

Rajasthan: Fostering Economic and Human Development Concurrently



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Preface

This report is the fifth state study to be published in the series of state-specific reports prepared under the research project 'Financing Human Development', a part of the UNDP-Planning Commission umbrella programme "Strengthening State Plans for Human Development".

The research for this monograph was carried out by a team led by Tapas K. Sen; other members of the team included H K Amarnath, Mita Choudhury and Surajit Das. The Governing Body of the institute does not take any responsibility for the contents of this monograph; such responsibility is to be ascribed to the authors only.

M. Govinda Rao
Director

Acknowledgements

Every state in India is at once unique and similar to others; there are certain common themes that run across many states, but at the same time there are certain specific features or combination of them that make the state different from others. In our studies of Financing Human Development across a number of states, an important objective was to understand the above with respect to each state, and while maintaining a reasonably uniform format of presentation of the study reports, bring out the state specificities. In this task, data reveal quite a lot, but they do not reveal everything; additional insights are provided by informal discussions. Accordingly, we owe a debt of gratitude to a large number of persons, mostly in the Government of Rajasthan who made this particular study possible with both quantitative and qualitative information.

As the nodal department for our study our biggest thanks to the officials of the Planning Department in Rajasthan – V Srinivas, Yaduvendra Mathur, D K Jain, R K Pandey, Kuldeep Bhatnagar, and last but not the least Alka Singh. There were several other officials from various departments that have unstintingly provided help and cooperation; some of them were Veenu Gupta, Subhash Vijay, and J P Chandelia of school education, Yogesh Jhalani, S M Raigar and Pankaj Agarwal from Rural Development and Panchayati Raj, Rajendra Taneja from the Department of Food and Civil Supplies, M L Gandhiji, J P Singhal and D K Ameta from Health, Surjeet Meena from Social Welfare and K C Sharma from the Department of Women and Child Welfare. Let us hasten to add that there were several others whom we have failed to name individually, but our debt to them is no less for that. Our sincere thanks to Vidya Sagar of Institute of Development studies for contributing more to this study than he probably thinks.

The Planning Commission and UNDP, sponsors of this series of state studies, have kept faith through ups and downs over a fairly long period over which these studies have been initiated, completed, discussed and finalised. We thank R Sridharan and Rajat Sachar of the Planning Commission and Seeta Prabhu, Suraj

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At the Institute, our thanks to M Govinda Rao, Director for his unflinching support and encouragement. Protiva Kundu worked with us on this study and contributed significantly before she had to shift base to attend to more pressing matters; we thank her for her work on this study. Diwan Chand and Gita Bhatnagar, though not part of the study team, have helped as and when needed. Narendra Jena, Sandip Biswal and Krishanu Karmakar have provided excellent research assistance. To all of them, we express our gratitude. Rita Wadhwa, Kavita Issar and the publication team have done their job with their usual efficiency for which we thank them. All remaining errors of omission and commission are ours alone.

Authors

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I. Rajasthan: Socio-Economic Overview

1. Introduction

Rajasthan, located at the western border of the country, is the largest state in terms of area (342.24 thousand km²) but ranks only eighth in terms of population. This is primarily because the desert (and near-desert conditions) in six westernmost districts¹ of the state that cover more than half of the area of the state; the density of population in these districts (specially the three districts of Barmer, Jaisalmer and Bikaner) is very low. As a result, the population density of the state is one of the lowest at 165 persons per sq. km compared to 325 for India as a whole. Further, it has a large number of settlements that are very small; such settlements are home to more than a quarter of the state's rural population that is almost 77 per cent of the total population. Also, about 70 per cent of the population is dependent on agriculture.

The state is the most water deficient in the country. Out of 237 blocks of the state, only 32 are considered safe with respect to water. All the others have either severely low water resources or nearly so. This poses a major threat to the people of the state because more than 60 per cent of irrigation is dependent on ground water; the low water reserves threaten agricultural production and income, livelihood of a vast majority of people and food security. The seriousness of this issue has been further underlined by repeated visitation of drought conditions in large areas of the state.

The state is counted among the five low income states of India along with Bihar, Orissa, Madhya Pradesh and Uttar Pradesh. Its per capita income at current prices was Rs 19920 in 2006-07 as compared to Rs 29069 for India. Economic growth has slowed down in the state in recent years; between 1993-94 and 1999-2000 the average annual point-to-point growth works out to a little more than 10 per cent per annum, while the same between 1999-2000 and 2006-07 works out to only 5.3 per cent. As Figure 1.1 shows, this is not entirely because of the sharp drop in 2002-03; the GSDP bounced back to roughly to the expected trend level in the next year. The growth since 2004-05 has been particularly

¹ Formally, the state government includes 11 districts among the desert area, which contains 40 per cent of the state's population and about 60 per cent of the area.

disappointing because several other states (a comparable case is that of Orissa) have succeeded in sharply raising their growth rates along with the country as a whole during this period. The growth in per capita incomes reflects the same trends except that in both the periods, the average annual growth rates are a little lower than in GSDP because of the growth in population.

Figure 1.1

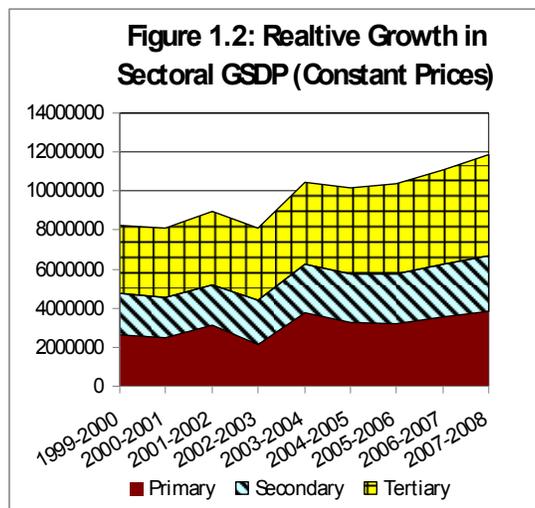
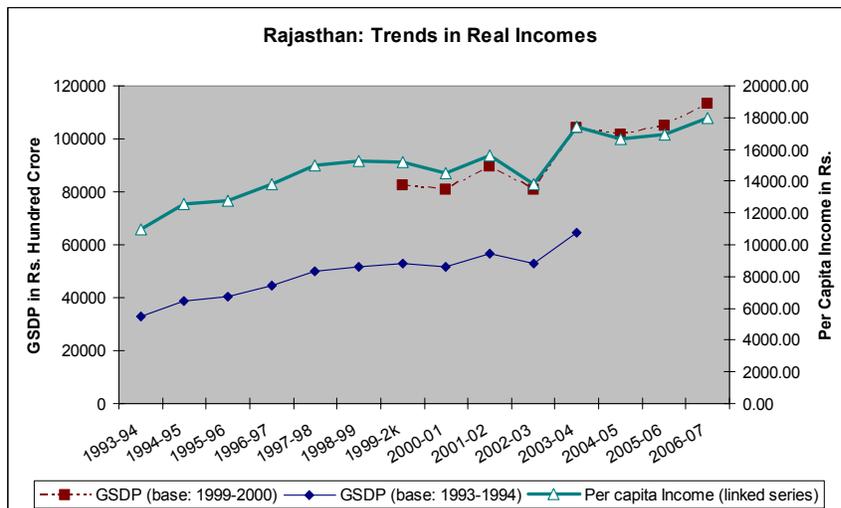


Figure 1.2 provides a more disaggregated look at the GSDP trends of recent years. It can be seen that all the three components – primary, secondary and tertiary – of the GSDP have grown roughly together. While this apparently does not signify much, in fact it goes to show that both the secondary and tertiary sectors have performed below par, though

IDS (2008) believes agriculture sector to be responsible. This conclusion is warranted in view of a comparison of disaggregated growth trends of India and other states; in most cases, agricultural growth is limited but the tertiary and secondary sectors have grown fast. In Rajasthan, these two sectors have failed to raise the overall rate of growth by any significant extent. Thus, if the state is looking to post substantially higher growth in future it must examine these two sectors closely, identify the factors holding back growth, and take necessary corrective action.

2. Status of Human Development

Historically, Rajasthan has been placed fairly low in terms of human development. In terms of human development index, it stood 28th among 32 states and union territories in 1981, with only Madhya Pradesh, Uttar Pradesh and Bihar among the larger states behind; the rank improved marginally in 1991 to 27 with Orissa also falling behind. However, the National Human Development Report 2001 placed Rajasthan at the 9th position in terms of human development index among the 15 larger states, which implied substantial improvement in the state. More recently, the 12th Finance Commission divided the states of India into five groups ranging from high to low according to selected indicators of human development and infrastructure index. Rajasthan was in the group 'lower middle' for human development and in the group 'low' for infrastructure. Thus, despite starting at a relatively low level of human development, the state has improved its position, particularly in the 'nineties. But there is a long way to go yet, and the relatively low level of per capita income of the state implies that *its efforts have to be broadly directed at a combination of economic development with human development*, by no means an easy task.

There is substantial variation in the level of human development (and other aspects of development) within the state, as can be expected. The state Human Development Report (GoR, 2002) shows a range of HDI from 0.656 (Ganganagar) to 0.456 (Dungarpur). Also, the overall correlation between the three components of HDI – education, health and income – is unmistakable, though this may not be true for individual districts or small groups of districts. This reinforces our observation above that the state has to strive for economic development and human development at the same time.

One factor that makes the task a little easier is the relatively low level of poverty in the state. Despite a low (compared to the average for India) per capita income, the level of poverty in Rajasthan is relatively low at 22 per cent (using the method of uniform recall period), down from 27 per cent in 1993-94. However, comparing the estimates based on similar methodology of mixed recall period, headcount ratio of poverty shows a marginal increase from 15 per cent in 1999-2000 to 17.5 per cent in 2004-05. Although the estimates for 1993-94 and 1999-2000 are not directly comparable because of methodological differences, taking all these estimates together, it appears that the incidence of poverty in the state was substantially lower in 1999-2000 as compared to 1993-94, but has increased

marginally after 1999-2000. Thus, while the incidence of poverty is still relatively low, there may be some concern about the increasing trend in recent years. However, it must be remembered that a combination of low per capita income with low levels of poverty implies that there would be a substantial part of the population not very far above the poverty line: any serious shock that disrupts their normal livelihood can quickly push them into poverty. With a large part of the population dependent on agriculture, repeated droughts and the ever-increasing threat of water scarcity, the state runs a real risk of actually experiencing a rise in poverty levels. At present, this trend is probably manifesting itself in the high levels of urban poverty combined with rapidly rising urban population, signifying migration of the rural poor into urban areas; needless to say, this is hardly a sustainable solution to the problem without rapid, labor-absorbing industrialization which does not seem to be happening.

Indicators of human development show a literacy rate (60 per cent) below the average for India; so is the case with enrolment, although both educational indicators have shown a substantial improvement in recent years. Unfortunately, the gender gap in the indicators is even now fairly wide. Both infant mortality rate (65 in 2007) and maternal mortality rate (388 during 2004-06) were far higher than the average for India, reflecting the poor state of healthcare of the citizens of the state. Most other indicators of various amenities were similarly below the average for the country. Broadly, these only reiterate the state of human development summarized in the human development index; however, the *poor state of affairs in all these individual sectors indicate a need for all-round effort*; there is almost no area that affords a relaxation of continuous exertion.

Table 1.1: Eleventh Plan Targets of Human Development

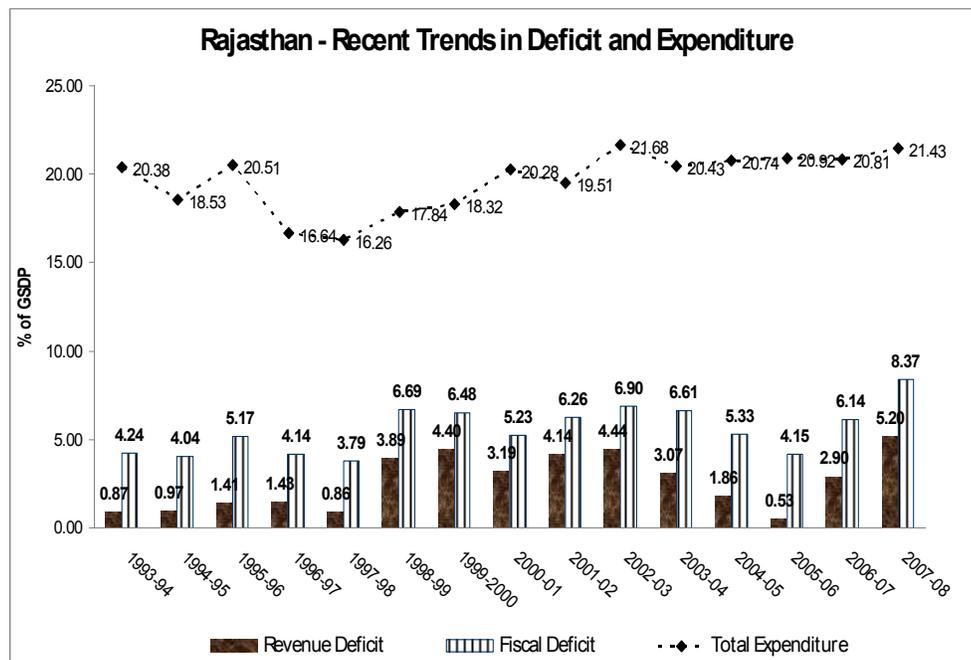
Monitorable Indicator	Current (2008) Level		Rajasthan (11 th Plan Target)
	Rajasthan	India	
Infant Mortality Rate (IMR)	65	58	32
Maternal Mortality Rate (MMR)	388	301	148
Malnutrition – Children below 3 years	50.6	47.0	25.3
Anaemia among Women (15-49 years)	48.5	51.8	24.3
Drop-out Rate in Elementary Education	68.5	52.2	29.5
Literacy Rate	60.4	64.8	79.6
Gender Gap in Literacy Rate	31.9	21.6	25.6
Sex Ratio (0-6 years)	909	927	917
Poverty (Head count ratio)	22	28	12

The human development targets proposed by the state in the Draft Eleventh Five Year Plan of Rajasthan are provided in Table 1.1. The targets appear to be modest in the area of education (except for the large reduction in dropout rate expected), but are rather stiff in the area of health and nutrition. However, it needs to be noted that even if these targets are achieved, if the national targets are achieved at the same time, then Rajasthan will continue to be behind the country averages in most of the indicators; in that sense, the targets are not ambitious enough.

3. Trends in State Finances

Being a low income state, public finances are important determinants of the extent of public intervention that the state can afford. In the second half of the nineties, the state was trying to stabilize the growing deficits; it succeeded to some extent, but only by reducing expenditures. From 1997-98 onwards until 2003-04, both expenditures and deficits remained high, hitting a local peak in 2002-03 (Figure 1.3), a bad year for the state when the GSDP plummeted. Though deficits showed a declining trend despite expenditures remaining fairly stable at around 20-21 per cent of the GSDP after that, they have risen since 2006-07, hitting a peak in 2007-08.

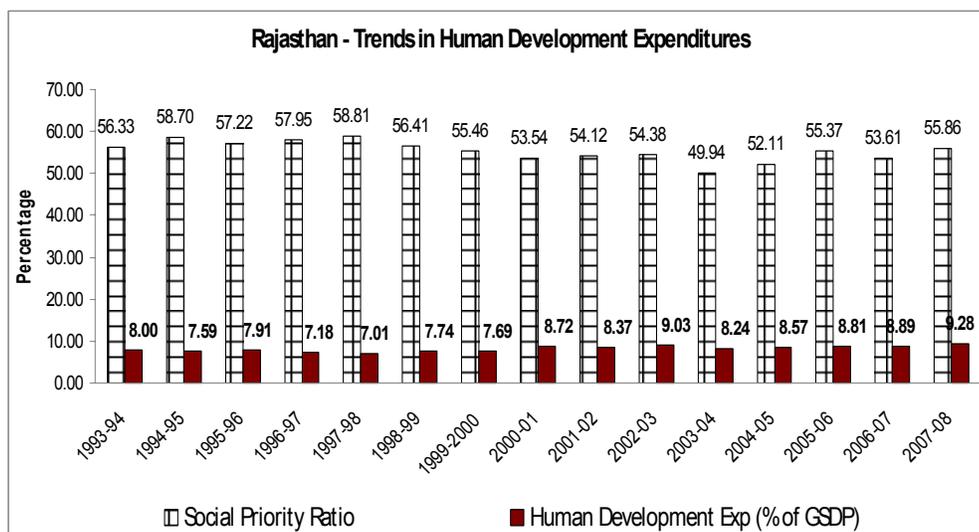
Figure 1.3



The fiscal year 2005-06 actually saw a negligible revenue deficit of 0.5 percent as compared to a revenue deficit of 4.41 per cent of GSDP in 1999-2000 and an even higher figure of 4.45 per cent in 2002-03. The fiscal deficit was a recent low, but not below 3 per cent in 2006-07 at 4.15 percent of GSDP, a target to be achieved by 2008-09 according to the legislated targets prompted by the 12th Finance Commission. Given the larger scale of expenditures under centrally sponsored schemes in the area of human development in recent years, the extent of public interventions in the state was relatively less constrained by availability of resources; this situation, however, changed for the worse in the next two years and both the deficits have shot up again, even though expenditures are stable.

The state has had levels of human development expenditure between 7 and 8 per cent of GSDP during 1993-94 and 1999-2000. This has risen considerably since then to about 8.7 per cent on an average with a high value of 9.03 per cent in 2002-03 (largely explained by the low value of the denominator) and possibly a more genuine 9.28 per cent in 2007-08 (Figure 1.4). In per capita terms, public expenditure on human development in 1999-00 prices has risen continuously from a level of Rs 878 to Rs 1169 in 1999-2000 and further to Rs 1714 in 2007-08 with temporary setbacks in 1996-97, 1999-2000, 2002-03 and 2004-05. The level of human development expenditures compares well with the other low income states, though it is lower than even most of the middle income states.

Figure 1.4



A more satisfactory aspect of the trends is that the social priority ratio (broadly the part of public expenditures on human development that are incurred on the basic services) has been above 50 per cent in all the years but one (2003-04, when it was marginally below) (Figure 1.4). A ratio of anything above 45 per cent would be considered good in the context of states/countries with low values of HDI, and the plus 50 per cent ratios in Rajasthan are (in fact higher than most states of India) in that sense appropriate. It is only when that the basic services are adequately taken of and the HDI value is substantially higher that this ratio should show a decline.

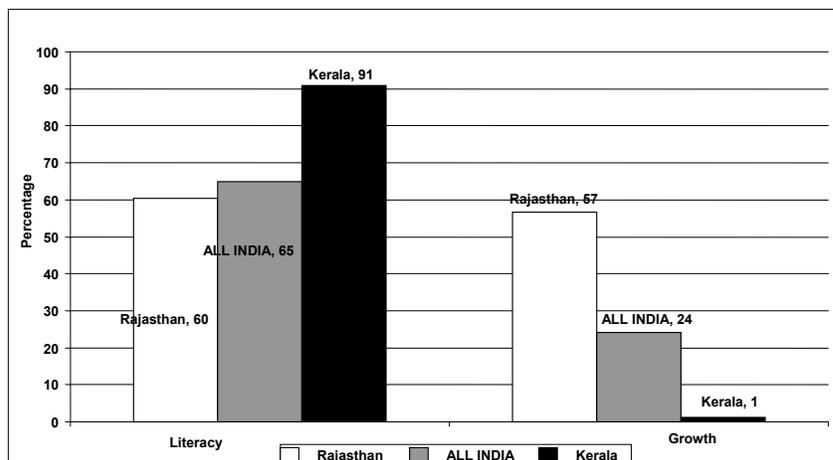
II. Elementary Education: Status, Public Financing and Needs

1. Introduction

The Constitution of India guarantees education up to VIII standard for all children in the age group of 6-14. As a matter of fact, though, there are still large numbers of completely uneducated children (and adults) in the country. The main responsibility for the constitutionally mandated provision of elementary education – free for those who cannot afford to pay for it – rests with the state governments; the centre can only help with policy guidance and financial assistance. The Planning Commission’s time-bound goals regarding universal education has already been missed; the MDG of eliminating gender disparity in elementary education by 2005 has also been missed. All the same, the state must now push hard to meet the remaining MDG in education and the National goals, at least belatedly.

