

DIVERSIFICATION OF AGRICULTURE IN UTTAR PRADESH : NEED FOR POLICY REORIENTATION

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ABSTRACT

Crop diversification in favour of more remunerative and high valued crops has been reckoned as an important strategy to increase the income and employment opportunities of the farmers in the State of Uttar Pradesh. It has been adopted in the 'Agricultural Policy of Uttar Pradesh' which has emphasised the need for diversification of existing agriculture towards high value crops and develop appropriate infrastructure to accomplish regional specialisation in production of commodities best suited to their respective bio-physical endowment and improving the sustainability of soil and water resources. In the era of economic liberalisation and WTO regime, crop diversification in agriculture best suits to the market oriented development strategy. In view of this, an attempt has been made in the paper to evaluate the pattern of crop diversification achieved during the post-liberalisation period in the State of Uttar Pradesh and suggest policy modifications. The study noted that agricultural economy of Uttar Pradesh has been largely food crop based during the economic reform period as it was before. Wheat and rice are still the principal crops in the State. The pace of commercialisation in agriculture has been found to be slow in the State. Even the most commercialised western region has shown declining trend in its area under commercial crops in 2006-07 as against 1990-1991. Majority of the districts in Western, Eastern and Bundelkhand regions have lost their area of commercial crops during 2006-07 against the level of 1990-91. In this way majority of districts in Uttar Pradesh have slipped down from their ranks in 2006-07 as compared to their position in the year 1990-91 as far as the level of commercialisation in agriculture was concerned.

The role of cropping intensity in boosting the area of cash crops has been found to be negligible. The observed trends are deterrent in achieving the objectives of Agricultural Policy of Uttar Pradesh which has emphasised the speedy commercialisation of agriculture through cultivation of high value crops by crop intensification. The trend necessitates the infrastructural support and improving the delivery mechanism of promotional policies of farm sector in the State.

Introduction

Uttar Pradesh is predominantly an agricultural State. With a net cultivated area of around 17 million hectares, agriculture employs more than 70 per cent of total main workers of the State. The State is also the major producer of

important agricultural commodities like wheat, rice, sugarcane, vegetables, fruits and milk products. The State produces 35 per cent of wheat, 15 per cent of rice, 46 per cent of sugarcane, 42 per cent of potato, and 15 per cent of vegetables of the whole country's

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production. The contribution of Agricultural State Domestic Product (ASDP) to Gross State Product (GSP) in Uttar Pradesh was about 32.8 per cent during 1999-2006 which was next high only to Punjab, Haryana, Rajasthan and Assam. But despite the dominant role of agriculture in the economy of U.P. in terms of crop production, employment and income generation, its focus basically remained oriented to foodgrain production. The data revealed that in U.P. around 80 per cent of gross cropped area was used for foodgrains cultivation by 1999-2006. It is a well known fact that cultivation of foodgrains yields much lower returns as compared to the cultivation of non-foodgrains.

In this scenario, crop diversification in favour of more remunerative and high valued crops has been reckoned as an important strategy to increase the income and employment opportunities to the farmers of the State. In the traditional subsistence farming, agricultural diversification was a coping mechanism to risk aversion. In the market led environment; diversification is a strategy to allocate scarce resources optimally, augment farm income, and generate employment opportunities, alleviate poverty and conserve precious resources. The 'Agricultural Policy of Uttar Pradesh' has emphasised the need for diversification of existing agriculture towards high value crops and develop appropriate infrastructure to accomplish that. The purpose was stated to be the employment generation and poverty alleviation leading to regional specialisation in production of commodities best suited to their respective bio-physical endowment and improving the sustainability of soil and water resources. In the era of economic liberalisation and WTO regime, crop diversification in agriculture best suits to the market oriented development strategy.

The attempt made in this paper confines to the evaluation of pattern of crop diversification achieved during the post-liberalisation period in the State of Uttar Pradesh and then suggest some policy modifications, if need emerges.

