Inter District Disparities in Agriculture Development of Rajasthan:Some Policy Implications for Lagged Districts

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Abstract

For the overall development of a state it is prerequisite that all regions develop to the fullest of their capabilities and thus the benefits of their growth can be reaped by the inhabitants of all regions. The present study examines regional disparities at district level in the state of Rajasthan, at two points of time 1991-92 to 2010-11. For this purpose six indicators have been selected from agriculture sector and respective composite indices have been prepared and then districts are ranked on the basis of their composite index.

The paper suggested that in agriculture sector in Rajasthan more concentrated efforts are needed so that regional disparities at district level captures a declining trend instead of the rising trend at present (though marginally).For this, there is a need to propose a comprehensive plan as per agro-climatic zones of the state taking each district as a major unit.

Key words : *Regional Disparities, Agriculture Development, Composite Index, Ranks, District level*

I. INTRODUCTION

Regional disparities in the process of economic development have become a worldwide phenomenon. Even developed countries are not exception and have witnesses the widening regional disparities in the initial stage of their development. But in the later stage this regional disparities should be narrowed down. Though in some cases this phenomenon is the natural outcome of the development process itself, but in certain cases it may be due to ignorance on the part of the policy makers.

Efficiency and equity are inseparable policy recommendation to redistribute assets while keeping market as free and as competitive as possible reflects the fact that efficient allocations need not be egalitarian. As it is always understood that balanced regional development means equal or uniform level of development rather it means an even growth of regions to the extent of their growth capabilities. For the overall development of a state it is prerequisite that all regions develop to the fullest of their capabilities and thus the benefits of their growth can be reaped by the inhabitants of all regions. So the main aim of this paper is to identify the backward regions so that policies can be drafted accordingly to avoid regional disparities from getting further accentuated in the course of development. The present study examines regional disparities at district level in the state of Rajasthan, at two points of time 1991-92 to 2010-11. For this purpose six indicators have been selected from agriculture sector and respective composite indices have been prepared and then districts are ranked on the basis of their composite index.

The time period for the present study was so chosen as to analyze regional dimensions of development in Rajasthan in the post- liberalization period. As a quantitative enquiry, the study was subjected to the limitations of availability of data and shortness of the period studied. Nevertheless, the study could bring out some definite results which might prove relevant for the purpose of planning at district-level.

A. Objectives of the Study
The objectives of the study are as follows:

1. To prepare a composite index of agricultural development for the districts of Rajasthan on the basis of selected indicators.
2. To rank the districts in order of their agricultural development on the basis of their respective composite index scores.
3. To analyze the degree of inter-district disparities in the levels of agricultural development in Rajasthan at two points of time (1991-92 and 2011-12).
4. To examine policy implications for the districts which are relatively backward in terms of agricultural development.

B. Hypotheses

The following are the hypotheses:

- Inter-district disparities in agricultural development of Rajasthan have increased significantly over the study period.
- The ranking of districts of Rajasthan in terms of agricultural development has changed significantly over the study period.

II. METHODOLOGY AND COVERAGE

The study is based on secondary data primarily drawn from the 'Statistical Abstract of Rajasthan' and 'District Outlines' published annually by the Directorate of Economics and Statistics (DES), Government of Rajasthan, Jaipur. The other sources are Census reports, reports on Economic Census, and annual publications by DES on Agricultural Statistics.

The composite index of agricultural developmentfor the districtsof Rajasthan statehas been calculated for two points of time, 1990-91 and 2010-11. A vector of 6 indicators is chosen to prepare the composite index, using the technique ofprincipal component analysis (PCA).The selected indicators are –

1. Percentage of net area sown to reporting area (NASRA)
2. Percentage of Net irrigated area to Net area sown (GIAGAS)
3. Percentage of Double cropped area to net area sown (DCANAS)
4. Percentage of Gross irrigated area to Gross area sown (GIAGAS)
5. Cropping intensity (CI)
6. Irrigation Intensity (II)

A. Composite Index of Agricultural Development: 1991-92 and 2010-11

The composite index of agricultural development is computed using the technique of principal component analysis at two points of time viz. 1991-92 for 30 districts & 2010-11 for 33 districts. The composite indices so derived are the first principal components. They explain an adequate amount of variation in the above mentioned six variables(Table 3).

