

**Kharif-
2016**

**Basmati Acreage & Yield Estimation in
Punjab, Haryana, Delhi, Uttarakhand,
Himachal Pradesh, Western Uttar Pradesh
and Parts of Jammu & Kashmir**

Report Volume - 1

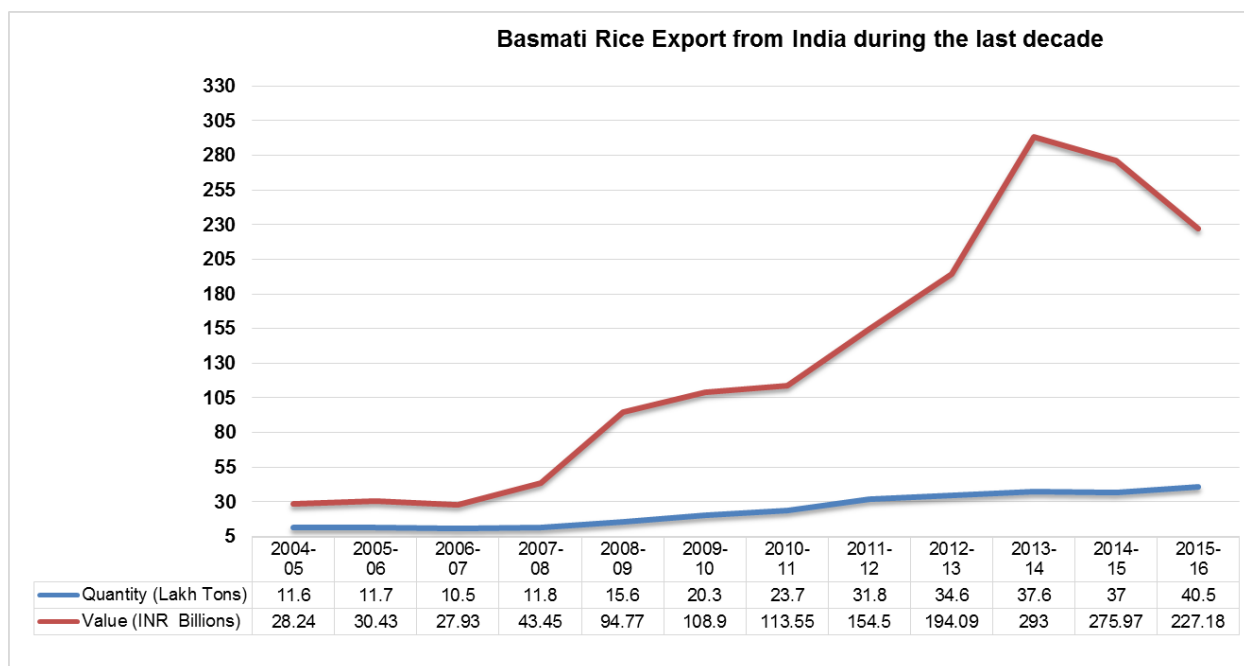
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EXECUTIVE SUMMARY

Scope of the Report

The present report being the first cycle of report for Kharif-2016 covers the results of field survey based acreage report of total rice and rice area transplanted in the different districts of Punjab, Haryana, Delhi, Uttar Pradesh, Uttarakhand, Himachal Pradesh and Jammu & Kashmir.

Study districts

The study area covers 81 districts, which includes 22 districts of Punjab, 21 districts of Haryana, 30 districts of Uttar Pradesh, 4 districts of Uttarakhand, 1 district of Himachal Pradesh and 3 districts of Jammu & Kashmir.

Rice Acreage

This year the total rice transplanted area has increased in the study area by 6.3% i.e. from 56,29,270 ha to 59,85,500 ha. Although, the % area occupied by Basmati has reduced in major states of Haryana and Punjab by 11.9% and 43.3% respectively as observed during the first survey estimates. While in Western U.P. the area under Basmati has increased 12,200 ha. Overall, the Basmati

area has decreased by 17.7% in comparison to last year i.e. 2015.

