CASTOR SEED CROP SURVEY - 2023-24

February 23rd, 2024

By

Indian Agribusiness Systems Ltd.

www.agriwatch.com

For

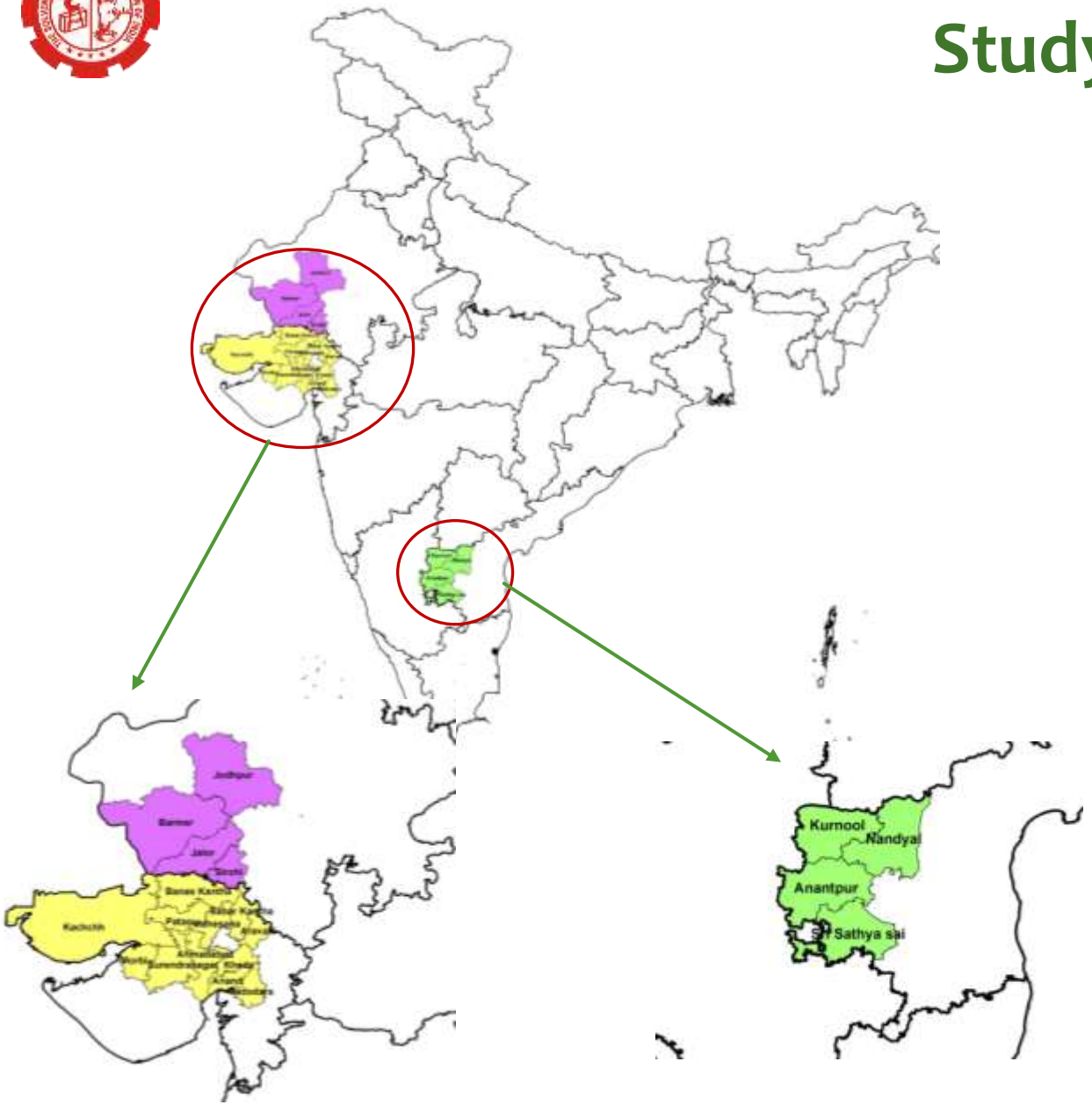
THE SOLVENT EXTRACTORS' ASSOCIATION OF INDIA

Objective

The objectives of the castor crop survey 2023-24 are:

- Estimate Acreage under castor cultivation through Remote sensing and farmers' survey
- Reasons for increase / decrease in acreage
- Reasons for change in yield, if any
- Estimate the expected Yield and Production

Study Area

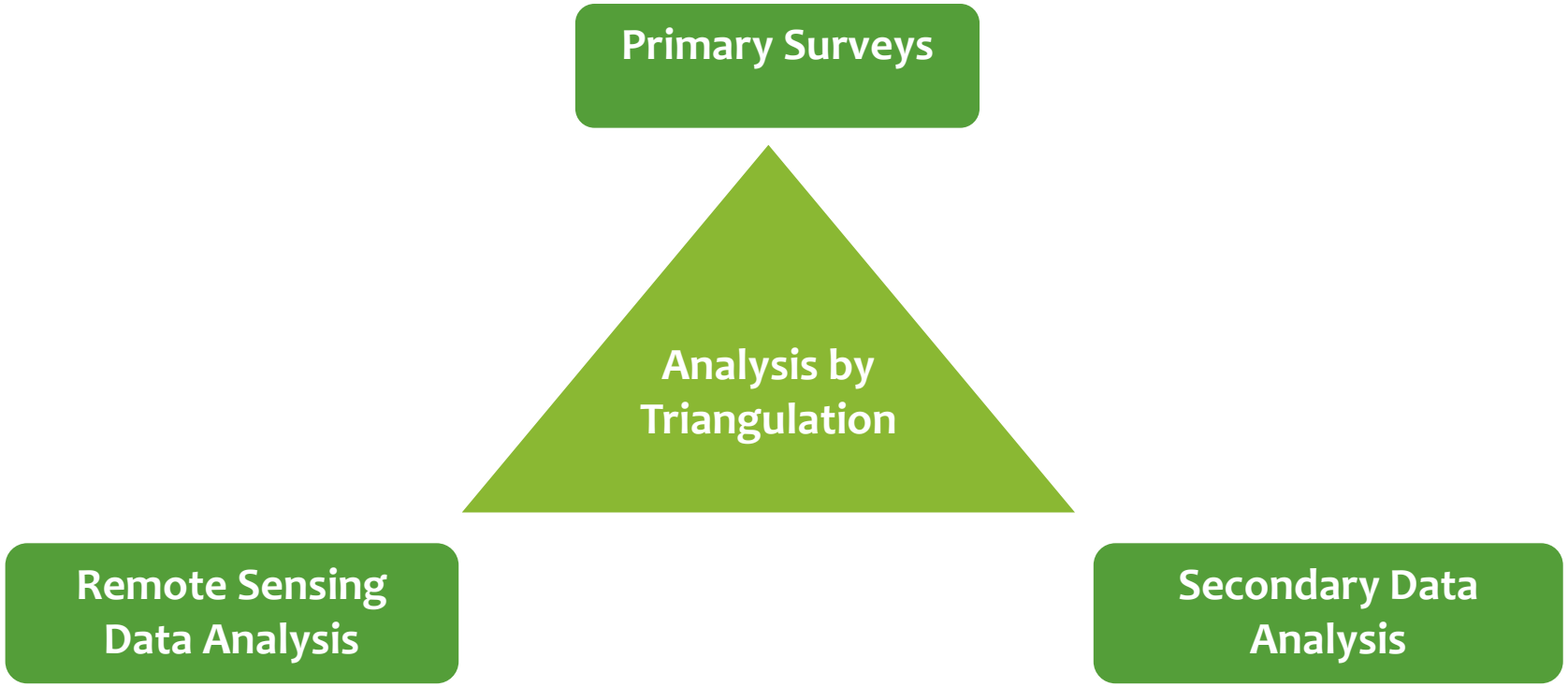


Gujarat (13 Dist.) & Rajasthan (4 Dist.)
accounts
for 90% + of total castor acreage.

GUJARAT		RAJASTHAN	A P/ TELANGANA
Banaskantha	Sabarkantha	Sirohi	Anantapur
Patan	Morbi	Jalore	Kurnool
Kutch	Vadodara	Jodhpur	
Mehsana	Gandhinagar	Barmer	
Surendranagar	Aravali		
Ahmedabad	Kheda		
Junagarh			

Methodology

A triangulation technique is adopted, which includes primary survey of Farmers, Remote -Sensing and Secondary data analysis



Survey Plan & Status

State	Farmer Sample
Gujarat	3200
Rajasthan	700
AP & Telangana	100
Total	**4,000**

- 1 st round - 30% of sample (Change in Acreage and Reasons)
- 2 nd round survey- 40% of Samples (Acreage & Yield estimation)
- 3 rd round survey- 20% of samples for field survey (Yield revalidation) and telephonic survey
- 4 th round survey- 10% of samples for field survey (Yield revalidation) and telephonic survey

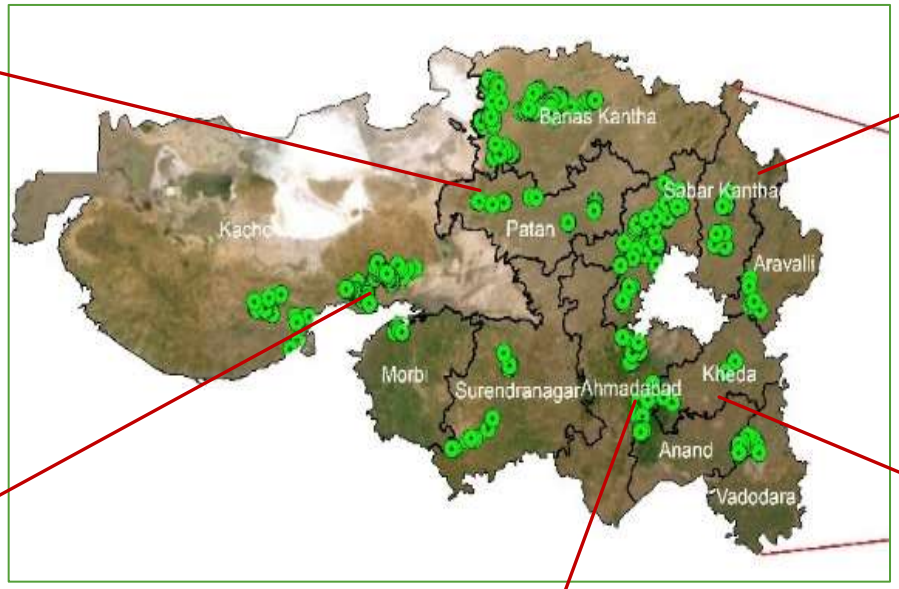
States	Acreage Survey (1st Field visit)	Yield Survey (2nd Field survey)	Yield revalidation Survey (3rd Field survey)	Yield revalidation Survey (4th Field survey)
Gujarat	960	1280	640	320
Rajasthan	210	280	140	70
AP & Telangana	100		-	
Total	**1270**	**1560**	**780**	**390**
Field Surveys	**Sep- Oct**	**End of January**	**End of March**	**End of April**

- Two rounds of field surveys with ground truthing are completed between December to February so far
- Interviewed 2850 farmers so far: Gujarat - 2250, Rajasthan - 500 and AP+ Telangana - 100.
- Satellite images of sentinel 2 are processed and analyzed between October 2023 to November 2023