Objectives and Approach

The primary premise behind the crop diversification is to shift the traditional foodgrain based cropping pattern in favour of non-foodgrain high value crops. To understand the dynamics of such shifts better, it is essential to evaluate:

- (a) The extent and speed of crop diversification achieved during post-liberalisation period.
- (b) The key sources of crop diversification.
- (c) The implications of crop diversification achieved so far in the State of Uttar Pradesh.

As to the methodology of above evaluation, three approaches have been adopted in this paper. First, the crop diversification has been considered on the basis of measure of cash crops area in gross cropped area in 1990-91 and 2006-07. Second, the analytical framework is based on the shift in area under cash crops in temporal perspective. Third, the source of crops diversion in agriculture has been examined by analysing the crop intensification viz. crop substitution. The study is confined to the State of Uttar Pradesh and based on the secondary data published by the Department of Agriculture, Government of Uttar Pradesh. The reference year is 1990-91 (the year since the policy of economic liberalisation was started) and 2006-07.

Understanding Diversification and Commercialisation in Agriculture

Diversification in agriculture can be broadly defined as producing large number of commodities in place of traditional subsistence based crops for increasing income and employment levels, reducing crop failure risk and poverty alleviation. Diversification in agriculture can be achieved within each sector as well as across sectors. The share of income and the value of output generated by each sector and sub-sectors in the income and value of output of all sectors and within a sub-sector can be taken as the indicators of diversification. In agriculture,

diversification has taken place across crop sector, livestock sector, forestry and fishing sectors as well as within each of these sectors. For example, within the farm sector, a trend has emerged to diversify from basic cereals and staples production to horticulture, floriculture and agro-processing.

Commercialisation in agriculture is the change in the share of marketed output or change in the share of purchased inputs per unit of output. For instance, if the marketed value of wheat increases from 30 to 50 per cent, it is the commercialisation. But if the land area of wheat cultivation is converted into pond for fisheries; it cannot be termed as commercialisation. Thus, conceptually commercialisation can either take the form of product commercialisation which can occur on the output side through increased share of marketed surplus, introduction of new crops/activities or factor commercialisation which can occur on the input side through increased use of purchased inputs. Taking into account different aspects of commercialisation in agriculture, some ratios can serve as indicators of commercialisation. These ratios are the (i) market arrivals to production, (ii) share of food and non-food crops in gross cropped area and

value of output, (iii) value of purchased inputs to value of all inputs and (iv) share of agricultural export in GDP. On the whole, commercialisation in agriculture can be achieved/planned without going for diversification. For instance, if income realised from the cultivation of wheat is higher than from sugarcane, then cultivation of wheat is commercialisation and no rationale is there to diversify for sugarcane production.

Relative Profitability of Food and Non-food Crops in U.P.

The farmers and policy planners have serious concern over the years about the comparative returns from the cultivation of different crops. The returns from cultivation are determined by the yield level, cost of inputs used and price received in the market. On the whole, net returns determine the incentive to produce and usher in commercialisation or diversification in farm sector. The Commission for Agricultural Cost and Prices (CACP) calculates the net profitability of different crops State-wise. In case of Uttar Pradesh, net income earned from the cultivation of three principal crops namely wheat, paddy and sugarcane for the year 2005-06 has been calculated by the CACP (Table 1). It has been shown as under:

Table 1 : Crop-wise profitability in Uttar Pradesh (2005-06)

Crop	Gross value of output per hectare (Rs.)	Cost of cultivation per hectare (Rs.)	Net income per hectare (Rs.)
Wheat	25316	18926	6390
Paddy	14961	13402	15581
Sugarcane	76311	43506	32805

Source : Commission for Agricultural Cost and Prices.

Table 1 shows that the farmers in the State of Uttar Pradesh get highest net income of Rs. 32,800 per hectare from the cultivation of sugarcane in comparison with the net income earned by them from the cultivation of paddy (Rs. 15,600) and wheat (Rs. 6,400). In this way, farmers earn more than double of the net income of paddy and four times of the net income of wheat from the cultivation of

sugarcane in U.P. However, this situation cannot be generalised for the State as a whole as regional variations in cropping pattern, productivity, cost of cultivation and prices are bound to exist. To understand the regional scenario, CACP data are used to find out regional variations in the net returns from three important crops as evident from Table 2.

