

## Significant weather and realized rainfall during last week:

- Significant rainfall occurred in Chamba and Kullu districts of Himachal Pradesh, Baramula, Kulgam, Kupwara and Shopian districts of Jammu & Kashmir and Nagapattinam, Ramanathapuram, Pudukottai, Sivaganga, Thanjavur, Tirunelveli and Tiruvarur districts of Tamil Nadu. Mainly dry weather prevailed over rest parts of the country.

## Major Feature of Weather Forecast up to 0830 hours IST of 11<sup>th</sup> March, 2013

- Rain/snow would occur at one or two places over Jammu & Kashmir during next 24 hours and at a few places thereafter. Rain/snow would also occur at one or two places over Himachal Pradesh and Uttarakhand on 9<sup>th</sup> and 10<sup>th</sup> March.
- Rain/thundershowers would occur at one or two places over Tamilnadu, Kerala and Lakshadweep.
- Rain/thundershowers would occur at one or two places over coastal & south Karnataka and Andaman & Nicobar Islands during next 24 hours.
- Rain/thundershowers would occur at one or two places in Arunachal Pradesh on 10<sup>th</sup> March.
- Rise in maximum and minimum temperatures over northwest and central India by 2-3°C from tomorrow onwards.
- Mainly dry weather would prevail over rest parts of the country

## Regionwise Salient Advisory

### Northwest India

#### Major crops

- Wheat (ear head emergence / flowering / milky), mustard (capsule formation/ maturity)



- Postpone irrigation to standing crops in Baramula, Kulgam, Kupwara and Shopian districts of Jammu & Kashmir and Chamba and Kullu districts of Himachal Pradesh. As mainly dry weather will prevail over the region, apply irrigation to the standing crops in the remaining parts of the region where no significant rainfall occurred.

### Central India

#### Major crops

- Wheat (grain filling / maturity / harvesting), autumn sugarcane (vegetative), yellow sarson, mustard (capsule formation / maturity)



- Farmers are advised to apply irrigation to the standing crops.

### East India

#### Major crops

- Gram, lentil (pod formation/maturity), Wheat (flowering / milking / dough stage) and potato (tuber formation / tuber maturity).
- Farmers are advised to apply irrigation to the standing crops.

### Northeast India

#### Major crops

- Boro rice (active tillering / panicle initiation), early ahu rice (nursery raising / sowing), wheat (flowering /milking/ dough stage), rapeseed, mustard (capsule maturity / harvesting) potato (tuber maturity / harvesting.)
- Farmers are advised to apply irrigation to the standing crops.

### West India

#### Major crops

- New *suru* sugarcane (late planting / germination), summer groundnut (early vegetative / vegetative / flowering), summer bajra (early vegetative), summer groundnut (vegetative/flowering/pegging), wheat (milk / dough stage).
- Farmers are advised to apply irrigation to summer bajra, summer groundnut, sugarcane and vegetables in Madhya Maharashtra, Marathwada and Vidarbha and to vegetables and fruit crops in Gujarat.
- As day temperature is rising, farmers in Maharashtra are advised for mulching with crop residues and other plant waste products in the orchards and sugarcane fields to minimize the rate of evaporation. Farmers of Konkan region are advised to use black polythene mulch between 2 trenches or beds of the fruit crop nursery.

### South India

#### Major crops

- Sunflower (flowering / seed formation), rice fallow pulses (vegetative), *puncha* rice (grain formation / maturity stage), sugarcane (ratooning).
- Postpone irrigation to standing crops in Nagapattinam, Pudukottai, Ramanathapuram, Shivaganga, Thanjavur, Tirunelveli and Thiruvarur districts in Tamil Nadu. As mainly dry weather will prevail over the region, apply irrigation to the standing crops in the remaining parts of the region where no significant rainfall occurred.

(Detailed regionwise summery is given in page no.2)

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.imdagrmet.gov.in>) of the Division

## Executive Summary

### Northwest India

- As Significant rainfall occurred in Baramula, Kulgam, Kupwara and Shopian districts of Jammu & Kashmir and Chamba and Kullu districts of Himachal Pradesh during last week, farmers are advised to postpone irrigation to the standing crops. As there was no significant rain over the remaining parts of the region and mainly dry weather is likely to prevail, apply irrigation to the standing crops.
- In Rajasthan, taking the advantage of dry weather and increasing ambient temperature farmers are advised to harvest early mustard crop when 75% pods turn yellow and seed moisture content about 35% seed weight. Harvest the crop during morning hours to avoid shattering losses. Keep harvested products in safe place. It is also advised to harvest matured gram crop.
- In Sub Tropical Zone Chatha of Jammu & Kashmir, weather conditions are congenial for aphids and thrips in mustard crop. Farmers are advised to spray the crop with Chloropyripous @ 0.05% or Metasystox@0.03%.
- In Cold Arid Zone of Jammu & Kashmir, as the prevailing temperature is low farmers are advised to cover the polythene of greenhouses with black polythene in the night for proper growth of crops or maintain 2 layers of polythene over greenhouse (at least 150 gsm each).

### Central India

- As mainly dry weather prevailed over the States of the region during last week and no significant rain is likely to occur during the period, farmers are advised to apply irrigation to the standing crops.
- As temperature is increasing in Jhabua Hills Zone of Madhya Pradesh, there are chances of fruit dropping in mango, farmers are advised to spray Naphthalic Acetic Acid @ 20-25 ppm or Planofix @ 0.3 ml/litre of water or Kerathion @ 2.0 gm/ litre of water. Irrigation should be given to mango plant after fruit setting for good yield.
- In Central Narmada Valley Zone and Bundelkhand Zone of Madhya Pradesh, present weather conditions are congenial for the incidence of leaf rot and fruit rot diseases in fruit crops, apply Bavastin fungicide for its control.
- Due to favourable weather conditions in Bastar Plateau Zone of Chhattisgarh, there are chances of purple blotch in onion. Farmers are advised to monitor the crops for the diseases and undertake plant protection measures.

### East India

- As dry weather prevailed and no significant rain is likely over the States of the region during the period, farmers are advised to apply irrigation to the standing crops.
- Taking the advantage of prevailing dry weather condition farmers in North West Alluvial Plain Zone of Bihar are advised to harvest matured potato and tobacco crop.
- In view of prevailing dry weather condition farmers in Jharkhand are advised to continue harvesting of potato, rapeseed and mustard and store the harvested products at safe place.
- Due to prevailing weather condition in Coastal Saline Zone of West Bengal, there is chance of attack of blast disease in *boro* rice; farmers are advised to spray Ediphenphos 50 EC @ 1 ml / liter of water.
- In East and South Eastern Coastal Plain Zone of Odisha, increase in temperature may favour increase in stem borer in the main rice field. As a control, place 4 Pheromone traps / acre, collect the adults and destroy them. Increase in difference between daily maximum and minimum temperature favours the infestation of blast in rice. Spray 1 g Beam / litre of water.

### Northeast India

- As there was no significant rain over the States of the region during last week and no significant rain is likely to occur during the period, farmers are advised to apply irrigation to the standing crops.
- As reduced moisture is favourable for cracking in banana, farmers in Mild Tropical Hill Zone of Mizoram are advised for proper mulching and nutrient management especially application of boron to minimize cracking. In tomato, reduced soil moisture hinders availability of calcium; farmers are advised to ensure weekly irrigation for optimum fruit setting.
- Weather is favourable for incidence of late blight and fruit borer in tomato in Mild Tropical Hill Zone of Mizoram. Farmers are advised to spray Mencozeb @ 1 g per litre of water for blight and 5% neem seed kernel extract or NPV @ 250-500 LE with 100 ml teepol / ha for fruit borer.