The district-wise composite index scores computed for the years 1991-92 and 2010-11 ($CI_{1991-92}$ & $CI_{2010-11}$) along with their respective ranks are given in table 1. The composite index score indicates the relative position of each district in agricultural development. A high and positive score indicates that a particular district is more developed as compared to others with lower scores.

Table 1:District-wise Composite Index of Agricultural Development, Rajasthan, 1991-92 and 2010-11

S.No.	Districts	1991-92		Districts	2010-11		Rise/Fall in CI_{Agr} Ranks in 2010-11 over 1991-92
		CI $_{Agr,1991-92}$	Rank		CI $_{Agr,2010-11}$	Rank	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	Ajmer	-0.47	23	Ajmer	-0.98	26	▲
2.	Alwar	1.24	1	Alwar	1.50	2	▼
3.	Banswara	0.63	11	Banswara	-0.33	21	▼
4.	Baran	0.28	16	Baran	1.44	3	▲
5.	Barmer	-2.38	30	Barmer	-1.88	33	▼

6.	Bharatpur	0.32	14	Bharatpur	1.09	7	▲
7.	Bhilwara	0.80	7	Bhilwara	-0.36	23	▼
8.	Bikaner	-1.14	25	Bikaner	-1.34	28	▼
9.	Bundi	0.97	4	Bundi	1.42	4	No Change
10.	Chittorgarh	1.22	2	Chittorgarh	0.52	13	▼
11.	Churu	-1.91	29	Churu	-1.42	30	▼
12.	Dausa	1.20	3	Dausa	0.88	8	▼
13.	Dholpur	0.67	10	Dholpur	0.57	10	No Change
14.	Dungarpur	-0.30	20	Dungarpur	-0.70	24	▼
15.	Jaipur	0.45	13	Jaipur	0.62	9	▲
16.	Jaisalmer	-1.73	28	Jaisalmer	0.11	16	▲
17.	Jalor	0.03	18	Jalor	-1.39	29	▼
18.	Jhalawar	0.51	12	Jhalawar	-0.02	20	▼
19.	Jhunjhunu	-0.35	21	Jhunjhunu	1.20	5	▲
20.	Jodhpur	-1.46	27	Jodhpur	0.08	18	▲
21.	Kota	0.78	8	Kota	0.54	11	▼
22.	Nagaur	-1.28	26	Nagaur	1.19	6	▲
23.	Pali	-0.57	24	Pali	-1.48	32	▼
24.	Rajsamand	0.91	6	Rajsamand	0.09	17	▼
25.	SawaiMadhopur	0.28	17	SawaiMadhopur	-0.35	22	▼
26.	Sikar	-0.28	19	Sikar	0.53	12	▲

27.	Sirohi	0.28	15	Sirohi	-0.02	19	▼
28.	Sri Ganganagar	0.77	9	Sri Ganganagar	0.20	14	▼
29.	Tonk	-0.42	22	Tonk	0.12	15	▲
30.	Udaipur	0.94	5	Udaipur	-0.76	25	▼
31.				Hanumangarh	1.53	1	NCD
32.				Karauli	-1.07	27	NCD
33.				Pratapgarh	-1.44	31	NCD
Standard Deviation		0.999			1.003		

NCD Newly Created Districts
Source: Calculated

It can be seen from the table 1 that the values of $CI_{Agr,1991-92}$ lie between -2.38 and +1.24 and that of $CI_{Agr,2010-11}$ between -1.88 and +1.53, indicating a fall in the range of composite index scores. It can, therefore, be inferred that the inter-district variations in the level of agricultural development have been reduced during the period taken for the study. However, in order to reach any valid conclusion, other measures of disparity must be computed.

In 1991-92, Alwar secured the highest composite score in agriculture followed by Chittorgarh and Dausa, whereas the least composite score in agriculture were observed for Barmer, Churu and Jaisalmer districts. In 2010-11, Hanumangarh a newly created district was at the top followed by Alwar and Baran, while Pratapgarh again newly created district and Barmer were at the bottom, as regards the level of agricultural development. Over the period of years under study, 10 out of 33 districts registered an improvement in their composite index scores while fall was recorded for remaining 23 districts (table 1). However, the relative positions of the districts did not change much over the period.