Table 2 : Region-wise crops profitability in Uttar Pradesh (2005-06)

Region	Gross value of output per hectare (Rs.)	Cost of cultivation per hectare (Rs.)	Net income per hectare (Rs.)
Western			
Wheat	26857	20336	6521
Paddy	15440	13882	1558
Sugarcane	77003	43922	33081
Central			
Wheat	22179	16057	6122
Paddy	14083	12524	1559
Sugarcane	67697	38331	29365
Eastern			
Wheat	21050	15026	6020
Paddy	13728	12168	1560
Sugarcane	65731	37151	28580
Bundelkhand			
Wheat	18825	12990	5835
Paddy	7086	5520	1565
Sugarcane	38259	20647	17611
U.P.	76311	43922	33081

Source: Commission for Agricultural Cost and Prices.

Table 2 shows that the farmers in each of the four regions of Uttar Pradesh have comparative advantage in the cultivation of sugarcane in comparison with wheat and paddy. However, farmers face certain constraints while going for cultivation of sugarcane. The availability of irrigation facilities, inputs, climatic conditions and marketing may not offer comparative advantage to the farmers of Bundelkhand as compared to the farmers of western region of the State in the cultivation of sugarcane. Therefore, these conditions determine the choice of farmers for cultivation of different crops in different regions not alone the profitability of crops. The process of diversification and commercialisation

automatically takes into account all the factors that influence the crop acreages in a given situation.

Crop Preferences in Different Regions

The crop preferences according to the importance of different crops in Gross Cropped Area (GCA) of different regions are presented in Table 3. It reflects that crop choices varied across different regions. Wheat and rice were the two crops most preferred in every region of the State. Wheat is found to be the principal crop in Western and Bundelkhand regions, covering more than 25 per cent of GCA. The wheat and rice in Central region and rice and wheat in Eastern region were the major crops covering more than 25 per cent of GCA.

Table 3 : Crop choices according to their shares in GCA of different regions : 2006-07

Region	High Choice (>25of GCA)	Medium Choice (10-25 % of GCA)	Low Choice (5-10% of GCA)	Least Choice (<5 % of GCA)
Western	Wheat	Rice, Sugarcane	Pearl millet, Maize, Rapeseed, Mustard	Barley, Pigeon pea, Other pulses, Oilseed, Fruits and Vegetables
Central	Wheat, Rice	-----	Maize, Sugarcane	Barley, Sorghum, Pearl millet, Other pulses, Oilseed, Fruits and Vegetables
Eastern	Rice, Wheat	-----	Other pulses	Barley, Sorghum, Barley, Sorghum, Pearl millet, Other pulses, Oilseed, Fruits and Vegetables. Other pulses, Oilseed, Fruits and Vegetables
Bundelkhand	Wheat	Chikpea, Other Pulses	Sorghum	Barley, Rice, Pearl millet, Maize, Pigeon pea, Oilseeds, Sugarcane, Fruits & Vegetables

Source : Department of Agriculture, Government of Uttar Pradesh.

The rice and sugarcane in Western region and mainly the pulses in Bundelkhand region were found to be grown on 10-25 per cent of the respective GCA. Thus, it reflects that farmers in the State had lower choice for cultivation of non-food crops as compared to food crops and it can be inferred that the agricultural economy

of the State remained oriented to the cultivation of traditional crops even after economic reforms.

Status of Crop Diversification

To what extent crop diversification could happen in Uttar Pradesh and how it varies across different regions can be seen from Table 4.