### West India

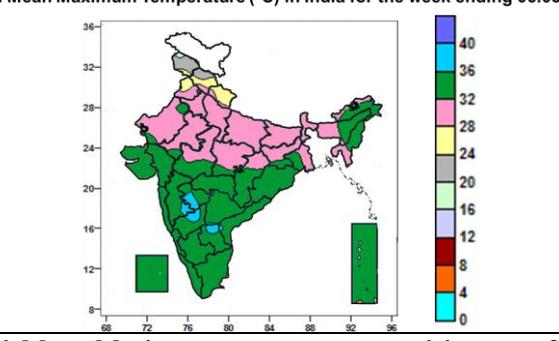
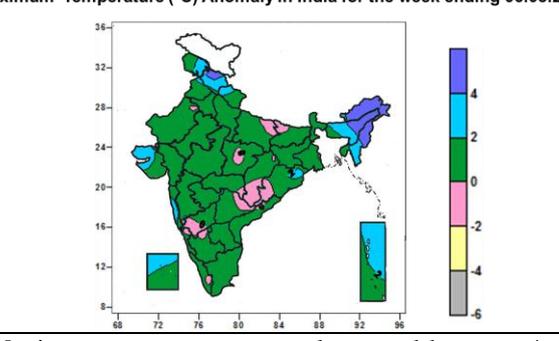
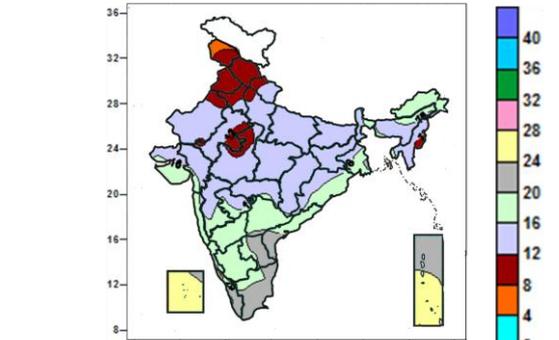
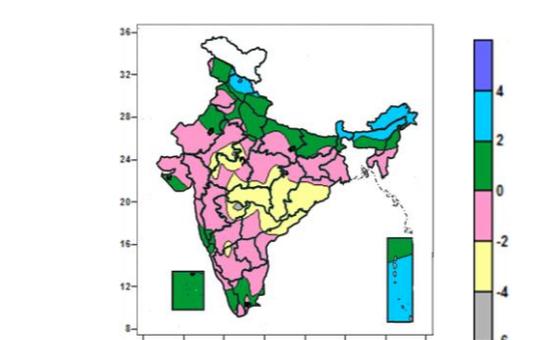
- As dry weather prevailed over the State during last couple of weeks and dry weather is also likely during the period, farmers are advised to apply irrigation to summer bajra, summer groundnut, sugarcane and vegetables in Madhya Maharashtra, Marathwada and Vidarbha and to the standing crops in Gujarat.
- As day temperature is rising, farmers in Maharashtra are advised for mulching with crop residues and other plant waste products in the orchards and sugarcane fields to minimize the rate of evaporation. Farmers of Konkan region are advised to use black polythene mulch between 2 trenches or beds of the fruit crop nursery.
- As day temperature is rising in Konkan, (around 39°C), there may be premature fruit dropping in mango; farmers are advised to spray 1% Potassium Nitrate. Also provide 150–200 litres of water per tree fortnightly.

- Rise in temperature is favourable for infestation of leaf curl in cucumber, chilli, tomato, leaf mosaic in papaya and yellow rust in okra in Pune region; spray Imidachloprid @ 4 ml or Methyl Dimeton @ 10 ml in 10 litres of water at 10-15 days interval.
- Weather conditions in South Gujarat Zone are favourable for occurrence of mango hopper, leaf miner and powdery mildew in mango orchard; farmers are advised to spray Quinalphos 25% EC 400 ml + Carbendazim 50% 100 g or Thiophenate Methyl 70% @ 100 g in 200 liters of water.

### **South India**

- As no significant rainfall occurred over most parts of the region except over Nagapattinam, Pudukottai, Ramanathapuram, Shivaganga, Thanjavur, Tirunelveli and Thiruvavur districts in Tamil Nadu during last week, apply irrigation to the standing crops. Postpone irrigation to the crops in the above mentioned districts as there was significant rainfall during last week.
- Due to low rainfall and saline water intrusion in the Problem Area Zone of Kerala, the salinity level is very high and hazardous to paddy. The high salinity level during seedling stage and panicle initiation is detrimental to paddy. Hence, farmers are advised to check the salinity level (EC) of field frequently and avoid flooding with water of EC >3ds/m. Since high temperature with low humidity and high wind speed is expected to increase evaporation loss, farmers are advised to increase frequency of irrigation in coconut, nutmeg and bananas and mulching with crop residues is also recommended.
- Farmers in the Northern Zone of Kerala are advised to go for cover cropping in irrigated areas or mulch the soils to prevent evaporation loss of water to tackle drought in the region and cultivate vegetables as intercrops in coconut gardens.
- As light to moderate rain is expected in forthcoming days in the Western Zone of Tamil Nadu, farmers are advised to conserve the moisture in the soil and also give propping to sugarcane to avoid lodging of the crop, since the wind speed is expected to go more than 10 km/ hour.
- Present weather condition is congenial for the attack of brown plant hopper (BPH) and the outbreak of blast disease in the Problem Area Zone of Kerala. Farmers are advised to remove the severely affected plants in order to provide air circulation into the crop canopy and here by reducing the spread of the disease to the nearby plants.

## Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 06.03.2013

<p><b>Actual Mean Maximum Temperature (<math>^{\circ}\text{C}</math>) in India for the week ending 06.03.2013</b></p> 	<p><b>Mean Maximum Temperature (<math>^{\circ}\text{C}</math>) Anomaly in India for the week ending 06.03.2013</b></p> 
<p>Actual Mean Maximum temperature ranged between 36 to 40<math>^{\circ}\text{C}</math> over some parts of Madhya Maharashtra, Marathwada, North Interior Karnataka, Rayalaseema, 32 to 36<math>^{\circ}\text{C}</math> over many parts of North East India (except Mizoram, Tripura), Orissa, Chattigarh, West India, south India, Lakshadweep, Andaman &amp; Nicobar Islands, some parts of Rajasthan, Madhya Pradesh, Gangetic West Bengal, 20 to 24<math>^{\circ}\text{C}</math> over many parts of Jammu &amp; Kashmir, some parts of Himachal Pradesh, 16 to 20<math>^{\circ}\text{C}</math> over some parts of Jammu &amp; Kashmir, 24 to 32<math>^{\circ}\text{C}</math> over remaining parts of the country.</p>	<p>Mean Maximum temperature anomaly ranged between 4 to 6<math>^{\circ}\text{C}</math> over many parts of Arunachal Pradesh, Nagaland, Manipur, some parts of Himachal Pradesh, Assam &amp; Meghalaya, Mizoram, 2 to 4<math>^{\circ}\text{C}</math> over many parts of Himachal Pradesh, Mizoram, Kutch, Andaman &amp; Nicobar Islands, some parts of Jammu &amp; Kashmir, Uttarakhand, Assam, Tripura, Saurashtra, Orissa, Konkan &amp; Goa, Lakshadweep Islands, -2 to 2<math>^{\circ}\text{C}</math> over rest of the country.</p>
<p><b>Actual Mean Minimum Temperature (<math>^{\circ}\text{C}</math>) in India for the week ending 06.03.2013</b></p> 	<p><b>Mean Minimum Temperature (<math>^{\circ}\text{C}</math>) Anomaly in India for the week ending 06.03.2013</b></p> 
<p>Actual Mean Minimum Temperature ranged between 24 to 28<math>^{\circ}\text{C}</math> over many parts of Lakshadweep, Andaman &amp; Nicobar Islands, 20 to 24<math>^{\circ}\text{C}</math> over many parts of Coastal Andhra Pradesh, Rayalaseema, Kerala, Tamil Nadu, some parts of Telangana, Lakshadweep, Andaman &amp; Nicobar Islands, 4 to 8<math>^{\circ}\text{C}</math> over many parts of Jammu &amp; Kashmir, 8 to 12 over many parts of Himachal Pradesh, Punjab, Haryana, Delhi, some parts of Uttarakhand, West Uttar Pradesh, Rajasthan, West Madhya Pradesh, Manipur, 12 to 20<math>^{\circ}\text{C}</math> over remaining parts of the country.</p>	<p>Minimum Temperature anomaly ranged between 2 to 4<math>^{\circ}\text{C}</math> over many parts of Himachal Pradesh, Sub-Himalayan West Bengal &amp; Sikkim, Arunachal Pradesh, Andaman &amp; Nicobar Islands, some parts of Jammu &amp; Kashmir, Uttarakhand, Assam &amp; Meghalaya, -4 to -2<math>^{\circ}\text{C}</math> over many parts of West Madhya Pradesh, Vidarbha, Marathwada, Chattisgarh, Orissa, some parts of East Rajasthan, East Madhya Pradesh, Telangana, Coastal Andhra Pradesh, North &amp; South Interior Karnataka, -2 to 2<math>^{\circ}\text{C}</math> over rest of the country.</p>

## Distribution of rainfall of the country during week ending on 06.03.2013

State/Districts	Actual (mm)	% Dep.
<b>Himachal Pradesh</b>		
Bilaspur	9.4	-37
Chamba	22.9	-48
Hamirpur	5.8	-66
Kangra	5.7	-74
Kinnaur	15.0	-31
Kullu	25.2	-6
Lahaul and Spiti	18.0	-49
Mandi	8.6	-50
Shimla	3.3	-79
Sirmaur	0.0	-100
Solan	0.9	-95
Una	0.6	-95
<b>Jammu &amp; Kashmir</b>		
Anantnag	12.5	-67
Badgam	16.5	-10
Bandipore	**	**
Baramula	25	-24
Doda	18	-68
Ganderwal	4.4	-79
Jammu	17.7	36
Kargil	0.0	-100
Kathua	1.5	-85

