Ridge gourd:** Pusa Nasdar, AAUJ-1, AAUJ-2, AAUC-3.

**Sponge gourd:** Pusa Chikni.

**Musk melon:** Pusa Sharbati, Hara Madhu, Punjab Sunehri, Durgapur Madhu, Arka Rajhans and Arka Jeet.

**Water melon:** Asahi, Pusa Bedana, Sugar Baby, Faizabadi.

**Sugarcane:** Kolong, Luhit, Dhansiri, Doris, Co 1148.

**Ahu rice:** Luit, Kopilee, Rasi, Cauvery, Culture-1, Chilarai, Gopinath, Krishne, Kushal, Puthichapali, Nilajee, Hasakumra

**Tall varieties:** Banglami, Dubaichenga, Rangadaria (115-120 days), Ahujoha (110-120 days).

**Short duration variety:** Dogaranga (85-95days).

**Okra:** Pusa Sawani, Arka Anamika, Parbhani Kranti.

**Black gram:** T 9, Pant U 19, UG 157 and JU 78.

**Green gram:** T 44, Kopergaon, K 851, ML 56, PIMS 1, AAU 34, AAU 39, Pratap (SG-1).

**Capsularis jute :** JRC 321(Sonali), UPC 94 (Reshma).

**Kharif maize:** Ganga 5, NLD, Dhawal, Naviot, Diara

**Jute:** JRC 321 and UPC 94

#### **Meghalaya**

**Spring potato :** Kufro Jyoti, Kufri Megha, Kufri Giriraj.

**Okra :** Arka Anamika, Pusa Sawani.

#### **Mizoram**

**Okra :** Pusa Sawani, Pusa Makhmali, Punjab Padmini, Arka Anamika, Arka Abhay

#### **Bihar**

**Summer maize:** Suwan, Deoki, Ganga 11, Shaktiman 1 and 2.

#### **West Bengal**

**Boro Rice:** Supriya, Jamini, Bhupen, IET-2233.

**Green gram:** TM-99-50, PDM-11, TARM-12.

**Ladies fingers:** Parbani Kranti, Kalyani Prava, Punjabi Padmini.

**Groundnut-** JL-24, J-11, AKG-12.

#### **Jharkhand**

**Papaya:** Pusa Giant, Pusa Dwarf, Honey Dew, Pusa Majesty.

**Summer Rice:** MTU 1010, IR 36, 64, Naveen, Lallat.

**Summer Maize:** Birsa Makka-1, Birsa Makka-2, Suwan-1(Hybrid),HQPM (Hybrid)

#### **Orissa**

**Sugarcane:** CO 740, CO 6304, CO7219, COT 8201, Neelamadhaba and Sabita.

**Summer Sunflower:** High Yielding Varieties like Modern and Hybrid Varieties like PAC 36, KBSH, MSHF-1, MSFH-8 and MSFH-17.

**Summer Groundnut:** Smruti (OG 52-1), Phule Pragati, ICGS-44, TAG-24, TG-3, TMV-2 and TG 38.

**Sesame:** Uma, Kalika, Nirmala, Prachi, Usha.

**Summer Maize:** Dhabal, Navjot, and Hybrids like Decca, Ganga, Deccan 105, Kargil 900-M, PRO 345, Kargil 633.

**Papaya:** Honey Dew, Kurg Honey Dew, Coombatore-1, Coombatore-2, Pusa Delicious, Pusa Majestic, Pusa Dwarf and Pusa Giant.

**Cowpea:** Bush type - Pusa Phalguni, Pusa Komal; Runner type - American Long, and Banarasi Long, other improved varieties like Russian Giant, EC-4316, NP-3, C-152, UPC- 286, UPC- 5286 and IGFI- 450.

**Moong:** PDM 11, PDM-54, Pusa Baisakhi.

#### **Himachal Pradesh**

**Lettuce:** Iceberg,

**Brinjal:** ArkaNidhi, PPC

**Agetibhindi:** P-8, Prabhnikranti, Arkaanamika,

**Frenchbean:** Contender

**Pepper :**Surjmukhi,

**Broccoli:** PalamSamridhi,

**Rajmash:** Triloki, Jwala, baspa Kailash

**Raddish:** japani white and early mino white,

**Turnip:** PTWG-1.

**Cabbage:** Snow ball K-1 Palamuphar, golden acre.

**Knolkhol :** WhiteBina,

**Cauliflower:** Pride of India

### Jammu & Kashmir

**Vegetable crop like radish** (var. Pusachetki, Japanese white & Pusareshmi), **carrot** (var. Pusakesar), **turnip** (var. PTWG), **garlic** (var. local, large segmented), **spinach** (prickly seeded) and **methi** (P.E.B.K methi), **Cauliflower** (var. PusaDipali), **knoll khol** (White Vienna), **Broccoli** (Early green).

