

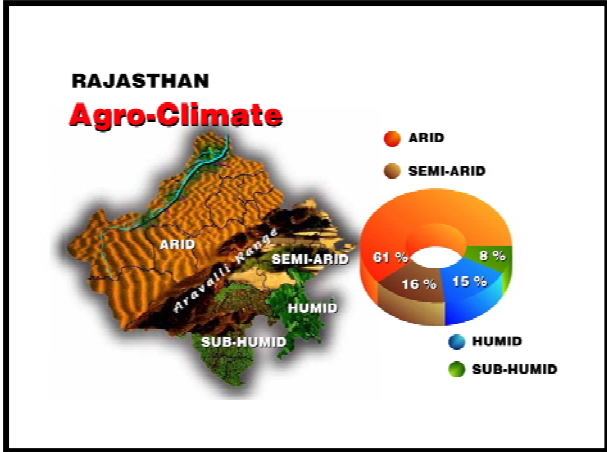


Contingency Plan in the events of Aberrant South-West Monsoon in Rajasthan



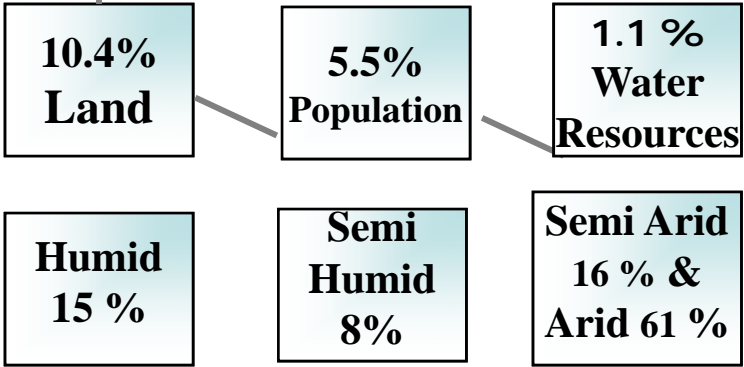
Rajasthan

Agro-Climate



10 Agro-Climatic Zones

Rajasthan-Largest state of country



- 1 a
- 1 b
- 1 c
- 2 a
- 2 b
- 3 a
- 3 b
- 4 a
- 4 c
- 5

Salient Features

- ❑ Agriculture in Rajasthan is mostly dependent on rainfall.
- ❑ Recurring drought and uncertain rainfall have become regular feature in the State.
- ❑ One or two dry spells of monsoon is a common phenomenon.
- ❑ Short spell of monsoon compounded with low effective rainfall has put the State of Rajasthan as the most water deficit state in the country.
- ❑ In the state, most of the cultivated area in various crops in
- ❑ kharif is under rainfed condition.
- ❑ In case of less rainfall than normal area and production both are affected.

1.1 Five Year Pattern of Rainfall (mm)

Average Rainfall 463.60mm

Year	June – Sept.	Oct- May	Total	% deviation from normal
2009-10	385	51.60	436.60	-5.82
2010-11	602.6	94.0	696.6	50.3
2011-12	697.7	22.2	719.9	55.3
2012-13	465.4	38.4	503.8	8.67
2013-14	535.3	21.2*	556.5*	20.04

- Up to Dec.2013
- Based on Meteorological Department

1.2 District wise Categorised position of rainfall during 2013-14

Category		Nos.	Name of Districts
Abnormal (abn)	60% or more	1	Baran
Excess (Exc)	20% to 59%	10	Jaisalmer, Jodhpur, Barmer, Tonk, Dholpur, Karoli, Kota, S.Madhopur, Jhalawar, Pratapgarh.
Normal (Nor)	19% to (-)19%	21	Bikaner, Churu, Sriganganagar, Hanumangarh, Jalore, Pali, Ajmer, Bhilwara, Nagore, Bharatpur, Jaipur, Alwar, Sikar, Bundi, Dausa, Udaipur, Banswara, Chittorgarh, Dungarpur, Rajsamand and Jhunjhunu.
Deficit (Def)	(-)20% to (-)59%	1	Sirohi
Scanty (Sca)	(-)60% or less		-

2. Crop sowing and prospects



- ❑ During Kharif 2013 the total cropped area was 161.79 lac ha against the target of 154.90 lac ha. (104.4%)
- ❑ The area under cereals was 60.89 lac ha, pulses 22.19 lac ha, oil seeds 21.79 lac ha .
- ❑ Total production during kharif 2013 season was 119.81 lac tons.
- ❑ The productivity of Bajra is estimated 892 kg./ha, Maize 1115 Kg/ha, Kharif Pulses 370 Kg/ha, G.Nut 1685 Kg/ha and Soybean 762 Kg/ha.
- ❑ The productivity of guar was 447 Kg/ha .
- ❑ The proposed sowing area of Kharif 2014 is 154.91 lac ha.