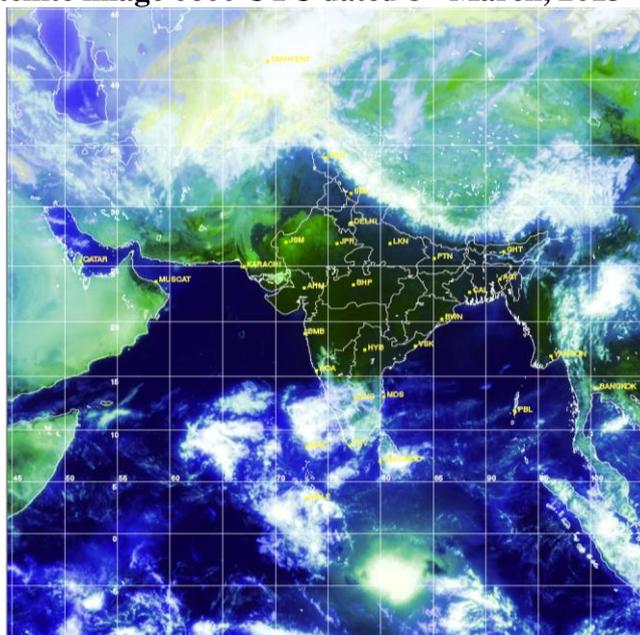
Kistwar	**	**
Kulgam	24.1	-36
Kupwara	20.1	-56
Ladakh(Leh)	0.0	-100
Poonch	0.0	-100
Pulwama	13.6	-26
Rajouri	7.0	-21
Ramban	16.3	-71
Reasi	18.0	-54
Samba	1.0	-92
Shopian	41.0	122
Srinagar	18.9	-10
Udhampur	9.0	-77
<b>Tamil Nadu</b>		
Ariyalur	0.0	-100
Chennai	0.0	-100
Coimbatore	0.1	-97
Cuddalore	9.4	93
Dharmapuri	0.0	-100
Dindigul	16.1	222
Erode	0.0	-100
Kanchipuram	0.0	-100
Kanyakumari	3.7	-44
Karikal	6.9	17
Karur	2.0	-34

Krishnagiri	0.0	-100
Madurai	14.9	217
Nagapattinam	23.8	271
Namakkal	0.6	-80
Nilgiris	8.8	0
Perambalur	2.2	-27
Puducherry	0.0	-100
Pudukottai	43.2	799
Ramanathapuram	43.8	441
Salem	0.4	-89
Sivaganga	43.7	628
Thanjavur	39	597
Theni	4.2	-46
Tirunelveli	26.4	114
Tirupur	0.0	-100
Tiruvallur	0.0	-100
Tiruvannamalai	0.0	-100
Tiruvarur	52.6	911
Toothukudi	16.3	81
Trichy	6.0	40
Vellore	0.0	-100
Villupuram	0.2	-93
Virudhunagar	17.2	152

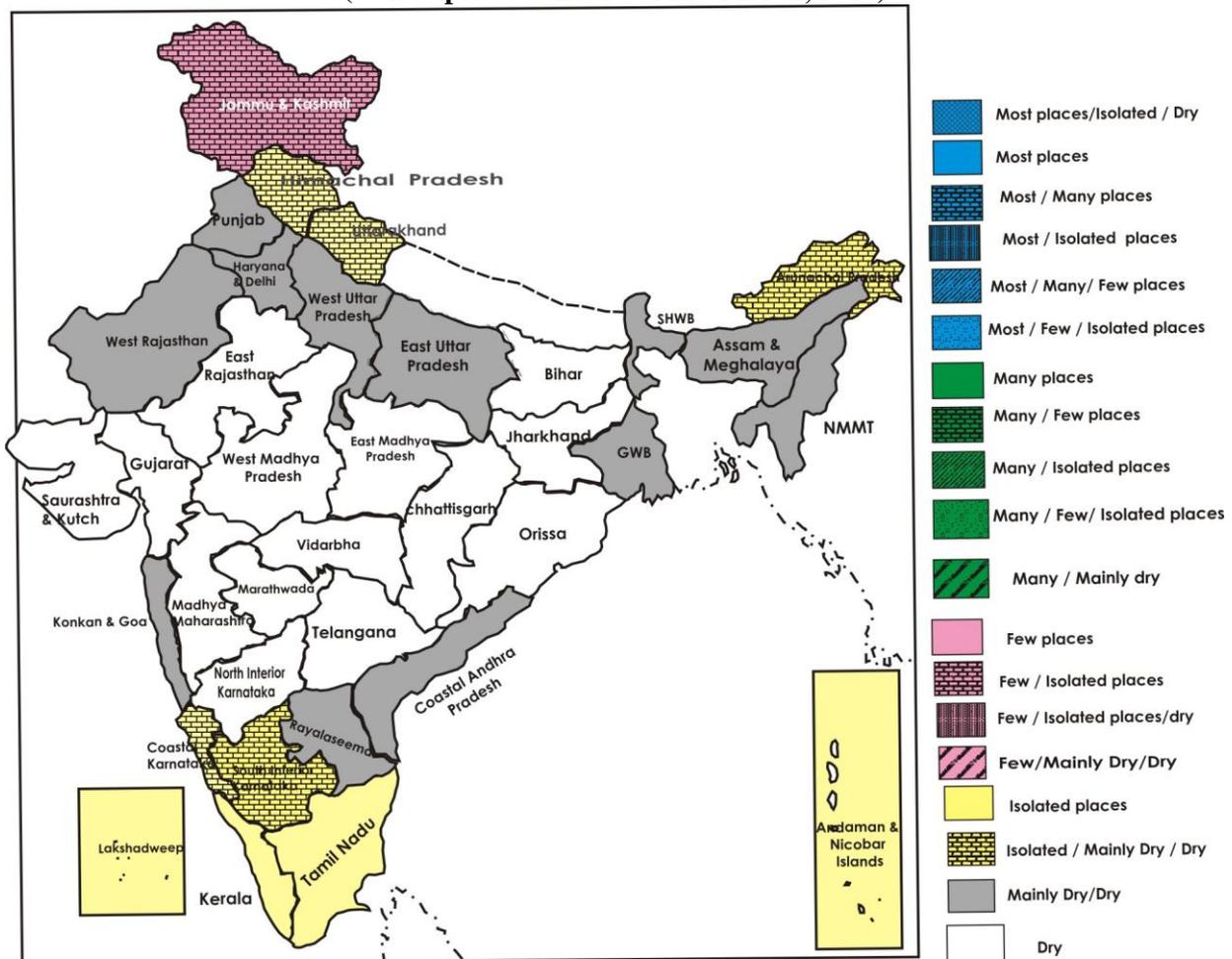
### Legends

	(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

### Satellite image 0600 UTC dated 8<sup>th</sup> March, 2013



## Weather Forecast (Valid upto 0830 hours of 11<sup>th</sup> March, 2013)



### Major Feature of Weather Forecast up to 0830 hours IST of 11<sup>th</sup> March, 2013

- The maximum temperatures are prevailing appreciably to markedly above normal over some parts of coastal areas of Gujarat and Maharashtra would continue today and respite from tomorrow onwards.
- Northwesterly winds would continue to prevail over Gangetic plains during next 24 hours.
- Rain/snow would occur at one or two places over Jammu & Kashmir during next 24 hours and at a few places thereafter. Rain/snow would also occur at one or two places over Himachal Pradesh and Uttarakhand on 9<sup>th</sup> and 10<sup>th</sup> March.
- Rain/thundershowers would occur at one or two places over Tamilnadu, Kerala and Lakshadweep.
- Rain/thundershowers would occur at one or two places over coastal & south Karnataka and Andaman & Nicobar Islands during next 24 hours.
- Rain/thundershowers would occur at one or two places in Arunachal Pradesh on 10<sup>th</sup> March.
- Rise in maximum and minimum temperatures over northwest and central India by 2-3°C from tomorrow onwards.
- Mainly dry weather would prevail over rest parts of the country

### Weather Warning during next 3 days

No weather warning.

### Weather Outlook for subsequent 4 days from 11<sup>th</sup> to 15<sup>th</sup> March, 2013

- Rain/thundershowers would continue to occur at one or two places over extreme south peninsular India and Andaman & Nicobar Islands.
- Rain/ thundershowers would occur at a few places over Arunachal Pradesh, Assam and Meghalaya on 11<sup>th</sup> March and at one or two places on 12<sup>th</sup> March.
- A fresh western disturbance would affect western Himalayan region from 12<sup>th</sup> March onwards.
- Mainly dry weather would prevail over rest parts of the country March.