### Punjab

**Sugarcane:** CoJ85.CoJ64, CoJ83

### Haryana

**Sugarcane:** CoJ85.CoJ64, CoJ83

### Delhi

**Spinach:** Jyoti

**Coriander:** PantHaritma.

### Uttarakhand

**Sunflower:** KBSH-44, PAC-36, PAC-1091, PAC-3776, PAC-6457, DRSH-1.

**Okra:** Pusa Savani, Punjab Padmini, Selection -1, Hissar Unnat, Vaishali, Madhu, Parbhani Kranti etc.

**Brinjal:** Pusa Savani, Punjab Padmini, Selection -1, Hissar Unnat, Vaishali, Madhu, Parbhani Kranti etc.

**Potato:** Kufri Jyoti, Kufri Ashok & Kufri Anand etc.

### Uttar Pradesh

**Sugarcane :** KS-8436, KS-88230, KS-95255

**Sunflower :** K.P.S.H. 1, Divyamukhi, Jwalamukhi

**Moong :** Type-44, Pant Moong-1,2, Narendra Moong-1, Malviya Jagruti, Samrat, Pusa Vaishakhi K. , K-851, JM-721 etc.

**Urad : Azad Urd-1,2, Bhokhar-1,2, Type-9, Uttara etc.**

**VEGETABLES : Bitter gourd:** Kalyan Sona, Arka, Harit, **Bottle gourd:** Kalyanpuri Hari, Lambi Azad, Nootan, Pusa, Navin, Narendra, Narendra Dharidar, Narendra Bhankar, Lowki-4, **Pumpkin:** Pusa Vishwas, Coimbatore-1,2, Kalyanpur Pumpkin-1, Narendra Agrim, Narendra Amrut, **Cucumber:** Fine set, China, Japani, Langreen, Taroi: Pusachikani, Pusa Nasdar, Satputiya, Punjab, Sadabahar, **Lady's Finger:** Azad Bhindi-1,2, Parmani Kranti, P-7, Varsha, Uphar, Hissar, Unnat, P-Kanti.

