

# State Budgetary Resources and Agricultural Development in Rajasthan

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SEPTEMBER - 2009

## **FOREWARD**

Agriculture plays an important role in Rajasthan economy. It contributes around 30 percent of the gross domestic product (GDP). About 70 percent of the State total population depends on agriculture and allied activities for their livelihood. Enhancing growth of the agriculture sector is vital for ensuring the food security, poverty eradication, price stability, overall growth and sustainability of growth of the overall economy. Though the plan outlay for agriculture in absolute term has been increasing continuously over the various budget in Rajasthan, a relative share of agricultural expenditure in budget is found to be decreasing. This shrinkage has significant effects on the development of agricultural sector. Besides, the fluctuations in expenditure in agriculture, investment in irrigation facilities, technology breakthrough, infrastructure development etc. are also factors affecting agricultural production in the state.

Above all, adequate and timely rainfall is the most important for agriculture in Rajasthan precisely because around 60 percent of its total area is desert or semi desert. It is worth noting that Rajasthan has achieved significant development in agricultural sector over the years.

The present study has been undertaken for Rajasthan to examine the budgetary allocation of the agriculture sector as a whole and its allocation among various sub sectors of the agricultural sector in the state and to document the agriculture scheme.

I am grateful to shri Ashish Bahuhguna, Principle Secretary, Department of Agriculture, Govt. of Rajasthan and Ms. Leena Bhatnagar, Director, Directorate of Economics and Statistics, Govt. of Rajasthan for providing excellent support and cooperation.

I am thankful to the entire staff of these departments, especially Shri Brijesh Sharma, Dy. Director (Agri. section), Shri Y N Malhotra, Dy. Secretary and Shri G. S. Mathur, OSD, Joint Director at Ministry of Agriculture for their overwhelming support at all the stages of data collection.

My special thanks to Prof. R. S. Deshpande, Director, Institute for Social and Economic Change, Bangalore for the guidance and support in preparing this report.

I am grateful to Dr. Mahesh Pathak, Honorary Advisor, for going through the draft and providing the useful suggestions.

Dr. (Mrs.) Rajeshree A. Dutta, who shouldered the overall responsibility of the entire project deserves the appreciation for bringing out this report. Ms. Kalpana Kapadia, R. A. has done tabulation and computer work of the project. Shri Pinal Patel has finalized computerization of the report.

It is hoped that the results presented in the report will be useful to policy makers, planners and researchers.

H. P. Trivedi  
(Hon. Director)

Date : 20<sup>th</sup> September, 2009.  
Vallabh Vidyanagar

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# **CHAPTER: 1**

## **INTRODUCAION**

### **1.1: Introduction**

Indian economy continues to be an agrarian economy since time immemorial. Rural India continues to sustain the nation, as nearly 75 per cent of Indian economy is still agriculture based. Around 73 per cent of nation's population is rural based and is engaged in agricultural and allied activities. This holds true for Rajasthan economy also, with about 70 per cent of the total population depending on agriculture and allied activities and around 30 per cent of the total state's income generated by it. In spite of the limited resources with the state government, over the five year plan periods, there is a continues increase in investment and outlays. The investment was Rs. 2.62 crores in the first five year plan which increased to Rs. 1013 crores in the 10<sup>th</sup> five year plan.

### **1.2: Profile of the state**

Rajasthan, with a geographical area of 3.42 lakh sq.km, is the largest state of the country, covering 10.4 per cent land mass and 10.6 percent of arable area of the country. It is situated in the north-western part of the country which is surrounded by the states of Punjab, Haryana and Uttar Pradesh in the north-east, Madhya Pradesh in the south east and Gujarat in the south-west. The state has long International border with Pakistan.

The topography of state is dominated by the Arravali range of hills, one of the oldest mountain systems in the world. The Arravali hills range runs from south-west to northeast through heart of the state. The region to the west and the north west of these hills comprising twelve districts and spread in 61.11 per cent of the total area of the state is either desert or semi desert and known as the Great Indian Desert, "Thar". Administratively, the state has been divided into 6 divisions and 32 districts which are further sub divided into 241 tehsils and 237 development block.

### **Agro-Climatic Zones<sup>1</sup>**

Rajasthan is spread over four of the agro-climatic zones delineated by the Planning Commission.

(1) Upper Gangtic plans: Ganganagar and Hanumangarh districts.

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<sup>1</sup> Rajasthan Development Report: Planning Commission, Govt. of India, New Delhi

- (2) Central plateau and Hill region: Ajmer, Alwar, Banswara, Baran, Bharatpur, Bhilwara, Bundi, Chittorgarh, Dungarpur, Dausa, Jaipur, Kota, Pali, Rajsamand, Sawai Madhopur, Karauli, Tonk. Sirohi and Udaipur.
- (3) Western Plateau and Hill Region – Jhalawar
- (4) Western Dry Region: Barmer, Bikaner, Churu, Jaisalmer, Jalore, Juhnjhunu, Jodhpur, Nagaur and Sikar.

### **Agro- Economic Zones of Rajasthan**

The Planning Commission has divided the country into four agro- economic zones on the basis of certain agro-economic characteristics like level of land productivity, incidence of rural poverty etc, these are as below.

**Zone I:** Area with relatively high level of productivity with either high levels of irrigations or high assured rainfall and low incidence of poverty – No district of Rajasthan falls under this zone.

**Zone II:** Area with relatively low productivity, high rainfall, low level of irrigation and high incidence of poverty – Chittorgarh and Jhalawar.

**Zone III:** Area with low productivity, low rainfall and high incidence of poverty – Ajmer, Alwar, Banswara, Bharatpur, Bhilwara, Bundi, Dholpur, Dungarpur, Sri Ganganagar, Jaipur, Jhalawar, Kota, Pali, Sawai Madhopur, Sirohi, Tonk and Udaipur.

**Zone IV:** Ecological fragile areas of the north Himalayan belt, north-eastern region and desert area of Rajasthan and Gujarat. This zone has lot of intra-zonal variation in the levels of productivity, poverty, and irrigation etc. The desert districts of Rajasthan, i.e., Barmer, Bikaner, Churu, Sikar, Jaisalmer, Jalore, Jodhpur, Nagaur, and Juhnjhunu are covered in this zone.

### **Demographic Characteristic**

According to the population census of 2001, the population of the state was 5.65 crores, constituting 5.5 percent of the nation's total population. The decennial growth rate in the decade 1999-2001 has been 28.41 per cent, which is slightly less than 28.44 per cent registered in the decade 1981-1991. In the case of main workforce, 71 per cent of the workforce in the state was employed in agriculture and allied activities. The proportion of female main workforce employed in agriculture was even higher at about 90 percent. The rural-urban population ratio in the state was around 77:23, nearly the same as was previously observed. As per census of 2001, the population of scheduled castes and scheduled tribes was 17.2 and 12.6 per cent respectively of the state's total population, as against the national average of 16.2 and 8.2 per cent.

Some of the important demographic characteristics of Rajasthan as per census 2001 are as under.

- A narrow decline in the growth of population is observed.
- Sex ratio of 921 females per 1000 males in Rajasthan is lower than of the all India ratio of 933.
- Though low in comparison to national average, there is a jump in literacy rate, which reached 61.03 per cent as compared to 38.55 per cent in 1991. The corresponding figure for India is 65.38 per cent. Female literacy in Rajasthan is 43.9 per cent, which is still lower as compared to all India female literacy rate of 53.7 per cent.
- The density of population in the state is 165 persons per square km., as against 324 persons per square km., for the country as a whole.

Availability of infrastructures like power, rail and road network, communication etc., is a pre-requisite for rapid economic development of any region. Power is an essential factor for all productive economic functions. Human settlement in the state is scattered. Low density of population, vast area and segmented pattern of human settlement are some of the constraints adversely affecting the development of the state's economy. Due to these constraints, initial investment for creating infrastructural facilities requires higher per unit expenditure for providing basic services and necessities. Still Rajasthan has made significant progress in recent years.

The per capita consumption of electricity (2004-05) in the state was 328 kwh which was lower than the national average of 411 kwh. Due to large investment made by the state in expanding road network, the road density per lakh population has risen to 318 kms which is about equal to the national average.

Mineral wealth is one of the most important natural resource of the state. Rajasthan contributes about 22 per cent of industrial mineral production in the country along with 15 per cent metallic, 25 per cent non metallic and 26 per cent minor category of minerals.

The state's economy has a significant dependence on agriculture. State Domestic Product is also largely dependent on agriculture production which is subject to wide fluctuations depending on the monsoon conditions. The Gross State Domestic Product (at current prices) of the state was Rs.575615 lakh in 1980-81 which increased to Rs.14203557 lakh in 2006-07. The per capita income during the same years were Rs.1619 and Rs.19512 in the state.

It is significant that agriculture continues to be a large contributor to the state's economy in terms of the State Domestic Product and the employment particularly in rural

areas. The share of agriculture sector in the state income in Rajasthan has been declining over the period 1970-71 to 2006-07. The share was 62 per cent in 1970-71 which fell to 52.26 per cent by 1980-81 and was 30 per cent in 2000-01 and 29.00 per cent in 2005-06.

### **1.3 Agriculture and Public Finance**

Agriculture in the state till today, to a great extent, depends upon the vagaries of monsoon. Even then certain major breakthroughs have taken place over the plan period. The plan outlay and expenditure for agriculture and allied activities of Rajasthan from first plan to eleventh plan is given in appendix 1.1.

In spite of the limited resource with the state Government, table 1.1 clearly shows that over the Five Year Plan periods, there is a continued increase in investment and outlays. The investment was Rs. 54.14 crores in the 1<sup>st</sup> Five Year Plan which increased to 33735 crores by 10<sup>th</sup> Five Year Plan as against a total plan outlay of Rs. 64.50 crores and Rs. 31832 corers in the 1<sup>st</sup> and 10<sup>th</sup> plan periods respectively.

The state budgetary allocation for agriculture and allied activities has increased in absolute term but in percentage terms, the share of agriculture and allied activities to total outlay fluctuated between 3.16 (11<sup>th</sup> Plan) and 10.15 (8<sup>th</sup> Plan) per cent. As such no definite trend is noticeable when all the plan periods are taken into account.

However, when one analyse the state's plan allocation in agriculture and allied activities vis-à-vis actual expenditure, it is observed that since the First Five Year Plan and right up to Tenth Five Year Plan, [except Annual Plan 1979-80 and 6<sup>th</sup> and 7<sup>th</sup> Plan] actual expenditure is always less than the amount sanctioned.

### **Gross State Domestic Product (GSDP):**

The Gross State Domestic Product is the total monetary value of all the goods produced and services rendered by an economy during a given year, before making any provision for consumption of fixed capital.

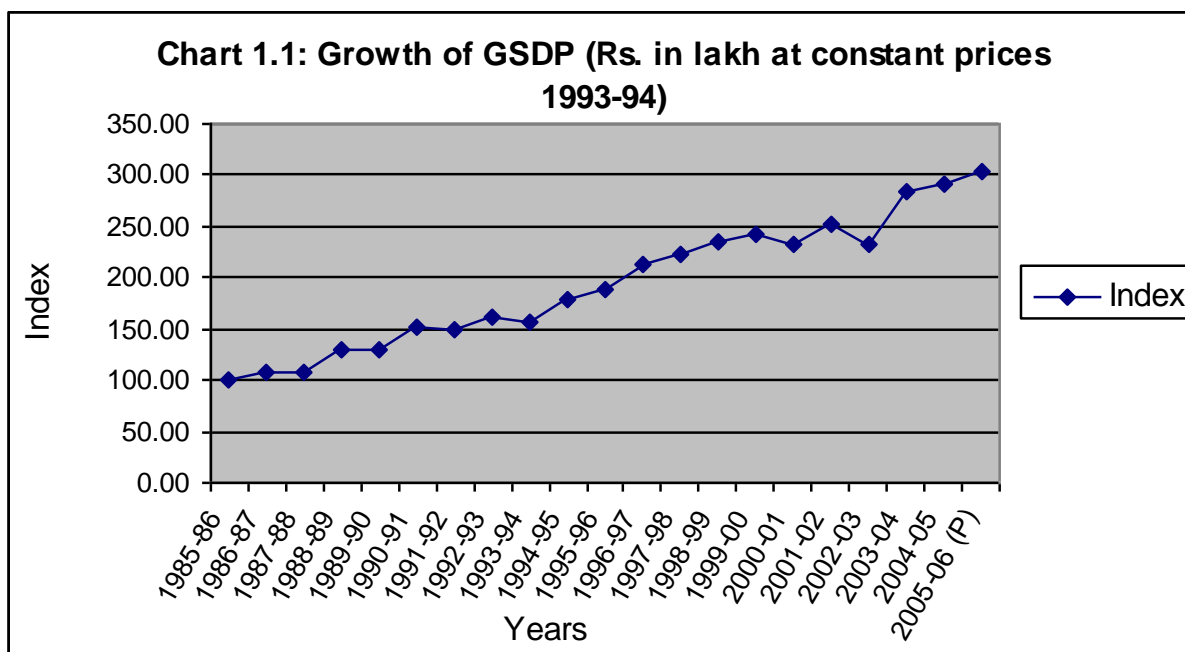
The Gross State Domestic Product (GSDP) of the state over the period 1985-86 to 2005-06 is indicated in table 1.1. The growth rates of GSDP calculated from table 1.1 show that GSDP growth at the rate of 7.33 percent in the pre-reform period (1985-86 to 1990-92) and it growth at the rate of 4.82 percent in the post reform period (1991-92 to 2005-06). The GSDP grew at the rate of 5.45 percent during the entire period of study.



Table 1.1: Growth of GSDP: Rajasthan (constant price base year 1993-94)

(Lakh Rs.)

Year	GSDP (constant price)
1985-86	2225276
1986-87	2381582
1987-88	2399361
1988-89	2892576
1989-90	2906165
1990-91	3402498
1991-92	3342725
1992-93	3600565
1993-94	3494791
1994-95	4000008
1995-96	4175186
1996-97	4720915
1997-98	4935357
1998-99	5228467
1999-00	5392419
2000-01	5191115
2001-02	5588970
2002-03	5178365
2003-04	6337675
2004-05	6458685
2005-06 (P)	6777065

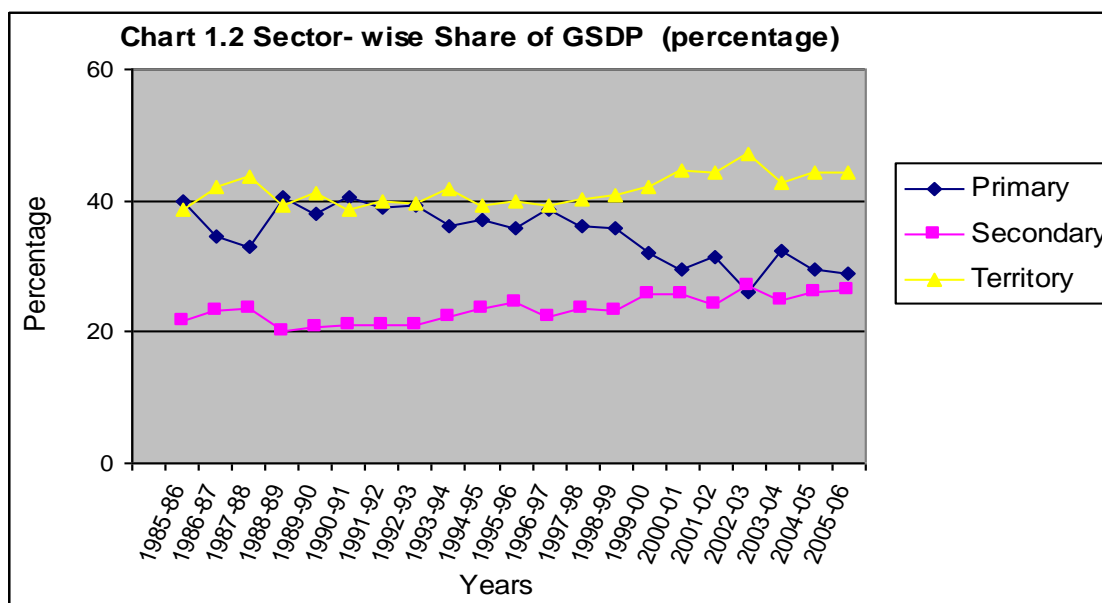


The GSDP at current prices for the year 1985-86 was Rs. 1081484 lakh which is estimated to have increase to Rs. 12422361 in 2005-06. The composition of Gross State Domestic Product by broad sectors of economy from the year 1985-86 onwards at current prices is depicted in the table 1.2.

Table: 1.2: Sector-wise Share of GDP (at current prices)

Year	Primary Sector		Secondary Sector		Tertiary Sector		GSDP [Rs. in Lakh]
	Rs. in lakh	Share in GDP (%)	Rs. in lakh	Share in GDP (%)	Rs. in lakh	Share in GDP (%)	
1985-86	430633	39.82	233483	21.59	417368	38.59	1081484
1986-87	427038	34.55	287713	23.28	521290	42.17	1236041
1987-88	449289	32.97	320310	23.50	593238	43.53	1362837
1988-89	722144	40.59	355684	19.99	701106	39.41	1778934
1989-90	736473	37.99	402366	20.76	799573	41.25	1938412
1990-91	1015895	40.51	526531	21.00	965215	38.49	2507641
1991-92	1091397	38.92	593647	21.17	1119502	39.92	2804546
1992-93	1289457	39.27	691033	21.04	1303224	39.69	3283715
1993-94	1261283	36.09	778129	22.27	1455379	41.64	3494791
1994-95	1620699	37.04	1032344	23.59	1722966	39.37	4376009
1995-96	1786562	35.87	1213387	24.36	1981048	39.77	4980997
1996-97	2339048	38.65	1342599	22.18	2370565	39.17	6052213
1997-98	2442442	36.20	1600084	23.72	2704107	40.08	6746633
1998-99	2761192	35.78	1793365	23.24	3162662	40.98	7717218
1999-00	2648130	32.01	2136794	25.83	3487047	42.15	8271971
2000-01	2440184	29.60	2131958	25.86	3671349	44.54	8243491
2001-02	2894430	31.54	2221051	24.20	4061607	44.26	9177088
2002-03	2303654	26.02	2379469	26.87	4171882	47.11	8855005
2003-04	3619851	32.43	2769458	24.81	4771335	42.75	11160645
2004-05	3419127	29.66	3010990	26.12	5098635	44.23	11528752
2005-06	3605643	29.03	3296920	26.54	5519798	44.43	12422361

Source: Economic Review – 2007-08 Directorate of Economics and Statistics, Govt. of Rajasthan, Jaipur.



This table clearly shows that over the years, the structure of the economy has shown definite indications for a change by a gradual shift from primary (includes agriculture and its allied activities, fisheries, forestry and crop husbandry) to other sectors.

#### **1.4: Brief Review of Agriculture Development of the State**

Even though rich in resources, state continues to be backward essentially because of very low rainfall and vast arid and semi-arid areas. Recurring draught and uneven rainfall have become regular features in the state. The normal rainfall in the state is 57.5 cm with wide variations in distribution. Of the 32 districts, 11 districts i.e., more than 57 per cent of the state's area is under arid or extreme-arid climate. Regarding soil type, more than 51 per cent of the area is under desert clay type. The rest of the area i.e., eastern and northeastern section of the state are having semi-arid type of climate and have varied degree of wetness. Thus, Rajasthan is almost equally divided between two broad zones, arid zone (comprising of 11 districts – north arid and west arid) and the rest, i.e. southern plains, eastern plains and southern plateau.

Increase the agricultural production has always been an important aim of the plans. During the 1<sup>st</sup> Five Year Plan, attempt to develop agriculture was through extensive area coverage under crops. In the 2<sup>nd</sup> Five Year Plan, it was towards balanced growth through the use of proper inputs. The concept of intensive Agricultural Development Programme (ADP) was introduced during the 3<sup>rd</sup> plan period. During this period, a package approach for selected areas and crops was adopted. During Annual Plans, (1966-69) and 4<sup>th</sup> Plan, beginning of the green revolution was observed with the introduction of high yielding varieties. During 5<sup>th</sup> Plan, integrated area approach was adopted where planning of various agriculture inputs was followed by on farm development and improved crop management practices through training and visit system. Input programming to minimize adverse atmospheric effect on agriculture production was further accelerated during 6<sup>th</sup> Plan. Besides, attempts were made to ensure that the new technology flows specially to the marginal and small farmers of the state.

During 7<sup>th</sup> Plan, it was envisaged to increase irrigation area and proper management of irrigation in existing areas. Land reclamation programme was undertaken on a large scale through National Watershed Development Programme and Ravine Reclamation Programme. Also priority was given for boosting the production of oilseeds and pulses through implementation of Oilseed Development and National Pulses Development Programmes.

During 8<sup>th</sup> and 9<sup>th</sup> Plans, comprehensive Agriculture Development Projects were formulated for development of agriculture and allied activities, viz., horticulture, agriculture marketing, dairy, sheep and wool, fisheries, groundwater exploitation etc. The programme also included production of non-traditional crops like soyabean, tumba, castor, safflower, sunflower, reclamation of problematic soils, water development, strengthening of state level training institute and agriculture information wing etc.

Keeping Government of India's National Policy on Agriculture and in response to WTO agreement, the 10<sup>th</sup> plan had emphasized on structural development for boosting agriculture economy of the state. The top most priority in development planning was given to agriculture and agriculture was declared as industry. The steps taken to develop agriculture were agro-climatic zone wise planning, Kisan Seva Kendra, a coordinated approach for development of agro horticulture, cropping system, modernizing agricultural research etc.

