Presentation on

Indian Castor Seed Production Scenario 2017

With Comparative Cost of Other Crops

At

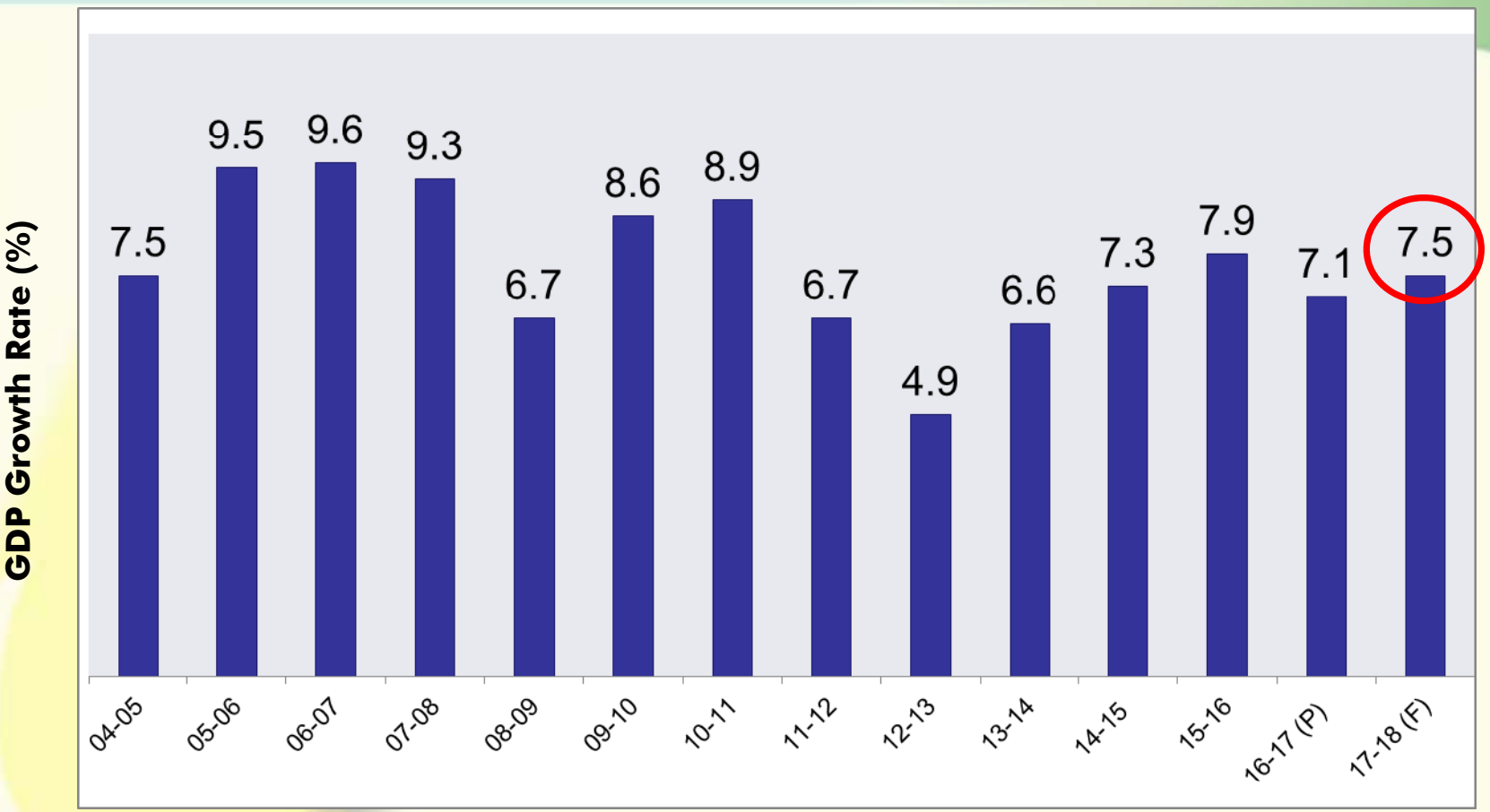
ICOA - Annual Meet

16th May, 2017, Prague, Czech Republic

SEA Profile

- Formed in 1963 to foster the development & growth of the Solvent Extraction Industry in India
- Largest and Premier Association in the Vegetable Oil Sector in India
- First Association in Vegetable Oil & Oilseed sector to receive ISO 9001 Certification in India (2004)
- Recognised as NGO and TPO by Government of India
- Set up a Special Promotional Council for Castorseed & Oil and organising Global Castor Conference every year for reviewing production projection and supply demand situation

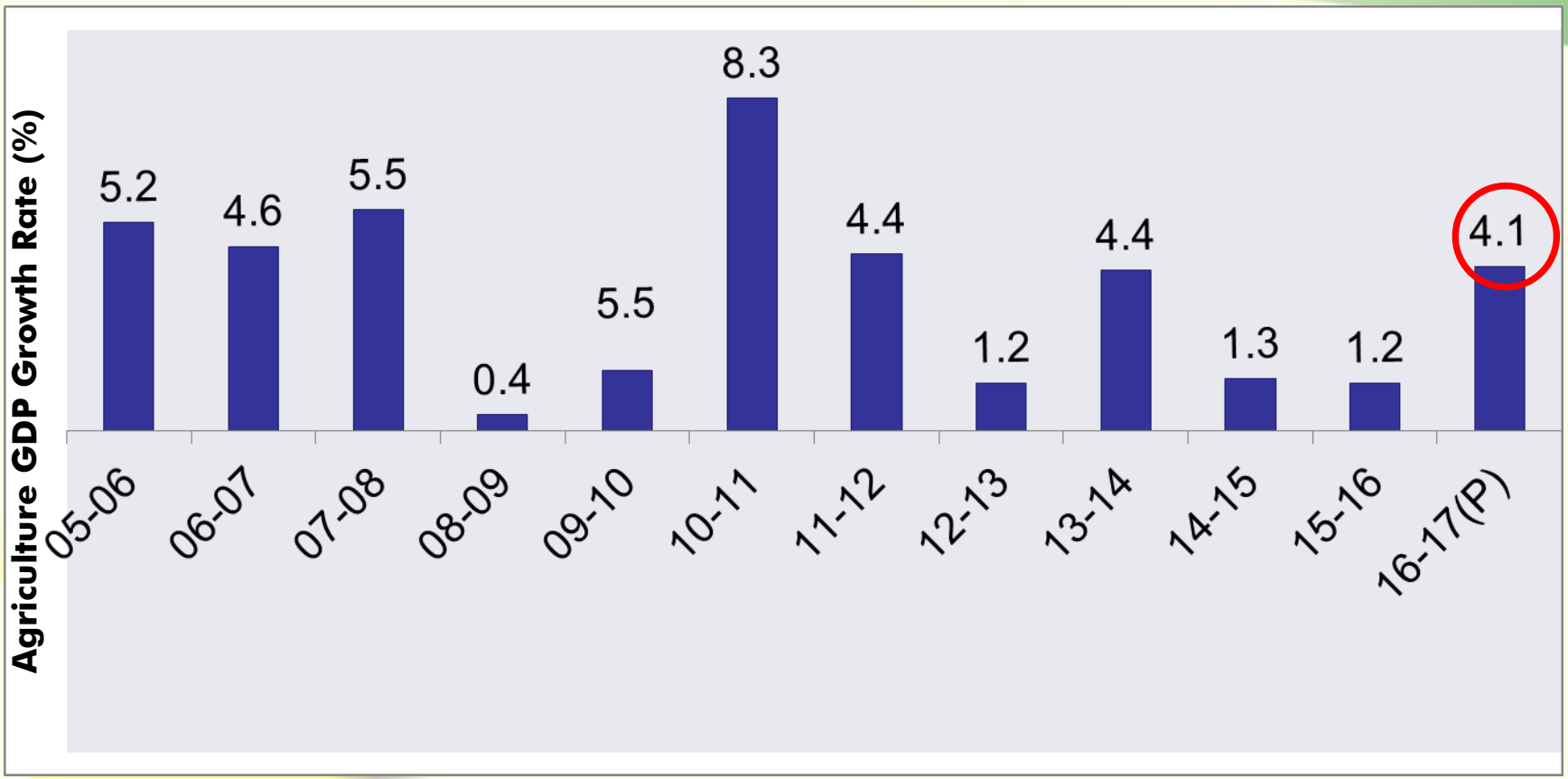
India's Overall GDP Growth



- The average GDP growth in last five years is registered at 6.8%
- For FY 16-17, GoI estimates GDP growth at 7.1% and the current year (FY 17-18) is projected at 7.5% or more