The standard deviation of the composite index of agricultural development, reported in table 1, reflects the magnitude of inter-district disparities in all 6 indicators of agriculture put together. The value of standard deviation of composite index in agriculture increased over the period, *albeit* marginally. It was 0.99 in 1991-92 which increased to 1.00 in 2010-11. Hence, it can be concluded that the extent of inter-district disparities in agricultural development in Rajasthan has remained almost the same over the study period.

III. CLASSIFICATION OF DISTRICTS ACCORDING TO RANK BASED ON COMPOSITE INDEX OF AGRICULTURAL DEVELOPMENT

Rather than adopting any arbitrary cut off levels to differentiate districts by their level of development, we divided the districts so ranked into three tertiles on the basis of their composite index. The top group of 10 districts has been categorised as the advanced districts, followed by second group of 10 as intermediate districts. The third group of 10 districts has been labelled as the lagged districts for 1991-92.

As number of districts in 2010-11 was 33, we divided the districts so ranked into three tertiles of 11 districts each and they are categorized as advance, intermediate and lagged districts.

IV. CLASSIFICATION OF DISTRICTS: ADVANCED, INTERMEDIATE AND LAGGING

The cut-off points for the three categories are:

- For Advanced districts $CI_{1991\text{-}92}$ between 1.24 to 0.67 and $CI_{2010\text{-}11}$ between 1.53 to 0.54 for 2010-11.

- Between 0.66 to -0.30 for intermediate districts in 1991-92 and from +0.53 to -0.35 in 2010-11

- Between -0.35 to -2.38 for 1991-92 and -0.36 to -1.88 for lagging districts for 2010-11.

Table 2: Classification of Districts according to Rank based on Composite Index of Agricultural Development, 1991-92 & 2010-11

Category of Agricultural Development	1991-92	2010-11
Advanced Districts	Alwar Bhilwara Bundi Chittorgarh Dausa Dholpur Kota Rajsamand Sri Ganganagar Udaipur	Alwar Baran Bharatpur Bundi Dausa Dholpur Jaipur Jhunjhunu Nagaur Hanumangarh Kota
Intermediate Districts	Banswara Baran Bharatpur Dungarpur Jaipur Jalore Jhalawa SawaiMadhopur Sikar Sirohi	Chittorgarh Jaisalmer Jhalawar Jodhpur Rajsamand Sikar Sirohi Sri Ganganagar Tonk Banswara SawaiMadhopur
Lagged Districts	Ajmer Barmer Bikaner Churu Jaisalmer Jodhpur Nagaur Pali Tonk Jhunjhunu	Ajmer Barmer Bhilwara Bikaner Churu Dungarpur Jalore Pali Udaipur Karauli Pratapgarh

Source: Calculated

The agriculturally advanced districts common in both the years (1991-92 & 2010-11) were Alwar, Bundi, Dhaulpur, Dausa, and Kota. Districts of Bhilwara, Chittorgarh, Rajsamand, Sri Ganganagar and Udaipur had moved down from the advanced category in 1991-92 to the intermediate category in 2010-11 due to a substantial fall in their composite scores over the period. The district of Baran, Bharatpur, Jaipur which belonged to the intermediate category in 1991-92, recorded an upward movement in its composite score and entered the category of advanced districts in 2010-11.

The districts which belonged to the lagging category in terms of agricultural development (in both the years) were Ajmer, Barmer, Bikaner, Churu, and Pali. Three lagging districts of 1991-92 namely- Jaisalmer, Jodhpur and Tonk moved up to the intermediate level of agricultural development in 2010-11. While the Jhunjhunu district entered into the category of advanced districts in 2010-11.

A significant observation from table 2 is that though quite a few districts moved to their immediate next category of agricultural development, no district moved up or down two categories of agricultural development over the period under studyi.e no lagging district of 1991-92 except Jhunjhunu could achieve agricultural development remarkable enough to reach the advanced category in 2010-11.
Another broad conclusion is that in 2010-11 two-thirds of the districts remained in the same category of agricultural development as they belonged to in 1991-92(the initial year considered for the study).

The spatial pattern in the distribution of composite index scores evidently indicates that agricultural development in the state is mainly concentrated around three nodes. While the one is located in the north comprising the district of Hanumangarh, the other two can be seen around Alwar-Bharatpur-Dhaulpur belt in the east and around Kota-Bundi belt in the southeast. The agriculture sector in the northwestern district of Hanumangarh is highly developed due to Indira Gandhi canal project and its proximity with developed states of Haryana and Punjab which provide inputs and market for its agricultural produce. The eastern plains have rich alluvial soils drained by seasonal rivers and the southeastern Rajasthan is mostly plateau which occurs in the upper catchments of the Chambal River.