The 11<sup>th</sup> Plan of the state proposed the agricultural growth through judicious use of water, growing high yielding but less water dependent crops, strengthening extension, technology transfer and diversification into horticulture along with post harvest management and marketing linkages for agro processing.

### **1.5: Agricultural Productivity Growth and Stagnation across Crops.**

#### **Area, Production and Productivity of Different Crops: Rajasthan**

With limited availability of water, agriculture in Rajasthan is largely rainfed. Nearly 30 per cent of agricultural area is under irrigation. Prospects of agriculture in the state largely depend on timely arrival of monsoon. In kharif crops, production and productivity not only depend upon the quantum of rainfall but also on, proper and even distribution of rain over an adequate time span and its intensity. Table 1.3 and 1.3(A) give production and productivity of different crops in Rajasthan respectively. Growth in area is given in appendix 1.2.

Despite the natural constraints, the foodgrain production of the state could witness increase in production from 81.29 lakh tonnes in 1985-86 to 108.23 lakh tonnes in 2005-06, i.e., increased by 33 per cent. The production of cereals increased from 63.64 lakh tones to 99.23 lakh tonnes while production of pulses declined from 17.67 lakh tonnes to 9.00 lakh tonnes during the same period.

However, year to year wide fluctuations were reported in the production of foodgrain, as it was as high as 180.09 lakh tonnes in 2003-04 and as low as 47.82 lakh tonnes in 1987-88. Even with low level of agricultural infrastructures, Rajasthan was able to respond to the national priorities and its oilseed production grew from 9.11lakh tonnes in 1985-86 to 59.34lakh tonnes in 2005-06.

Table: 1.3 Growth in Production, crop-wise: Rajasthan

(Lakh metric tonnes)

Year	Rice	Jowar	Bajra	Maize	Wheat	Barley	Small Millets	Total Cereals	Gram	Tur	Other Kharif Pulses	Total Pulses	Total Food-grains	Sesamum	Soya-bean	Rape-seed & Mustard	Total Oil-seeds	Cotton	Fodder Crops
1985-86	1.19	3.75	7.31	6.43	39.17	5.75	0.01	63.64	16.23	0.05	0.94	17.67	81.29	0.27	0.31	5.95	9.11	0.81	18.03
1986-87	1.29	2.38	10.15	6.47	34.01	4.10	0.01	58.44	8.23	0.03	0.85	9.46	67.92	0.06	0.39	6.55	8.83	1.18	1.31
1987-88	0.47	2.16	4.63	3.02	29.09	3.68	0.01	43.07	4.11	0.01	0.40	4.75	47.82	0.09	0.62	9.32	12.56	0.37	0.28
1988-89	1.86	5.39	26.95	12.21	39.65	4.13	0.15	90.34	9.68	0.26	6.04	16.22	106.56	0.62	1.23	13.49	19.17	1.02	5.74
1989-90	1.51	3.27	18.29	13.15	34.00	3.40	0.12	73.78	7.11	0.17	3.91	11.55	85.32	1.26	1.35	12.78	18.45	1.68	4.44
1990-91	1.42	5.18	24.92	13.03	43.08	4.38	0.12	92.15	10.10	0.25	6.29	17.18	109.34	1.89	1.61	16.70	23.55	1.56	9.46
1991-92	1.19	1.57	10.72	7.68	44.79	4.68	0.02	70.65	6.79	0.05	1.97	9.16	79.82	1.17	1.30	21.31	27.10	1.43	2.04
1992-93	1.75	4.11	28.94	10.09	51.47	3.76	0.08	100.21	7.94	0.10	6.12	14.57	114.80	1.03	3.33	17.19	25.41	1.73	5.84
1993-94	1.43	1.61	10.47	9.24	34.59	2.46	0.01	59.84	7.47	0.06	2.71	10.72	70.54	0.53	3.70	16.52	24.05	1.42	2.88
1994-95	1.74	2.74	25.69	6.75	56.12	4.36	0.05	97.44	13.72	0.12	5.33	19.66	117.10	0.93	4.42	20.15	28.34	1.48	7.08
1995-96	1.17	1.39	11.56	8.11	54.94	3.90	0.03	81.11	10.91	0.08	3.13	14.55	95.68	0.34	4.01	23.69	30.70	2.27	2.75
1996-97	1.75	2.91	23.15	10.28	67.83	3.78	0.07	109.77	10.72	0.24	6.75	18.44	128.21	0.88	4.53	26.22	35.29	2.31	7.39
1997-98	1.91	2.68	25.09	12.22	67.01	5.02	0.10	114.03	19.24	0.35	5.99	26.32	140.36	0.52	6.30	20.40	33.00	1.47	7.33
1998-99	2.05	1.53	18.00	10.22	68.80	4.26	0.02	104.91	20.74	0.33	2.40	24.44	129.34	0.17	8.95	22.33	38.15	1.48	3.19
1999-00	2.52	1.74	13.00	9.69	67.31	3.66	0.00	97.94	6.78	0.15	1.17	8.93	106.86	0.15	6.01	24.59	34.05	1.68	2.31
2000-01	1.55	1.34	20.46	10.15	55.47	4.08	0.00	93.08	3.97	0.09	2.74	7.31	100.40	0.31	4.55	13.02	20.32	1.36	4.82
2001-02	1.81	2.54	38.02	14.78	63.90	4.46	0.06	125.56	7.35	0.13	6.32	14.26	139.84	1.03	7.15	19.08	31.26	0.47	7.64
2002-03	0.68	0.69	7.17	8.71	48.79	4.47	0.01	70.50	3.40	0.03	1.09	4.85	75.35	0.11	2.36	11.79	17.54	0.42	NA
2003-04	1.65	5.27	66.70	20.70	58.76	4.08	0.11	157.27	7.07	0.15	14.96	22.82	180.09	1.41	6.92	26.95	39.97	1.20	NA
2004-05	1.50	2.66	30.02	12.62	57.06	4.17	0.08	108.12	7.73	0.12	4.87	13.37	121.49	1.48	8.87	38.57	55.41	1.29	NA
2005-06	1.53	1.70	21.69	11.03	58.66	4.57	0.05	99.23	4.79	0.13	3.45	9.09	108.23	0.63	8.56	43.86	59.34	1.49	NA

Source: Agricultural Statistics of Rajasthan, Dir. Of Economics &amp; Statistics, Rajasthan, Jaipur. 1973-74 to 2001-02.

Agricultural Statistics of Rajasthan, Dir. Of Economics &amp; Statistics, Rajasthan, Yojana Bhavan, Jaipur. 2002-03 &amp;

2005-06. Vital Agriculture Statistics, Dir. Of agriculture, Rajasthan, Jaipur 2004-05 (statistics cell)

Note: NA – Not Available

Note: Other Kharif Pulses includes Moth, Moong.

Table: 1.3(A). Growth in Productivity, Crop-Wise: Rajasthan

(Kg/hect.)

Year	Rice	Jowar	Bajra	Maize	Wheat	Barley	Small Millets	Total Cereals	Gram	Tur	Other Kharif Pluses	Total Pulses	Total Food-grains	Sesamum	Soya-bean	Rape-seed & Mustard	Total Oil-seeds	Cotton	Fodder Crops
1985-86	908	381	153	659	2208	1764	29	708	837	217	50	454	631	52	738	736	470	243	703
1986-87	884	237	192	664	1845	1449	29	610	583	188	49	295	531	18	750	885	589	323	51
1987-88	490	220	130	377	1898	1559	36	594	600	100	37	264	528	42	738	853	645	108	19
1988-89	1431	510	472	1367	2240	1721	333	918	755	867	377	553	834	193	1160	985	842	340	194
1989-90	1280	396	371	1394	2061	1589	353	846	622	567	225	393	732	287	799	872	730	387	158
1990-91	1183	557	513	1324	2375	1872	364	1027	611	676	322	466	864	324	1118	871	765	344	350
1991-92	850	222	233	809	2516	1850	67	835	661	227	113	324	707	169	756	959	761	301	89
1992-93	1241	530	579	1058	2288	1547	296	1066	548	500	317	424	894	228	1257	774	757	363	202
1993-94	1021	244	240	1004	1718	1382	42	721	612	316	132	322	607	101	1072	739	666	274	105
1994-95	1094	404	516	728	2418	1847	227	1045	865	522	273	546	906	228	1097	887	812	305	243
1995-96	842	234	271	890	2501	1980	158	974	673	381	165	407	804	103	937	880	799	375	101
1996-97	1190	468	492	1109	2741	2000	368	1207	706	750	315	490	998	210	972	1002	909	353	289
1997-98	1165	477	533	1260	2500	1909	556	1219	869	778	290	601	1022	193	1263	725	746	228	267
1998-99	1213	286	430	1080	2486	1981	125	1188	737	1320	139	526	960	70	1314	963	886	230	140
1999-00	1260	314	330	1039	2540	2022	0	1155	695	600	83	360	975	71	1219	985	937	288	66
2000-01	928	199	441	1046	2402	1813	0	1034	590	360	167	308	883	134	690	928	768	267	121
2001-02	1257	414	741	1453	2793	2563	333	1338	758	565	271	425	1097	326	1092	1083	1007	92	226
2002-03	810	130	223	885	2711	2328	59	1033	757	188	83	269	873	58	500	989	717	109	0
2003-04	1650	714	1136	1865	2794	2242	611	1554	633	789	558	591	1288	453	1401	1306	1238	350	0
2004-05	1485	464	658	1212	2839	2369	500	1274	747	750	197	374	1008	332	1428	1173	1079	295	0
2005-06	1430	287	434	1099	2763	2274	313	1098	443	650	147	260	864	149	1151	1233	1123	316	0

### **Growth Rates of Area, Production and Productivity of Crops.**

Growth rates of area, production and productivity of crops during pre reform and reform period and during overall study period is highlighted appendices 1.3, 1.4 and 1.5.

Foodgrain production during the entire period observed average growth of 1.37 percent annually, contributed mostly by growth in crop productivity as growth rate of area of foodgrain was negative 0.13 percent, while productivity increased at the average rate of 1.51 percent annually during study period.

Among the foodgrain, bajra and wheat reported increase in production at the growth rate of 5.32 percent and 1.94 percent respectively. Bajra production increased mainly due to increase in its yield as its annual growth rate was 5.08 percent during the entire period and that of area was only 0.22 percent. However, for wheat production, both average growth of 0.86 percent in area and 1.07 percent growth in productivity, were responsible for growth in wheat production. Other crops showing high growth during the reference period include oilseeds. The growth in oilseed production (9.33%) was contributed mainly by rapeseed and mustard (9.98%) and soyabean (17.12%). Rapeseed and Mustard is the major oilseed crop in Rajasthan. The overall, growth in production of oilseed was due to increase in area at the rate of 4.90 percent and 4.23 percent in productivity. In rapeseed and mustard production, main contribution was from increase in area (7.31%) rather than productivity (2.48%).

Another interesting growth was observed in the case of pulses. Gram, the main rabi pulse reported decline in its production at the rate of 5.65 percent annually attributed to negative growth rate in area (2.74%) and productivity (-2.99%). On the other side, other kharif pulses (mainly moth and moong) observed increase in average annual production at the rate of 6.39 percent, with increase in area at the growth rate of 1.05 percent and productivity at 5.27 percent during entire period of study. However, growth rates of production, area and productivity of total pulses were negative at 3.12, 0.52 and 2.61 respectively.

### **Growth rate during the pre and post reform period.**

When the entire period is divided into two sub periods, pre-reform (1985-86 to 1990-91) and reform into (1991-92 to 2005-06), the growth is uneven\* However, due to difference in the number years during the both periods, growth rates are not exactly comparable. The average annual growth rate of production of the total foodgrain was higher in pre reform period (5.06%) as compared to reform period (2.05%). Among the major foodgrains bajra

and other kharif crops reported significant higher growth in production in pre reform period. While wheat observed slightly higher growth rate (1.81%) during reform than pre-reform period (1.60%). The sole contributor for increase in foodgrain production during pre-reform is increase in yield as growth rate of area was negative for foodgrain and productivity increased at the rate of 5.38 percent annually. Similarly, main crop bajra reported very high growth rate of production (22.68%) during pre-reform period due to similar growth rate of productivity (22.22%). Increase in area and production both contributed to growth rate of production of wheat. In fact, growth rate of area of wheat was higher in post reform period than pre-reform period. Growth rates of certain crops were like small millets, tur, other kharif pulses were abruptly high during pre reform period, due to exceptional changes in production in between the years.

Regarding oilseeds, growth rate of production was quite high for total oilseeds, rapeseed and mustard, soyabean and sesamum during the pre-reform than the reform period. Growth rate of area has contributed more to production than the growth rate of productivity in this period. Growth rate of production during reform period was both due to increase in area and productivity. However, it was significantly low as compared to pre-reform period. Besides, fruit and vegetables and condiments and spices, also reported healthy growth rate of production over the reference period.

### **Land Use Pattern**

Table 1.4 and appendix 1.6 show changes in the land utilization pattern from 1985-86 to 2005-06. In 1985-86, 45.46 percent of the state's reporting area was utilized for crop production. This increased to 49.13 percent in 2005-06. The gross cropped area showed an increase of 10 percent, which was mainly due to increase in irrigated area. Land put under permanent pastures and grazing remained almost constant during these periods. Cultivable wasteland decreased from 17.49 percent in 1985-86 to 13.40 percent in 2005-06. The area under forest increased from 6.50 percent to 7.81 percent in the same period. <sup>2</sup>However, these data do not provide a realistic picture of the forest cover in Rajasthan as only 11.22 percent of the forest area is dense forest while 59 percent area is under scrubs.

The area under non-agricultural use has increased by around one percent. i. e. from 4.44 to 5.32 percent during this period.

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<sup>2</sup> Planning Commission, Govt. of India.



Table : 1.4 Land Use Statistics

(Area in Hectors)

Year	Total Reported Area	Forest	Area put to Non-Agricultural uses	Barren & Un-Cultivable land	Permanent Pastures and other Grazing Land	Land under Misc.-Tree Crops & Grooves	Cultivable Waste Land	Fallow Land Other than Current Fallow	Current Fellows	Net Area Sown	Area Sown More than once	Total Cropped Area
	1	2	3	4	5	6	7	8	9	10	11	12
1985-86	34236692	2227703	1521012	2816489	1840275	34208	5988033	2228430	2016922	15563620	2573784	18137404
1986-87	34234610	2247761	1658023	2800470	1824312	26100	5754341	2237935	2256426	15429242	2211075	17640317
1987-88	34239690	2272719	1603638	2868150	1817197	32207	5985525	3006378	5139711	11514165	1794056	13308221
1988-89	34248223	2307453	1656754	2801863	1799932	26453	5717622	2287968	1526910	16123268	2715616	18838884
1989-90	34247653	2324233	1624295	2818696	1801637	22563	5628369	2081662	2340452	15605747	2297233	17902980
1990-91	34252928	2353360	1490426	2789595	1912231	22388	5566430	1927329	1814123	16377046	3002482	19379528
1991-92	34253191	2369537	1638357	2754348	1787294	19739	5561093	2174940	2458369	15489514	2603878	18093392
1992-93	34252367	2394185	1647792	2727798	1770769	17714	5351712	1864644	1539220	16938533	3228811	20167344
1993-94	34243866	2425693	1661234	2684699	1763235	15995	5282164	1984510	2194349	16231987	3022604	19254591
1994-95	34243079	2450425	1667402	2669620	1751087	16540	5165220	1831709	1669579	17021497	3358999	20380496
1995-96	34242613	2458185	1679839	2656683	1745412	15613	5103484	1972249	2035797	16575351	3097562	19672913
1996-97	34238483	2476196	1685635	2647200	1735052	14293	5043659	2020285	1826492	16789671	3903652	20693323
1997-98	34263978	2528742	1698747	2621915	1722762	14918	5017107	1988225	1596991	17074571	5250480	22325051
1998-99	34264557	2556810	1705263	2602961	1717583	14468	5069255	2287265	2237535	16073417	5327619	21401036
1999-00	34257862	2580120	1725219	2579999	1714301	13768	4987454	2510583	2637045	15509373	3776641	19286014
2000-01	34264789	2606093	1739591	2566054	1707169	13646	4907822	2444364	2415102	15864948	3365292	19230240
2001-02	34265309	2645097	1751549	2520654	1698554	13180	4730528	2321424	1819241	16765082	4033229	20798311
2002-03	34266378	2651014	1764582	2514371	1703277	12417	4866381	3259114	6688117	10807105	2410433	13217538
2003-04	34266151	2660600	1760266	2498843	1708122	14179	4546805	2407464	1275439	17394433	4269606	21664039
2004-05*	34266	2661	1776	2491	1709	14	4603	2162	2302	16459	4514	21062
2005-06	34266090	2674961	1823361	2438899	1707694	20919	4590102	2264007	1909659	16836488	4862860	21699348

Source: Agricultural Statistics of Rajasthan, Directorate of Economics & Statistics, Jaipur, Rajasthan 1973-74 to 2001-02.

Agricultural Statistics of Rajasthan, Directorate of Economics & Statistics, Yojana Bhavan, Jaipur, 2002-03, 2003-04, 2005-06.

Note: \* 2004-05 is Thousand Hectors data

## **Cropping Pattern**

Cropping pattern of Rajasthan is given in Table 1.5.

Bajra is the single largest crop in terms of area in the state. More than 20 per cent of GCA of the state is covered under this crop. Wheat is the most important rabi crop grown in the state. The GCA under wheat varied between 9 to 14 per cent during the study period.

Jowar and maize each covers 5 to 7 per cent of GCA. Gram is another an important rabi crop. However, area under this crop has declined over the years from 10.70 per cent of GCA in 1985-86 to 4.98 percent in 2005-06. Among the oilseeds, rapeseed and mustard is the most important crop in Rajasthan, recording a phenomenal rise in acreage. It covered 16.39 per cent of GCA in 2005-06 which was only 4.45 percent in 1985-86.

The cropping pattern has changed over the years in Rajasthan as a result of development of irrigation, potential production technology, market prices etc. Still agriculture depends largely on monsoon as wide fluctuations are reflected in area, production and yield over the years.

The share of bajra, jowar and maize in GCA has declined. it has remained constant or increased for wheat crop. The area under gram has declined significantly. The most important emerging crop has been rapeseed and mustard.

The change in cropping pattern indicates that rainfall continues to play a major role in determining the pattern of land allocation.

Table 1.5: Percentage Change in the Cropping Pattern: Rajasthan

(Area as a percent to GCA)

Year	Rice	Jowar	Bajra	Maize	Wheat	Barley	Small Millets	Total Cereals	Gram	Tur	Other Kharif Pluses	Total Pulses	Total Food-grains	Ses-amum	Soya-bean	Rape-seed & Mustard	Total Oil-seeds	Cotton	Fodder Crops	GCA
1985-86	0.72	5.43	26.29	5.38	9.78	1.80	0.19	49.58	10.70	0.13	10.37	21.45	71.03	2.86	0.23	4.45	10.68	1.84	14.15	97.70
1986-87	0.83	5.70	29.96	5.53	10.45	1.60	0.19	54.27	8.00	0.09	9.93	18.17	72.45	1.93	0.29	4.20	8.50	2.07	14.67	97.69
1987-88	0.72	7.38	26.84	6.03	11.52	1.77	0.21	54.46	5.15	0.08	8.18	13.54	68.00	1.59	0.63	8.21	14.64	2.58	10.81	96.02
1988-89	0.69	5.61	30.31	4.74	9.40	1.27	0.24	52.25	6.81	0.16	8.50	15.58	67.84	1.71	0.56	7.27	12.09	1.59	15.70	97.22
1989-90	0.66	4.61	27.52	5.27	9.22	1.20	0.19	48.69	6.38	0.17	9.69	16.42	65.11	2.45	0.94	8.18	14.11	2.42	15.67	97.31
1990-91	0.62	4.80	25.05	5.08	9.78	1.21	0.17	46.30	8.52	0.19	10.08	19.00	65.29	3.01	0.74	9.90	15.89	2.34	13.96	97.49
1991-92	0.77	3.91	25.41	5.25	9.84	1.40	0.17	46.74	5.68	0.12	9.64	15.64	62.39	3.82	0.95	12.29	19.69	2.63	12.61	97.32
1992-93	0.70	3.85	24.80	4.73	11.16	1.20	0.13	46.60	7.18	0.10	9.56	17.06	63.65	2.24	1.31	11.01	16.65	2.37	14.34	97.01
1993-94	0.73	3.43	22.67	4.78	10.45	0.92	0.12	43.11	6.34	0.10	10.63	17.28	60.40	2.72	1.79	11.61	18.76	2.69	14.29	96.15
1994-95	0.78	3.33	24.43	4.55	11.39	1.16	0.11	45.75	7.79	0.11	9.58	17.67	63.42	2.00	1.98	11.15	17.13	2.38	14.27	97.21
1995-96	0.71	3.02	21.72	4.63	11.17	1.00	0.10	42.33	8.24	0.11	9.62	18.17	60.50	1.67	2.18	13.68	19.54	3.08	13.84	96.96
1996-97	0.71	3.01	22.76	4.48	11.96	0.91	0.09	43.93	7.34	0.15	10.37	18.18	62.10	2.03	2.25	12.64	18.77	3.16	12.35	96.38
1997-98	0.73	2.52	21.07	4.34	12.00	1.18	0.08	41.92	9.91	0.20	9.24	19.63	61.54	1.20	2.24	12.60	19.80	2.88	12.30	96.52
1998-99	0.79	2.50	19.55	4.42	12.93	1.00	0.07	41.26	13.15	0.12	8.06	21.70	62.97	1.13	3.18	10.84	20.12	3.01	10.62	96.71
1999-00	1.04	2.88	20.46	4.84	13.74	0.94	0.07	43.97	5.06	0.13	7.35	12.85	56.82	1.10	2.56	12.94	18.85	3.03	18.10	96.80
2000-01	0.87	3.50	24.11	5.04	12.01	1.17	0.08	46.79	3.50	0.13	8.53	12.35	59.14	1.20	3.43	7.30	13.76	2.65	20.71	96.26
2001-02	0.71	2.95	24.66	4.89	11.00	0.84	0.09	45.13	4.66	0.11	11.19	16.14	61.27	1.52	3.15	8.47	14.93	2.45	16.29	94.94
2002-03	0.64	4.02	24.32	7.44	13.62	1.45	0.13	51.63	3.40	0.12	9.97	13.63	65.27	1.44	3.57	9.02	18.52	2.92	7.05	90.84
2003-04	0.46	3.41	27.09	5.12	9.71	0.84	0.08	46.71	5.16	0.09	12.37	17.83	64.54	1.44	2.28	9.52	14.89	1.58	14.89	95.91
2004-05	0.47	2.69	21.41	4.88	9.43	0.83	0.08	39.79	4.85	0.08	11.58	16.75	56.54	2.09	2.91	15.42	24.08	2.05	NA	82.66
2005-06	0.49	2.73	23.00	4.62	9.78	0.93	0.07	41.64	4.98	0.09	10.80	16.08	57.72	1.94	3.43	16.39	24.34	2.18	12.76	97.00

Source: Agricultural Statistics of Rajasthan, Directorate of Economics &amp; Statistics, Rajasthan, Jaipur, 1973-74 to 2001-02.

