

THIS REPORT CONTAINS ASSESSMENTS OF COMMODITY AND TRADE ISSUES MADE BY USDA STAFF AND NOT NECESSARILY STATEMENTS OF OFFICIAL U.S. GOVERNMENT POLICY

Voluntary \_ Public

**Date:** 11/10/2016

**GAIN Report Number:** IN6140

## India

**Post:** Mumbai

### Monsoon Update - September 2016

**Report Categories:**

Agricultural Situation

Agriculture in the News

Agriculture in the Economy

Market Development Reports

Climate Change/Global Warming/Food Security

Cotton and Products

Oilseeds and Products

Grain and Feed

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**Report Highlights:**

The first advance planted area estimates for 2016 indicate that a normal monsoon led to a marginal increase in overall Kharif season planting area. While the area seeded under pulses increased, there was an offset with an acreage reduction for cotton and sugarcane. According to the Indian Meteorological Department (IMD), rainfall for the southwest monsoon was 97 percent of the long-period average (LPA) though reservoir storage levels gained ground over last year.

## **General Information:**

### **Southwest Monsoon 2016 (June to September): Near the LPA**

Rainfall during the June to September southwest monsoon season was 97 percent of the LPA. Cumulative country-wide rainfall was 862 mm (33.93 inches) compared to normal rainfall of 887.5 mm (34.94 inches). According to the IMD, the onset of the monsoon was June 8 (a week behind normal) and the entire country was experiencing the monsoon by July 13 (against the normal date of July 15). July was the wettest month of the monsoon with rainfall 7 percent higher than normal.

The total sown area under major Kharif crops in the Government of India's first advance estimates for 2016 was 106 million hectares. In 2015, total sown area was estimated at 105 million hectares. Area under pulses increased by more than 20 percent but there were acreage reductions for cotton and sugarcane.

### **Northeast Monsoon 2016 (Oct-Dec): Starting Slow**

The cumulative country-wide seasonal rainfall from October 1 to November 2, 2016 was 54.8 mm; a significant departure from the LPA. Normal rainfall over the same period is 83.5 mm. Several states recorded excessive rain during the same period, however, including, Rajasthan (123 percent above normal), Gujarat (greater than 200 percent of normal), and Chhattisgarh (24 percent above normal). Rains were considered fairly well distributed across agricultural districts that led to improved soil conditions and planting prospects.

The Southern Peninsula receives about 30 percent of its annual rainfall during the northeast monsoon. On September 21, IMD forecast the seasonal rainfall during the northeast monsoon would be normal (i.e., plus or minus 10 percent of the LPA).

**Table 1. India: Regional Rainfall Levels from June 1 to Sept. 30, 2016**

Regions	Actual (mm)	Normal/LPA (mm) 1/	Percentage Departure
Northwest	584.2	615.0	-5
Central	1,034.1	975.5	+6
Southern Peninsula	661.5	716.1	-8
East and Northeast	1,281.5	1,438.3	-11
All India	<b>862.0</b>	<b>887.5</b>	<b>-3</b>

Source: Indian Meteorological Department

1/ Base period for LPA is from 1951-2000

**Table 2. India: Nationwide Cumulative Rainfall Percentage Departure By Month**

	Month	Percentage Departure from LPA
Southwest Monsoon	June	-11.0
	July	+6.6
	August	-8.9
	September	-3.3
	<b>Cumulative</b>	<b>-2.9</b>
	October	-34.0

Source: Indian Meteorological Department

**Table 3. India: Storage Status at 91 Major Reservoirs in Billion Cubic Meters (BCM)**

Region	Volume on Nov 3, 2016 (in BCM)	Total Capacity (in BCM)	Percentage of Capacity on Nov 3, 2016	Percentage of Capacity on Nov 3, 2015	10-Year Average Capacity Level on Nov 3
Northern	12.06	18.01	67%	77%	76%
Eastern	15.77	18.83	84%	64%	74%
Western	23.14	27.07	85%	56%	78%
Central	37.80	42.30	89%	69%	68%
Southern	24.26	51.59	47%	32%	72%
<b>All India</b>	<b>113.03</b>	<b>157.80</b>	<b>72%</b>	<b>55%</b>	<b>72%</b>