Table 4 : Percentage of area under cash crops in GCA of different regions in Uttar Pradesh

Region	Percentage of Cash Crops Area in GCA		Shift During 1990-91 and 2006-07
	1990-91	1999-2007	
1. Western	33.07	31.65	-1.42
2. Central	18.43	21.12	2.69
3. Eastern	10.50	10.55	0.05
4. Bundelkhand	07.33	08.58	1.25
All U.P.	20.01	20.33	0.32

Source : District-wise Indicators of Development, State Planning Institute, Lucknow.

Table 4 shows that crop sector in Uttar Pradesh could not develop significant diversification during post-economic reform period. At the regional level, Western region was most diversified during 1990-91 and 2006-07. However, the shift in area of cash crops during the reference period became negative by 1.42 per cent in this region. The Central region was found to be the next most diversified during both the years and the change in cash crops diversification was highest in this region as compared to other four regions and the State as a whole. The Eastern region was on the third position but the improvement it showed could remain negligible during the period. The Bundelkhand region was least diversified though it showed better diversion in favour of cash crops as compared to the Eastern region and the average of State. On the whole, the above analysis revealed that (i) diversification in favour of cash crops in U.P. has been at the low level since the beginning of economic reforms in 1990-91 till 2006-07; (ii) the growth in crop diversification has not been significant; (iii) the Western region of State which was most diversified among all four regions during both the years experienced the negative growth; and three remaining

regions except the Central region did not show a favourable shift in favour of cash crops.

Growth in Crop Diversification: District-Wise Analysis : It is observed above that the diversification in favour of cash crops in U.P. could not be achieved to an appreciable extent. Let us analyse the situation at the district level. The Compound Rate of Growth (CRG) in the area of cash crops is calculated in respect of each district at the regional level. The districts are classified into high (2 per cent & above); medium (1-2 per cent) and low (below 1 per cent) growth districts. The analysis is presented below:

Growth in Area of Cash Crops among Districts of Western Region : It is evident from Table 5 that more than half of total 20 districts of the Western region analysed here showed negative growth in their GCA of cash crops during the reference period. Only two districts namely Ghaziabad and Farukhabad showed high level growth while Bulandshahar, Etah and Etawah districts achieved medium level growth. The Saharanpur, Muzaffarnagar, Bijnore and Meerut districts experienced low level growth.

Growth in Area of Cash Crops among

Table 5 : Growth in GCA of cash crops in districts of Western region during 1990-91 and 2006-07

High Growth (2 per cent & above)	Medium Growth (1-2 per cent)	Low Growth (below 1 per cent)	Negative Growth
1. Ghaziabad	1. Bulandshahar	1. Saharanpur	1. Moradabad
2. Farukhabad	2. Etah	2. Muzaffarnagar	2. Rampur
	3. Etawah	3. Bijnore	3. Aligarh
		4. Meerut	4. Mathura
			5. Agra
			6. Ferozabad
			7. Mainpuri
			8. Badaun
			9. Pilibhit
			10. Shahjahanpur

Source : Department of Agriculture, Government of Uttar Pradesh.

Districts of Central Region: The Central region was found to be poised for the best growth in GCA of cash crops in comparison with all other regions of the State during the period studied here. None of its districts had experienced negative growth. Four districts achieved medium and four districts low level of growth. The districts of Lucknow and Barabanki showed high level of growth in

their area of cash crops during the reference period as evident from Table 6. Thus, all the districts of Central region in Uttar Pradesh performed better in terms of growth in their area of cash crops after economic reforms up to the year 2006-07.

Growth in Area of Cash Crops among

Table 6 : Growth in CGA of cash crops in districts of Central region during 1990-91 and 2006-07

High Growth (2 per cent & above)	Medium Growth (1-2 per cent)	Low Growth (below 1 per cent)	Negative Growth
1. Lucknow 2. Barabanki	1. Sitapur 2. Raibareilly 3. Etawah 4. Fatehpur	1. Lakhimpur 2. Hardoi 3. Unnao 4. Kanpur Dehat	Nil

Source : Department of Agriculture, Government of Uttar Pradesh.