# Zonewise Agromet Advisories

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

- **Realised Rainfall:** Significant rainfall occurred in Baramula, Kulgam, Kupwara and Shopian districts of Jammu & Kashmir and Chamba and Kullu districts of Himachal Pradesh during last week. Mainly dry weather prevailed over remaining parts of the region.
- **Weather Forecast:** Rain / snow would occur at one or two places over Jammu & Kashmir during next 24 hours and at a few places thereafter. Rain / snow would also occur at one or two places over Himachal Pradesh and Uttarakhand 9<sup>th</sup> and 10<sup>th</sup>. Mainly dry weather would prevail over rest of the region.  
Rise in maximum and minimum temperatures over northwest India by 2-3°C from tomorrow onwards.
- **Advisory:**
  - As Significant rainfall occurred in Baramula, Kulgam, Kupwara and Shopian districts of Jammu & Kashmir and Chamba and Kullu districts of Himachal Pradesh during last week, farmers are advised to postpone irrigation to the standing crops. As there was no significant rain over the remaining parts of the region and mainly dry weather is likely to prevail, apply irrigation to the standing crops.
  - In Rajasthan, taking the advantage of dry weather and increasing ambient temperature farmers are advised to harvest early mustard crop when 75% pods turn yellow and seed moisture content about 35% seed weight. Harvest the crop during morning hours to avoid shattering losses. Keep harvested products in safe place. It is also advised to harvest matured gram crop.
  - In Sub Tropical Zone Chatha of Jammu & Kashmir, weather conditions are congenial for aphids and thrips in mustard crop. Farmers are advised to spray the crop with Chloropyripous @ 0.05% or Metasystox @ 0.03%.
  - In Cold Arid Zone of Jammu & Kashmir, as the prevailing temperature is low, farmers are advised to cover the polythene of greenhouses with black polythene in the night for proper growth of crops or maintain 2 layers of polythene over greenhouse (at least 150 gsm each).
  - Other advisories are mentioned in Annexure I.
  - Stages of major crops are mentioned in Annexure II.
  - Suitable varieties of crops are mentioned in Annexure III.

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

- **Realised Rainfall:** Dry weather prevailed over the region.
- **Weather Forecast:** Dry or mainly dry weather will prevail over the States of the region.
- **Advisories:**
  - As dry weather prevailed during last week and is likely also likely to prevail during the period over the States of the region, farmers are advised to apply irrigation to the standing crops.
  - Taking the advantage of prevailing dry weather condition farmers in North West Alluvial Plain Zone of Bihar are advised to harvest matured potato and tobacco crop. Apply irrigation to wheat, maize, potato and vegetable crops.
  - Due to dry weather conditions in South Bihar Alluvial Zone of Bihar, farmers are advised to apply irrigation to wheat, maize and summer vegetable crops.
  - In view of prevailing dry weather condition farmers in Jharkhand are advised to continue harvesting of potato, rapeseed and mustard and store the harvested products at safe place.
  - As dry weather is likely to prevail, farmers in Jharkhand are advised to irrigate wheat crops.
  - Under prevailing dry weather, farmers in Old Alluvial Zone of West Bengal are advised to undertake harvesting of matured mustard and potato.
  - Due to increase in temperature, farmers are advised to apply irrigation to mango at flowering stage in the New Alluvial Zone and to banana in Laterite and Red Soil Zone of West Bengal.
  - In view of prevailing dry weather, the farmers of Western Undulating Zone of Odisha are advised to apply irrigation to vegetable crops and other *Rabi* crops to save the crops from possible moisture stress.
  - As dry weather is continuing, the farmers of Western Undulating Zone of Odisha are advised to apply irrigation at an interval of 7 days when the sugarcane crop is at germination stage that is within 35 Days of planting.
  - The average temperature is now suitable for proper germination of cucurbits like pumpkin, bitter gourd and bottle gourd in North Eastern Plateau Zone of Odisha; hence, farmers are advised to undertake sowing in the prepared field.
  - As the weather will remain dry and temperature is increasing, farmers of North Eastern Coastal Plain Zone of Odisha are advised to irrigate wheat and ground nut.
  - Due to prevailing weather condition in Coastal Saline Zone of West Bengal, there is chance of attack of blast disease in *boro* rice; farmers are advised to spray Ediphenphos 50 EC @ 1 ml / liter of water.
  - Under prevailing weather conditions there are chances of attack of stem borer in *boro* rice and mites in mango in New Alluvial Zone of West Bengal; farmers are advised to take appropriate control measures.

- In Laterite and Red Soil Zone of West Bengal weather conditions are favourable for the attack of stem borer in *boro* rice at panicle initiation stage and mango hopper in mango; farmers are advised to apply Carbofuran 3G granule @ 25 kg/ha to control stem borer in *boro* rice and 2 g Carbaryl or Monocrotophos @ 1.5 ml / litre of water to control mango hopper.
- In Laterite and Red Soil Zone of West Bengal, due to increase in temperature, there is chance of attack of rust and blight disease in wheat; farmers are advised to apply Mancozeb @ 2.5 to 3 g / litre of water.
- Due to increase in temperature in Terai Zone of West Bengal, there is possibility of attack of aphids in chilli and cucumber and white fly in ladies finger. Farmers are advised to apply Acephate 1 g / litre of water to prevent aphids in chilli and cucumber and Imidacloprid @ 3 ml / 15 litre of water for white fly.
- In East and South Eastern Coastal Plain Zone of Odisha, increase in temperature may favour increase in stem borer in the main rice field. As a control, place 4 Pheromone traps / acre, collect the adults and destroy them. Increase in difference between daily maximum and minimum temperature favours the infestation of blast in rice. Spray 1 g Beam / litre of water.
- Other crop advisories are mentioned in Annexure I.
- Stages of major crops are mentioned in Annexure II.
- List of Varieties are mentioned in Annexure III.
- **Pisciculture**
  - Rise in temperature is favourable for growth of fishes. Farmers in Western Plateau Zone and South Eastern Plateau Zone of Jharkhand are advised to add cowdung and lime in the pond as 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).
- **Poultry:**
  - Due to rise in temperature, give poultry birds drinking water 2-3 times per day. Ranikhet disease in poultry also occurs during this season. The farmers are advised to vaccinate the chicks of less than three month old with Lassota as eye drop and R2b strain for birds more than three months @ 0.5 ml / bird with the help of L.I. or VAS.

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

- **Realised Rainfall:** Mainly dry weather prevailed over the region.
- **Weather forecast:** Dry weather would prevail over the region.  
Rise in maximum and minimum temperatures over central India by 2-3°C from tomorrow onwards.
- **Advisories:**
  - As mainly dry weather prevailed over the States of the region during last week and no significant rain is likely to occur during the period, farmers are advised to apply irrigation to the standing crops.
  - As temperature is increasing in Jhabua Hills Zone of Madhya Pradesh, there are chances of fruit dropping in mango, farmers are advised to spray Naphthalic Acetic Acid @ 20-25 ppm or Planofix @ 0.3 ml/litre of water or Kerathion @ 2.0 gm/ litre of water. Irrigation should be given to mango plant after fruit setting for good yield.
  - In Central Narmada Valley Zone and Bundelkhand Zone of Madhya Pradesh, present weather conditions are congenial for the incidence of leaf rot and fruit rot diseases in fruit crops, apply Bavastin fungicide for its control.
  - Due to favourable weather conditions in Bastar Plateau Zone of Chhattisgarh, there are chances of purple blotch in onion. Farmers are advised to monitor the crops for the diseases and undertake plant protection measures.
  - Other advisories are mentioned in Annexure – I.
  - Stages of major crops are mentioned in Annexure II.
- **Animal Husbandary**
  - Temperatures are increasing hence farmers in Madhya Pradesh are advised to keep cattle in shades during noon hours.

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

- **Realised Rainfall:** Mainly dry weather prevailed over the States of the region during last week.
- **Weather Forecast:** Rain / thundershowers would occur at one or two places over Arunachal Pradesh on 10<sup>th</sup> March. Mainly dry weather would prevail over rest parts of the region.
- **Advisories:**
  - As there was no significant rain over the States of the region during last week and no significant rain is likely to occur during the period, farmers are advised to apply irrigation to the standing crops.
  - As reduced moisture is favourable for cracking in banana, farmers in Mild Tropical Hill Zone of Mizoram are advised for proper mulching and nutrient management especially application of boron to minimize cracking. In tomato, reduced soil moisture hinders availability of calcium; farmers are advised to ensure weekly irrigation for optimum fruit setting.
  - Weather is favourable for incidence of late blight and fruit borer in tomato in Mild Tropical Hill Zone of Mizoram. Farmers are advised to spray Mencozeb @ 1 g per litre of water for blight and 5% neem seed kernel extract or NPV @ 250-500 LE with 100 ml teepol / ha for fruit borer.
  - Other advisories are mentioned in Annexure - I
  - Stages of major crops are mentioned in Annexure II.