3. Contingency planning for extreme weather events

- ❑ Contingency crop plan of the State is prepared every year before the onset of monsoon by the Department of Agriculture on the basis of guidelines received from DA & C, GOI, New Delhi and Central Research Institute of Dryland Agriculture (CRIDA) Hyderabad for various aberrant weather situations and this plan is widely circulated to all districts of the State.
- ❑ Contingency Crop Plan for Kharif 2014 has also been prepared by the Department of Agriculture, Rajasthan to face any unforeseen eventuality of aberrant weather conditions i.e.
 - ❑ delayed onset of monsoon,
 - ❑ long dry spell during crop growth period,
 - ❑ earlier departure of monsoon and
 - ❑ other extreme weather events like excess rainfall.

3.Contingency planning for extreme weather events....

- ❑ The technical advices are given through contingency crop plan to farmers to minimize the losses and to obtain the optimum production.
- ❑ The plan has been circulated among all Field Officers of all the districts with the directions to prepare the Crop Contingency Plan of their district and remain in contact with the farmers to guide them to face the abnormal weather conditions.
- ❑ District level Crop Contingency plans are being prepared with the coordination of SAU and KVK Scientists on the basis of their prevailing conditions and contingency plan issued by Directorate of Agriculture.
- ❑ Advices to be given to farmers through pamplates, trainings, newspapers, Door-darshan and Aakashwani etc. by extension agency so as to face any abnormal situation during crop season.

4. List of short duration and drought tolerant varieties-

		Suitable varieties
Cereal	Bajra	HHB-67 (Imp.), HHB-94, ICMH-356, RHB-121,RHB-90, ICTP-8203, Raj-171, GHB-538, RHB-173
	Jowar	CSH-6, CSH-9, CSH-13,14 CSV-15 & 17
	Maize	Mahi Kanchan, Mahi Dhawal,Pratap Makka-2 & 5, PHEM-2
Pulses	Moong	MUM-2, RMG-268,RMG-62, RMG-492, SML-668, GM-4
	Moth	RMO-40, RMO-435, RMO-257, RMO-423, CZM-2
	Urd	T-9, Pant-19, PU- 30, RBU-38
	Cowpea	RC-19,RC-101, FS-68
	Guar	RGC-936, 10031007,1017,1038, 1055
Oilseeds	Soybean	JS 93-05, JS 95-60, JS-335, Pratap soya-1, JS 97-52
	G.Nut	RG-141, HNG-10, GG-7, TG 37-A, Pratap Moongphali -1,2
	Til	RT-46, RT-125,127, TC-25, Pratap.
Fodder	Bajra	Bajra Chari, Rajco, Pusa Giant
	Jowar	SSG-59-3, MP Chari, Raj Chari1,2,3, Pusa chari-6
	Maize	Navjot, Pratap Makka, Chari-6

5. Contingency Crop Plan of the Rajasthan State for aberrant weather conditions

The management practices to cope - up with different adverse weather conditions are

A. Agriculture operations on Late onset of monsoon after 15th July

- ❑ In case of rainfall received in 2nd fortnight of July.(upto 25th July) short duration varieties of Bajra (i.e. HHB-60, HHB-67, RHB-121, ICMH-356), Jowar (CSH-9, CSH-13, CSH-16, CSV-15, CSV-17) are recommended for sowing.
- ❑ In case of rainfall received after 25th July or in First week of August then in place of cereal crops Pulses (Moong, Moth, Cowpea) Guar and Oilseed Crops (short duration varieties of Til) are recommended for sowing.
- ❑ Basal dose of fertilizer should be applied by drilling as per POP.
- ❑ Use of higher seed rate upto 15-20% .
- ❑ In case of rainfall received in last week of August and first week of September avoid sowing of the Kharif crops. Only Rabi crops e.g. Taramira & mustard should be sown.
- ❑ Emphasis on mixed cropping and intercropping system.
- ❑ Fodder crops viz: Bajra, Maize, Jowar and Guar crop should be sown along with pulse crops.