Districts of Eastern Region : The Eastern region which remained agriculturally backward for quite some time showed dynamism in cultivation of wheat and rice after 1980's (Table 7). However, the region could not achieve diversification in favour of cash crops after 1990's which became evident from the fact that Eastern region as a whole demonstrated a negligible increase in total area under cash crops during 1990-91 to 2006-07 as reflected from Table 7. Out of total

19 districts of the Eastern region analysed here, 12 showed negative growth in their area of cash crops during the reference period. Only four districts, namely Bahraich, Gonda, Basti and Varanasi experienced high level growth of 2 per cent and above while Faizabad district achieved medium level growth of 1-2 per cent. The districts of Sultanpur and Siddharth Nagar achieved low growth during the period analysed.

Growth in Area of Cash Crops among

Table 7 : Growth in GCA of cash crops in districts of Eastern region during 1990-91 and 2006-07

High Growth (2 per cent & above)	Medium Growth (1-2 per cent)	Low Growth (below 1 per cent)	Negative Growth
1. Bahraich 2. Gonda 3. Basti 4. Varanasi	1. Faizabad	1. Sultanpur 2. Siddharth Nagar	1. Pratapgarh 2. Allahabad 3. Mahrajganj 4. Gorakhpur 5. Deoria 6. Azamgarh 7. Mau 8. Ballia 9. Jaunpur 10. Gazipur 11. Mirzapur 12. Sonbhadra

Source : Department of Agriculture, Government of Uttar Pradesh.

Districts of Bundelkhand Region: The geo-physical conditions in Bundelkhand region do not lend support to a highly diversified type of agriculture. The region has comparative advantage in the cultivation of pulses which are also the high value crops with high demand as well.

The region, on the whole, has shown a positive compound growth of 1.76 per cent during 1990-91 and 2006-07. But two of its districts namely, Lalitpur and Hamirpur experienced negative growth. Banda district had low growth while Jhansi achieved high growth and Jalaun remained at middle level.

Area under Cash Crops: Ranking of Districts

The above analysis showed the performance of different districts at regional level in terms of change in their area under commercial crops during 1990-91 to 2006-07. It does not reveal the change in rank which each district has achieved over the years by having a change in its percentage of area under commercial crops to gross cropped area. The ranking of districts on the basis of level of area under commercial crops to GCA will show whether high/low ranking districts could achieve a change in their respective position over the years or the speed of commercialisation has been such that most of the districts are on the same position despite the growth in area over a

period of time.

Change of Rank of Districts in Cro Diversification in Western Region: The ranking of districts of Western region as shown in Annexure-2 indicated that eleven districts remained on the same rank in 2006-07 as they were in 1990-91. Only nine districts change their rank during this period. The Saharanpur district was on the fourth rank and Gaziabad on the fifth in first year but both these districts swapped their ranks with each other in the later year. Mathura district was on the seventh rank in 1990-91 which was reduced to eleventh rank in 2006-07. Farukhabad district improved its rank from eleventh to seventh while Rampur and Ferozabad were having twelfth and thirteenth position, respectively in 1990-91 but interchanged their rank with each other in 2006-07. Thus, the four districts improved their position while five districts showed deterioration in their position. This indicated that the number of districts slipping down from their ranks in 1990-91 to 2006-07 was higher as compared to the districts improving their rank. On this basis, it can be concluded that the process of commercial agriculture has followed the dictum of 'one step forward and two steps backward' in Western region of Uttar Pradesh after economic liberalisation as evident from Table 8.

Table 8 : Ranks of districts of Western region during 2006-07 as against 1990-91

Districts Stagnant on their Ranks in 2006-07 as in 1990-91	Districts improving their ranks in 2006-07 from 1990-91	Districts slipping down from their ranks in 2006-07 from 1990-91
1. Meerut	1. Gaziabad	1. Saharanpur
2. Muzaffar Nagar	2. Farukhabad	2. Mathura
3. Bijnore	3. Ferozabad	3. Rampur
4. Agra	4. Shahjahanpur	4. Aligarh
5. Moradabad		5. Badaun
6. Bulandshahar		
7. Barielly		
8. Pilibhit		
9. Etah		
10. Etawah		
11. Mainpuri		

Source : Department of Agriculture, Government of Uttar Pradesh.