Rajasthan had historically very low spread of education, but it has made enormous progress in the 1990s. But the task that remains is still a very big one, even in a comparative sense. The composite Educational Development Index (EDI) computed by National University of Educational Planning and Administration (NUEPA) for Rajasthan stands at 0.582 in 2006-07, with a rank of 22 among 35 states and UTs covered. In this chapter, we summarise the present status of elementary educational indicators in Rajasthan and after identifying supply-side gaps in the areas yet to be covered fully, we estimate the additional resources needed for financing of universalizing elementary education in the state.

Figure 2.1
Comparative Position of Literacy Rate in 2001 and Growth over 1991



Source: Office of the Registrar General, India and *Economic Survey 2006-07*.

2. The State of Affairs

The handicap of starting late in the spread of education has kept the literacy rate in Rajasthan (60 percent in 2001) lower than the all India average (65 percent). This is so despite the highest growth in literacy (57 percent) achieved during the decade 1991-2001 in the state as compared to all other states of India, and more than double that of the nation as a whole (24 percent). Although, given similar effort one would generally expect higher increases in states with low base, the fact remains that Rajasthan is fast catching up with the all India average (see Figure 2.1). But the overall trend obscures some weaknesses in the broad picture that is otherwise encouraging. To examine the literacy trends in a little more detail and identify the weaknesses, the composition of population and the literacy rates in Rajasthan as compared to the all India (average) level according to residential location, caste and gender during 2001 are presented in Table 2.1.

Table 2.1: Literacy Rates (%) According to Location, Caste and Gender – 2001

	Rajasthan	India	Rajasthan		Rajasthan – Share in Population (%)	
			SC	ST	SC	ST
Urban	76	80	61.3	60.8	14.8	2.9
Male	86	86	76.8	75.7		
Female	65	73	44.2	43.0		
Rural	55	59	49.9	43.7	17.9	15.5
Male	72	71	66.9	61.2		
Female	37	46	31.2	25.2		
Overall	60.4	64.8	64.0	52.1	17.2	12.6

Source: Based on 2001 Census.

As the table shows, literacy rate in Rajasthan varies widely depending on the caste, gender and location (rural or urban), as noted by other researchers (for example, Bajpai and Goyal, 2004). The literacy rate among urban males from all ethnic background is more or less at par with the all India averages. In fact, the literacy rates among the rural male is marginally better in Rajasthan than the all India average. But the gender gap in the state is large; as a result, literacy rates for both urban and rural females are well below the corresponding all India averages. The gap in female literacy as compared to the all India averages is highest among urban SC/ST women (14 percent). Scheduled castes and scheduled tribes constitute 30 percent of the population in Rajasthan. But literacy rates among them are generally low; the rural ST women have the lowest literacy rate among various sub-groups, with only a quarter of them literate.

Low literacy rate is partly explained by relatively low enrolment ratios in Rajasthan until very recently. Although at 81.5 percent the overall net enrolment was not too far below the national average of 84.5 in 2005-06, enrolment among SC/ST was substantially lower at a little over 75 percent.

Table 2.2: District-wise Enrolment Based Indicators in Rajasthan, 2005-06

(Percent)

District	Net Enrolment Rate in		Gender Parity Index	Literacy Rate	
	Primary	Upper Primary		Overall	Female
Ajmer	76.1	39.6	0.88	64.6	48.9
Alwar	76.6	50.0	0.92	61.7	43.3
Banswara	100.0	46.0	0.90	44.6	28.4
Baran	100.0	52.9	0.90	59.5	41.5
Barmer	100.0	34.9	0.82	59.0	43.5
Bharatpur	93.8	53.3	0.88	63.6	43.6
Bhilwara	78.8	40.8	0.85	50.7	33.5
Bikaner	91.9	36.6	0.85	56.9	42.0
Bundi	89.2	49.6	0.88	55.6	37.8
Chittaurgarh	71.3	40.8	0.88	54.1	36.4
Churu	74.4	47.1	0.90	66.8	53.3
Dausa	94.1	59.8	0.93	61.8	42.3
Dhaulpur	100.0	49.6	0.86	60.1	41.8
Dungarpur	97.8	49.1	0.90	48.6	31.8
Ganganagar	64.7	41.9	0.89	64.7	52.4
Hanumangarh	75.0	53.2	0.89	63.1	49.6
Jaipur	58.4	37.4	0.93	69.9	55.5
Jaisalmer	100.0	26.7	0.78	51.0	32.0
Jalore	95.3	41.1	0.80	46.5	27.8
Jhalawar	94.2	40.1	0.90	57.3	40.0
Jhunjhunu	66.8	61.9	0.90	73.0	59.5
Jodhpur	79.2	32.7	0.91	56.7	38.6
Karauli	71.1	39.4	0.89	63.4	44.4
Kota	74.5	49.8	0.93	73.5	60.4
Nagaur	85.5	47.2	0.85	57.3	39.7
Pali	85.6	43.9	0.86	54.4	36.5
Rajsamand	91.0	46.2	0.93	55.7	37.6
Sawai Madhopur	78.4	41.4	0.89	56.7	35.2
Sikar	83.2	65.5	0.90	70.5	56.1
Sirohi	86.7	42.8	0.77	53.9	37.2
Tonk	79.3	41.8	0.89	52.0	32.2
Udaipur	76.5	36.5	0.83	58.6	43.3

Source: Government of Rajasthan

Among the 32 districts in Rajasthan, the enrolment indicators varied widely even in 2005-06 (Table 2.2). Full enrolment (100 percent) at the primary level was registered by Banswara, Baran, Barmer, Dhaulpur and Jaisalmer districts; the lowest net enrolment was observed in Jaipur district (only 58.4). Among other districts with low enrolment ratio at primary level were the districts of Ganganagar (64.7), Jhunjhunu (66.8), Karauli (71.1) and Chittaurgarh (71.3). Clearly, the inter-district differences were exceptionally large, particularly when we compare Jaipur with high enrolment districts, but Jaipur appears to be an outlier. Excluding Jaipur, the next lowest primary level enrolment ratio was observed in Ganganagar; but the enrolment ratio was considerably higher than in Jaipur. All the same, even the figure for Ganganagar is rather surprising because it is one of the high income (perhaps the highest) districts of the state, and enrolment is usually positively linked to income levels.

The inter-district disparity was high for enrolment in upper primary level as well in the same year. The (simple) average enrolment ratio was less than half in Rajasthan at the upper primary level (45 percent) as compared to that at the primary level (84 percent). Among the districts with relatively poor upper primary enrolment ratios, Jaisalmer (26.7), Jodhpur (32.7), Barmer (34.9), Udaipur (36.5), Bikaner (36.6) and Jaipur (37.4) exhibit particularly low figures. An interesting and notable feature of the available figures is both the consistency and inconsistency among the enrolment figures for the two levels in various districts. While Jaipur shows low figures for both primary and upper primary levels, the districts of Jaisalmer and Barmer show a huge gap between the enrolment ratios at the two levels, implying enormous dropout. The case of Bikaner is also similar to Jaisalmer and Barmer. On the other hand, in the case of Jhunjhunu, the gap between the two enrolment ratios is very small, implying very little dropout. It needs to be examined whether these reflect genuine issues or merely artefacts of poor quality of data, so that necessary policy measures may be framed. The transition rate from primary to upper primary level of education is higher in Rajasthan (92.66) than the all India average (82.24) as per available data, but that for girls (particularly in rural areas) is only 83.79 as compared to the boys (99.25) in the state.

Latest data (2008-09) put net enrolment at almost 100 percent for all districts at both primary and upper primary levels. This could be a tremendous achievement – particularly in the previously low enrolment districts – or an artefact

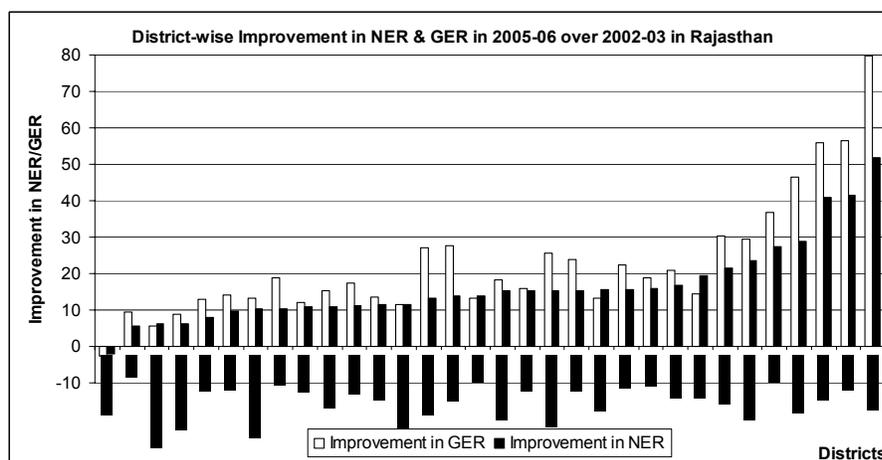
of bad data. It is difficult to be sanguine about either at this stage, but the weaknesses of the data collection process with respect to enrolment are well-known, and the second possibility, particularly with respect to upper primary level, cannot be dismissed lightly. This is particularly relevant for the enrolment of the tribal children where the issue of medium of instruction also becomes important and “where there is a difference between the local language and Hindi as medium of instruction” (Nambissan 2001).

Average literacy rate is around 60 percent in Rajasthan but female literacy is only marginally above 40. Inter-district disparity is higher in the case of female literacy as compared to overall literacy in Rajasthan. The female literacy rate in districts like Jalore (27.8 percent), Banswara (28.4 percent), Dungarpur (31.8 percent), Jaisalmer (32 percent), Tonk (32.2 percent), and Bhilwara (33.5 percent) are only 35 percent or lower. Considering district-wise gender parity index (GPI)² in elementary education enrolment in 2005-06, the un-weighted average GPI of 32 districts is 0.88. It varies from 0.77 (Sirohi) to 0.93 (Rajsamand and Dausa). In general, there is a positive relation between GPI of enrolment at primary level and female literacy rate in various districts although exceptions are there and the relation is not equally strong in all districts. Not very long ago, the gender gap was considered ‘yawning’ and researchers prescribed measures for increasing girls’ enrolment that were wide in scope (Bharadwaj, 2006). With rapidly increasing GPI in enrolment, the gap between female and male literacy is likely to disappear over a longer time period; this process can be hastened through adult literacy programme targeted at females.

In terms of increase in enrolment at primary level by districts over a 3-year period (2005-06 over 2002-03), there is clear evidence of improvements in all the districts except Jhunjhunu. In Figure 2.2, the districts are arranged in order of their improvement in net enrolment ratios. It is evident that districts like Dhaulpur, Churu, Bikaner, Jaisalmer and Kota have achieved marked improvement in enrolment, but rise in enrolment ratio is relatively small in districts like Pali, Sri Ganganagar, Chittorgarh, Ajmer and Dausa. The latest data on NER would imply that in three years after the period considered above, the improvements have in general been far larger, especially in the low enrolment districts.

² GPI = Enrolment rate for boys / Enrolment rate for girls.

Figure 2.2



The problem of out-of-school children (this includes dropouts as well as never enrolled) is one of the major problems of elementary education in many states. District-wise figures of out of school children aged between 6-14 years in Rajasthan reveal that in districts like Jaisalmer, Jalor, Karauli, Jodhpur, Chittaurgarh, Barmer, Banswara, Sirohi, Jhalawar and Udaipur, more than 10 percent of the children of the relevant age group are out of school, which is alarmingly high; however, the state average is somewhat lower near 7.1 percent (Table 2.3)³. Clearly, focused attention needs to be paid to bring the out-of-school children into the mainstream through necessary bridge courses. In recent years, this aspect has been paid attention.

Table 2.3
Out of School Children (6-14 years) by Districts, 2008

District	OoS Children (%)	District	OoS Children (%)	District	OoS Children (%)
Ajmer	6.1	Dausa	4.4	Karauli	13
Alwar	4.9	Dhaulpur	4.6	Kota	4.4
Banswara	11.3	Dungarpur	3.9	Nagaur	3
Baran	9	Ganganagar	4.5	Pali	7.4
Barmer	11.4	Hanumangarh	3.3	Rajsamand	4.8
Bharatpur	8.2	Jaipur	1.6	Sawai Madhopur	5.3
Bhilwara	7.2	Jaisalmer	15.0	Sikar	1.7
Bikaner	8.9	Jalor	14.5	Sirohi	10.5
Bundi	6.4	Jhalawar	10.1	Tonk	9.4
Chittaurgarh	11.8	Jhunjhunu	1.0	Udaipur	10
Churu	6.8	Jodhpur	12.1	Total	7.1

Source: Annual Status of Educational Report (ASER) 2008, Pratham.

³ It is a little difficult to reconcile this number with the almost 100 percent NER in all districts of Rajasthan at both primary and upper primary levels.

3. Quality of Education

An indication of the quality of education in Rajasthan can be had from the results of the latest survey carried out by Pratham in 2008. Table 2.4 indicates that in general reading abilities develop only by the time the students are in standard V and basic arithmetical skills develop only when students are in standard VI in rural areas of the state. The first three years of primary school appear to be imparting little formal education, going by the survey results. This indicates a strong need for examining the system of primary education thoroughly and understanding why the quality of education is so poor. Only then can corrective measures be undertaken. It is not because teachers are absconding, since average teacher attendance is more than 85 percent and proportion of schools with no teacher present is less than one percent on a given day. At the primary level, education is predominantly a publicly provided service, although private supply is not insignificant. Strangely enough, the proportion of school going children attending tuition classes is remarkably higher in the case of private schools as compared to government schools, the possible common determinant being income of parents.

Table 2.4
Basic Educational Skills in Rural Rajasthan, 2008

Standard	Can Read		Can Solve	
	Std I Text	Std II Text	Subtract	Divide
I	4.3	1.9	2.3	1.0
II	16.2	5.6	11.3	2.4
III	41.4	18.9	28.4	9.4
IV	65.5	34.8	49.9	20.4
V	79.8	52.1	65.3	33.1
VI	90	71.3	79.5	50.4
VII	95.4	84.3	87.9	64.0
VIII	98.2	91.0	93.8	75.5
Total	58	41.6	48.8	29.3

Source: Annual Status of Educational Report (ASER) 2008, Pratham.

District-wise pattern of quality of education reveals some correspondence with general development levels of districts. The aberrations noted regarding Jaipur and Ganganagar districts earlier are not present in this case: the quality of education appears to be relatively better in both these districts. Conversely, five districts – Banswara, Jhalawar, Pali, Ajmer, Dhaulpur and Sirohi – exhibit poor educational achievements; not all of these districts are less developed. It is therefore important to gather information on student as well as teacher characteristics in these lagging districts to design appropriate policies for intervention to improve the quality of education.

Table 2.5
Proportion of Standard III-V Children that can Read or Solve
(Rural Rajasthan, 2008)

District	Std I Text	Subtract	District	Std I Text	Subtract
Ajmer	47.8	33.2	Jhalawar	44.2	28.4
Alwar	62.9	47.2	Jhunjhunu	66.0	56.2
Banswara	49.4	24.1	Jodhpur	59.7	40.9
Baran	58.6	49.6	Karauli	63.6	53.9
Barmer	68.4	53.3	Kota	66.5	50.8
Bharatpur	62.1	57.5	Nagaur	63.4	47.4
Bhilwara	56.9	35.7	Pali	47.5	33.2
Bikaner	77.8	63.5	Rajsamand	54.6	32.4
Bundi	66.9	52.1	Sawai Madhopur	72.1	59.7
Chittaurgarh	52.6	37.2	Sikar	59.3	50.0
Churu	67.3	50.7	Sirohi	47.1	47.5
Dausa	69.8	52.1	Tonk	77.2	61.4
Dhaulpur	47.4	38.2	Udaipur	58.6	36.2
Dungarpur	58.0	37.6	Rajasthan	62.0	47.6
Ganganagar	79.3	71.0			
Hanumangarh	82.4	74.9	Max	82.4	74.9
Jaipur	73.5	59.3	Min	44.2	24.1
Jaisalmer	60.7	54.8	SD	10.12	12.19
Jalore	60.3	55.3	CV	16.32	25.62

Source: Annual Status of Educational Report (ASER) 2008, Pratham.

4. School Infrastructure

At the elementary level, the government is the major provider of education with 33 percent schools in Rajasthan operating under the Department of Education of the Government of Rajasthan, 42 percent are under local bodies and 21 percent of schools are under private managements, unaided by the government. More than half (51.3 percent) of the elementary schools and as high as 62.5 percent of all primary schools have been established in or after 1994 in the state, explaining the significant improvement in most educational indicators between 1991 and 2001. This share of schools no older than 11 years in 2004-05 was much less (only 28 percent) for India as a whole.

But this large increase in the number of schools have meant inadequate school facilities in many cases; according to the DISE data of 2008-09 for government sector schools, 11.5 percent schools do not have own school building, 10 percent schools do not have any facility of drinking water, 18.5% schools do not have girls' toilet and more than 83 percent of schools in Rajasthan still do not have electricity connection. 75 percent of primary schools did not have any book bank in school till 2005-06. 81 percent of primary schools in Rajasthan had received School Development Grant, just a little below the all-India average in 2007-08. 77 percent of primary schools received teaching learning material (TLM)

grant, again marginally below the all-India average.⁴ Public expenditure of Rajasthan on education as a proportion to the total outlay is above the average for states in India and it has consistently been above the all India average during last quite a few years. While it is understood that a large part of the expenditures would inevitably be accounted for by salaries and wages, "... basic physical infrastructural facilities like water, electricity, classrooms, toilets, etc. are very important determinants of the learning environment. All such facilities need to be adequately and urgently provided" (Bajpai & Dholakia 2006a).

The average pupil-teacher ratio in primary schools is 35:1 and for all schools it is 30:1 in Rajasthan. But 37 percent of primary schools have only one teacher (the highest percentage among all major states in India, all-India average being 14 percent in 2007-08).⁵ 3 percent of schools with primary and upper primary sections, and 7 percent of only upper primary schools are also run and managed by a single teacher. 85 percent of the teachers are professionally trained; this number is not very different for para-teachers. A large majority of the schoolteachers are graduates or have higher qualification. This indicates reasonably high levels of basic qualification; further, about 40 percent of all teachers received in-service training during the previous year in 2007-08. This proportion is higher than the all India average.

There was significant dependence on para-teachers – 21.5 percent of male teachers and 12.5 percent of female teachers in primary schools in Rajasthan were para-teachers in 2005-06; there were more than 32,000 para-teachers in different schools in Rajasthan, which constituted 8 percent of total number of para-teachers in India. More than 60 percent of them in Rajasthan schools were at least graduates. In fact, more than 25 percent of female and 18 percent of male para-teachers in Rajasthan had done their post graduation also (as of 2005-06). The para-teachers are appointed and their contracts get renewed by local bodies and it is not centrally controlled by the Public Service Commission of the state. The salaries and other job conditions of para-teachers are unattractive compared to regular teachers; with responsibilities being roughly the same, the widely divergent remuneration packages have inevitably resulted in serious dissatisfaction, with widespread demands for absorption of at least the more experienced para-teachers into the cadre of regular teachers. The state

⁴ At present coverage is claimed to be 100 percent.

⁵ This could partly be explained by a large number of schools with small number of pupils, a result of very low density of population in a large part of the state.

government has largely acceded to the demands and by 2007-08, because of large scale absorption of para-teachers into regular cadres, their percentage in total teachers had dropped to less than 8 percent.

