Bulletin No. 14/2015
7 Sept 2015

ICAR-Central Research Institute for Dryland Agriculture
Hyderabad

Status of monsoon and agromet advisories/ contingency plans for some deficit/excess rainfall areas

During 1 June - 6 Sept 2015, the country as a whole received 650 mm rainfall, which is 14% less than the normal (756 mm). The region-wise Southwest Monsoon rainfall status is: East and Northeast India: 3% deficit, Northwest India: 14% deficit, Central India: 18% deficit and South peninsula: 21% deficit. Out of 36 meteorological sub divisions in the country, 17 are facing deficit rainfall condition; 17 are under normal rainfall condition and 2 are with excess rainfall condition. Districts which received rainfall less than 50% of normal during 1 June to 6 September were identified and depicted in figure 1. Rainfall received during 1 June - 6 September, progress in *kharif* sowing and contingency measures that are to be followed for deficit/excess rainfall conditions and the crops/cropping systems in different states/regions are mentioned as under:

A) Deficit rainfall areas

1. Maharashtra

Rainfall status**:** Marathwada region is reeling under drought conditions with 52% deficit rainfall. Madhya Maharashtra, Konkan and Vidarbha regions are also facing deficit rainfall of 43%, 34% and 17%, respectively.

Progress of *kharif* sowing: As on 5 September, 92% of normal *kharif* crop area of the state has been sown under different crops. Oil seed crops and cotton recorded highest sowing area of 120 and 114%, respectively (compared to normal sown area) and sugarcane recorded the lowest (47%) sowing due to deficit rainfall conditions.

Agromet advisories

Marathwada

- There is a chance for stem fly infestation in soybean due to subdued rainfall and partly cloudy weather in; spray Chloropyriphos @ 25 ml per 10 litres of water.
- Continue weeding and hoeing in cotton and soybean fields.
- Prevailing cloudy weather is congenial for the incidence of downy mildew in cucurbits; spray Metalaxyl 8% + Mancozeb 64% @ 20 g in 10 litres of water.
- Provide drip irrigation to sugarcane and orchard crops like orange and sweet lime.
- For taking rabi crops, compartmental bunding to conserve moisture wherever sowing is not carried out is recommended.

- Preparation of fields for early *rabi* crops like sorghum and safflower can be taken up.

Vidarbha

- Early-*rabi* pigeon pea (C-11 or ICPL 87119 (Asha)) or sesame (N-8) can be sown up to September 15.
- In case of moisture stress symptoms in early sown cotton/soybean, particularly in rainfall deficit areas with lighter soil type, protective sprinkler irrigation is advisable. Otherwise undertake light hoeing to create soil mulch to conserve soil moisture.
- Continue weeding and hoeing in cotton/pigeon pea to conserve soil moisture.
- Apply foliar spray of 2% Urea (200 g Urea in 10 litre water) to late sown soybean and cotton crops at flowering stage.
- Undertake timely plant protection in growing *kharif* crops.
- Priority should be given for *in situ*/*ex situ* rainwater harvesting during the remainder of the season.

2. Karnataka

North Interior Karnataka

Rainfall status: The region has received 42% deficit rainfall so far.

Progress of kharif sowing: The total area sown in North Interior Karnataka is 28.40 lakh ha (As on 18th August 2015) and this accounts for 82% of the normal sowing area of 34.25 lakh ha till date

Agromet advisories

- In north Karnataka it is time to take up regular rabi crop sowing. There are no contingency plans as such.
- However, in view of the failure of the monsoon till August, it is more than necessary to concentrate on fodder based cropping as when and where rainfall occurs.
- Following drought proofing and soil moisture conservation measures can to be continued:
    - ❖ Take up repeated inter-cultivation and earth up the rows.
    - ❖ Top dressing may be taken up wherever good rainfall is received.
    - ❖ Keeping the crops free from weeds.
    - ❖ In view of the exceedingly low rainfall so far, it is essential to conserve soil moisture before the start of *Rabi* season. Compartment bunds, ridges-furrows and conservation furrows may be taken up in these soils.
    - ❖ The extended range forecast indicates reasonable rainfall in the coming week to 10 days. So, there is some scope for taking up regular crops.