In **Punjab**, the rice transplanting has been 30,10,000 ha in 22 districts this year. Sangrur district has the largest area under rice (2,76,000 ha), followed by Ludhiana district (2,57,000 ha). The first estimates under Basmati transplanted area is 4,90,000 ha out of which the largest area is in Amritsar (1,15,000 ha), followed by Taran Taran district (67,000 ha). The area under Basmati variety Pusa Basmati-1121 has reduced this year by 1,42,000 ha in comparison to last year. The area under Pusa Basmati-1509 has significantly reduced from 2,07,000 ha. to 41,200 ha in comparison to last year as the farmers got very low prices which disappointed them. And the Department of Agriculture did advertisement campaigns to motivate farmers to grow coarse grain rice (Permal varieties) instead of Pusa Basmati-1509. The ratio between Pusa Basmati-1121 and Pusa Basmati-1509 is observed 90:10. The area under CSR-30 and Punjab Basmati-3 has



reduced to almost 7% of the total Basmati area, i.e. 34,000 ha. this year.

In **Haryana**, the total rice acreage based on field survey has been estimated at 13,03,100 ha in 20 districts as on 11 August 2016. Karnal district has the highest target area under total rice (1,60,500 ha), followed by Kaithal district (1,58,500 ha). The transplanting is almost completed in the state. Basmati area has reduced by 11.9% in comparison to last year as per the first estimate. The next report will have corrected acreage transplanted under Basmati, while we get block wise Basmati area surveyed.

In **Uttar Pradesh**, timely onset of monsoon, rice transplanting was started in time and continued in full swing during July. A total of 13,42,500 ha rice acreage based on field survey has been estimated as transplanted in the 27 districts of the state as on 08 August 2016. Shahjehanpur district has the largest total rice area (1,95,100 ha), followed by Pilibhit (1,52,500 ha). The area under Basmati rice has increased in Western Uttar Pradesh in comparison to last year. And in districts like Muzaffarnagar, Bagpat,

Meerut, many farmers have sown sugarcane replacing Basmati speculating quick returns from the state Govt. As per the first estimates of Basmati acreage the area is 4,32,000 ha. Out of which 46,500 ha is under Pusa Basmati-1509.

In **Uttarakhand**, A total of 1,29,400 ha rice acreage based on first field survey has been estimated as transplanted in the 4 districts as on 8 August 2016. Udham Singh Nagar district has the largest area under rice (99,300 ha). The total Basmati area is estimated to be 28,000 ha out of which 2,900 ha. is under Pusa Basmati-1509.

In **Jammu & Kashmir**, three districts have been taken up for the study. The total rice area is estimated to be 1,39,000 ha. in these districts. Jammu & Samba have an area of 97,000 ha. and Kathua only 42,000 ha. The state has received excess rainfall this year and the transplanting is complete. But the farmers of Kathua have preferred Pusa Basmati-1121 over Pusa Basmati-1509 due to low returns last year.

In **Himachal Pradesh**, A total of 1,02,000 ha rice acreage based on field survey has been estimated as transplanted in 11 districts.



Kangra district has the highest area (60,000 ha). The Basmati varieties are grown mostly in Kangra.

The farmers opted Permal varieties including PR-123 in the increased paddy area and the area under Pusa Basmati-1509.

Comparison of prices between Basmati & Non-Basmati Rice					
Sl. No.	Variety	Rate (Rs./Qtl)	Seed to Seed Duration (Days)	Yield (Qtl/ha)	Disease Susceptibility
1	PR -123	1450.00	143	72.50	Resistant to BLB
2	Pusa Basmati-1121	1600.00	137	34.25	Susceptible
3	Pusa Basmati-1509	1350.00	120	39.25	Susceptible

State wise first estimates of total rice, Basmati varieties area has been given in table below:

State-wise Rice Transplanted Area and Basmati Area in kharif-2016 (1st Estimate)					
Area '000 ha					
Sl. No.	State	Area Transplanted			
		2015		2016	
		Total rice	Basmati	Total rice	Basmati
1	Punjab	2820.00	863.74	3010.00	490.00
2	Haryana	1173.60	833.19	1303.10	734.19
3	W. Uttar Pradesh*	1316.17	339.85	1342.50	432.50
4	Uttarakhand	123.30	15.80	129.40	28.00
5	Himachal Pradesh	56.00	2.20	60.00	2.50
6	Jammu & Kashmir	139.20	62.92	139.00	56.70
7	Delhi	1.00	0.85	1.50	0.50
Total		5629.27	2118.55	5985.50	1744.39

* In Western Uttar Pradesh the area figure given includes basmati, Sugandha-5 and Sharbati. Which will be separated in next report Volume.