GUJARAT

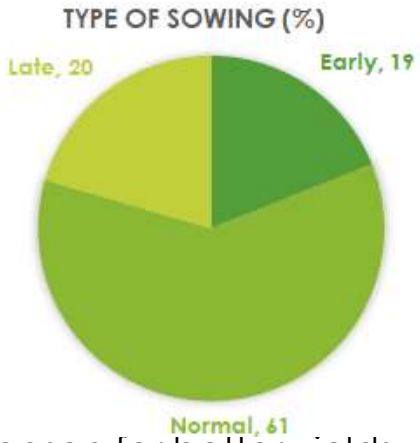
Survey - Gujarat

Total Farmer Survey 2250 nos

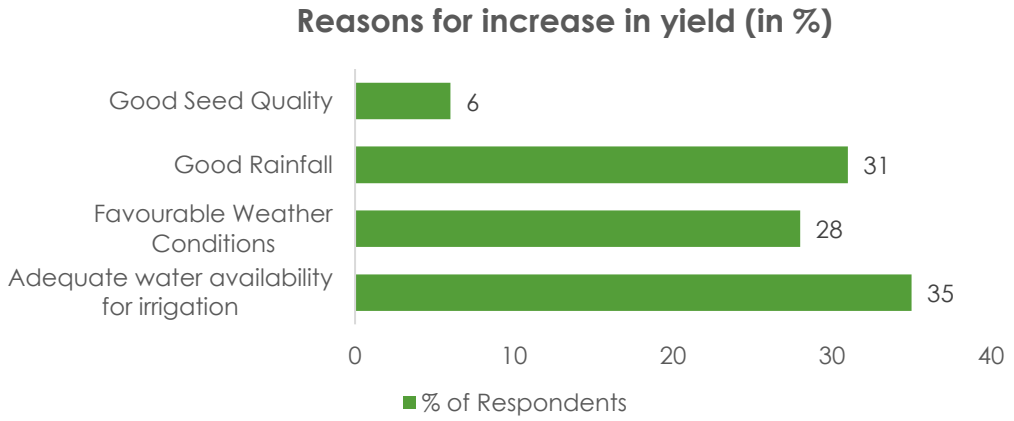


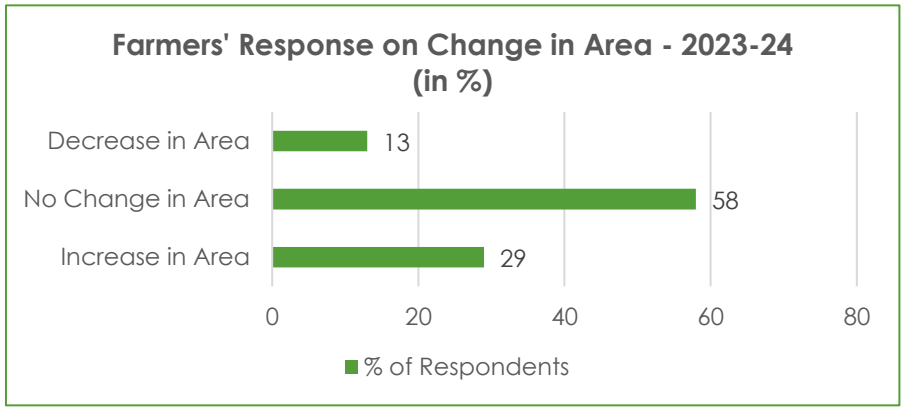
Survey Findings - Gujarat

Total 2250 no farmers

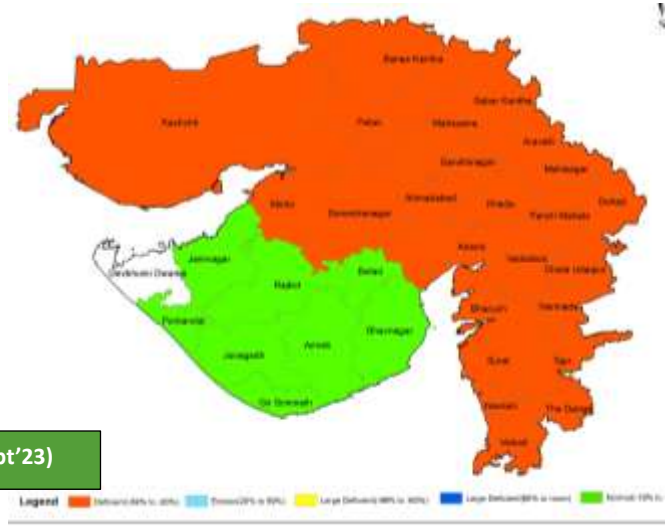


- 80% Castor crop sowing was timely & early
- 29% farmers indicated increased acreage under Castor
- Good rainfall is the major reason for increased in acreages
- 67% farmers has indicated better yield
- Favourable weather conditions and adequate availability of water are main reason for better yields

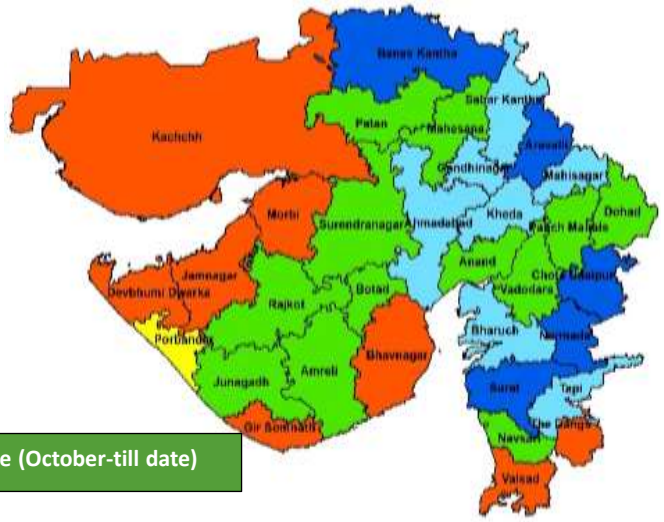




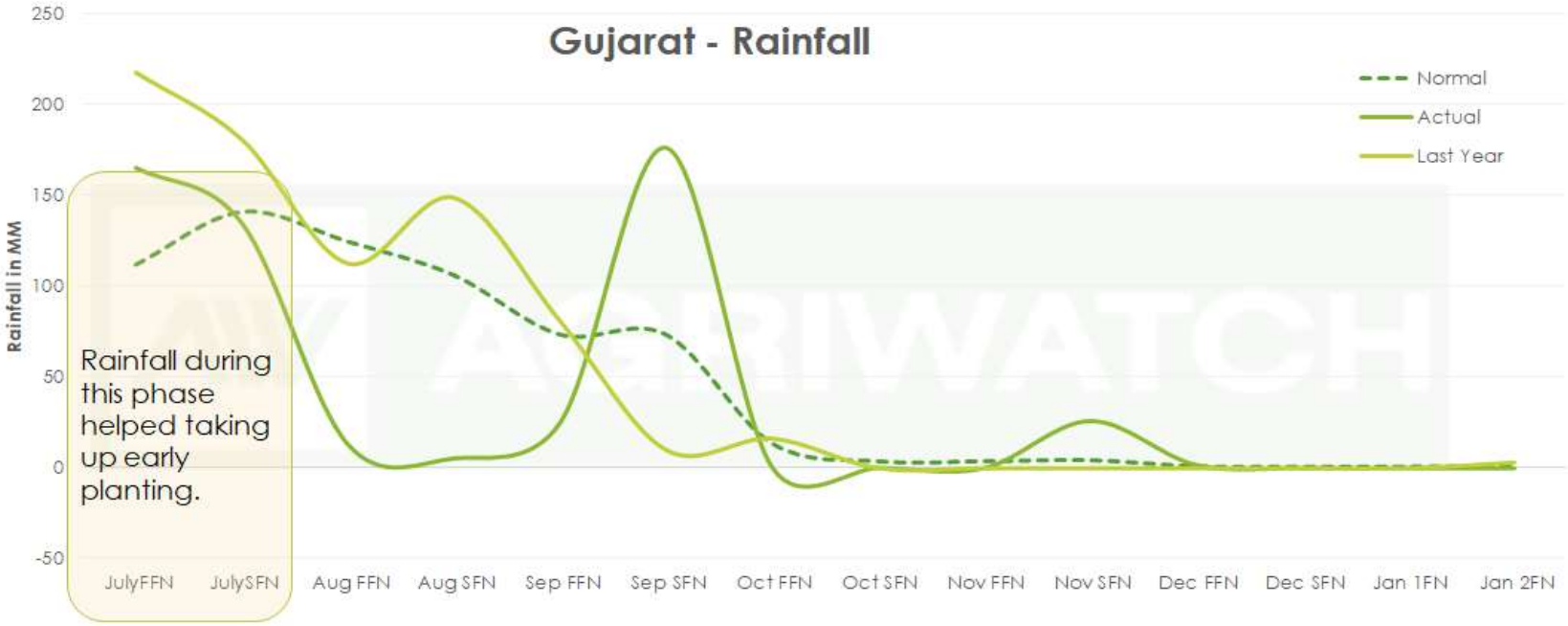
Rainfall Status - Gujarat



Cumulative (June till Sept'23)



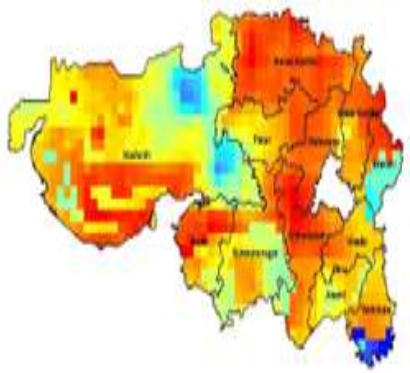
Cumulative (October-till date)



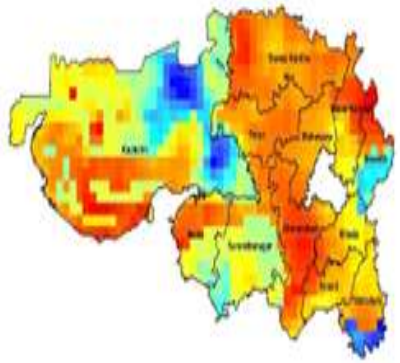
Rains Due to Cyclone Biparjoy (15th-20th June'23) has helped in early sowing

Timely rainfall during the critical crop phases helped in crops growth and optimum yield.