Table 2.6

Teacher Training (9-Day Content-based Training + 3-Day TLM Training), 2004-05					22-day Training Imparted to RGSJP Para Teachers	
District	No. of Teachers	Target	No. of Trained Teachers	% of Total	No. of Teachers Working	No. of Teachers Trained
DPEP Phase I						
Alwar	16196	3370	2458	15.18	782	524
Bhilwara	9947	2887	2883	28.98	828	759
Jhalawar	6915	1740	787	11.38	429	392
Jhunjhunu	9941	3052	1756	17.66	429	414
Kota	9402	1870	1027	10.92	273	234
Nagaur	13553	3459	3271	24.13	1366	1310
Sikar	10840	2864	1964	18.12	403	359
Sirohi	2798	1119	934	33.38	780	508
S.Ganganagar	8308	2268	1882	22.65	408	406
Tonk	6616	1883	950	14.36	360	360
DPEP Phase II						
Bharatpur	12408	3336	2309	18.61	289	285
Bundi	4964	1065	804	16.20	645	595
Churu	6336	2264	1914	30.21	281	260
Dausa	7470	1885	1495	20.01	630	569
Dholpur	4662	1312	809	17.35	437	305
Hanumangarh	5599	2159	152	2.71	412	412
Jaipur	24768	4050	4571	18.46	1195	1130
Karauli	6901	1888	1255	18.19	687	659
Sawai Madhopur	6405	1539	493	7.70	473	84
Non DPEP Districts						
Ajmer	10309	6585	4980	48.31	260	257
Banswara	8587	5603	4995	58.17	1933	1872
Baran	6325	3058	2681	42.39	280	264
Barmer	9369	5605	4522	48.27	2727	2648
Bikaner	8253	4141	2297	27.83	900	437
Chittorgarh	8972	6132	2730	30.43	651	0
Dungarpur	7265	4526	3059	42.11	1324	1269
Jaisalmer	2962	1528	865	29.20	702	559
Jalore	5198	3573	1654	31.82	1137	840
Jodhpur	11414	6541	4959	43.45	2021	1906
Pali	9563	5065	2637	27.58	367	339
Rajsamand	5178	3472	2640	50.98	713	703
Udaipur	12968	8017	7668	59.13	1674	1654
Grand Total	280392	107856	77401	27.60	25796	22313

Source: Annual Report 2004-05, Rajasthan Council of Primary Education, Jaipur

One way of maintaining and upgrading quality of education is through teachers' training. Since the regular teachers and the para-teachers have different qualifications, appropriate training has to be devised and imparted to each of these categories of teachers. This is one aspect which was not paid adequate

information in the past, but first DPEP and then SSA has ensured some attention to this aspect. The training activities with respect to regular teachers for one year (2004-05) in Rajasthan reveal that about 28 percent of the teachers are trained during a year (Table 2.6). This indicates a cycle of 3-4 years to complete one round of training. These figures relate to primary and upper primary teachers in the state. The figures reveal considerable variation by districts in the percentage of teachers trained during the year (only about 3 percent of the teachers in Hanumangarh district were trained in 2004-05, for example), but no conclusion can be drawn from this as the percentages may even out over a longer period. In general non-DPEP districts exhibit greater percentages of teachers' training in 2004-05, but that could possibly be because they had little training earlier as compared to DPEP districts.

Similarly, the para-teachers are given induction training as well as in-service training at intervals. Table 2.6 also provides the information on training of para-teachers during the same year.

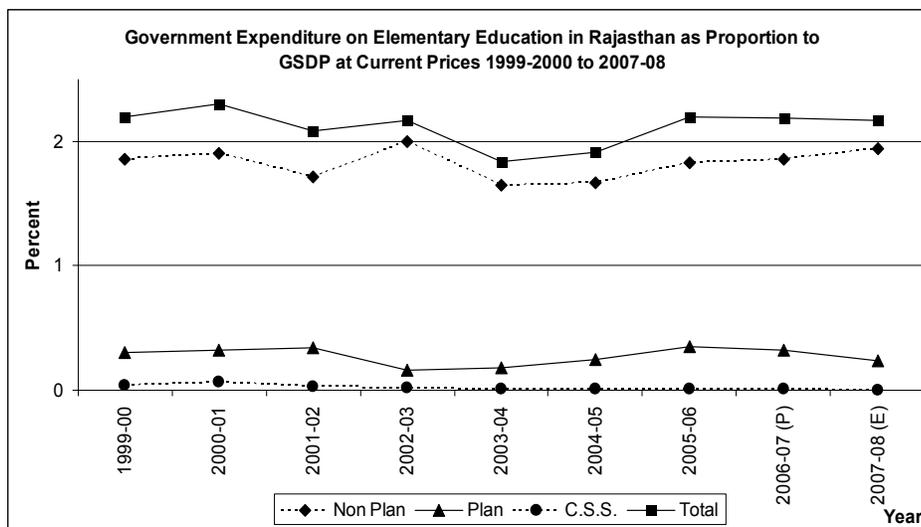
5. Public expenditure on Elementary Education

Government expenditure on elementary education has reached roughly 2.2 percent of the state's GSDP at current prices and 9.38 percent of the state budget. However, Plan expenditures along with the public spending on various central sector schemes (CSS) have shown a declining trend as a proportion of total spending. The non-plan expenditure, mainly consisting of salary and pensions of school teachers, came down after 2002-03, possibly as a result of salary of Shiksha Karmis being outside the budget. Other expenditures did not grow fast enough to compensate for the decline, as a result of which the total expenditure on elementary education actually come down as a proportion to GSDP until 2004-05; there has been a reversal of the declining trend (and then stabilisation) since then (Figure 2.3).

Figure 2.4 shows budgetary expenditure on education as also expenditure on elementary education as ratios of total expenditure over a long period of 20 years. It is seen that while over the long run there is a declining trend in the share of expenditure on education in the total state government expenditure, that of elementary education fluctuates but does not show either a clear rise or fall. Of course, taken together, the ratios imply a long term rise in the share of elementary education in total education expenditure of the government. On an average, the state has been spending around 10 percent of its total expenditure on elementary

education and around 18 percent on total education, which compares favourably with other states of India⁶, and is probably indicative of the priority attached to education (and particularly elementary education) by the state.

Figure 2.3

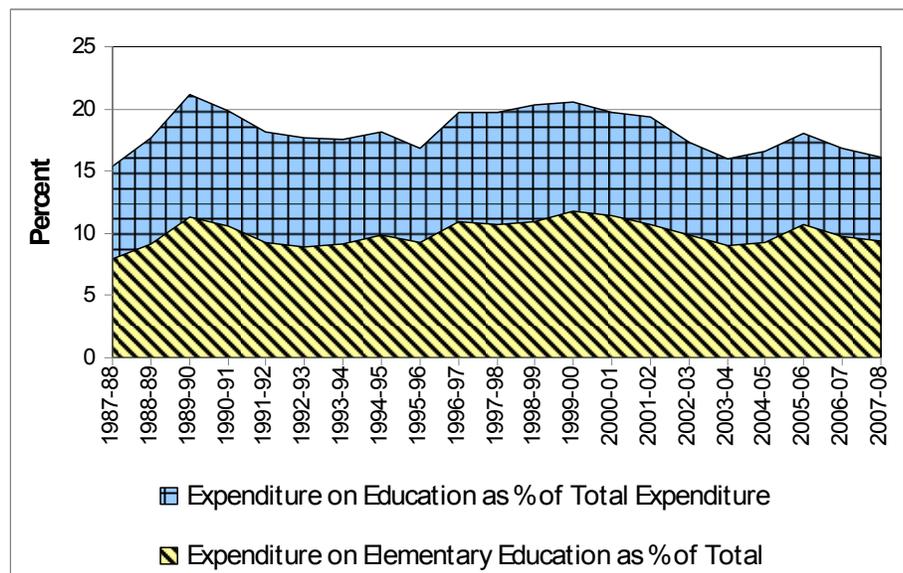


Source: Calculated from data given in <http://www.rajshiksha.gov.in/>

Note: E ⇒ Estimated, P ⇒ Provisional.

Figure 2.4

Trends in Share of Budgetary Expenditure on Education



Source: Finance Accounts of Rajasthan, various issues

⁶ For example, see Tilak (2006) for a comparative analysis of public expenditure on education in Andhra Pradesh and Rajasthan.

6. Sarva Shiksha Abhiyan (SSA)

Rajasthan was one of the selected states taken up under the DPEP program in two phases, though the program did not cover all districts. Now, this program has been subsumed under Sarva Shiksha Abhiyan (SSA), which formally started in 2000-01, but became operational only from the year after that. A summary of finances relating to SSA and the related programmes of first Education Guarantee Scheme (EGS) and later NPEGL and KGBV together are given in Table 2.7. Barring the first two years, expenditures have been near or over the amounts released; in the last three years, even against the planned budget, expenditures have been around 90 percent. The years 2003-04 and 2004-05 portray an odd picture; in 2003-04, releases were much smaller than the planned annual expenditures, leading to a large difference between the figures in the last two columns. In 2004-05, very small GoI releases caused a repeat of the same phenomenon, but expenditures were kept at a level of 61 percent of the annual budget for the year. The figures do not quite explain how the expenditures over and above the releases were financed.

Table 2.7: Finances of SSA and Related Programmes

(Rs. Lakh)

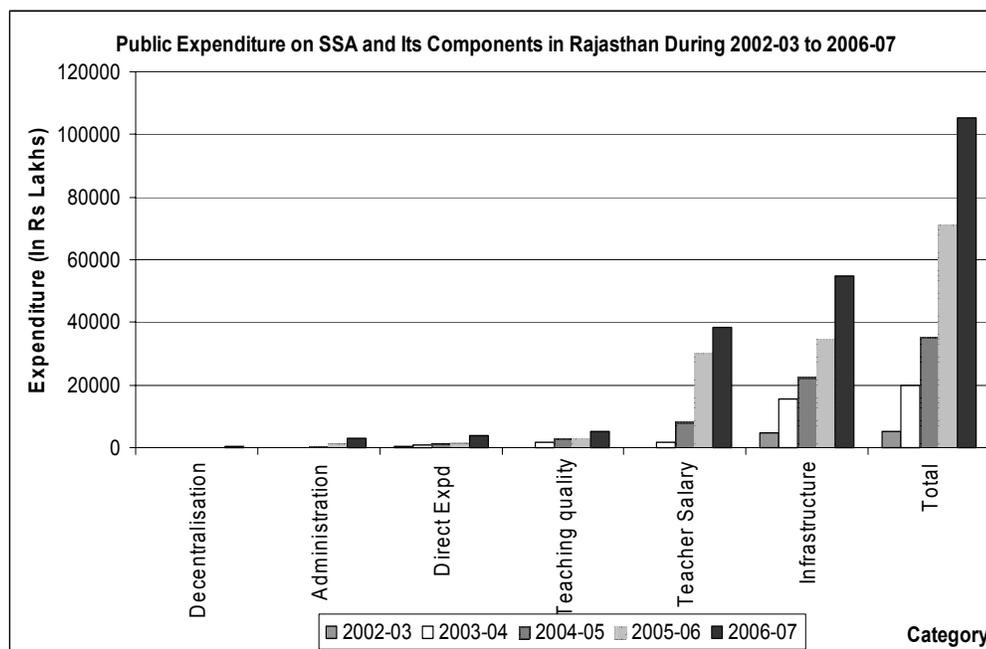
Year	AWP & B	State Share	GOI	Total Funds	Expenditure	Expenditure against Approved Budget (%)	Expenditure against Release (%)
2001-02	5538.37	2105	3908	6013	2048	36.98	34.06
2002-03	17434	1316	6407	7723	3684	21.13	47.70
2003-04	45031	6380	15627	22007	22298	49.52	101.32
2004-05	65151	10709	1081	11790	39629	60.83	336.12
2005-06	86483	17165	60362	77527	76185	88.09	98.27
2006-07	125337	29501	78771	108272	112640	89.87	104.03
2007-08	159999	40577	101307	141884	144125	90.08	101.58

Source: Government of Rajasthan

During financial year 2006-07, the latest year for which we have details of the expenditures under SSA, the total was 0.81 percent of the GSDP, which constitutes more than one third of the budgetary expenditure of Rajasthan on elementary education. Half of the expenditure of SSA was for infrastructure and almost 40 percent was for the salary of the teachers. The expenditure on administration is increasing steadily whereas the direct spending for students and that for improving the teaching quality is coming down (Figure 2.5). Cumulative

expenditure under SSA till 2006-07 have been around Rs. 2500 crore. Incorporating DPEP (District Primary Education Programme) I & II with SSA, the total expenditure exceeds Rs. 3000 crore in Rajasthan till 2006-07.

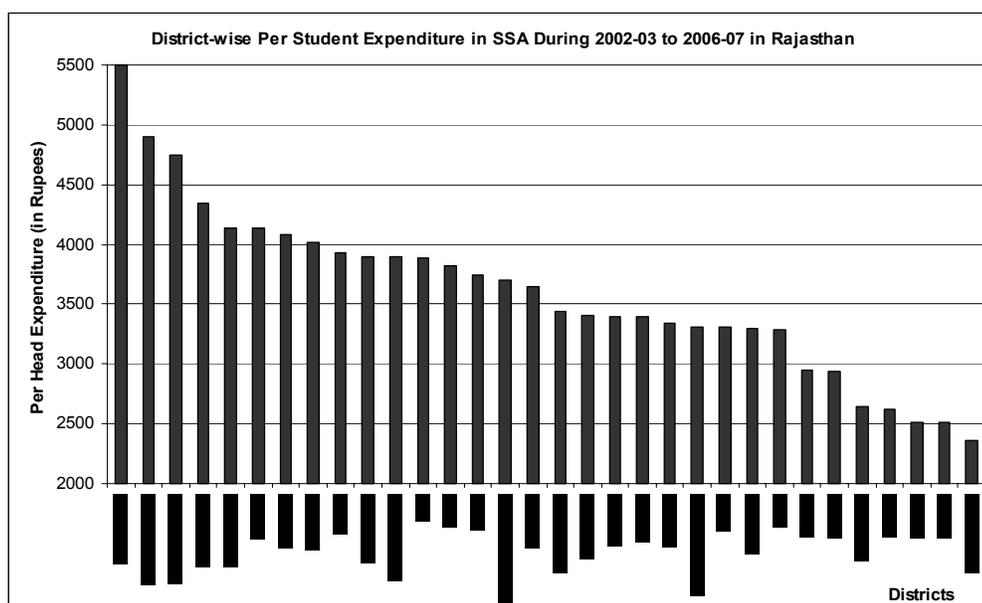
Figure 2.5



Source: Based on data obtained from annual SSA accounts

Given the large disparities in educational indicators among the districts, it is of interest to examine the pattern of SSA expenditures by districts. To do so, some normalization is necessary; accordingly, we look at the per student SSA expenditure across districts in Figure 2.6 over the five-year period 2002-07. District-wise distribution of SSA funds per student exhibit high intra-state regional disparity. Whereas per head spending works out to Rs. 5,500 in Jaisalmer district, it has been only Rs. 2357 in Bharatpur district. Districts like Jaisalmer, Chittaurgarh, Rajsamand and Banswara could spend significantly higher amounts than the state average for each student through SSA, but districts like Dhaulpur, Churu, Ajmer, Jaipur and Bharatpur spent well below average per student expenditure through SSA. While the inter-district distribution does seem to be inversely related to educational indicators in general, there are exceptions like Jaipur which gets less despite poor educational indicators, while Jhunjhunu spent considerably larger amounts compared to what is indicated by its relatively better educational indicators. Of course, unit costs could also vary among districts; for very low densities of population, unit costs could be substantially higher. But it is unlikely that this factor would explain all the variations.

Figure 2.6



Source: Based on data obtained from annual SSA accounts

Table 2.8
Rajasthan Budget and SSA Expenditure 2004-05

(Rs. lakh)

Category	Total Expenditure		Budget Expenditure		SSA Expenditure	
	Budget + SSA Expenditure	% of Total	Budget Expd	% of Total	SSA Expd	% of Total
1.Administration, Monitoring and Evaluation	13618.3	5.46	12009.5	5.51	1608.8	5.15
2.Teacher Salaries	192677.4	77.27	191682.7	87.89	994.7	3.18
3.Teaching Quality and Incentives	5689.1	2.28	2534.0	1.16	3155.1	10.09
4. Direct Expenditure on Students	5005.4	2.01	3912.0	1.79	1093.3	3.50
5.Infrastructure	28640.9	11.49	4276.4	1.96	24364.5	77.93
6.Decentralisation	3716.7	1.49	3667.3	1.68	49.4	0.16
Total	249347.9	100	218082.0	100	31265.8	100

Source: Government of Rajasthan

Since a significant part of the public expenditures on elementary education is under the SSA (the larger part of which is outside the state budget), it may be useful to combine the expenditures under the budget (net of transfers to SSA) and under SSA to get an idea of the combined magnitude and relative patterns. We have reclassified the expenditures during 2004-05 to represent some disaggregation on a common format for this purpose (Table 2.8). The figures

show that SSA expenditures were about 12.5 percent of the combined (budgetary + SSA) expenditures, and 78 percent of these were for infrastructure. In contrast, of the budgetary expenditures, 88 percent was for salaries. In the budgetary expenditures, there was no other significant category of expenditure barring administration (including monitoring and evaluation). The SSA expenditures also had a similar share for administrative and allied purposes, but more than 10 percent was allocated for teacher incentives and teaching quality improvement. The category that got more or less left out by both streams of expenditure is direct expenditures on students (scholarships etc.).

7. Mid Day Meal Scheme

Rajasthan has been implementing the mid-day meal (MDM) scheme from 2001-02 after the Supreme Court directed all the state governments to do so. Initially for a few years, the food served to the schoolchildren constituted of only 'ghooghri', essentially a porridge made of boiled wheat and jaggery. Subsequently (after 2004-05), the food served has more variety and is more like a proper meal. Studies of its impact and assessments noted almost an immediate spurt in enrolment, particularly of girls, but this could be partly attributed to the enrolment drive that was in operation at that time. These studies pointed out various pros and cons of the scheme as well; most of these have been sorted out now.

The Panchayati Raj Department of the state government is responsible for the administration of this scheme. Almost all government schools are covered under the scheme. A Trust for this purpose has also been formed and registered to supplement the efforts of the government in the implementation of this scheme. One remarkable feature of this scheme in the state is the effective private-public partnerships in its implementation with several corporate organisations, Trusts and NGOs chipping in financially or otherwise. As a result, in some areas the usual model of this scheme, that of school level food preparation, has been replaced by bulk cooking in modern, mechanized kitchens and delivery through specialized vehicles at lunchtime to schools covered. Some schools have their meals managed fully by NGOs with government backing.

Everything, however, may not be well with the scheme. Central government funds started coming only after 2004-05 and immediately state expenditure on the scheme dropped. On the positive side, the total expenditure during 2005-06 and 2006-07 has been substantially higher as compared to the

preceding years. Of much greater concern are the low levels of utilization of funds as well as foodgrains allocated.

Table 2.9
Summary of Allocation and Utilization of Food-grains

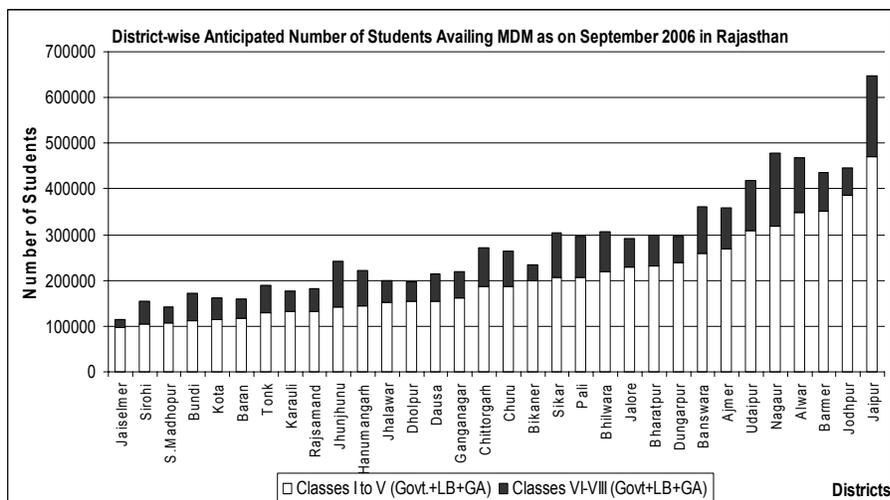
Year	Allocation of food-grain	Utilization of food-grain	% Utilization
2002-03	157910	144489	91.50
2003-04	168919	133827	79.23
2004-05	168568	110627	65.63
2005-06	196108	105501	53.80
2006-07	133313	106141	79.62
Total	824818	600585	72.81

Note: Figures are in 1000 kgs.