Project Background

Basmati rice is an important export commodity among the food grains exported from India. During the past few years, the Basmati export has been growing steadily, from 7.71 lakh metric tonnes in 2003 to an estimated 4.05 million metric tonnes in 2015-16 on robust demand from the traditional markets in West Asia.

Almost 132 countries have been importing Basmati from India every year. Out of which, Iran, Saudi Arabia, UAE and Iraq are the major importers. Apart from India second is Pakistan from where Basmati is exported to many countries.

Timely information on the area and likely production of the crop before the harvest helps exporters and other decision makers involved in Basmati trade to take decisions about the quantum and time of export. Realizing this potential, the Basmati Export Development Foundation (BEDF), New Delhi contracted M/s. Agri Net Solutions (A division of BPPL – a UPL Group Company) the work of field survey validation based acreage estimation for all rice, for Basmati crop for selected other non-notified

varieties), crop health monitoring and yield estimation and production for Basmati rice and non-notified varieties and questionnaire based sample survey of farmers, for 81 districts in the selected seven states i.e. Punjab, Haryana, Uttar Pradesh, Uttarakhand, Himachal Pradesh, and Jammu & Kashmir apart from Delhi. The field survey based approach has been being applied to collect the information at block level to improve the accuracy further to a desired level.

The Basmati varieties for which information is required include Basmati-370, Basmati-386, Type-3 (Dehraduni), Taraori, Ranbir, Pusa-1509, Pusa Basmati-1, CSR-30 and Pusa Basmati-1121 and non-notified, non-Basmati (Sharbati, and Permal).

Scope of the current report

The present report being the first cycle of report for Kharif-2016 covers the results of field survey based total rice and total Basmati acreage in different states.

Study Area Details

The study is confined to 81 districts, which includes 22 districts of Punjab (Amritsar, Barnala, Bathinda, Faridkot, Fatehgarh