Agricultural Statistics of Rajasthan, Directorate of Economics &amp; Statistics, Rajasthan, Yojanabhawan, Jaipur, 2002-03 &amp; 2005-06.

Vital Agriculture Statistics, Directorate of Agriculture, Rajasthan, Jaipur 2004-05 (Statistics Cell)

Source: GCA-CMIE (Centre for Monitoring Indian Economy Pvt. Ltd.), Mumbai. (1987-88 to 2003-04) Note; NA – Not Available.

### **Factors effecting to areas under crop**

Agriculture, the principal sector of the economy depends largely on the vagaries of nature, which affects the cultivation of crops greatly. Besides nature, the factors affect the area under different crops are government price policy, trade policy etc.

### **Price policy**

Wheat, gram and mustard are competing rabi crops in the state. Mustard and gram required lower water, hence they do not compete with wheat unless price ratio is favorable to wheat. This is what happened during the nineties. The favorable price ratio of wheat attracted large area under wheat at the expense of other crops.

However, after 2003, area under mustard cultivation has increased due to increase in MSP by state government. Production of total oilseeds increased significantly during 2003-04 to 2005-06.

Among the kharif crops, bajra and kharif pulses are cultivated in an identical agro – climatic conditions and area largely unirrigated. <sup>3</sup>A comparison of relative productivity and relative prices shows that during last 20 years and especially last 10 years, prices of pulses are increasing while its productivity is declining or fluctuating (except some exceptional years).

### **Trade policy**

Farmers in the state appear to have suffered the first shock of liberalized import policies when the country's import of edible oils started growing rapidly. This was because of removal of quantitative restrictions and reduction of customs duties and decrease in international prices of oils. This resulted in decline in price of oils at the state level. Oilseeds production declined during 1997-98 to 2002-03. However, a part of this decline is contributed by land use pattern drought.

### **Compound growth Rates of GSDP and Agriculture:**

Table below gives the compound growth rates of GSDP and of Agriculture and Allied Activities during 1985-86 to 1990-91(pre reform period) and 1991-92 to 2005-06 (reform period).

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<sup>3</sup>Vyas v.s, Acharya s, singh s, sagar v, "Rajasthan, the guest for Sustainable Development" page no-225,226.

Table 1.6: Compound Growth Rates of GSDP by Sector of Origin at constant price

Sr. No.	Particulars	Per reform Period (1985-86 to 1990-91)	Reform Period (1991-92 to 2005-06)	Total (1985-86 to 2005-06)
1	Agriculture and Allied Activities	7.64	2.80	3.87
2	Crop Husbandry (including A.H)	7.02	2.51	3.45
3	Forestry	30.04	2.96	10.22
4	Fisheries	-11.78	6.03	1.84
5	GSDP	7.33	4.82	5.45
6	Primary Sector	7.64	2.80	3.87
7	Secondary Sector	6.84	6.42	6.49
8	Territory Sector	7.29	5.58	6.16

The growth rate of GSDP and agriculture and allied activities was around 7 percent during pre-reform period. Growth rate of crop husbandry (including A.H) was 7.02 percent, it was quite high for forestry, i.e., 30.04 per cent and negative for fisheries.

However, during reform period, the growth rate of GSDP was high (4.82%) than the growth rate of agricultural and allied activities (2.80%) and crop husbandry (2.5%). Fisheries growth rate was positive at 6.03 per cent during this period. However, forestry showed lower growth rate as compared to pre-reform period

<sup>4</sup>Water bodies are being developed by stocking of quality fish seed and conservation of fish stock. These are leased out for fish production to earn revenue for the state. The prime objective of fisheries development in the state is to increase fish production and there by to raise nutrition standard of population, generate employment opportunities and additional source of income in rural areas. Growth rates of secondary and territory sector were also higher during pre-reform period compared to reform period, but this difference was significant for agriculture and allied activities.

The appendix 1.7 indicates that contribution of agriculture and allied activities in GSDP has generally declined over the years with fluctuations in between the years.

### 1.6: Objectives

Agriculture comes under the state's list as per the constitution of India. The resources for agricultural development are allocated by the state in addition to the plan resources given from the central pool. Agriculture plays an important role in the state's economy but over the years in some of the states budget resource allocation to agriculture sector had declined. This shrinkage has a telling effect on agricultural growth and development of

<sup>4</sup> Economic Review 2007-08, Directorate of Economics and Statistics, Govt. of Rajasthan.

resources in the sector. Beside the allocation of resources from the central pool may cause differential impact across the states and this may lead to imbalance in growth.

In order to analyses the allocation of budgetary resources as well as the balance between central and the state schemes in Rajasthan, Directorate of Economics and Statistics, Ministry of Agriculture, Government of India entrusted this project to Agro-Economic Research Center, Vallabh Vidyanagar with the following objectives:

- To analyses the trends in budgetary allocation of resources to the agricultural sector as a whole and the sub sectors of agriculture.
- To document and analysis schemes under operation in state contributing to the development of the agricultural sector.
- To enlist and analyses the impact of central sector schemes operating in the agricultural sector of the states.

### **1.7: Methodology**

This study is based purely on secondary data collected from the offices of the Directorate of Economics and Statistics and State Department of Agriculture, Government of Rajasthan, Jaipur. Time series data from 1985-86 to 2005-06 are used for analysis. Time period from 1985-86 to 1990-91 is taken as pre reform period and from 1991-92 to 2005-06 as reform period. Trends of expenditure on agriculture and expenditure on agriculture as percentage of GSDP have been studied at constant prices of 1993-94, using the GDP Deflator Method. CMIE Data have been used for the calculation of per hectare expenditure on agriculture and sub sectors.

#### **Compound growth rate:**

Two point of time technique is used for calculating the compound growth rate of different aspects in the study.

Two point of time: the compound growth rate is estimated by using formula of two point estimating.

$$Y^t = Y^0 (1+r)^t$$

$$Y^t = t^{\text{th}} \text{ year,}$$

$$Y^0 = \text{base year,}$$

t = Total number of year and

r = Compound growth rate

### **1.8: Organization of the Study**

The study is organized into five sections as follows.

Chapter-1: Introduction

Chapter-2: Trends and pattern of budgetary expenditure on agriculture.

Chapter-3: Agricultural Development Schemes.

Chapter-4: Nexus between State Intervention and Agricultural Development.

Chapter-5: Summary and Conclusion.

Appendix: 1.1: Five Year Plans Outlay and Expenditure on Agriculture and Allied Activities  
(Rs. In Crore)

Plan	Year	Total Plan		Agriculture & Allied Activities		Outlay in Agr. & Allied Services as % of total	Exp. In Agr. & Allied Services as % of total
		Outlay	Expenditure	Outlay	Expenditure		
1st Plan	1951-56	64.50	54.14	3.24	2.62	5.02	4.84
2nd Plan	1956-61	105.27	102.74	6.70	6.32	6.36	6.15
3rd Plan	1961-66	236.00	212.70	16.30	12.40	6.91	5.83
Annual Plan	1966-69	132.72	136.75	11.01	10.02	8.30	7.33
4th Plan	1969-74	306.21	308.79	10.95	10.28	3.58	3.33
5th Plan	1974-79	847.16	857.62	32.83	31.44	3.88	3.67
Annual Plan	1979-80	275.00	290.19	12.67	15.60	4.61	5.38
6th Plan	1980-85	2025.00	2130.69	82.33	96.55	4.07	4.55
7th Plan	1985-90	3000.00	3106.180	159.24	161.90	5.31	5.21
Annual Plan	1990-92	2122.00	2154.00	152.13	148.01	7.17	6.87
8th Plan	1992-97	11500.00	11998.97	1166.92	997.57	10.15	8.31
9th Plan	1997-02	27650.00	19836.38	1173.08	1055.33	5.58	5.32
10th Plan	2002-07	31832.00	33735.00	1934.00	1013.00	6.08	3.00
11th Plan*	2007-12	71732.00	–	2269.00	–	3.16	–

Source: Dr.Dilip Bagchi "Review of State Agriculture Policy in Rajasthan" Agro-Economic Research Center, Sardar Patel University, Vallabh Vidyanagar, Gujarat.2006 (upto tenth five year plan)

\*11<sup>th</sup> Plan: Economic Review 2007-08, Directorate & Economics and Statistics, Govt.of Rajasthan, Jaipur.



Appendix: 1.2. Crop-wise Area: Rajasthan

(Lakh hectares)

Year	Rice	Jowar	Bajra	Maize	Wheat	Barley	Small Millets	Total Cereals	Gram	Tur	Other Kharif Pulses	Total Pulses	Total Food-grains	Sesamum	Soya-bean	Rape-seed & Mustard	Total Oil-seeds	Cotton	Fodder Crops	GCA (lakh ha)
1985-86	1.31	9.84	47.69	9.75	17.74	3.26	0.34	89.93	19.40	0.23	18.81	38.91	128.83	5.19	0.42	8.08	19.37	3.33	25.66	181.37
1986-87	1.46	10.06	52.85	9.75	18.43	2.83	0.34	95.73	14.11	0.16	17.51	32.06	127.80	3.41	0.52	7.40	15.00	3.65	25.88	176.40
1987-88	0.96	9.82	35.72	8.02	15.33	2.36	0.28	72.48	6.85	0.10	10.89	18.02	90.50	2.12	0.84	10.92	19.48	3.43	14.38	133.08
1988-89	1.30	10.56	57.10	8.93	17.70	2.40	0.45	98.44	12.82	0.30	16.01	29.35	127.81	3.22	1.06	13.69	22.78	3.00	29.57	188.39
1989-90	1.18	8.26	49.27	9.43	16.50	2.14	0.34	87.17	11.43	0.30	17.35	29.39	116.56	4.39	1.69	14.65	25.26	4.34	28.05	179.03
1990-91	1.20	9.30	48.54	9.84	18.14	2.34	0.33	89.72	16.52	0.37	19.53	36.83	126.54	5.83	1.44	19.18	30.80	4.54	27.06	193.80
1991-92	1.40	7.07	45.98	9.49	17.80	2.53	0.30	84.57	10.28	0.22	17.44	28.30	112.89	6.92	1.72	22.23	35.62	4.75	22.82	180.93
1992-93	1.41	7.76	50.02	9.54	22.50	2.43	0.27	93.97	14.48	0.20	19.28	34.40	128.37	4.52	2.65	22.21	33.58	4.77	28.91	201.67
1993-94	1.40	6.61	43.64	9.20	20.13	1.78	0.24	83.01	12.21	0.19	20.46	33.28	116.29	5.24	3.45	22.36	36.13	5.18	27.52	192.54
1994-95	1.59	6.79	49.79	9.27	23.21	2.36	0.22	93.23	15.87	0.23	19.53	36.01	129.25	4.08	4.03	22.72	34.92	4.86	29.09	203.80
1995-96	1.39	5.94	42.72	9.11	21.97	1.97	0.19	83.28	16.20	0.21	18.93	35.74	119.02	3.29	4.28	26.92	38.43	6.06	27.22	196.72
1996-97	1.47	6.22	47.10	9.27	24.75	1.89	0.19	90.91	15.19	0.32	21.45	37.61	128.50	4.20	4.66	26.16	38.84	6.54	25.55	206.93
1997-98	1.64	5.62	47.03	9.70	26.80	2.63	0.18	93.58	22.13	0.45	20.63	43.82	137.39	2.69	4.99	28.12	44.21	6.44	27.45	223.25
1998-99	1.69	5.35	41.84	9.46	27.67	2.15	0.16	88.31	28.15	0.25	17.24	46.43	134.76	2.42	6.81	23.20	43.05	6.44	22.72	214.01
1999-00	2.00	5.55	39.45	9.33	26.50	1.81	0.14	84.81	9.76	0.25	14.17	24.79	109.59	2.12	4.93	24.96	36.35	5.84	34.91	192.86
2000-01	1.67	6.74	46.36	9.70	23.09	2.25	0.15	89.98	6.73	0.25	16.4	23.75	113.73	2.31	6.59	14.03	26.46	5.10	39.82	192.30
2001-02	1.44	6.14	51.29	10.17	22.88	1.74	0.18	93.86	9.70	0.23	23.28	33.57	127.42	3.16	6.55	17.61	31.05	5.10	33.88	207.98
2002-03	0.84	5.32	32.15	9.84	18.00	1.92	0.17	68.24	4.49	0.16	13.18	18.02	86.27	1.91	4.72	11.92	24.48	3.86	9.32	132.18
2003-04	1.00	7.38	58.69	11.10	21.03	1.82	0.18	101.20	11.17	0.19	26.79	38.62	139.82	3.11	4.94	20.63	32.28	3.43	32.26	216.64
2004-05	1.01	5.73	45.64	10.41	20.10	1.76	0.16	84.84	10.35	0.16	24.69	35.72	120.54	4.46	6.21	32.87	51.33	4.37	NA	213.20
2005-06	1.07	5.93	49.94	10.0	21.23	2.01	0.16	90.40	10.82	0.20	23.43	34.91	125.30	4.22	7.44	35.58	52.85	4.72	27.69	216.99

Source: Agricultural Statistics of Rajasthan, Directorate of Economics & Statistics, Rajasthan, Jaipur, 1973-74 to 2001-02.

Agricultural Statistics of Rajasthan, Directorate of Economics & Statistics, Rajasthan, Yojana Bhavan, Jaipur, 2002-03 & 2005-06.

Vital Agriculture Statistics, Directorate of Agriculture, Rajasthan, Jaipur 2004-05 (Statistics Cell)

Source: GCA - CMIE (Centre for Monitoring Indian Economy Pvt. Ltd.), Mumbai. (1987-88 to 2003-04)

Note: NA - Not Available

Note: Other Kharif Pulses includes Moong, Moth

### Appendix. 1.3: Compound growth rates of production, crop-wise

Crops	Pre-reform period (1985-86 to 1990-91)	Reform period (1991-92 to 2005-06)	Overall (1985-86 to 2005-06)
Rice	2.99	1.69	1.20
Jowar	5.53	0.53	-3.70
Bajra	22.68	4.81	5.32
Maize	12.49	2.44	2.60
Wheat	1.60	1.81	1.94
Barley	-4.43	-0.16	-1.09
Small Millets	51.31	6.30	7.97
Total Cereals	6.36	2.29	2.14
Gram	-7.60	-2.30	-5.65
Tur	30.77	6.58	4.66
Other Kharif Pluses	37.27	3.81	6.39
Total Pulses	-0.47	-0.05	-3.12
Total Foodgrains	5.06	2.05	1.37
Sesamum	38.31	-4.04	4.12
Soyabean	31.60	13.39	17.12
Rapeseed & Mustard	18.77	4.93	9.98
Total Oilseeds	17.15	5.36	9.33
Cotton	11.54	0.27	2.94
Fodder Crops*	-10.19	12.75	-4.93
Vegetable	16.56	7.78	10.26
Condiments & Spices	14.92	2.72	4.41

For Fodder crops\* - Reform period time 1991-92 to 2001-02 and overall period 1985-86 to 2001-02.

### Appendix. 1.4: Compound growth rates of area, crop-wise

Crops	Pre-reform period (1985-86 to 1990-91)	Reform period (1991-92 to 2005-06)	Overall (1985-86 to 2005-06)
Rice	-1.45	-1.78	-0.96
Jowar	-0.94	-1.17	-2.38
Bajra	0.29	0.55	0.22
Maize	0.15	0.38	0.14
Wheat	0.37	1.18	0.86
Barley	-5.38	-1.52	-2.28
Small Millets	-0.50	-4.10	-3.53
Total Cereals	-0.04	0.45	0.02
Gram	-2.64	0.34	-2.74
Tur	8.25	-0.63	-0.66
Other Kharif Pluses	0.63	1.99	1.05
Total Pulses	-0.91	1.41	-0.52
Total Foodgrains	-0.30	0.70	-0.13
Sesamum	1.96	-3.24	-0.98
Soyabean	22.80	10.26	14.67
Rapeseed & Mustard	15.50	3.19	7.31
Total Oilseeds	8.04	2.67	4.90
Cotton	5.30	-0.04	1.67
Fodder Crops*	0.89	1.39	0.38
Vegetable	2.21	3.62	3.55
Condiments & Spices	2.03	1.22	1.60

\* Same as table 1.3

Appendix. 1.5: Compound growth rates of Productivity, crop-wise

Crops	Pre-reform period (1985-86 to 1990-91)	Reform period (1991-92 to 2005-06)	Total (1985-86 to 2005-06)
Rice	4.51	3.53	2.18
Jowar	6.53	1.72	-1.35
Bajra	22.32	4.23	5.08
Maize	12.32	2.06	2.46
Wheat	1.22	0.63	1.07
Barley	1.00	1.38	1.22
Small Millets	52.06	10.85	11.91
Total Cereals	6.41	1.84	2.11
Gram	-5.09	-2.63	-2.99
Tur	20.80	7.26	5.35
Other Kharif Pluses	36.40	1.77	5.27
Total Pulses	0.45	-1.44	-2.61
Total Foodgrains	5.38	1.34	1.51
Sesamum	35.65	-0.83	5.15
Soyabean	7.17	2.84	2.14
Rapeseed & Mustard	2.83	1.69	2.48
Total Oilseeds	8.44	2.63	4.23
Cotton	5.93	0.32	1.25
Fodder Crops*	-10.98	8.78	-6.47
Vegetable	14.04	4.02	6.48
Condiments & Spices	12.63	1.48	2.77

\* Same as table 1.3.

Appendix: 1.6 Land Use Statistics

(Percentage)

Year	Total Reported Area	Forest	Area put to Non-Agricultural uses	Barren & Un-Culturable land	Permanent Pastures and other Grazing Land	Land under Misc.-Tree Crops & Grooves	Cultivable Waste Land	Fallow Land Other than Current Fallowa	Current Fellows	Net Area Sown	Area Sown More than once	Total Cropped Area
1985-86	34236692	6.51	4.44	8.23	5.38	0.10	17.49	6.51	5.89	45.46	7.52	52.98
1986-87	34234610	6.57	4.84	8.18	5.33	0.08	16.81	6.54	6.59	45.07	6.46	51.53
1987-88	34239690	6.64	4.68	8.38	5.31	0.09	17.48	8.78	15.01	33.63	5.24	38.87
1988-89	34248223	6.74	4.84	8.18	5.26	0.08	16.69	6.68	4.46	47.08	7.93	55.01
1989-90	34247653	6.79	4.74	8.23	5.26	0.07	16.43	6.08	6.83	45.57	6.71	52.28
1990-91	34252928	6.87	4.35	8.14	5.58	0.07	16.25	5.63	5.30	47.81	8.77	56.58
1991-92	34253191	6.92	4.78	8.04	5.22	0.06	16.24	6.35	7.18	45.22	7.60	52.82
1992-93	34252367	6.99	4.81	7.96	5.17	0.05	15.62	5.44	4.49	49.45	9.43	58.88
1993-94	34243866	7.08	4.85	7.84	5.15	0.05	15.43	5.80	6.41	47.40	8.83	56.23
1994-95	34243079	7.16	4.87	7.80	5.11	0.05	15.08	5.35	4.88	49.71	9.81	59.52
1995-96	34242613	7.18	4.91	7.76	5.10	0.05	14.90	5.76	5.95	48.41	9.05	57.45
1996-97	34238483	7.23	4.92	7.73	5.07	0.04	14.73	5.90	5.33	49.04	11.40	60.44
1997-98	34263978	7.38	4.96	7.65	5.03	0.04	14.64	5.80	4.66	49.83	15.32	65.16
1998-99	34264557	7.46	4.98	7.60	5.01	0.04	14.79	6.68	6.53	46.91	15.55	62.46
1999-00	34257862	7.53	5.04	7.53	5.00	0.04	14.56	7.33	7.70	45.27	11.02	56.30
2000-01	34264789	7.61	5.08	7.49	4.98	0.04	14.32	7.13	7.05	46.30	9.82	56.12
2001-02	34265309	7.72	5.11	7.36	4.96	0.04	13.81	6.77	5.31	48.93	11.77	60.70
2002-03	34266378	7.74	5.15	7.34	4.97	0.04	14.20	9.51	19.52	31.54	7.03	38.57
2003-04	34266151	7.76	5.14	7.29	4.98	0.04	13.27	7.03	3.72	50.76	12.46	63.22
2004-05	34266	7.77	5.18	7.27	4.99	0.04	13.43	6.31	6.72	48.03	13.17	61.47
2005-06	34266090	7.81	5.32	7.12	4.98	0.06	13.40	6.61	5.57	49.13	14.19	63.33

Source: Agricultural Statistics of Rajasthan, Directorate of Economics & Statistics, Jaipur, Rajasthan 1973-74 to 2001-02.