Source : Economic Survey

Agriculture Sector GDP Growth



- Agriculture Sector Growth depends heavily on monsoon performance
- For 2016-17, Agri GDP growth is higher at 4.1%, thanks to good monsoon

Source : Economic Survey

State-wise Area, Production and Yield of Castor Seeds in India

State	Estimated Area* Under Crop ('000 ha.)			Estimated Production* ('000 Tons.)			Estimated Yield* (Kg./ha.)		
	15-16	14-15	13-14	15-16	14-15	13-14	15-16	14-15	13-14
Gujarat	781	734	573	1,172	1,067	843	1,502	1,454	1,471
Rajasthan	199	213	148	146	183	161	735	859	,1085
Andhra Pradesh	114	111	153	79	75	102	693	674	668
Other States #	42	42	42	24	24	24	569	560	571
Total	1,136	1,100	916	1,422	1,349	1,130	1,252	1,226	1,233

Source : SEA Data Bank * Nielsen India estimate, # Other States include Maharashtra, Karnataka, Tamil Nadu, Orissa

World Production of Castorseed

Country	Harvest Season	Production ('000 Tons)		Yield (T/Ha)		Harvested Area ('000/Ha)	
		15-16	14-15	15-16	14-15	15-16	14-15
Ethiopia	Oct.- Dec.	11	11	0.80	0.80	14	14
Brazil	Jun – Sept.	47	45	0.57	0.44	82	101
China PR	Sept.- Jan.	40	60	1.33	1.50	30	40
India	Jan. – April	1,380	1,260	1.23	1.18	1,120	1,070
Thailand	Nov.- Jan.	11	11	0.85	0.85	13	13
Other Countries		89	90	0.60	0.60	149	149
World		1,578	1,477	1.12	1.06	1,408	1,387

Source : Oil World

CASTOR CROP SURVEY 2016-17

(Nov.'16 to May'17)

Conducted by Nielsen

on behalf of

The Solvent Extractors' Association of India

Objective

To Estimate Castor Crop in

Gujarat, Rajasthan, Andhra Pradesh & Telangana

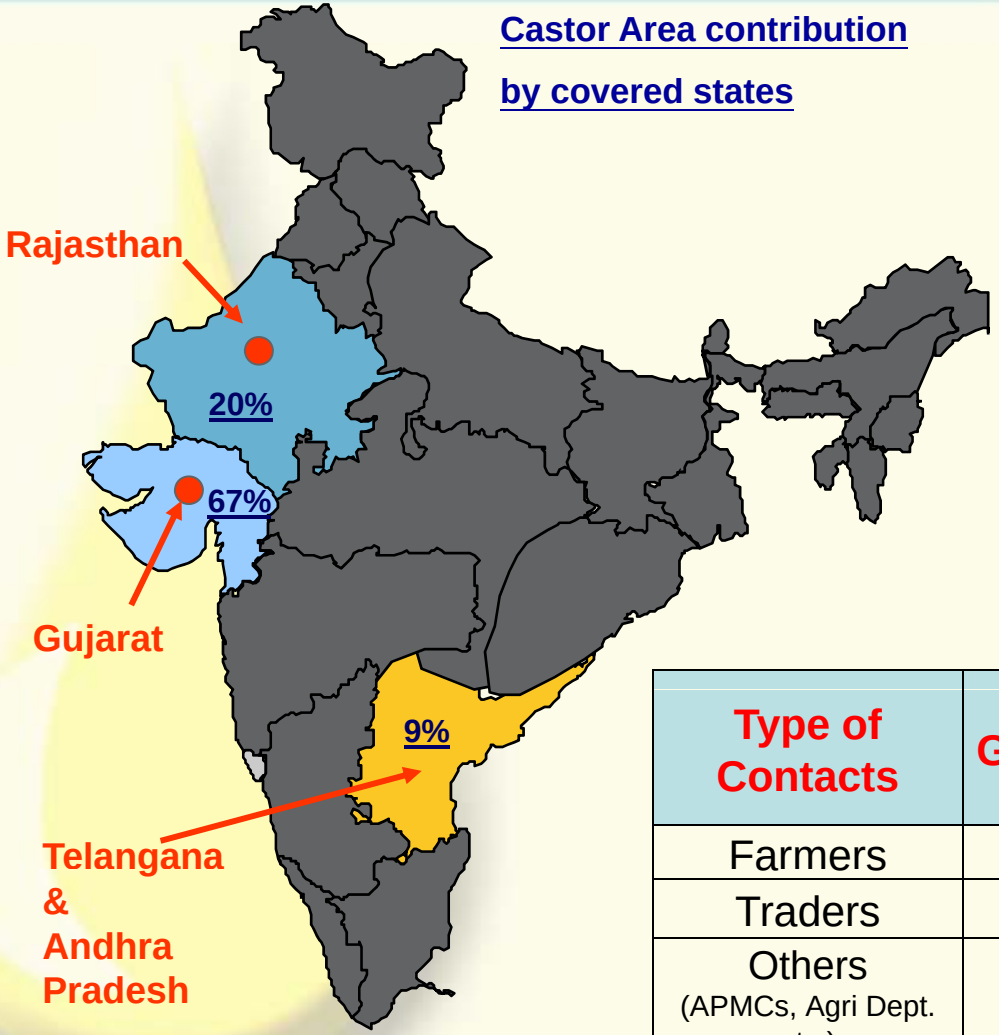
for the Year 2016-17

Approach & Methodology

Castor Seed Crop Survey to be conducted in 5 rounds of which 4 rounds have been completed

Round 1	Round 2	Round 3	Round 4	Round 5
Gujarat & Rajasthan	Gujarat, Rajasthan & Andhra Pradesh	Gujarat, Rajasthan & Andhra Pradesh	Gujarat & Rajasthan	Gujarat & Rajasthan
• To understand the crop progress • Area under crop and growth / de-growth • Conducted during the month of November	• Area under crop, Expected yield • Expected number of rounds • Price expectation and disposal plan • 1st - 3nd week of January (Gujarat) & 1st & 2nd week of October (AP)	• To recheck the crop estimates in draft report • 50% face to face interview & 50% telephonic interview (with farmers interviewed in 2nd Round) • 1st week of February	• To recheck the crop estimates in draft report with 20% of farmers interviewed in 2nd • 50% face to face interview & 50% telephonic interview (with farmers interviewed in 2nd Round) • 2nd week of April	• To firm up the final crop estimates with 20% of farmers interviewed in 2nd • 50% face to face interview & 50% telephonic interview (with farmers interviewed in 2nd Round) • 2nd week of May

Sample Covered



- **1,513 farmers were covered during the detailed field survey for Gujarat**
- **500 farmers were covered during the detailed field survey for Rajasthan**
- **622 farmers were covered during the detailed field survey for Andhra Pradesh and Telangana**

Sample Plan (Second Round)