3. Uttar Pradesh

Rainfall status: Both East & West UP are facing a rainfall deficit of 39% and 37%, respectively.
Progress of kharif sowing: Total area sown in Uttar Pradesh is 95.91 lakh ha as on 28 August as against the normal sowing area of 95.17 lakh ha.

Agromet advisories

- Arrangement of seed of Toria (T-30,PT-303 and T-9), early potato (Kufri chandra mukhi and Kufri ashoka) and vegetable pea (Azad-P-2 and P-3) may be undertaken for sowing as catch crop in place of damaged *Kharif* crop from first week of September due to deficit rainfall and high temperature condition prevailed during last week of august.

Due to deficit rainfall in the region, following measures are recommended

- Irrigation in paddy crop as to maintain proper moisture at tillering/PI stage .
- Spraying of 2% Urea in transplanted paddy in moisture deficit condition.
- Undertake intercultural operation and mulch with crop residue to conserve soil moisture.
- Apply protective irrigation in standing crops in view of water stress condition.
- Undertake weeding in green gram and black gram.
- Sowing of short duration and low water requiring vegetables such as carrot, turnip, spinach, coriander, raddish etc.
- Sowing of garden pea, potato and toria.

B) Excess rainfall areas

1. West Bengal

Rainfall status: Gangetic West Bengal has received 21% excess rainfall so far. But, Sub-Himalayan West Bengal is facing 2% deficit rainfall.

Progress of kharif sowing: Transplanting/re-transplanting of Aman rice has been completed in more than 90% of area under rice cultivation. 12 districts in Bengal is flood-hit with heavy rain hitting the state in July and early August. Total area under cultivation damaged by the flood is 12 lakh hectares. Widespread damage to standing paddy crops occurred in Bardhaman, Murshidabad, East and West Midnapore districts. Total 243 blocks have been affected due to the floods.

Contingency crop plans

Post Flood Crop Contingency Plan:

- Plant short duration pulse crops like black gram, pigeon pea and horse gram in mid and uplands.
- Plant short duration oil seeds crop like *Kharif* ground nut.
- Grow vegetables like cucurbits, okra, brinjal, tomato etc.
- Grow maize, cow peas, sorghum, hybrid napier etc., for fodder.

- Complete the rice transplanting operation as early as possible (if not yet done). Take short duration rice varieties.

2. Assam

Rainfall status: The state as a whole has received normal rainfall so far. But, many parts of the state are flood affected. Due to heavy rainfall received during last fortnight, 19 districts are facing flood condition. The severely affected districts are Dhemaji, Kokrajhar, Chirang, Lakhimpur, Tinsukia, Dibrugarh, Bongaigaon, Sivasagar, Nalbari, Sonitpur, Barpeta, Jorhat and Goalpara. (Source: Assam State Disaster Management Authority).

Crop contingency plans

- If the need arise, share the seedlings among the community members.
- Repair the bunds in paddy field to retain standing water.
- Perform weeding to check excessive/unnecessary loss of water.
- Apply life saving irrigation from farm ponds.
- Apply mulching material in upland crops to reduce evaporative loss of soil moisture.
- Suitable paddy cultivars
    - ✓ For flood prone area: Luit
    - ✓ Suitable paddy cultivar for submergence tolerance of 15 days: Swarna Sub-1, Jalashree, Jalkunwari, Plaban
    - ✓ Suitable paddy cultivar for delayed transplanting with aged seedlings: Padumoni, Prafulla, Gitesh
    - ✓ Suitable paddy cultivar for normal planting: Ranjit, Bahadur, Maniram, Kushal, Piolee, Pankaj, Lakhimi
    - ✓ Suitable paddy cultivars with medium duration: Satyaranjan, Basundhara
- As time is not yet over for sowing/transplanting of Sali paddy, go for replanting in the flood affected areas with medium to short duration cultivars of rice.
- If Sali paddy is in active tillering stage (30-35 days after sowing) go for 1st split application of nitrogenous fertilizer.