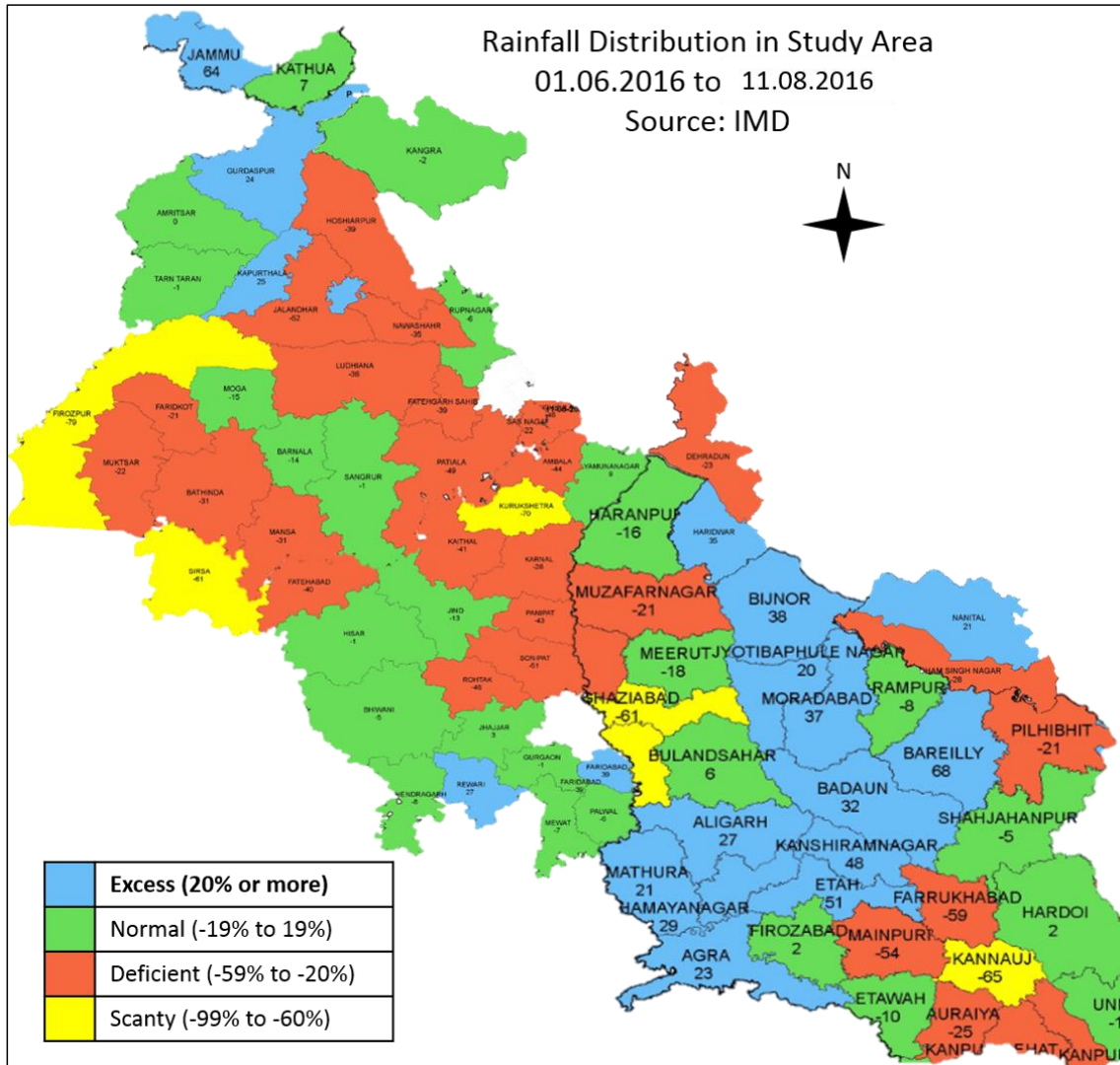


Sahib, Firozpur, Fazilka, Gurdaspur, Pathankot, Hoshiarpur, Jalandhar, Kapurthala, Ludhiana, Mansa, Moga, Mohali, Muktsar, Nawanshahar, Patiala, Ropar, Sangrur and Tarantaran), 21 districts of Haryana (Ambala, Faridabad, Bhiwani, Fatehabad, Gurgaon, Hissar, Jhajjar, Jind, Kaithal, Karnal, Kurukshetra, Mahendragarh, Mewat, Palwal, Panchkula, Panipat, Rewari, Rohtak, Sirsa, Sonapat, Yamunanagar), 3 Districts of Jammu & Kashmir (Jammu, Samba and Kathua), 30 districts of Uttar Pradesh (Agra, Aligarh, Auraiya, Baghpat, Bareilly, Bijnore, Budaun, Bulandshahr, Etah, Kasganj, Etawah, Ferozabad, Gautam Buddha Nagar, Ghaziabad, Hapur, Hathras, J. P. Nagar, Kannauj, Mainpuri, Mathura, Meerut, Moradabad, Sambhal,

Muzaffarnagar, Shamli, Pilibhit, Rampur, Saharanpur, Shahjehanpur), 4 districts of Uttarakhand, 1 district of Himachal Pradesh and one of Delhi. The map of the study districts is given as Fig. The study districts form a part of the Himalayas and the Indo-Gangeic Plains.

Rainfall

The Basmati growing belt has witnessed normal to deficient rainfall in the months of June and July this year in the states of Punjab, Haryana and Western U.P. But transplanting has been timely due to good distribution of rainfall in the districts. The new variety Pusa Basmati-1509 has reduced to very less area due to very low returns last year.





Met. Division	Normal	Actual	Remarks
Punjab	233.9	300.2 (-22)	Deficient
Haryana, Delhi	210.3	267.4 (-21)	Deficient
Western UP	465.3	432.8 (8)	Normal
Himachal Pradesh	417.2	510.7 (-18)	Normal
Uttarakhand	819.6	748.8 (9)	Normal
Jammu & Kashmir	354.9	334.0 (6)	Normal

Note: Figures in parantheses show percent deviation from normal.