Source: Ministry of Water Resources, Government of India

**Table 4. India: Kharif 2016 Sown Area (in million hectares)**

<b>Crop</b>	<b>Area Sown in 2016-17 on Sep. 30, 2016 (1<sup>st</sup> Advance Estimates 2016-17)</b>	<b>Area Sown in 2015-16 on Sep. 30, 2015 (4<sup>th</sup> Advance Estimates 2015-16)</b>	<b>Normal Area on Sep. 30</b>	<b>Change (Y-o-Y)</b>
Rice	39.276	39.535	39.267	-1%
Pulses	13.609	11.361	10.759	20%
Coarse Cereals	18.668	17.862	19.970	5%
Oilseeds	18.754	18.848	18.559	0%
Sugarcane	4.517	4.953	4.996	-9%
Jute & Mesta	0.756	0.785	0.857	-4%
Cotton	10.500	11.872	12.034	-12%
<b>Total</b>	<b>106.081</b>	<b>105.216</b>	<b>106.442</b>	<b>1%</b>

Source: Ministry of Agriculture, Government of India

**Table 5: India. Rabi 2016 Sown Area (in million hectares)**

<b>Crop</b>	<b>Area Sown in 2016-17 on Nov 4, 2016</b>	<b>Area Sown in 2015-16 on Nov 4, 2015</b>	<b>Change</b>
Wheat	0.428	0.276	55%
Rice	0.951	0.625	52%
Pulses	2.416	3.007	-20%
Coarse Cereals	1.384	2.992	-54%
Oilseeds	2.979	1.991	50%
<b>Total</b>	<b>8.158</b>	<b>8.892</b>	<b>-8%</b>

Source: Ministry of Agriculture, Government of India

**Table 6: India. Total Kharif 2016 Sowing Position (in million hectares) by State**

State	Normal Area on Sep 30	Area Sown in 2016-17 on Sep 30, 2016	Area Sown in 2015-16 on Sep 30, 2015	Change
Andhra Pradesh	3.402	3.564	3.246	9.8%
Arunachal Pradesh	0.201	0.249	0.196	27.0%
Assam	2.255	2.190	2.213	-1.0%
Bihar	4.029	4.220	4.231	-0.3%
Chhattisgarh	4.516	4.622	4.556	1.4%
Goa	0.023	0.020	0.018	11.1%
Gujarat	7.171	7.185	7.036	2.1%
Haryana	2.420	2.673	2.513	6.4%
Himachal Pradesh	0.409	0.404	0.402	0.5%
Jammu and Kashmir	0.498	0.501	0.498	0.6%
Jharkhand	2.089	2.467	2.189	12.7%
Karnataka	6.435	6.897	6.259	10.2%
Kerala	0.076	0.060	0.044	36.4%
Madhya Pradesh	12.122	13.111	12.747	2.9%
Maharashtra	14.542	15.241	14.144	7.8%
Manipur	0.178	0.198	0.200	-1.0%
Meghalaya	0.102	0.105	0.105	0.0%
Mizoram	0.041	0.043	0.043	0.0%
Nagaland	0.195	0.223	0.211	5.7%
Odisha	5.184	5.111	5.147	-0.7%
Punjab	3.580	3.541	3.713	-4.6%
Rajasthan	10.756	11.517	11.247	2.4%
Sikkim	0.010	0.011	0.011	0.0%
Tamil Nadu	1.475	1.513	1.478	2.4%
Telangana	3.548	3.550	3.428	3.6%
Tripura	0.172	0.219	0.201	9.0%
Uttar Pradesh	11.217	11.691	11.697	-0.1%
Uttarakhand	0.642	0.638	0.627	1.8%
West Bengal	4.863	4.926	4.748	3.7%
Puducherry	-	-	-	-
Others	0.355	0.417	0.376	10.9%
<b>All-India</b>	<b>102.506</b>	<b>107.107</b>	<b>103.524</b>	<b>3.5%</b>