Source: Government of Rajasthan

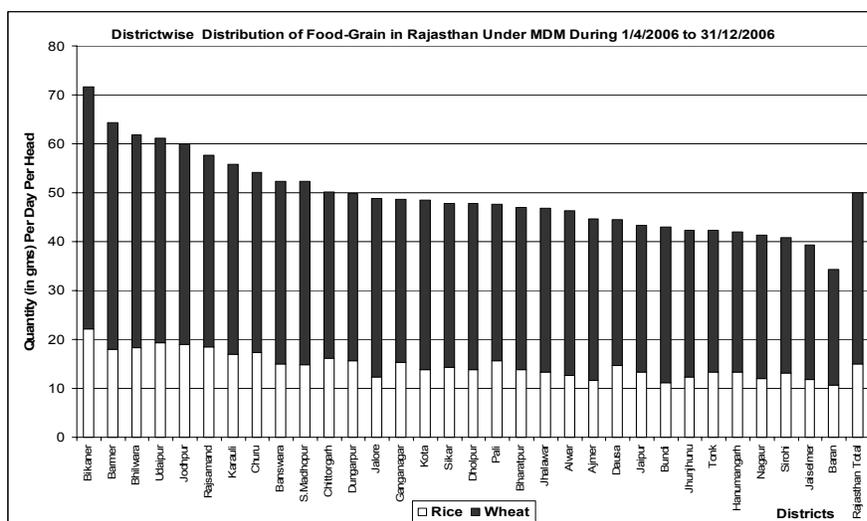
During 2006-07, for example, the allocation by the state government of Rajasthan for MDM scheme was Rs. 180 crore, but ultimately released fund was just half of it (Rs. 90 crore) and the actual utilization was Rs. 55.4 crore, which is only 30 percent of the total allocation. In real terms, the utilization of foodgrains has come down during the last five years. The percentage utilization against the allocation of food-grains also came down quite steadily except in the year 2006-07; that too because of reduction in allocation by 32 percent in 2006-07 as compared to the previous year and not because of increase in off-take. Yet, the number of students availing MDM has gone up every year consistently. The figures are difficult to reconcile unless there has been increasing private contribution in terms of both money and foodgrains to the scheme. Almost 70 percent of the total enrolled students have already been brought under the mid-day meal scheme in the state during 2006-07. As per information pertaining to 2007, the maximum number of students both at primary and upper primary levels availing MDM are in Jaipur district (472010 primary, 175831 upper primary and 647841 total students) and the lowest number of students (total 114070) availing MDM are in Jaisalmer district. The chart below (Figure 2.7) depicts the district-wise numbers of students availing MDM scheme as of September, 2006 (arranged in ascending order of primary students). The state has decided to bring all the enrolled children till 8th standard under this scheme, but the achievement was around 70 percent in 2008.

Figure 2.7



There were 172 school days during first nine months of 2006-07. Dividing total utilized food grains by total number of students availing MDM and by 172 days, the average consumption per day of students of the state work out to 15 grams of rice and 35 grams of wheat per day⁷. This varies from one district to another. For example, in Barmer district students are getting 22 grams of rice and 50 grams of wheat, whereas in Baran district students are getting only half of that (12 grams of rice and 24 grams of wheat) per head per day (see Figure 2.8).

Figure 2.8



Source: Government of Rajasthan.

⁷ This is on the assumption that mid-day meals are given only on school days and not on holidays. If this assumption is not correct, then the average consumption will work out to smaller numbers. On the other hand, if there is any overestimation of numbers of pupils availing MDM, then the actual average consumption could be higher.

Among other expenditures under MDM scheme, the expenditures on cooking assistance, kitchen devices and kitchen shed construction are important. During first three quarters of 2006-07, Rs. 118 crore was spent on cooking assistance, Rs. 3 crore 40 lakh on purchasing kitchen devices and Rs. 28 crore was spent for kitchen shed construction in Rajasthan. Maximum spending for cooking assistance was in Jaipur (almost Rs. 7.5 crore) and minimum in Dholpur (Rs. 19 lakh) and Baran (Rs. 34 lakh). Highest expenditure on construction of kitchen shed was in Udaipur district (Rs. 2.27 crore) during the same time period.

8. Supply-side Gaps and Resource Requirements

To estimate the additional resource requirements for elementary education, the most obvious starting point is the infrastructural gap including new schools and additional facilities in existing schools to reach a basic minimum level of all the schools with supply of electricity, facility of drinking water, separate girls' toilet and at least 2 class rooms. As for the infrastructural gaps in existing schools, we essentially depend on the information provided by DISE for the year 2005-06 as provided in Table 2.10.⁸

Table 2.10
Infrastructural Gap in Schools in Rajasthan, 2005-06

Rajasthan 2005-06	primary	Primary + up	upper primary	P + up + 10 + 12	up + 10 + 12	All schools
Total No. of schools	58659	26507	142	4237	4773	94318
% of new schools after 94	62.43	35.24	29.58	43.05	11.25	51.28
No. of new schools	36621	9341	42	1824	537	48366
% of new schools having building	46.32	99.31	88.1	99.4	99.81	59.19
% of new schools without building	53.68	0.69	11.9	0.6	0.19	40.81
No. of new schools without building	19658	64	5	11	1	19738
% of schools having no drinking water	25.4	15.14	16.9	6.87	9.6	19.82
No. of schools having no drinking water	14899	4013	24	291	458	18694
% of schools having Girls' toilet	19.68	55.53	54.23	78.03	62.46	34.59
No. of schools without Girls' toilet	47115	11788	65	931	1792	61693
% of schools having 1 class room	5.26	0.58	1.41	0.38	0.29	3.47
No. of schools having 1 class room	3085	154	2	16	14	3273
% of schools having electricity	8.16	40.49	47.18	76.52	84.01	24.22
No. of schools without electricity	53872	15774	75	995	763	71474

Source: Analytical Report 2005-06, DISE.

⁸ Detailed DISE data for even 2007-08 are available; we had to opt for an earlier base year that happened to be the latest year for which all the data necessary for the estimation of resource requirements were available.

As far as new schools are concerned, a definite idea about the number needed is contingent upon detailed information on the number that ought to be there as per the norms and existing schools. While the latter figures are available, we were unable to obtain the former set of information – it appears that such information is yet to be compiled. However, we understand that the problem of access was more or less been taken care of by 2005-06, and a good 'guesstimate' of new schools needed in 2007 would be about 1,500. This is the number we use along with the normative cost applicable of a new school to estimate the total cost of new schools required as Rs. 108 crore.

As per information pertaining to 2005-06, a total of 19,738 schools started after 1994 in Rajasthan had no school building at all. Most of these schools were primary schools (19,658). Obviously, all these would need new school buildings; we take the cost of building a new school building with at least two class rooms as Rs. 7.2 lakh in Rajasthan. Also, there were 3,085 primary and 156 upper primary schools having only one class room. For at least one more additional classroom each to begin with, the average cost has been assumed to be Rs. 1.8 lakh. There were 30 higher secondary schools also with single class room (Rs. 9,00,000 per school to build 5 extra classrooms). In 18,700 schools there was no facility of drinking water at all. To build minimum provision for drinking water, the average cost is presumed to be Rs. 60,000 per school in Rajasthan. In 61,700 schools there was no separate toilet facility for girls. The average cost of adding this facility has been taken to be Rs. 25,000 on an average. Finally, there were almost 71,500 schools in the state without any electricity connection. If the village where the school is situated is not electrified, then that is a broader question to be addressed. Otherwise the average cost of providing electricity to the schools has been assumed to be roughly Rs. 20,000 per school for our calculations. Putting all these together, the additional resource requirement for infrastructure works out to about Rs. 2006 crore.

The teacher gap (given in table below) in elementary education has been estimated to be 55,083 by SSA (Ministry of Human Resource Development or MHRD). The details of these gaps are provided in Table 2.11. The table also provides the related figures of teachers to be given grants and training.

Table 2.11
Teacher Gap in Elementary Schools in Rajasthan in 2007

Category	Target	Achievement	Gap
New teacher SSA*	86516	31433	55083
New head master UP	5000	3057	1943
New Para Teacher	15303	15303	0
Primary Teacher	4214	4077	137
Upper Primary Teacher	3200	3086	114
Head master Upper Primary	1600	1232	368
Para Teacher	2156	2156	0
Total	117989	60344	57645
Teacher Grant (Existing + New)	371465		
Teacher Training (-do-)	371465		

* As on March, 2007.

Source: SSA, Ministry of Human Resource Development

The budget speech of the year 2007-08 promised fresh appointment of 12,300 new teachers⁹ to upgrade some of the primary schools to upper primary and some of the upper primary schools to secondary (from 8th to 10th standard). The estimated annual extra cost on account of teachers' salary would be Rs. 118.08 crore (12300 X 8000 X 12) per annum, assuming per teacher average salary of Rs 8000/- per month. We presume this number is part of the target for new teachers under SSA given in Table 2.11. As such, for our estimation of costs relating to new teachers, while we include the above estimate of Rs. 118 crore, we reduce the target by 12,300. If we assume that the new teachers appointed under SSA would get an initial salary of Rs. 3000/- per month on an average, then the total extra cost of appointing about 43 thousand new teachers would be around Rs. 154 crore per annum. If all the teachers have to be given teachers' training and if the assumed annual cost for this be Rs. 1400/- per teacher, then an extra amount of Rs. 52 crore is needed for that. If 5000 new head master for the upper primary schools were to be appointed at a monthly average salary of Rs. 10,000/-, the extra cost would be around Rs. 23.31 crore. If we assume Rs. 500/- annual teachers grant for all the teachers, then the additional cost would be almost Rs. 18.5 crore per annum. The details of cost estimation are given in Table 2.12. Including all the above, the total additional cost has been estimated to be around Rs. 373 crore per annum.

⁹ Budget speech of Rajasthan 2007-08, Para 36.

Table 2.12**Teacher Gap: Approximate Cost Estimation for Rajasthan - 2007**

(In Rs Lakh)			
Category	Unit Cost	Total Monthly Cost	Total Annual Cost
New teacher SSA	0.03	1283.49	15401.88
New head master UP	0.10	194.3	2331.6
New Para Teacher	0.03	0	0
Primary Teacher	0.08	10.96	131.52
Upper Primary Teacher	0.08	9.12	109.44
Head master Upper Primary	0.10	36.8	441.6
Para Teacher	0.03	0	0
Teacher Grant	0.005		1857.33
Teacher Training	0.014		5200.51
Total			25473.88
Additional 12,300 teachers	0.08	984	11808
Grand Total			37282

Government of Rajasthan has undertaken a policy to regularise para-teachers gradually. As and when that happens, the unit cost per month would increase from Rs. 1200 to Rs. 8000 i.e., an increase of Rs. 6800 per teacher per month. The DISE data tell us that there are 32,172 para-teachers in Rajasthan during 2005-06. During 2006-07, 15,303 more para-teachers have been appointed in Rajasthan. Therefore at the beginning of 2007-08 the total number of para-teachers is 47,475. Let us assume that all of them would be getting Rs. 8000 per month within five years beginning 2007-08. In that case, the government's average annual extra cost would be around Rs. 77.5 crore. If all the new 86,500 teachers appointed under SSA also have to be given Rs. 8000 (from Rs. 3000) per month within the same five years, then the annual average additional cost would be around Rs. 104 crore more. Therefore, for the fulfilment of the above mentioned scheme, the government has to increase its expenditure by Rs. 181.3 crore every year at least for these five years. However, we are not incorporating this for our present cost calculations.

The cost for interventions intended to mainstream out-of-school children in Rajasthan through short- and long-term residential bridge courses has been estimated to be Rs. 12.55 crore (Table 2.13).

Table 2.13
Interventions for Out of School Children in Rajasthan

(Rs. Lakh)

Category	Target	Achievement	Gap	Unit Cost (Rs. Lakh)	Total Cost (Rs. Lakh)
Bridge Course Residential (short-term)	86102	65694	20408	0.034	693.87
Bridge Course Residential (long-term)	43051	34795	8256	0.068	561.41

To meet the infrastructural gap detailed in Table 2.10 – apart from gaps like sitting benches for students in class rooms, chairs and tables for teachers, blackboards, computers etc. – the total estimated additional cost is Rs. 2005.39 crore. The break up of the estimated additional cost for minimum required infrastructure is as follows:

- To provide school buildings for already existing schools with none Rs. 1421.24 crore,
- for (roughly) 1,500 new schools that are required Rs. 108 crore,
- for providing electricity connection Rs. 142.96 crore,
- for drinking water facilities Rs. 118.12 crore,
- for separate toilet for girl students Rs. 154.23 crore,
- and on account of building the second class room in single room schools Rs. 61.04 crore.

If the government decides to spread out the responsibility of fulfilling these infrastructural gaps into five years and if the expected average rate of inflation be 5 percent per annum then government has to incur additional amount of expenditure as follows over a five-year period:

Year 1: Rs. 401 crore
 Year 2: Rs. 421 crore
 Year 3: Rs 442 crore
 Year 4: Rs. 464 crore and
 Year 5: Rs. 488 crore

In the implementation of mid-day meals, the bulk of the costs (foodgrains, other food material, cooking costs, transportation and wages) are borne by the central government. The state government essentially needs to provide for supplementary food material, and a part of the cooking costs. On these counts, the extant state policy of covering all elementary schoolchildren and the state's contribution for the purpose obviates any *additional* expenditure requirements.

However, one particular type of cost – construction of kitchen sheds – has to be fully taken care of yet, and the cost is to be borne by the state. This represents a one-time investment with respect to each of these sheds. An estimated expenditure of Rs. 201.76 crore to cover all schools could be spread over five years (as for other infrastructural costs) assuming 5 percent average inflation every year in the following sequence: Rs 40.35 crore, Rs. 42.37 crore, Rs. 44.49 crore, Rs. 46.71 crore, and Rs. 49.05 crore.

Including the teacher gap (Rs. 372.81 crore per annum), cost of intervention on out of school children (Rs. 12.55 crore per annum), the infrastructural gap (Rs. 2005.59 crore) and the gap in kitchen shed construction (Rs. 202 crore), the total additional government expenditure requirement works out to Rs. 4366 crore over a period of five years after adjustment for inflation. The annual incremental expenditure is estimated (somewhat arbitrarily) to range between Rs. 827 crore and Rs. 922 crore in current prices, as indicated in Table 2.14.

Table 2.14
Required Additional Resources over 5 Years for Elementary Education

(Rs. Crore)						
Year	YR 1	YR 2	YR 3	YR 4	YR 5	Total
Teacher Gap	372.81	372.81	372.81	372.81	372.81	1864.05
Out of School Children	12.55	12.55	12.55	12.55	12.55	62.75
Infrastructure Gap	401.12	421.17	442.23	464.34	487.56	2216.43
Kitchen Shed Gap	40.35	42.37	44.49	46.71	49.05	222.97
Grand Total	826.83	848.90	872.08	896.41	921.97	4366.20

Given that SSA is a cost-shared program and that much of the expenditures above can be funded by SSA, the state's own resource requirement will not be the entire amount estimated above. Since much of our data relate to 2005-06 or 2006-07, we assume that year one would correspond to 2007-08 and so on. Applying relevant sharing ratio of SSA to the annual estimates, the state's own resource requirements would then be Rs. 248 crore, Rs. 255 crore, Rs. 262 crore, Rs. 269 crore and Rs. 277 crore for the years 2007-08 to 2011-12 respectively. These amounts are not large by themselves and should not be difficult to find for something as important as education for the state's children.

Before concluding this chapter, a few observations may be in order. First, much of the analysis in this chapter is based on data on enrolment; it may be noted that these data (in all states) are widely suspected to be overestimates for various reasons. In Rajasthan too, questions have been raised about the accuracy of these numbers (CAG, 2007). This could perhaps explain to some extent the anomaly noticed here with respect to mid-day meal scheme. Second, that there has been progress in the area of education is beyond doubt, but some of the typical problems (like gender based inequity) persisted¹⁰ over a long period as earlier studies of these aspects of elementary education (e.g., Nambissan, 2001 and Ray, 2006) show, despite several special programs and projects like Lok Jumbish, Shiksha Karmi project, DPEP and now SSA and its components. Clearly, apart from funding, there are other important factors determining the outcomes (possibly social) that need to be tackled. Third, research shows that in general and in Rajasthan, quality of education is largely depends on 'school fixed effects' or school-specific factors (Goyal, 2007). While private schools outperform public schools, it does not necessarily mean privatisation of education is a better option, because private schools are more expensive for the parents and there are several public schools that outperform representative private schools. A detailed study of performance of a large sample of public schools and their characteristics would throw light on the factors that need attention.

¹⁰ Latest enrolment data show that the gender difference has been wiped off. However, as noted above, the enrolment data need to be viewed with some suspicion, particularly when non-official estimates of out-of-school children are positive and relatively high.

III. Healthcare: Achievements, Public Interventions and Requirements

1. Introduction

Rajasthan is one of the poor performing states in India in terms of health indicators like IMR and MMR. Both the Sample Registration System (SRS) and the National Family Health Survey (NFHS) indicate that infant mortality rate (IMR) in the state is significantly worse than the average figures for the country as a whole. In 2007, IMR in the state was 65 as per SRS, which ranked marginally better (or close) only to Uttar Pradesh, Madhya Pradesh, Orissa and Assam among the larger Indian states. Also, in terms of maternal mortality ratio (MMR), the state is among the worst in the country. In 2004-06, the state had an MMR of 388 which was lower only to the states of Uttar Pradesh/Uttaranchal and Assam (SRS 2009). Besides, the decline in IMR and MMR and increase in the percentage of women receiving ante-natal care and institutional deliveries in the state in the recent past was not particularly sharp in comparison to other low-performing states and the state is unlikely to meet the National and state-level targets on IMR and MMR (Table 3.1). The high levels of IMR and MMR are also mirrored in the low level of achievement in terms of institutional deliveries and ante-natal care (Table 3.2).

In terms of morbidity due to various diseases also, the state is far off from achieving the goal of 50 per cent reduction by 2010. The reported number of cases of malaria and dengue in the state are relatively high in comparison to most other states and there is no clear indication of a declining trend in these diseases. While there has been an increase in the reported number of cases of dengue in the recent past, the number of malaria cases has been fluctuating (GoR 2006-07). There has also been no significant decline in the incidence of tuberculosis (or increase in medically treated tuberculosis) between the last two rounds of NFHS surveys. The incidence of asthma among men and acute respiratory infection (ARI) among children is higher than the all India level and the decline in these diseases has not been particularly higher than the decline at the all-India level (NFHS surveys 1998-99 and 2005-06). In general, diseases related to the respiratory system appear to account for a substantial portion of reported deaths in the state (RHSDP 2004). However, the reported number of diarrhoeal deaths in the state, although substantial, has been declining in the recent past.

Table 3.1: Achievement of Rajasthan with regard to Various Goals

Indicator	Millenium Development Goals (MDGs)	National Health Policy (by 2010)	Eleventh Plan (by 2012)	National Population Policy (by 2010)	National Rural Health Mission (NRHM)	Medium Term Goals for Rajasthan	Status in Rajasthan
Infant mortality rate		30 per 1000 live births	28 per 1000 live births (by 2012)	Below 30 per 1000 live births	30 per 1000 live births	32 per 1000 live births (by 2012)	65 per 1000 live births in 2007 (SRS 2008) 65 per 1000 live births in 2005-06 (NFHS III) Change between 1998 and 2007 was 18 (both as per SRS)
Under-five mortality rate	Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate						19 per 1000 live births in 2007 (SRS 2008)
Maternal Mortality Rate	Reduce by three quarters, between 1990 and 2015, the Maternal Mortality Ratio	1 per 1000 live births	1 per 1000 live births (by 2012)	Below 1 per 1000 live births	1 per 1000 live births	1.48 per 1000 live births (by 2012)	3.88 per 1000 live births in 2004-06 (SRS 2009) Change between 2001-03 and 2004-06 was 57 (SRS)
Crude birth rate				21		22.6	27.9 in 2007 (SRS 2008)
Total Fertility rate			2.1	2.1		2.1	3.5 in 2005-07 (SRS 2008)

Table 3.2: 'Output' Goals Related to Maternal and Child Mortality in Rajasthan

<i>Indicator</i>	<i>Tenth Plan (by 2007)</i>	<i>National Population Policy (by 2010)</i>	<i>Status in Rajasthan</i>
Percentage Immunized against all vaccine preventable diseases	100	100	48.8 (RCH 2007-08) 54.1 (all-India) 26.5 (NFHS 2005-06) 43.5 (all-India)
% of at least 3 ANC	90	100	27.7 (RCH 2007-08) 41.2 (NFHS 2005-06)
% received IFA for 3 or 4 months	100	100	52 (all-India) (RCH 2007-08) % Consumed 100 IFA tablets: 15.6 (46.8 all-India) 13.1 (NFHS 2005-06) 23.1 (all-India)
% received at least one TT injection	100	100	55 (RCH 2007-08)
Institutional deliveries (%)	80	80	45.5 (RCH 2007-08)
Safe delivery (%)		100	52.7 (RCH 2007-08)

The achievement of the state in terms of nutritional status among women and children is however better than its achievement in terms of IMR and MMR. As per NFHS III, the percentage of women in the age group of 15 to 49 whose body mass index was below normal or anaemic was just around the average level or marginally lower than the country as a whole. Similarly, the percentage of children under three who are wasted or stunted or suffer from mild/moderate anaemia was just around or lower than the average levels for the country. However, a number of malnourishment related issues require attention in the state. Severe malnourishment among children below the age of five is significantly higher in the state than the all-India level. Also, the percentage of infants in the age group of 0 to 5 months who are exclusively breastfed (particularly breastfed within an hour of birth) is significantly lower than the average value for the country as a whole. Also, although the population coverage under ICDS has improved significantly in the Tenth Plan period (from 56 per cent to

90 per cent), the utilization of ICDS services remains relatively low in the state. As per NFHS III, the percentage of children who received any ICDS related services in areas covered by Anganwadi centres in the state is much smaller than the all-India level. These issues need to be attended to if the state has to move towards the 11th plan target of reducing malnourishment by half in the plan period.