- Suitable varieties of crops are mentioned in Annexure III.
- **Animal Husbandry**
  - In Mild Tropical Hill Zone of Nagaland and Sub-Tropical Hill Zone of Arunachal Pradesh, farmers are advised to provide good shelter by additional bulbs in poultry, heating system to cattle shed or tie gunny bag on the back of animals to protect from cool temperature.
  - In Mild Tropical Plain Zone of Tripura, farmers are advised to feed / graze cattle during cooler hours and feed them fresh green fodder as temperature is rising.
  - Prevailing weather conditions are congenial for the occurrence of foot and mouth disease in cattle in Mild Tropical Hill Zone of Nagaland; farmers are advised to take precautionary measures.

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

- **Realised Rainfall:** Dry weather prevailed over the region during last week.
- **Rainfall Forecast:** Dry or mainly dry weather would prevail over the States in the region during the period. The maximum temperatures are prevailing appreciably to markedly above normal over some parts of coastal areas of Gujarat and Maharashtra would continue today and respite from tomorrow onwards.
- **Advisories:**
  - As dry weather prevailed over the State during last couple of weeks and dry weather is also likely during the period, farmers are advised to apply irrigation to summer bajra, summer groundnut, sugarcane and vegetables in Madhya Maharashtra, Marathwada and Vidarbha and to the standing crops in Gujarat.
  - As day temperature is rising, farmers in Maharashtra are advised for mulching with crop residues and other plant waste products in the orchards and sugarcane fields to minimize the rate of evaporation. Farmers of Konkan region are advised to use black polythene mulch between 2 trenches or beds of the fruit crop nursery.
  - As day temperature is rising in Konkan, (around 39<sup>0</sup>C), there may be premature fruit dropping in mango; farmers are advised to spray 1% Potassium Nitrate. Also provide 150–200 litres of water per tree fortnightly.
  - As dry weather is expected, farmers of Madhya Maharashtra, Marathwada and Vidarbha are advised to complete the harvesting of already matured *rabi* jowar, safflower, gram, maize and continue harvesting of wheat in morning hours. They are also advised to store the produce in cool and dry place.
  - In North Gujarat Zone, as prevailing temperatures are suitable, carry out sowing of summer pearl millet under assured irrigation facility and complete sowing of summer vegetables like ladies finger, cluster bean, cow pea, bitter gourd, bottle gourd, small gourd etc. Taking advantage of expected dry and clear weather conditions carry out harvesting of mustard.
  - As dry weather prevailed during last few weeks and is also likely to prevail in South Gujarat Zone, apply irrigation in vegetables and fruit crops.
  - In view of prevailing dry weather in Middle Gujarat Zone, apply irrigation in summer groundnut. As prevailing temperatures are suitable for sowing, carry out sowing of summer crops like pearl millet, cowpea and green gram.
  - Taking the advantage of dry weather in Bhal and Coastal Zone of Gujarat, farmers are advised for timely harvesting of matured *rabi* crops like wheat, mustard and chickpea.
  - Rise in temperature is favourable for infestation of leaf curl in cucumber, chilli, tomato, leaf mosaic in papaya and yellow rust in okra in Pune region; spray Imidachloprid @ 4 ml or Methyl Dimeton @ 10 ml in 10 litres of water at 10-15 days interval.
  - As prevailing day temperature is 3-4<sup>0</sup>C above normal, there may be incidence of thrips in pea stage mango in Konkan; spray 45% Spinosad @ 2.5 ml in 10 litres of water.
  - Under prevailing weather, there may be incidence of downy mildew in bitter gourd, cucumber, musk melon and water melon in Western Maharashtra Scarcity zone; spray Metalaxyl M-Z 72 @ 25 g + Mancozeb @ 20 g in 10 litres of water at an interval of 10 days.
  - Due to high temperature in Middle Gujarat Zone and North Gujarat Zone, there are chances of infestation of sucking pests in vegetables; spray Dimethoate 30 EC @ 10 ml in 10 litres of water.
  - Weather conditions in South Gujarat Zone are favourable for occurrence of mango hopper, leaf miner and powdery mildew in mango orchard; farmers are advised to spray Quinalphos 25% EC 400 ml + Carbendazim 50% 100 g or Thiophenate Methyl 70% @ 100 g in 200 liters of water.
  - Other advisories are mentioned in Annexure I.
  - Stages of the crops are mentioned in Annexure II.
  - Varieties of the crops are mentioned in Annexure III.
- **Animal Husbandry**
  - Due to rise in temperatures (2 to 4<sup>0</sup>C above normal) in Konkan and Madhya Maharashtra, for protection of poultry birds from heat, cover the poultry shed with cloth from outside and sprinkle with water. Apply layer of grass or gunny bags on the roof of shed and sprinkle water on it. Provide fresh and cool drinking water for the poultry birds and chicks.

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

- **Realised Rainfall:** Significant rainfall occurred over Nagapattinam, Pudukottai, Ramanathapuram, Shivaganga, Thanjavur, Tirunelveli and Tiruvarur districts in Tamil Nadu and mainly dry weather prevailed over rest of the region during last week.
- **Rainfall Forecast:** Rain/thundershowers would occur at one or two places over Tamilnadu, Kerala and Lakshadweep. Rain/thundershowers would occur at one or two places over coastal & south Karnataka and Andaman & Nicobar Islands during next 24 hours. Mainly dry weather would prevail over rest parts of the region.
- **Advisories:**
  - As no significant rainfall occurred over most parts of the region except over Nagapattinam, Pudukottai, Ramanathapuram, Shivaganga, Thanjavur, Tirunelveli and Thiruvarur districts in Tamil Nadu during last week, apply irrigation to the standing crops. Postpone irrigation to the crops in the above mentioned districts as there was significant rainfall during last week.
  - Due to low rainfall and saline water intrusion in the Problem Area Zone of Kerala, the salinity level is very high and hazardous to paddy. The high salinity level during seedling stage and panicle initiation is detrimental to paddy. Hence, farmers are advised to check the salinity level (EC) of field frequently and avoid flooding with water of EC >3ds/m. Since high temperature with low humidity and high wind speed is expected to increase evaporation loss, farmers are advised to increase frequency of irrigation in coconut, nutmeg and bananas and mulching with crop residues is also recommended.
  - Farmers in the Northern Zone of Kerala are advised to go for cover cropping in irrigated areas or mulch the soils to prevent evaporation loss of water to tackle drought in the region and cultivate vegetables as intercrops in coconut gardens.
  - As light to moderate rain is expected in forthcoming days in the Western Zone of Tamil Nadu, farmers are advised to conserve the moisture in the soil from the anticipated rainfall and also give propping to sugarcane to avoid lodging of the crop, since the wind speed is expected to go more than 10 kms/ hour.
  - Present weather condition is congenial for the attack of brown plant hopper (BPH) and the outbreak of blast disease in the Problem Area Zone of Kerala. Farmers are advised to remove the severely affected plants in order to provide air circulation into the crop canopy and here by reducing the spread of the disease to the nearby plants.
  - Weather conditions are congenial for powdery mildew and jassids in mango in the North East Dry Zone of Karnataka. Farmers are advised to spray 80% Wettable Sulphur @ 1250 gm + 50% carbaryl @ 2 kg + Bavistin @ 500 g in 500 lit of water per ha. Because of continuous dry weather and increased temperatures, thrips activity might increase in onion/brinjal/bhendi. To control them spray Oxydemeton Methyl (1.5 ml) or Dimethoate (1.7 ml) with one liter of water.
  - Warm and humid weather is congenial for incidence of stem borer, blast in rice in Southern Telangana Zone of Andhra Pradesh. Farmers are advised to spray Tricyclozole @ 0.6 g per litre of water for control of Blast and apply Cartap hydrochloride 4G @ 8 kg or Carbofuran 3G @ 10 kgs per acre before boot leaf stage or spray Cartap hydrochloride 50 SP @ 2g per litre for control of stem borer.
  - Other advisories are mentioned in Annexure – I.
  - Stages of major crops are mentioned in Annexure II.
  - List of Varieties are mentioned in Annexure III.
- **Animal Husbandry**
  - Weather conditions are favorable for Black Quarter (BQ) Haemorrhagic Septicemia and foot and mouth disease in animals in the North East Dry Zone of Karnataka. Farmers are advised to vaccinate all the animals as a precaution.
  - Outbreak of FMD is expected in the Problem Area Zone of Kerala in this weather. Hence, vaccination is recommended.