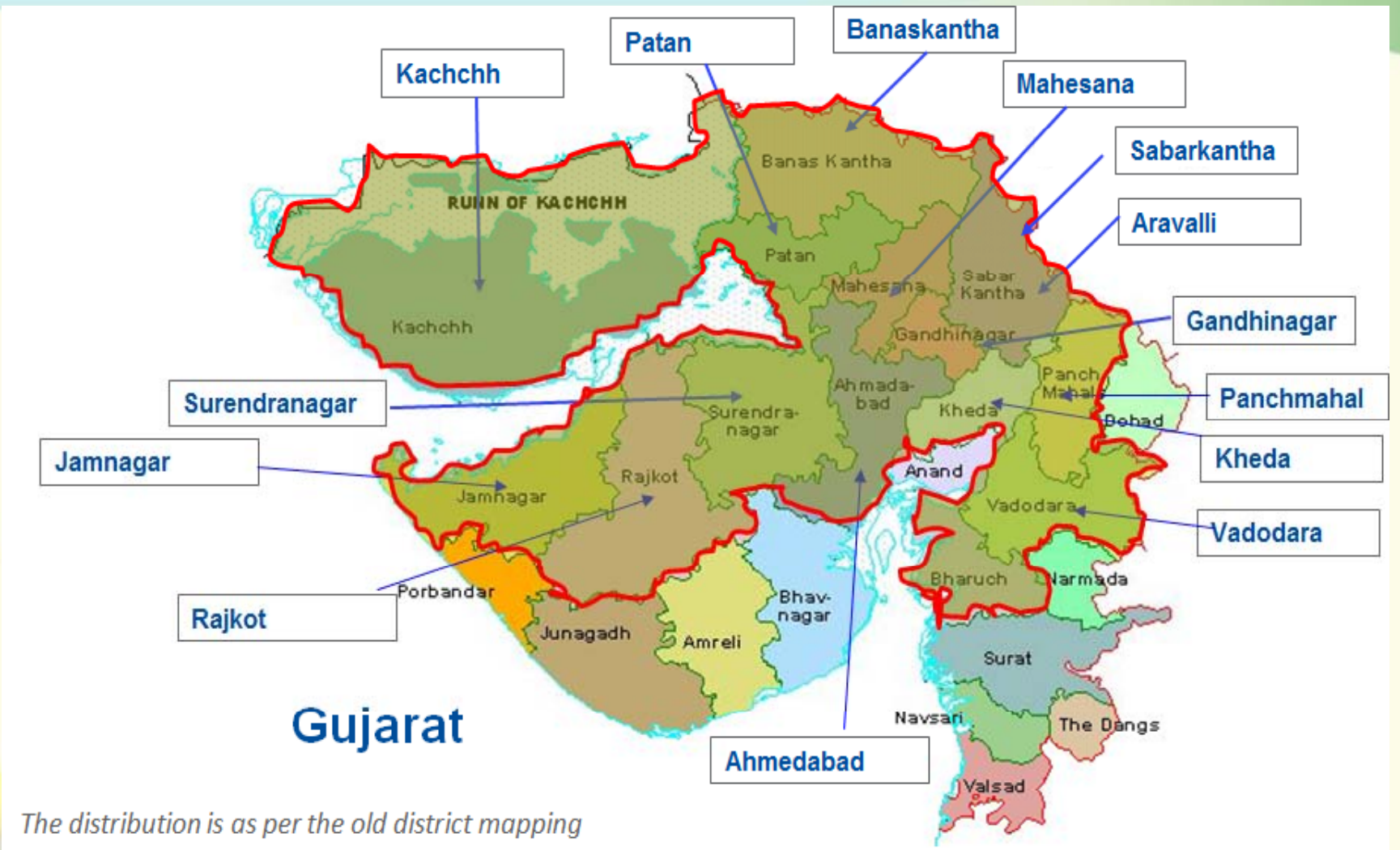
Type of Contacts	Gujarat	Rajasthan	Andhra Pradesh & Telangna	Total
Farmers	1,513	500	622	2,635
Traders	35	10	10	55
Others (APMCs, Agri Dept. etc.)	15	5	5	25
Total	1,563	515	637	2,715

% is the acreage

20% of Second Round sample will be covered for 3rd & 4th Round

GUJARAT

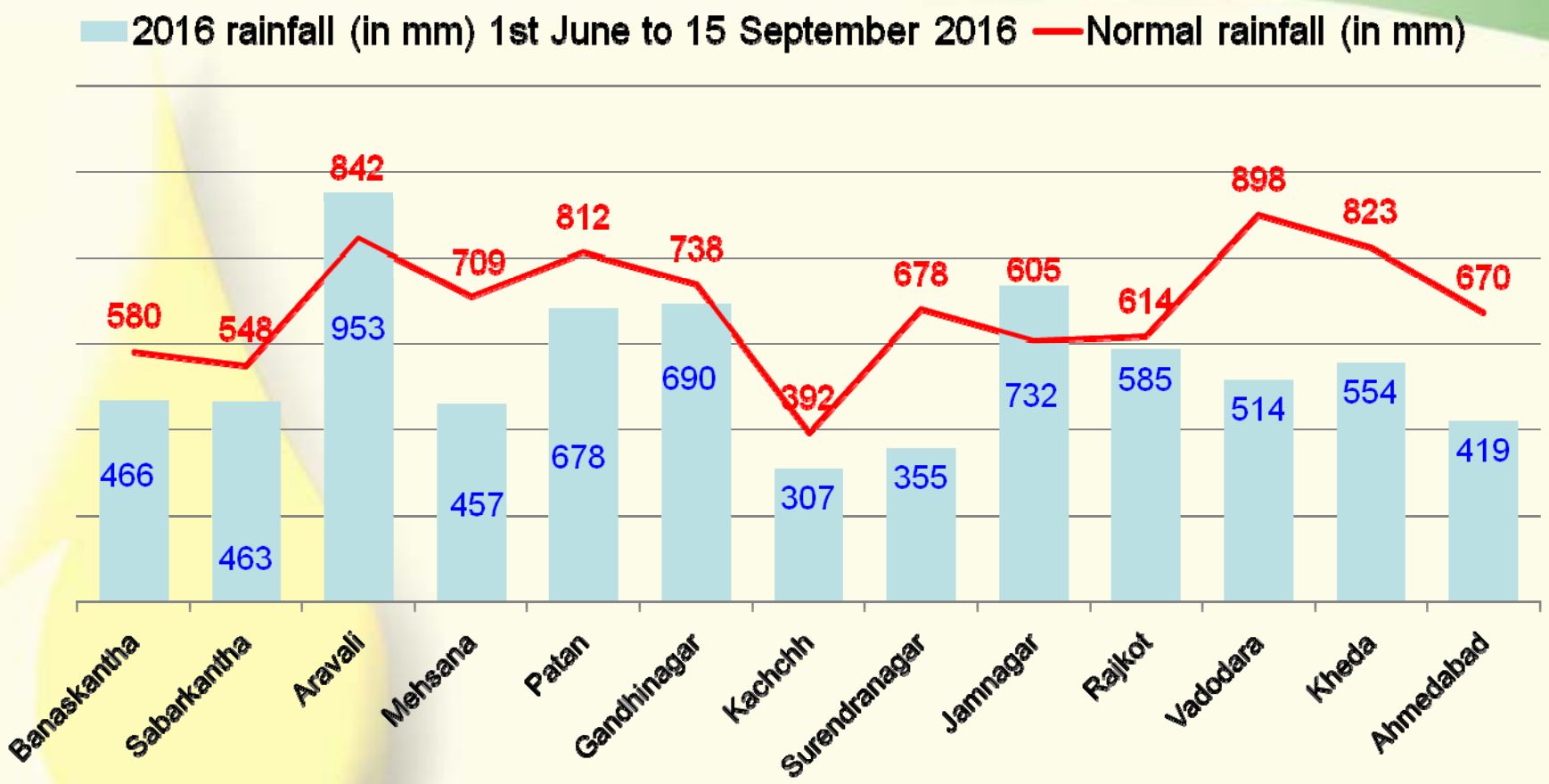
Geographical Coverage : Gujarat



The distribution is as per the old district mapping

- Covered total 61 talukas and 210+ villages in 13 districts of Gujarat
- 13 districts account for 94% of the total area under Castor crop in Gujarat