2. Low Density of Population as a Constraint

A crucial demographic feature of the state that possibly affects both the utilization of ICDS services and accessibility to health care services is the low density of population. The state has a much lower density of population than the average figures for the country (165 as compared to 324 at the all-India level). Estimates based on national norms using population alone therefore understate the requirement in terms of the number of facilities within a specified area. The problem is particularly severe in the case of rural health facilities. Even if Rajasthan meets the population-based national norms, the radial distance covered by different categories of rural health facilities in the state will be much larger than the radial distance that ought to be covered by health facilities as per the national norms (Table 3.3). This calls for caution in judging the adequacy of physical infrastructure like health facilities and Anganwadi centres in the state. While some scholars have pointed out that the state has already met the national norms with respect to sub-centres (SCs) and primary health centres (PHCs) and is close to meeting the national norms with respect to community health centres (CHCs) (as in Bajpai and Dholakia 2006b), these assessments need to be treated with caution. Also, there are indications of low access to hospitalization care in the rural areas of the state.

Table 3.3: Normative Radial Distances and those Actually Served by Rural Health Facilities in Rajasthan under the National Population Norms

Facility	Radial Distance Served	
	As per National norms	Rajasthan: after meeting National Population norms
Sub-Centers (SCs)	Plains - 2.2 kms	On average 3.2 kms
	Hills/tribals/difficult terrain - 1.72 kms	
Primary Health Centers (PHCs)	Plains – 5.4 kms	On average 8.1 kms
	Hills/tribals/difficult terrain – 4.4 kms	
Community Health Centers (CHCs)	Plains – 10.9 kms	On average 16.5 kms
	Hills/tribals/difficult terrain – 8.9 kms	

While the state ranks third (among the larger states) in terms of the number of hospitals in urban areas, the per capita availability of beds in the state (rural and urban combined) is one of the lowest in the country. This point towards the low access to hospitalization facilities in the rural areas and is possibly reflected in the fact that the hospitalization rates in the rural areas of the state is among the lowest in the country. The low access to public health facilities in the rural areas is particularly problematic as the dependence of the rural population on public health facilities in the state (in comparison to private facilities) is higher than most other states in India (NSSO 2006). As per the National Health Accounts India 2001-02, the ratio of public to private expenditure in the state is one of the highest in the country (30:70).

Table 3.4: District-wise Radial Distance Covered by Rural Health Facilities, after Meeting the National Population Norms (Kms)

Districts	Radial Distance Served after Meeting the National Population Norms by		
	SCs	PHCs	CHCs
Ajmer	3.1	7.8	15.6
Alwar	2.2	5.5	10.9
Banswara	1.9	5.0	10.0
Barun	3.2	8.1	16.7
Barmer	4.4	12.0	24.0
Bharatpur	2.1	5.3	10.6
Bhiwara	2.9	7.3	14.9
Bikaner	5.4	14.5	31.0
Bundi	3.2	7.9	15.9
Chittaurgarh	2.9	7.8	15.6
Churu	3.9	9.8	21.5
Dausa	2.0	4.9	9.8
Dhaulpur	2.4	5.9	11.8
Dungarpur	2.0	5.1	10.2
Ganganagar	3.2	8.9	17.7
Hanumangarh	3.3	8.7	17.4
Jaipur	2.5	6.1	12.3
Jaisalmer	9.4	28.7	49.5
Jalor	3.1	8.2	17.0
Jhalawar	2.9	7.4	12.3
Jhunjhunun	2.1	5.1	12.1
Jodhpur	3.8	10.6	21.2
Ksrsuli	2.7	6.7	13.4
Kota	3.2	7.8	13.6
Nagaur	3.1	8.1	17.2
Pali	3.1	7.8	16.2
Rajsamand	2.4	5.9	12.7
Sawai Madhopur	2.6	6.5	13.0
Sikar	2.2	6.1	12.4
Sirohi	3.0	7.8	15.7
Tonk	3.0	7.1	16.3
Udaipur	2.7	6.8	13.6

The low density of population plays a particularly important role in the desert and border districts of Rajasthan (Table 3.4). The density of population in the border and desert districts is about a third of that in other districts (98 compared to 269) and this adversely affects the access to health facilities in these districts. Distances to health facilities appear to be particularly high in the three desert districts of Barmer, Bikaner and Jaisalmer. Specifically, in the district of Jaisalmer, the radial distance served by a SC is about 9.4 Kms, by PHC is about 28 Kms and by CHC about 50 kms. This calls for targeted intervention. The adverse effect of the low density of population and large distances to health facilities in the desert and border districts is also possibly indicated by the fact that outputs related to maternal and infant mortality appear to be particularly poor in these districts. In general, there is a significant positive association between output indicators like the percentage of institutional deliveries and the density of population across districts in the state (correlation coefficient 0.7).

3. Poor Health Outcomes: Other Explanatory Factors

The existing rural health facilities in the state also lack basic infrastructure like electricity, water supply, telephone connection and manpower. Less than a fourth of the sub-centres in the state have access to electricity and less than a sixth access to tap water supply. Even in higher level facilities like PHCs, only 7.3 per cent have a telephone connection. Besides, both SCs and PHCs face a severe shortage of manpower. Unlike most other states where sub-centres have a staff of two (an ANM and a male health worker), most SCs in the state were staffed by a single ANM (Facility Survey IIPS 2002-03). Even in PHCs, only about a quarter had adequate staff (Facility Survey IIPS 2002-03).¹¹ Besides, even among the existing staff, the rates of absenteeism have been reported to be very high. In a recent survey in the district of Udaipur, sub-centres were found to be closed 56 per cent of the times during regular opening hours and only in 12 per cent of the cases the ANM was found engaged in filed visits in the jurisdiction of the sub-centre (Banerjee, Deaton and Duflo 2004). Similarly, the high rates of absenteeism among male health workers have also been documented in reports like that on Workforce Management Options and Infrastructure Rationalization of PHCs submitted to the Planning Commission.

¹¹ The facility survey undertaken by the Ministry of Health and Family Welfare under NRHM (the state-level results of which are awaited) is likely to indicate a more updated picture of the status of infrastructure in public health facilities of the State.

The high levels of IMR and MMR could also result from the fact that the state has one of the lowest rates of female literacy in the country. The low female literacy rates adversely affect the fertility rate and age of marriage among women in the state. As per NFHS 2005-06, total fertility rate and the percentage of women (in the age group of 20-24) who were married by the age of 18 in the state is among the highest in the country. Both of these have a negative effect on the level of IMR and MMR in the state. The adverse impact of the low rates of literacy in the state is also reflected in the poor perception about various diseases and health related issues in the population. As per NFHS 2005-06, the percentage of men and women who have misconceptions about the transmission of tuberculosis in the state is among the highest in the country.

Morbidity levels in the state are also affected by the poor access to safe water supply and sanitation in the state. With a substantial portion of the state lying in desert areas with scanty rainfall, access to safe water supply is a major concern. Only 48 per cent of the rural population and 46.6 per cent of habitations in the state had adequate access to safe drinking water (Census 2001, GoR 2005). Moreover, overexploitation of ground water (which constitutes 91 per cent of the sources) has raised questions on the long-term sustainability of ground water as a source of safe drinking water. Due to overexploitation, nearly 80 per cent of the existing ground water sources are in critical or in a semi-critical phase of depletion (GoR 2005). In terms of sanitation also, the situation is grim. As per Census 2001, only 15 per cent of the rural households in the state had toilets. Evidence also suggests that between 1999-00 and 31st March 2009, the construction of toilets under the Total Sanitation Programme (TSC) in the state has progressed at a very slow pace. Only 30 per cent of the toilets targeted to be built under the TSC in the state were completed during this period.

4. Public expenditure on health (and other related services) in Rajasthan

(i) Health and Family Welfare

Public spending on health and family welfare in Rajasthan is the highest among the low income states in India. In 2007-08, the budgetary expenditure of the state for health and family welfare was about 1 per cent of the state's GSDP and Rs. 238 in per capita terms. This constituted about 4.5 per cent of the total budgetary expenditure of the state, which although lower than the National target of 7 to 8 per

cent, is higher than other larger states in India. Although the high share of expenditure towards the health sector is indicative of the priority given to the health sector by the state, it is noteworthy that the share of expenditure directed towards the health sector (both as a proportion of total budgetary expenditure and as percentage of GSDP) has been declining over the years. While bulk of the expenditure on health and family welfare is accounted through the budget, about 3 per cent is spent outside the budget under various centrally sponsored schemes like the disease control programmes and Reproductive and Child Health Programme (RCH).¹²

Expenditure on health and family welfare in the state is however skewed towards tertiary health care services. A classification of expenditure on health and family welfare into primary, secondary and tertiary health services suggests that the state directs a significantly higher share towards tertiary and lower shares towards primary and secondary health care services than those suggested by the National Health Policy 2002. While the National Health Policy suggests a ratio of 55: 35: 10 towards primary, secondary and tertiary services, the state spends in the proportion of 43: 28: 29 in these services.¹³ The high share of expenditure towards tertiary health care facilities is primarily due to the large number of urban health facilities relative to the rural health facilities in the state. The share directed towards primary health care services is particularly short of the target suggested by the National Health policy. The inadequacy of public expenditure towards primary health care services (in particular RCH services) in the state has also been indicated by earlier studies (IIHMR 2000). An analysis of the expenditure on Reproductive and Child Health (RCH) Programme in 1998-99 showed that bulk of the burden of spending in RCH services in the state was incurred by households as public spending accounted for only a fifth of the total spending on RCH services in the state. With the high incidence of IMR and MMR in the state, this calls for increase in public spending towards primary health care (specifically RCH) services in the state.

Increase in public spending towards primary and secondary health care services in the state however, is likely to be brought about primarily through NRHM in

¹² This excludes expenditure on National Aids Control Programme (NACP) and refers to the year 2004-05.

¹³ This is based on the classification of actual expenditure in 2004-05 (from the Detailed Demand for Grants) into primary, secondary and tertiary expenditures. The classification of expenditure into primary, secondary and tertiary is based on the methodology used by the National Health Accounts 2001-02.

the near future. The primary component of the increase would be from the state's contribution of 15 percent towards NRHM expenditure, which targets primary and secondary health care services. With the state's actual expenditure on health services increasing by less than 10 per cent in the recent past, it is unlikely that the state would be able to increase its expenditure towards primary and secondary services beyond what is required as mandatory contribution towards NRHM. In this context, improving the utilization of funds released by Government of India under NRHM would add to the contribution towards primary and secondary services. In 2006-07, while the state utilized about 70 per cent of the funds released under RCH (most of which was for a single scheme: Janani Suraksha Yojana), only about 37.5 per cent of the funds released under the Mission flexible pool was utilized. This requires an exploration of the causes of low utilization of NRHM funds in the state. Also important was the issue that the NRHM primarily focuses on meeting the national norms for the quantity of required rural infrastructure only in terms of population; as such, the specific need for financial allocations towards meeting the gap due to low density of population has not been included under NRHM. Expansion of primary health care facilities under NRHM has been restricted to meeting the requirements as per the national population norms and strengthening infrastructure in the existing facilities. As the state is close to meeting the national population norms, this implies that additional investment in primary and secondary health care services through NRHM is primarily towards improving the infrastructure in the existing facilities.

Bulk of the expenditure through NRHM (particularly the 'NRHM initiatives') in the state is towards improving the infrastructure in existing health facilities both in the form of physical construction and remuneration of medical and paramedical personnel hired on contract for filling up staffing gaps. In 2007-08, allocation for improving existing infrastructure constituted about three-fourths of the allocation under 'NRHM initiatives'. Additionally, although small, some funds are also available under RCH II for institutional strengthening. RCH II in the state however, has largely focused on improving institutional deliveries with nearly 50 per cent of the allocated funds in 2007-08 towards JSY. An important issue that has received less attention in terms of financial allocation under NRHM in the state is the increase in the actual supply of drugs. The state spends only about 3 per cent of the total revenue expenditure (about Rs. 6 per person per annum) on medicines, which is considerably lower than the level of expenditure in well-performing states like Tamil Nadu (around Rs. 15 per capita per annum). With studies indicating that more than a third of the

total out-of pocket expenditure by households in the state is on medicines (IIHMR 2000), increasing the actual supply of medicines assumes importance. While under NRHM, financial allocations have been exclusively made for improving the logistics and warehousing for supply of drugs in the state, no allocations have been exclusively earmarked for increasing the actual supply of drugs.

(ii) Water supply, Sanitation and Nutrition

As in health and family welfare, public expenditure on water supply in Rajasthan is also one of the highest in India in terms of the share of budgetary expenditure and GSDP. In 2007-08, the state spent about 8 per cent of its budgetary expenditure and about 1.7 per cent of its GSDP on water supply (Rs. 427 in per capita terms), which is among the highest in the country. In fact, the state is among the few states which spend a higher share of its budgetary expenditure and GSDP on water supply than on health and family welfare. Additionally, the state spends about 0.1 per cent of its GSDP (Rs. 22 in per capita terms and 0.4 per cent of the total budgetary expenditure) on sewerage and sanitation. Together, the state spent about 1.8 per cent of its GSDP (Rs. 449 in per capita terms) on water supply and sanitation. In the recent past, expenditure on water supply and sanitation in per capita (real) terms has increased significantly. At 1999-00 prices, per capita expenditure on water supply and sanitation in the state increased from Rs. 174 in 1999-00 to Rs. 449 in 2007-08. With water being a scarce commodity in large parts of the state, the high levels of expenditures probably reflect the high cost of water supply. On nutrition, the state spent about 0.24 per cent of its GSDP in 2007-08, bulk of which was through Centrally Sponsored programmes. As in other low-income states, the per capita release of funds under ICDS in the state is relatively low.

5. Expenditure Requirement in Health and Other Related Services

As emphasised above, one of the major problems of the health sector in the state is the low access to health facilities in the rural areas of the state. As bulk of the funding for expansion of rural health facilities (including that by NRHM) is based on the national population norms, the additional need for the gap arising out of the low density of population in the state has not been incorporated adequately in the financial plans. A comparison of the district-wise requirement of SCs, PHCs and CHCs based on the national population norms with information available on the number of existing facilities as per the Bulletin on Rural Health Statistics 2007 (MoHFW 2007), suggests that a number of districts in the state have already met the

requirement as per the national norms. However, if the national norms were to be met in each of the districts of the state, our estimates suggest that an additional 325 SCs, 151 PHCs and 64 CHCs need to be constructed. If one uses the unit costs outlined in NRHM to meet the Indian Public Health Standards (IPHS) to derive the capital and revenue expenditure to be incurred in these new facilities (MoHFW 2005), it is estimated that the state would require an additional capital investment of about Rs. 130 crore and a revenue expenditure of about Rs. 171 crore per year to meet Indian Public Health Standards (IPHS). If the capital investment is spread over 5 years, this would mean an annual investment requirement of Rs. 197 crore ($130/5 + 171$). Even after meeting the national population norms, because of the large radial distances covered by health facilities we add the cost of providing an ambulance in each PHC and CHC of the state and certain additional ambulances in the districts of Barmer, Bikaner, Churu, Ganganagar, Hanumangarh, Jaisalmer, Jalore, Jhunjhunu, Jodhpur, Pali, Nagaur and Sikar to meet the problems arising out of the low density of population. Estimates suggest that this would cost about Rs. 487 crore, which spreading over a period of five years would be about Rs. 97 crore per annum. We assume that 20 per cent of the capital cost would be incurred annually as recurring cost of running the ambulances. This would mean an additional Rs. 97 crore in the terminal year as recurring expenditure. For improving the infrastructure in existing facilities, we assume that the resource requirement for investing in equipment and supplies will be taken care of by the funding from NRHM. We also estimate the additional requirements to provide manpower as per the IPHS standards with respect to specific categories. This is based on the estimate of requirement of manpower as per IPHS standards and the existing manpower indicated in the *Bulletin of Rural Health Statistics 2007*. This would require an annual recurring expenditure of Rs. 418 crore.

With the problems of water supply in the state, the additional resource requirement in the state is enormous. As per the 11th Five-Year Plan of the state, the estimated requirement of funds for covering the quality affected habitations as per the Habitation survey 2003 and those remaining from the Comprehensive Action Plan - 99 (CAP-99) is about Rs. 9807 Crore. Additionally, as per the Plan, funds required to cover the habitations more than 1.6 Kms away as per the Habitation survey 2003 is about Rs. 4655 crore. Besides, to cover slipped back habitations an estimated Rs. 1716 crore is required. Together, the total requirement of resources for covering all habitations with adequate water supply as per the 11th Plan of the state is

about Rs. 16178 crore. Additionally, to cover all rural households by toilets (at the rate of Rs. 1000 per toilet), a further investment of Rs. 593 crore is required.

A substantial amount of resources is also required for providing nutritional supplements. Estimates include the requirement of resources for providing nutritional supplements to all malnourished children in the age group of 0 to 6 and all anaemic pregnant women in the age group of 15 to 49. Using the financial norms (unit costs) used under ICDS for providing nutritional supplements, our estimates suggest that a sum of about Rs. 602 crore is required to provide nutritional supplements to all malnourished children in the age group of 0 to 6 years. Additionally, a sum of Rs. 172 crore is required to provide nutritional supplements to all anaemic pregnant women in the age group of 15 to 49. Together, about Rs. 773 crore is required to provide nutritional supplements. With the state already spending about 193 crores, additional requirement of resources for providing nutritional supplements is about Rs. 581 crore.

Table 3.5: Additional Requirement of Resources in Health and Related Sectors in Rajasthan

(Rs. crore)

Category of Service	Capital cost	Recurring cost
New Health Facilities	130/5=26	171
Providing ambulance services in PHCs and CHCs	487/5 = 97	97
Filling up vacancies		418
Water supply	16178/5=3235	324
Sanitation	593/5=119	
Nutritional supplements		581
Total	3477	1591

Together, with the spreading of capital investment over five years, total additional requirement of resources (capital and recurring) by 2011-2012 will be about Rs. 5068 crore (Table 3.5). If the state's GSDP is projected to 2011-2012 (based on the growth rate of GSDP in the state in the last three years prior to 2004-05), the additional requirement of resources will be about 2.5 per cent of GSDP of the state. With the state spending about 1 per cent of its GSDP towards health and family welfare now, the total requirement of expenditure in health and family welfare would be about 3.5 per cent of GSDP by 2011-2012.

6. Equity in Healthcare

There is a substantial amount of literature including health accounts to show that the health sector in the state is characterised by a high share of private expenditures (75.55 percent as per 2004-05 National Health Accounts) and a substantially larger recourse to private healthcare providers compared to public. In this scenario, there is a presumption that there are substantial inequities in the availability of healthcare and health outcomes, a presumption that is almost universally supported by research at the micro and macro level. For example, Oomman, Lule and Chhabra (2003) provide ample evidence (though a little dated now) in terms of indicators by income quintiles the inequalities involved. Since much of the private provision of healthcare is priced, it is perhaps easy to understand that the access of the poor to quality healthcare in the private sector would be limited because of lower ability to spend. The obvious policy prescription to correct this situation would be to improve and substantially expand supply of publicly provided healthcare. However, this would reduce inequities provided public supply was more accessible to the poor, and even targeted at them. Unfortunately, there is some evidence to suggest that it may not be. First, in effect public supply may be nearly as expensive as private (Banerjee, Deaton and Duflo 2004). Second, the distribution of a free purely public health programme can also be skewed against the poor as shown by a study of the Universal Immunisation Programme in Rajasthan (Mohan, 2005).

To get a clearer and more comprehensive picture, the performance of public expenditure can be analyzed in terms of the distribution of the benefits of public spending across income classes, or the incidence of public expenditures. In this context, an approach that has been widely used for analysis is that of 'Benefit Incidence Analysis' (BIA). BIA combines information on the unit costs of providing public services with information on the use of these services to estimate the benefits derived by different groups of individuals or households. This section uses BIA to analyze the distribution of public spending on health facilities in Rajasthan across expenditure quartiles in rural and urban areas.