## Annexure I

### Other Advisories

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

- In Sub-Humid Sub-Tropic Zone of Uttarakhand, farmers are advised to apply remaining dose of Urea which will improve the synchronous ear emergence.
  - In Sub Tropical Zone and also in Intermediate Zone of Jammu & Kashmir, farmers are advised to continue sowing of bhindi, beans and cucurbits without any further delay. They are also advised to undertake planting of mango, guava, loquat, litchi, citrus etc. and deciduous plants, such as pear, peach, plum and grape-vine. Remove thatches / covering materials and provide support to the plants for their upright growth against wind.
  - In Valley Temperate Zone of Jammu & Kashmir, farmers are advised to give first dose of urea in oilseeds, cereals and fodder crops and weeding in wheat crop in the afternoon when prevailing weather is sunny. Farmers are also advised to continue sowing of tomato, brinjal, chillies, capsicum, knol khol, kale in hot beds, low tunnels and raised beds under open conditions, sowing of seeds of cucurbits in polybags and planting of potato.
  - In Cold Arid Zone of Jammu & Kashmir, farmers are advised to harvest Chinese cabbage, Beet leaf var. Mongol and Spinach, coriander, mint at 10-15 days interval in greenhouses.
  - In Hill Zone of Uttarakhand, farmers are advised to prepare field for sowing of Chetaki dhan, pea, potato. Undertake sowing of tomato, pea and French bean.
  - In Central Plain Zone of Uttar Pradesh, continue sowing / transplanting of cucurbitaceous vegetables and lady's finger, sowing of autumn maize and planting of autumn sugarcane,.
  - In Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh farmers are advised for nursery sowing / transplanting of tomato, chilli, capsicum, brinjal and cucurbits. Also it is advised for sowing of ageti bhindi and frenchbean in the field.
  - In Arid Western Plain Zone of Rajasthan, farmers are advised to undertake deep summer ploughing immediately after harvesting of rabi crops. Prepare field for sowing of Zaid crops i.e. jowar, bajra for summer green fodder.
  - Farmers in Western Zone of Punjab are advised to undertake transplanting of chilli, sowing of okra and also advised to sow early summer and multicut fodder during this month to meet fodder scarcity during summer lean period.
- **Animal Husbandry**
    - In Sub-Tropical Zone of Jammu & Kashmir, farmers are advised to provide supplementary mineral mixture regularly to the milch and pregnant animals. Provide clean water for drinking to the animals. Vaccinate the bovine population against foot and mouth disease.
    - In Semi Arid Eastern Plain Zone of Rajasthan, foot & mouth disease may spread in cows and buffaloes. It is advised to vaccinate the animals against FMD. If animals are affected, isolate the affected animals and wash the mouth with 0.1% potassium permanganate solution.

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

- Farmers in North West Alluvial Plain Zone of Bihar are advised to prepare field for sowing of summer mung and urad. Farmers are also advised to start sowing / planting of marigold and papaya.
- In South Bihar Alluvial Zone, farmers are advised to prepare the field for sowing of summer moong.
- Farmers in North Eastern Coastal Plain Zone of Odisha are advised to undertake planting of marigold as this is the ideal time for planting of marigold.
- The farmers of East and South Eastern Coastal Plain Zone of Odisha are advised to complete sowing of maize, green gram and black gram by this week.
- Yellow Vein Mosaic Virus has been reported in some areas in green gram and black gram in Western Undulating Zone of Odisha. The farmers of are advised to spray imidacloprid @ 1 ml / 4 litres of water to control the vectors. Uproot the infected plants and destroy it by burning or burying into the soil.
- The farmers of East and South Eastern Coastal Plain Zone of Odisha are advised to undertake sowing of summer cow pea and complete sowing of sesame.
- The farmers of North Central Plateau Zone of Odisha are advised for sowing cucurbits and ladies finger.
- Farmers in Jharkhand are advised to undertake sowing of summer vegetables like sponge gourd, bottle gourd, pumpkin, water melon, musk melon etc. Apply light irrigation after transplanting of seedlings. Farmers are also advised for sowing moong and different summer vegetable like cauliflower, cabbage, Chilli along with cucurbitaceous crops.
- Farmers in New Alluvial Zone and Laterite and Red Soil Zone of West Bengal are advised to prepare land and undertake sowing of sesame and different summer vegetables such as lady's finger, spinach, various leafy vegetables etc. Farmers are also advised for sowing of moong, maize, brinjal and chilli.

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

- As dry weather is expected in Madhya Pradesh farmers are advised to harvest matured crops, dry it in sunlight and then thresh it. Farmers having irrigation facilities are advised to undertake sowing of summer crops like black gram, green gram, urad and moong etc.
- Farmers in Vindhya Plateau Zone of Madhya Pradesh are advised to prepare land for sowing of summer vegetables.
- Farmers in Jhabua Hills Zone of Madhya Pradesh are advised to harvest matured *rabi* crops. They are also advised to sow summer crops *viz.* maize, green gram, groundnut, sesamum etc.
- Farmers in Chhattisgarh Northern Hill zone are advised to undertake field preparation for sowing of moong and urad.
- As the temperature conditions are suitable for proper sprouting of sugarcane, farmers in Chhattisgarh Plain Zone are advised to prepare well pulverized field for planting of sugarcane.
- Presently mango crop is at flowering/fruit setting stage, at this stage powdery mildew is commonly observed in mango, which causes poor fruit setting and later on fruit dropping. Hence, farmers in Chhattisgarh Plain Zone are advised to keep watch over the crop and whenever the symptom appears, spray Carbendizim (Bavistin) @ 1.5g or Sulphex @ 3.0g per litre of water.

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

- In Hill Zone, Central Brahmaputra Valley Zone, Barak Valley Zone and Lower Brahmaputra Valley Zone of Assam, farmers are advised to continue nursery raising of early *ahu* rice.
- In Upper Brahmaputra Valley Zone and Barak Valley Zone of Assam, farmers are advised to continue land preparation and sowing of summer pulses and summer vegetables.
- In Lower Brahmaputra Valley Zone of Assam, farmers are advised to continue sowing of maize, jute, summer pulses like black gram and green gram and summer vegetable crops like pumpkin, ridge gourd, sponge gourd, okra etc.
- Farmers in North Bank Plain Zone of Assam are advised to continue sowing of summer vegetables like ridge gourd, cucumber, bitter gourd, okra etc. and undertake land preparation for sowing of summer pulses.
- Farmers in Central Brahmaputra Valley Zone of Assam are advised to continue land preparation and sowing of summer pulses, *Capsularis* jute and summer vegetables.
- Farmers in Sub-Tropical Hill Zone of Arunachal Pradesh are advised to continue land preparation for *jhum* rice and sowing of okra and French bean. Also undertake sowing of cucurbits.
- Farmers in Mild Tropical Hill Zone of Mizoram are advised to continue land preparation and sowing of okra, chilli, brinjal and cucurbits.
- In Mild Tropical Plain Zone of Tripura, farmers are advised to continue land preparation and sowing of summer vegetables, summer maize and sesame.
- Farmers in Sub Tropical Plain Zone of Manipur are advised to complete transplanting of tomato, chilli, cucurbits etc. Also continue land preparation for nursery raising of *pre-kharif* rice and sowing of okra, cauliflower and cabbage.
- Farmers in Mild Tropical Hill Zone of Nagaland are advised to continue nursery raising of cucurbits *viz.* sponge gourd, bitter gourd and pumpkin. Undertake sowing of summer vegetables like okra, cucurbits, chilli, French bean, pea, land preparation for sowing of summer maize, ginger and turmeric and transplanting of chilli and brinjal.
- In Central Brahmaputra Valley Zone of Assam, incidence of wilt disease and aphids has been observed in lentil and lathyrus; farmers are advised to drench the soil with Bavistin @ 1 ml / litre of water to protect the crop from wilt and apply Malathion 50 EC @ 2 ml / litre of water against aphids.
- In Barak Valley Zone of Assam, there is infestation of aphids, jassids and beetles in French bean; farmers are advised to spray Malathion 50 EC @ 1.5 ml / litre of water to control the attack.

## WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- In North Saurashtra Zone of Gujarat, carry out sowing of summer vegetables like lady's finger, cluster bean, bottle gourd, sponge gourd, ridge gourd, bitter gourd, water melon and transplanting of tomato and brinjal.
- Complete sowing of summer moong before 15<sup>th</sup> March in South Saurashtra Zone and South Gujarat Heavy Rainfall Zone.

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

- In the Southern Zone of Kerala, farmers are advised to complete sowing of rice in this week and as the rain will not be sufficient, take necessary steps to keep moisture in the field. In coconut fields planting of leguminous plants in the field, mixing and ploughing these plants in the soil during their flowering stage will improve the fertility of the soil. Mulching will help to retain water in the field.
- Farmers in the North Transition Zone of Karnataka are advised to undertake harvesting of sugarcane, sorghum (October and November sown), wheat, and chick-pea.
- Incidences of powdery mildew are more due to warm and cloudy weather in the North Transition Zone of Karnataka. Farmers are advised to spray fungicide in three stages: First immediately after the initiation of flower, second after flowering and third after fruit set and spray 3 gm. water soluble Sulphur (80%) / 1 ml Tridomorph / 1 ml Hexaconozol / 3 gm. Carbendazim per liter of water to control powdery mildew.
- Farmers in the Scarce Rainfall Zone of Andhra Pradesh are advised to harvest the *rabi* groundnut and harvested crop should be dried and winnowing done after one week of harvest and dry the seeds in shade and store when the moisture percentage in seeds <9 per cent.