Rainfall in Gujarat

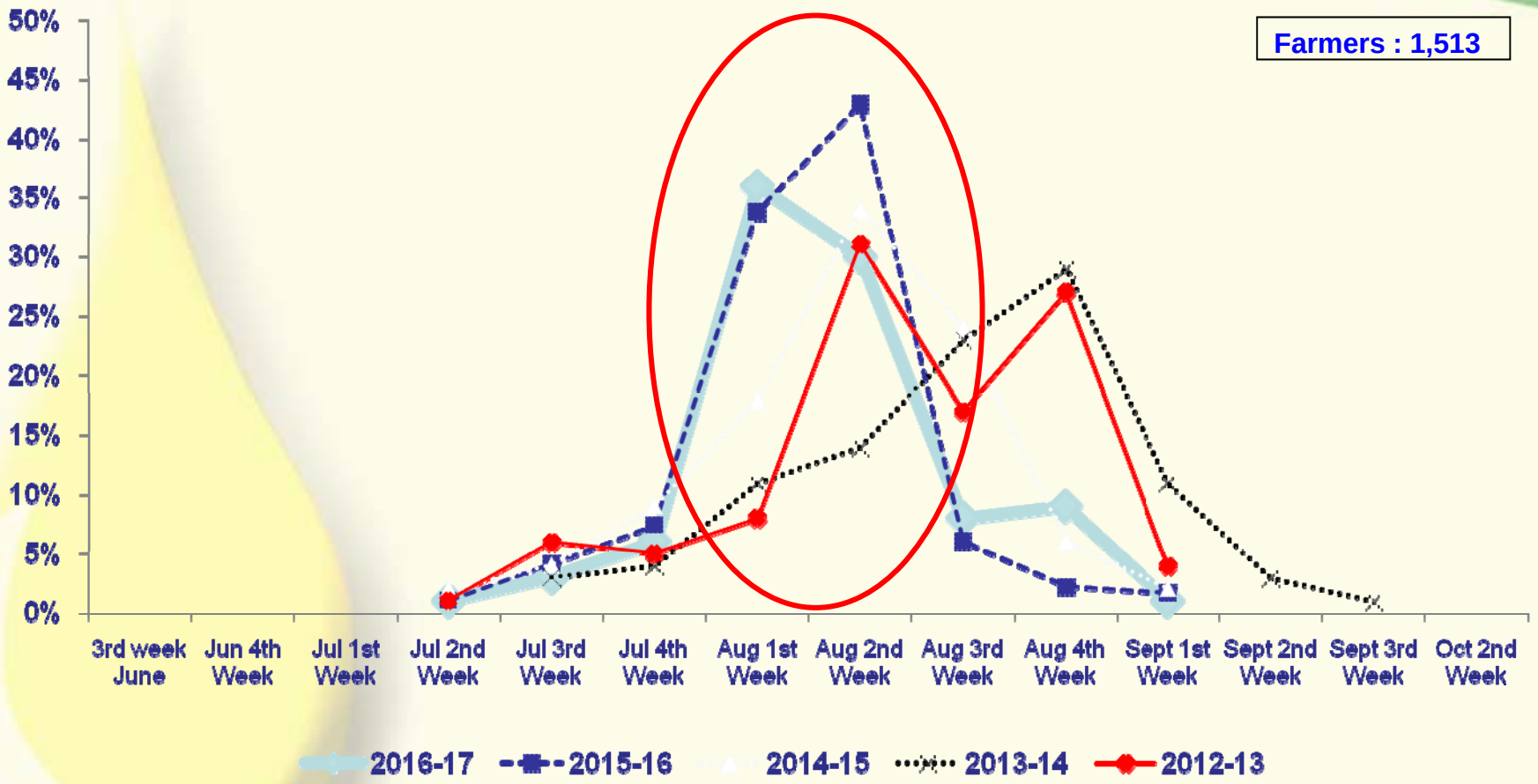


Except Aravali and Jamnagar, all other castor growing districts have received less than normal rainfall

Source: IMD

Sowing Period

Gujarat



- In 2016-17, Sowing started in 2nd week of July and reached a peak in 1st week of August
- The trend of sowing continues to be the same as compared to previous years

Area under Castor Crop in Gujarat – 2016-17
3rd Round – Feb.'17

District	Area Under Crop* ('000 ha.)		
	2015-16	2016-17	YOY % change
Banaskantha	141	102	-28%
Sabarkantha	65	17	-44%
Aravalli		19	
Mehsana	84	66	-21%
Patan	112	82	-27%
Gandhinagar	23	24	4%
Kachchh	119	88	-26%
Surendranagar	78	45	-42%
Jamnagar	9	8	-11%
Rajkot	8	12	50%
Vadodara	33	21	-36%
Kheda	5	5	--
Ahmedabad	59	44	-25%
Others	45	32	-29%
Total Area	**781**	**565**	**-28%**

** State Government estimates*

- Area under castor has decreased by 28% in 2016-17 as compared to 2015-16 as per Government estimates

Yield of Castor Crop in Gujarat – 2016-17
3rd Round – Feb.'17

District	Yield * (Kg/ha.)		
	2015-16	2016-17	YOY % change
Banaskantha	1903	1931	1%
Sabarkantha	2054	1882	-12%
Aravalli		1737	
Mehsana	1460	1561	7%
Patan	1695	1768	4%
Gandhinagar	2015	1792	-11%
Kachchh	528	693	31%
Surendranagar	971	1044	8%
Jamnagar	1126	1125	--
Rajkot	1433	1583	10%
Vadodara	1741	1857	7%
Kheda	1991	1600	-20%
Ahmedabad	1988	1750	-12%
Others	1502	1500	--
Total	**1502**	**1524**	**1.5%**

** Nielsen estimates*

- Yield of castor has increased by 1.5% in 2016-17 as compared to 2015-16

Estimated Production of Castor Crop in Gujarat 2016-17

3rd Round - Feb.'17

District	Production * ('000 tonnes)		
	2015-16	2016-17	YOY % change
Banaskantha	268	197	-26%
Sabarkantha	134	32	-51%
Aravalli		33	
Mehsana	123	103	-16%
Patan	190	145	-24%
Gandhinagar	46	43	-7%
Kachchh	63	61	-3%
Surendranagar	76	47	-38%
Jamnagar	10	9	-10%
Rajkot	12	19	58%
Vadodara	58	39	-33%
Kheda	10	8	-20%
Ahmedabad	116	77	-34%
Others	67	48	-28%
Total	**1,173**	**861**	**-27%**

** Nielsen estimates*

- Estimated production stands at 8,61,000 tonnes, which is a decline of 27% as compared to the previous year

Estimated Production of Castor Crop in Gujarat 2016-17
4th Round – April '17

District	Area Under Crop ('000 Ha)	Yield in 2016-17(Kg/ha.)			Production ('000 tons)		
	2016-17	Feb-17	Apr-17	% change over Feb 2017	Feb-17	April -17	% change over Feb 2017
Banaskantha	102	1,931	1,989	3%	197	203	3%
Sabarkantha	17	1,882	1,826	-3%	32	31	-3%
Aravalli	19	1,737	1,615	-7%	33	31	-7%
Mehsana	66	1,561	1,499	-4%	103	99	-4%
Patan	82	1,768	1,680	-5%	145	138	-5%
Gandhinagar	24	1,792	1,667	-7%	43	40	-7%
Kachchh	88	693	804	16%	61	71	16%
Surendranagar	45	1,044	971	-7%	47	44	-7%
Jamnagar	8	1,125	1,125	0%	9	9	0%
Rajkot	12	1,583	1,583	0%	19	19	0%
Vadodara	21	1,857	1,838	-1%	39	39	-1%
Kheda	5	1,600	1,584	-1%	8	8	-1%
Ahmedabad	44	1,750	1,698	-3%	77	75	-3%
Others	32	1,500	1,510	1%	48	48	1%
Total	**565**	**1,524**	**1,510**	**-1%**	**861**	**853**	**-1%**

- Slight decrease (1%) in April 2017 yield & production in Gujarat as compared to the estimates in February 2017
- In some the districts of Gujarat (Aravali, Sabarkantha, Patan, Mehsana and Gandhinagar) the decrease is mainly due to pest attack and water shortage
- **Estimated production of Gujarat : 8,53,000 tons**