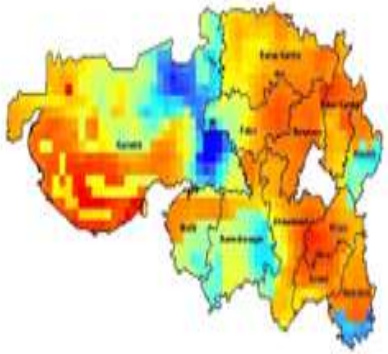
Soil Moisture - Gujarat



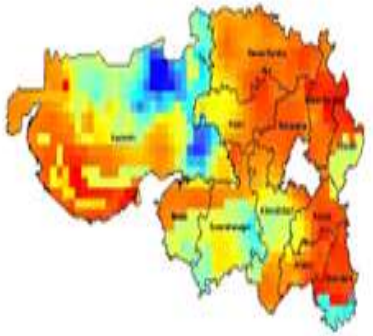
October'23



November'23

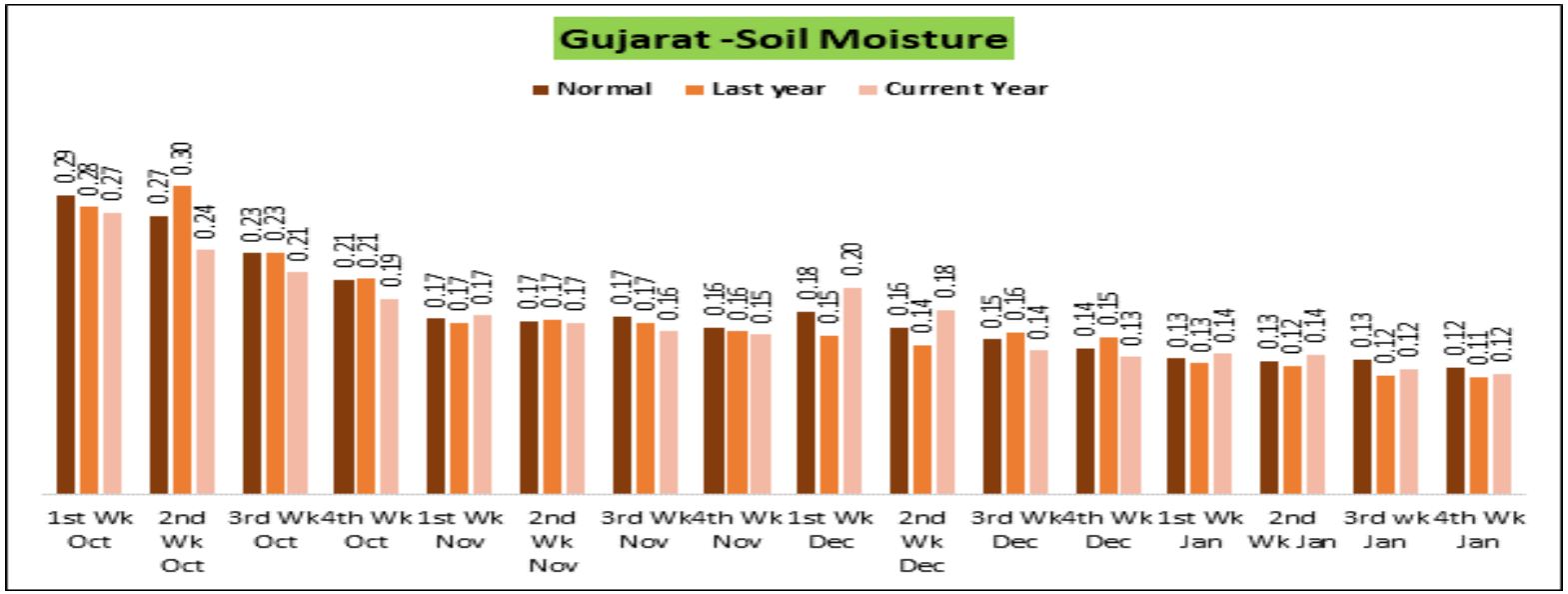


December'23

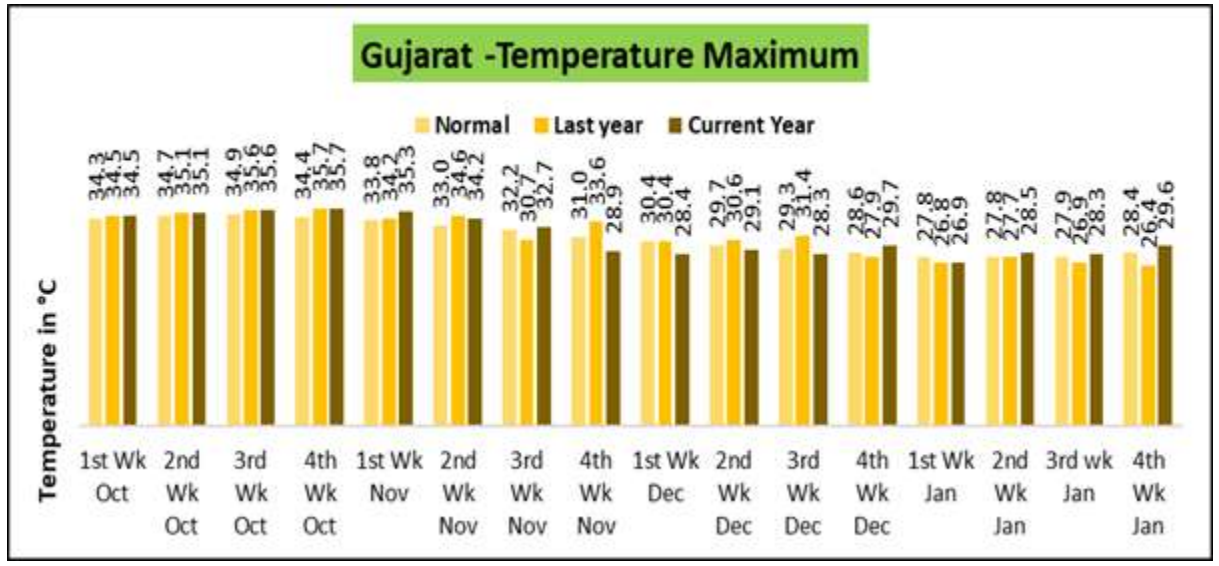


January'24

Soil moisture was adequate throughout the season, helped in crops growth and optimum yields.

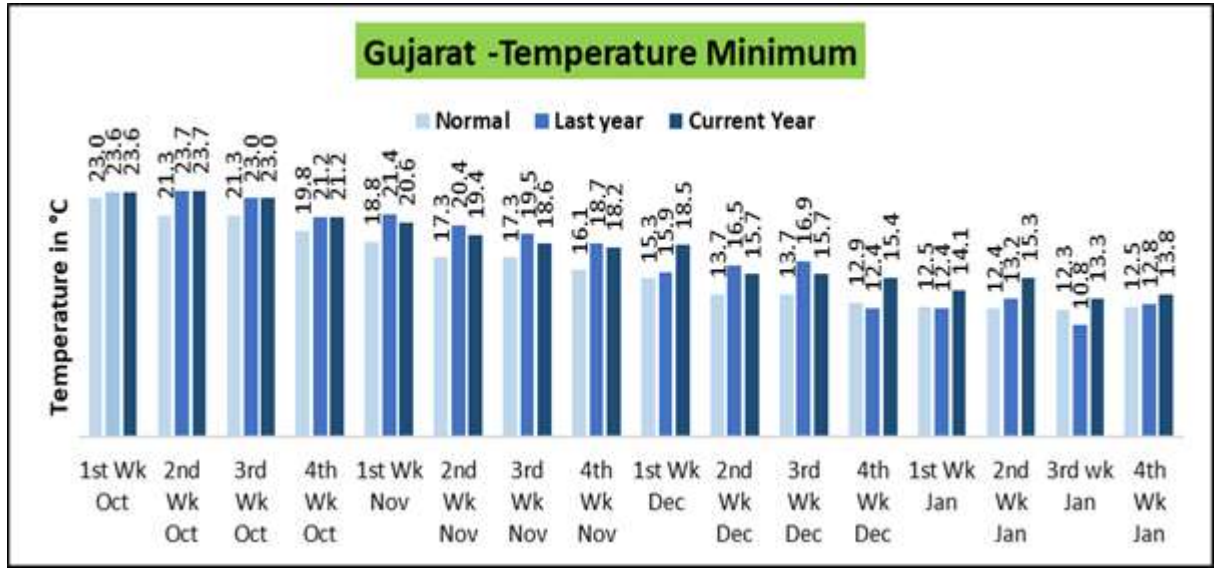


Temperature – Gujarat



- Overall temperature throughout season was at par with last year and in normal range. No sudden temperature change was recorded, temperature slightly increased in second fortnight to Jan. compared to last year however, remained in the range of normal max temperature.
- No adverse effect on crop was reported.

- The minimum temperature in the state remained slightly higher than last year in Dec. & Jan however same was in normal range.