Agricultural Statistics of Rajasthan, Directorate of Economics & Statistics, Yojana Bhavan, Jaipur, 2002-03, 2003-04, 2005-06.

Note: \* 2004-05 is Thousand Hectors data

Appendix 1.7: Percentage Share of Agriculture and Allied Activities in GSDP

Year	Agriculture and Allied Activities	Crop Husbandry (including A.H)	Forestry	Fisheries
1985-86	39.82	36.64	0.68	0.16
1986-87	34.55	31.82	0.71	0.18
1987-88	32.97	29.97	0.59	0.09
1988-89	40.59	36.22	2.09	0.03
1989-90	37.99	33.66	2.02	0.07
1990-91	40.51	36.01	2.16	0.05
1991-92	38.92	34.29	2.27	0.07
1992-93	39.27	34.92	2.04	0.09
1993-94	36.09	31.59	2.16	0.11
1994-95	37.04	33.04	1.79	0.11
1995-96	35.87	31.71	1.78	0.09
1996-97	38.65	35.18	1.57	0.10
1997-98	36.20	32.47	1.53	0.09
1998-99	35.78	32.08	1.44	0.07
1999-00	32.01	28.14	1.46	0.07
2000-01	29.60	25.60	1.61	0.07
2001-02	31.54	27.77	1.59	0.07
2002-03	26.02	21.57	1.89	0.07
2003-04	32.43	28.60	1.64	0.06
2004-05	29.66	25.47	1.69	0.07
2005-06 (P)	29.03	24.52	1.73	0.08

Note P – Provisional

## **CHAPTER – 2**

### **TRENDS AND PATTERN OF BUDGETARY EXPENDITURE ON AGRICULTURE.**

#### **2.1: Introduction**

There is substantial media coverage of liberalization, increased foreign investment and the tremendous growth of service sector over the past decade. However a major concern has been the link between monsoon, agriculture and the overall economic growth. Although the share of agriculture in the GDP has been decreasing over the years, it remains the backbone of the economy and without its growth, it is impractical to expect high GDP growth rate.

<sup>5</sup>Economists in fact have often pointed out that in pursuit of higher GDP growth, planners neglect the agricultural sector which has low growth potential. The share of agriculture in GDP has declined because of its own poor performance rather than good performance of other sector. That agriculture was accorded low priority in the planning process is reflected in the falling share of the sector in the total plan outlay of state. Agriculture's share in the total plan outlay of 35 states and Union Territories has decreased from 5.2 percent in 2002-03 to 4.7 percent in 2006-07.

In Rajasthan, during the study period, agriculture's share in the total budget has declined from 4.40 percent in 1985-86 to 3.54 percent in 2005-06. In actual terms, allocation for agriculture and allied activities increased only by Rs.869 crores whereas the total budget outlay increased by Rs.25000 crores during the study period.

#### **2.2: Trends of budgetary agricultural expenditure.**

As mentioned in the methodology of study mainly revenue account is considered for the analysis in this chapter.

**(a)** Growth of budgetary expenditure on agriculture at constant price.

Table 2.1 below gives trends in expenditure on agriculture on revenue account at constant prices of 1993-94 and appendix 2.1 given trends at the current prices.

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<sup>5</sup> Economic Times Date.10<sup>th</sup> May 2007.

Table 2.1 Trend in Expenditure on Agriculture and Allied Activities (constant price 1993-94)

(Crore Rs.)

Year	Total Budget			Expenditure on Economic Services			Expenditure on Agriculture and Allied Activities		
	Revenue Account	Capital Account	Total	Revenue Account	Capital Account	Total	Revenue Account	Capital Account	Total
1985-86	3109.34	1457.76	4567.10	918.18	343.09	1261.28	186.30	14.61	200.90
1986-87	3596.74	1414.78	5011.52	1237.05	402.08	1639.13	225.36	18.65	244.00
1987-88	4470.39	2275.81	6746.20	1754.31	433.36	2187.67	293.09	17.45	310.54
1988-89	4180.03	3294.49	7474.52	1309.29	432.68	1741.97	283.05	19.48	302.53
1989-90	4044.42	2508.83	6553.25	900.31	428.24	1328.55	219.69	16.42	236.12
1990-91	4721.76	1849.91	6571.67	1163.84	459.78	1623.62	310.62	19.78	330.40
1991-92	4863.21	2402.96	7266.16	1258.58	1190.25	2448.82	300.59	23.70	324.28
1992-93	5479.13	1625.57	7104.70	1604.02	520.92	2124.93	372.49	24.88	397.38
1993-94	5897.61	1546.74	7444.35	1718.88	521.79	2240.67	371.87	20.53	392.40
1994-95	6166.80	2758.53	8925.33	1570.44	634.02	2204.46	380.41	48.24	428.64
1995-96	6983.70	4107.46	11091.17	1543.46	997.48	2540.94	352.22	113.61	465.83
1996-97	6572.29	5345.10	11917.39	1477.25	925.30	2402.56	316.87	128.92	445.79
1997-98	6573.56	5276.48	11850.04	1387.43	1389.07	2776.51	294.50	111.87	406.37
1998-99	7842.53	3894.58	11737.11	1398.94	747.43	2146.37	339.99	102.24	442.22
1999-00	8754.60	5850.18	14604.78	1461.94	565.52	2027.46	315.09	85.88	400.97
2000-01	9468.11	5759.01	15227.12	1456.23	485.14	1941.37	321.64	30.16	351.80
2001-02	9713.14	6306.11	16019.25	1430.66	685.54	2116.21	319.17	12.81	331.98
2002-03	9950.75	8720.03	18670.78	1628.40	722.32	2350.71	296.37	7.12	303.49
2003-04	10703.17	9560.33	20263.50	1849.73	1018.75	2868.48	315.62	27.38	343.01
2004-05	11151.93	6055.78	17207.70	2299.70	1041.03	3340.73	348.58	50.54	399.11
2005-06	11728.97	3120.75	14849.73	2554.78	1331.52	3886.31	464.20	61.93	526.12

Source: Economic Review 2007-08 Directorate of Economics & Statistics, Jaipur, Rajasthan

it is revealed from this table that increase in expenditure on agriculture and allied activities on revenue account at constant price was higher during pre reform period as compared to reform period. The expenditure on agriculture increased by 66.47 percent between 1985-86 and 1990-91 and the same rose by 54.48 percent between 1991-92 to 2005-06.

**(b) Growth of per hectare budgetary expenditure on agriculture.**

Per hectare budgetary expenditure on agriculture on revenue account is shown in table 2.2 below

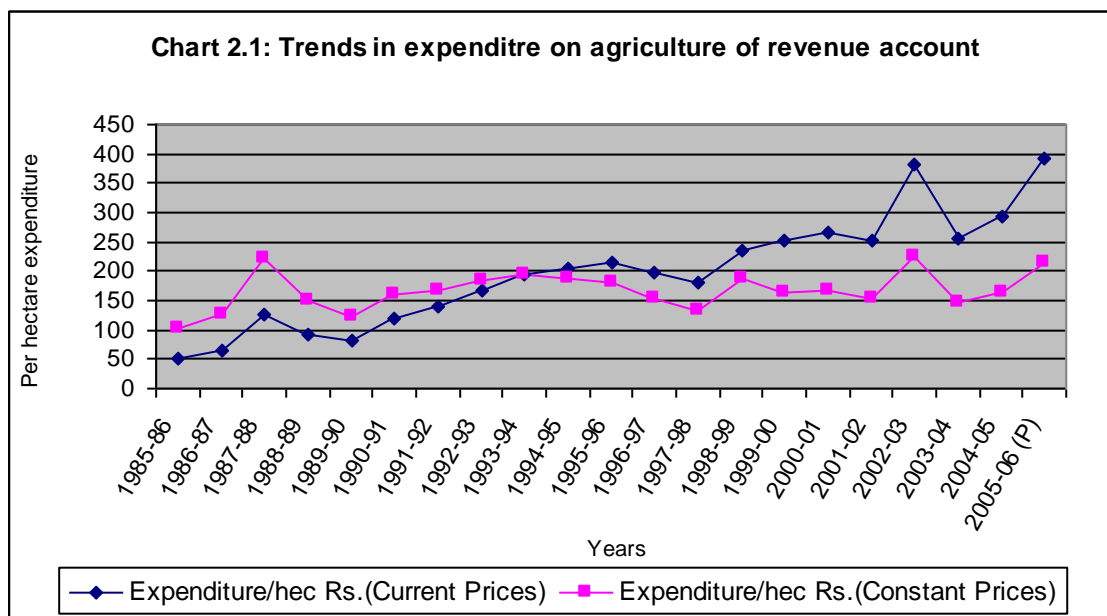
Table 2.2: Trends in expenditure on agriculture of revenue account  
(Current and Constant Prices Rs. per Hectar)

Year	Expenditure/hect Rs. (Current Prices)	Expenditure/hect Rs. (Constant Prices)
1985-86	49.92	102.82
1986-87	66.30	127.78
1987-88	125.10	220.42
1988-89	92.40	150.16
1989-90	81.85	122.65
1990-91	118.13	160.19
1991-92	139.39	166.07
1992-93	168.45	184.60
1993-94	193.14	193.14
1994-95	204.20	186.61
1995-96	213.60	179.03
1996-97	196.31	153.14
1997-98	180.33	131.87
1998-99	234.48	186.90
1999-00	250.63	163.36
2000-01	265.61	167.29
2001-02	251.98	153.50
2002-03	383.41	224.16
2003-04	256.56	145.66
2004-05	291.84	163.52
2005-06(P)	392.12	213.92

P – Provisional

Source: Budget at a glance-Rajasthan (various issues)

Gross cropped area – CMIE Publication, Mumbai (1987-88 to 2003-04).





This table indicates that per hectare expenditure on agriculture on revenue account at current prices were Rs.49.92 per hectare in 1985-86 and Rs.118.13 in 1990-91 during reform period. However during post reform period, it has increased from Rs.139.39 per hectare to Rs.392.12 between 1991-92 and 2005-06. During both periods no trends on expenditure on agriculture was reported.

**(c) Expenditure as a share of total budget.**

Tables 2.3 and 2.3(a) give details on agriculture expenditure as a share of the total budget and as a share of expenditure on economic services.

Table 2.3: Expenditure on agriculture of revenue account as a share of the total budget and as a share of economic services.

Year	As a share of the total budget (%)	As a share of the total economic services (%)
1985-86	4.08	14.77
1986-87	4.50	13.75
1987-88	4.34	13.40
1988-89	3.79	16.25
1989-90	3.35	16.54
1990-91	4.73	19.13
1991-92	4.14	12.27
1992-93	5.24	17.53
1993-94	5.00	16.60
1994-95	4.26	17.26
1995-96	3.18	13.86
1996-97	2.66	13.19
1997-98	2.49	10.61
1998-99	2.90	15.84
1999-00	2.16	15.54
2000-01	2.11	16.57
2001-02	1.99	15.08
2002-03	1.59	12.61
2003-04	1.56	11.00
2004-05	2.03	10.43
2005-06	3.13	11.94

Source: Economic Review 2007-08 Directorate of Economics & Statistics, Jaipur, Rajasthan.

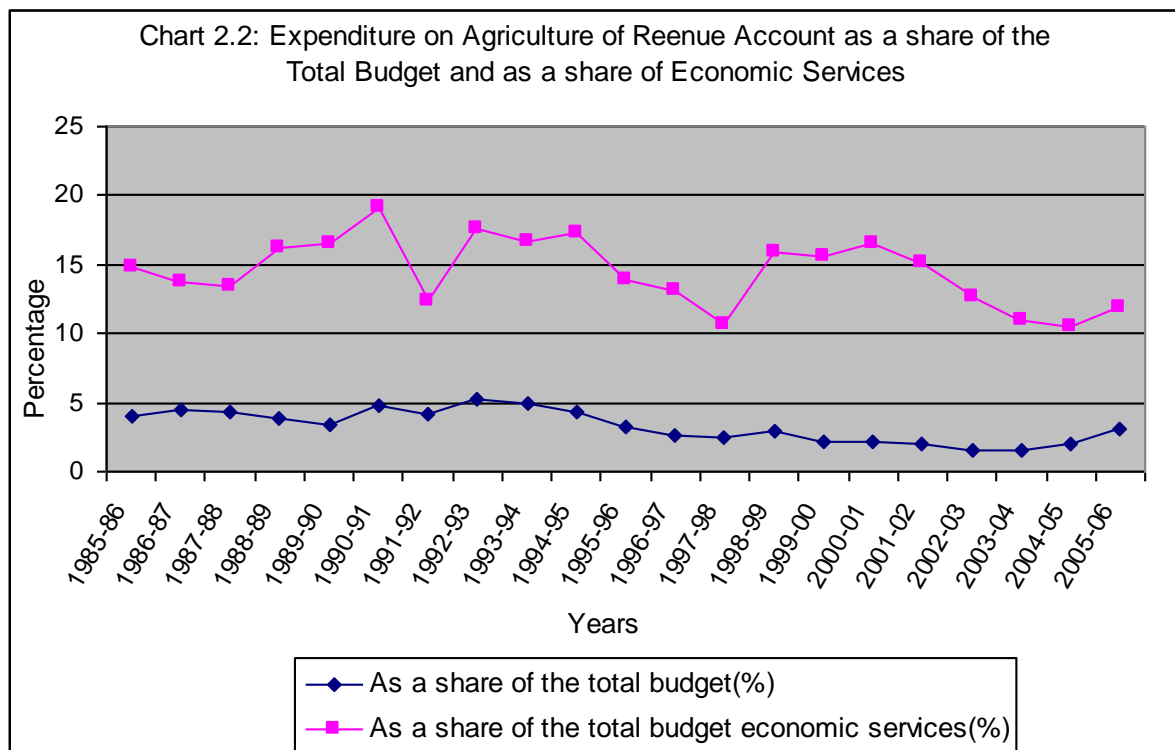


Table shows that during the pre-reform period share of the agriculture expenditure in the total budget has risen from 4.08 percent in 1985-86 to 4.73 percent in 1990-91. However it had gone down to 3.35 percent in 1989-90. The share of agriculture expenditure on revenue account in the total budget seems to have remained more or less between 3 to 5 percent with marginal changes across the years.

The importance of the total agriculture expenditure in the budget witnessed sharp reduction in post reform period. The total expenditure on agriculture accounted for 4.14 percent to the total budget in 1991-92 which was reduced to 1.56 percent in 2002-03 and recovered to 3.13 percent in 2005-06. Similar pattern was reported in the share of agriculture expenditure on revenue account to the total economic services as around 90 percent of the total expenditure on agriculture and allied activities occurred on revenue account head of the budget during study period (except from 1994-95 to 1999-00, it was between 70 to 80%).

Table 2.3(a): Expenditure on agriculture during pre and post reform period.

Year	Expenditure on agriculture (revenue account)				Total expenditure on agriculture (Revenue + Capital)	
	As a share of the total budget		As a share of economic services		% of total budget	% of total economic services
	% total revenue account of budget	% total budget	% total revenue account of economic services	% total economic services		
1985-86 to 1990-91	6.30	4.11	21.24	15.76	4.4	16.85
1991-92 to 2005-06	3.96	2.47	20.25	13.38	2.88	15.59
1985-86 to 2005-06	4.14	2.59	20.36	13.62	2.99	15.72

Source: Same as Table 2.3

Further analysis revealed that on an average yearly expenditure on agriculture and allied activities on revenue account was 4.11 percent of the total budget during pre reform period. The expenditure on agriculture during reform period accounted for only on an average 2.47 percent of the total budget expenditure between 1991-92 to 2005-06.

**(d) Expenditure on agriculture as a share of total expenditure on economic services.**

In absolute term expenditure on agriculture and allied activities on revenue account has increased over the study period but its percentage share in the total expenditure on economic services increased during pre-reform period from 15 to 19 percent, then it has declined to 12 percent at the beginning of reform period and after fluctuations in between the years, it remained constant at 12 percent in 2005-06.

On an average Rs.154 crores was the yearly expenditure on agriculture and allied activities on revenue account which worked out to be 15.76 percent of the total expenditure on economic services during pre-reform period. The average yearly expenditure was Rs.478 crores during reform period, accounting for 13.38 percent of the total economic services (Table 2.3 & 2.3(a) and appendix 2.1).

(e) Expenditure on Agriculture as a Percentage of NSDP.

**Table 2.4 : Expenditure on Agriculture of Revenue Account as a percentage of NSDP (%)**

Year	NSDP (Constant 1993-94 price) (Lakh Rs.)	Share of expenditure on agriculture and allied activities in NSDP (%)
1985-86	2034638	0.92
1986-87	2076619	1.09
1987-88	2162093	1.36
1988-89	2638694	1.07
1989-90	2619953	0.84
1990-91	3087463	1.01
1991-92	3006687	1.00
1992-93	3249746	1.15
1993-94	3125274	1.19
1994-95	3600840	1.06
1995-96	3735836	0.94
1996-97	4258904	0.74
1997-98	4456115	0.66
1998-99	4747968	0.72
1999-00	4834589	0.65
2000-01	4583150	0.70
2001-02	4926889	0.65
2002-03	4478765	0.66
2003-04	5577152	0.57
2004-05	5614050	0.62
2005-06(P)	5836387	0.80

Note: P- Provisional

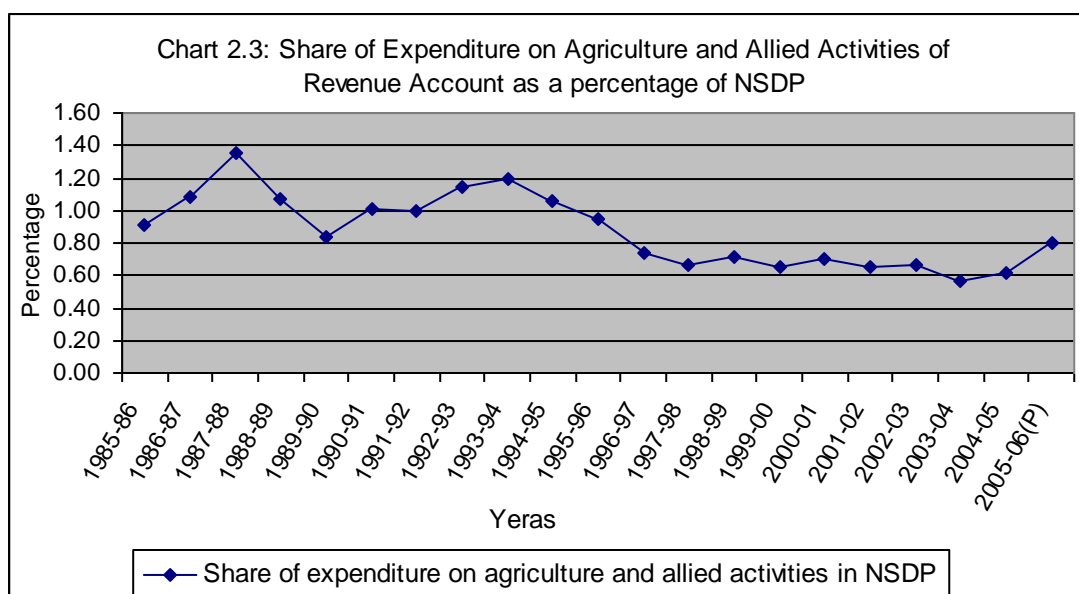


Table 2.4 shows that amount spent on agriculture and allied activities on revenue account during the study period has moved around 1 percent of NSDP of the state, and it remained between 0.57 percent in 2003-04 to 1.36 percent in 1987-88.

**(f) Changes in the Composition of Expenditure on Agriculture.**

Expenditure on agriculture and allied activities includes expenditure on crop husbandry, soil and water conservation, animal husbandry, dairy development, fisheries, forestry, and wild life, food storage and ware housing, agriculture research and education, agricultural finance institution and cooperation. In Rajasthan, budget expenditure on plantation and agricultural finance institution is nil. Table 2.5 and table 2.5(a) indicates changes in the composition of revenue expenditure on agriculture and allied activities in budget. Its share in terms of percentage is given in appendix 2.2.

With some exceptional years, expenditure on agriculture of revenue account has increased during the entire study period. During pre-reform period of 1985-86 to 1990-91, it has increased from Rs.90.54 crores to Rs.228.93 crores and it increased from Rs.252.19 crores in 1991-92 to Rs.850.87 crores in 2005-06 of reform period. However significant increment was noticed between 2004-05 and 2005-06. It was Rs.622.21 in 2004-05 and expenditure reached Rs.850.87 crores in 2005-06.

As expected, generally expenditure on each activity of agriculture has increased with some exceptions. However, some years during both periods witnessed sharp fluctuations in the expenditure on particular activities of agriculture.

Expenditure on crop husbandry increased over the study period with some exceptional years but it increased significantly in 2005-06, as it was Rs.51.44 crores in 1991-92 and reached to Rs.162.03 crores in 2004-05 and jumped to Rs.363.45 crores in 2005-06. During pre-reform period, expenditure on this was Rs.26.76 crores in 1985-86 and Rs.53.31 crores in 1990-91.