## Annexure II

### Major Crops

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

- Wheat (ear head emergence / flowering), pea (pod formation / maturity), radish (vegetative), pome and stone fruits (planting), cabbage, cauliflower (head formation), tomato, brinjal (sowing), cucurbits, French bean, okra, fodder crops (chari, bajra) (sowing) in Himachal Pradesh.
- Cauliflower, cabbage, broccoli, tomato (flowering / fruiting), carrot (flowering / fruiting), pea, gram (flowering/pod filling) radish and turnip (flowering/ fruiting), mustard (capsule formation/maturity), onion (vegetative), coriander, fenugreek, spinach (vegetative), wheat (flowering), lady's finger (sowing), chilli, tomato, brinjal and cucurbits (nursery preparation / transplanting), black gram (sowing) in Delhi.
- *Rabi* cereal (wheat - tillering), pulses (pea and lentil) (vegetative), brown sarson (vegetative), fodder oat (tillering) in Valley Temperate zone (Srinagar), sunflower (early vegetative / vegetative), garlic, cucurbits, okra (seedling / early vegetative), potato (planting), radish, spinach (sowing), carrot, turnip (sowing), onion, cole crops (nursery sowing / transplanting), mustard (capsule formation/ maturity), wheat (late sown - jointing, normal / early sown - active tillering / ear head emergence), barley (tillering / jointing / flag leaf initiation), pulses (pea, lentil, gram) (pod formation), oat, berseem (vegetative) in Jammu & Kashmir.
- Wheat (ear head emergence/flowering), arhar (flowering / pod formation), ginger (vegetative), autumn sugarcane (vegetative), yellow sarson, mustard (flowering / capsule formation), barley (ear head emergence / milky), oat (tillering / ear head emergence), chick pea, lentil (pod formation/maturity), brinjal, chilli, lady's finger (vegetative / flowering / fruiting), moong, okra (sowing), sugarcane, cucurbits (sowing) in Uttarakhand.
- Wheat (ear head emergence/flowering), barley (ear head emergence/flowering), sugarcane (harvesting), new sugarcane (planting), linseed, jai (vegetative / flowering), radish, carrot (root development / harvesting), onion, garlic (vegetative), rapeseed, mustard, pea, lentil, gram (pod formation / maturity) maize (pod formation / grain formation) in Uttar Pradesh.
- Wheat (booting), sugarcane (harvesting), potato (harvesting), new sugarcane (planting), mustard (capsule formation), maize (sowing) in Punjab.
- Wheat (flag leaf/booting), sugarcane (harvesting), new sugarcane (planting), mustard (capsule formation), barseem (sowing / vegetative) in Haryana.
- Sugarcane (maturity / harvesting), New sugarcane (field preparation), maize (maturity), *capsicum*, guar, vegetables (tinda, water melon, pumpkin, cucumber, coriander, bhindi, ridge gourd) (sowing / germination / seedling), potato (tuber maturity / harvesting), mustard (capsule formation / maturity / harvesting), gram (grain maturity / harvesting), wheat, (ear head emergence / flowering / milky / grain maturity / dough), barley (milky /dough/ grain maturity), opium poppy (pre-flowering / flowering) in Rajasthan.

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

- Gram, lentil (pod formation / maturity), sunflower (head formation), maize (cob formation), sugarcane (planting), potato (tuber formation / tuber maturity / harvesting), mustard (capsule formation), urad, arhar (grain formation), winter vegetables (flowering / fruiting / harvesting), wheat (flowering / milk), pigeon pea (flowering / pod formation), summer vegetables (sowing / vegetative), moong, urd (sowing) in Bihar.
- Wheat (milk / dough), potato (tuber maturity / harvesting), pigeon pea (pod formation), onion (transplanting), vegetables (vegetative / flowering / fruiting / harvesting), gram, linseed, lentil, pea (pod formation / pod filling / maturity), rice (seedling), rapeseed, mustard (harvesting) in Jharkhand.
- Sugarcane (sprouting), banana (vegetative), mustard (capsule formation / capsule maturity), cowpea (pod formation / maturity), *rabi* groundnut (pod formation), fruit crops (planting / seedling), summer rice (seedling), wheat (milk / dough / maturity), tomato (flowering / fruiting), summer green gram, summer vegetables, summer groundnut (sowing) in Odisha.
- *Boro* rice (active tillering / panicle initiation), wheat (flowering / milk / dough), vegetables (flowering / fruiting), potato (tuber formation / maturity stage), mango (flowering), tomato (flowering / fruiting), mustard (capsule maturity / harvesting), pointed gourd, cucumber (flowering), sunflower (flowering), groundnut (vegetative / flowering), sesame, moong, maize (sowing), chilli (flowering / fruiting) in West Bengal.
- Ginger (sprouting / early vegetative), large cardamom (primary flowering / secondary flowering), vegetables (vegetative), rice (grain formation / maturity) in Sikkim.

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

- Ladies finger (flowering / fruiting), pigeon pea, gram (maturity/ harvesting), potato, onion (maturity/harvesting), sugarcane (vegetative/elongation), *rabi* vegetables (flowering/ fruiting), wheat (grain filling/maturity/harvesting), maize (cob formation/ harvesting), lentil, mustard, linseed (maturity/harvesting) in Madhya Pradesh.

- Sugarcane (planting/vegetative), pigeon pea, groundnut (pod filling/maturity), sesame (late vegetative), ginger, turmeric, papaya, mango and guava (vegetative), onion (transplanting), vegetables (transplanting / vegetative), millet (flowering), wheat flowering), rice (transplanting), niger, kulthi (vegetative) in Chhattisgarh.

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

- *Boro* rice (active tillering / panicle initiation), early *ahu* rice (nursery raising / sowing / seedling), maize (sowing), jute (sowing), cole crops (maturity / harvesting), wheat (ear head emergence / flowering / milk / dough), rapeseed, mustard (capsule maturity / harvesting), tomato (flowering / fruiting), summer pulses (sowing), okra (sowing / seedling), cucurbits (sowing) and summer vegetables (sowing) in Assam.
- Pea (pod formation), rapeseed, mustard (capsule formation / capsule maturity), French bean, okra (sowing) and cucurbits (sowing) in Arunachal Pradesh.
- Pre-*kharif* rice (sowing), *rabi* maize (vegetative), potato (tuber formation), pea (pod formation / pod maturity), cauliflower, cabbage (sowing), rapeseed (pod formation / pod maturity), onion, garlic (vegetative / bulb formation), tomato, brinjal, chilli (transplanting / vegetative), beans (early vegetative / vegetative), cucurbits (transplanting / early vegetative), okra (sowing) in Manipur.
- *Rabi* maize (vegetative / silking / tasselling), *boro* rice (tillering), pea, lentil, toria, chilli, brinjal (vegetative / flowering / fruiting) in Meghalaya.
- Pea (harvesting), tomato (fruiting / harvesting), banana (vegetative / harvesting), maize (cob formation / maturity), okra, cucurbits (sowing) and chilli and brinjal (nursery raising) in Mizoram.
- *Rabi* maize (silking / tasselling / cob formation), cabbage (head formation), mustard (flowering / capsule formation), tomato (flowering / fruiting), pea (pod maturity / harvesting), banana (fruiting), potato (tuber formation), cucurbits (nursery raising), chilli, brinjal (transplanting), and okra and other summer vegetables (sowing) in Nagaland.
- *Boro* rice (active tillering), summer brinjal, tomato (vegetative), potato (tuber maturity / harvesting), pea, bean (maturity / harvesting), summer green gram and black gram (vegetative), summer vegetable, summer maize, sesame (sowing) in Tripura.

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

- *Adsali* sugarcane, pre seasonal sugarcane and *suru* sugarcane (cane maturity / harvesting in Madhya Maharashtra and Marathwada), new *adsali* sugarcane (tillering), new pre seasonal sugarcane (early tillering), new *suru* sugarcane (sprouting), *rabi* jowar, safflower, maize and gram (maturity / harvesting in Madhya Maharashtra, Marathwada and Vidarbha), wheat (grain maturity / harvesting), summer rice (early tillering / tillering), summer groundnut (flowering / pegging in South Konkan and early vegetative / vegetative in Madhya Maharashtra, Marathwada and Vidarbha), summer bajra (early vegetative in Pune and Nashik region) in Maharashtra.
- Pearl millet (sowing), pulses (sowing), summer groundnut (vegetative / flowering / pegging), summer rice (early tillering), summer vegetables (sowing / transplanting / vegetative), wheat (milk / dough / maturity), gram (pod development / pod maturity), sugarcane (vegetative / elongation), potato (tuber maturity / harvesting), mustard (pod maturity / harvesting), jowar (grain formation / grain maturity), *rabi* fennel (flowering / pod formation), fenugreek (flowering / pod formation), maize (cob formation / cob maturity) in Gujarat.