NDVI – Gujarat

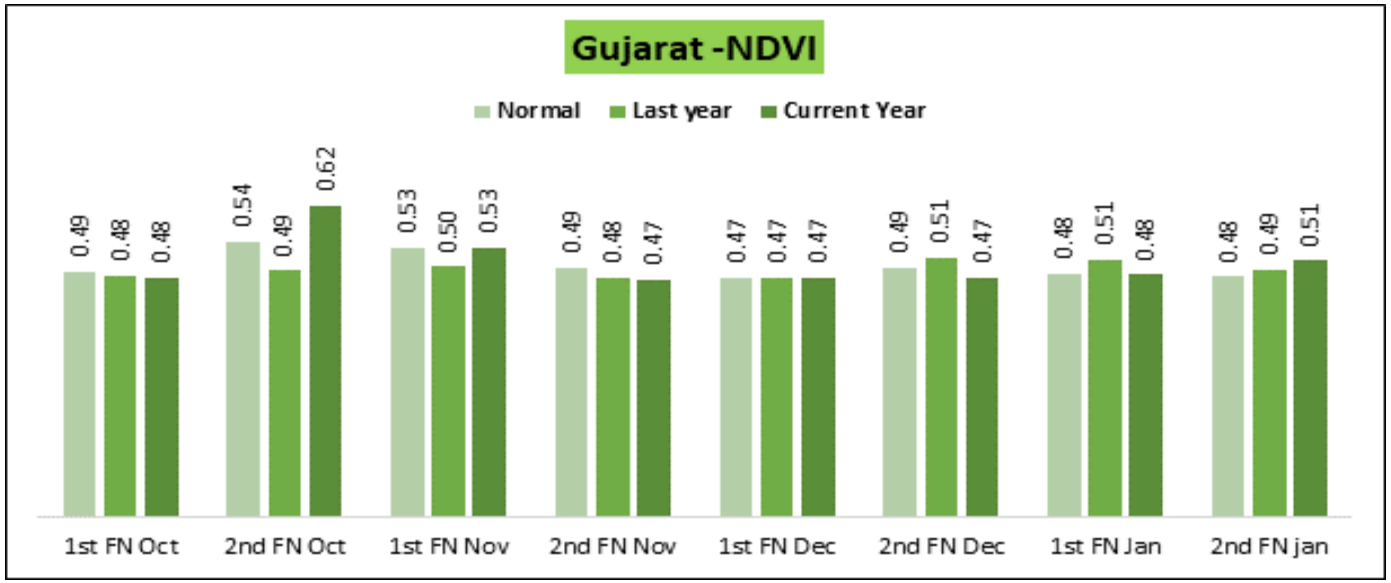
October

November

December

January

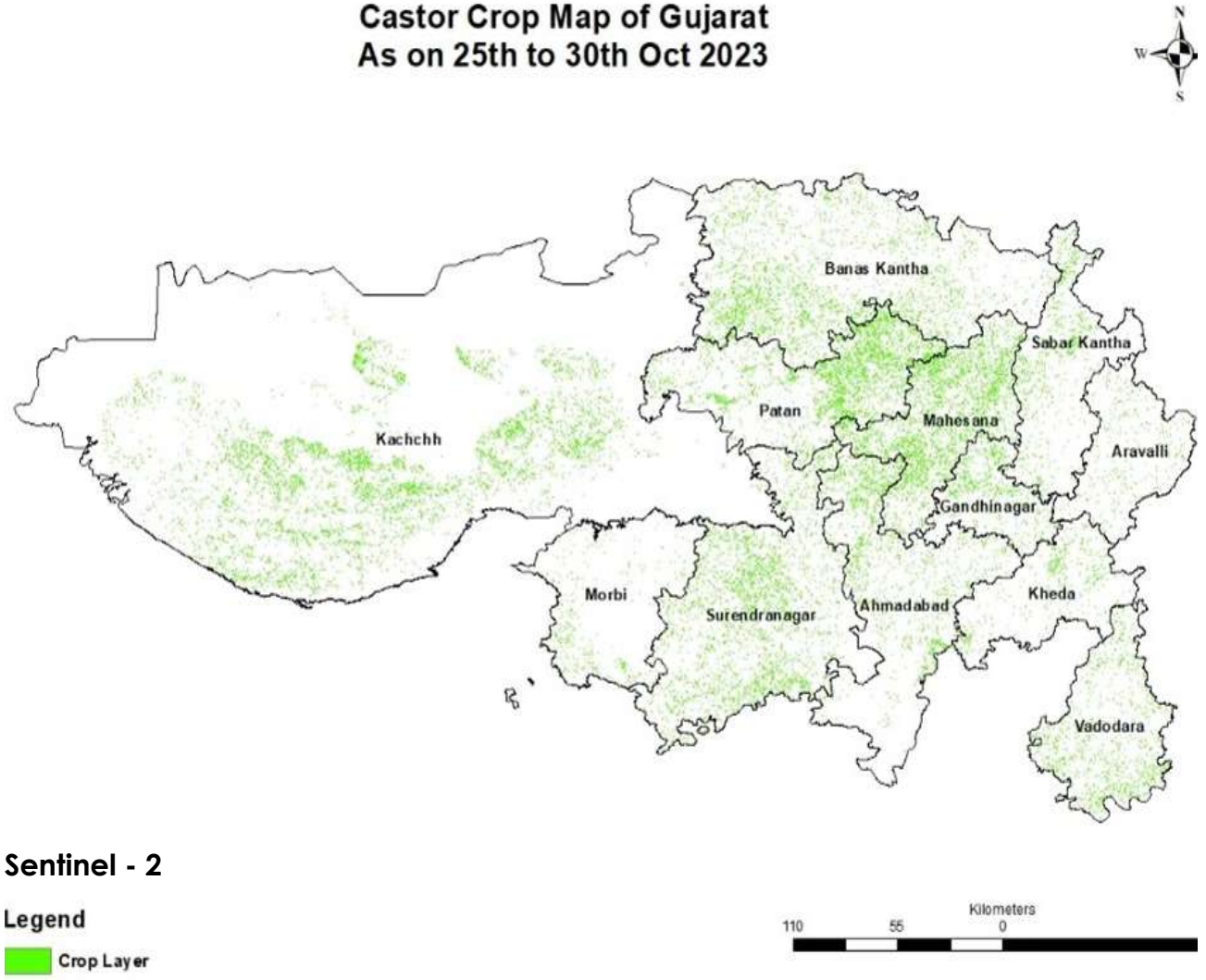
As per the NDVI data, overall, the crop health is normal compared to last year as well as from normal.



Castor Acreage – Remote Sensing

- Total Castor seed acreage in Gujarat during 2023-24 season as per government's estimate is at **7.24 Lakh Ha vis-a-vis last year's 7.14 Lakh Ha., up by 4%.**

- Remote sensing acreage for 2023-24 is estimated to be 7.4 Lakh Ha.



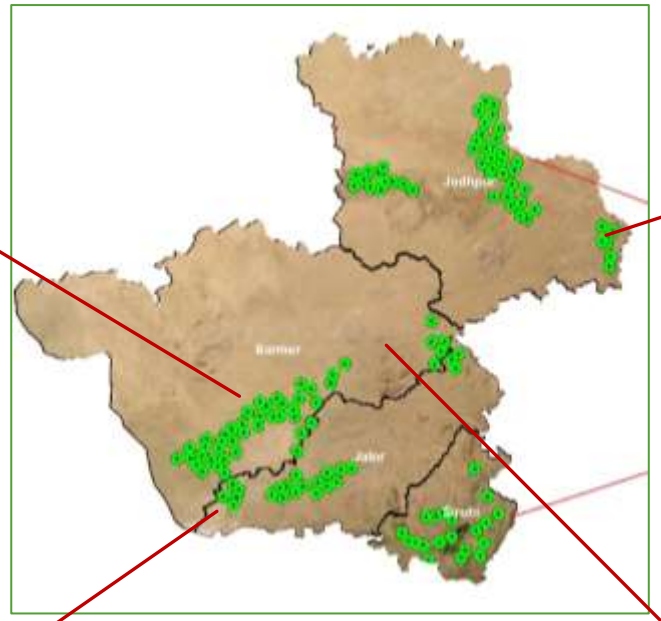
Castor Seed District-wise Production Estimates - Gujarat

S.No.	Districts	Acreage 2022-23 State Govt ('000 Ha)	Acreage 2023-24 State Govt ('000 Ha)	Acreage 2023-24 Remote Sensing ('000 Ha)	Yield 2022-23 (kg/ha)	Yield 2023-24 (kg/ha)	Production 2022-23 ('000 MT)	Production 2023-24 ('000 MT)
1	Ahmedabad	42.5	41.5	51.7	2085	2094	89	87
2	Aravalli	14.6	13.9	13.6	2300	2325	34	32
3	Banaskantha	84.1	90.7	94.7	2200	2272	185	206
4	Gandhinagar	20.8	21.3	23.1	2140	2054	45	44
5	Kheda	12.4	11.1	15.5	2075	2140	26	24
6	Kutch	190.5	190.3	185.0	2180	2205	415	420
7	Mehsana	88.6	88.7	91.9	2230	2210	198	196
8	Morbi	13.9	7.5	12.1	2180	2175	30	16
9	Patan	87.5	98.9	92.8	2170	2180	190	216
10	Sabarkantha	24.4	25.2	32.8	2290	2302	56	58
11	Surendranagar	68.8	67.1	68.6	2240	2225	154	149
12	Vadodara	40.5	42.1	33.6	2290	2230	93	94
Total of Surveyed Di		**688.6**	**698.3**	**715.3**	**2198**	**2208**	**1513**	**1542**
Other		25.8	25.9	25.1	2162	2163	56	56
StateTotal		**714**	**724**	**740**	**2196**	**2206**	**1569**	**1598**

RAJASTHAN

Survey Points - Rajasthan

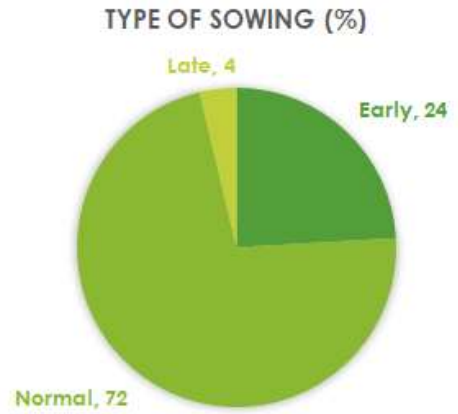
Total Farmer Survey 500 nos

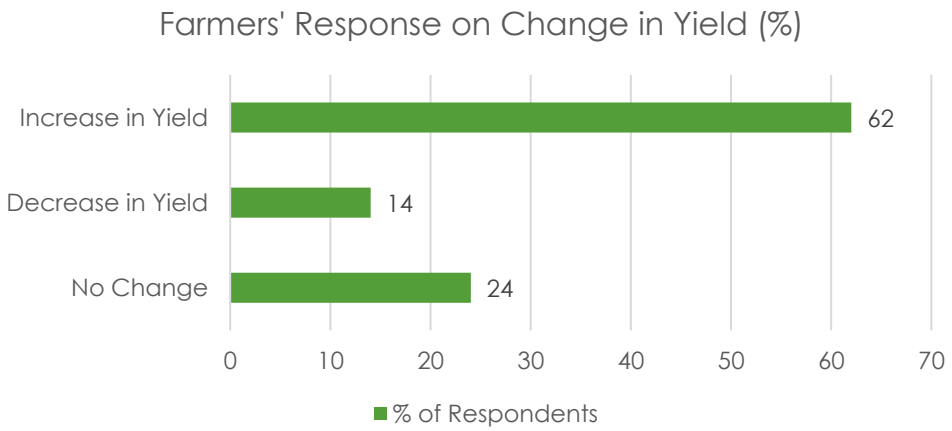


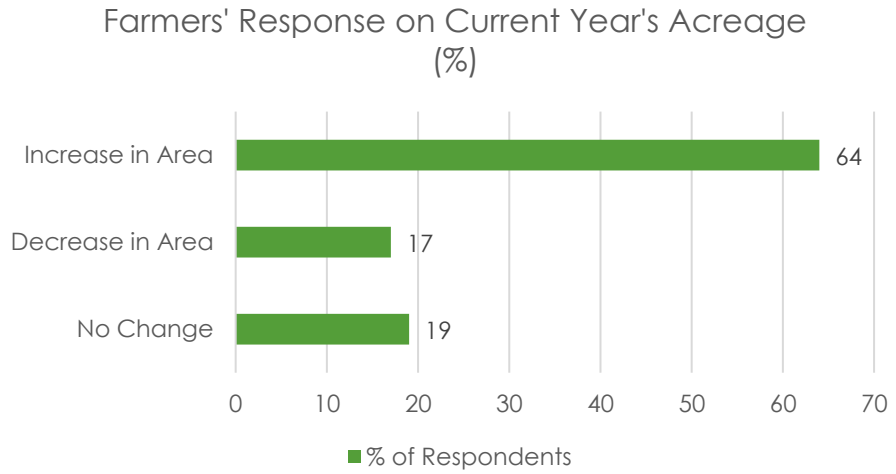
Survey Findings – Rajasthan

Total 500 no farmers

- 96% Castor crop sowing was timely & early
- 64% farmers indicated increased acreage under Castor
- Favourable weather & good rainfall is the major reason for increased in acreages
- 62% farmers has indicated better yield
- Timely sowing & favourable weather conditions and adequate availability of water are main reason for better yields