The percentage of expenditure on crop husbandry in the total agriculture expenditure on revenue account which was 29.56 percent in 1985-86 declined to 23.29 percent in 1990-91. It further decreased to 20.40 percent in the first year of reform period. Thereafter, it showed increasing trend, and reached to 34.13 percent of the total expenditure on agriculture in 1996-97. There after its share in the total agriculture expenditure started declining and reached 26.04 percent in 2004-05. However, as mentioned above, expenditure on crop husbandry increased significantly in 2005-06 as it accounted for 42.72 percent of the total agriculture expenditure in this year.

The expenditure for soil and water conservation was Rs.8.27 crores in the budget of 1985-86 which increased to Rs.18.64 crores in 1990-91. During the reform year of 1991-92, the amount spent on this activity was Rs.26.68 crores and it increased to Rs.78.96 crores by

1995-96 but then it declined to Rs.62.93 crores in 2005-06. The exceptional year was 2004-05, when Rs.81.04 crores was used for this activity.

Overall, during pre-reform period, the expenditure on soil and water conservation accounted for 8 to 10 percent (except 1986-87 16.46%) of the total expenditure on agriculture and allied activities on revenue account. During reform period, its share was maximum in 1995-96 (18.79%) and minimum in 2005-06 (7.40%).

Expenditure on animal husbandry in the budget of 1985-86 was Rs.16.15 crores which increased significantly to around Rs.61 and 59 crores in 1987-88 and 1988-89 respectively. But it decreased to Rs.38.69 crores in 1990-91. The amount spent on this activity of agriculture has continuously increased during the reform period (except minor reduction in some years). It was Rs.40.41 crores in 1991-92 and touched to Rs.141.42 crores in 2005-06. Similar pattern was noticed in its percentage share in the total expenditure on agriculture. Sharp fluctuations were observed in its share during pre-reform period. Its share during reform period has been around 14 to 20 percent.

The expenditure for dairy development in the budgets of 1985-86 to 1989-90, was Rs.2 to 3 crores and rose to Rs.3.60 crores in 1990-91. The amount for dairy development, during reform period had been Rs.4 to Rs.6 crores during most of the years, except Rs.1 to 3 crores during 1997-98 and 2004-06 respectively and there was no expenditure in the budgets on this activity from 1999-00 to 2002-03 and negligible in the year 1998-99. The contribution of dairy development in the total agriculture expenditure has been around 1 to 2 percent with some exceptional years as mentioned above.

The expenditure was Rs.1.36 crores for fisheries development in 1985-86 and Rs.3.37 crores in 1990-91. Similarly, it was Rs.3.66 crores in 1991-92 and Rs.7.94 crores in 2005-06. Thus during both periods, actual amount has increased but its share in the total expenditure on agriculture has remained 1 to 2 percent during entire study period.

No trend was observed in the share of forestry and wild life in the total expenditure for agriculture during both periods. This expenditure was lowest at 19.96 percent in 1988-89 and highest in at 28.28 percent in 1986-87 of pre-reform period. It was between 16.27 percent in 1995-96 and 26.66 percent in 1994-95 during reform period.

In absolute term, expenditure on forestry and wild life was Rs.23 crores and Rs.50.91 crores in 1985-86 and 1990-91 respectively. The same was Rs.58.80 crores and Rs.177.15 crores in 1991-92 and 2005-06 respectively. There were ups and downs in expenditure during the both periods.

Agriculture research and education was the only activity of agriculture, which showed increasing trend in expenditure in the budget over the study period (except 2003-04). The expenditure on this activity was Rs.6.53 crores in 1985-86 and reached Rs.62.74 crores in 2005-06. However, its share in the total expenditure for agriculture has remained around 7 percent during both periods. It varied between 5 to 11 percent in between years.

Expenditure on cooperation increased significantly in the last year of pre-reform period to Rs.41.72 crores from Rs.6.03 crores in 1985-86. I.e., from 6.66 percent share in the total expenditure to 18.23 percent in 1990-91. During first four years of reform period, expenditure on this activity was still high and accounted between 11 to 19 percent of the total expenditure of agriculture. However, then it started declining and it was Rs.29.69 crores in 2005-06, which turned out to be only 3.5 percent of the total expenditure of agriculture.

This analysis indicates that there was no trend in the changes in the composition of expenditure on agriculture on revenue account over the two different periods or during entire study period.

There were sharp fluctuations in particular years in the expenditure on different activities of agriculture. This may be due to climate of the state as agriculture mainly depends on rainfall in Rajasthan.

It may be noted that during last decade of study period percentage contribution of crop husbandry and animal husbandry expenditure in the total expenditure of agriculture has increased while same has decreased for dairy development and cooperation and remained almost stagnant for soil and water conservation.

**(g) Changes in per hectare expenditure on agriculture of revenue account.**

The per hectare expenditure in the revenue account of agriculture, indicated that there were sharp fluctuations in the per hectare expenditure for crop and animal husbandry followed by forestry and wild life between the years during study period. This may be due to rainfall situation in the state. It is encouraging to note that per hectare expenditure incurred on agricultural research and education has generally increased during all the years of study period, with a few exceptional years.

Changes in per hectare expenditure on agriculture of revenue account at current and constant price in given in Table 2.6 and at current price is given appendix 2.3.

Table: 2. 5 Changes in the composition of expenditure on agriculture of revenue account as a Share of Agriculture Expenditure (constant price 1993-94).

(Rs. in crore)

Year	Particulars									
	(i to ix)	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)
	Agriculture and Allied Activities	Crop-Husbandry	Soil and Water Conservation	Animal Husbandry	Dairy Development	Fisheries	Forestry and Wild Life	Food Storage and Warehousing	Agriculture Research and Education	Co-operation
1985-86	186.48	55.12	17.03	33.26	4.13	2.83	47.37	1.75	13.46	12.43
1986-87	225.40	44.51	37.14	38.30	5.27	3.89	63.75	0.87	14.85	12.75
1987-88	293.34	52.08	22.11	106.68	3.54	3.39	74.00	1.10	16.40	12.56
1988-89	282.90	61.44	24.29	96.04	3.25	3.44	56.47	3.04	18.92	14.44
1989-90	219.57	51.45	21.05	44.88	3.37	4.38	55.99	1.18	20.27	15.75
1990-91	310.44	72.30	25.28	52.47	4.88	4.57	69.04	0.95	22.97	56.58
1991-92	300.47	61.29	31.79	48.14	5.18	4.36	70.05	1.09	22.64	54.60
1992-93	372.29	84.45	46.29	52.70	4.73	4.64	81.86	3.26	21.29	71.69
1993-94	371.87	90.02	52.63	55.74	4.93	4.79	81.55	1.01	23.48	56.47
1994-95	380.31	93.24	57.17	50.07	4.80	4.80	101.38	1.21	22.72	43.53
1995-96	352.19	108.59	66.18	50.91	5.07	4.58	57.29	1.45	25.34	31.41
1996-97	316.89	108.14	43.24	52.61	2.89	3.93	58.13	1.34	23.66	21.43
1997-98	294.40	94.08	34.37	57.48	0.80	3.56	60.37	0.96	24.40	16.85
1998-99	339.99	103.47	44.01	68.13	0.02	4.31	70.73	1.13	28.35	18.02
1999-00	315.05	81.68	39.97	66.84	0.00	3.83	76.16	0.94	28.98	14.93
2000-01	321.70	87.67	39.40	65.92	0.00	3.72	78.61	0.38	31.07	13.28
2001-02	319.25	87.12	35.40	62.04	0.00	4.09	79.28	0.00	35.00	14.74
2002-03	296.30	80.38	30.06	59.46	0.00	3.98	76.03	-0.01	32.06	12.81
2003-04	315.55	86.04	32.60	64.37	2.74	3.75	79.63	0.00	31.39	13.60
2004-05	348.63	90.79	45.41	72.03	0.52	4.03	87.78	-0.09	32.78	13.99
2005-06	464.19	198.28	34.33	77.15	1.46	4.33	96.64	0.00	34.23	16.20



Table: 2.5(a) Changes in the composition of expenditure on agriculture of revenue account as a share of agricultural expenditure: current price.

(Crore Rs.)

Year	Particulars									
	(i to ix)	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)
	Agriculture and Allied Activities	Crop-Husbandry	Soil and Water Conservation	Animal Husbandry	Dairy Development	Fisheries	Forestry and Wild Life	Food Storage and Warehousing	Agriculture Research and Education	Co-operation
1985-86	90.54	26.76	8.27	16.15	2.01	1.38	23.00	0.85	6.53	6.03
1986-87	116.96	23.09	19.27	19.87	2.74	2.02	33.08	0.45	7.70	6.62
1987-88	166.48	29.56	12.55	60.54	2.01	1.92	42.00	0.62	9.31	7.13
1988-89	174.08	37.80	14.95	59.10	2.00	2.12	34.75	1.87	11.64	8.89
1989-90	146.54	34.34	14.05	29.95	2.25	2.93	37.37	0.79	13.53	10.51
1990-91	228.93	53.31	18.64	38.69	3.60	3.37	50.91	0.70	16.94	41.72
1991-92	252.19	51.44	26.68	40.41	4.35	3.66	58.80	0.91	19.00	45.83
1992-93	339.71	77.06	42.24	48.09	4.32	4.23	74.70	2.97	19.42	65.42
1993-94	371.87	90.02	52.63	55.74	4.93	4.79	81.55	1.01	23.48	56.47
1994-95	416.17	102.04	62.56	54.79	5.25	5.25	110.94	1.32	24.86	47.63
1995-96	420.20	129.56	78.96	60.74	6.05	5.46	68.36	1.74	30.23	37.47
1996-97	406.22	138.62	55.43	67.44	3.70	5.03	74.51	1.72	30.34	27.48
1997-98	402.58	128.66	46.99	78.60	1.10	4.86	82.55	1.32	33.36	23.04
1998-99	501.82	152.73	64.96	100.56	0.03	6.36	104.40	1.66	41.85	26.60
1999-00	483.36	125.31	61.32	102.55	0.00	5.88	116.85	1.44	44.46	22.91
2000-01	510.76	139.19	62.55	104.66	0.00	5.91	124.81	0.60	49.33	21.08
2001-02	524.08	143.02	58.12	101.85	0.00	6.72	130.15	0.00	57.45	24.19
2002-03	506.79	137.49	51.42	101.69	0.00	6.81	130.04	-0.01	54.83	21.91
2003-04	555.81	151.56	57.43	113.39	4.83	6.60	140.26	0.00	55.30	23.96
2004-05	622.21	162.03	81.04	128.56	0.92	7.20	156.66	-0.16	58.50	24.97
2005-06	850.87	363.45	62.93	141.42	2.67	7.94	177.15	0.00	62.74	29.69

Table : 2.6 Changes in the composition of per hectare Expenditure on Agriculture of Revenue Account (constant price 1993-94)

(Rs./Hect)

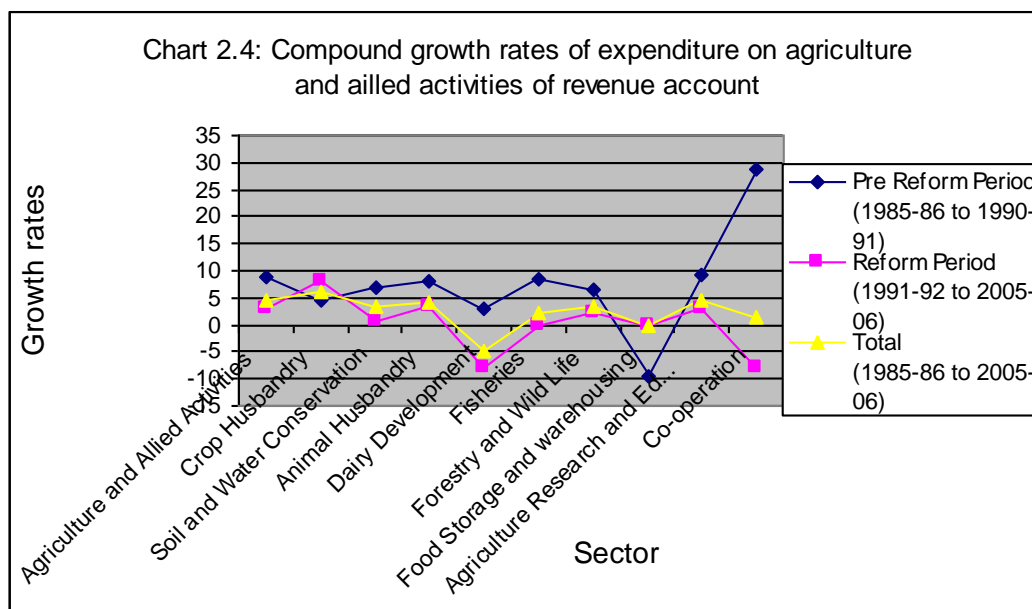
Year	Particulars									
	(I to ix)	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)
	Agriculture and Allied Activities	Crop-Husbandry	Soil and Water Conservation	Animal Husbandry	Dairy Development	Fisheries	Forestry and Wild Life	Food Storage and Warehousing	Agriculture Research and Education	Co-operation
1985-86	102.82	30.39	9.39	18.34	2.28	1.56	26.12	0.96	7.42	6.85
1986-87	127.78	25.23	21.05	21.71	2.99	2.21	36.14	0.50	8.42	7.23
1987-88	220.42	39.14	16.61	80.16	2.66	2.54	55.60	0.82	12.32	9.44
1988-89	150.17	32.61	12.89	50.98	1.73	1.83	29.98	1.62	10.04	7.67
1989-90	122.65	28.74	11.76	25.07	1.88	2.45	31.27	0.66	11.32	8.80
1990-91	160.18	37.30	13.04	27.07	2.52	2.36	35.63	0.49	11.85	29.19
1991-92	166.07	33.87	17.57	26.61	2.86	2.41	38.72	0.60	12.51	30.18
1992-93	184.61	41.88	22.95	26.13	2.34	2.30	40.59	1.61	10.55	35.55
1993-94	193.14	46.76	27.33	28.95	2.56	2.49	42.36	0.52	12.19	29.33
1994-95	186.61	45.75	28.05	24.57	2.35	2.35	49.75	0.59	11.15	21.36
1995-96	179.03	55.20	33.64	25.88	2.58	2.33	29.12	0.74	12.88	15.97
1996-97	153.14	52.26	20.90	25.42	1.39	1.90	28.09	0.65	11.44	10.36
1997-98	131.87	42.14	15.39	25.74	0.36	1.59	27.04	0.43	10.93	7.55
1998-99	158.87	48.35	20.56	31.84	0.01	2.01	33.05	0.53	13.25	8.42
1999-00	163.36	42.35	20.73	34.66	0.00	1.99	39.49	0.49	15.03	7.74
2000-01	167.29	45.59	20.49	34.28	0.00	1.94	40.88	0.20	16.16	6.91
2001-02	153.50	41.89	17.02	29.83	0.00	1.97	38.12	0.00	16.83	7.09
2002-03	224.17	60.81	22.74	44.98	0.00	3.01	57.52	0.00	24.25	9.69
2003-04	145.66	39.72	15.05	29.71	1.27	1.73	36.76	0.00	14.49	6.28
2004-05	163.52	42.58	21.30	33.79	0.24	1.89	41.17	-0.04	15.38	6.56
2005-06	213.92	91.38	15.82	35.56	0.67	2.00	44.54	0.00	15.77	7.46

### 2.3: Sap and changing nature of expenditure on agriculture.

Table 2.7: Compound Growth Rates of Expenditure on Agriculture and Activities on Revenue Account (constant price 1993-94)

Sr. No.	Particulars	Pre Reform Period (1985-86 to 1990-91)	Reform Period (1991-92 to 2005-06)	Total (1985-86 to 2005-06)
A (i-xii)	Agriculture and Allied Activities	8.87	2.94	4.44
(i)	Crop Husbandry	4.62	8.14	6.29
(ii)	Soil and Water Conservation	6.80	0.51	3.39
(iii)	Animal Husbandry	7.89	3.19	4.09
(iv)	Dairy Development	2.81	-8.10	-4.84
(v)	Fisheries	8.31	-0.05	2.04
(vii)	Forestry and Wild Life	6.48	2.17	3.45
(viii)	Plantation	0.00	0.00	0.00
(ix)	Food Storage and warehousing	-9.63	0.00	0.00
(x)	Agriculture Research and Education	9.33	2.79	4.55
(xi)	Agricultural Finance Institution	0.00	0.00	0.00
(xii)	Co-operation	28.74	-7.78	1.27
B	NSDP	7.20	4.52	5.15
C	Total Budget on Revenue Account	7.21	6.04	6.53
D (1to4)	GSDP	7.33	4.82	5.45
1	Agriculture and Allied Activities	7.64	2.80	3.87
2	Crop Husbandry	7.02	2.51	3.45
3	Forestry and Wild Life	30.04	2.96	10.22
4	Fisheries	-11.78	6.03	1.84

Source: Economic Review 2007-08 Directorate of Economics and Statistics, Jaipur, Rajasthan.



The growth rate of NSDP and GSDP was around 7 percent during the reform period which was around 5 percent during the per-reform period. The growth rate of GSDP in

agriculture and allied activities was 7.64 percent during pre-reform period showed an annual decline of 2.80 percent during post reform period.

On an average annual growth rate of agriculture expenditure was 8.87 percent during pre-reform period, which was reduced to 2.94 per cent in post reform period. Expenditure on crop husbandry during pre-reform period showed an annual growth rate of 4.62 percent and increased to 8.14 percent during reform period. This was the only sub sector of agriculture and allied activities which witnessed higher growth rate in expenditure in reform period compared to other sub sectors where growth rate was not only low but also negative for some sub sectors.

Table 2.8: Plan Outlay on Agriculture

Sr. No.	Plan		Agriculture (crore Rs.)
1	First Plan	(1951-56)	3.24
2	Second Plan	(1956-61)	6.72
3	Third Plan	(1961-66)	16.30
4	Annual Plan	(1966-69)	11.01
5	Fourth Plan	(1969-74)	10.95
6	Fifth Plan	(1974-79)	32.83
7	Annual Plan	(1979-80)	12.67
8	Sixth Plan	(1980-85)	82.33
9	Seventh Plan	(1985-90)	159.24
10	Annual Plan	(1990-92)	152.13
11	Eight Plan	(1992-97)	1166.92
12	Ninth Plan	(1997-02)	1173.08
13	Tenth Plan	(2002-07)	1934.00
14	Eleventh Plan	(2007-12)	2269.00

Source: (1) Dr.Dilip Bagchi "Review of State Agriculture Policy in Rajasthan" Agro-Economic Research Center, Sardar Pate University, Vallabh Vidyanagar, Gujarat.2006 (up to tenth five year plan).

(2) Economic Review 2007-08, Directorate of Economics and Statistics, Government of Rajasthan for 11<sup>th</sup> plan.

## 2.4: Conclusions

It is true that for quite some time to come, agriculture will retain its importance in Rajasthan's economy and society. It is a fact that the share of agriculture in overall GSDP has declined over the years. Still agriculture continues to play an important role in Rajasthan economy. The proportion of population dependent upon agriculture remains large.

The contribution of agriculture in GSDP has declined but simultaneously, the share of agriculture expenditure in the annual budgets has also declined. The analysis on expenditure on agriculture and allied activities on revenue account shows that agriculture sector accounted for around 4 percent of the total outlay during pre-reform period (except

1989-90) and it was 5 percent during first two years of reform period. But the situation for agriculture turned adverse with the beginning of 1995-96 and its share in the total expenditure touched down to only 1.56 percent in 2003-04 and then gained to 3.13 percent in 2005-06.

Overall growth rate of agriculture expenditure in the budget was 4.44 percent during study period. Except crop husbandry sector, all other sectors growth rate was either lower or negative in post reform period compared to earlier period.

The whole analysis suggest that agriculture was accorded low priority in the planning process and this was reflected in the falling share of this sector in the total plan outlay of the state.

Appendix : 2.1 Trend in Expenditure on Agriculture and Allied Activities : Current Price

(Crore Rs.)