Location / District	Total Rainfall (mm)	Normal Rainfall	% Departure from normal	Status
Ambala	287.2	529.6	-46	Deficient
Hissar	195.8	195.3	0	Normal
Karnal	338.5	321.4	-31	Deficient
Delhi	398.4	379.3	5	Normal
Jammu	909.6	561.1	62	Excess
Kathua	240.6	276.6	-13	Normal
Amritsar	338.1	333.9	1	Normal
Patiala	192.4	373.0	-48	Deficient
Sangrur	262.1	261.8	0	Normal
Udham Singh Nagar	481.4	664.2	-28	Deficient
Dehradun	853.9	1117.2	-24	Deficient
Kangra	968.2	979.0	-1	Normal
Bareilly	843.0	494.7	70	Excess
Meerut	359.7	436.5	-18	Normal
Saharanpur	410.2	481.0	-15	Normal
Bulandshaher	374.6	358.5	4	Normal

Source: IMD



Fig. 1: Map Showing the Districts of the Study Area





BASMATI Seed Distribution

Major seed of Basmati varieties has been sold by private agencies this year too. However, 25-30% of the total seed production remains unsold with them. This year State governments motivated farmers

to not to grow Pusa Basmati-1509 and instead to grow Permal varieties as the returns are higher than early Basmati variety. The seed price has been very less and many companies sold cost to cost.

Table 3: Basmati rice varieties certified seed sold in U.P. during kharif-2016 (Quintals)							
Sl. No.	Source	Pusa- 1121	PB-1/PB-6	PB1509	Traditional	Sharbati	Sugandha -5
A	Govt. Agencies/ Universities	690	1200	665	0	0	1250
1	BEDF	150	200	125	0	0	0
2	SBPUA&T	0	250	100	0	0	600
3	Agric. Dept.	540	750	440	0	0	650
B	Private Agencies	12950	5750	8130	380	16200	6760
1	KRBL	3540	1280	1680	50	4820	1520
2	Abhimanyu seeds	2870	890	1580	180	3840	980
3	Others	6540	3580	4870	150	7540	4260
Total		13640	6950	8795	380	16200	8010

Table 4: Basmati rice varieties certified seed sold in Uttarakhand during kharif-2016 (Quintals)						
Sl. No.	Source	Pusa- 1121	PB-1	PB1509	Traditional	Sugandha -5
A	Govt. Agencies/ Universities	120	17	40	3	45
1	GBPUA & T	120	17	40	3	45
B	Private Agencies	170	25	175	80	10
1	Balaji Seeds	50	5	55	15	5
2	Gurunanak Seeds	10		20		
3	Barar Seeds	35	10	25	30	
4	Others	75	10	75	35	5
Total		290	42	215	83	55

Ground Survey based Rice Acreage

HARYANA

In **Haryana**, the total rice acreage based on field survey has been estimated at 13,03,100 ha in 20 districts. Whereas, last year 12,43,000 ha. area was transplanted. Karnal district has the highest area under total rice (1,60,500 ha), followed by Kaithal district (1,58,500 ha). Transplanting is almost more than the targeted area 105%. Basmati is likely to occupy 7.34 lakh ha area this year. Out of which Pusa Basmati-1121 is more than 85%.

Almost all the districts have received Normal to deficient rainfall during the last two months. Out of the total Basmati area, only 15% has been opted for Pusa Basmati-1509, CSR-30, Pusa Basmati-1.

The district-wise total rice area and rice area transplanted up to 1th August has been given in Table-5.

PUNJAB

1. A total of 30.1 lakh ha. area has been transplanted this year. Whereas last year 28.43 lakh ha. area was transplanted. Basmati is likely to occupy 4.90 lakh ha.

2. After Pusa Basmati-1121, the other varieties transplanted in the state under Basmati are Pusa Basmati-1509 and Basmati-386. The ratio between area under the Pusa Basmati-1121 and Pusa Basmati-1509 has widened this year i.e 90:10. Much of the area under Cotton has been transplanted with paddy this year (Almost 2 lakh ha.) but non-basmati is transplanted much more. The farmers opted permal varieties (coarse grain rice) over Basmati in larger area in comparison to previous years.