Ideally, unit costs of each public service provided in health facilities and their utilization by households across income quartiles need to be measured for the analysis. However, non-availability of data on utilization of each public service provided in health facilities combined with the inability to decompose information on public spending on health facilities for individual services restricts the analysis to a

relatively aggregate level. Specifically, the analysis here focuses on six services for which information on utilization was available from the 60th round of NSSO data for the year 2004: inpatient services (excluding childbirth), outpatient services, inpatient services related to childbirth, antenatal care services, postnatal care services and immunization services. A recent benefit incidence analysis of health expenditure in India (NCAER 2002) argued on the basis of facility-level studies that in public hospitals, public expense on a single inpatient was about six times the expenditure on an outpatient. The corresponding expenses in PHCs and dispensaries were about half of those in public hospitals. Also, expenditure on ante-natal care, post-natal care and immunizations was argued to be half of that in PHCs and dispensaries. In our analysis, we have borrowed these norms from the NCAER study. However, as the 60th round of NSSO data does not provide information separately for PHCs and public hospitals, we assume that expenses for inpatient cases are in general six times higher than the expense for outpatient visits, that for childbirth about half the expense of an inpatient visit for other cases and about one-fourth of that of an outpatient visit for ante-natal care, post-natal care and immunizations. As the 60th round of NSSO data does not provide information separately on immunizations from public and private sources, we assume that immunizations from public sources across quartiles are in the same proportion as that of ante-natal care from public sources. The assumption is based on the fact that both ante-natal care and immunizations are part of maternal and child care activities provided by similar public sources. The state's budgetary (revenue) expenditure on health taken from the detailed demand for grants in budget documents is used, along with these norms adopted from the NCAER study, to estimate the unit cost of each public service. Care is taken to include only expenditure that is directly incurred in health facilities. Again, following the NCAER study, we assume that half of the expenditure on disease control, and medical education and training, whose benefits accrue partly to people outside health facilities also, is incurred through health facilities. Also, expenditure on direction and administration is excluded as in the NCAER study. Budgetary receipts on payments from patients are then deducted from the total state expenditure on health facilities to arrive at the net public spending.

A conceptual problem in the methodology used arises from the fact that, apart from public services in health facilities for which information on utilization is available, there are services like family planning activities that are provided in health facilities, but no information on utilization of these services in health facilities across income quartiles is available. While this compels one to exclude these services from the

utilization aspect in the analysis, the same cannot be excluded from public spending. To the extent that family planning services from public sources are used to a relatively greater extent by the poorer sections of the population, the benefits of public spending on health facilities accruing to the poorer sections of the population are underestimated in this analysis.

Table 3.6: Distribution of Benefits of Public Spending for Healthcare by MPCE Quartiles

Quartiles	Inpatients	Out-patients	Ante-natal care	Immunizations	Total
Rural					
lowest 25	16	26	30	29	25
25 to 50	29	21	21	26	22
50 to 75	25	16	23	24	17
highest 25	30	37	26	20	36
Urban					
lowest 25	24	18	40	47	19
25 to 50	30	24	28	26	25
50 to 75	18	22	8	12	21
highest 25	29	37	25	15	35

The empirical analysis (Table 3.6) suggests that on the whole, in both the rural and the urban areas of the state, the benefits of public spending accrue more to the richer half of the population than the poorer half. A disaggregation of the benefits of public spending for curative and preventive services however, indicates that the pattern is different for preventive and curative services. For curative services, with the exception of inpatient services in urban areas (where the benefits accrue almost equally to the richer and the poorer half), the benefits of public spending accrue more to the richer half than the poorer half. For preventive services, the benefits of public spending accrue largely to the poorer half except for ante-natal care services in rural areas, where it is roughly shared equally. Notably, for preventive services, public spending is more pro-poor in urban areas than in rural areas.

7. Policy Interventions in the Health Sector in Rajasthan

The government of Rajasthan has brought about a number of reforms to improve services at the hospital level through public-private partnerships, Medical Relief Societies, Lifeline fluid stores and other institutions. At lower level facilities, although some steps have been taken in the form of decentralization and improving the quantity and quality of manpower, the state predominantly depends on the interventions under the National Rural Health Mission (NRHM) for improving the services. For improving hospital services, a major thrust has been laid on involving

the private sector. Also, the private sector is being encouraged to set up new hospitals along with medical and nursing colleges to increase the supply of medical and paramedical personnel.

Involvement of private parties is being sought exclusively for setting up diagnostic and treatment machines in hospitals of the state. It has been decided that any additional investment on account of setting up diagnostic and treatment facilities in hospitals will not be incurred by the state government or by Medical Relief Societies and will be left entirely to private parties. While the responsibility of setting up and running the diagnostic and treatment machines would be with the private parties, they would be required to provide free services to BPL families/widows and other exempted categories specified by the government. Although the success of the scheme is yet unknown, experiences of other states like West Bengal (which has undertaken similar initiatives) suggest that one needs to be particularly careful in implementing the clause of free services to the exempted categories. An assessment of free service clause in six rural hospitals with a similar initiative in West Bengal suggested that the free service clause was not operational in most cases. While such an initiative is likely to bring down the price paid by users of various diagnostic and treatment machines relative to market prices, unless the free service clause is strictly implemented, this may not result in lowering the out-of-pocket expenditure of the poorer sections of the population.

Involvement of private parties is also being sought for improving the availability of medical and paramedical personnel by allowing them to set up medical colleges, dental colleges and nursing colleges based on certain guidelines on admissions, fees and other requirements. Policies have also been formulated to encourage private parties to set up hospitals, diagnostic centres and nursing homes by providing them land at concessional rates. The private parties in turn are required to provide a certain percentage of their beds free to the BPL population and charge only a quarter of the cost of medicines, diagnostic tests and other expenditure. Besides, certain services are to be provided free by the private parties to BPL card holders and other poorer sections of the society. With the government providing land at concessional rates, the successful implementation of subsidized services to BPL and other exempted population in these private hospitals pose a major challenge in terms of monitoring adherence to the conditions.

The state government has also brought about important changes to address the issue of high vacancies of doctors and shortage of anaesthetists at the district-level. To address the issue of large number of vacancies in positions of doctors, the state government has decided to hire retired doctors as well as appoint doctors on an ad-hoc basis against sanctioned positions of doctors that are lying vacant in specific districts. To address the problem of shortage of anaesthetists at the CHC level, medical officers have been given a short training on anaesthesia. While both of these changes are intended to increase access to health facilities at the district-level, the impact of these changes on the quality of services rendered need to be examined and ascertained.

An important institutional change that was brought about to improve the functioning of hospitals in the state a few years ago is that of Medical Relief Societies. Medical relief societies (MRS) were introduced in the state to act as autonomous management structures in government hospitals to improve hospital services. These societies have been empowered to impose user charges at the hospital level and use the revenues generated through user charges for improving the services at the facility. The guidelines on the functioning of these societies has however been laid down by the government and the societies were required to spend at least 50 per cent of their revenues on purchase of new equipment and the rest on providing facilities to patients, cleanliness, maintenance and purchase of other items. The user fees charged by various MRS were nominal, which on average ranged from about Rs. 2 for OPD to Rs. 5 for inpatient not referred by private practitioners. The societies were however required to exempt BPL and other vulnerable sections of the population from paying user fees and were required to use a certain percentage of the funds for providing free drugs to the exempted categories.

It is argued that MRSs in the state play an active role in the functioning of the government hospitals including the implementation of the public private partnerships (PPPs) for provisioning of diagnostic and treatment machines and the functioning of the Lifeline fluid stores (LLFS). With respect to diagnostic and treatment machines, MRSs are required to identify the requirement of diagnostic and treatment machines required at the facility-level and implement the PPPs. Similarly, contracting out the LLFS and maintaining their accounts is done by the MRS. While it has been argued that MRSs play an active role in the functioning of the hospitals of the state in general, their role has been limited in terms of generation of revenues through user charges. In 2002-03, the total expenditure of the MRSs in the state was about 1 per

cent of the total budgetary expenditure on Health and Family Welfare in the state. As a percentage of hospital budgets, the revenue generated by MRSs was on average about 10 to 15 per cent, although it ranges from about 4 to 25 per cent (Gol 2004). Although the extent of revenue generation by MRSs has been low, its role in improving the quality of services in government hospitals has been argued to be significant. The success of MRSs in reducing out of pocket expenditure of the poorer sections of the population will however depend on ensuring successful implementation of providing free services to the exempted population.

8. Summary

Rajasthan stands lower than all-India average in terms of basic health indicators like IMR and MMR. In the recent past, the decline in IMR and MMR has not been particularly sharp in comparison to other low-performing/ low-income states and the state is far from meeting the national and state-level targets on these indicators. In terms of malnourishment, although the state is at par with the all-India levels, reducing malnourishment by half as per the goal of the Eleventh Plan would require substantial effort unless the utilization of ICDS services is improved. Even more worrisome is the state of drinking water supply in the state. With more than 80 per cent of the sources of ground water in critical and semi-critical stage, sustainability of access to drinking water supply in the state is a matter of serious concern. Also, on household sanitation, the progress of building of household toilets as per the Total Sanitation Campaign (TSC) has been remarkably slow.

The performance of the state is low (in health, water supply and sanitation) despite the fact that the state spends one of the highest shares of its budgetary expenditures (in comparison to other major states) on health, family welfare, water supply and sanitation. The state however spends a substantially high share of its expenditure towards tertiary health care services and a relatively low share towards primary and secondary health care services. The primary reason for this is the high number of urban health facilities in the state relative to rural facilities. While the state appears to be close to meeting the national population norms on rural health infrastructure, these infrastructure are grossly inadequate due to the low density of population in the state. On average radial distances covered by rural health facilities in the state are much larger than what ought to be under the national norms. Additional investments required in the state due to the low density of population have not been taken into account substantially under the existing public interventions including the National Rural Health Mission. The low utilization of Anganwadi

services could also be partly due to the sparse nature of the population in the state. Besides, in nutrition, where bulk of the expenditure is under ICDS, the per capita expenditure (specifically under ICDS) in the state is among the lowest in the country.

An estimate of the requirement of additional investments in the health sector (including nutrition, water supply and sanitation) suggests that a significant increase in expenditure is required to meet certain basic goals. This additional requirement includes the cost of providing ambulance services at all PHCs and CHCs in the state so as to take care (at least partly) the problem of large distances to health facilities arising out of low density of population. Additional investments may also be required for improving access to ICDS services, which are likely to be affected by problems of sparse population. However, specific interventions need to be developed for districts like Barmer, Bikaner and Jaisalmer, where distances to such facilities are significantly high. Increasing investments towards rural health facilities will also reduce the share of health expenditure towards tertiary services and enable the state to move closer to the ratio of expenditure on primary: secondary: tertiary, suggested under the National Health Policy 2002. Besides, although the state has brought about a number of institutional and other reforms to improve the functioning of health facilities, implementing the free and subsidized health services effectively in public private partnerships will be a major challenge for the state in the near future.

IV. Assessment of and Resource Requirements for Direct Poverty Alleviation

1. Introduction

As mentioned in Chapter I, The level of poverty (particularly rural, on which we focus) is not very high, although there seems to be a marginal increase between 1999-2000 and 2004-05. Of greater import is the observation that with low per capita SDP levels, the risk of a major shock pushing a large number of people below the poverty line cannot be ignored.¹⁴ Despite such shocks (droughts) occurring at an alarming frequency over the last few years, it goes to the credit of the governments (both central and state), as also the state's people, that poverty levels have not risen more than they actually did.

Acharya and Sagar (2007) ascribe the rapid decline in poverty levels during the 'nineties primarily to strong agricultural growth and development of coping strategies like adoption of multiple occupations, out-migration and child labour. These have been partly made possible because unlike in the states with chronic poverty (e.g., Orissa) even the poor in Rajasthan generally do have some assets in the form of land. All these, and various public interventions for the poor, have resulted in rising real wages for rural labour and a progressively more egalitarian distribution of income in the 'nineties. As Vyas (2007) notes, "the task before the state is to create conditions where the complementarity between different enterprises is maximised and fuller employment and larger incomes are ensured" (p.22). One may add to this minimisation of the negative fallouts of the coping strategies and creating conditions where undesirable coping strategies like child labour are made unnecessary. In this context, mainly as insurance against unemployment induced poverty as also in helping occupational diversification, the direct poverty alleviation schemes (primarily centrally sponsored) assume great significance.¹⁵ Prominent among them in terms of scale of operations are Sampoorna Grameen Rozgar Yojana (SGRY), National Rural

¹⁴ Of course, to the extent that the per capita SDP underestimates disposable income – possibly because of inward remittances – the threat would be less serious.

¹⁵ Krishna (2003) recognizes the role of these schemes in making poverty a little more bearable, while concluding that they have done little to lift people out of poverty. Such a conclusion, of course, does not argue for jettisoning the schemes; rather, the lesson should be to redesign the schemes in a manner that would be appropriate for the objective.

Employment Guarantee Scheme (NREGS), Swarnajayanti Gram Swarozgar Yojana (SGSY) and Indira Awas Yojana (IAY). The performance and impact of each of these schemes is briefly discussed and assessed below along with a brief assessment of the broad poverty alleviation strategy of the state government as discernible from recent trends in public expenditure.

2. Schemes for Employment Generation: SGRY

SGRY (integration of Jawahar Gram Samridhi Yojana and Employment Assurance Scheme) was a wage-employment programme launched by the central government in 2002 for the rural sector. Its primary objective was to provide wage employment to all rural poor who are in need of it and desire to do manual and unskilled work in and around their village/habitat. The programme is self-targeting in nature with preference given to the agricultural wage earners, non-agricultural unskilled wage earners, marginal farmers, women, members of Scheduled Castes/Scheduled Tribes, parents of child labour withdrawn from hazardous occupations, parents of handicapped children and adult children of handicapped parents who are desirous of working for wage employment.

The wage payment has both cash and kind (food grains) components. The programme is implemented as a centrally sponsored scheme on cost sharing basis between the centre and the states in the ratio of 75:25 with respect to the cash component of the programme. Foodgrains are provided to the states free of cost. The performance of this programme in Rajasthan can be initially assessed from the data provided by the state government on its physical and financial performance.

Table 4.1 Physical and Financial Progress and Financial Utilization under SGRY and National Food for Work Programme

	2003-04	2004-05	2005-06	2006-07	2007-08
Financial position (Rs in lakh)					
Opening balance as on 1st April	2513	3726	4591	2704	1539
Total receipts under SGRY	20828	22502	29409	17241	15634
Central receipts	15557	17767	23980	13040	11708
State receipts	5272	4735	5429	4202	3926
Total funds available	23341	26228	34000	19945	17173
Total expenditure	22076	23865	30868	19338	15261
% of expenditure to availability	95	91	91	97	89
Physical Achievement					
Man-days Generated (in lakh)	269	219	184	163	131

Source: Government of Rajasthan

It is obvious that with the onset of NREGS, the funds that were being channelled through SGRY have shrunk since 2005-06. The total receipts of the state as well as total availability of funds increased substantially from Rs. 233 crore in 2003-04 to 340 crore in 2005-06, and then declined in 2006-07 and 2007-08 because of the implementation of NREGS. Though there is an increase in expenditure between 2003-04 and 2005-06, employment generated in terms of number of mandays declined from 269 lakh in 2003-04 to 131 lakh in 2007-08 and utilization level also declined somewhat from around 95 per cent to 89 percent during the same period.

Although the primary focus of SGRY was on providing wage employment and alleviating poverty through the income availability route, it was expected that it would simultaneously serve the secondary objective of providing community assets like roads, water bodies, and school buildings. Available assessments (e.g. Bhargava and Sharma, 2002) suggest greater success with the secondary objective than the primary. However, SGRY guidelines specified that only 25 per cent of the funds can be spent on materials; this constrained the quality and usefulness of the assets created (Aravali, n.d.). It may be noted that the earlier versions of the employment generation programmes were criticised for spending too much on materials at the cost of the primary objective of employment generation. Although it appears to be rather unfair to criticise the program design either way, the lesson probably lies in choosing projects carefully so that the inherent division of project cost between material and labour corresponds to the stipulated division. If there is a mismatch, inadequate material inputs are likely to reduce the usefulness of the asset created. From 2005-06 SGRY has been subsumed under NREGS, and this lesson should carry over to NREGS as well¹⁶, or its usefulness will be similarly limited.

3. NREGS

In Rajasthan, 6 districts out of 12 had been identified for the implementation of the NREGS in first phase and remaining 6 districts have been included in 2008. Progress of the scheme in terms of employment provided and expenditure under NREGS in Rajasthan in the years 2006-07 to 2008-09 is given below in Table 4.2. As can be seen from the table, the number of job cards issued increased from 15 lakh in 2006-07 to 28 lakh in 2007-08, of which scheduled tribes constituted 41 per cent and scheduled castes 20 per cent; the remaining were from other communities. With the

¹⁶ The ratio of wages and materials has been changed to 60:40 under NREGA.

expansion to the entire state, the picture changed somewhat. Number of job cards issued jumped to 85 lakh; while the share of scheduled castes increased to 26 percent, the inclusion of districts with relatively low tribal population reduced the share of the scheduled tribes to 20 percent even when their number went up to 17.33 lakh in 2008-09 from 11.42 lakh in 2007-08.

Table 4.2: Employment Status and Expenditure under NREGS in Rajasthan

Particulars	2006-07	2007-08	2008-09
Employment Status			
1. Number of Households given Job Cards	1508223	2794942	8468740
of which, Scheduled Castes	221160	547148	2170139
	(14.66)	(19.58)	(25.62)
Scheduled Tribes	872005	1142453	1733843
	(57.82)	(40.87)	(20.47)
2. Number of Households Demanding Employment out of (1)	1175172	2028174	6375314
3. Employment provided under NREGA out of (2)	1175172	2027401	6369565
4. Individual applicants out of 3	500065	1038248	
5. Women applicants out of 4	355271	1122379	
6. Households completing 100 days of employment	639219	416289	2594224
7. Scheduled Castes out of 4	185694	409743	
8. Scheduled Tribes out of 4	730256	882740	
9. Total Man days Generated (lakh)	998.87	1308.58	4829.38
10. Man days generated for SCs of 9 (lakh)	159.5	248.43	1390.29
	(15.97)	(18.98)	(28.79)
11. Man days generated for STs of 9 (lakh)	642.9	614.1	1122.52
	(64.36)	(46.93)	(23.24)
12. Man days Generated for Women of 9 (lakh)	670.68	911.01	3241.03
	(67.14)	(69.62)	(67.11)
Expenditure (Rs. Lakh)			
1. Releases from Centre	76161.00	88677.53	622965.60
2. Releases from State	7551.22	7630.35	43035.84
3. Total Funds available Including OB and Misc. Receipts	85617.30	113225.99	695342.98
4. Total Expenditure	69306.14	102723.54	616439.75
5. of which, on Unskilled Wages	50726.51	70918.00	426531.94
6. on Skilled Wages	2050.63	3194.86	11046.72
7. on Material	15608.08	25999.15	166156.29
8. On Contingency	920.92	2611.54	12704.83
9. Percentage of Utilisation	80.95	90.72	88.65
10. Share of State's Contribution in Current Year Releases (2/(1+2))	9.02	7.92	6.46

Source: www.nrega.nic.in

In 2007-08, households demanding employment were only 20 lakh against 28 lakh households that were given job cards. The number of job cards issued far exceeded the number of households demanding employment in 2008-09 too. In both 2006-07 and 2007-08, almost all the households demanding employment were provided with employment but the number of households getting 100 days of employment was a mere 4 lakh in 2007-08. This number rose to 26 lakh in 2008-09, implying that about 35 percent of the households demanding jobs could be given their full quota of employment. The employment generation in man-days was more than 48 crore in 2008-09. Utilization of funds available was more than 80, 90 and 88 percent respectively in these three years. More than 67 percent of the employment generated was accounted for by women. Since this is a demand-driven programme and there has not been any report about serious or large-scale non-provision of employment, one can probably say the state's performance is broadly satisfactory. The assessment of the programme in Rajasthan by Jha, Gaiha and Shankar (2008) also is fairly positive in terms of coverage and targeting.

NREGS has not been in operation for a very long time yet in all the districts of the state, and hence it may be too early to make an assessment. However, early assessment by the CAG showed relatively better implementation in Rajasthan, while making some suggestions regarding building up administrative capacity (not only for Rajasthan but in general) quickly. Non-official assessments also are generally positive (for example, Menon 2008) with the beneficiaries well-informed. The state government has plenty of experience in providing jobs to the needy because of repeated droughts that visit the state and the consequent relief operations; moreover, the government has had the benefit of partnering with NGOs in certain aspects of the administration of the scheme. Overall, it holds the promise of necessary short-term relief for the unemployed poor of the state.

