

**Indian Council of Agricultural Research****Status of monsoon and contingency plans for deficit/surplus areas of the country**

The monsoon arrived at Kerala on June 5, five days late and it maintained the delay of one week to 10 days in all the states covered so far. Kerala, parts of Karnataka Andhra Pradesh, Orissa, Chattisgarh and Jharkhand have received reasonably good rains permitting sowing operations. In all these states the sowings are in progress and no major change in cropping pattern are suggested at this stage. Few parts of Bihar have also received rains but not adequate for taking up sowings in full swing. However, the monsoon is in excess causing floods in Assam. Contingency plans need to be implemented here immediately. During the last two days the monsoon has revived and covered states like Maharashtra, Madhya Pradesh and Gujarat. Under these conditions the contingency planning suggested for different states are as follows:

**Assam:**

- Assam received very high rainfall in many districts causing floods
- Out of total 27 districts, more than 22 districts have been affected by Brahmaputra flood
- Barpeta, Dhemaji, Jorhat, Golaghat, Tinsukia, Dibrugarh, Sivsagar, Nagaon, Morigaon, Lakhimpur, Kokrajhar, Dhubri, Nalbari, Bongaigaon, Chirang, Baksa, Sonitpur, Udalguri, Goalpara, Cachar, Kamrup and Karimganj are affected districts.

The district wise rainfall received in Assam since 1 to 27 June 2012 (IMD Data) is presented below:

S. No.	District (Name)	Actual(Mm)	Normal(Mm)	%Dep	Category.
1	Baksa	891.7	636.4	40%	E
2	Barpeta	1097.4	636.4	72%	E
3	Bongaigaon	1242.6	570.1	118%	E
4	Cachar	642.2	483.6	33%	E
5	Chirang	1423.7	570.1	150%	E
6	Darrang	316.0	391.0	-19%	N
7	Dhemaji	337.0	466.8	-28%	D
8	Dhubri	959.1	547.4	75%	E
9	Dibrugarh	421.6	353.2	19%	N
10	Goalpara	736.6	510.4	44%	E
11	Golaghat	273.4	231.4	18%	N
12	Hailakandi	315.1	432.7	-27%	D
13	Jorhat	209.7	256.7	-18%	N

14	Kamrup	480.6	341.0	41%	E
15	Kamrup metro.	394.4	341.0	16%	N
16	Karbi anglong	235.8	206.4	14%	N
17	Karimganj	777.9	595.1	31%	E
18	Kokrajhar	1500.1	738.5	103%	E
19	Lakhimpur	572.2	466.8	23%	E
20	Morigaon	255.6	277.8	-8%	N
21	N. C. Hills	169.6	307.1	-45%	D
22	Nagaon	183.0	261.6	-30%	D
23	Nalbari	897.8	517.9	73%	E
24	Shonitpur	528.5	321.1	65%	E
25	Sibsagar	208.2	226.3	-8%	N
26	Tinsukia	410.4	344.8	19%	N
27	Udalguri	228.0	391.0	-42%	D

- E-Excess, N-Normal and D-Deficit

### Impacts of current floods:

Population of 10,80,114 in 2084 villages of 22 districts was affected by the floods. The flood also affected 319 fishery tanks and damaged 43439.33 ha of cropped area.

### Estimated cropped area affected due to floods

District	Number of village affected	No of farm family affected (Nos)	Autumn paddy (Ha)	Boro paddy (Ha)	Bao (Ha)	Sali Seedling (Ha)	Sali transplanted (Ha)	Jute (Ha)	Pulses	Sugar cane (Ha)	Kharif vegetables	Others (Ha)
	1	2	3		4	5	6	7		8	9	10
<b>Sonitpur</b>	567	54361	4290.5	NA	2029.0	12656.3	6000.5	2058.5	NA	1141.5	1717.7	803.00
<b>Dhubri</b>	900	1,38,940	5051	NA	NA	2446.5	NA	10,624	515	NA	2756	2427
<b>Barpeta</b>	NA	1,50,572	8887.5	NA	723	3367	216	4346	NA	NA	4472	NA
<b>Golaghat</b>	109	17015	1548.7	2480.2		1902.6	724	NA	NA	NA	NA	NA
<b>Karimganj</b>	NA	34082	1334	NA	NA	1059	NA	NA	NA	NA	532	NA