Source: Ministry of Agriculture, Government of India



**Table 7. India: Rainfall Progress across Meteorological Subdivisions**

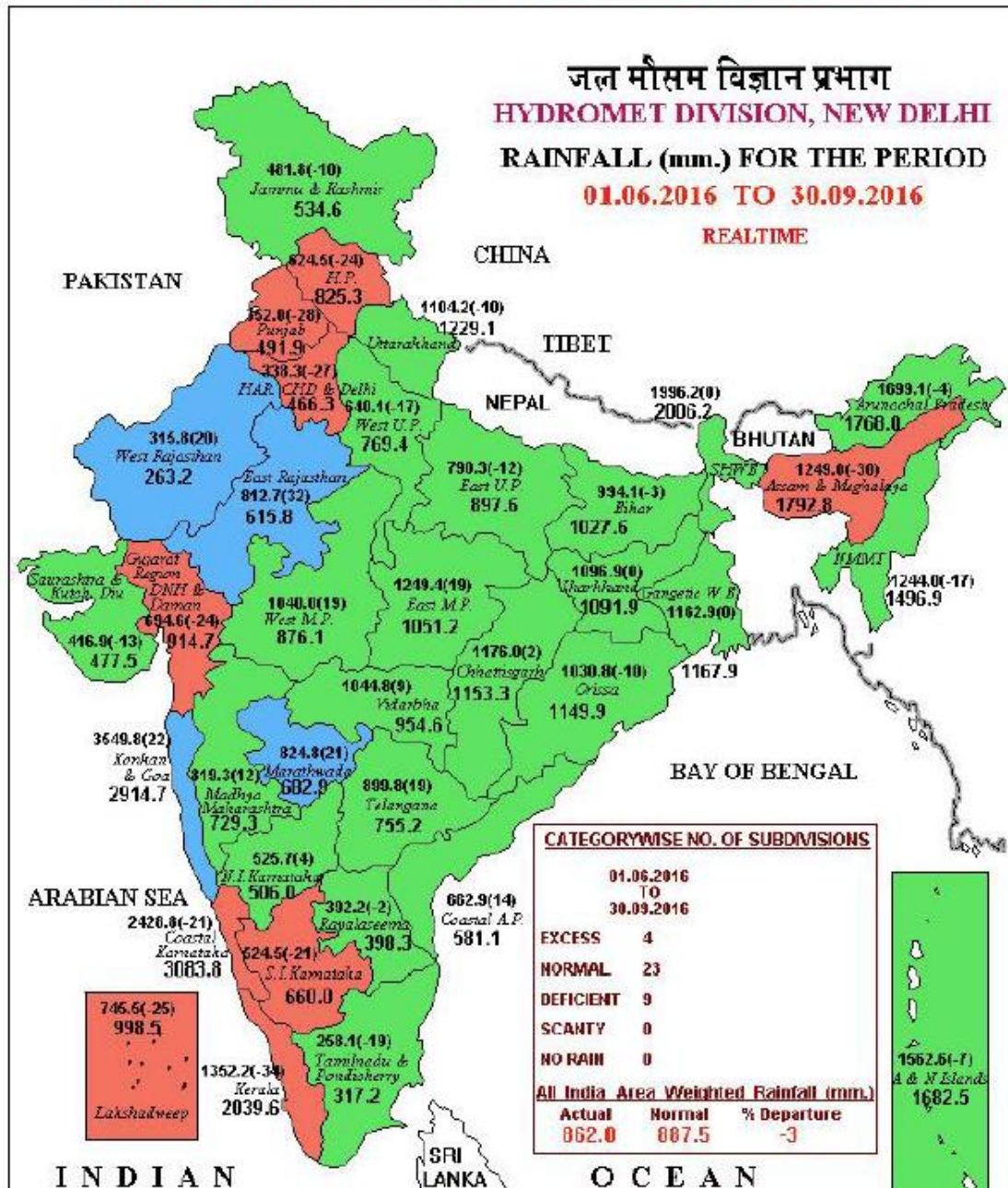
**Progress of rain over India (Relative departure from normal)  
(June 1- September 30 2016)**