V. CONCLUSION

With advent of welfare State concept, considerable attempts have been made to understand the different dimensions of regional disparity. Understanding the causes and nature of these differences in the levels of development across regions is important because inequality in any respect gives rise to unequivocal negative effects on subsequent growth and development, and worsens economic, social, and political tensions among regions leading to misallocation of resources.

The center has an important role to play in promoting balanced development in which all states and regions within states have the opportunity to develop evenly. However, understanding the nature and the extent of these imbalances and proper identification of backward regions is vital for regional balancing.
Rajasthan has immense potential for economic growth. The state government, however, needs to take effective policy measures to enhance the pace of development in the less developed regions as well as to promote sustainable development in the relatively developed regions of the state. The policy implications emerging out of the study are as follows:

- In agriculture sector more concentrated efforts are needed so that regional disparities at district level captures a declining trend instead of the rising trend at present (though marginally).
- For this, there is a need to propose a comprehensive plan as per agro-climatic zones of the state taking each district as a major unit.

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Appendix 1

Table 3: District Wise Composite Index of Agriculture Development 1991-91 and 2010-11

Districts	1991-92							Districts	2010-11						
	X1	X2	X3	X4	X5	X6	Factor 1		X1	X2	X3	X4	X5	X6	Factor 1
Ajmer	0.002	-0.429	-0.662	-0.507	-0.427	-0.001	-0.473	Ajmer	-0.04	-0.21	-1.13	-1.34	-0.18	-0.26	-0.97
Alwar	0.978	1.332	1.259	0.873	1.333	-0.574	1.238	Alwar	0.62	1.16	1.54	1.17	1.17	-0.52	1.50
Banswara	-0.132	1.341	-0.094	-0.330	1.342	-0.493	0.630	Banswara	-0.23	0.1	-0.3	-0.58	0.08	-0.7	-0.32
Baran	-0.161	-0.317	0.650	0.774	-0.315	-0.492	0.281	Baran	-0.29	1.39	1.6	0.96	1.38	-0.7	1.44
Barmer	0.131	-1.512	-1.704	-1.645	-1.509	4.462	-2.383	Barmer	0.4	-1.94	-1.65	-1.59	-1.95	1.3	-1.87
Bharatpur	1.534	0.081	0.313	0.100	0.082	-0.935	0.323	Bharatpur	1.42	0.14	1.35	1.21	0.13	-0.73	1.09
Bhilwara	-0.644	1.054	0.653	0.674	1.055	0.017	0.799	Bhilwara	-0.78	0	-0.34	-0.41	0.03	-0.33	-0.36
Bikaner	-1.105	-1.241	-1.051	-0.769	-1.238	0.654	-1.137	Bikaner	-0.02	-1.61	-1.34	-0.77	-1.58	1.99	-1.34
Bundi	-0.253	0.307	1.583	1.663	0.308	-0.343	0.968	Bundi	-0.51	1.51	1.34	1.01	1.53	-0.26	1.41
Chittorgarh	-0.522	1.761	0.839	0.448	1.761	-0.476	1.224	Chittorgarh	-0.72	0.8	0.51	0.25	0.8	-0.44	0.52
Churu	1.667	-1.631	-1.788	-1.877	-1.628	1.461	-1.910	Churu	1.76	-0.8	-1.73	-1.96	-0.81	0.83	-1.42
Dausa	0.693	1.280	1.197	0.750	1.281	-0.711	1.199	Dausa	0.78	1.08	0.76	0.26	1.06	-0.66	0.88
Dholpur	0.073	0.039	1.124	0.884	0.041	-0.908	0.672	Dholpur	-0.09	-0.02	0.93	0.81	-0.03	-0.73	0.56
Dungarpur	-0.706	0.252	-0.914	-0.898	0.254	0.001	-0.303	Dungarpur	-1.11	0.11	-0.69	-0.99	0.13	-0.63	-0.70
Jaipur	0.663	0.323	0.504	0.588	0.324	-0.209	0.446	Hanumangarh	0.99	-0.18	1.05	2.88	-0.03	2.06	1.53
Jaisalmer	-2.136	-1.660	-1.724	-1.779	-1.657	0.720	-1.733	Jaipur	1.87	-0.01	-0.2	1.13	0.75	0.1	0.62
Jalor	0.705	-0.09425	-0.045	-0.012	-0.092	-0.441	0.030	Jaisalmer	0.43	0.76	-0.22	-0.25	-1.33	3.44	0.11