3. The crop health in general is quite satisfactory. There is no specific problem of pest till date except wide spread Bakanae (Foot rot) observations in Pusa Basmati-1121.

4. Area under other Basmati varieties has reduced to 0.5% of total Basmati this year. The district-wise acreage under total rice and Basmati rice is given in Table-6.

UTTAR PRADESH

The subdivision has received 8% more rainfall than normal during the last two months. But interestingly, the transplanting is completed. The basmati varieties cannot be separated from Sharbati & Sugandha-5



at this stage except Pusa Basmati-1509, therefore, the total basmati area includes Sharbati and Sugandha-5 as well. However, the area under Pusa Basmati-1509 has further reduced in comparison to last year due to low price economy for the variety last year.

District wise first estimates of transplanted total rice and Basmati rice as on 8th August, 2016 is given Table-7 and Seed Information in Table -3.

UTTARAKHAND

The subdivision has received 9% more rainfall than normal during last 8 weeks. The rainfall was normal during the months of June & July in Nainital, while Udham Singh Nagar and Dehradun received deficient rain spell. Transplanting has been completed in the state. The district wise acreage & % area transplanted till 8th August is given in Table-8 and Seed distribution in Table 4.

JAMMU & KASHMIR

The subdivision has received 6% excess rainfall than normal. Kathua district received

normal rainfall during the months of June & July, while Jammu received 62% excess rainfall than normal. The transplanting is completed and the farmers again preferred Pusa Basmati-1121 over Pusa Basmati-1509 this year.

The first estimates of total rice & Basmati area in the districts is given in Table 9.

HIMACHAL PRADESH

1. Rice is the second most important cereal, next to maize, in Himachal Pradesh. Rice occupies > 1 lakh ha area, depending upon the start and intensity of rains.
2. Rice is cultivated as irrigated transplanted, rain fed transplanted and rain fed direct sown. Kangra and Mandi are the two major districts, having 70-75% rice area of the state. This year the area under Pusa Basmati-1509 has increased both in Kangra and Mandi.

The district-wise target for total rice in Himachal Pradesh during Kharif-2016 is given Table-10.



Table 5 : District-wise acreage under total rice and Basmati area transplanted in Haryana during Kharif-2016				
Area in '000 ha				
S. No.	District	Total Rice (Basmati + Non- Basmati)	Basmati Area transplanted	% Area Transplanted Under Basmati
1	Ambala	82.0	21.9	26.7
2	Bhiwani	21.7	17.1	79.0
3	Faridabad	9.3	8.3	88.7
4	Fatehabad	113.0	53.0	46.9
5	Gurgaon	4.9	2.7	55.1
6	Hisar	64.4	47.3	73.5
7	Jajjhar	43.6	29.7	68.1
8	Jind	130.0	85.0	65.4
9	Kaithal	158.5	90.5	57.1
10	Karnal	160.5	82.5	51.4
11	Kurukshetra	120.0	28.2	23.5
12	Mewat	8.0	5.0	62.5
13	Palwal	24.0	22.2	92.3
14	Panchkula	9.5		0.0
15	Panipat	72.0	55.0	76.4
16	Rewari	1.8	1.2	64.4
17	Rohtak	44.0	30.8	69.9
18	Sirsa	74.4	70.4	94.6
19	Sonepat	90.0	72.8	80.9
20	Yamunanagar	71.5	10.8	15.1
Total		1303.1	734.19	56.34



Table 6: District-wise acreage under total rice and Basmati rice in Punjab during Kharif 2016