GUJARAT

Sabarkantha 3rd Week of January

Banaskantha 3rd Week of January

GUJARAT

Kutch 3rd Week of January

Kutch 3rd Week of January

GUJARAT

Patan 3rd Week of January

Mehsana 3rd Week of January

GUJARAT

Rajkot 3rd Week of January

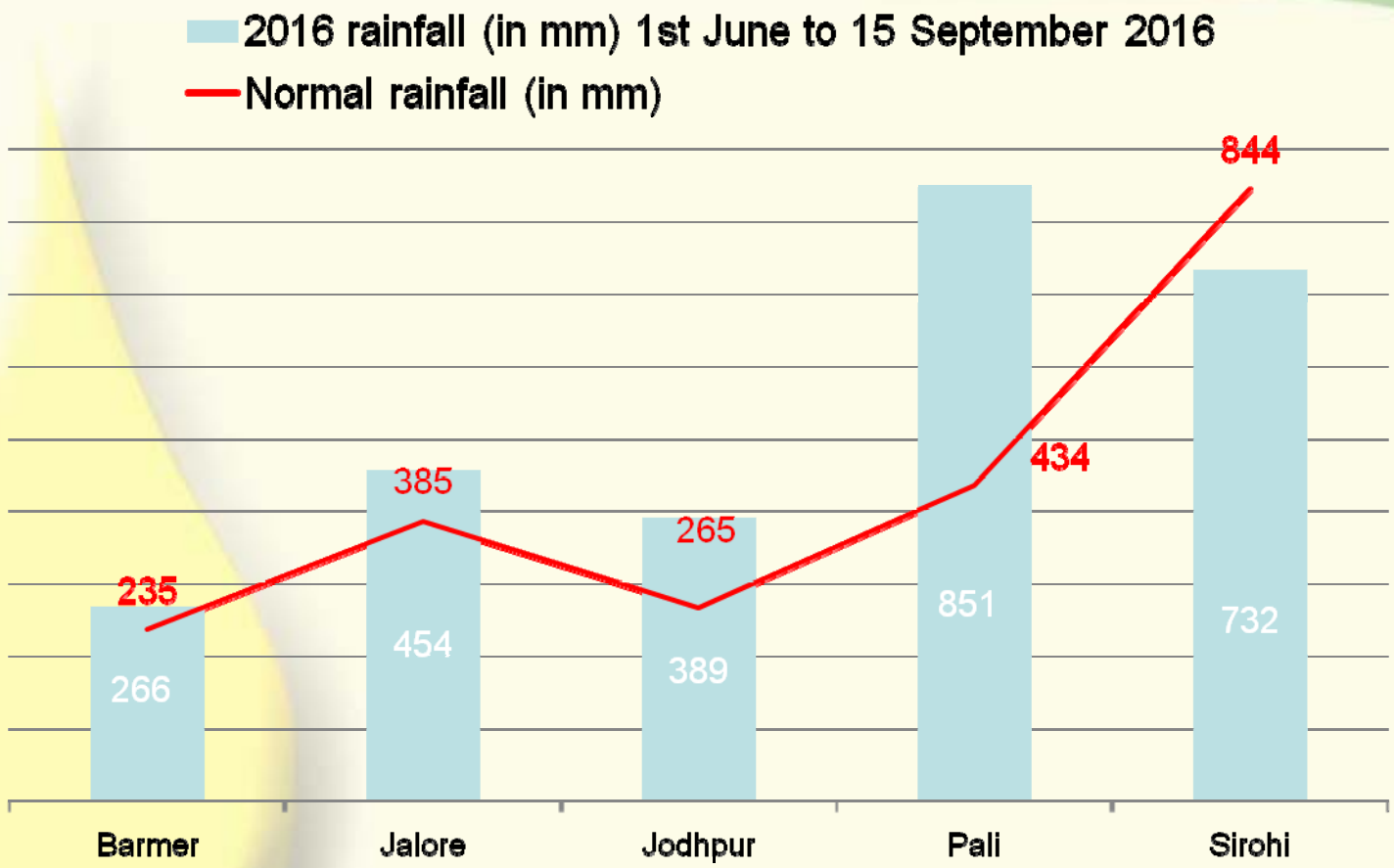
Surendranagar 3rd Week of January

RAJASTHAN

Geographical Coverage : Rajasthan

- Total 5 districts of Rajasthan were covered
- 5 districts account for 95% of the total area under Castor crop in Rajasthan

Rainfall in Rajasthan

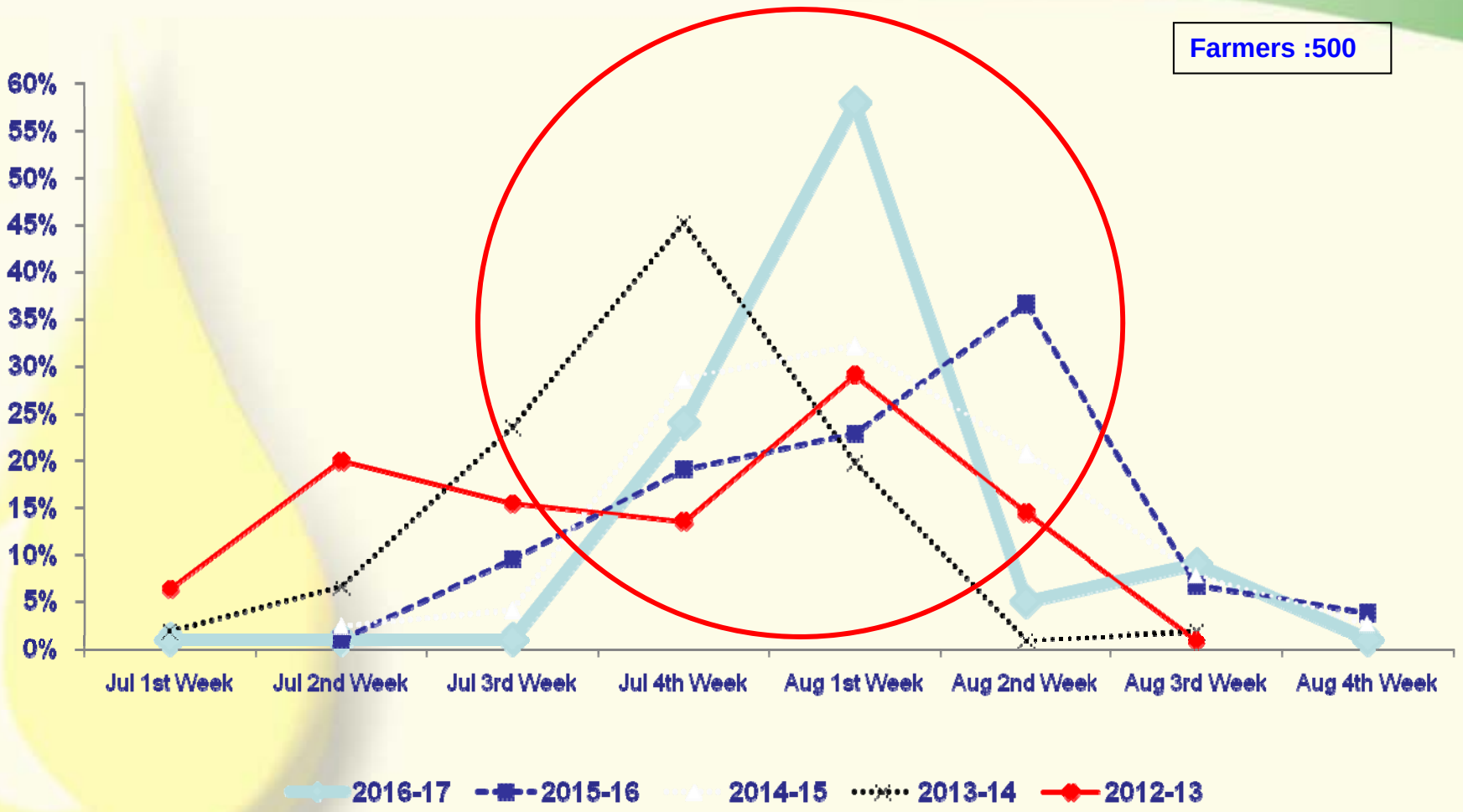


Except Sirohi, all other Castor growing districts have received more than normal rainfall