5. Contingency Crop Plan of the Rajasthan State for aberrant weather conditions

B. Agriculture operations on Long dry spell during crop growth stage –

- ❑ In case of dry spell occurred 30-45 days after sowing of crops, reduce plant population by thinning .
- ❑ In case of intercropping in cereals crops with Pulses and Oilseeds, plant population of cereal crops should be reduced.
- ❑ Life saving irrigation through sprinkler and drip system should be given where irrigation water is available.
- ❑ Adoption of soil moisture conservation practices i.e. interculture operation and mulching in standing crop through locally available material.



5. Contingency Crop Plan of the Rajasthan State for aberrant weather conditions

C. Agriculture operations on Early withdrawn of monsoon –

- Spray of 0.1% thiourea at flowering stage in Bajra crop is beneficial to reduce the moisture stress.
- At early grain filling stage life saving irrigation should be given where irrigation water is available.
- Adoption of soil moisture conservation practices i.e. interculture operation and mulching in standing crop through locally available material
- Avoid top dressing of Nitrogen Fertilizer.
- For disease and insect-pest control foliar spray of recommended dose is beneficial then dusting.
- Partially damaged crop should be used as a fodder.

5. Contingency Crop Plan of the Rajasthan State for aberrant weather conditions

D. Agriculture operations on Heavy rainfall conditions:-



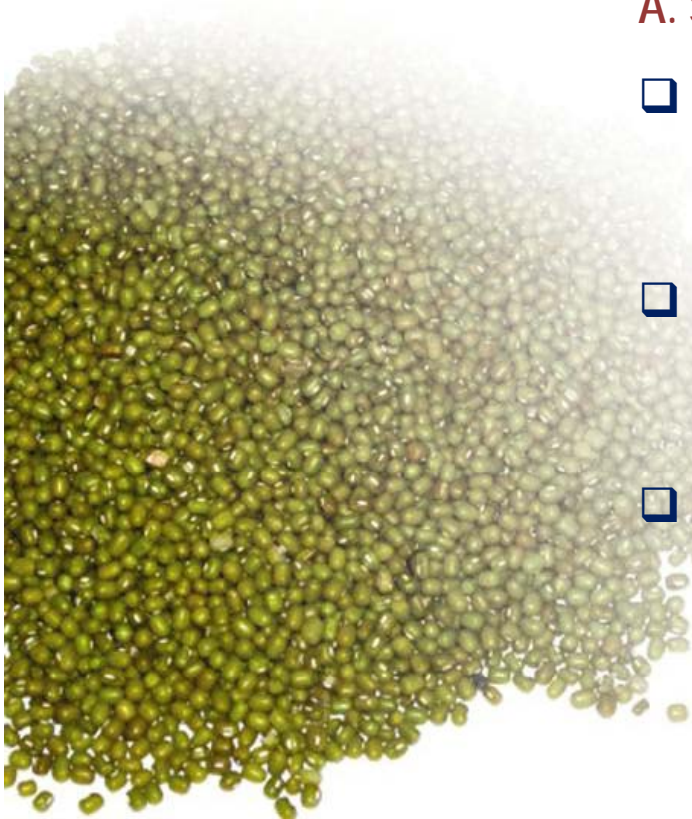
- Drainout Excess water from field.
- Top dressing of Nitrogen fertilizer in case retarded plant growth is observed.
- Adopt plant protection measures as per recommendation.
- Keep fallow field for Rabi crops if rainfall occurs in second fortnight of August.

5. Contingency Crop Plan of the Rajasthan State for aberrant weather conditions

6. Input arrangement and availability

A. Seed-

- ❑ In the State during Kharif 2012, and Kharif 2013, 6.04 lac qtls. and, 6.01 lac qtls. certified quality seed of different crops were distributed respectively.
- ❑ During Kharif 2014 total 10.52 lac qtls. seed of different crops are available against the requirement of 8.22 qtls.
- ❑ In case of abrupt climatic conditions during ensuing Kharif season, the minikit of pulses and fodder crops (bajra & Jowar) is proposed to be distributed among the farmers.