Area in '000 ha				
S. No.	District	Total Rice (Basmati + Non-Basmati)	<i>Traditional and Evolved Basmati</i>	Other Rice (HYVs)
1	Amritsar	180.0	115.0	65.0
2	Barnala	110.0	2.0	108.0
3	Bhatinda	160.0	1.0	159.0
4	Faridkot	114.0	10.0	104.0
5	Fatehgarh Sahib	86.0	6.0	80.0
6	Firozpur	187.0	47.0	140.0
7	Fazilka	125.0	31.0	94.0
8	Gurdaspur	174.0	50.0	124.0
9	Pathankot	27.0	4.0	23.0
10	Hoshiarpur	65.0	3.0	62.0
11	Jalandhar	164.0	18.0	146.0
12	Kapurthala	118.0	9.0	109.0
13	Ludhiana	257.0	8.0	249.0
14	Mansa	99.0	1.5	97.5
15	Moga	182.0	12.0	170.0
16	Mohali	31.0	6.0	25.0
17	Muktsar	160.0	42.0	118.0
18	Nawanshahar	54.0	1.5	52.5
19	Patiala	230.0	20.0	210.0
20	Ropar	34.0	3.0	31.0
21	Sangrur	276.0	33.0	243.0
22	Tarantaran	177.0	67.0	110.0
Total		3010.0	490.0	2520.0

**Table 7: District-wise acreage under total rice & Basmati in Uttar Pradesh during Kharif 2016**

Area in '000 ha						
S. No.	District	Target Total Rice	Pusa basmati-1509	Basmati & Other scented	Non Basmati Rice	% area
1	Agra	4.1	0.9	2.0	1.2	70.7
2	Aligarh	58.3	3.6	48.2	6.5	88.9
3	Auraiya	44.5	0.8	2.8	40.9	8.1
4	Baghpat	5.1	0.6	4.2	0.3	94.1
5	Bareilly	151.6	1.2	19.5	130.9	13.7
6	Bijnore	45.3	1.4	19.8	24.1	46.8
7	Budaun	47.8	2.4	12.7	32.7	31.6
8	Bulandshahr	52.5	3.5	47.8	1.2	97.7
9	Etah + Kasganj	32.5	1.1	4.7	26.7	17.8
10	Farukhabad	11.1	0.6	1.0	9.5	14.4
11	Firozabad	12.4	1.1	1.3	10.0	19.4
12	Etawah	40.2	2.3	6.5	31.4	21.9
13	Gautam Buddha Nagar	27.1	0.9	23.5	2.7	90.0
14	Ghaziabad + Hapur	27.8	6.5	21.5	-0.2	100.7
15	Hathras	14.2	3.2	8.5	2.5	82.4
16	Mathura	38.2	2.1	24.5	11.6	69.6
17	Mainpuri	47.1	1.1	16.9	29.1	38.2
18	Meerut	17.6	1.7	9.3	6.6	62.5
19	Moradabad	65.2	2.3	12.2	50.7	22.2
20	J. P. Nagar	16.3	1.1	7.9	7.3	55.2
21	Kannauj	12.2	0.7	1.2	10.3	15.6
22	Muzaffarnagar + Shamli	32.2	1.5	27.9	2.8	91.3
23	Pilibhit	152.5	0.9	3.2	148.4	2.7
24	Rampur	110.2	0.8	9.2	100.2	9.1
25	Saharanpur	53.5	1.2	33.2	19.1	64.3
26	Shahjehanpur	195.1	1.5	7.0	186.6	4.4
27	Sambhal	27.9	1.5	9.5	16.9	39.4
Total		1342.5	46.5	386.0	910.0	32.2

**Table 8: District-wise target under total rice and area transplanted in Uttarakhand during Kharif 2016**

Area '000 ha						
S. No.	District	Total Rice	Pusa Basmati-1509	Basmati & other Scented	Non Basmati	% Area
1	Dehradun	7.4	0.0	3.0	4.4	41
2	Haridwar	14.2	1.2	9.7	3.3	77
3	Nainital	8.5	0.2	3.1	5.2	39
4	Udham Singh Nagar	99.3	1.5	9.3	88.5	11
Total		129.4	2.9	25.1	101.4	21.6

Table 9: District-wise acreage under total rice in Jammu & Kashmir during Kharif 2016

Area '000 ha					
S. No.	District	Basmati-370	Pusa-1121	Sharbati	Total Rice
1	Jammu	40.0	1.8	10.2	85.0
2	Kathua	2.0	8.6	1.2	42.0
3	Samba	2.5	1.8	0.6	12.0
Total		44.5	12.2	12.0	139.0

Table 10: Acreage under total rice in Kangra, Himachal Pradesh during Kharif 2016

Area '000 ha		
S. No.	District	Total Rice
1	Kangra	60.00
Total		60.00