(Source: AICRP on Agrometeorology, Jorhat) , NA- not available

**Contingency measures for flood affected districts in Assam (Source: District level contingency plans for Assam)**

Districts	Suggested contingency measures
Districts where paddy nurseries/crop is damaged like Lakhimpur, Dhemaji, Jorhat, Barpeta, Dima Hasao, Kamrup, North Lakhimpur, Nagaon, Sivasagar, Sonitpur and Tinsukia	<ul style="list-style-type: none"> <li>• Raising of community nursery for late planting with old seedlings of the varieties like Profulla and Gitesh (If more than 50% damaged) or nursery raising of the photo insensitive short duration variety like Luit for replanting (in case of total damage)</li> <li>• Wet seeding of sprouted seeds (@75-80 kg/ha) of short to medium duration varieties like Disang, Luit, (100 days) Kapili, Kalong (120 days)</li> <li>• Late and staggered planting with the old seedlings (50-60 days old seedlings) of the varieties like Profulla and Gitesh ( (If the field is heavily damaged).</li> <li>• Direct seeding with the photo insensitive short duration variety like Luit</li> <li>• Adoption of submergence tolerance varieties like Jalashree and Jalkuwari for repeat flood prone areas</li> <li>• In partially affected fields, drain excess water and apply 1/3<sup>rd</sup> N + 50% K<sub>2</sub>O as top dressing during the tillering stage</li> </ul>

**Other states**

**Andhra Pradesh**

In most parts of the state the rains have been received and the normal crops and varieties are to be sown except sorghum which should be replaced with pearl millet after July 1. Paddy nurseries are also in progress. Wherever there is a dry spell, top dressing of nitrogen fertilizer need to be postponed till adequate rainfall occurs.

**Chattisgarh**

Chattisgarh has received reasonably good rainfall for sowing operations to begin. In the state no contingency plan is suggested at this stage. Nursery raising and direct seeding of rice may be taken up with normal recommended varieties. All the rainfed crops like maize, soybean, sesame, pigeonpea, can be sown on uplands upto first week of July with no change in variety or management practices.

**West Bengal**

The rainfall in Gangetic West Bengal was deficit but as such no change is suggested in the cropping system. Nursery sowing of Aman rice (IET-4094, 2233, Ratna) are to be taken up wherever adequate rainfall is received.

## **Karnataka**

Coastal Karnataka received sufficient rains but there is some deficit of rainfall in south and north interior Karnataka. In these two zones, in areas where sufficient rains have occurred, the regular cropping pattern need to be followed. In South interior Karnataka, medium duration pigeonpea varieties instead of long duration ones are suggested. In paddy, nurseries are to be raised with groundwater in tankfed areas so that timely plantation can be done in July with the release of canal water.

Wherever adequate rainfall is received in north interior Karnataka vegetables, maize, sunflower, bajra and red gram are to be planted with no change in the variety or management practice. Further delay of sowing beyond 15<sup>th</sup> July requires the land to be kept fallow during *kharif* wherever double cropping is practiced.

## **Orissa**

The state received near normal rainfall and as such no contingency plan is suggested.

## **Tamil Nadu**

Tamil Nadu received most of the rainfall during northeast monsoon, however, some regions also receives southwest monsoon rains. There is a deficit of rainfall in some regions.