### Gujarat:

**Summer bajra:** GHB-526 and GHB-558.

**Summer Groundnut:** GG-2, GG-4, GG-5, GG-20, TG-37A, TGP-41, TG-26.

**Green gram :** Guj. Mung-3, 4

### Maharashtra:

**Water melon :** Sugar Baby, Arka Jyoti, Arka Manik

**Summer okra :** Arka Anamika, Parbhani Kranti, Akola Bahar and Phule Utkarsha.

### Madhya Pradesh

**Garlic-G-283, G-1, G-41 or G-323**

**Linseed-PKDL-21, JL-1, JL-3, Mallika, JLS-1, IPL-81**

**Lentil-JLS-03**

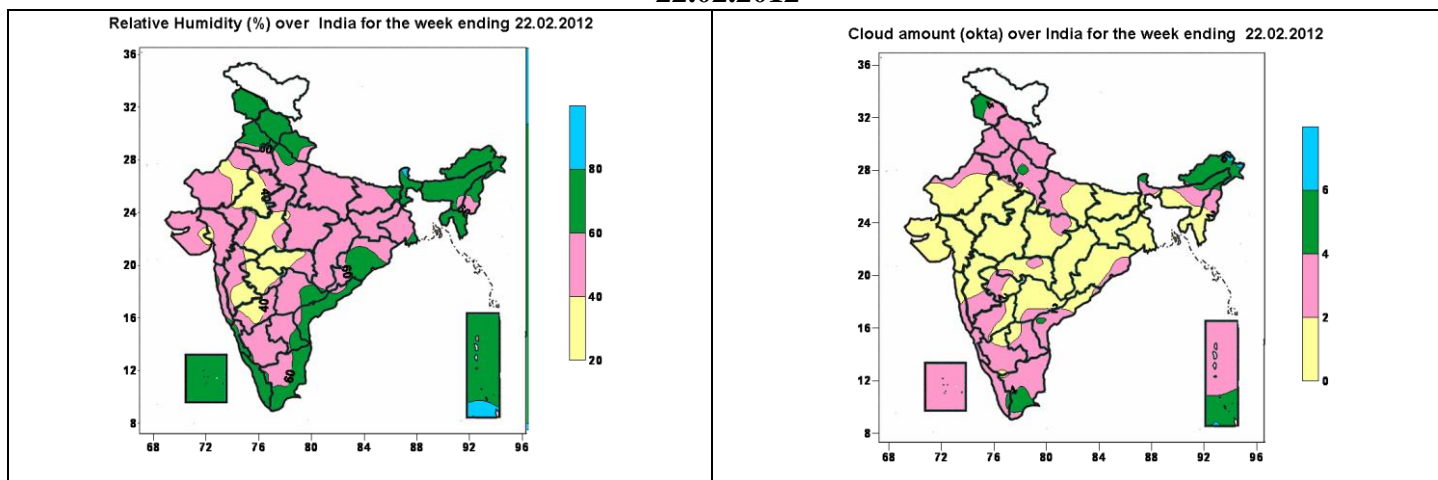
**Sugarcane- CoJN 86032, CoJN 86582**

**Ladies Finger- PusaMakhamali, PusaSawani, A-4 or Parbhanikranti**

### Chattisgarh

**Sugarcane- Co 86032, Co 86141**

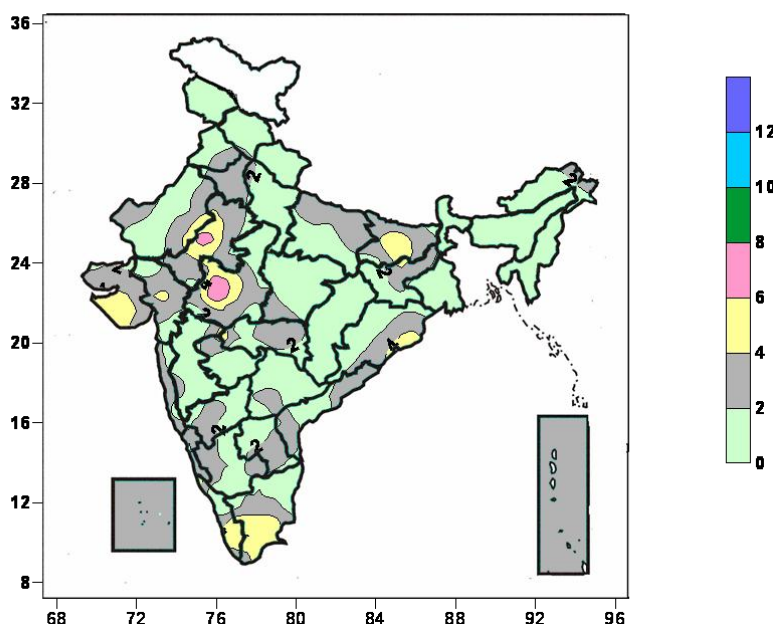
**Annexure III**  
**Contour maps for Relative Humidity, Cloud Amount and Wind speed for the week ending on**  
**22.02.2012**



Relative humidity ranged between 80% and above over some parts of Andaman & Nicobar Islands, 60 to 80% over many parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Sub-Himalayan West Bengal, North East India, Coastal Orissa, Coastal Andhra Pradesh, Kerala, Tamil Nadu, Coastal Karnataka, Lakshadweep & Andaman & Nicobar Islands, some parts of Haryana, West Uttar Pradesh, Bihar, Gangetic West Bengal, Telangana, Raylaseema, 20 to 40% over Many parts of Maharashtra (except Konkan & Goa), some parts of Rajasthan, Madhya Pradesh, Gujarat, Kutch, North Interior Karnataka, 40 to 60 % over remaining parts of the country.

Cloud amount above 2 to 4 okta over many parts Arunachal Pradesh, some parts of Jammu & Kashmir, West Uttar Pradesh, Sikkim, Assam, Nagaland, Tamil Nadu, Andaman & Nicobar Islands, 0 to 2 okta over many parts of Rajasthan, West India, Central India, East India, Mizoram, Tripura, Telangana, some parts of East Uttar Pradesh, Assam & Meghalaya, Manipur, Coastal Andhra Pradesh, Rayalaseema, South & North Interior Karnataka, 2 to 4 okta over remaining parts of the country.

**Wind speed (knots) over India for the week ending 22.02.2012**



Wind speed ranged between 6 knots and above some parts of West Madhya Pradesh, East Rajasthan, 4 to 6 knots over some parts of Rajasthan, Saurashtra & Kutch, Gujarat, West Madhya Pradesh, Bihar, Jharkhand, Coastal Orissa, Kerala, Tamil Nadu, 2 to 4 knots over most parts of Haryana, Delhi, East Uttar Pradesh, Bihar, Jharkhand, East Rajasthan, Saurashtra & Kutch, Gujarat, Konkan & Goa, Coastal Karnataka, Lakshadweep, Andaman & Nicobar Islands, some parts of Himachal Pradesh, Punjab, West Rajasthan, Madhya Pradesh, Arunachal Pradesh, Orissa, Andhra Pradesh, Maharashtra except Konkan & Goa, South & North Interior Karnataka, Tamil Nadu, Kerala, 0 to 2 knots over remaining parts of country.