5. Contingency Crop Plan of the Rajasthan State for aberrant weather conditions

6. Input arrangement and availability

A. Seed-



Name of Crop	Seed requirement (Lac Qts)	Seed Availability (Lac Qts)
Bajra	1.40	2.22
Jowar	0.21	0.46
Maize	1.46	3.52
Moongbean	0.62	0.68
Mothbean	0.25	0.14
Gaur	0.68	0.57
Ground nut	0.62	0.74
Soybean	2.24	1.23

5. Contingency Crop Plan of the Rajasthan State for aberrant weather conditions

6. Input arrangement and availability

B. Fertilizer-

- ❑ Average consumption of fertilizer in last 5 Kharif season (2008-2012) is 11.26 lac mt. Fertiliser – wise average consumption during above period is Urea 5.67 lca mt, DAP 3.17 lac mt , SSP 1.73 lac mt. and others 0.69 lac mt.
- ❑ During Kharif 2013 the total distribution of fertilizer was 11.52 lac Mt. (DAP, Urea, SSP, Other Mixers) against the target 13.39 lac Mt.
- ❑ The proposed requirement of fertilizer of Kharif 2014 is 14.55 lac Mt including Urea 7.97 lac mt., DAP 3. Lac mt and SSP 3 Lac mt.
- ❑ Sufficient availability of fertilizers.



5. Contingency Crop Plan of the Rajasthan State for aberrant weather conditions

7. Specific Contingent Crop Plan for rainfed regions of Rajasthan

Possible date of occurrence of rainfall		
15-31 July	01-15 August	16-31 August
Short Duration varieties of Guar, Til, Moong, Cowpea, Bajra and jowar	Til, Moong, Moth Guar, Castor, Jowar and Bajra for fodder	Jowar / Bajra for fodder

5. Contingency Crop Plan of the Rajasthan State for aberrant weather conditions

8. Arrangement for quality fodder

- ❑ Fodder minikits of Bajra and Jowar are proposed to be distributed in the drought affected areas. In case of rainfall received in September sowing of Rabi crops i.e Taramira & Mustard to be advocated along with minikit distribution.
- ❑ Efforts should be made to increase the production of supplements like UMMB (Urea Molasses Mineral Block).
- ❑ Possibility of feeding of tree leaves after lopping and grazing of grasses in forest areas may be explored in consultation with Forest Department.
- ❑ Pods of trees like Prosopis juliflora can be collected and supplemented as feed source. The pods contain nearly 13% protein and 25-30 sucrose.
- ❑ Perennial grasses like sewan, dhaman and moda dhaman grass etc. which grow naturally during rainy season can also be property harvested and use as a fodder.

5. Contingency Crop Plan of the Rajasthan State for aberrant weather conditions

9. **Rain water storage in farm pond/tanks-** promotion of water harvesting structures under various schemes. 10300 farm ponds/khet talai are proposed to be constructed during 2014-15.
10. **Promoting for subsidiary income** and employment generating activities i.e. mushroom cultivation, dairying and value addition of ker/ sangri.
11. **Liason with line department-** To ensure irrigation/life saving irrigation to crops, it is praposed to make liason with line departments like Irrigation, Electricity corporation, ground water department IGNP/CAD etc.



Proposed fodder & crop minikit distribution programme

during kharif 2014 & budgetary requirement

	No. of Minikits in lacs	Qty. of seed reqd. in qtls.	Proposed cost Rs. In lac
Kharif : A(Fodder crops)			
1 Bajra	1.90	2850	222.30
2 Jowar	0.90	4500	225.00
Total (A)	2.80	7350	447.30
B (Pulses)			
1 Moth	1.20	4800	417.60
2 Moong	2.16	8640	812.16
3 Guar	2.28	4560	319.20
Total (B)	5.64	18000	1548.96
Total Kharif (A+B)	8.44	25350	1996.26

Proposed fodder & crop minikit distribution programme
during Rabi 2014 -15

	No. of Minikits in lacs	Qty. of seed reqd. in qtls.	Proposed cost Rs. In lac
Rabi : A(Fodder crops)			
1 Lucern	4.00	8000	1904
2 Berseem	3.00	9000	1332
3 Oats	3.00	30000	1140
TOTAL (A)	10.00	47000	4376
B (Pulses/oil seeds)			
1 Gram	1.00	16000	1040
2 Mustard	1.00	3000	168
3 Taramira	0.10	300	16.8
TOTAL (B)	2.10	19300	1224.80
Total Rabi (A+B)	12.10	66300	5600.80