SI No	Meteorological Sub Division	Normal (June-Sep)	01-Jun - 30-Jun 2016	01-Jun - 31-Jul 2016	01-Jun - 31-Aug 2016	01-Jun - 14-Sep 2016	01-Jun - 21-Sep 2016	01-Jun - 27-Sep 2016	01-Jun - 29-Sep 2016	01-Jun - 30-Sep 2016	Jun 1- September 30 2016		
											ACT (mm)	NOR (mm)	Def/Surp (mm)
1	And. & Nic. Islands	1683	-2	-14	-21	-14	-9	-8	-8	-7	1563	1683	-120
2	Arunachal Pradesh	1768	-19	0	-16	-7	-7	-2	-3	-4	1699	1768	-69
3	Assam & Meghalaya	1793	-38	-26	-35	-32	-32	-32	-32	-30	1249	1793	-544
4	Naga, Mani, Mizo, Trip	1497	-41	-25	-23	-20	-18	-17	-17	-17	1244	1497	-253
5	SHWBI & Sikkim	2006	17	16	-7	-5	-4	1	-1	0	1996	2006	-10
6	Gangetic W. Bengal	1168	-31	-11	5	4	2	1	0	0	1163	1168	-5
7	Odisha	1150	-24	-20	-16	-11	-12	-11	-11	-10	1031	1150	-119
8	Jharkhand	1092	-37	-21	-3	0	-1	1	1	0	1097	1092	+5
9	Bihar	1028	-24	-5	-21	-11	-10	-5	-3	-3	994	1028	-33
10	East Uttar Pradesh	898	-28	3	-9	-14	-15	-13	-12	-12	790	898	-107
11	West Uttar Pradesh	769	-16	25	-4	-12	-15	-16	-17	-17	640	769	-129
12	Uttarakhand	1229	4	15	-3	-8	-10	-10	-10	-10	1104	1229	-125
13	Hary., Chand. & Delhi	466	-29	-10	-16	-23	-26	-27	-27	-27	338	466	-128
14	Punjab	492	17	-16	-16	-24	-25	-26	-26	-26	352	492	-140
15	Himachal Pradesh	825	6	-27	-17	-21	-23	-24	-24	-24	625	825	-201
16	Jammu & Kashmir	535	-2	0	-1	-5	-7	-10	-10	-10	482	535	-53
17	West Rajasthan	263	10	-15	37	24	22	20	20	20	316	263	+53
18	East Rajasthan	616	-3	34	50	36	34	33	32	32	813	616	+197
19	W. Madhya Pradesh	876	4	37	33	20	20	19	19	19	1040	876	+164
20	E. Madhya Pradesh	1051	-20	35	30	17	15	17	18	19	1249	1051	+198
21	Gujarat region	901	-76	-39	-22	-28	-24	-23	-24	-24	695	915	-220
22	Saurashtra & Kutch	474	-65	-48	-11	-19	-10	-12	-12	-13	417	478	-61
23	Konkan & Goa	2914	14	17	15	9	17	23	22	22	3550	2915	+635
24	M. Maharashtra	729	-30	8	12	3	12	14	13	12	810	729	+90
25	Marathwada	683	10	31	1	-4	9	23	21	21	825	683	+142
26	Vidarbha	955	-3	36	4	3	4	8	8	9	1045	955	+90
27	Chhattisgarh	1147	-9	-5	-6	-5	-4	-1	1	2	1176	1153	+23
28	C. Andhra Pradesh	581	77	18	5	8	9	16	14	14	663	581	+82
29	Telangana	755	47	16	-5	-1	3	20	20	19	900	755	+145
30	Rayalaseema	308	90	60	14	5	3	0	0	-2	392	398	-6
31	T. Nadu & P. Cherry	317	44	34	4	-5	-13	-20	-20	-19	258	317	-59
32	Coastal Karnataka	3084	11	-14	-21	-22	-22	-21	-21	-21	2429	3084	-655
33	North int. Karnataka	506	31	26	4	-1	3	7	5	4	526	506	+20
34	South int. Karnataka	660	22	6	-11	-15	-18	-19	-20	-21	525	660	-136
35	Kerala	2040	-8	-25	-29	-32	-32	-33	-34	-34	1352	2040	-687
36	Lakshadweep	999	-3	-6	-20	-20	-22	-24	-25	-25	746	999	-253

Source: Indian Meteorological Department

Image 1. India: State Rainfall Map

भारत मौसम विज्ञान विभाग  
INDIA METEOROLOGICAL DEPARTMENT



LEGEND: ■ EXCESS (+20% OR MORE) ■ NORMAL (+15% TO -15%) ■ DEFICIENT (-20% TO -59%)  
■ SCANTY (-60% TO -99%) ■ NO RAIN (-100%)  NO DATA

NOTES:

- (a) Rainfall figures are based on operational data.  
(b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)  
Percentage Departures of Rainfall are shown in Brackets.