District								District							
Jhalawar	0.025	0.781	0.095	-0.192	0.782	-0.835	0.514	Jalor	-2.08	-1.31	-1.36	-0.51	-0.65	-0.3	-1.38
Jhunjhunu	1.354	-0.168	-0.672	-0.601	-0.166	-0.140	-0.348	Jhalawar	0.62	-0.67	-0.21	-0.01	1.79	-0.59	-0.02
Jodhpur	0.185	-1.476	-1.461	-1.397	-1.473	0.476	-1.452	Jhunjhunu	-0.08	1.79	1.18	0.51	0.7	-0.55	1.19
Kota	0.175	-0.062	1.461	1.529	-0.061	-0.539	0.775	Jodhpur	0.97	0.7	0.04	-0.29	-1.74	1.08	0.07
Nagaur	1.258	-1.308	-1.315	-1.195	-1.305	0.389	-1.276	Karauli	0.32	-1.74	-1.21	-0.69	1.12	-0.7	-1.16
Pali	0.164	-0.881	-0.508	-0.318	-0.9173	-0.241	-0.566	Kota	-0.81	1.13	0.51	-0.05	1.22	-0.59	0.54
Rajsamand	-1.297	1.259	0.739	0.802	1.260	0.195	0.909	Nagaur	-0.09	1.23	1.54	1.07	-1.64	0.5	1.12
SawaiMadhopur	0.045	0.046	0.245	0.053	0.048	-0.911	0.277	Pali	1.08	-1.64	-1.32	-1.13	-1.69	-0.48	-1.48
Sikar	1.057	-0.221	-0.451	-0.301	-0.219	-0.001	-0.282	Pratapgarh	-0.24	-1.68	-1.3	-1.38	0.7	-0.73	-1.44
Sirohi	-0.841	0.006	0.470	0.729	0.007	-0.0203	0.284	Rajsamand	-0.63	0.69	0.12	-0.3	0.13	-0.15	0.085
Sri Ganganagar	-2.261	0.216	1.341	2.170	0.217	0.723	0.766	SawaiMadhopur	-1.94	0.11	-0.14	-0.09	-0.44	-0.7	-0.35
Tonk	0.907	-0.83	-0.393	-0.360	-0.83078	-0.74239	-0.41577	Sikar	0.24	-0.46	0.88	0.98	0.08	-0.7	0.527
Udaipur	-1.552	1.747	0.314	0.139	1.748	-0.081	0.942	Sirohi	0.82	0.06	-0.2	-0.09	-0.23	0.17	-0.02
								Sri Ganganagar	-1.3	-0.21	0.27	0.79	-0.18	1.19	0.20
								Tonk	0.75	-0.13	0.25	0.1	-0.13	-0.7	0.122
								Udaipur	-2.12	-0.16	-0.52	-0.68	-0.18	-0.52	-0.76

Source: Calculated

Table 4: District-wise Selected Indicators of Agricultural Development, Rajasthan, 1991-92 & 2010-11

Districts	Selected Indicators, District-wise [1991-92]						Districts	Selected Indicators, District-wise [2011-12]					
	NASRA	DCANAS	NIANAS	GIAGAS	CI	II		NASRA	DCANAS	NIANAS	GIAGAS	CI	II
Ajmer							Ajmer						
Alwar	46.7	16.72	22.01	23.46	116	123	Alwar	53.26	42.56	23.48	18.71	143	114