- In areas where the monsoon has been delayed by more than two weeks, short duration and drought resistant varieties of pearl millet (CO 7, COCU 9) or groundnut (VRI 2, VRI 3, TMV 7, TMV (Gn) 13) or sunflower (CO 4, TCSH 1, Morden) or maize (COMH 5) or pluses (VBN 1, 2 and 3) or sesamum (TMV 3, CO 1) or cotton (KC 3) are recommended.
- Farmers are advised to adopt seed hardening before sowing.
- In case of cotton, protray nursery technique may be adapted.
- In case of pulses, foliar spray with 2% DAP is recommended during dry spells.
- In Cauvery delta zone, short duration rice varieties (ADT 36, 37, 43 and 48) are recommended under SRI method.

## **Maharashtra**

- Vidharbha received reasonably good rains in June.
- Early varieties of cotton (American: AJKH-8828, PKV Rajat, AKH-081, Deshi cotton: AKA-5, AKA-7, AKA-8) may be sown with 20% increased seed rate and reduced intra row spacing.
- Greengram and blackgram may be sown as intercrops in cotton.
- In pigeon pea, varieties like AKT 8811, Vipula, PKV-Tara and BSMR-736 may be sown at reduced row spacing of 90x20 instead of 90x30 cm.

- In soybean, greengram and blackgram Broad Bed and Furrow system is recommended.
- Marathwada region received deficit rainfall. However, wherever rains are sufficient to sow the crops, regular crops like cotton, pigeonpea, soybean can be sown upto 7 July with no change in variety and management practices. However, green gram and black gram are not to be planted beyond 1 July.

## **Bihar**

- Rainfall over the entire state is deficit by 36% and central and northwest parts are badly hit.
- Farmers are advised to avoid long duration rice varieties. In medium lands varieties like Rajshree, Santosh, Rajendra Suvasini and Rajendra Bhagwati and in low lands varieties like Rajshree, R. Sweta may be planted at closer spacing.
- In upland areas, pigeon pea varieties viz., Bahar/Narendra Arhar 1/Malviya 13 may be sown.

## **Gujarat**

- Rainfall in the state was highly deficient, however, good rains have received during the last 24 hours.
- Farmers are advised not to sow groundnut or any other long duration crops now. In some areas if monsoon rains are delayed beyond 15 July only clusterbean, sesamum and greengram are recommended.

## **Rajasthan**

- Rainfall over the entire state is scanty with a deficit of 72%. However, rains are expected in the next one week.
- Upto 1 July short duration varieties of maize (Pratap Makka -3, PEHM-2), soybean (NRC-37, JS-93-05), groundnut (JL-24, SB-11) and sorghum (CSH-6, CSH-14 and SPV-96) are recommended.
- If rain gets delayed by two weeks (beyond 15 July) sowing of maize and sorghum may be avoided and in those areas pulses, sesame and clusterbean may be planted.

## **Eastern Uttar Pradesh**

In this area the South-West monsoon is delayed by 2-3 weeks. The following contingency plans are suggested:

- Direct seeding/transplanting of short duration varieties of paddy such as NDR-97, NDR-80, NDR-118, Susksamart, IR-36, Pant Dhan-12 etc.
- Staggered sowing of paddy for raising nursery at 15 days interval.
- Direct seeding of paddy under low lying areas by improved varieties such as Jalnidhi, Jalpriya, Jallahri, Jalmagn etc.
- Spreading of thin layers of straw/ dry grasses in nursery of paddy.

- In case delay of monsoon till 15th July, medium duration varieties of paddy such as Sarjoo-52, NDR-359, Pant-4 and Pant-10 should be transplanted.
- As to increase the tolerance from drought foliar spray pf mixture of 2.5 kg Urea + 2.5 kg Potash should be applied in paddy nursery/transplanted paddy.

***Note: The above is a general overview for the states. However, ICAR (CRIDA) has prepared district level contingency plans (covering all farming situations within the district), for all states of peninsular India, Maharashtra, Gujarat and Rajasthan. These plans are placed in the website of the Ministry of Agriculture ([www.agricoop.nic.in](http://www.agricoop.nic.in)) and CRIDA. The details of all crops, short and medium duration varieties to be used in case of delayed onset along with management practices are available in these plans district wise.***

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