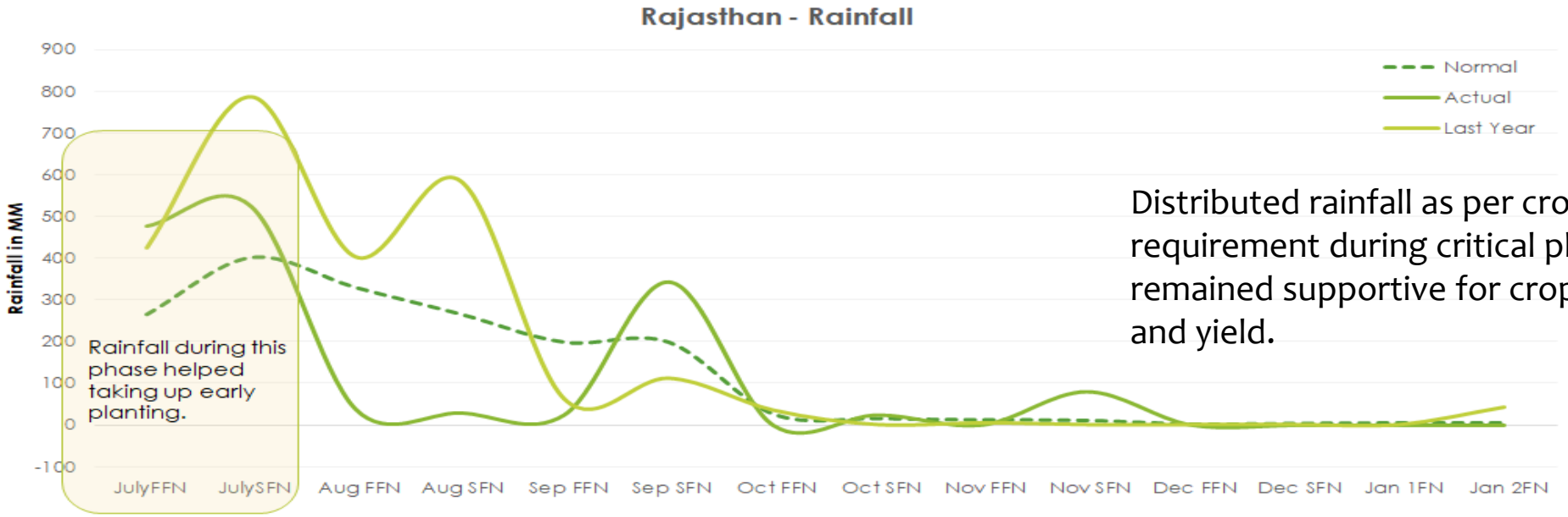




Rainfall Status - Rajasthan

Cumulative (June till Sept'23)

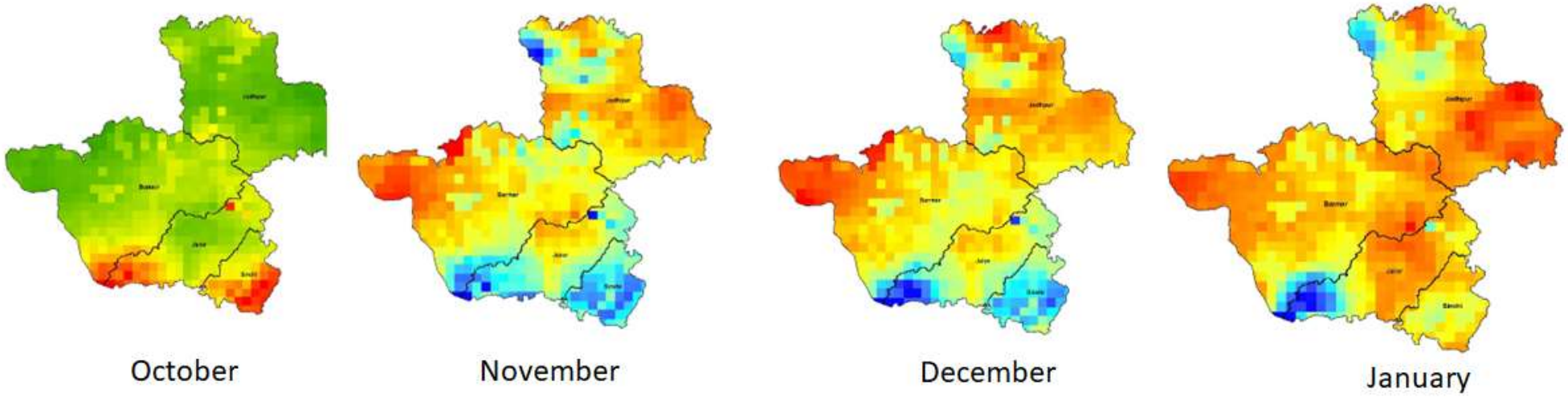
Cumulative (October-till date)



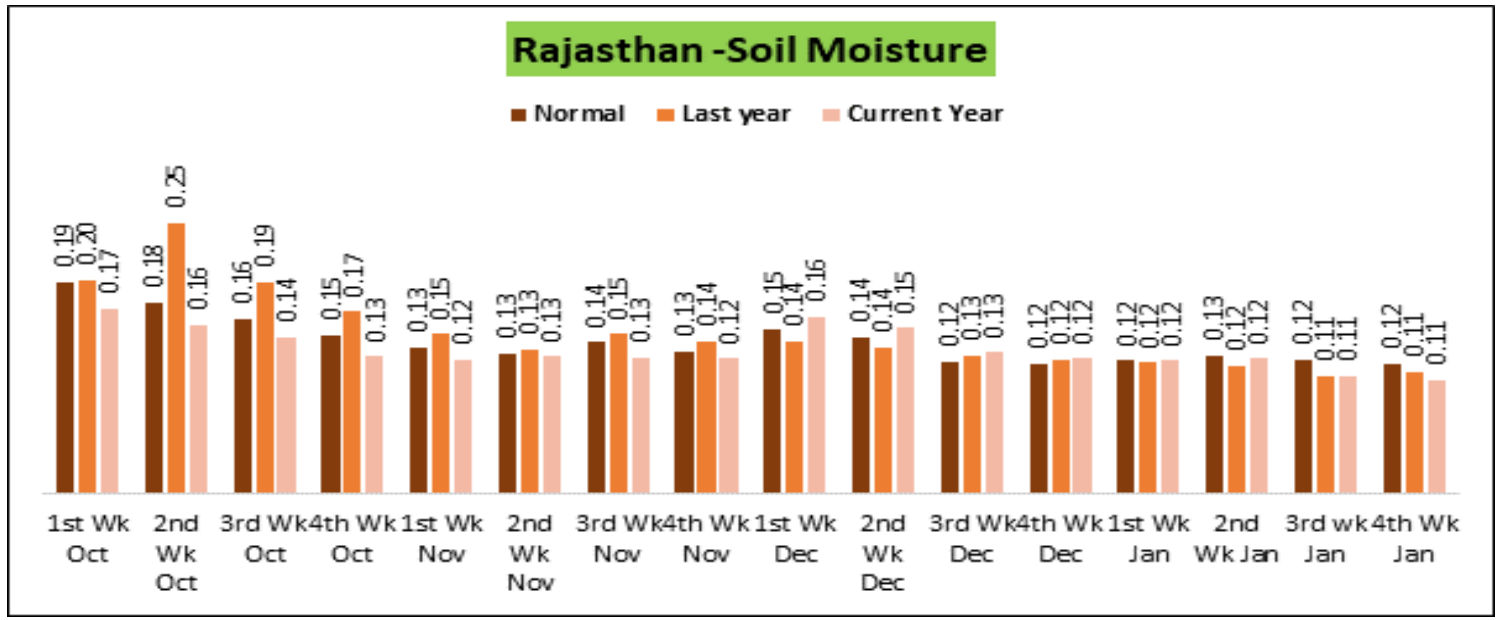
Rains Due to Cyclone Biparjoy (15th-20th June'23) has helped in early sowing

Distributed rainfall as per crops requirement during critical phases remained supportive for crops growth and yield.

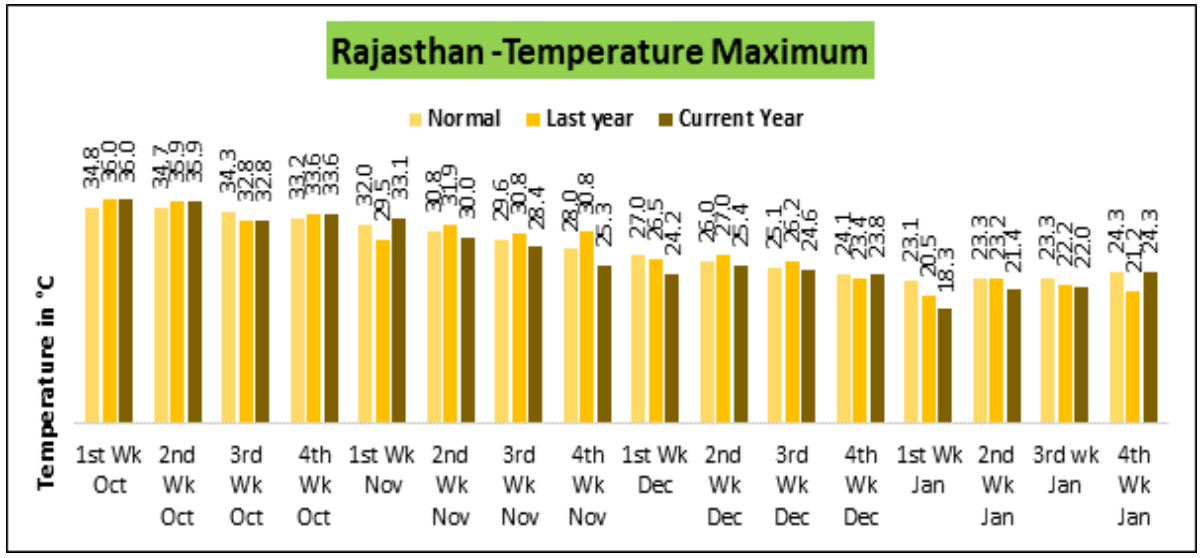
Soil Moisture – Rajasthan



- Nov rains helped regaining the soil moisture and proved beneficial for crop.
- Overall soil moisture availability in later half of crop was beneficial.