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Change of Rank of Districts in Crop Diversification in Central Region: It is evident from Annexure-3 that every district in Central region did not change its rank in 2006-07 from 1990-91. It was found earlier that every district of the region showed positive growth in the area under commercial crops but the rate of change has been so uni-directional that every district maintained its rank in terms of area under commercial crops to GCA in 2006-07 to the position of 1990-91.

Change of Rank of Districts in Crop Diversification in Eastern Region: It is evident from

Table 10 that only three districts in Eastern region of the State could maintain their rank in terms of percentage of area under commercial crop in GCA in 2006-07 at the level of 1990-91. These districts are Jaunpur, Pratapgarh and Siddharth Nagar. Six districts, namely the Faizabad, Sultanpur, Varanasi, Basti, Gonda and Bahraich improved their rank but remaining more than half districts lost their ranks in 2006-07 as compared to their position during 1990-91. It is also evident from Annexure-4.

Change of Rank of Districts in Crop Diversification in Bundelkhand Region : Four

Table 9 : Ranks of districts of Eastern region during 2006-07 as against 1990-91

Districts Stagnant on their Ranks in 2006-07 as in 1990-91	Districts improving their ranks in 2006-07 from 1990-91	Districts slipping down from their ranks in 2006-07 from 1990-91
1. Jaunpur	1. Faizabad	1. Deoria
2. Pratapgarh	2. Sultanpur	2. Sonbhadra
3. Siddharth Nagar	3. Varanasi	3. Gazipur
	4. Basti	4. Mahrajganj
	5. Gonda	5. Ballia
	6. Bahraich	6. Mau
		7. Azamgarh
		8. Mirzapur
		9. Gorakhpur
		10. Allahabad

Source : Department of Agriculture, Government of Uttar Pradesh.

districts in Bundelkhand region could maintain their rank in 2006-07 which they had during 1990-91. Only Jalaun district showed improved position while Lalitpur lost its ranks in later period from previous period. It reflected that in Bundelkhand region; change in area under commercial crops in their respective gross cropped area has not been sharp enough to change the position of the districts (Annexure-5).

The analysis, thus, showed that majority of the districts in Uttar Pradesh could not remain on the rank in terms of percentage of area under commercial crops to their GCA during post-reform period as compared to the beginning of pre-reform period. This could be so because the speed of favourable change in area under commercial crops could not be fast within the districts.

Sources of Cash Crops Diversification in U.P.

There are two sources of crop diversification. One is the crop substitution and other is the crop intensification. It was found that the main source of crop diversification up to 2006-07 has been the crop substitution in

Uttar Pradesh. Some scholars found that share of crop substitution in diversification was as high as 63 per cent and share of augmenting cropping intensity was nearly 37 per cent. Our analysis also showed that cropping intensity in U.P. does not display any significant change in 2006-07 from 1990-91 as evident from Table 10.

Table 10 : Change in cropping intensity in Uttar Pradesh

Region	Cropping Intensity		Compound Growth Rate
	1990-91	2006-07	
Western	152.83	157.45	0.33
Central	141.75	148.62	0.53
Eastern	153.95	152.12	-0.13
Bundelkhand	113.01	117.56	0.44

Source : Department of Agriculture, Government of Uttar Pradesh.

Table 10 shows that there has been a negligible increase in cropping intensity in the Western region, Central region and Bundelkhand region. The Eastern region showed a decline in cropping intensity. At the State level, the growth in cropping intensity was only by 0.44 per cent during 1990-91 and 2006-07. Most of the districts across all the four regions experienced nominal growth in cropping intensity. It was found that eight districts in Western region, two districts in Central region and eight districts of Eastern region showed a decline in their cropping intensity during the reference period. Thus, the Agricultural Policy documents of Uttar Pradesh which envisaged an increase in cropping intensity to the level of 200 per cent by the end of 2007, appears to be impossible to achieve as evident from the trend observed here.