Banswara	65.51	39.71	58.92	46.51	1391	110	Banswara	64.56	68.93	90.05	57.29	169	107
Baran	44.09	39.83	32.91	26.41	139	112	Baran	50	48.47	44.19	30.34	148	102
Barmer	43.53	18.18	47.22	44.85	118	112	Barmer	48.94	73.31	91.52	54.1	173	102
Bharatpur	49.19	2.58	1.99	4.46	102	229	Bharatpur	60.66	9.28	10.32	14.81	109	157
Bhilwara	76.24	23.38	40.75	33.61	123	101	Bhilwara	78.21	49.19	85.26	57.99	149	101
Bikaner	34.22	36.08	47.29	43.19	136	124	Bikaner	40.54	46.53	43.06	32.99	147	112
Bundi	25.33	6.12	14.53	19.08	106	139	Bundi	53.55	15.67	18.11	27.51	116	176
Chittorgarh	41.77	26.33	65.15	59.69	126	115	Chittorgarh	45.14	75.65	84.93	54.96	176	114
Churu	36.57	45.31	50.86	39.42	145	112	Churu	41.55	62.05	64.27	43.25	162	109
Dausa	78.79	1.03	0.38	0.59	101	158	Dausa	84.02	31.23	8.35	9.18	131	144
Dholpur	60.03	39.03	57.73	44.45	139	107	Dholpur	67.22	67.31	70.53	43.31	167	103
Dungarpur	48.06	22.84	56.33	46.69	122	102	Dungarpur	52.4	46.18	74.69	51.78	146	101
Jaipur	33.02	25.62	17.16	16.93	125	123	Hanumanga rh	34.87	48.65	34.27	24.02	149	104
Jaisalmer	59.45	26.54	44.43	41.76	126	118	Jaipur	70.78	43.09	77.65	83.7	146	178
Jalor	5.45	0.65	1.6	2.23	100	140	Jaisalmer	85.94	46.32	46.48	56.67	161	124
Jhalawar	60.25	21.09	33.86	31.72	121	113	Jalor	61.17	61.29	46.11	35.48	121	216
Jhunjhunu	47.14	32.52	36.56	28.72	132	104	Jhalawar	18.19	21.44	17.68	31.45	134	113
Jodhpur	72.76	20.12	21.82	21.89	120	120	Jhunjhunu	64.54	33.62	46.3	39.12	181	105
Kota	50.22	3.05	6.57	8.61	103	135	Jodhpur	52.55	81	80.95	47.12	160	106
Nagaur	50.03	21.5	62.8	57.45	121	111	Karauli	70.5	60.12	52.58	34.87	113	151
Pali	70.91	5.25	9.46	11.97	105	133	Kota	59.44	13.07	21.35	28.68	168	102
Rajsamand	49.82	10.82	24.96	26.61	110	118	Nagaur	40.01	68.35	64.19	38.59	170	105
SawaiMadh opur	21.64	38.76	48.94	45.32	138	128	Pali	52.32	70.27	90.06	55.78	115	135

Sikar	47.53	22.93	39.44	32.83	122	102	Pratapgarh	72.37	15.08	18.61	21.85	114	108
Sirohi	67.03	19.43	25.93	26.89	119	123	Rajsamand	49.8	14.29	19.06	18.04	160	101
Sri Ganganagar	30.43	22.4	43.76	44.11	122	123	SawaiMadhopur	43.03	59.87	54.55	34.63	149	117
Tonk	3.04	25.14	60.5	68.16	125	140	Sikar	20.7	48.68	48.08	37.86	138	102
Udaipur	64.14	11.45	27.17	25.92	111	106	Sirohi	58.07	37.81	73.41	54.42	148	102
							Sri Ganganagar	67.95	47.64	46.61	37.98	142	126
							Tonk	31.54	42.45	58.32	51.48	143	154
							Udaipur	66.81	44.13	57.85	40.8	144	102
Rajasthan Total	45.22	16.81	28.04	29.1	117	121	Rajasthan Total	52.63	35.88	39.49	56.33	141	125

Source: Agricultural Statistics 1991-92 and 2010-11, Directorate of Economics and Statistics, Rajasthan

Table 5: Correlation Matrix of Agricultural Indicators, 1990-91

		X2	X3	X4	X5	X6	X7
Correlation	X2	1.000					
	X3	-.188	1.000				
	X4	-.150	.738	1.000			
	X5	-.235	.633	.970	1.000		
	X6	-.188	1.000	.738	.633	1.000	
	X7	-.134	-.505	-.568	-.488	-.504	1.000

Source: Calculated

Table 5.1: Correlation Matrix of Agricultural Indicators, 2010-11

		X2	X3	X4	X5	X6	X7
Correlation	X2	1.000					
	X3	-.074	1.000				
	X4	.051	.805	1.000			
	X5	.139	.527	.857	1.000		
	X6	-.065	.368	.421	.349	1.000	
	X7	.219	-.106	-.176	.030	-.578	1.000

Source: Calculated