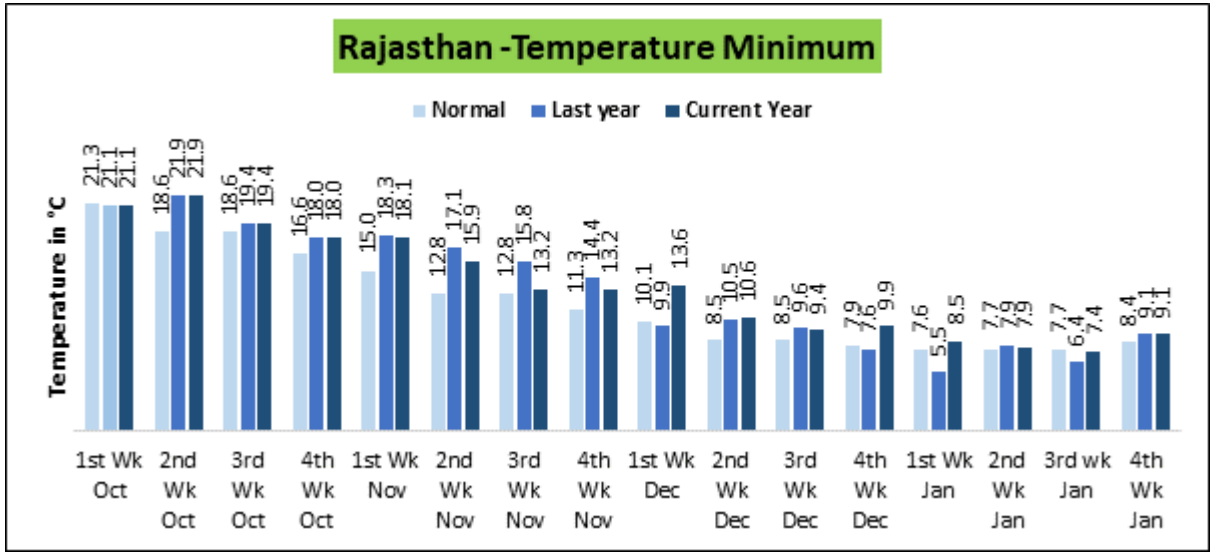


Temperature – Rajasthan

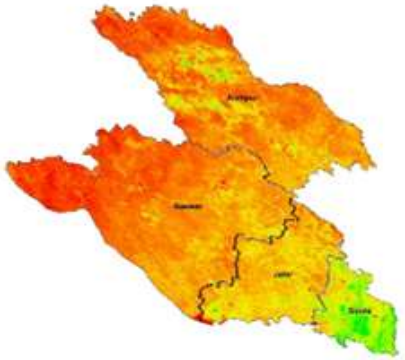


- The Maximum Temperature during season remained slightly lower than last year and comparable to normal across the season.
- No stress was reported to crop due to high temperatures

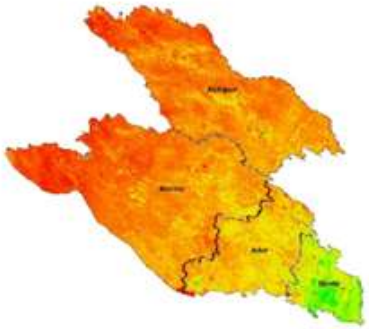
- The minimum temperature remained almost similar to last year & normal till Nov. However, they were recorded slightly higher in Dec. end and first week of Jan. But no event of frost or damage was reported to the crop.
- Overall temperatures remain congenial for crop.



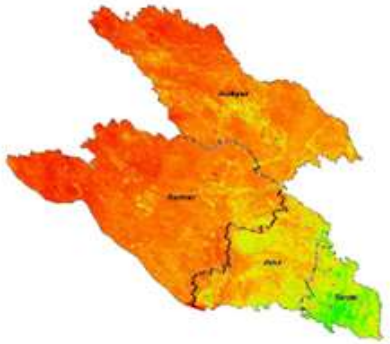
NDVI – Rajasthan



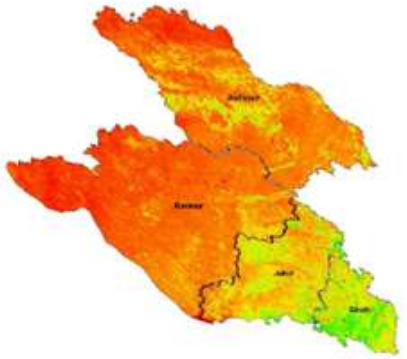
October



November

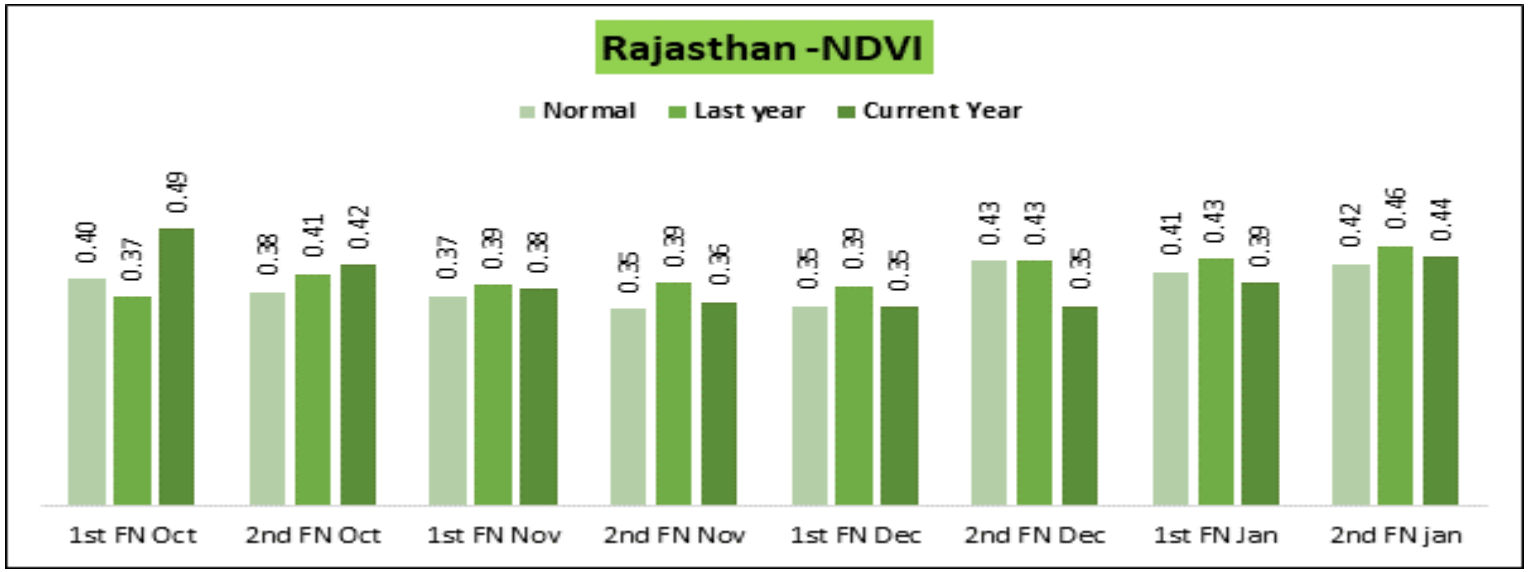


December



January

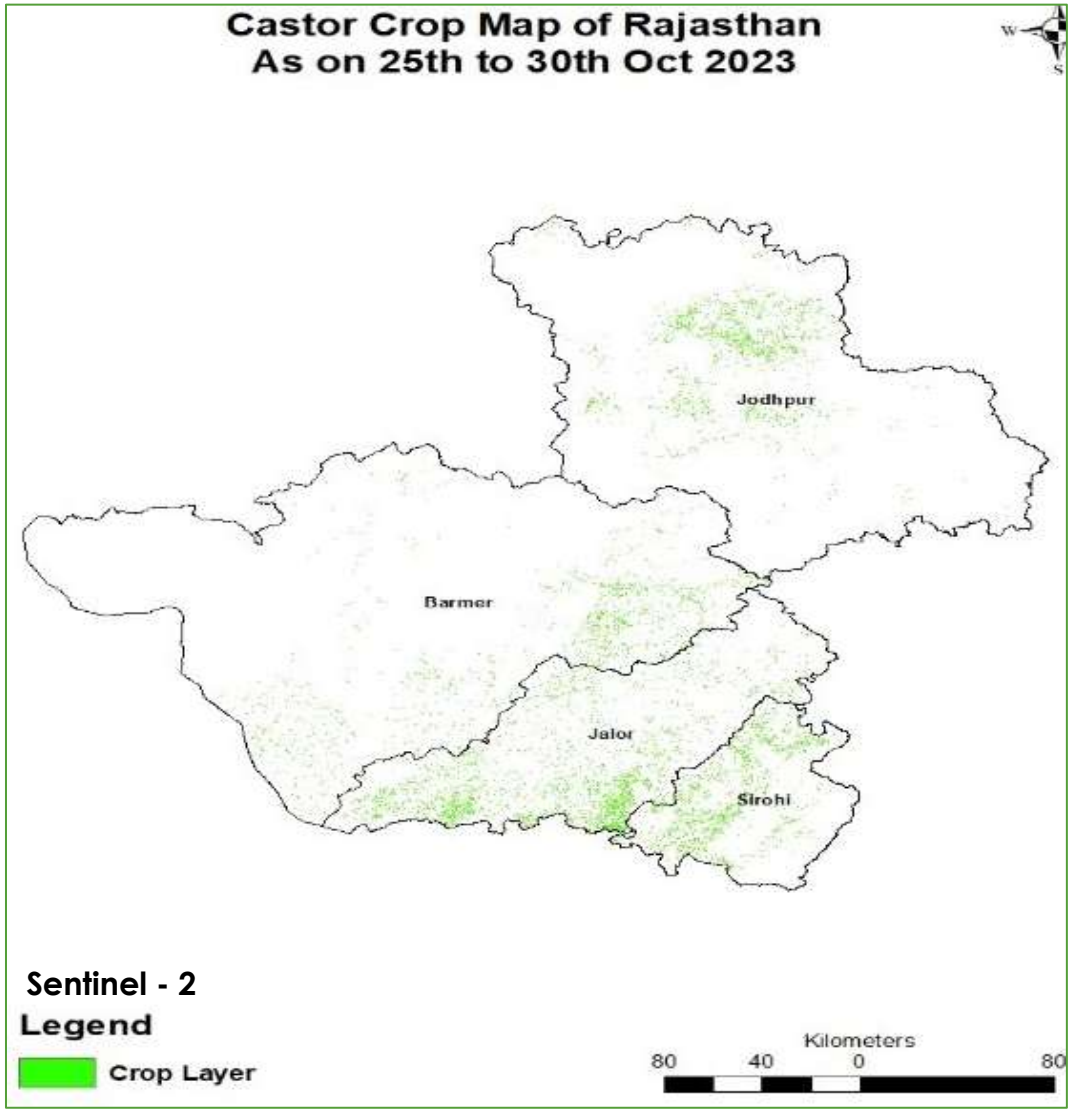
NDVI (Crop Health) was recorded good till first fortnight of Nov. while recorded slightly lower in Dec & Jan. in comparison to last year However, rains in later part of Nov. and early Dec., helped in regaining the crops health.



Castor Acreage

- Total Castor acreage in Rajasthan based government's estimate is at **2.09 Lakh Ha vis-a-vis last year's 1.49 Lakh Ha.**

- Acreage estimate for the 2023-24 season based on Remote sensing is at 2.05 Lakh Ha.