Year	Total Budget			Expenditure on Economic Services			Expenditure on Agriculture and Allied Activities		
	Revenue Account	Capital Account	Total	Revenue Account	Capital Account	Total	Revenue Account	Capital Account	Total
1985-86	1511.14	708.47	2219.61	446.24	166.74	612.98	90.54	7.10	97.64
1986-87	1866.71	734.27	2600.98	642.03	208.68	850.71	116.96	9.68	126.64
1987-88	2539.18	1292.66	3831.84	996.45	246.15	1242.60	166.48	9.91	176.39
1988-89	2570.72	2026.11	4596.83	805.22	266.10	1071.31	174.08	11.98	186.05
1989-90	2697.63	1673.39	4371.02	600.51	285.64	886.14	146.54	10.95	157.49
1990-91	3479.94	1363.38	4843.32	857.75	338.86	1196.61	228.93	14.58	243.50
1991-92	4080.23	2016.08	6096.31	1055.95	998.62	2054.56	252.19	19.88	272.07
1992-93	4996.97	1482.52	6479.49	1462.86	475.08	1937.94	339.71	22.69	362.41
1993-94	5897.61	1546.74	7444.35	1718.88	521.79	2240.67	371.87	20.53	392.40
1994-95	6746.48	3017.83	9764.31	1718.06	693.62	2411.68	416.17	52.77	468.94
1995-96	8331.56	4900.20	13231.76	1841.35	1190.00	3031.35	420.20	135.54	555.74
1996-97	8425.67	6852.42	15278.09	1893.84	1186.24	3080.08	406.22	165.28	571.50
1997-98	8986.06	7212.95	16199.01	1896.62	1898.86	3795.48	402.58	152.93	555.51
1998-99	11575.57	5748.40	17323.97	2064.83	1103.21	3168.04	501.82	150.90	652.72
1999-00	13429.55	8974.18	22403.73	2242.61	867.51	3110.12	483.36	131.74	615.09
2000-01	15035.36	9145.30	24180.66	2312.50	770.40	3082.90	510.76	47.90	558.66
2001-02	15948.98	10354.6	26303.61	2349.15	1125.66	3474.81	524.08	21.03	545.11
2002-03	17015.78	14911.3	31927.03	2784.56	1235.16	4019.72	506.79	12.18	518.97
2003-04	18848.29	16835.7	35684.03	3257.38	1794.02	5051.40	555.81	48.22	604.03
2004-05	19906.19	10809.6	30715.75	4104.96	1858.24	5963.20	622.21	90.21	712.42
2005-06	21499.21	5720.34	27219.55	4682.92	2440.68	7123.60	850.87	113.51	964.38

Source: Economic Review 2007-08 Directorate of Economics & Statistics, Jaipur, Rajasthan

Appendix 2.2 : Changes in the composition of Expenditure on Agriculture of Revenue Account as a share of Agricultural expenditure (percentage)

Year	Particulars									
	( i to ix )	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)
	Agriculture and Allied Activities (crore Rs.)	Crop-Husbandry	Soil and Water Conservation	Animal Husbandry	Dairy Development	Fisheries	Forestry and Wild Life	Food Storage and Warehousing	Agriculture Research and Education	Co-operation
1985-86	90.54	29.56	9.13	17.83	2.22	1.52	25.40	0.94	7.22	6.66
1986-87	116.96	19.75	16.48	16.99	2.34	1.73	28.28	0.39	6.59	5.66
1987-88	166.48	17.76	7.54	36.37	1.21	1.15	25.23	0.37	5.59	4.28
1988-89	174.08	21.72	8.59	33.95	1.15	1.22	19.96	1.08	6.69	5.10
1989-90	146.54	23.43	9.59	20.44	1.54	2.00	25.50	0.54	9.23	7.17
1990-91	228.93	23.29	8.14	16.90	1.57	1.47	22.24	0.31	7.40	18.23
1991-92	252.19	20.40	10.58	16.02	1.72	1.45	23.31	0.36	7.53	18.17
1992-93	339.71	22.68	12.43	14.16	1.27	1.25	21.99	0.87	5.72	19.26
1993-94	371.87	24.21	14.15	14.99	1.33	1.29	21.93	0.27	6.31	15.19
1994-95	416.17	24.52	15.03	13.17	1.26	1.26	26.66	0.32	5.97	11.45
1995-96	420.20	30.83	18.79	14.45	1.44	1.30	16.27	0.41	7.19	8.92
1996-97	406.22	34.13	13.64	16.60	0.91	1.24	18.34	0.42	7.47	6.76
1997-98	402.58	31.96	11.67	19.52	0.27	1.21	20.51	0.33	8.29	5.72
1998-99	501.82	30.43	12.94	20.04	0.00	1.27	20.80	0.33	8.34	5.30
1999-00	483.36	25.93	12.69	21.22	0.00	1.22	24.17	0.30	9.20	4.74
2000-01	510.76	27.25	12.25	20.49	0.00	1.16	24.44	0.12	9.66	4.13
2001-02	524.08	27.29	11.09	19.43	0.00	1.28	24.83	0.00	10.96	4.62
2002-03	506.79	27.13	10.15	20.07	0.00	1.34	25.66	0.00	10.82	4.32
2003-04	555.81	27.27	10.33	20.40	0.87	1.19	25.23	0.00	9.95	4.31
2004-05	622.21	26.04	13.02	20.66	0.15	1.16	25.18	-0.03	9.40	4.01
2005-06	850.87	42.72	7.40	16.62	0.31	0.93	20.82	0.00	7.37	3.49

Appendix: 2.3 Changes in the composition of per hectare Expenditure on Agriculture of Revenue Account: current price

(Rs./Hect)

Year	Particulars									
	(I to ix)	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)
	Agriculture and Allied Activities	Crop-Husbandry	Soil and Water Conservation	Animal Husbandry	Dairy Development	Fisheries	Forestry and Wild Life	Food Storage and Warehousing	Agriculture Research and Education	Co-operation
1985-86	49.92	14.76	4.56	8.90	1.11	0.76	12.68	0.47	3.60	3.33
1986-87	66.30	13.09	10.92	11.27	1.55	1.15	18.75	0.26	4.37	3.75
1987-88	125.10	22.21	9.43	45.49	1.51	1.44	31.56	0.47	6.99	5.36
1988-89	92.40	20.07	7.93	31.37	1.06	1.12	18.45	0.99	6.18	4.72
1989-90	81.85	19.18	7.85	16.73	1.26	1.63	20.87	0.44	7.56	5.87
1990-91	118.13	27.51	9.62	19.97	1.86	1.74	26.27	0.36	8.74	21.53
1991-92	139.39	28.43	14.75	22.33	2.40	2.02	32.50	0.50	10.50	25.33
1992-93	168.45	38.21	20.94	23.84	2.14	2.10	37.04	1.47	9.63	32.44
1993-94	193.14	46.76	27.33	28.95	2.56	2.49	42.36	0.52	12.19	29.33
1994-95	204.20	50.07	30.69	26.89	2.58	2.58	54.44	0.65	12.20	23.37
1995-96	213.60	65.86	40.14	30.88	3.08	2.78	34.75	0.88	15.37	19.05
1996-97	196.31	66.99	26.79	32.59	1.79	2.43	36.01	0.83	14.66	13.28
1997-98	180.33	57.63	21.05	35.21	0.49	2.18	36.98	0.59	14.94	10.32
1998-99	234.48	71.36	30.35	46.99	0.01	2.97	48.78	0.78	19.55	12.43
1999-00	250.63	64.98	31.80	53.17	0.00	3.05	60.59	0.75	23.06	11.88
2000-01	265.61	72.38	32.53	54.43	0.00	3.07	64.90	0.31	25.65	10.96
2001-02	251.98	68.76	27.95	48.97	0.00	3.23	62.58	0.00	27.62	11.63
2002-03	383.41	104.01	38.90	76.94	0.00	5.15	98.38	-0.01	41.48	16.58
2003-04	256.56	69.96	26.51	52.34	2.23	3.05	64.74	0.00	25.53	11.06
2004-05	291.84	76.00	38.01	60.30	0.43	3.38	73.48	-0.08	27.44	11.71
2005-06	392.12	167.50	29.00	65.17	1.23	3.66	81.64	0.00	28.92	13.68



## CHAPTER – 3

### **AGRICULTURAL DEVELOPMENT SCHEMES**

#### **3.1 Introduction**

This chapter contains details on centrally sponsored schemes and state sector schemes. There were no externally funded schemes in implementation in the state as informed by the officials of state government.

Two types of agriculture development schemes are being implemented by the Agriculture Department in the State for the benefit of farmers: -

#### **A. Centrally Sponsored Schemes**

#### **B. State Plan**

#### **3.2 Centrally Sponsored Schemes**

Presently 3 CSS Schemes are being implemented in the State viz:

##### **(i) ISOPOM: - Integrated Schemes of Oilseed, Pulses, Oil palm and Maize**

This scheme was launched during 2004-05 by merging of erstwhile schemes i.e., OPP, NPDP & AMDP. The major objectives of the scheme are as under:

- Enhancing productivity and the efficiency of oilseed production, processing, value addition and product diversification to make the oilseed sector sustainable and competitive.
- Attaining self-reliance in pulses for household nutritional security, crop diversification and sustainability of the production system.
- Enhancing productivity, profitability nutritional quality and diversified uses of maize by harnessing potential of technology.

This scheme is being implemented in all the 32 districts of the State covering all oilseeds, pulses crops and maize. The funding pattern between GOI and GOR is 75:25. The main activities covered under the schemes are purchase of breeder seed, production of foundation seed & certified seed, distribution of certified seed, block demonstration, IPM, plant protection chemical seed, plant protection equipments, bio-fertilizers, gypsum as nutrient, piped water conveyance, farmers training and infrastructure development etc. The rate of assistance available in this schemes is 50% for most of the activities.

##### **(ii) ICDP (Cotton): Mini Mission-II of Technology Mission on Cotton (Intensive Cotton Development Programme)**

The Mini Mission-II of TMC was launched during the year 1971-72, the major objective of the scheme is to boost the production of cotton in terms of quality and quantity. This scheme is implemented in 16 cotton growing district of the State Viz: Sriganganagar, Hanumangarh, Bikaner, Pali, Banswara, Bhilwara, Ajmer, Alwar, Jodhpur, Jalore, Jhunjhunu, Nagaur, Sirohi, S.Madhopur, Rajsamand and Chittor. The funding pattern between GOI & GOR is 75:25. Assistance available under this scheme is 50% for most of the activities. The main activities covered under the schemes are: certified seed availability, IPM on FFS pattern, plant protection equipments, HRD activities, information support, staff & contingencies etc.

**(iii) Macro Management of Agriculture-Work Plan**

To accord greater flexibility to the State so as to address state specific needs it was recognized, by both GOI and GOR that the shift over to Macro Management Mode of transfer of Central Assistance in place of nationally determined and driven individual schemes entitled schemes for implementation/complementation of States efforts through Work Plan. It was started from December 2000. Out of 27 Central Sponsored Schemes that were merged by the GOI under work plan, only 24 schemes were being implemented in the State through different Departments of which following schemes of Agriculture have been merged under Work Plan:

1. ICDP Wheat
2. ICDP Coarse Cereals
3. Sugarcane based cropping system
4. Balanced & Integrated use of fertilizers
5. Agriculture mechanization
6. Reclamation & development of alkali soils

This scheme is being implemented in all the 32 districts of the State for the development of cereal crop wheat/barley/rice/bajra/jowar etc. The funding pattern between GOI & GOR is 90:10. The main activities covered under the schemes are – Popularization of certified seeds, IPM, INM, Agriculture Mechanization, Extension, Training & Information Support activities, Soil Reclamation, Infrastructure Support etc. the rate of assistance available under this schemes is 25%.

During 2007-08, GOI has launched 2 new schemes:

**National Food Security Mission (NFSM): -**

The National Development Council, in its 53<sup>rd</sup> meeting held on 29<sup>th</sup> May, 2007, adopted a resolution to launch the National Food Security Mission in order to increase the production of rice, wheat and pulses.

Objectives: - The objectives of NFSM are:

- i. Increasing production of wheat, rice and pulses in a sustainable manner in identified districts.
- ii. Restoring soil fertility
- iii. Creating employment opportunities.
- iv. Enhancing farm level profitability.

The districts covered under NFSM are:-

NFSM (Rice): Nil

NFSM (Wheat): 15 districts of Rajasthan viz: Ajmer, Banswara, Bhilwara, Bikaner, Jaipur, Jalore, Kota, Jhalawar, Nagaur, Pali, S.Madhupur, Sikar, Sirohi, Tonk and Udaipur.

NFSM (Pulses): 15 districts of Rajasthan viz: Ajmer, Bikaner, Barmer, Chittor, Churu, Dausa, Sriganganagar, Hanumangarh, Jaipur, Jhunjhunu, Jalore, Kota, Nagaur, Sikar, and Tonk. The programme has not been implemented in Barmer due to miniscule area under gram (less than 200ha).

The Mission interventions include demonstration of improved packages of practices, distribution of certified seed for increase in SRR, integrated nutrient management, integrated pest management, mechanization, soil amelioration, farmers field school based training, etc.

These activities will be implemented under the District Food Security Mission Executive Committee (DFSMEC) of which District Collector is Chairman and Dy. Director of Agriculture (Extension) is Member Secretary. Funds for implementation of NFSM are provided through Agriculture Technology Management Agencies (ATMAs) that have been constituted in all Districts.

Table 3.1: Proposed Action Plan (NFSM)

(Rs. in lacs for finance)

Sr. No.	Activity	Unit	Wheat		Pluses	
			Phycal	Finance	Phycal	Finance
1	Demonstrations	No.	22080	441.60	5000	100.00
2	Increase in SRR	Qtls.	412067 (33%)	284.18	74802 (6%)	863.84
3	INM/IPM		50300	303.00	50000	25.00
4	Zero tillage/seed drill	No.	4000	250.00		-
5	Rotavators	No.	100	30.00		-
6	Micro nutrients	Ha.	20000	50.00	5000	12.50
7	Gypsum application	Ha.	40000	91.50	56000	119.50
8	FFS Training	No.	73	12.41	100	17.00
9	Technology dissemination, and capacity building			100.00		50.00
10	Miscellaneous Exp.			109.57		80.00
	Total			1672.26		1267.84

## 2. Rashtriya Krishi Vikas Yojana (RKVY/NADP)

The National Development Council, in its 53<sup>rd</sup> meeting held on 29<sup>th</sup> May, 2007 resolved to introduce a new Additional Central Assistance (ACA) Scheme to encourage states to draw up comprehensive plans for the holistic development of their agriculture and allied sectors. The main objectives of RKVY are:

- (i) To incentivise the states so as to increase public investment in agriculture and allied sectors.
- (ii) To provide flexibility and autonomy to states in the process of planning and executing agriculture and allied sector schemes.
- (iii) To ensure the preparation of agriculture plans for the districts and the states based on agro-climatic conditions, availability of technology and natural resources.
- (iv) To achieve the goal of reducing the yield gaps in important crops, through focused interventions.
- (v) To maximize returns to the farmers in agriculture and allied sectors.
- (vi) To bring about quantifiable changes in the production and productivity of various components of agriculture and allied sectors by addressing them in a holistic manner.

Funds for the implementation of this scheme will also be made available by GOI on the preparation of District Agriculture Plans (which have to be submitted to the Planning Commission and to the Ministry of Agriculture for approval). The plans should seek to augment, supplement and converge ongoing schemes and planning existing ones as per the felt needs of the district.

Assistance under RKVY is available in two categories:

Stream – I for new interventions proposed by the districts on project basis.

Stream – II for meeting the additional requirements of the districts for ongoing activities.

Operationalising the RKVY

- State Agriculture Department is the Nodal Department.
- For fast track implementation, states may notify or create an Agency to implement the RKVY.
- Funds may be released directly to the agency to facilitate faster flow.
- Administrative expenses of the agency can be borne under the RKVY but within the overall ceiling of 1% of the total allocation under the RKVY.

Areas of focus under the RKVY

- Integrated Development of Food crops, including coarse cereals, minor millets and pulses.
- Agriculture Mechanization.
- Soil Health and Productivity, IPM.
- Development of Rainfed Farming Systems.
- Market Infrastructure.
- Horticulture.
- AH, Dairying & Fisheries.
- Support to institutions that promote agriculture and horticulture, etc.
- Organic and Bio-Fertilizers.
- Innovative Schemes.

Funds

- Rs.1500 crore for the year 2007-08.
- Rs.5875 crore every year till the end of XI Five Year Plan.
- Total investment of Rs.25,000 crore for the Five Year Plan.

### 3.3 State Sector Schemes

Under State Plan in addition to establishment/operating expenses of new offices/ staff / labs / ATCs /capital works, provision for those innovative schemes / activities have been kept under State Plan which are not covered in any of the ongoing CSS Schemes and are of vital importance. Besides this, provision of State Matching Share towards CSS and crop compensesson and Livelihoods Mission, is kept under State Plan.

#### Amulay Neer Yojana (Micro Irrigation)

Agriculture in the state is primarily rain fed. The demand for water has increased substantially due to increase in population and industrialization. For the protection and optimum utilization of water, the Amulay Neer Yojana was started in 2005-06. The following schemes under this yojana are being implemented to conserve and maximize use of water.

##### 1. Irrigation Pipeline Programme :-

When water flows through kachcha canal to farm, around 20 to 25 per cent of water supply is wasted. In order to reduce this water wastage and to use HDPE / PVC pipes, grant is given so that more area gets irrigation facility. Grant is given maximum for 400 meter pipeline to the farmers.

##### 2. Diggi Fountain Programme:-

This programme is for proper utilization of water and to increase area under irrigation. This is useful in the area where facility of canal irrigation is available. Here, extra water of canal flow is accumulated in diggi and when canal water is stopped, the water in diggi is used by fountain method for irrigation. Following grant is given for preparation of diggi.

Table 3.2 : Grant for Diggi

Sr. No.	Availability of Irrigation dual to diggi (Ha.)	Capacity of Diggi (Lakh liter)	Expenditure of Diggi (Lakh Rs.)	Maximum grant (Rs.)	Grant on pump set (Rs.)	Total grant (Rs.)
1	1.25 – 2.50	04	1.20	30000	3000	33000
2	2.50 – 5.00	06	1.60	40000	3000	43000
3	5.00 – 6.25	08	2.00	50000	3000	53000
4	6.25 to above	10	2.40	60000	3000	63000

Note: No grant is given for Diggi having less than 4 lakh liter capacity.

#### Achievement

The achievement under this yojana is,

- Substantial increase in area covered under micro irrigation in three years.
- Procedure of implementation streamlined.

- Drip system made compulsory in new areas coming under Narmada Command in Jalore and Barmer districts.
- Micro irrigation systems installed in all Adoptive Trial Centers.

Table 3.3: Achievement under Amulay Neer Yojana.

Name of Programme	Unit	Physical		Financial	
		Achievement	Target	Expenditure (Lakh Rs.)	Target (Lakh Rs.)
		2006-07	2007-08	2006-07	2007-08
(i) Irrigation Pipe line	Km.	6186	6000	1237	1200
(ii) Diggi Fountain Yojana	Number	497	400	209	177

Table 3.4: Amulay Neer Yojana: Micro Irrigation

Item	Coverage in hectare			
	2004-05	2005-06	2006-07	2007-08 (Target)
Sprinkler	14000	55000	69000	50000
Pipeline	10000	25000	30000	30000
Drip	1000	2000	2608	7000
Total	25000	82000	101608	87000

### Productivity Enhancement Programme

A district and crop specific project for productivity enhancement is being implemented by the state government. The crops covered are moong, moth, arhar, gur, wheat and soybean. Under this programme, productivity of pulses is plan to be increase by 150 percent, of soybean 20 percent and of wheat 30 percent as compared to 2006.

#### Project details and achievement

##### (1) Operation 150% in kharif pulses

This is a district specific and crop specific campaign with an objective of 150 percent enhancement of yield from current level. The crops covered are: Moong for Nagaur, Jalore, Ajmer, Jaipur, and Pali districts. Moth for Barmer, Churu, Bikaner, Hanumangarh and Jodhpur districts. Arhar for the districts of Banswara, Udaipur, Dungarpur, Sirohi and Alwar. Gur for the Jaisalmer, Ganganagar, Jhunjhunu, Sikar, and Bhilwara districts.

Under this programme area under pulses increased by 9.45 percent from last year. Farmers selected under this project are given full package of practices, 100% certified seed, seed treatment, Gypsum use, Bio-Fertilizer based doze of fertilizer. Training is given to farmers at village level.

Table 3.5: Achievement of the project.

Crop	Avg.Seed Distribution (Qtls)(Last 5 Years)	Seed Distribution in Kharif 2007 (Qtls)	% Increased in distribution	Average Yield (Last 5 Years) 2001-02 to 2005-06	Expected yield- 2007 (Kg/ha)
Moong	11034	29035	163	300	676
Moth	3221	4664	45	247	500
Arhar	382	639	67	611	950
Guar	9092	23394	157	306	600
Total	23729	57732	143	-	-

**(2) Soybean target 20+**

This project is implemented in four districts i.e., Kota, Bundi, Baran and Jhalawar converging 2.42 lakh hectares and 1.26 lakh farmers. The objective is to increase yield from 16qtls to 20qtls per hectare.

**(3) Wheat target 30+**

Main objectivities are to increase seed development ratio from current 19 percent to 30 percent. This scheme covers all 32 districts of Rajasthan, with seed agreements of 7.50 lakh qtls from the year 2006-07.

Main strategy of this scheme is on supply and demand side to meet its objectives. Supply side interventions are.

- GPBlock, district wise SRR plans pre period.
- Coordination for timely placement of seed.
- Advanced tie-up with suppliers.

Demand side interventions are

- Block level orientation of extension staff.
- GP level farmers training camps
- Massine IEC activities.
- Strong monitoring.

**Animal Husbandry:**

Livestock sector is very important for Rajasthan economy as it contributes 13 percent to state GDP and it provides employment and subsidiary income in rural areas.

The animal husbandry sectors comprise animal husbandry (livestock), sheep and wool, fisheries, dairy development and veterinary education and research.

The major objective of the department is enhancement in productivity of livestock and expansion of veterinary services.

Following schemes are being implemented for the development of animal husbandry.



The insurances schemes namely Avika-kavach, Avika-pal and Avi-rakshak for sheep and sheep breeders have been launched.

Targets and achievements are as below.

**Table3.6: Insurance Schemes  
(Sheep & Sheep Breeders)**

Insurance Scheme		(No.)		
		Avika-kavach	Avika-pal	Avi-rakshak
2004-05	Target	1,00,000	40,000	50,000
	Achievement	87,949	15,915	25,908
2005-06	Target	1,50,000	40,000	50,000
	Achievement	1,20,389	17,614	25,327
2006-07	Target	1,50,000	40,000	50,000
	Achievement	69,258	11,290	17,278
2007-08	Achievement (up to Dec.07)	15,517	10,780	5,668

Three insurance schemes namely Kamdhenu, Gopalak and Gorakshak have been launched for cow and cattle breeders with an aim to provide relief to Gopalaks in any crisis with regards to animal wealth.

Target and achievement of this scheme are as below.