Source: IMD

Sowing Period

Rajasthan



- In 2016-17, Sowing started between 3rd week & 4th week of July and reached peak in 1st week of August

Area under Castor Crop in Rajasthan – 2016-17
3rd Round – Feb. '17

Districts	Area Under Crop* ('000 ha.)		
	2015-16	2016-17	YOY % change
Barmer	33	28	-15%
Jalore	83	62	-25%
Jodhpur	32	31	-3%
Pali	0.8	2	150%
Sirohi	39	38	-3%
Others	11	9	-18%
Total Area	**198.8**	**170**	-14%

**Government estimates*

- Area under Castor cultivation in Rajasthan decreased by 14% in 2016-17, as compared to last year

Yield of Castor Crop in Rajasthan – 2016-17
3rd Round – Feb. '17

District	Yield * (Kg/ha.)		
	2015-16	2016-17	YOY % change
Barmer	717	786	10%
Jalore	672	694	3%
Jodhpur	436	419	-4%
Pali	803	1000	25%
Sirohi	1127	974	-14%
Others	735	667	-9%
Average	**735**	**724**	**-1.6%**

** Nielsen estimates*

- Yield in Rajasthan decreased by 1.6% in 2016-17 as compared to last year

Estimated Production of Castor Crop in Rajasthan 2016-17
3rd Round - Feb. '17

District	Production * ('000 tonnes)		
	2015-16	2016-17	YOY % change
Barmer	24	22	-8%
Jalore	56	43	-23%
Jodhpur	14	13	-7%
Pali	1	2	100%
Sirohi	44	37	-16%
Others	8	6	-25%
Total	**147**	**123**	**-16%**

** Nielsen estimates*

- Production in Rajasthan in 2016-17 is estimated to be 123,000 tonnes, a decline of 16% as compared to previous year

Production of Castor Crop in Rajasthan 2016-17 (4th Round)

District	Area Under Crop ('000 Ha)	Yield in 2016-17(Kg/ha.)			Production (000 tons)		
	2016-17	Feb-17	April -17	% change over Feb 2017	Feb-17	April - 17	% change over Feb 2017
Barmer	28	786	778	-1%	22	21.8	-1%
Jalore	62	694	715	3%	43	44.3	3%
Jodhpur	31	419	436	4%	13	13.5	4%
Pali	2	1000	970	-3%	2	1.9	-3%
Sirohi	38	974	964	-1%	37	36.6	-1%
Others	9	667	734	10%	6	6.6	10%
Total	**170**	**724**	**734**	**1%**	**123**	**124.8**	**1%**

- Production of castor has slightly increased in Rajasthan mainly in Jalore & Jodhpur
- Estimated production of Rajasthan : 1,25,000 tons