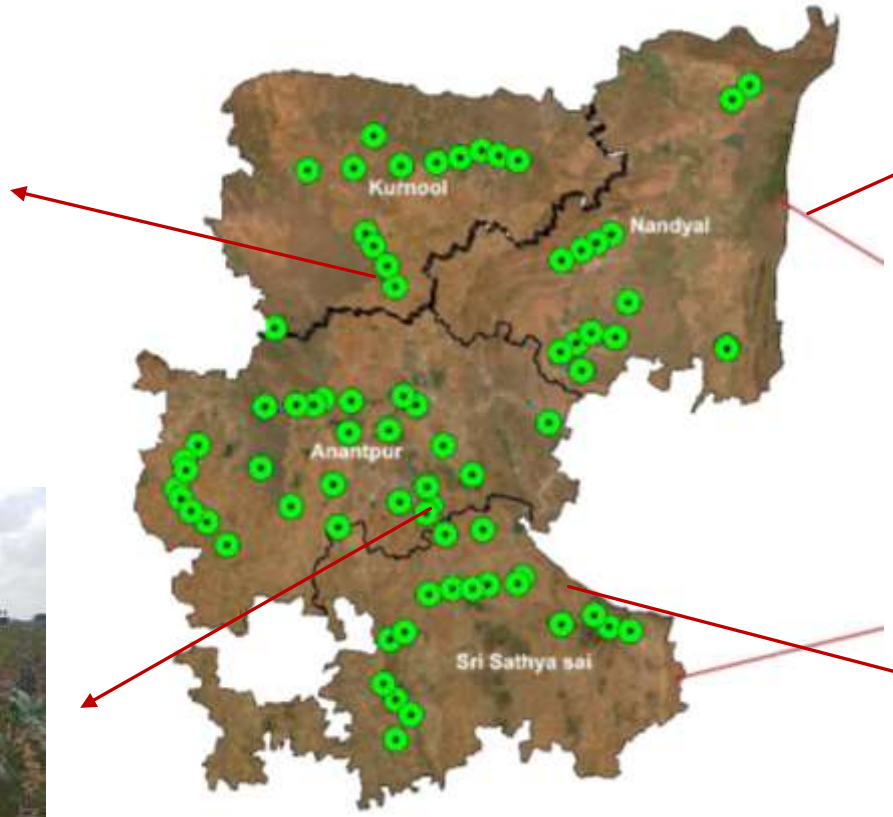
Castor Seed District-wise Production Estimates - Rajasthan

S.No.	Districts	Acreage 2022-23 State Govt ('000 Ha)	Acreage 2023-24 State Govt ('000 Ha)	Acreage 2023-24 Remote Sensing ('000 Ha)	Yield 2022-23 (kg/ha)	Yield 2023-24 (kg/ha)	Production 2022-23 ('000 MT)	Production 2023-24 ('000 MT)
1	Barmer	33.9	56.2	44.8	1860	1915	63	108
2	Jalore	54.3	75.4	63.7	1590	1727	86	130
3	Jodhpur	23	25.3	36.7	1935	1950	45	49
4	Sirohi	32.1	37.3	44.5	1370	1440	44	54
Total		**143.3**	**194.2**	**189.7**	**1660**	**1755**	**238**	**341**
Other		5.73	14.9	14.9	1660	1703	10	25
StateTotal		**149**	**209**	**205**	**1663**	**1752**	**248**	**366**

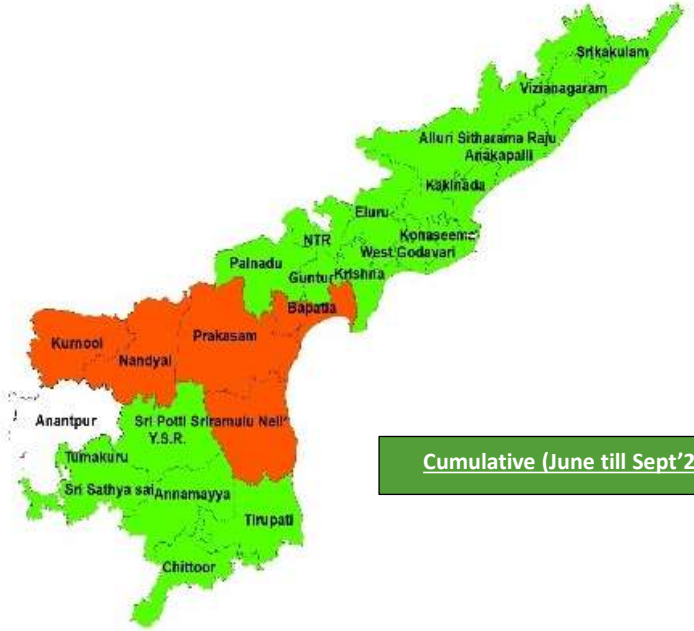
Andhra Pradesh & Telangana

Survey Points - Andhra Pradesh

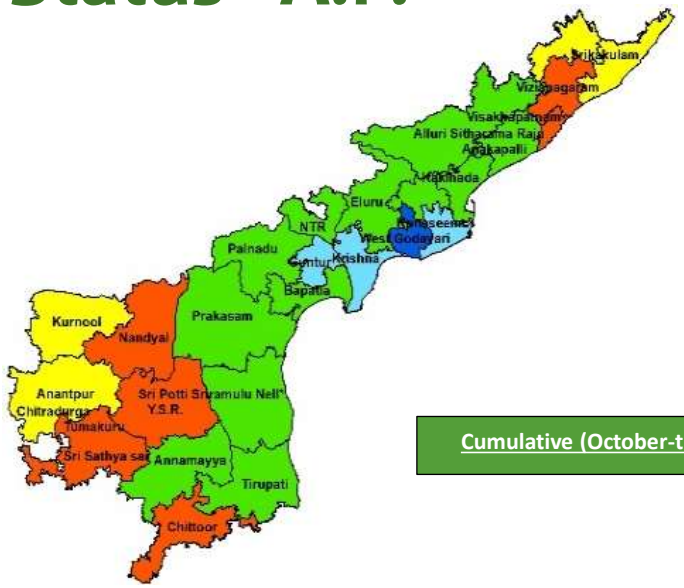
Total Farmer Survey 100 nos



Rainfall Status - A.P.

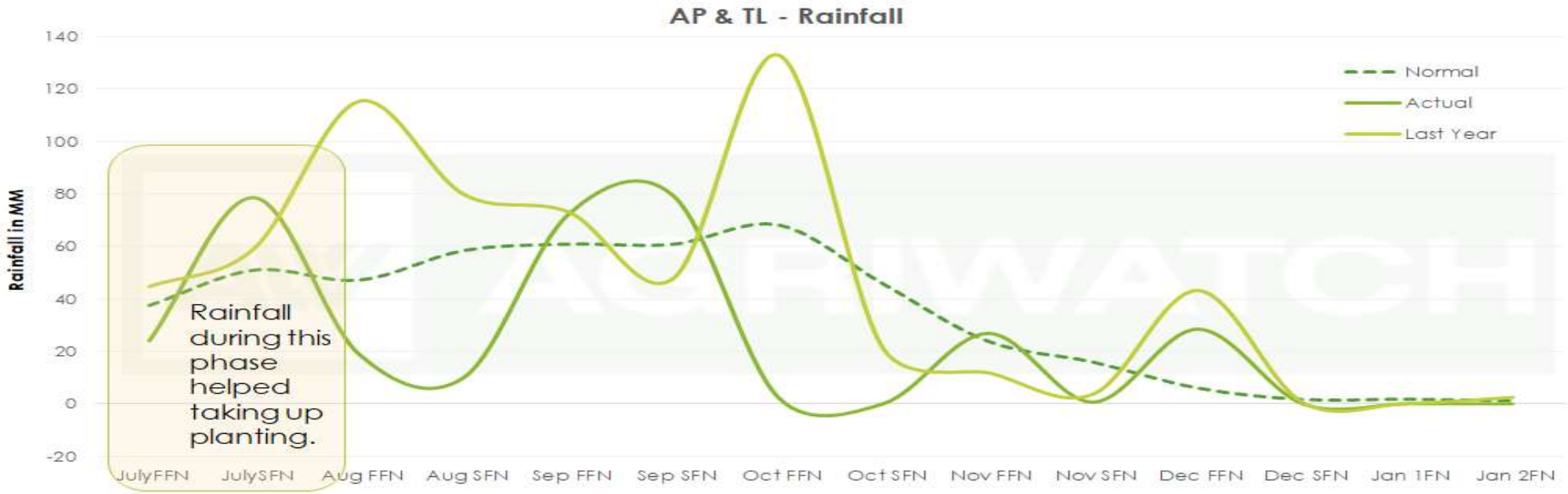


Cumulative (June till Sept'23)

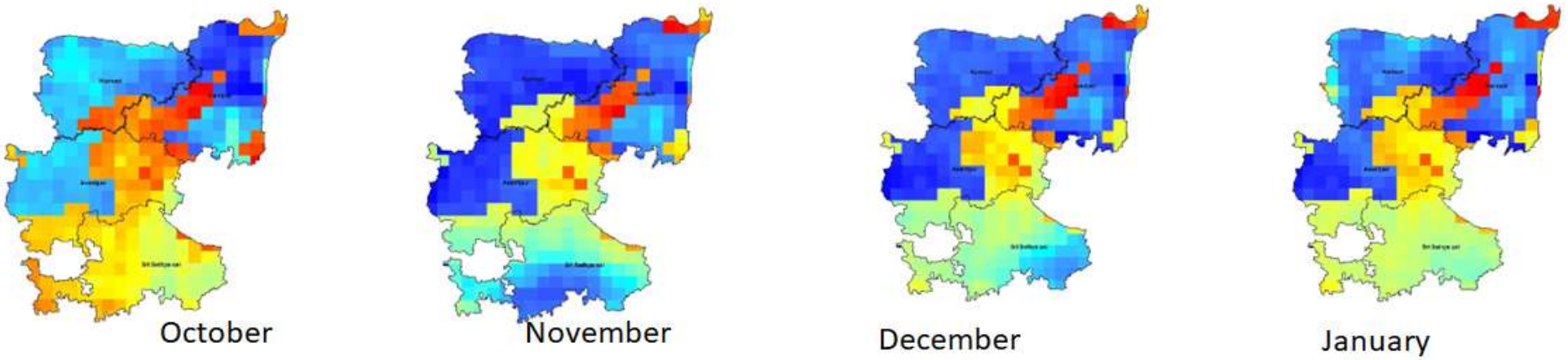


Cumulative (October-till date)

Rainfall remained distributed as per crops requirement during critical phases.

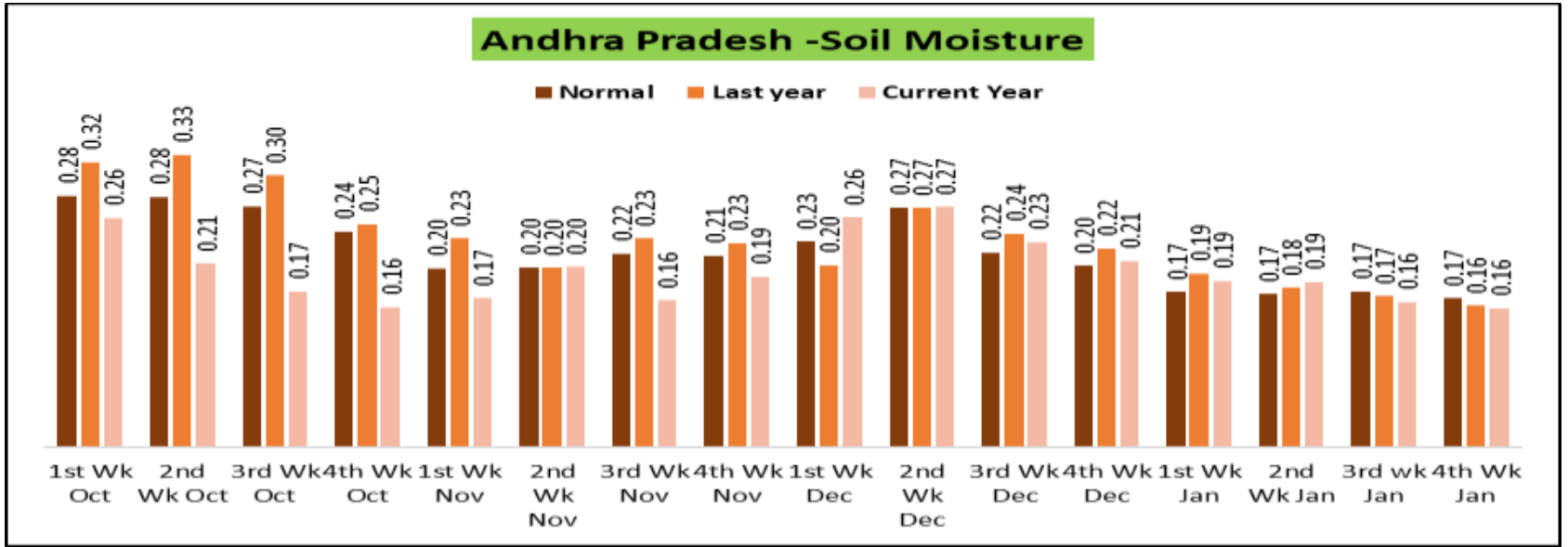


Soil Moisture – A.P.