**Image 2. India: Weather Subdivision Rainfall Map**

India Meteorological Department  
Hydromet Division, New Delhi

**SUBDIVISION-WISE RAINFALL DISTRIBUTION**

S NO	MET. SUBDIVISION/UT/STATE/DISTRICT	Day:30-09-2016				Period:01-06-2016 To 30-09-2016			
		ACTUAL (mm)	NORMAL (mm)	%DEP.	CAT.	ACTUAL (mm)	NORMAL (mm)	% DEP.	CAT.
	<b>REGION : EAST AND NORTH EAST INDIA</b>	<b>4.5</b>	<b>7.0</b>	<b>-35%</b>		<b>1281.5</b>	<b>1438.3</b>	<b>-11%</b>	
1	ARUNACHAL PRADESH	2.1	8.4	-75%	S	1699.1	1768.0	-4%	N
2	ASSAM & MEGHALAYA	3.2	6.6	-51%	D	1249.0	1792.8	-30%	D
3	N M M T	6.1	8.3	-27%	D	1244.0	1496.9	-17%	N
4	SHWB & SIKKIM	14.3	9.3	54%	E	1996.2	2006.2	0%	N
5	GANGETIC WEST BENGAL	3.5	9.6	-63%	S	1162.9	1167.9	0%	N
6	JHARKHAND	3.8	5.2	-28%	D	1096.9	1091.9	0%	N
7	BIHAR	5.3	4.1	28%	E	994.1	1027.6	-3%	N
	<b>REGION : NORTH WEST INDIA</b>	<b>0.2</b>	<b>1.4</b>	<b>-84%</b>		<b>584.2</b>	<b>615.0</b>	<b>-5%</b>	
1	EAST UTTAR PRADESH	0.6	2.9	-79%	S	790.3	897.6	-12%	N
2	WEST UTTAR PRADESH	0.0	1.7	-100%	NR	640.1	769.4	-17%	N
3	UTTARAKHAND	0.0	2.3	-99%	S	1104.2	1229.1	-10%	N
4	HAR. CHD & DELHI	0.0	0.9	-96%	S	338.3	466.3	-27%	D
5	PUNJAB	0.1	1.6	-96%	S	352.0	491.9	-28%	D
6	HIMACHAL PRADESH	0.0	1.8	-98%	S	624.5	825.3	-24%	D
7	JAMMU & KASHMIR	0.5	1.1	-51%	D	481.8	534.6	-10%	N
8	WEST RAJASTHAN	0.0	0.3	-100%	NR	315.8	263.2	20%	E
9	EAST RAJASTHAN	0.1	1.0	-93%	S	812.7	615.8	32%	E
	<b>REGION : CENTRAL INDIA</b>	<b>5.3</b>	<b>3.5</b>	<b>51%</b>		<b>1034.1</b>	<b>975.5</b>	<b>6%</b>	
1	ODISHA	6.6	5.4	59%	E	1030.8	1149.9	-10%	N
2	WEST MADHYA PRADESH	1.4	2.5	-44%	D	1040.0	876.1	19%	N
3	EAST MADHYA PRADESH	9.7	1.9	409%	E	1249.4	1051.2	19%	N
4	GUJARAT REGION	0.0	3.3	-100%	NR	694.6	914.7	-24%	D
5	SAURASHTRA & KUTCH	0.0	1.3	-100%	NR	416.9	477.5	-13%	N
6	KONKAN & GOA	0.3	9.5	-97%	S	3549.8	2914.7	22%	E
7	MADHYA MAHARASHTRA	0.5	5.4	-91%	S	819.3	729.3	12%	N
8	MARATHWADA	1.6	4.0	-59%	D	824.8	682.9	21%	E
9	VIDARBHA	13.6	2.6	424%	E	1044.8	954.6	9%	N
10	CHHATTISGARH	10.7	3.3	225%	E	1176.0	1153.3	2%	N
	<b>REGION : SOUTH PENINSULA</b>	<b>4.1</b>	<b>6.1</b>	<b>-32%</b>		<b>661.5</b>	<b>716.1</b>	<b>-8%</b>	
1	A & N ISLAND	31.6	13.7	130%	E	1562.6	1682.5	-7%	N
2	COASTAL ANDHRA PRADESH	5.0	6.2	-20%	D	662.9	581.1	14%	N
3	TELANGANA	2.3	4.5	-50%	D	899.8	755.2	19%	N
4	RAYALASEEMA	1.0	6.3	-85%	S	392.2	396.3	-2%	N
5	TAMILNADU & PONDICHERY	6.5	4.5	45%	E	258.1	317.2	-19%	N
6	COASTAL KARNATAKA	0.2	11.2	-99%	S	2428.8	3083.8	-21%	D
7	N. I. KARNATAKA	3.0	6.3	-52%	D	525.7	506.0	4%	N
8	S. I. KARNATAKA	3.4	6.3	-46%	D	524.5	660.0	-21%	D
9	KERALA	5.5	9.8	-43%	D	1352.2	2039.6	-34%	D
10	LAKSHADWEEP	0.1	5.3	-99%	S	745.5	998.5	-25%	D
	<b>COUNTRY :</b>	<b>3.4</b>	<b>3.9</b>	<b>-13%</b>		<b>862.0</b>	<b>887.5</b>	<b>-3%</b>	

CATEGORYWISE NO.OF SUBDIVISIONS AND % AREA(SUBDIVISIONAL)OF THE COUNTRY

CATEGORY	Day:30-09-2016		Period:01-06-2016 To 30-09-2016	
	NO.OF SUBDIVISIONS	SUBDIVISIONAL %AREA OF COUNTRY	NO.OF SUBDIVISIONS	SUBDIVISIONAL %AREA OF COUNTRY
Excess	8	24%	4	13%
Normal	0	0%	23	72%
Deficient	11	34%	9	15%
Scanty	13	27%	0	0%
NoRain	4	15%	0	0%