RAJASTHAN

Barmer 3rd Week of January

Jodhpur 3rd Week of January

RAJASTHAN

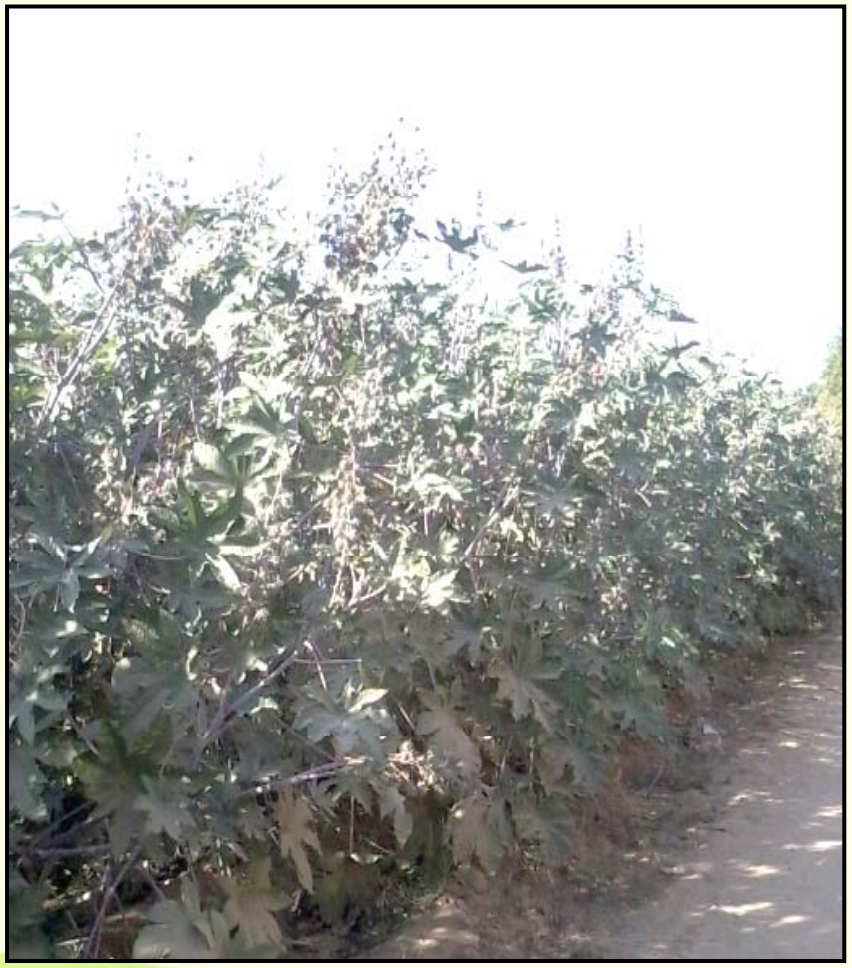
Jalore 3rd Week of January

Siorhi 3rd Week of January

RAJASTHAN

Pali 3rd Week of January

Pali 3rd Week of January

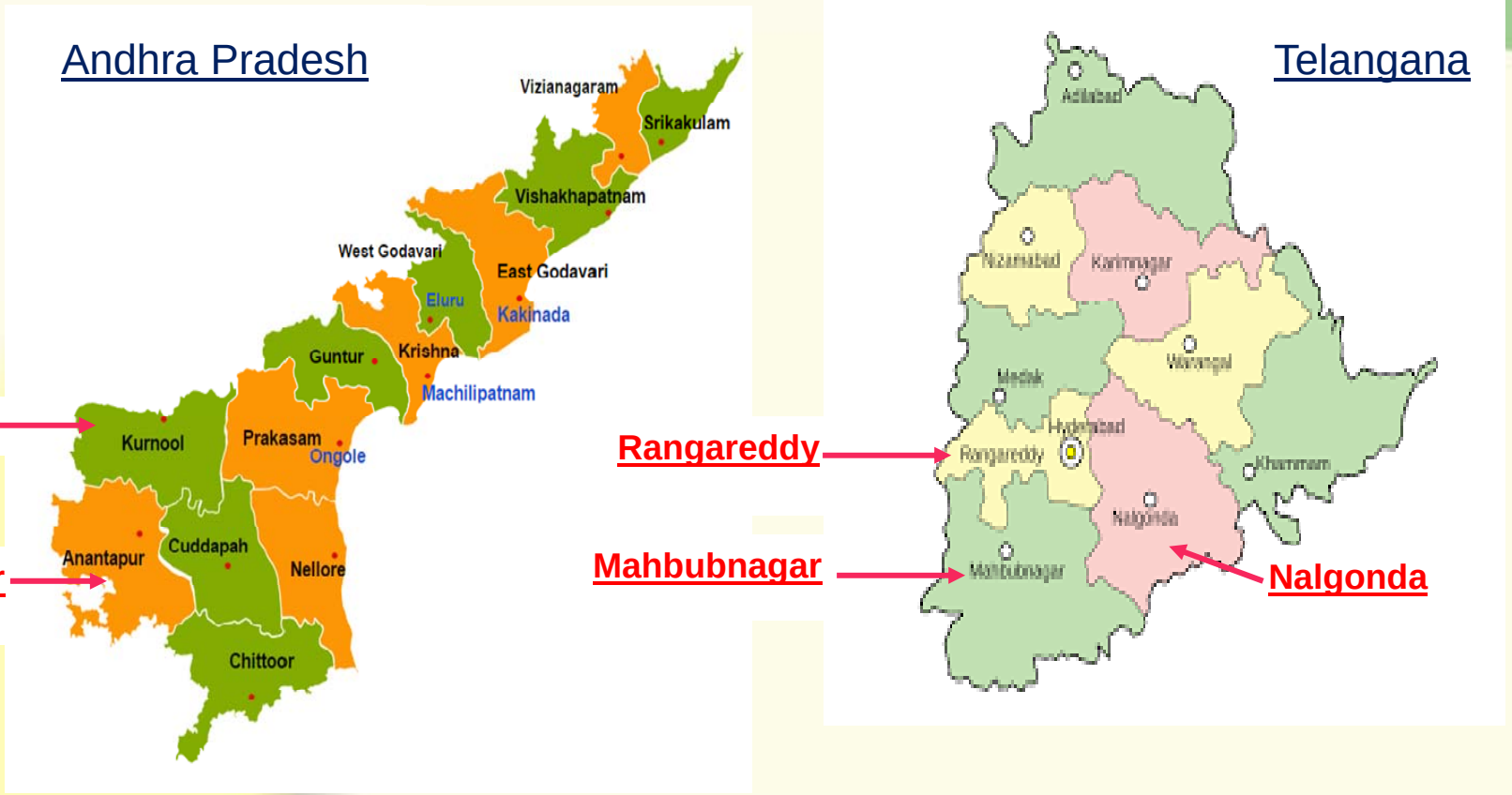


ANDHRA PRADESH

&

TELANGANA

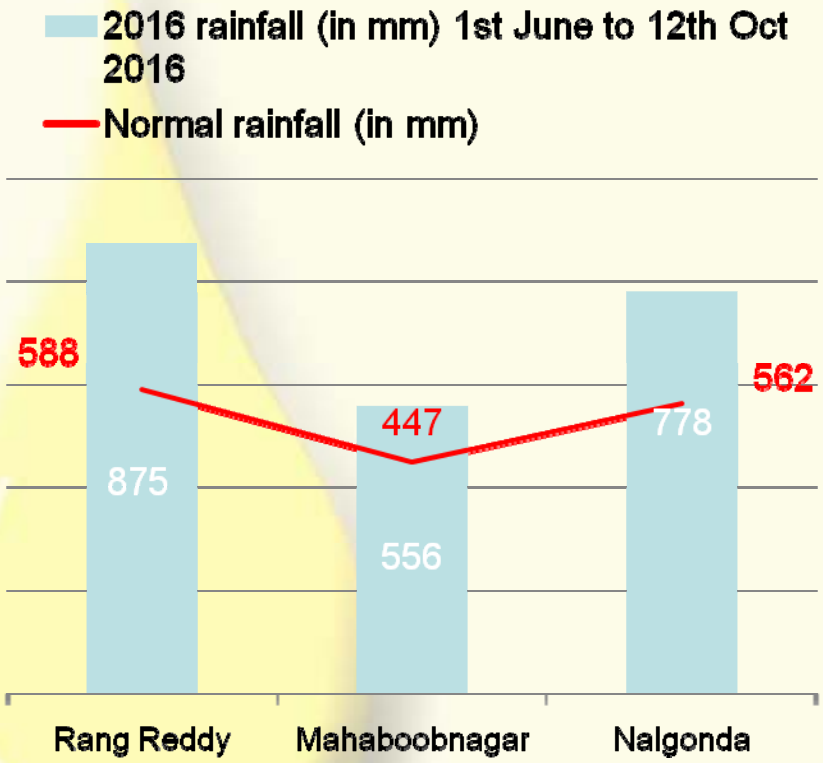
Geographical Coverage : A.P. and Telangana



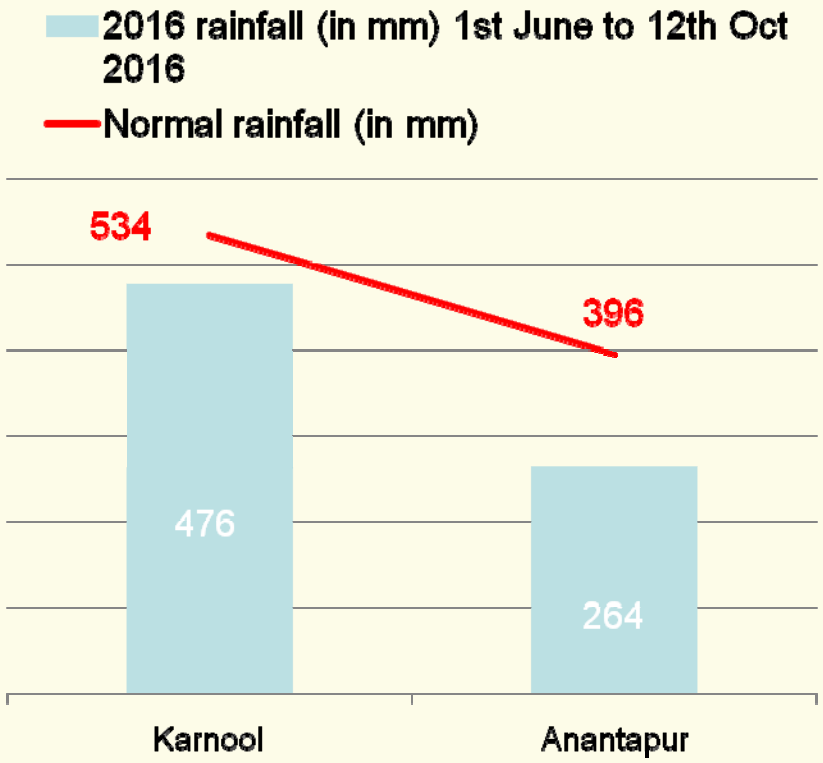
- Total 5 districts of AP & Telangana were covered
- 5 districts account for 97% of the total area under Castor crop in AP & Telangana