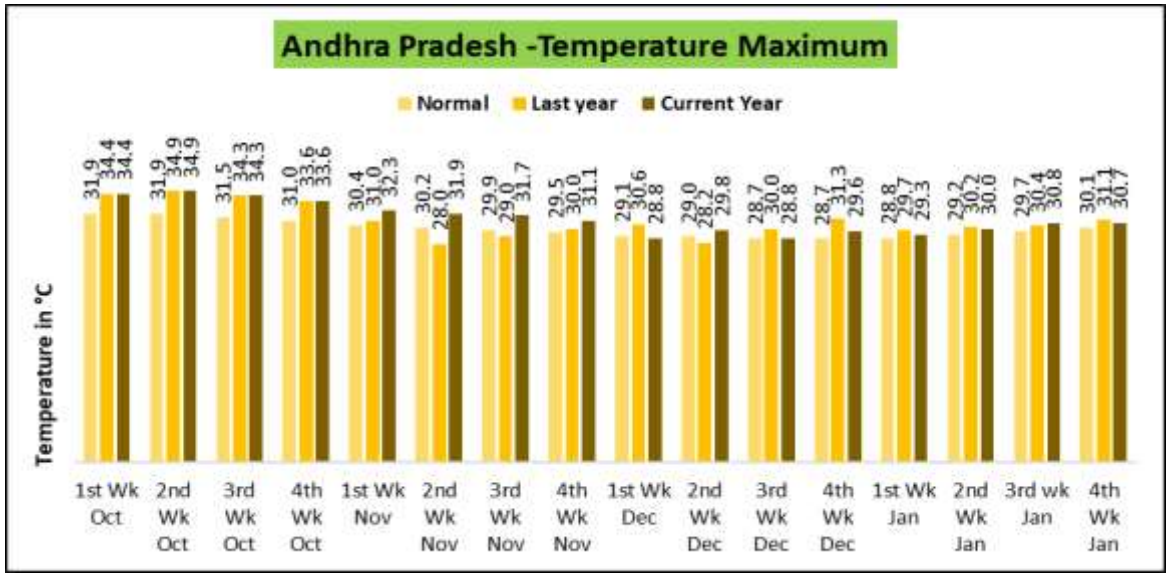


Soil moisture remained lower then last year during Oct however from Nov end it improved and remained similar to last year as well as normal .

No moistures stress is observed on crop

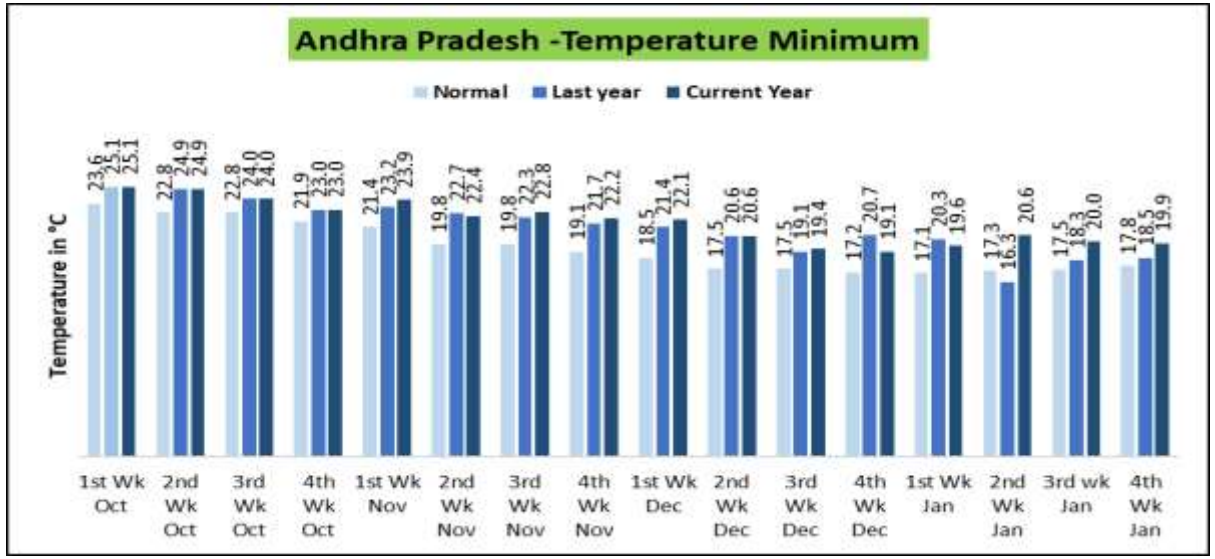


Temperature – A.P.

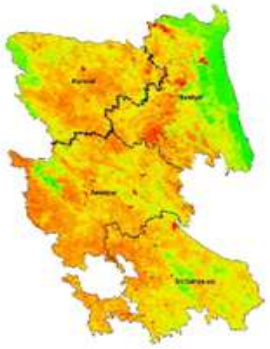


The maximum temperature remained almost similar to last year however they went up in Nov. over previous year and then remained slightly higher than normal.

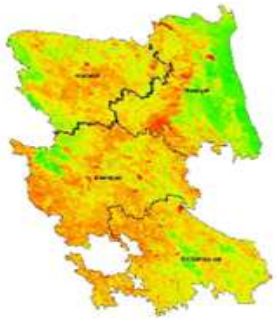
The minimum temperature remained higher than normal throughout season and even slightly higher than last year.



NDVI – A.P.



October

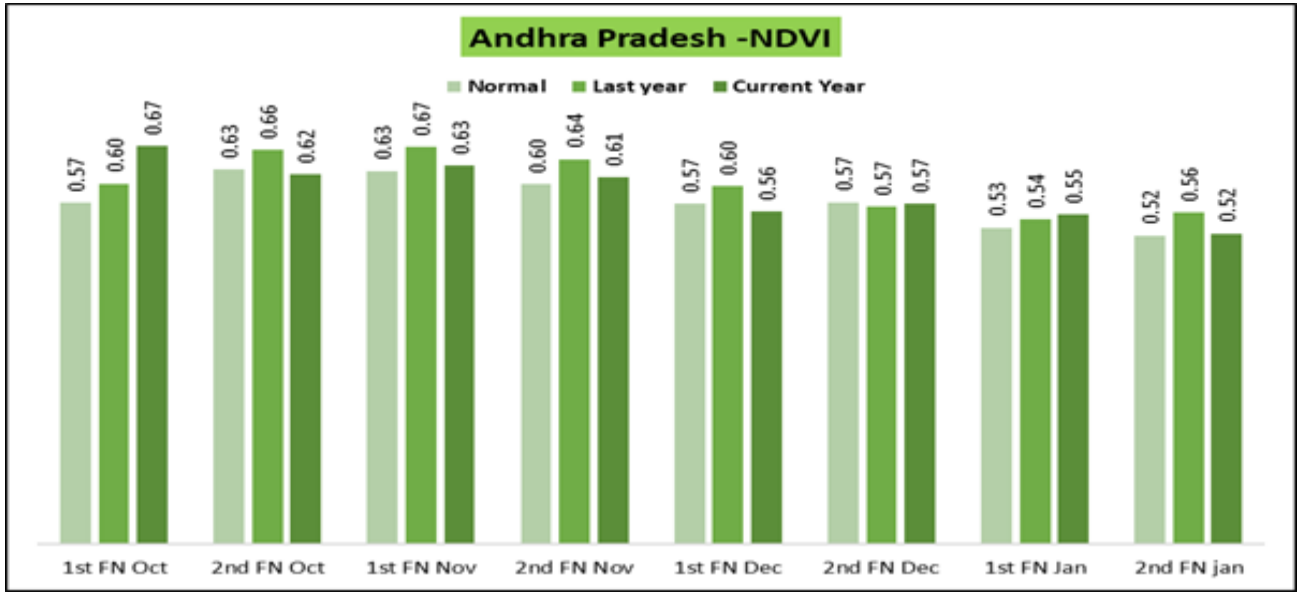


November

December

January

NDVI (Crop Health) remains at par with normal in comparison to last year & normal



Castor Seed District-wise Production Estimate - A. P. & Tel

S.no.	Districts	Acreage 2022-23 State Govt ('000 Ha)	Acreage 2023-24 State Govt ('000 Ha)	Acreage 2023-24 Remote Sensing ('000 Ha)	Yield 2022-23 (kg/ha)	Yield 2023-24 (kg/ha)	Production 2022-23 ('000 MT)	Production 2023-24 ('000 MT)
1	Kurnool	8.83	19.7	13.7	1453	1482	13	29
2	Anantapur	20.08	28.1	24.5	1239	1320	25	37
3	AP-Others	12.09	10.7	13.7	1345	1373	16	15
4	Telangana	2	1.6	1.7	1420	1405	3	2
State Total		**43**	**60.1**	**53.6**	**1321**	**1385**	**57**	**83**

Castor Seed Production Estimate - India

S.No.	State	Acreage 2022-23 State Govt. ('000 Ha)	Acreage 2023-24 State Govt. ('000 Ha)	Acreage 2023-24 Remote Sensing ('000 Ha)	% Change Acreage	Yield 2022-23 (kg/ha)	Yield 2023-24 (kg/ha)	% Change Yield	Production 2022-23 ('000 MT)	Production 2023-24 ('000 MT)	% Change Production
1	Gujarat	714	724	740	1%	2196	2206	0.4%	1569	1598	2%
2	Rajasthan	149	209	205	40%	1663	1752	5.3%	248	366	48%
3	AP/Telangana	43	60	54	40%	1321	1385	4.8%	57	83	46%
Total Surveyed State		906	993	999	10%	2067	2050	-0.8%	1874	2047	9%
Others		12	12	11.5	-4%	630	643	2.1%	8	7	-3%
India Total		**918**	**1005**	**1010**	**9%**	**2048**	**2044**	**-0.2%**	**1881**	**2054**	**9%**

Note - 2023-24 acreage is as per Remote sensing; Yields are as per primary / farmers survey.

2023-24 Castor Seed Production estimated at 20.54 Lakh MT up by 9% from last year.

- Estimates given are based on two rounds of field surveys and crop conditions till 1st week of February.
- Crop estimation is based on Government's acreage and yield estimates arrived from farmers' survey
- Yield re-validation rounds will be carried out in March and April through field visits to assess the impact of adverse weather, if any or any change in final yields. Accordingly, the production numbers may be revised.

Thank You!

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