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) and placed in the websites of the Ministry of Agriculture & Cooperation, Government of India (www.agricoop.nic.in) and CRIDA (www.crida.in) for further details.

- The following map was generated by AICRPAM, CRIDA (with the data provided by IMD), Hyderabad to identify the districts experiencing more than 50% deficit condition.

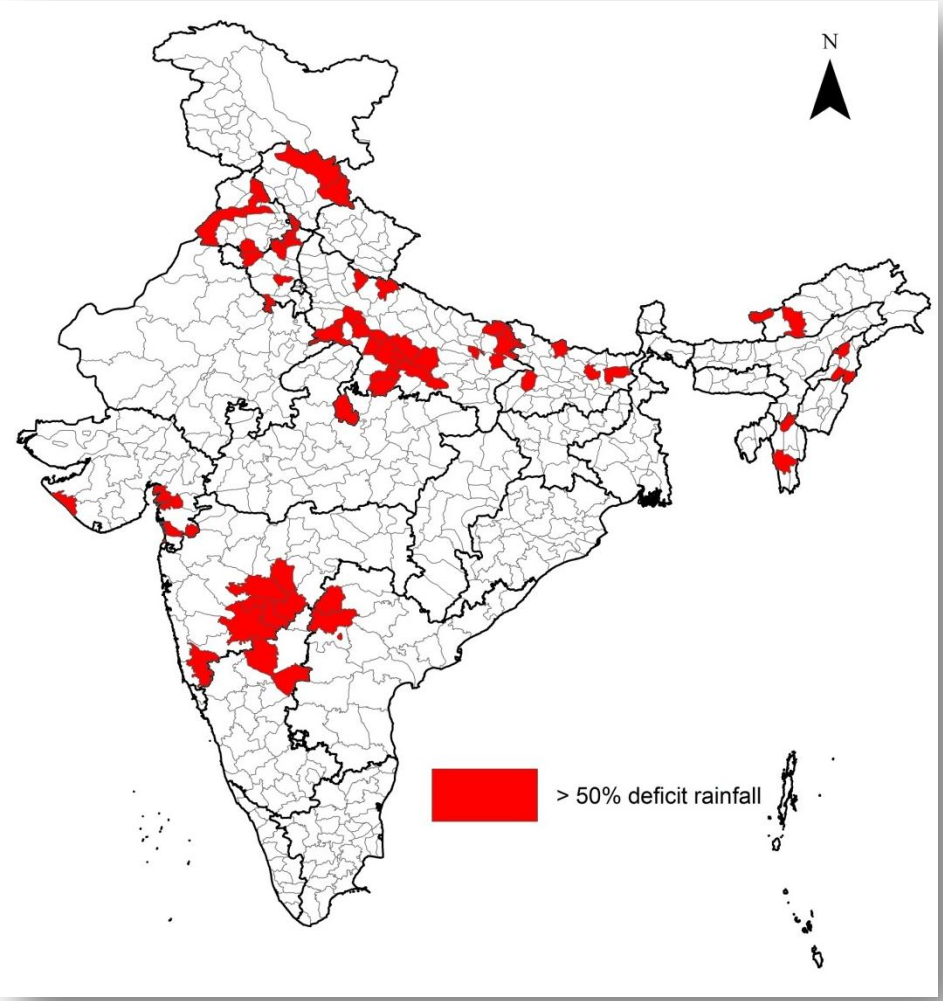

Figure 1: Districts (61) experiencing more than 50% rainfall deficit (From 1 June - 6 September, 2015)

Table 1 depicts the details of districts experiencing more than 50% rainfall deficit

Table 1. Details of the districts experiencing more than 50% rainfall deficit from 01 June to 6 September 2015