Rainfall in A.P. and Telangana

Telangana



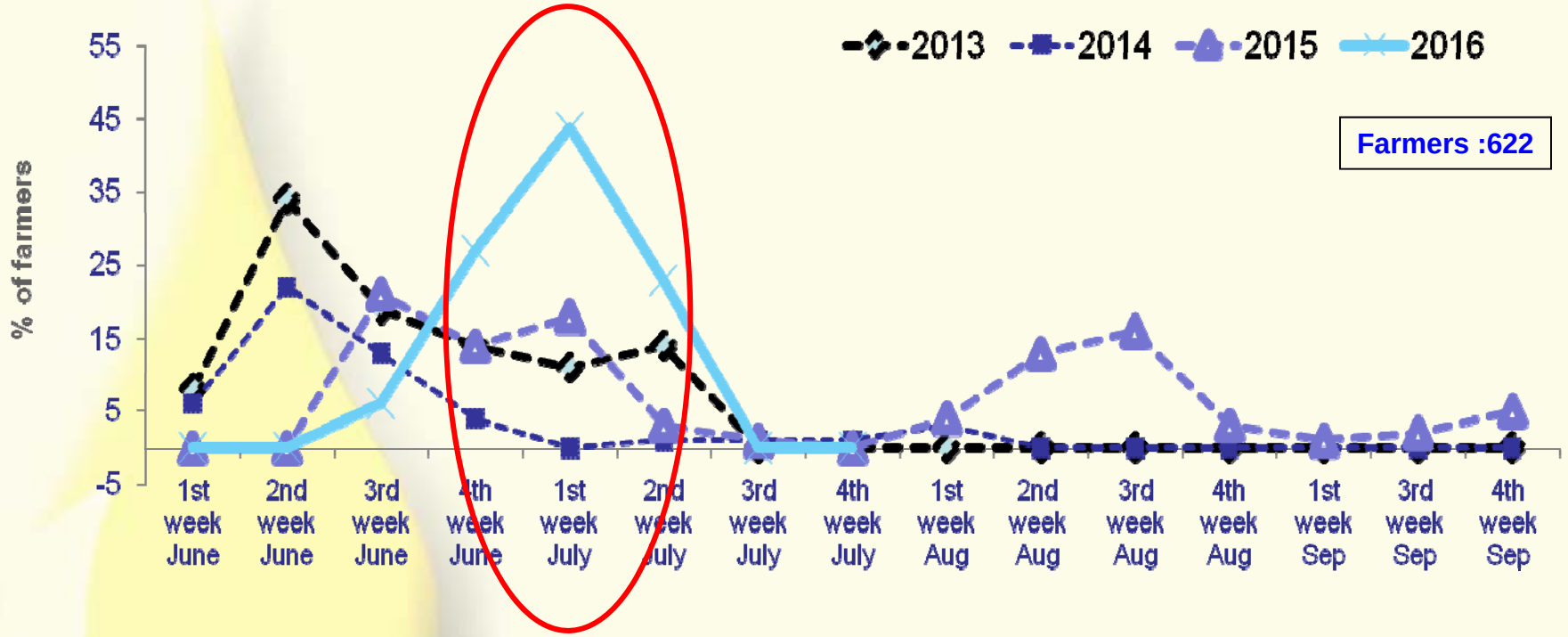
Andhra Pradesh



Castor growing districts of Telangana have received more than normal rainfall where as districts of Andhra Pradesh have received less than normal rainfall

Source: IMD

AP & Telangana – Castor Sowing



- This year sowing completed in July
- Peak sowing was in the 1st week of July in 2016.

Area under Castor Crop in A.P. & Telangana- 2016-17

	Area Under Crop* ('000 ha.)		
	2015-16	2016-17	% Change
Andhra Pradesh			
Ananthpur	10	9	-10%
Kurnool	30	23	-23%
Telangana			
Mahbubnagar	62	42	-32%
Nalgonda	1	0.2	-80%
Rangareddy	1	1	--
Others	10	3	-70%
Total Area	**114**	**78**	**-31%**

*Area according to government estimates

- Area under castor has decreased by 31% in AP and Telangana in 2016-17
- Crop shift from Castor to Cotton, Maize and Paddy

Yield of Castor Crop in A.P. & Telangana – 2016-17

District	Yield * (Kg/ha.)		
	2015-16	2016-17	% Change
Andhra Pradesh			
Ananthpur	850	778	-8%
Kurnool	804	652	-19%
Telangana			
Mahbubnagar	615	929	51%
Nalgonda	756	1000	32%
Rangareddy	636	900	42%
Others	693	667	-4%
Average	**693**	**820**	**18%**

*Nielsen estimates

Yield is estimated to increase by 18% in 2016-17 as compared to the previous year

Production of Castor Crop in A.P. & Telangana 2016-17

District	Production* ('000 tonnes)		
	2015-16	2016-17	% Change
Andhra Pradesh			
Anantpur	8	7	-13%
Kurnool	24	15	-38%
Telangana			
Mehboobnagar	38	39	3%
Nalgonda	1	0.2	-80%
Rangareddy	1	0.9	-10%
Others	7	2	-71%
Total	**79**	**64**	**-19%**

*Nielsen estimates

Production is estimated to be 64,000 tonnes in 2016-17, which is a decline of 19% as compared to previous year

All India Summary

4th Round

April '17

Estimated Production of Castor Crop in India 2016-17 (4th Round)

State	Area Under Crop ('000 Ha.)	Yield in 2016-17(Kg/ha.)			Production (000 tons)		
	2016-17	Feb-17	April -17	% change over Feb 2017	Feb-17	April-17	% change over Feb 2017
Gujarat	565	1,524	1,510	-1%	861	853	-1%
Rajasthan	170	724	734	1%	123	125	1%
Andhra Pradesh	78	820	820	--	64	64	--
Others	32	594	594	--	19	19	--
Total	845	1,263	1,256	-1%	1,067	1,061	-1%

- April 2017 estimated production for all India is **10,61,000 tons**, which is 1% less than Feb 2017 estimates.

Cost Comparison

Castorseed

v/s.

Others Crop

State-wise Area, Production and Yield of Castor Seeds in India

(Area – '000 ha. / Production – '000 Tons / Yield – Kg./ha)

State	11-12	12-13	13-14	14-15	15-16	16-17	Difference	CAGR (11-12 to 16-17)
Gujarat :								
Area	697	666	573	734	781	565	(-) 132	-4%
Prod.	1188	818	843	1067	1172	853	(-) 335	-6%
Yield	1704	1228	1471	1454	1502	1510	(-) 194	-2%
Rajasthan:								
Area	169	157	148	213	199	170	(+) 1	0%
Prod.	199	170	161	183	146	125	(-) 74	-9%
Yield	1176	1083	1085	859	735	734	(-) 442	-9%
Andhra Pradesh:								
Area	228	223	153	111	114	78	(-) 150	-19%
Prod.	156	151	102	75	79	64	(-) 92	-16%
Yield	677	674	668	674	693	820	(+) 143	4%
Other States #								
Area	54	51	42	42	42	32	(-) 22	-10%
Prod.	30	22	24	24	24	19	(-) 11	-9%
Yield	556	418	571	560	569	594	(+) 38	1%
Total								
Area	1148	1097	916	1100	1136	845	(-) 303	-6%
Prod.	1573	1161	1130	1422	1422	1061	(-) 512	-8%
Yield	1370	1058	1233	1226	1252	1256	(-) 114	-2%

Source : SEA Data Bank * Nielsen India estimate, # Other States include Maharashtra, Karnataka, Tamil Nadu, Orissa

Castorseed Average Prices

(Price in Rs./MT)

Year	April	October	Annual Average
2011	50,511	41,903	46,806
2012	33,561	36,523	35,809
2013	34,961	35,638	36,248
2014	39,937	43,150	42,077
2015	35,469	40,927	39,510
2016	31,981	37,414	34,463
Annual Decline in % in last 6 years	-8.74%	-2.24%	-5.94%

- April witnessed decline on price to the extent of 9% year on year, while the October witnessed a little over 2%
- Decline in the realisation price for farmers in the last 6 years has discouraged them to increase there area under cultivation

Castorseed v/s Other Crop Cost Comparision

Crop	Average Production Kg / ha 1.	Average Production Cost Rs./ ha 2.	Labour Cost Rs./ ha 3.	Total Cost Rs. / ha 4. (2 + 3)	Rate Per Kg. Rs. 5.	Average Realisation Rs./ha 6.	Net Realisation Rs./ha 7. (6- 4)
1. Castorseed 1.	1500	30,000	10,000	40,000	40	60,000	(+) 20,000
2.	2000	33,000	13,000	46,000	40	80,000	(+) 34,000
3.	2500	35,000	17,000	52,000	40	100,000	(+) 48,000
4.	3000	38,000	20,000	58,000	40	120,000	(+) 62,000
2. Groundnut	1760	38,160	14,600	52,760	50	88,000	(+) 35,240
3. Rapeseed	1500	16,000	8,800	24,800	35	52,500	(+) 27,700
4. Cottonseed	3200	24,700	24,000	48,700	45	144,000	(+) 95,300
5. Cuminseed	640	24,000	18,100	42,100	170	108,800	(+) 66,700

- Average cost of production of the competitive crops is more lucrative for farmers – with lesser inputs, the returns are higher
- To sustain the farmer's interest in Castorseed cultivation, the solution lies with higher productivity leading to better realisation

Sustainable Way Forward

Two Game Changer Points:-

1) **Increasing the Productivity / Yield**

1) **Insulating the Farmers against Price Fluctuations.**

Rainfall Prediction for 2017

The Indian Meteorological Department forecasted that monsoon this year could be normal 100% of long Period average up from its earlier forecast of near normal and 96% of LPA.

The chances of dreaded EL Nino which caused two consecutive drought in 2014 & 2015 of returning this year are not very high.

Dr. B. V. Mehta

Executive Director

The Solvent Extractors' Association of India

A Premier Association of Vegetable Oil Industry & Trade in India

ISO 9001:2015 Organisation

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