**Table 3.7 : Insurance Schemes  
(Cow & Cattle Breeders) (No.)**

Insurance Scheme		Kamdhenu	Gopalak	Gorakshak
2005-06	Target	30,000	40,000	50,000
	Achievement	18,679	23,200	26,177
2006-07	Target	30,000	40,000	50,000
	Achievement	19,337	28,967	40,032
2007-08 (up to Dec. 07)	Target	30,000	40,000	50,000
	Achievement	5,787	14,935	14,899

This is an innovative scheme called Public Private Partnership (PPP) being implemented in this state for conservation and propagation of Tharparkar and Rathi breeds. It is planned to have 300 Integrated Livestock Development Centers in 3 desert districts (Jodhpur, Bikaner and Jaisalmer) through J.K.Trust and each center will produce 516 elite calves. The project cost for five years is expected to be Rs.2742.2 lakhs.

### **Department of Fisheries**

Department of Fisheries was established in 1982 by Government of Rajasthan for the development of fish farming.

In order to make use of modern techniques in fish farming, a Fisheries Training Centre is working in Udaipur. They have trained 1442 fish farmers in 2007-08. The main objective of this center is to bring awareness among fish farmers regarding varieties of fish, fish seed production, fish production, use of modern equipment etc.

There are State and Central Schemes being implemented for the fish farming development in the state.

**State plan:**

These are annual plans for the development of fish farming. The plan outlays for the years 2006-07 and 2007-08 were Rs.63.39 lakh and Rs.80.89 lakh respectively. The actual expenditure was Rs.52.67 lakh in 2006-07.

**CENTRAL SCHEMES:**

The following programmes are implemented under central schemes. There are various programmes of central schemes.

**1. Fresh Water fish Development Program.**

1.1 Fish Farmers Development Programme.

The main aim of this programme is to create self employment for rural youth by giving them training of fish farming. The central government provides 75 percent and state government 25 percent of the total expenditure under this plan. Training was given to 1442 fish farmers during 2006-07.

For the welfare of fish farmers, following grant aid schemes are being implemented.

1. Training to fish farmers.
2. Construction of pond for fish production on own land.
3. Renovation of old pond for fish farming.
4. Help on fish seed, fertilizer, feed etc. during first year fish farming.
5. Livestock and farming with fish farming.
6. Other incentives to more efficient fish farmers.
7. To establish hatchery and fish farm of 1 crore fish seed capacity.

**2. Fishermen Welfare Programme**

1. Ideal Development Plan of Fish men's village.

A house, clean drinking water and common plot is provided to fisherman under the programme

"Fishermen Village Development (residence purpose)". Land is given by the state government and expenditure is shared by central and state government on 50:50 basis.

Government of India sanctioned another scheme of Rs. 127.48 lakh for the welfare of poor ST Fishermen which includes construction of 300 houses, 4 community halls and 16 hand pumps. This programme is being implemented by Rajasthan Janjati Regional Development Cooperative, Udaipur.

2. Collective Accidental Insurance for Fishermen.

Active fishermen are collectively insured for accident under this welfare programme. Insurance premium is paid by state and central government on 50:50 bases. During the years, 2006-07 and 2007-08 4358 and 5459 fishermen were insured. The insurance amount paid for death, permanent disability is Rs.50, 000 and partial disability is Rs.25, 000.

### 3. Savings cum relief plan.

Under this plan, the member of fishermen cooperative committee contributes Rs.50 for nine month and the same amount is deposited by the state and centre on 50:50 bases. This amount is distributed at the rate of Rs.300 month during three lean months to them. The total number of fishermen benefited under this scheme was 760 in 2006-07 and 1208 in 2007-08.

### 4. Data Collection

The information on number of ponds, fish production etc is collected under the centrally funded plan called, "Data base and information net working for fisheries sector". The government of India has released Rs.12.21 lakh for this scheme in 2006-07 of which Rs.7.52 lakh were utilized. Similarly against release of Rs.5.00 lakh in 2007-08, Rs.4.79 lakh was used.

### 5. Awareness and Teaching on Fisheries

In order to bring awareness regarding fish farming and aquarium among people, awareness centre called, "pashudhan Bhavan Parishar" has been established in Jaipur. The expenditure is distributed on of 80:20 bases between central and state government respectively.

### 6. Development of Post Harvest Infrastructure

The post harevest infrastructure development programme is implemented in Udaipur district under central aided plan to help small fishermen for getting proper marketing facilities and reasonable prices of their production. The central government has sanctioned Rs.44.75 lakh for the scheme, of which Rs.15 lakh have already been given to state government. Under this scheme, developed centre and marketing facilities will be created in the rural areas of Udaipur district.

## **Horticulture**

Rajasthan has large scope for horticulture activities. It provides additional employment opportunities to the rural people. State and Central schemes are being implemented in Rajasthan for the development of horticulture.

### **State Schemes:**

During the year 2007-08, against the budget provision of Rs.12.97 crores, a sum of Rs.8.02 crores were utilized up to December 2007, for establishment of fruits orchards in 1920 hectares, 265 vermi compost units and plan protection measure in 27.84 hectares. Besides 16 water harvesting structures have been constructed.

Main programmes under state schemes are as below,

#### 1. Establishment of fruit orchards,

To encourage establishment of fruit orchards, a grant of Rs. 7500 /- hack is given to farmers. The target for 2007-08 was 2200 hectares with provision of Rs.165 lakh. Against this, new a fruit orchard in 1920 hectare was established with expenditure of Rs.52.88 lakh up to December 2007.

#### 2. Plan Projection Measures

The benefit of this schemes is given to only SC/ST, small and marginal farmers, female farmers. The target for the year was plant protection in 3600 hectares with provision of Rs.18 lakh. The achievement up to December 2007 was that work of plant protection was done in 2784 hectares with an expenditure of Rs.9.36 lakhs.

#### 3. Exhibition

To bring awareness about new techniques in production of fruits, vegetables, flowers, medicinal plan etc. grants for exhibition is provided under this scheme. Against the provision of Rs.55 lakh for 3600 exhibitions in 2007-08, 4357 exhibition were organized with an outlay of Rs.27.17 lakhs up to December 2007.

#### 4. Seasonal Insurance Scheme

This is for orange production and for coriander, cumin, funegeek etc. Crop grant is given by state government for insurance.

#### 5. Vermi Compost Units

With the help of Rs. 2000, vermi compost units have been established. There was a provision to Rs.15 lakh for 600 varmi compost units in 2007-08 and 265 vermi compost units were established with expenditure on Rs.3.07 lakh up to December 2007.

#### 6. Dry Farming

Grant is given in dry/semi dry area, for the storage of rainwater for horticulture crop production.

## **(B) Central Government Scheme**

### **(1) National Horticulture Mission**

To increase the area, production and productivity of different horticulture crops like fruits, spices, flower and medicinal crops, National Horticulture Mission was started by the central government in 2005-06. The scheme is being implemented in 13 districts of Rajasthan.

There was a provision of Rs.8940 lakh in 2007-08 of which central government disbursed Rs. 3513 lakh to National Horticulture Mission by Dec 2007. Expenditure incurred by mission was Rs. 3059 lakh. This includes 15 percent of state government share. This mission has covered area under fruits (4217 ha.), spices (9079 ha.), flower orchards (713 ha.), organic farming (675 ha.), varmi compost unit (180 ha.) and integrated pest management (2000 ha.). It has also helped in training of 3900 farmers, development of five cold storage and 186 water resources.

Beside these developments, the Horticulture Mission is also working in the area of quality seed of fruits, plant protection measures under severe conditions, human resource development, honeybee production, exhibition and marketing facilities.

### **(2) National Bamboo Mission**

Under this, the district of Karauli, S.Madhopur, Udaipur, Chitorgarh, Banswara, Dungurpur, Sirohi, Baran and Jhalawar were taken for promoting bamboo cultivation. During the year 2007-08, 19 nurseries were development and training was imparted to 515 farmers and 20 government officials up to December2007.

### **Watershed Development and Soil Conservation**

The 'Watershed Area Development' approach is adopted in areas where rains is uncertain and inadequate, and also where agriculture fully depends on rains and in areas of mixed farming, forestry, animal husbandry and fishery.

Following schemes are being executed under watershed development and soil conservation  
(1) National Watershed Development Programme (NWDP).

This programme is being implemented under Macro Management Mode with the assistance of Ministry of Agriculture, Government of India. The main aim of NWDP is to promote and develop of more sustainable agriculture practices of rainfed areas with greater productivity levels and to support the population, conserve and develop utilization of rural resources and regenerate/restore of ecological balance. Thus, it aims to create alternate employment and income generating options for the landless including rural community and

to reduce inequalities between the irrigated and rainfed areas. During the year 2007-08, an expenditure of Rs.1521.08 lakhs has been incurred up to December 2007 against available fund of Rs. 1653.81 lakhs and 34,091 hectares of area has been treated.

(2) Integrated Wasteland Development Programme (IWDP)

The main objective of IWDP is to produce fuel wood, timber wood, fodder and grass in non-forest areas to meet the daily requirement of rural community and bring down pressure on forest land and simultaneously restore ecological balance by developing watershed. IWDP is being executed in 18 districts of the State. During the year 2007-08, an expenditure of Rs.3357.43 lakhs has been incurred up to December 2007 against available fund of Rs.6878.34 lakhs and 56,071 hectares of area has been treated.

(3) Desert Development Programme (DDP) and Drought Prone Area Programme (DPAP)

The main objective of both programmes is to promote economic development of the rural community through optimum utilization of land, water etc. Special emphasis is being given to improve the economic and social condition of the poor having no access to resources through equitable distribution of the benefit of land and water resources.

This DDP is being implemented in 16 desert districts and DAPA in 11 districts of the State.

Up to December 2007 1,07,940 hectares under DDP and 32,042 hectares under DAPA were treated.

(4) Combating Desertification Programme (CDP)

This programme is being implemented in 10 desert districts of the state with the objective to combat desertification by stabilizing sand dunes through afforestation shelterbelt creation. During the year 2007-08, against the annual target of Rs.6191 lakhs, an expenditure of Rs. 4533 lakhs has been incurred up to December 2007 and 54,764 hectares of area has been treated up to December 2007.

(5) Innovative Programme

Public-Private-Partnership watershed development project focuses on watershed and activities like efficient water use, agro-marketing, crop diversification, micro credit etc. This would set up a model watershed project in the state. During the year 2007-08, against the provision of Rs.126.70 lakhs, an expenditure of Rs. 23.25 lakhs has been incurred up to December 2007 by treating 402 hectares of area.

## CHAPTER– 4

### **NEXUS BETWEEN STATE INTERVENTION AND AGRICULTURAL DEVELOPMENT**

#### **4.1 Introduction**

Rajasthan is predominately an agrarian state. The significance of agriculture arises also from the fact that development in agriculture is an essential condition for the development of the state economy. However the percentage share of expenditure on the agriculture and allied activities in the total budget of the state has declined over the years from 4.40 percent in 1985-86 to 3.54 percent in 2005-06. The share of agriculture expenditure in the total budget became adverse with the beginning of 1999-2000, with its share declining from 2.75 percent to 1.63 percent in 2002-03 and 1.69 percent in 2003-04. Similarly, the share of agriculture in overall GDP has declined over the years.

#### **4.2 Impact of agricultural expenditure on Production, GSDP and Poverty.**

Agriculture provides not only food and raw materials, but also employment to a very large proportion of population. Enhancing growth of the agriculture sector is vital for ensuring food security, poverty alleviation, price stability, overall industry growth and sustainability of growth of the overall economy. Following table gives overall idea on growth rates of crops, NSDP, expenditure on agriculture, its share in budget etc.

As stated earlier, agriculture in Rajasthan is largely dependent on the vagaries of the monsoon. Besides expenditure, the nature plays a significant role in agriculture production which fluctuates sharply from year to year. The overall growth rate of expenditure on agriculture and allied activities in the budget was 4.44 percent and on crop husbandry it was 6.29 percent. However, production of foodgrain increased at the average rate of 1.37 percent and of oilseeds at the rate of 9.33 percent. If it divided in to two periods, growth rates of both expenditure on agriculture and foodgrain production was more than double during pre reform period than reform period

Table 4.1: Compound Growth Rates during Pre-Reform and Reform Period.

Sr. No.	Particulars	Growth Rates (percent)		
		Pre reform period (1985-86 to 1990-91)	Reform period (1991-92 to 2005-06)	Total period (1985-86 to 2005-06)
1	Crops			
(i)	Total Cereals			
	Area	-0.04	0.45	0.02
	Production	6.36	2.29	2.14
	Productivity	6.41	1.84	2.11
(ii)	Total Pulses			
	Area	-0.91	1.41	-0.52
	Production	-0.47	0.05	-3.12
	Productivity	0.45	-1.44	-2.61
(iii)	Total Food grain			
	Area	-0.30	0.70	-0.13
	Production	5.06	2.05	1.37
	Productivity	5.38	1.34	1.51
(iv)	Oilseeds			
	Area	8.04	2.67	4.90
	Production	17.15	5.36	9.33
	Productivity	8.44	2.63	4.23
2	NSDP (constant price)	7.20	4.52	5.15
3	GSDP (constant price)	7.33	4.82	5.45
(a)	Primary Sector	7.64	2.80	3.87
(b)	Secondary Sector	6.84	6.42	6.49
(c)	Tertiary Sector	7.29	5.50	6.16
(a)	Primary Sector	7.64	2.80	3.87
(i)	Crop Husbandry	7.02	2.51	3.45
(ii)	Forestry	30.04	2.96	10.22
(iii)	Fisheries	-11.78	6.03	1.84
4	Growth rate of expenditure of Total Budget			
(i)	Agriculture and allied activities	8.87	2.94	4.44
(ii)	Crop Husbandry	4.62	8.14	6.29
5	% Share in budget	4.40	2.88	2.99
6	% Share in Economic services	16.85	15.59	15.72

.Thus, expenditure on agriculture does affect the agricultural production but besides that as discussed earlier, government price policy and liberalized trade policy do affect the area under crops, and that affects overall production. Also changing food habits of people also affect production of crops. Like in Rajasthan, people started using wheat from coarse cereal bajra. This has resulted in glut of bajra as there are no easily adopted substitute crops.

Thus, not only expenditure but many other factors affect the agricultural production. Specially state like Rajasthan, where nearly two third of area is arid or semi arid and



receiving low and irregular rainfall with extremes of climates. A good rainfall can boost up agricultural production at the highest and it crash down to at lowest very next year.

Share of primary sector is declining in GSDP but still holds important place in Rajasthan economy as dependence of the state workforce on agriculture has remained more or less constant. Growth in primary sector in GSDP was on an average 3.87 percent per year whereas GSDP growth at the rate was 5.45 percent over the study period. Declining in growth rate of agriculture has affected the growth rate of GSDP during reform period. However growth rates of secondary and tertiary sectors in GSDP was also low during this period but reduction in growth rate of agriculture was higher than these two sectors.

### **Impact on poverty.**

<sup>6</sup>A welcome feature of Rajasthan's economy is the low level of poverty compared to the country as a whole. Even more remarkable is the fact that for a considerable period of time, from early eighties to the mid nineties, the pace of decline was fairly high. This was made possible due to high growth rate of agricultural production during this period. With the slackness in agricultural growth, decline in poverty rate also decelerated

Table below gives the poverty rates in Rajasthan and India.

**Table 4.2: Poverty Rates in Rajasthan and India: 1973-74 to 2004-05. (Percent)**

Region	1972-73	1977-78	1983-84	1987-88	1993-94	2004-05
<b>India</b>	<b>54.9</b>	<b>51.8</b>	<b>44.8</b>	<b>39.3</b>	<b>33.5</b>	<b>27.5</b>
Rural	56.4	53.1	45.6	39.1	33.4	28.3
Urban	49.2	47.4	42.2	40.1	33.7	25.7
<b>Rajasthan</b>	<b>46.3</b>	<b>38.0</b>	<b>35.0</b>	<b>34.9</b>	<b>20.1</b>	<b>22.1</b>
Rural	44.8	35.9	33.5	33.2	16.2	18.7
Urban	53.2	46.4	40.4	39.0	33.1	32.9

Source: Rajasthan Human Development Report – 2002, Government of Rajasthan. (Up to 1993-94) Agricultural Statistics at a glance: 2008, GOI, for 2004-05.

This table indicates that overall poverty rates are lower in Rajasthan than the overall India. Since 1972-73, rates of rural poverty is significantly lower than the national average, however urban poverty is slightly less than the national average except in 1972-73 and 2004-05, when rate of urban poverty is higher. The relative low income poverty rate in the state indicate that<sup>7</sup>

- For the poor involved in the primary sector and the very poor, there are avenues of alternative employment in the state during drought period.
- The poor have mechanism of coping with poverty which includes (i) migration for livelihood support (ii) relying on more than one source of livelihood even while

<sup>6</sup> Vyas V.S, Acharya S, Singh S, Sagar V, "Rajasthan, the guest for Sustainable Development" 2007.

<sup>7</sup> Rajasthan Human Development Report 2002.Govt. of Rajasthan.

dependent on agriculture in times of rural distress. In arid zones, this includes tapping livelihood sources that are not dependent only on agriculture (iii) great mobility in workers to move from regular employment or self employment to wage employment or casual labor.

The reasons low poverty in rural areas is that the rapid growth in agriculture during 1980-1996. Beside during drought years, they found alternatives like mixed cropping, animal husbandry, migration or households occupations. Another important feature of rural areas of Rajasthan is that majority possess land which gives them opportunity to start supplementary enterprises to agriculture.

### **Impact of agricultural expenditure on farm sector distress**

Besides reduce in expenditure on agriculture and allied activities, farm sector suffers from government policies.

Table: 4.3 below gives detail on expenditure on agricultural budget, GSDP and agriculture production.

Year	Expenditure on agriculture and allied activities (CroreRs.) (revenue account)	GSDP (current price) (Lakh Rs.)	Food grain production (lakh metric tones)	Oilseed production (lakh metric tones)
1985-86	90.54	1081484	81.29	9.11
1986-87	116.96	1236041	67.92	8.83
1987-88	166.48	1362837	47.82	12.56
1988-89	174.08	1778934	106.60	19.17
1989-90	146.54	1938412	85.32	18.45
1990-91	228.93	2507641	109.30	23.55
1991-92	252.19	2804546	79.82	27.10
1992-93	339.71	3283715	114.80	25.41
1993-94	371.87	3494791	70.54	24.05
1994-95	416.17	4376009	117.10	28.34
1995-96	420.20	4980997	95.68	30.70
1996-97	406.22	6052213	128.20	35.29
1997-98	402.58	6746633	140.40	33.00
1998-99	501.82	7717218	129.30	38.15
1999-00	483.36	8271971	106.90	34.05
2000-01	510.76	8243491	100.40	20.32
2001-02	524.08	9177088	139.80	31.26
2002-03	506.79	8855005	75.35	17.54
2003-04	555.81	11160645	180.10	39.97
2004-05	622.21	11528752	121.50	55.41
2005-06	850.87	12422361	108.20	59.34

It is true that share of agriculture expenditure on revenue account in the total budget in the percentage terms has declined but in absolute term, it has continuously increased up to 1995-96. Then it declined in 1997-98 and increased in 1998-99 and fluctuates slightly up to 2002-03. The agricultural expenditure on absolute term increased significantly in 2004-05 and 2005-06, i.e. Rs.507 crores in 2003-04 to Rs.622 crores and Rs.851 crores respectively.

However, if trends on expenditure on agriculture in the budget and foodgrain and other crops production, compared, it was observed that increase in expenditure does not necessarily means increase in agriculture production in the state. There are years, when expenditure on agriculture has increased but production has declined.

There are government policies which affect farmers decision and their income. Like public distribution system, along with appropriate technology and related public initiative helped farmers to shift to mustard cultivation during the late eighties. Since mustard required less water and suits the agro-climatic conditions of the state, it has help to increase the income of farmers. But the same farmers suffer set back due to liberalized policy of government. Cheap oil imports and drought condition affected production of mustard. This resulting loss in income and employment in the farm sector. Similar government policy has affected production of wheat and bajra.

### **Impact of agriculture schemes on Agricultural Development**

This is already discussed in chapter-3 of the project report.

### **Conclusion**

Even though percentage share of agricultural expenditure in the total budget and share of primary sector in GSDP has declined, it is a fact that any deceleration in the growth of agriculture sector is translated in to lower overall GDP growth. It also reduces income and employment at farm level. This situation for expenditure on agriculture turned adverse with the beginning of 1997-98 especially for crop husbandry. Besides, fluctuations in expenditure in agricultural, the reduction in agricultural growth since mid 1990s could be attributed to the stagnant /decline yield which, in turn, reflects a variety of factors such as decaling investment, lack of proper irrigation facilities, inadequate other infrastructural facilities, absence of major technology break through, absence of knowledge on use of fertilizers /pesticides etc.

The analysis has also brought out that expenditure on agricultural in the total budget affects the overall growth of agricultural, but besides, the predominant role, played by the price policy also. Also government policy on distribution system has impact on crop pattern and food consumption pattern of state which resulted in changes in area under particular

crops, i.e., in Rajasthan, increases in area under mustard and wheat. Overall poverty level is low in the state than the national level. Usually when agricultural growth is high, level of poverty is low in the state. Besides, it is low because of large land holding, animal husbandry as a subsidiary occupation and migration to cities.

Above all, a good rainfall can boost up agricultural production at the highest and it crash down to at lowest very next year.

## CHAPTER – 5

### **SUMMARY AND CONCLUSION**

Agriculture plays an important role in Rajasthan economy. About 70 per cent of the total population depends on agriculture and allied activities for their livelihood and around 30 percent of the total state income is generated by it. Around 60 percent of the total area of the state is desert or semi desert. The state domestic product is also largely dependent on agricultural production, which is subject to wide fluctuations depending on the monsoon conditions. However, the share of agriculture sector in the state income has been declining over the period. It was 62 percent in 1970-71, which fell to 52 percent by 1980-81 and was 30 percent in 2000-01 and 27 percent in 2005-06.