4. SGSY

IRDP, TRYSEM, DWCRA and other schemes were restructured and launched with the name Swarnajayanti Gram Swarozgar Yojana (SGSY) in 1999. The scheme is implemented by the financial institutions, Panchayati Raj Institutions, District Rural Development Agencies (DRDA), non-government organizations (NGOs), and technical institutions in the district. These institutions are also involved in the process of planning, implementation and monitoring of the scheme. The scheme incorporates help from the NGOs with active participation by them in the form of guiding self help groups (SHGs) and in the monitoring of the progress of the

swarozgaris, the beneficiary households. The scheme targets the poorest of poor and is designed for establishing a large number of micro enterprises in the rural areas. The list of BPL households identified through BPL census duly approved by Gram Sabha forms the basis for identification of families for assistance under SGSY. The objective of SGSY is to bring assisted families above the poverty line within three years by providing them income-generating assets through a combination of bank credit and government subsidy. The rural poor such as landless labour, educated unemployed, rural artisans and disabled population are covered under the scheme. The basic idea of the scheme is to generate income through sustainable self-employment of the beneficiaries instead of providing them with jobs.

SGSY specifically focuses on the vulnerable section of the rural poor. Accordingly, the scheme provides for reservation for the SC/ST (of at least 50 per cent), for women (40 per cent) and the disabled (3 per cent) of those assisted.

Table 4.3: Financial Progress under SGSY

Items	(Rs. lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Financial Progress					
1. Central Releases	2941.56	2662.12	3281.33	5072.68	6087.47
2. State Releases	980.53	887.37	1086.47	1690.89	2029.15
Total Release	3922.09	3549.49	4367.80	6763.57	8116.62
3. Opening Balance as on 1st April	1591.94	2008.09	1708.83	1565.60	2173.08
4. Misc. Receipt					
5. Total Funds Available	5514.03	5557.58	6076.63	8355.34	10336.58
6. Total Funds Utilised	4051.15	4009.85	4825.90	6054.31	7547.61
Percentage of Utilization to Funds Available	73.47	72.15	79.42	72.46	73.02
Subsidy	NA	2839.78	3489.12	3881.65	3922.64
Revolving fund	NA	246.31	297.79	242.06	602.01
Infrastructure Development	NA	562.66	582.08	1197.75	1473.70
Skill Training	NA	129.45	74.39	168.88	NA
Other Expenditure	NA	231.65	382.52	563.97	1549.26

Source: Government of Rajasthan

An analysis of the financial progress of SGSY in Rajasthan shows that over the years the total release towards the scheme has been between Rs. 39 crore and 82 crore during the years 2004-05 to 2008-09. The utilization levels are around 73 percent except for the year 2006-07 when it reached 79 percent. Nearly 60 to 70 percent of total expenditure is subsidy. The expenditure on infrastructure

development is relatively small; similarly, that on training for developing special skills is less than a crore in 2006-07 and has been less than two crore in other years.

SGSY enables the people below and around the poverty line to enhance their income levels and reduce income inequalities. A state like Rajasthan, with low levels of poverty *and* low levels of per capita income, needs to concentrate on schemes that enable the increase in levels of income. SGSY is one such scheme that helps the rural people take up self-employment activities. As briefly mentioned above, diversification of activities is one of the important stepping stones out of poverty. Successful implementation of SGSY can achieve this in a sustainable manner in rural areas. It would also be consistent with the macroeconomic objective of raising per capita income without resorting to large scale migration. The latter, although sometimes recommended for encouragement, may not be feasible in a macro sense (although it seems a sensible strategy in the micro sense), and has several negative fallouts that are often ignored.

However, mere financial assistance in the form of subsidized loans and subsidies cannot help the people to take up productive work and have substantial increase in income levels. Acquisition of marketable skills is a prerequisite; similarly, there are several post-production stages of the process that need to be taken care of to ensure that the value added by the poor does not get appropriated by middlemen. This calls for adequate allocation of resources for training, making the swarojgaris market savvy and to facilitate marketing of their products. At present the actual expenditures for infrastructure and training is a mere 13 per cent in 2006-07 and 20 per cent of the funds remain unutilised in Rajasthan. In states like Tamilnadu and Andhra Pradesh, the share of expenditure on infrastructure and training is closer to 25% of total expenditure on SGSY (based on the available data in the website of Ministry of Panchayati Raj, Government of India). Therefore fully utilizing funds under SGSY towards infrastructure development and training would help to reap the benefits of self employment. In Tamilnadu, every district headquarters has a shopping complex for products of SHGs where they can be sold directly to the consumers. Andhra Pradesh and Karnataka conduct annual/ bi-annual fairs in their state capitals for SHGs to display and market their products. Additional allocations under SGSY for these purposes can be thought of in Rajasthan apart from increased spending on training, within the available funds.

5. Housing: Indira Awas Yojana (IAY)

Poverty, as is well-known, is a many-dimensional problem usually characterized by a lack of income and assets. These, more often than not, give rise to low access to basic amenities like housing, water supply and social security, apart from lack of employment. While the self-employment and wage employment schemes (SGSY and SGRY/NREGA) try to remedy the lack of adequate employment and income generation, the schemes of IAY and PMGSY have been introduced to tackle the problems of housing and infrastructure, providing for individual and community assets respectively that is expected to help the poor. In this section we briefly examine the housing conditions and the performance of the centrally sponsored scheme of IAY for providing housing to the rural poor in the state.

Regarding housing conditions of the population in rural Rajasthan, Census of India provides detailed estimates of the number of houses according to the condition of houses. The Census houses are divided into good, liveable¹⁷ and dilapidated houses based on the perception and response given by the respondent. The 1991 definition of census into kutchha, semi-pucca and pucca has been transformed into these three categories. A housing scheme for the poor is expected to cater to the dilapidated and the liveable categories of houses. Under the Indira Awas Yojana (IAY), this is to be achieved in terms of construction of new houses and upgradation of existing structures respectively.

As per census 2001, there are nearly 2.92 lakh households living in dilapidated houses, 45.49 lakh households living in liveable houses and the remaining in good (*pucca*) houses in Rajasthan. It did not cover households without houses, the number of which has to be derived residually. Government of Rajasthan carried out a survey of rural households of the state in 2007 which provides more recent information on condition of houses of rural households in Rajasthan (Table 4.4). As per the survey conducted by Zilla Panchayats in collaboration with the Department of Rural Development, there are 3.78 lakh (4.07 percent of the total) households without houses, and another 40.97 lakh (44.13 percent) households living in kutchha houses as on February 2008. The table also shows that 56 percent of

¹⁷ This should be interpreted as 'barely liveable'.

the households in the state live in houses that are defined as 'kutcha' or 'without proper roof'.¹⁸

Table 4.4: Condition of Housing in Rajasthan as on February, 2008

Sr. No	District	Percentage of Total Households					Total Households
		Without House	Kutcha House	No proper roof	Pucca Houses	Urban-looking houses	
1	Ganganagar	7.42	56.63	15.10	18.72	2.13	277062
2	Hanumangarh	3.18	48.85	22.99	23.77	1.21	248608
3	Bikaner	8.34	51.05	13.55	25.27	1.79	272623
4	Churu	3.09	23.13	13.09	58.64	2.04	261381
5	Jhunjhunu	0.89	8.55	4.58	80.71	5.28	297875
6	Alwar	1.74	20.21	7.90	67.52	2.62	499291
7	Bharatpur	2.07	22.07	12.65	61.76	1.45	329985
8	Dhaulpur	3.03	31.46	15.46	48.36	1.69	158006
9	Karouli	3.06	40.83	23.93	30.95	1.24	214250
10	S. Madhopur	2.80	48.50	14.55	32.85	1.30	203861
11	Dausa	2.10	24.44	12.13	60.03	1.29	241056
12	Jaipur	2.85	28.92	8.10	58.88	1.25	509495
13	Sikar	1.35	12.30	4.53	78.59	3.23	331175
14	Nagaur	3.09	18.38	9.95	66.12	2.47	456605
15	Jodhpur	2.90	33.14	14.51	48.04	1.42	376152
16	Jaisalmer	3.94	59.61	13.90	21.66	0.88	94969
17	Barmer	3.79	64.35	14.89	15.81	1.16	377079
18	Jalore	4.56	55.55	18.11	20.05	1.72	295000
19	Sirohi	6.36	47.90	16.03	27.09	2.62	161412
20	Pali	4.68	35.58	15.43	42.24	2.07	345884
21	Ajmer	3.41	29.21	9.46	56.26	1.66	290639
22	Tonk	2.15	62.30	7.96	26.41	1.18	208809
23	Bundi	7.60	66.72	8.09	16.93	0.67	170917
24	Bhilwara	4.35	49.52	11.36	33.68	1.09	375325
25	Rajsamand	3.58	35.85	18.08	40.67	1.83	203922
26	Udaipur	4.81	71.55	7.75	14.66	1.24	534446
27	Dungarpur	6.50	78.63	7.06	7.07	0.74	247136
28	Banswara	5.98	80.74	6.40	6.20	0.69	311775
29	Chittorgarh	4.10	63.64	12.19	16.82	3.25	385975
30	Kota	11.16	57.77	12.13	17.86	1.08	186027
31	Baran	7.81	73.51	7.77	10.12	0.79	188016
32	Jhalawar	6.08	68.26	11.35	14.00	0.31	230906
--	Total	4.07	44.13	11.68	38.36	1.75	9285662

Source: Survey conducted by Zilla Parishads and Department of Rural Development, Government of Rajasthan

¹⁸ It is a little difficult to argue that all these should therefore be upgraded, because the norms of 'reasonable' housing in terms of functional utility and desirability are different in various parts of the state. What may be acceptable in the desert region may not be so in the eastern parts of the state. But this should not be a major problem if, as per the IAY guidelines, permanent waiting lists for housing assistance needed are maintained at the village level.

The table shows that while the bulk of households without housing were in the four districts of Ganganagar, Bikaner, Udaipur and Kota, homelessness in terms of the percentage of homeless households in total households was the highest in Kota, followed by Bikaner, Baran and Ganganagar. Clearly, these four districts need to be specially focused on. Jhunjhunu and Sikar districts are shown to have the least extent of housing problem. One advantage in Rajasthan compared to other low income states (as noted earlier by several researchers) is that several poor households have some land where they can construct their houses. Somewhat conversely, the data oddly show a number of non-poor among the homeless, perhaps explained by the presence of nomadic tribes. In any case, there is a 'credit-cum subsidy scheme' for the non-poor in the housing sector (not covered here).

The data given on the physical and financial performance of IAY by the Government of Rajasthan, Panchayat Department (Table 4.5), provides the number of houses constructed and the expenditure involved. The Government of Rajasthan has already (since 2003-04) provided for construction of over two lakh new houses with an expenditure of Rs. 248.25 crore and upgraded another 42,000 houses with an expenditure of Rs. 12.93 crore between 2003-04 and 2008-09. As per the Census data, continuation of the existing pattern of expenditure on housing assistance for another 4-5 years should be adequate to cover all the households of Rajasthan that need some roof to live under and are able to qualify under IAY. However, for this to happen, the distribution of available funds among districts has to follow the pattern of housing needs.

Table 4.5: Physical and Financial Performance of IAY Program in Rajasthan

(Rs. Lakh)

Year	Type of Assistance	Releases from Centre	Releases from State	Total funds available	Exp. (SC)	Exp. (ST)	Total Exp.	No. of Houses Constructed		
								SC	ST	Total
2003-04	New Houses	3013.48	1138.38	4462.68	1795.87	908.15	4255.44	12777	7834	31678
	Upgradation	673.78	256.51	1024.53	408.72	192.79	961.63	3943	2315	9755
2004-05	New Houses	3900.94	1300.31	5646.15	2340.81	1100.54	5257.88	9030	4738	21058
	Upgradation	949.85	316.62	1396.59	566.85	257.65	1261.96	4282	2173	9778
2005-06	New Houses	6589.94	2042.55	9402.19	4021.30	1663.66	8563.52	26546	12970	28028
	Upgradation	NA	NA	NA	NA	NA	NA	4648	2197	10469
2006-07	New Houses	6617.51	2205.84	10524.26	3805.31	2397.35	9351.73	13661	6431	30018
	Upgradation	NA	NA	NA	NA	NA	NA	1500	803	3379
2007-08	New Houses	8888.57	3999.47	14414.69	4857.20	2734.39	12123.41	18852	8274	44028
	Upgradation	NA	NA	NA	320.96	70.86	558.03	2396	330	3774
2008-09	New Houses	17993.33	3030.71	28908.40	8004.63	4030.29	20478.72	NA	NA	47085
	Upgradation	NA	NA	NA	NA	NA	NA	NA	NA	5301

Source: Government of Rajasthan

Table 4.5 does not indicate any major slippage in implementation of the program in terms of available funds (central releases plus those from the state government). It is obviously important to keep the utilization of the entire opportunity provided by the scheme at a high level, since non-utilization means losing out funds of which only 25 percent is to be borne by the state.

6. Old Age Pension as Social Security

The Department of Social Welfare and that of Rural Development implement most of the generally available social security schemes. Some of these are schemes of the central government, complemented by the state. The major scheme of this type is the National Old Age Pension Scheme (NOAPS), while other schemes include National Family Benefit Scheme (NFBS), pensions for widows and for the disabled. However, more than half of the expenditure on different types of pension is incurred under the NOAPS. The amount of the monthly pension is currently Rs. 400, and about 8.65 beneficiaries of various pension schemes were targeted in the state in 2007-08.

7. Additional Fund Requirements

a. For Wage Employment

The Government of Rajasthan could generate 1.62 crore person-days with a cash expenditure of Rs 193 crore in 2006-07 under SGRY and another 9.99 crore person-days with an expenditure of Rs 693 crore under NREGS. With all the districts covered under NREGS in 2008-09 and SGRY completely subsumed under NREGS, Government of Rajasthan has created an employment of 63.96 crore mandays with an expenditure of Rs. 6164.39 crore. This is a massive scaling up of operations in two years. While the expansion to all districts would have certainly contributed to this scaling up, it is possible that the economic slowdown that was particularly severe in certain sectors like construction which employ unskilled/semi-skilled workers also contributed to an increase in demand for jobs under NREGs. In any case, this massive expansion has made the job of reaching out to the poor somewhat easier for the future since the number of uncovered poor households under the scheme has been greatly reduced.

Rural population below poverty line in the state in 2004-05 was nearly 87.38 lakh persons, i.e., around 18.71 percent of the total rural population. We convert the total number of the rural poor into households, and assume that full coverage would

be defined as one person from each rural poor household being covered under NREGS (in fact, the scheme is demand oriented and not confined to the poor). With a further assumption that only unskilled wage employment is demanded by the rural poor, a simple calculation based on the NREGS norms of 100 person-days with Rs 100 as the wage rate shows that the Government of Rajasthan did not require any additional resources towards cash component of wage expenditure to provide jobs for one person from each poor household (Table 4.6). The estimation essentially shows that the Government of Rajasthan spent far more (Rs. 430.36 crore) than the amount required to cover one person from each BPL household (Rs. 209.13 crore) in 2008-09 itself and would now need to maintain the same level in terms of mandays only. However, it needs to be emphasised that NREGS does not confine itself to BPL families; also, recalling our earlier observation on any major shock creating the possibility of a large scale descent into poverty, the recessionary trends could also have increased demand for jobs, which our simple calculation does not provide for. Thus, the no additional resource requirement has to be interpreted in the limited sense in which it is intended. In particular, it must be kept in mind that our simple calculation does not take into account either non-BPL persons demanding jobs or any additions to the ranks of BPL since the last official headcount.

Table 4.6: Resources Required for Wage employment in Rajasthan

1. Population below poverty line in rural areas (lakh)	87.38
2. Total number of households below poverty line (6.04 average household size) (lakh)	14.47
3. Man days required to be generated [(2) X 100] (lakh)	1447
4. Total funds required for wages @ Rs. 100 per day [(3) X 100] (Rs. lakh)	144700
5. Actual expenditure under NREGA in 2008-09 (Rs. lakh)	616440
6. Employment generated for unskilled labour (lakh man-days)	4829.38
7. Wage Expenditure under wages for unskilled labour in 2008-09 (Rs. lakh)	426532
8. Share of unskilled wages to total expenditure [(7)/(5) in %]	69.19
9. Total funds required for unskilled wages [= (4)] (Rs. lakh)	144700
10. To meet the estimate at (9), total expenditure needed under NREGA [(9)/(8) X 100]* (Rs. lakh)	209126
11. State's contribution towards NREGA [10% of (10)] ** (Rs. lakh)	20913
12. Actual expenditure by the state (2008-09) (Rs. lakh)	43036
13. Estimated Resource Requirement from the State [(11) – (12)] (Rs. Lakh)	-22123

Note: * Estimation included Skilled wages, Material and Contingency expenditure

** Based on previous year's allocation; State's Contribution towards 10 % of material and skilled wages and entire contingency works out to be 10% of Total Expenditure under NREGA

An amount equivalent to the cash in kind would be required, as 50 percent of wages are given in kind, but these costs are usually borne by the central government, as is a part of the cash wage component under NREGA. Based on the

expenditure pattern of NREGA in Rajasthan, the state is found to contribute on an average 10 percent of total expenditures, comprising a part of the material costs and wages for skilled labour, and the entire contingency.

b. For Housing

As discussed earlier, the number of people without any house or kutcha houses differs between two sources of data, that is, Census 2001 and the survey of 2007 by the Department of Rural Development, Government of Rajasthan. If we go by Census data, the number of people living in kutcha houses can be covered in next five years with existing expenditure under IAY. Since the survey data are the latest, we adopt the figures from this source. As per the survey, the number of BPL households without houses is around 2.10 lakh and with kutcha houses is around 15.32 lakh (Table 4.7). Thus, nearly 2.10 lakh houses need to be constructed with an average assistance of Rs 27,000 per household. This would require around Rs. 569.04 crore in five years, implying average annual expenditure of Rs. 113.80 crore. Total expenditure under IAY in 2008-09 was Rs. 126 crore; hence, there should be no requirement of additional resources. Again, this is a limited estimate as it does not take into account expenditure on upgradation of kutcha houses.

Table 4.7: Condition of Houses by BPL and Non-BPL categories in Rajasthan in 2007

Families without any House	BPL	210756
	Non BPL	167529
Families with Kutcha House	BPL	1532789
	Non BPL	2564868
Having a Pucca House	BPL	310522
	Non BPL	4499198
Total Households	BPL	2054067
	Non BPL	7231595
	Total	9285662

Source: Department of Rural Development, Government of Rajasthan

c. For Social Security

Budgeted expenditure commitment for social security pensions was Rs. 196.75 crore in 2007-08, compared to latest estimate of Rs. 221.35 crore in 2006-07 (against budgeted amount of Rs. 160.19 crore). Of the total estimated beneficiaries in the state in 2007-08, nearly 4.55 lakh are old age pensioners, 3.11 lakh widows, and nearly a lakh disabled (Table 4.8). As per census 2001, there were nearly 26.85 lakh people above 65. Breaking this into various categories of fully dependent elderly, dependent elderly widows, elderly with no financial assets and with no property using

information from Irudaya Rajan (2006) and NSS surveys, estimated number of elderly to be covered under the scheme is around 4.82 lakh. This estimation leaves around 63,000 dependent elderly not covered by the NOAPS. To cover those that are not covered yet would require an additional Rs. 30 crore, of which the state's contribution would be Rs. 15 crore per annum.

Table 4.8: Profile of Aged People in Rajasthan in 2006 and Additional Resource Requirement

	Fully Dependent Elderly Population	Fully Dependent Elderly among Widows and Widowers	Percentage of Elderly with No Financial Assets	Percentage of Elderly with No property
Estimated total population aged over 65 (2006): 26.85 lakh				
Number In lakh	13.59	16.03	10.28	9.64
Percentage of total 65+ population	50.6	59.7	38.3	35.9
Number of Beneficiaries in 2006-07				
Old Age Pensioners (No.)				418566
Widow pensioners (No.)				282761
Disabled Pensioners (No.)				90161
Estimated elderly with assumption noted below (lakh)				4.82
Estimated uncovered Elderly population (lakh)				0.63
Additional Resources required (Rs. lakh)				3043
Requirement from State (50%) (Rs. lakh)				1521

Note: The number of 'elderly with no financial assets' is ideally the smallest one can consider as the number of potential beneficiaries. However, this entire group does not meet the required eligibility conditions. We assume 50% of the 'elderly with no property' meet all the required conditions for entitlement.