Conclusions

The study noted that agricultural economy of Uttar Pradesh has been largely food crop

based during the economic reform period as was before. Wheat and rice are still the principal crops in the State. The pace of commercialisation in agriculture has been found to be slow in the State. Even the most commercialised Western region has shown a declining trend in its area under commercial crops in 2006-07 as against 1990-91. Majority of the districts in Western, Eastern and Bundelkhand regions have lost their area under commercial crops during 2006-07 against the level of 1990-91. In this way majority of districts have slipped down from their ranks in 2006-07 as compared to their position in the year 1990-91. The role of cropping intensity in boosting the area of cash crops is found to be negligible. The observed trends are deterrent in achieving the objectives of Agricultural Policy of Uttar Pradesh which has emphasised the speedy commercialisation of agriculture through cultivation of high value crops by crop intensification.

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**Annexure 1 : Percentage of Gross Cultivated Area under
Commercial Crops and Cropping Intensity in Uttar Pradesh**

S.No.	District	% of Area under Cash Crops		Cropping Intensity	
		1990-91	2006-07	1990-91	2006-07
(1)	(2)	(3)	(4)	(5)	(6)
1.	Saharanpur	49.35	49.72	160.00	157.03
2.	Muzaffar Nagar	60.10	62.46	155.63	152.66
3.	Bijnor	57.36	58.76	128.54	131.40
4.	Muradabad	36.60	32.45	150.71	165.51
5.	Rampur	25.94	22.91	167.29	185.68
6.	Merutt	60.65	64.20	158.45	154.96
7.	Gaziyabad	45.37	54.35	164.67	158.21
8.	Bulandsahar	27.54	30.96	175.12	169.75
9.	Aligarh	21.94	18.25	163.64	165.39
10.	Mathura	39.34	25.37	138.33	151.40
11.	Agra	43.74	34.16	131.60	142.28
12.	Firozabad	23.87	22.98	139.71	156.94
13.	Etah	15.87	17.95	163.23	162.99
14.	Mainpuri	13.76	12.01	166.51	159.82
15.	Budaun	19.67	18.53	149.13	161.05
16.	Bareilly	27.19	26.42	151.16	162.37
17.	Pilibhit	20.90	18.55	165.06	164.85
18.	Shahjhapur	20.27	18.81	150.16	161.27
19.	Farrukhabad	26.85	34.13	146.10	148.96
20.	Etawah	14.43	15.99	146.82	155.00
	Western Region	33.07	31.65	152.83	157.45
21.	Lakhimpurkheri	35.80	37.32	137.00	146.49
22.	Sitapur	23.44	26.44	130.65	141.78
23.	Hardoi	15.88	17.26	145.77	150.76
24.	Unnao	13.05	13.17	146.21	150.16
25.	Lucknow	16.09	21.65	135.50	151.10
26.	RaeBareilly	7.95	8.84	149.85	143.24
27.	Kanpur Dehat	15.37	16.80	136.67	136.54

Annexure 1 : (Contd.)