#### **5.1 Agriculture and Public Finance**

There is a continuous increase in investment and outlays in five year plans of Rajasthan.

In spite of the limited resource with the state Government, over the Five Year Plan periods, there is a continued increase in investment and outlays. The investment was Rs. 54.14 crores in the 1<sup>st</sup> Five Year Plan which increased to 33735 crores by 10<sup>th</sup> Five Year Plan as against a total plan outlay of Rs. 64.50 crores and Rs. 31832 corers in the 1<sup>st</sup> and 10<sup>th</sup> plan periods respectively.

The state budgetary allocation for agriculture and allied activities has increased in absolute term but in percentage terms, the share of agriculture and allied activities to total outlay fluctuated between 3.16 (11<sup>th</sup> Plan) and 10.15 (8<sup>th</sup> Plan) per cent. As such no definite trend is noticeable when all the plan periods are taken into account.

However, when one analyse the state's plan allocation in agriculture and allied activities vis-à-vis actual expenditure, it is observed that since the First Five Year Plan and right up to Tenth Five Year Plan, [except Annual Plan 1979-80 and 6<sup>th</sup> and 7<sup>th</sup> Plan] actual expenditure is always less than the amount sanctioned.

Analysis on sector wise share in GSDP shows that over the years, the structure of the economy has shown definite indications for a change by a gradual shift from primary to other sectors.

#### **5.2 Brief Review of Agriculture Development of the State.**

Even though rich in resources, Rajasthan continues to be a backward state essentially because of very low rainfall and vast arid and sami-arid areas. Recurring draught

and uneven rainfall have become regular features in the state, Rajasthan is almost equally divided between two broad zones, arid zone (comprising 11 district north and west arid) and the rest i.e., southern plains, eastern plains and southern plateau.

The objective to increase the agriculture production has always been one of the main aims of the plans. First five year plan put emphasis on more area coverage under crops while in second plan, it was balanced growth through use of proper input. The concept of Intensive Agricultural Development Programme (IADP) was introduced in 3<sup>rd</sup> plan and introduction of high yielding varieties due to beginning of green revolution was observed in 4<sup>th</sup> plan. During 5<sup>th</sup> and 6<sup>th</sup> plan, integrated area approach and crop management practices was adopted. During 7<sup>th</sup> plan, it was envisaged to increase irrigated area and proper management of irrigation in existing area.

During 8<sup>th</sup> and 9<sup>th</sup> plans, comprehensive Agricultural Development Projects were formulated for the development of agricultural and allied activities. Keeping Government of India's National Policy on Agriculture and in response to WTO agreement, the 10<sup>th</sup> plan had emphasized on structural development for boosting agriculture economy of the state. In 11<sup>th</sup> plan, for accelerating agricultural growth, more emphasis is given on judicious use of water, high yielding variety but less water dependent crops, rainwater harvesting etc.

### **5.3 Area, Production and Productivity of different Crops.**

With limited availability of water, agriculture in Rajasthan is largely rainfed. Nearly 30 percent of agricultural area is under irrigation. In kharif crops, production and productivity not only depend upon the quantum of rainfall but also on proper and even distribution of rain over an adequate time span and its intensity.

Despite the natural constraints, the foodgrains production of the state could witnessed increase in production from 81.29 lakh tonnes in 1985-86 to 108.23 lakh tonnes in 2005-06. Over the period, production of cereals has increased but of pulses has declined. However, yearly fluctuations were reported in the production of foodgrains. Oilseeds production grew at the phenomenal rate from 9.11 lakh tonnes in 1985-86 to 59.3 lakh tonnes in 2005-06.

Following table gives growth rates of different crops during pre reforms, reform periods and overall during study period

Table 5.1: Growth Rates of Area, Production and Productivity of Different Crops.

Sr. No.	Crops	Pre-reform period (1985-86 to 1990-91)			Reform period (1991-92 to 2005-06)			Total (1985-86 to 2005-06)		
		A	P	Y	A	P	Y	A	P	Y
1	Bajra	0.29	22.68	22.32	0.55	4.81	4.23	0.22	5.32	5.08
2	Wheat	0.37	1.60	1.22	1.18	1.81	0.63	0.86	1.94	1.07
3	Total Cereals	-0.04	6.36	6.41	0.45	2.29	1.84	0.02	2.14	2.11
4	Total Pulses	-0.91	-0.47	0.45	1.41	-0.05	-1.44	-0.52	-3.12	-2.61
5	Total Foodgrains	-0.30	5.06	5.38	0.70	2.05	1.34	-0.13	1.37	1.51
6	Fruits & Vegetables	2.21	16.56	14.04	3.62	7.78	4.02	3.55	10.26	6.48
7	Rapeseed & Mustard	15.50	18.77	2.83	3.19	4.93	1.69	7.31	9.98	2.48
8	Total Oilseeds	8.04	17.15	8.44	2.67	5.36	2.63	4.90	9.33	4.23

Source: Agricultural Statistics of Rajasthan, Directorate of Economics & Statistics, Rajasthan, Jaipur.

Note: A - Area, P-Production and Y-Yield.

The average annual growth rates of the foodgrains and oilseeds were higher in pre-reform than reform period. The sole contributor to increase in foodgrain production during pre-reform was increase in yield as growth rate of area was negative for foodgrains. Growth rate of area has contributed more to growth rate of production of oilseeds than the growth rate of productivity in this period.

Growth rates of production during reform period was both due to increase in area and productivity for these crops. However, growth rate of area of wheat was higher in reform period than pre-reform period.

### Cropping Pattern

Following table indicates the changes in cropping pattern over the study period.

Table 5.2: Cropping Pattern (% to GCA)

Year	Crops							
	Jowar	Bajra	Wheat	Total Cereal	Total Pulses	Total Foodgrains	Rapeseed & Mustard	Total Oilseeds
1985-86	5.43	26.29	9.78	49.58	21.45	71.03	4.45	10.68
1990-91	4.80	25.05	9.78	46.30	19.00	65.29	9.90	15.89
1995-96	3.02	21.72	11.17	42.33	18.17	60.50	13.68	19.54
2000-01	3.50	24.11	12.01	46.79	12.35	59.14	7.30	13.76
2005-06	2.73	23.00	9.78	41.64	16.08	57.72	16.39	24.34

Source: Agricultural Statistics of Rajasthan, Directorate of Economics & Statistics, Rajasthan, Jaipur.

The contribution of foodgrains in GCA has declined over the study period. The share of area under wheat in GCA increased/or remained stagnant to up 2000-01 but than it declined to the level of 1985-86 in 2005-06. The area under bajra declined in 1995-96 but than it has increased in 2000-01 and remained at that level in 2005-06.

The cropping pattern indicated that area increased significantly for oilseeds between 1985-86 to 1995-96. It was noticeably low in 2000-01 but than again it gained in 2005-06. Recurring drought and uneven rainfall has become regular feature in the state. This affects the cultivation of crops greatly. Besides the nature, key factors affecting the area under different crops are government price policy, trade policy etc.

### Price Policy

The favorable price ratio of wheat attracted large area under wheat at the expense of other crops during nineties. However, after 2003, area under mustard cultivation increased due to increase in MSP by the state government.

### Trade policy

Farmers in the state appear to have suffered the first shock of liberalized import policies when the country's import of edible oils started growing rapidly. This resulted in decline in price of oils at the state level. Oilseeds production declined during 1997-98 to 2002-03. However, a part of the decline was contributed by drought.

### 5.4 Growth Rates of GSDP and Agriculture.

Table below gives the compound growth rates of GSDP and agriculture and allied activities.

Table 5.3: Compound Growth Rates of GSDP by Sector of Origin (constant price: 1993-94)

Sr. No.	Particulars	Per reform Period (1985-86 to 1990-91)	Reform Period (1991-92 to 2005-06)	Total (1985-86 to 2005-06)
1	Agriculture and Allied Activities	7.64	2.80	3.87
2	Crop Husbandry (including A.H)	7.02	2.51	3.45
3	Forestry	30.04	2.96	10.22
4	Fisheries	-11.78	6.03	1.84
5	GSDP	7.33	4.82	5.45
6	Primary Sector	7.64	2.80	3.87
7	Secondary Sector	6.84	6.42	6.49
8	Tertiary Sector	7.29	5.58	6.16

The growth rates of GSDP and primary sector were almost equal during pre-reform period. However, growth rate of GSDP was higher than primary sector in reform period.

### 5.5 Objectives

Agriculture plays an important role in the state's economy but over the years in some of the state budget, resources allocation to agriculture sector had declined. This had adverse effect on agricultural growth leading to imbalances in sectoral growth of economy



In order to analyse the allocation of budgetary resources as well as the balance between central and the state schemes in Rajasthan, Directorate of Economics and Statistics, Ministry of Agriculture, Government of India entrusted this project to Agro-Economic Research Center, Vallabh Vidyanagar with the following objectives:

- To analyse the trends in budgetary allocation of resources to the agricultural sector as a whole and the sub sectors of agriculture.
- To document and analyse schemes under operation in state contributing to the development of the agricultural sector.
- To enlist and analyse the impact of central sector schemes operating in the agricultural sector of the states.

## **5.6 Methodology**

This study is based purely on secondary data collected from the offices of the Directorate of Economics and Statistics and State Department of Agriculture, Government of Rajasthan, Jaipur. Time series data from 1985-86 to 2005-06 have been used for analysis. Period from 1985-86 to 1990-91 is taken as pre reform period and from 1991-92 to 2005-06 as reform period. Trends of expenditure on agriculture and expenditure on agriculture as percentage of GSDP have been studied at current and constant prices of 1993-94, using the GDP Deflator Method. CMIE Data have been used for the calculation of per hectare expenditure on agriculture and sub sectors.

## **5.7 Trends and pattern of Budgetary Expenditure on Agriculture.**

In Rajasthan, during the study period, agriculture's share in the total budget has declined from 4.40 percent in 1985-86 to 3.54 percent in 2005-06. In actual terms, allocation for agriculture and allied activities increased only Rs.867 crore whereas the total budget outlay increased by Rs.25000 crore between 1985-86 and 2005-06. Only expenditure on agriculture on revenue account is considered for analysis purpose. Following table gives trend in expenditure on agriculture on revenue account and per hectare expenditure in the budget.

Table 5.4: Trends in expenditure on agriculture of revenue account

Year	Expenditure on Agriculture (crore Rs.) Constant price (1993-94)	Expenditure Rs. per hectare Constant price (1993-94)
1985-86	186.48	102.82
1986-87	225.40	127.78
1987-88	293.34	220.42
1988-89	282.89	150.16
1989-90	219.58	122.65
1990-91	310.44	160.19
1991-92	300.47	166.07
1992-93	372.29	184.60
1993-94	371.87	193.14
1994-95	380.31	186.61
1995-96	352.19	179.03
1996-97	316.89	153.14
1997-98	294.40	131.87
1998-99	399.99	158.87
1999-00	315.05	163.36
2000-01	321.70	167.29
2001-02	319.25	153.50
2002-03	296.30	224.16
2003-04	315.55	145.66
2004-05	348.63	163.52
2005-06(P)	464.19	213.92

It is revealed from above table that increases in expenditure on agriculture and allied activities on revenue account at constant price was higher during pre-reform as compared to reform period. The expenditure on agriculture increased by 66.47 percent between 1985-86 and 1990-91, and the same rose by 54.48 per cent between 1991-92 and 2005-06. No trend was reported on per hectare expenditure on agriculture on revenue account in the budget during both periods.

The importance of agriculture expenditure on revenue account in the budget has reduced in reform period as compared to pre-reform period. On an average only 2.47 percent amount of the total budget was allocated to agriculture and allied activities on revenue account during reform period which was 4.11 percent in pre reform period. On an average expenditure on agriculture and allied activities was only 3 percent of the budget during study period. The expenditure on agriculture and allied activities on revenue account in budgets of different years of study period has moved around 1 percent of NSDP in the state.

### 5.8 Change in the Composition of Expenditure on Agriculture.

There is no clear trend regarding changes in the composition of expenditure on agriculture of revenue account over the two different periods or during entire study period. There are sharp fluctuations in particular years on expenditure on different activities of agriculture. This may be due to climate of the state as agriculture mainly depends on rainfall in Rajasthan. It may be noted that during the last decade of study period generally percentage contribution of expenditure on crop husbandry and animal husbandry in the total expenditure on agriculture has increased while the same has decreased for dairy development and cooperation and remained almost stagnant for soil and water conservation. It is encouraging that share of expenditure on agriculture research education has increased during late 90's and early 20's.

Table 5.5: Compound growth rates of expenditure on agriculture and allied activities of revenue account (constant price: 1993-94) (Percent)

Sr. No.	Particulars	Pre Reform Period (1985-86 to 1990-91)	Reform Period (1991-92 to 2005-06)	Total (1985-86 to 2005-06)
A (i-ix)	Agriculture and Allied Activities	8.87	2.94	4.44
(i)	Crop Husbandry	4.62	8.14	6.29
(ii)	Soil and Water Conservation	6.80	0.51	3.39
(iii)	Animal Husbandry	7.81	3.19	4.09
(iv)	Dairy Development	2.81	-8.11	-4.84
(v)	Fisheries	8.31	0.05	2.04
(vi)	Forestry and Wild Life	6.48	2.17	3.45
(viii)	Agriculture Research and Education	9.33	2.79	4.55
(ix)	Co-operation	28.74	-7.78	1.27

Expenditure on crops husbandry during pre-reform period showed an annual growth rate of 4.82 percent and increased to 8.14 percent during reform period. This was the only sub sector of agriculture and allied activities that witnessed higher growth rate in expenditure in reform period than pre-reform period compared to other sub sectors which was not only low but also negative for some sub sectors.

### 5.9 Agricultural Development Schemes.

Two types of agricultural development schemes are being implemented by the Agriculture Department in the state. There are no externally funded schemes under implementation in the state as informed by the officials of the state.

## **A. Centrally Sponsored Scheme.**

Presently three old CSS schemes and two newly introduced schemes (2007-08) are being implemented in the state.

### 1. ISOPOM: Integrated Schemes of Oilseeds, Pulses, Oil palm and Maize.

This scheme was launched during 2004-05 by merging erstwhile scheme. i.e., OPP, NPDP and AMDP. This scheme is being implemented in all the 32 districts of the state covering all oilseeds, pulses and maize. The main objective of this scheme is to enhance productivity of these crops.

### 2. ICDP (cotton): Mini Mission –II of Technology Mission on Cotton (Intensive Cotton Development Programme)

This scheme was launched during 1971-72, the major objective of the scheme is to boost the production of cotton in terms of quality and quantity. This scheme is implemented in 16 cotton growing districts of the state.

### 3. Macro Management of Agricultural: Work Plan

This was started in 2004. Out of 27 Centrally Sponsored Schemes that were merged by the GOI under work plan, only 24 schemes were being implemented in the state through different Departments. This scheme is being implemented in all the 32 districts of the state for the development of cereal crops.

During 2007-08, GOI has launched 2 new schemes.

### 1. National Food Security Mission (NESM)

The National Development Council on 29<sup>th</sup> May 2007 adopted a resolution to launch the NFSM in order to increase the production of rice, wheat and pulses. Rajasthan has covered 15 districts each for wheat and pulses under this scheme.

### 2. Rashtriya Krishi Vikas Yojana

The NDC on 29<sup>th</sup> May 2007, resolved to introduce a new additional Central Assistance Scheme to encourage states to increase outlay on agriculture and allied activities and prepare district level comprehensive plans for development of agriculture and allied sector.

## **State Level Schemes**

### Amulay Neer Yojana (Micro Irrigation)

For the protection and optimum utilization of water, the Amulay Neer Yojana was started in 2005-06. The main schemes under this are irrigation pipeline programme and Diggji Fountain Programme.

### Productivity Enhancement Programme

A district and crop specific project for productivity enhancement is being implemented by the state government. The crops covered are moong, moth, arhar, gur, wheat, and soyabean. Under this programme productivity of pulses is planned to be increased by 150 percent, of soyabean by 20 percent and wheat by 30 percent as compared to 2006.

### **Animal Husbandry**

The major objective of the department is enhancement in productivity of livestock and expansion of veterinary services. The insurance schemes namely Avika-kavach, Avika-pal and Avi-rakshak for sheep and sheep breeders have been launched. Three insurance schemes, namely Kamdhenu, Gopalak and Gorakshak have been launched for cow and cattle breeders. This is an innovative Public Private Partnership (PPP) scheme being implemented for conservation and propagation of tharparkar and Rathi breeds.

### **Department of Fisheries**

Department of fisheries was established in 1982 by Govt. of Rajasthan. In order to make use of modern techniques in fish farming, a fisheries training centre is working in Udaipur. There are annual plans for the development of fish farming at the state level. Beside fresh water, Agriculture Development Programme and Fisherman welfare programme are being implemented under central scheme.

### **Horticulture**

The state scheme for the development of horticulture is establishment for fruit orchards, plant protection measures, exhibition, seasonal insurance scheme, vermi compost unit and dry farming.

Under the central government scheme, National Horticulture Mission was started in 2005-06, and is being implemented in 13 districts. National Bamboo Mission is started for promoting bamboo cultivation.

### **Watershed Development and Soil Conservation**

Under watershed development and soil conservation, following schemes are being implemented. - National Watershed Development Programme:

To promote and develop more sustainable agriculture practices in rain fed areas.

Integrated Wasteland Development Programme:

To produce fuel wood, timber, fodder and grass in non forest area to meet daily requirement of rural community and bring down pressure on forest land.

Desert Development Programme and Drought Prone Area Programme.

To promote economic development of rural community through optimum utilization of land, water etc.

### Combating Desertification Programme

To combat desertification by stabilizing sand dunes through afforestation, shelterbelt creation.

### Innovative Programme

Public Private Partnership watershed development project focuses on watershed activities like efficient water use, agro marketing, crop diversification, micro credit etc.

### **5.10 Nexus Between state Intervention and Agricultural Development.**

Agriculture provides not only food and raw material but also employment to a very large proportion of population. Enhancing growth of the agriculture sector is vital for ensuring food security, poverty eradication, price stability, overall growth and sustainability of growth of the overall economy.

Even though percentage share of agricultural expenditure in the total budget and share of primary sector in GSDP has declined, it is a fact that any deceleration in the growth of agriculture sector is translated in to lower overall GDP growth. It also reduces income and employment at farm level. This situation for expenditure on agriculture turned adverse with the beginning of 1997-98 especially for crop husbandry. Besides, fluctuations in expenditure in agriculture, the reduction in agricultural growth since mid 1990s could be attributed to the stagnant /declining yield which, in turn, reflects a variety of factors such as declining investment, lack of proper irrigation facilities, inadequate other infrastructural facilities, absence of major technology break through, absence of knowledge on use of fertilizers /pesticides etc.

The analysis has brought out that expenditure on agriculture in the total budget affects the overall growth of agriculture. The price policy also plays predominant role. Also government policy on distribution system has impact on crop pattern and food consumption pattern of state which resulted in changes in area under particular crops, i.e., in Rajasthan, increases in area under mustard and wheat. Overall poverty level is low in the state than the national level. Usually when agricultural growth is high, level of poverty is low in the state. Besides, it is low because of large land holding, animal husbandry as a subsidiary occupation and migration to cities.

### 5.11 Suggestions

- Rajasthan economy is predominantly agricultural and rural in nature. Given the size of agricultural sector and hostile agro climatic condition, higher plan allocation should be made for the agricultural sector. It is also equally important to make efficient utilization of allotted money during the plan period.
- There are fluctuations in the growth rate of Net State Domestic Product due to uncertainties in agricultural production which is almost entirely depending on rainfall. The problem of drought has become chronic issue for the state's economy. The drought mitigation strategy should be linked to agricultural and rural development as well as water management and sufficient funds should be made available in the plan for this purpose.
- The share of primary sector in the GSDP has declined over the years. Rapid growth in service sector is an indication of structural changes in the economy. But this does not minimize the need for the higher growth of agriculture sector which is the most important for growth of economy and reduction of poverty in Rajasthan.
- It is not necessary that due to liberalized trade policy, all regions should gain. There should be some compensatory mechanism by the government for the welfare of the farmers who have suffered due to this policy, like farmers growing oilseeds in the state who had suffered due to trade policy.
- More emphasis was given to price policy in agricultural policies during nineties. Non price factors like technology breakthrough, livestock based farming, agricultural processing etc, are also important for the development of agriculture in the state.
- Looking to the share of agriculture sector in GSDP, decreasing allocation for agriculture and allied sector in the budget, rural poverty and agro climatic conditions of the state, long term policy measurers are required for improving resource use efficiency.

## **Appendix 1.1**

### **Comments**

#### **Rajasthan**

1. Please follow the table format which we have been sent. Otherwise it would be difficult for us to make consolidated study. All the extra table can be shifted to Annexure Tables.
2. Please specify the statistical methods which you have used in methodology part.
3. Table 1.1 should be “Growth of GSDP at Constant Prices(1993-94 Prices) according to our table format. In addition to table make use of graph.
4. In addition to the table 1.1, 1.2, 2.2, 2.3, 2.4, 2.7 make graphical representation.
5. In chapter II, table 2.2 “Per hectare expenditure on agriculture” is missing.
6. Don't repeat the tables in chapter V. Specify objectives, methodology, major findings and suggestions in this chapter.



**Appendix 1.2**  
**Action Taken**

1. Necessary changes made.
- 2, 3, 5 and 6 actions have been taken in accordance with the comments.
- 4 Graph have been incorporated.