S.no	STATE	DISTRICT	ACTUAL (mm)	NORMAL (mm)	DEP (%)	CATEGORY
1.	Arunachal Pradesh	East Kameng	352.0	1026.9	-66	S
2.		Tawang	992.0	2081.5	-52	D
3.	Nagaland	Mokokchung	485.0	1512.3	-68	S
4.		Phek	135.0	1115.6	-88	S
5.	Mizoram	Kolasib	272.0	1416.5	-81	S
6.		Lunglei	673.0	1541.1	-56	D
7.	Bihar	Bhojpur	356.2	760.6	-53	D
8.		Purnia	498.1	1071.3	-54	D
9.		Saharsa	563.0	1173.2	-52	D
10.		Sitamarhi	422.1	947.5	-55	D
11.	Uttar Pradesh	Ambedkar Nagar	118.0	754.2	-84	S
12.		Deoria	382.3	793.2	-52	D
13.		Fatehpur	95.8	672.4	-86	S
14.		Kannauj	295.8	651.8	-55	D
15.		Kanpur Nagar	215.2	581.8	-63	S
16.		Kanpur Dehat	163.3	634.9	-74	S
17.		Kaushambi	138.8	640.6	-78	S
18.		Kushinagar	236.4	962.4	-75	S
19.		Maharajganj	416.2	1035.8	-60	S
20.		Mau	358.7	818.5	-56	D
21.		Pratapgarh	435.7	700.1	-38	D
22.		Rae Bareli	215.9	622.3	-65	S
23.		Unnao	319.2	654.8	-51	D
24.		Agra	189.4	594.0	-68	S
25.		Auraiya	223.7	589.0	-62	S
26.		Etah	257.0	525.5	-51	D
27.		Hamirpur	301.3	674.6	-55	D
28.		Lalitpur	321.3	820.6	-61	S
29.		Mahoba	232.0	660.7	-65	S
30.		Mainpuri	228.8	551.2	-58	D
31.		Pilibhit	360.1	833.7	-57	D
32.		Rampur	329.8	800.7	-59	D
33.	Haryana	Ambala	352.6	778.5	-55	D
34.		Fatehabad	97.9	245.7	-60	S
35.		Kaithal	163.4	332.3	-51	D

36.		Kurukshetra	234.1	494.7	-53	D
37.		Mahendragarh	160.7	357.1	-55	D
38.		Panchkula	365.2	827.6	-56	D
39.		Rohtak	190.5	460.2	-59	D
40.	Punjab	Firozpur	90.5	306.4	-70	S
41.		Hoshiarpur	291.2	622.0	-53	D
42.		Jalandhar	141.2	472.9	-70	S
43.		Mansa	83.9	277.1	-70	S
44.	Himachal Pradesh	Kinnaur	102.4	209.7	-51	D
45.		Lahul & Spiti	87.8	381.3	-77	S
46.	Daman and Diu	Daman	694.8	2055.9	-66	S
47.	Gujarat	Bharuch	333.1	679.9	-51	D
48.	Gujarat	The Dangs	715.2	1718.3	-58	D
49.	Gujarat	Navsari	675.3	1611.4	-58	D
50.	Gujarat	Porbandar	292.5	614.2	-52	D
51.	Maharashtra	Kolhapur	752.4	1601.8	-53	D
52.		Solapur	142.9	327.2	-56	D
53.		Bid	177.7	437.0	-59	D
54.		Latur	237.4	627.6	-62	S
55.		Osmanabad	209.5	473.5	-56	D
56.		Parbhani	203.9	639.4	-68	S
57.	Andhra Pradesh	Hyderabad	234.2	506.2	-54	D
58.		Medak	253.2	610.8	-58	D
59.		Nizamabad	387.6	790.3	-51	D
60.	Karnataka	Bijapur	147.1	298.6	-51	D
61.		Raichur	163.1	335.1	-51	D

D- Deficit; S- Scanty