(1)	(2)	(3)	(4)	(5)	(6)
28.	Etawah	18.54	22.07	144.53	154.69
29.	Fatehpur	11.56	13.13	133.96	146.81
30.	Barabanki	16.19	21.91	165.05	171.06
	Central Region	18.43	21.12	141.75	148.62
31.	Jaluon	7.29	8.56	106.97	108.23
32.	Jhansi	10.28	14.14	115.90	119.29
33.	Lalitpur	9.05	7.90	125.69	135.07
34.	Hamirpur	8.66	7.84	105.65	109.71
35.	Banda	3.62	3.90	117.44	123.36
	Bundelkhand	7.33	8.58	113.01	117.56
36.	Pratapgarh	7.03	6.36	154.11	151.86
37.	Alahabad	7.92	6.91	142.21	154.18
38.	Faijabad	12.26	14.29	163.14	150.79
39.	Sultanpur	11.50	12.35	152.83	154.31
40.	Bahraech	7.18	10.54	157.78	148.90
41.	Gonda	9.52	11.65	154.01	158.60
42.	Sidharthnagar	5.70	5.84	151.69	137.47
43.	Basti	9.60	14.18	155.86	140.62
44.	Mahrajganj	11.48	10.04	170.91	174.64
45.	Gorkhpur	8.59	7.32	142.11	148.77
46.	Deoria	19.85	10.57	155.60	157.95
47.	Ajamgarh	10.04	8.56	160.95	163.50
48.	Mau	10.26	8.33	171.24	167.22
49.	Ballia	10.75	9.64	153.30	156.47
50.	Jaunpur	9.72	9.23	158.19	154.41
51.	Gazipur	12.11	12.00	149.03	153.71
52.	Varanasi	11.08	14.63	157.11	150.41
53.	Mirzapur	9.75	8.78	140.98	144.10
54.	Sonbhadra	14.61	11.61	141.57	141.96
	Eastern Region	10.50	10.55	153.95	152.12
	All U.P.	20.01	20.33	147.29	149.34

**Annexure 2 : Gross Cultivated Area under Commercial Crops:
Ranking of Districts of Western Region**

S.No.	District	Rank in 1990-91	Rank in 2006-07
1.	Meerut	I	I
2.	Muzaffar Nagar	II	II
3.	Bijnore	III	III
4.	Saharanpur	IV	V
5.	Ghaziabad	V	IV
6.	Agra	VI	VI
7.	Mathura	VII	XI
8.	Moradabad	VIII	VIII
9.	Bulandshahar	IX	IX
10.	Barielly	X	X
11.	Farukkabad	XI	VII
12.	Rampur	XII	XIII
13.	Firozabad	XIII	XII
14.	Aligarh	XIV	XVII
15.	Pilibhit	XV	XV
16.	Shahjahanpur	XVI	XIV
17.	Badaun	XVII	XVI
18.	Etah	XVIII	XVIII
19.	Etawah	XIX	XIX
20.	Mainpuri	XX	XX

**Annexure 3 : Gross Cultivated Area under Commercial Crops:
Ranking of Districts of Central Region**

S.No.	District	Rank in 1990-91	Rank in 2006-07
1.	Lakhimpur	I	I
2.	Sitapur	II	II
3.	Etawah	III	III
4.	Barabanki	IV	V
5.	Lucknow	V	IV
6.	Hardoi	VI	VI
7.	Kanpur Dehat	VII	XI
8.	Unnao	VIII	VIII
9.	Fatehpur	IX	IX
10.	RaiBarielly	X	X

**Annexure 4 : Gross Cultivated Area under Commercial Crops:
Ranking of Districts of Bundelkhand Region**

S.No.	District	Rank in 1990-91	Rank in 2006-07
1.	Jhansi	I	I
2.	Lalitpur	II	IV
3.	Hamirpur	III	III
4.	Jalaun	IV	II
5.	Banda	V	V

**Annexure 5 : Gross Cultivated Area under Commercial Crops:
Ranking of Districts of Eastern Region**

S.No.	District	Rank in 1990-91	Rank in 2006-07
1.	Deoria	I	VIII
2.	Sonbhadra	II	VII
3.	Faizabad	III	II
4.	Gazipur	IV	V
5.	Sultanpur	V	IV
6.	Maharajganj	VI	X
7.	Varanasi	VII	I
8.	Balia	VIII	XI
9.	Mau	IX	XV
10.	Azangarh	X	XIV
11.	Mirzapur	XI	XIII
12.	Jaunpur	XII	XII
13.	Basi	XIII	III
14.	Gonda	XIV	VI
15.	Gorakhpur	XV	XVI
16.	Allahabad	XVI	XVII
17.	Bahraich	XVII	IX
18.	Pratapgarh	XVIII	XVIII
19.	Siddharth Nagar	XIX	XIX