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

- *Rabi* groundnut (pod development/pod maturity/harvest), *rabi* maize (tasselling/silking), sunflower (flowering / seed formation), *rabi* rice (tillering), summer cotton (sowing), Bengal gram (pod development), red gram (pod development / maturity), cowpea and sesame (pod formation/ pod maturity), rice fallow pulses (vegetative), sugarcane (planting/tillering), mango (flowering) and vegetables (all stages) in Andhra Pradesh.
- Cowpea, black gram and green gram (pod maturity/harvesting), pigeon pea (harvesting), chilli (fruiting), sunflower (harvesting), chick pea (pod development /harvesting), grapes (fruiting), Bengal gram (harvest), jowar (milky/grain filling/harvesting), ragi (ear head emergence), maize (cob development/harvesting), groundnut (vegetative/pod formation/harvesting), mango (flowering/fruit development), summer green gram/ black gram (branching), rice (transplanting), sugarcane (harvesting/planting) in Karnataka.
- Coconut (harvesting), *puncha* rice (grain formation / maturity), vegetables (planting/seedling), *summer* rice (sowing), sugarcane (harvesting/land preparation for next crop), cardamom (new planting) in Kerala.
- *Samba* rice (maturity/harvesting), *thaladi* (maturity/ harvesting), sorghum (harvesting), rice fallow pulses (flowering/pod formation), rainfed groundnut (flowering/maturity), cotton (flowering/boll maturity), sugarcane (ratooning), maize (flowering/maturity/harvesting), red gram (pod formation), summer sorghum, maize and cotton (sowing),vegetables (fruiting) in Tamil Nadu.

## Annexure III

### List of Varieties

#### Jammu & Kashmir

**Onion:** Pusa Red, N-53.

**Knolkhol:** Purple Vienna and White Vienna.

**Radish:** Japanese White and Minowase.

**Beans: Bush types:** Contender and Arka Komal; and

**Potato:** Kufri Jyoti.

**Tomato :** Pusa Ruby, Hisar Arun, Hisar Lalit, Punjab Chuhara, Hybrids: Rupali and Meenakshi, **brinjal :** Pusa Purple Long, Pusa Purple Round, Pusa Purple Cluster, Pant Samrat, Pant Rituraj, Hybrid: Pusa Hybrid-5, Pusa Hybrid-6, Suphal and Saurabh) and **chillies :** NP 46A, Pusa Jawala, Hybrid: CH-1 and CH-3.

#### Himachal Pradesh

Bhindi : P-8, Prabhini kranti, Arka anamika

Frenchbean :Contender

#### Delhi

**Lady's finger:** A-4 and Parbhani Kranti.

**Spinach:** Pusa Harit hybrid varieties.

Maize : African Tall

Baby corn : HM-4 hybrid

#### Punjab:

**Sugarcane:** CoJ-85, CoJ-83, CoJ-64 (early maturing), CoH-119, CoJ-88, CoS-8436 (mid maturing) and CoJ-89 (late maturing).

**Chilli** - CH-3/CH-1/Punjab Guchhedar and Punjab Surakh

**Okra** - Punjab Padmini or Punjab 7 or 8

#### Uttarakhand:

**Moong:** Pant Urd-19, Pant Urd-30, Pant Urd-31, Pant Urd-35 or Narendra Urd-1 etc.

**Urd :**

**Brinjal :** Pant Samrat, Pant Rituraj, Pant Brinjal-4, ARU-1 etc.

Sugarcane : Co- Pant 84211, COS-8436, COS-88230, COS-96268 or recent released variety CO Pant & 3220 and moderate to late varieties like Co-Pant 97222, Co-Pant-96219, Co-Pant-90223. COS-1148, CO-167 etc.

**Sorghum :** UPMC, Forage Lobia UPC-5286, UPC-5287 or Forage Maize like Vikram or African Tall

**Cucurbits:** cucumber var. Pant Khira-1 or Balam Khira ; Long Melon var. Pant kakari-1 ; Bottle Gourd var. Pant Lauki-4, Pant Sankar Lauki-1 or Pant Sankar Lauki-2 ; Bitter Gourd var. Pant Karela-1 ; Water Melon etc.

Tomato : Avinash-2, Himsona, Himraja, Apurva,

Shimla Mirch: P.R.C.-1, Mahabharat, California Wonder

**Dhan:** VL-Dhan 207, VL-Dhan 208 & VL - Dhan 209

**Pea:** VL Ageti Matar-7 or Vivek Matatr-10 specially

**Tomato:** VL-Tomato –

**French bean:**VL Boni Bean-1, VL Bean-2, Kantender, Pant Anupama etc

#### Uttar Pradesh:

**Arhar:** UPS-120, T-21,

#### Rajasthan :

**Sugarcane :** CO 6617, CO7717, COS 95255, COS 767.

**Summer Groundnut :** TAG-24, SB-11, DH-86 and GG-2.

#### Odisha

**Groundnut:** Smruti and JL-24, TMV-2, Devi, Phule Pragati, ICGS-44, TAG-24, TG-3 and TG 38.

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

**Sesame:** Vinayak, Kanak, Kalika, Uma, Usha.

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

**Sunflower:** Morden, PAC-36, KBSH, MSFH-8, SFH-7, KBSH-1, MSFH-1, MSFH-17.

**Papaya:** Honey dew, Kurg honey dew, coimbatore-1, Coimbatore-2, Pusa delicious, Pusa majestic, Pusa dwarf and Pusa giant.

**Summer Green Gram:** PDM 11, PDM-54, Pusa Baisakhi.

### **West Bengal:**

**Sesame:** Rama, Tilottama, B64, B14.

**Moong:** Chaiti mung, Sonali, T44, PDM-84, Samrat, Basanti.

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

### **Jharkhand:**

**Onion:** Pusa Red, Pusa Ratnar, N-53, Arka Nikatan, Arka Kalyan, Agrifound Dark Red.

**Moong:** Pusa Vishal, Pant moong-2, Samrat, S.M.L.-668 etc.

### **Bihar:**

**Bhindi:** Parvani Kranti, Arka Abhay, Arka Anamika, Barsha Uphar, KS 312, Okra 4, Punjab 7, Pant Bhindi 1.

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

**Marigold:** Rajnigandha.

**Papaya:** Redleady, Taiwan.

**Summer moong:** HUM-16, PS-16.

### **Assam**

**Early Ahu rice (direct seeded):** Luit, Kopilee, Cauvery, Culture -1, Rasi, Lachit, Chilarai, Dichang, Banglami, Puthichapali, Nilajee, Hasakumra.

**Transplanted Early Ahu rice:** Rasi, Soket, IR-50, IR-36, Luit, Kopilee, Cauvery, Culture -1, Panjasali, Koijapori, Kaujuli, Hasakumora.

**Kharif maize:** Ganga-5, NLD, Dhawal, Naviot and Diara.

**Jute:** JRC 321, UPC 94.

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

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

**Green gram:** Pratap, Kopergaon, T 44, AAU 34, AAU-39, SG 1, K-851 and ML-55.

**Pumpkin:** Arka Suryamukhi, Arka Chandan.

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

**Sponge gourd:** Pusa Chikni.

### **Arunachal Pradesh:**

**Jhum rice :** Bhalum 1, 2, 3 and 4.

### **Manipur :**

**French Bean:**

**Dwarf type:** Anupam, Pant Anupam.

**Pole type:** Tangkhul Hawaii (local variety).

### **Tripura:**

**Green gram:** PDM 139.

**Black gram:** T-9, Panth Urd- 35.

**Tomato:** Anup.

### **Maharashtra**

**Summer Green Gram:** AKM8802, Pusa Vaishakhi.

### **Gujarat**

**Green Gram:** Guj. Mung- 3, 4, K-851.

**Cowpea:** Guj. Cowpea-4, 5, Pusa Falguni.

**Pearl millet:** GHB-526 and GHB-558.

**Tomato:** Pusa Hybrid, Pusa Rubi, Jungadh Rubi, Junagadh Tomato-1.

**Brinjal:** Junagadh Oblong, Junagadh Long, Guj. Brinjal-2.

**Lady's finger:** Guj. Hy. 2.

**Ridge gourd:** Pusa Nasdar, Jaipuri.

**Bottle gourd:** Junagadh Tender Long, Pusa Summer Prolific Long.

**Sponge guard:** Pusa Chikni.

**Bitter guard:** Priya, Pusa Domosmi.

**Cluster bean:** Pusa Sadabahar, Pusa Navbahar, IC-11388.

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

### Annexure IV

## Contour maps for Relative Humidity, Cloud Amount and Wind speed for the week ending on 06.03.2013