Source: Irudaya Rajan, S (2006) and Census 2001

8. Strategy for Poverty Alleviation: Budgetary Classification

In this section, we step back a little from the discussion relating to individual schemes and look at the aggregative picture of government expenditure to discern the broad strategy underlying the disaggregated allocations. Government expenditure can be broadly classified into three categories with respect to their impact on the poor; these categories can be called pro-poor expenditures, growth-oriented expenditures and administrative expenditures. The first category includes those government expenditures that are judged to be directly beneficial to the poor by intent. The second category essentially includes expenditures on social and economic infrastructure and those enhancing the productive capacity of the state, again by intent. This category of expenditures is also expected to benefit the poor, but neither directly nor exclusively. Administrative expenditures are as commonly understood and those in the nature of overheads; an important inclusion is the interest payments. Budgetary details on scheme-wise expenditures and details of schemes provide the basis for the classification. In many cases, the classification is

based on subjective judgment about the intent of the scheme in question. As a result, the classification reported below is only indicative and not definitive. The methodology broadly follows Sen and Chand (2004), with modifications as required with respect to state-specific schemes. The basic purpose of this exercise is to ascertain, as noted above, the relative emphasis between pro-poor and development-oriented expenditures, and flag any excessive reliance on a particular category.

Table 4.9: Classification of Government Expenditure in Rajasthan

Description	Amount (Rs. Lakh)			Shares in Respective Totals		
	2003-04	2004-05	2005-06	2003-04	2004-05	2005-06
A. Revenue Expenditure	1868461	1956047	2112652	100.00	100.00	100.00
i. Pro-Poor Programmes	469969	478208	567208	25.15	24.45	26.85
ii. Development-Oriented Programmes	493932	550675	590148	26.44	28.15	27.93
iii. Administrative Services	904560	927164	955295	48.41	47.40	45.22
B. Capital Outlay	318098	348829	429449	100.00	100.00	100.00
i. Pro-Poor Programmes	81145	87767	103159	25.51	25.16	24.02
ii. Development-Oriented Programmes	231573	250712	261752	72.80	71.87	60.95
iii. Administrative Services	5381	10350	64538	1.69	2.97	15.03
C. Loans and Advances	76639	51509	19658	100.00	100.00	100.00
i. Pro-Poor Programmes	205	488	770	0.27	0.95	3.92
ii. Development-Oriented Programmes	76434	51021	18887	99.73	99.05	96.08
iii. Administrative Services	0	0	0	0.00	0.00	0.00
D. Total Expenditure	2263198	2356385	2561758	100.00	100.00	100.00
i. Pro-Poor Programmes	551319	566463	671137	24.36	24.04	26.20
ii. Development-Oriented Programmes	801938	852409	870788	35.43	36.17	33.99
iii. Administrative Services	909941	937514	1019833	40.21	39.79	39.81

Source: Own computations based on budgetary data from *Finance Accounts*, Government of Rajasthan for the three years.

Table 4.9 presents the results of our classification exercise for the years 2003-04, 2004-05 and 2005-06 for all government expenditures. Pro-poor expenditure is around 25 percent of total expenditure in all three years, and the same holds for both revenue and capital expenditures. Net lending, however, is mainly for development oriented programs. Development oriented programs get a higher share of public expenditure, possibly because with low levels of poverty and relatively low per capita income, the government accords higher priority to development oriented expenditure. However, the highest share of government expenditures is for administrative services – both in the aggregate and in revenue expenditures. Even in capital expenditure, the share of administrative services shows a big jump in 2005-06, compared to the two previous years. This aspect may need careful examination to find ways of reducing the preponderance of administrative expenditures, since it

goes without saying that the main task of the bureaucracy and the government is not self-perpetuation but social and economic development of the state, and the pattern of public expenditure should reflect this relative priority.

Table 4.10 provides the results of our exercise for public expenditures on social services only. The bulk of the expenditures on social services are expected to be directed towards the poor and classification in Table 4.10 confirms it. At least by intent, more than half of the expenditures on social services are oriented directly towards the poor. The pro-poor expenditure under revenue expenditure category is a little less than 60 percent of the total, whereas it is around 40 percent in capital outlay. The pro-poor net lending in social services has been erratic with above 100 percent (the odd figure is because of large recoveries/repayments under other types of lending) in 2004-05 and negative in 2006-07. Administrative expenditures in social services are quite small, below 3 percent.

Table 4.10: Government Expenditure on Social Services in Rajasthan

Description	Amount (Rs. Lakh)			Shares in Respective Totals		
	2003-04	2004-05	2005-06	2003-04	2004-05	2005-06
A. Revenue Expenditure	702574	686989	794286	100.00	100.00	100.00
i. Pro-Poor Programmes	425491	384296	463508	60.56	55.94	58.36
ii. Development-Oriented Programmes	259631	282200	307716	36.95	41.08	38.74
iii. Administrative Services	17452	20493	23063	2.48	2.98	2.90
B. Capital Outlay	133720	154832	173866	100.00	100.00	100.00
i. Pro-Poor Programmes	52244	52524	68763	39.07	33.92	39.55
ii. Development-Oriented Programmes	81476	102308	105103	60.93	66.08	60.45
iii. Administrative Services	0	0	0	0.00	0.00	0.00
C. Loans and Advances	491	268	-1840	100.00	100.00	100.00
i. Pro-Poor Programmes	205	488	770	41.77	181.97	-41.86
ii. Development-Oriented Programmes	286	-220	-2610	58.23	-81.97	141.86
iii. Administrative Services	0	0	0	0.00	0.00	0.00
D. Total Expenditure	836785	842090	966313	100.00	100.00	100.00
i. Pro-Poor Programmes	477940	437309	533041	57.12	51.93	55.16
ii. Development-Oriented Programmes	341393	384288	410209	40.80	45.63	42.45
iii. Administrative Services	17452	20493	23063	2.09	2.43	2.39

Source: As in Table 4.9

The share of pro-poor expenditure is 20 percent or less in economic services (Table 4.11), and that of growth-oriented expenditures is 65 percent or larger. Since most of the expenditures under economic services are on physical infrastructure and have no direct benefit for the poor unless specially targeted, this is perhaps as it should be. In fact, it is only because rural development (with some direct poverty

alleviation expenditures) is classified under economic services that there is a noticeable share of pro-poor expenditures in this category.

Table 4.11: Government Expenditure on Economic Services in Rajasthan

Description	Amount (Rs. Lakh)			Shares in Respective Totals		
	2003-04	2004-05	2005-06	2003-04	2004-05	2005-06
A. Revenue Expenditure	321015	403709	436176	100.00	100.00	100.00
i. Pro-Poor Programmes	44479	93911	103701	13.86	23.26	23.77
ii. Development-Oriented Programmes	233792	268349	282275	72.83	66.47	64.72
iii. Administrative Services	42744	41449	50201	13.32	10.27	11.51
B. Capital Outlay	179402	185824	244068	100.00	100.00	100.00
i. Pro-Poor Programmes	28900	35242	34396	16.11	18.97	14.09
ii. Development-Oriented Programmes	150097	148405	156648	83.67	79.86	64.18
iii. Administrative Services	405	2176	53023	0.23	1.17	21.72
C. Loans and Advances	76148	51241	21498	100.00	100.00	100.00
i. Pro-Poor Programmes	0	0	0	0.00	0.00	0.00
ii. Development-Oriented Programmes	76148	51241	21498	100.00	100.00	100.00
iii. Administrative Services	0	0	0	0.00	0.00	0.00
D. Total Expenditure	576565	640774	701742	100.00	100.00	100.00
i. Pro-Poor Programmes	73379	129154	138097	12.73	20.16	19.68
ii. Development-Oriented Programmes	460037	467995	460421	79.79	73.04	65.61
iii. Administrative Services	43149	43626	103224	7.48	6.81	14.71

Source: As in Table 4.9

Thus, the classification exercise broadly confirms a pattern of expenditure that would be expected in a state like Rajasthan, with low poverty as well as low per capita income. Even poverty alleviation, to be sustainable in the longer term, needs economic development signified by higher per capita income in the state. As such, a relative tilt towards development oriented programs, as seen in the above exercise, would be rational. The high share of administrative services in the aggregate expenditures but not in social or economic services would perhaps bear further investigation.

9. Public Distribution System in Rajasthan

Poverty is almost synonymous with hunger in India, and Rajasthan was identified as one of the nine food insecure states of India by the World Food Program of the United Nations, even though in terms of headcount ratio the incidence of poverty is low in the state. We have argued that there is reason to believe that there may be a bunching of households a little above the poverty line, which implies that food security is of utmost importance not only for the poor but also for those who may be just above the poverty line. The public interventions with respect to food works at three levels: as a part of the ICDS through Anganwadis for children below 6 years,

the mid-day meal scheme for children in the age group 6-14 and going to school, and through the public distribution system (PDS) for the rest. As such, the effectiveness of PDS can have a strong impact on the extent of poverty and on the well-being of the poor.

The PDS is now characterized by a two-tier system of below poverty line (BPL) and above poverty line (APL) households, differentiated by the price charged by the fair price shops (FPS) for the allocated amounts of foodgrains, sugar and Kerosene. In the state, the number of BPL cards has increased from nearly 17.47 lakh in 2001-02 to 20.97 lakh in 2007-08. As per Planning Commission estimates there are around 30 lakh households (134.89 lakh people) below poverty line in 2004-05 which is comparable to the number of BPL cards and Antyodaya Cards issued in 2007-08. Figures relating to FPS cards issued to the groups entitled to the highest amounts of subsidised supply are given in Table 4.12.

Table 4.12: Coverage of PDS in Rajasthan

Year	BPL Cards	Antyodaya Card	Annapurna Cards	Total
2001-02	1747962	270634	25782	2044378
2002-03	1860032	282572	26372	2168976
2003-04	1854903	448252	27318	2330473
2004-05	1851031	569300	27813	2448144
2005-06	1777003	569300	28071	2374374
2007-08	2097560	929749*	*	3027309

* Annapurna Cards included in the number of those for Antyodaya.

Source: Government of Rajasthan

To all these families 35 kg of foodgrains is distributed. It is for the cardholder to decide the combination of rice and wheat adding up to 35 KG. Annapurna Card holders are given 10 kg of foodgrains free of cost. The price of wheat as on March 2008 was Rs. 4.70 per kg to BPL cardholders, Rs. 2 per kg to the Antyodaya cardholders and Rs. 6.80 per kg to the APL families. In the case of rice, the price was Rs. 6.30, Rs. 3.00 and Rs. 9.00 per kg respectively. There is a coupon system prevalent in Rajasthan under which coupons are distributed through Gram Panchayats by the block level office. In addition to these coupons, Gram Panchayats are given Food Stamps. Each food stamp fetches 10 kg of foodgrains free of cost from PDS outlets. These food stamps are issued to the families suffering from starvation in times of famine or drought. The Village Panchayat issues these coupons to those poorest of the poor not having any livelihood.

A three tier Vigilance Committee supervises the distribution of foodgrains through the designated outlets periodically and as when any complaint arises. There are 22523 PDS outlets or FPS in the state operated by individuals and cooperatives. Of this around 5000 are operated by the cooperatives and the remaining by the individuals.

Perceptions and assessments of the PDS in Rajasthan vary. Planning Commission (2005) estimated leakage of foodgrains in Rajasthan to be 25-50 percent, most of it occurring at the FPS level. The targeting errors (of inclusion and exclusion) are not unduly large, implying diversion for unintended purposes. This is supported by observations from other studies (e.g. WFP, 2001) about the problems BPL families face in lifting their quota; these include inability to pay for the whole quota for a month at a time, long distances, irregular and inconvenient timings of FPS and missed opportunities during migration. Also, the types of foodgrains supplied by the FPS do not match the choice of the majority of rural population in Rajasthan, who do not prefer rice or wheat. A study conducted by the Centre for Media Studies, New Delhi on Corruption in India, "India Corruption Study 2005" reveals that nearly 37 percent of the people visiting ration card office used alternative means (either bribing or influence) to get their job done. Nearly 60 percent of the respondents paid higher price than that prescribed by the government or were given less in quantity than their full quota.

Even the PDS outlet operators complain that the margins are too low and the quantity supplied to them is always less than the quantity stated in the bills. The outlet operator has to pay the cost of foodgrains supplied in advance to FCI. This is sometimes a major problem as many of the outlets are operated by individuals. Another problem has to do with timing; the outlets are opened between 9 AM to 2 PM, when most of the poor people are away to fields for their wage earning. This results in many of the BPL card holders not lifting the stocks from the outlets.

As a result of these problems, actual amounts lifted are far less than allotted at all levels. Of the 9.5 lakh metric tonnes allotted for BPL and Antyodaya card holders in 2005-06, only 8.79 lakh metric tonnes were lifted by the PDS outlets. Including the APL card holders, the offtake was only 11.82 lakh metric tones against the allotment of 37.24 lakh metric tones. It is obvious that APL families do not utilize the PDS foodgrains, possibly because of quality considerations or non-correspondence with their choice of foodgrains.

As per the data on usage of PDS reported by NSSO (61st Round) for the year 2004-05, practically no one gets rice from FPS although 40 and 70 percent of rural and urban households do get rice from other sources. Similarly, only 13 and 2 percent of rural and urban households respectively get PDS wheat, although 87 and 95 percent of households in rural and urban areas respectively do get wheat from other sources. Clearly, the choice of foodgrain factor is not a major explanation for the low offtake. It is interesting to note that offtake of Kerosene is fairly high in rural areas; 84 percent of the households do get it from the FPS, almost all of them supplementing it with additional purchases from other outlets. The differential behaviour pattern of the beneficiaries between foodgrains and Kerosene rules out any simplistic explanation of non-utilization of PDS; further research is needed to understand this fully. Since the NSSO data are collected through household surveys, the large scale consumption of Kerosene by rural households from FPS cannot be characterized as 'diversion' either. A better understanding of the rural consumption behaviour could probably help in explaining the above and would also help in designing more effective policy for public intervention in this area. In this context, it may be worthwhile to note that the Annual Audit Report (Civil) of the CAG for the year 2006 had pointed out short-lifting of foodgrains at district level for the years 2001-06; hopefully such supply bottlenecks are not the simple explanation for the low coverage revealed by the NSSO data.

V. Financing Additional Resource Requirements

1. Introduction

After four continuous years of high growth, the Indian economy slowed down considerably in the 2007-08 and 2008-09 along with recessionary trends in the world economy. The states' revenue position was better in the last three years of the Tenth Plan (and the first year of the Eleventh Plan) than in the previous ten years because of the positive fallout of the high growth in the states' own revenue collections as also through higher amounts of shared taxes. A reversal of the trend is visible in 2008-09. As such, while there was greater flexibility with respect to financing additional expenditures of the state government until 2007-08, the slowdown is likely to adversely affect this flexibility, and in that context, talking about additional expenditures, that too the substantial amounts that we have estimated in the preceding pages can be rather incongruous. However, it needs to be kept in mind that it is particularly at such times when private incomes are comparatively low that government interventions assume more significance than otherwise. Also, macroeconomic policy appears to dictate increased government expenditure, not less, if the economy has to pull itself up. However, it does matter where the expenditures are incurred; it is important to maintain and increase the productive capacity of the economy. If so, boosting human capital through investments in social infrastructure is one of the ideal candidates, and our present analysis and estimates may not look out of place any more.

Table 5.1: Estimated Additional Resource Requirements

(Rs. Crore)

	2009-10	2010-11	2011-12
Elementary Education	872	896	922
Health, Water Supply and Nutrition	5587	5867	6160
Social Security	15	16	17
Total	6474	6779	7099

Table 5.1 brings together the estimates of additional resource requirements estimated in the three preceding chapters for the last three years of the Eleventh Plan. The estimates for education and health (along with water supply and sanitation) were actually computed from the year 2007-08 onwards as our base year data are for 2007 in those cases, but we include here figures from the year 2009-10 only; as such, there is an assumption implicit in the above table that the estimated additional

expenditures for the years 2007-08 and 2008-09 were actually incurred in those areas. All the annual estimates build in 5 percent annual inflation and thus may be considered to be in current prices. As can be seen, these range from about Rs. 6500 crore to Rs. 7100 crore in the last year and the bulk of the requirements are in the area of health, water supply and sanitation; while the large expenditure requirements for health is not a phenomenon confined to Rajasthan because of the low levels of public expenditures on health in most states and the country in general, the large requirements for water supply in Rajasthan are the result of state-specific factors. These requirements may be compared with the total expenditure (revised estimates) of the Government of Rajasthan of Rs. 39155 crore in 2007-08. Obviously, the degree of step-up in expenditure implied in our estimates is steep, making the issue of financing these additional expenditures a serious issue.

There are limited ways of financing such expenditures for a state government; these include (a) additional revenue mobilisation through taxation or non-tax revenues, (b) increased central transfers, (c) reallocating resources from other heads of expenditure and (d) private participation. It may be noticed that we are not even suggesting consideration of borrowing as a means of financing these expenditures; that is ruled out by the nature of these expenditures. Unlike investments in physical capital assets, these expenditures are unlikely to yield definite returns anytime soon. As such, funding such expenditures through borrowings can destabilise state finances through the future debt-servicing expenditures which will be counter-productive. This is particularly so in Rajasthan which already (in 2008-09) has one of the highest debt-GSDP ratios among non-special category states, next only to West Bengal. Financing options (a), (b) and (c) can be examined in some more detail, while option (d) by its very nature, cannot be predicted and can only be considered as residual.

2. Additional Revenue Mobilisation

As for additional revenue mobilisation, the burden will have to be borne primarily by tax revenues because (i) non-tax revenues constitute a considerably smaller share of revenue receipts than tax revenues, (ii) there may not be much unexploited potential in non-tax revenues in view of the past efforts to tap these sources and (iii) none of the expenditures being suggested can actually be used as a basis for mobilising user charges, except perhaps in a very limited fashion. To get an idea of the potential for additional tax collections, we first project actual tax revenues from major taxes of the state on the basis of actual collections during 2001-02 to

2006-07, for the years 2007-08 to 2011-12. Then, we compute potential revenue for the same period for each of these taxes as $R \times GE$, where

R = the highest ratio of tax collection to GSDP (current prices) for each tax from the year 1987-88;

GE = projected GSDP (current prices).

The difference between the potential revenue and projected revenue provides an estimate of possible additional revenue mobilisation. This is similar to estimating tax potential using average tax-GSDP ratio across states; the difference is that state's own best performance over a long period is used instead of an inter-state average. We have kept out the recession years to prevent overestimating the tax potentials. The estimated additional revenue potentials work out to Rs. 2269, 3034, and 3983 crore for the years 2009-10 to 2011-12. Clearly, these sums, even if realised, are quite inadequate compared to the additional expenditure requirements as they cover between 30 and 60 per cent of the estimated extra expenditures only.

3. Central Transfers

Central transfers to the state are not possible to foresee, except perhaps in a qualitative manner, for obvious reasons. Plan transfers are getting increasingly tied and are not likely to be a major source of additional funds for these purposes. Tax devolutions are also likely to suffer, at least for the next couple of years, because of the after-effects of the economic downturn. However, 13th Finance Commission awards will become effective for the last two years of the period being considered, and there is some hope that tax shares for states may be raised. We have already counted in the specific-purpose transfers for elementary education and poverty alleviation while estimating additional resource requirements; it is only the estimates of those for health which do not do so. However, with additional central funds likely to be devolved for secondary education, some amount of state resources may be freed. Also, with the implementation of NRHM gathering pace, there is some expectation of a step up in the outlays, and part of the cost of health-related additional expenditures may be defrayed from NRHM receipts. Finally, some of the additional expenditures may be financed through a process of convergence of various schemes, using funds available under various other central/ centrally sponsored schemes to finance activities that would serve common objectives.

4. Reallocation of Expenditures

To get an idea of possible reallocation of funds of funds, we devise a way of allocating the same amount of government expenditure as per priorities determined by the relative status of the state against other states in the area concerned. This allows us to avoid arbitrary policy prescriptions in this area, as is often the case. Methodological details are provided in Sen and Karmakar (2007); essentially using the idea of 'benchmark competition' well-known in the fiscal federalism literature, we predicate a normative allocation of given resources based on weights derived from indicators of relative progress of the state vis-à-vis the highest value among all the states in various functional areas and actual unit costs of achieving improvements in the same indicators based on trends in public expenditures and the said indicators. Comparing the actual allocation against the hypothetical (normative) one gives an idea of possible reallocation of funds. We have carried out this exercise for the year 2005-06 for Rajasthan (Table 5.2) as an indicative one to judge the prospect of reallocating expenditures. Unfortunately, this exercise points to little likelihood of reallocating expenditures from other areas for the purposes we are discussing here. That is because our estimates show that the actual expenditures on education, health, water supply and rural development (containing the poverty alleviation programs) are in fact larger than those dictated by relative status of the state in various areas.

Table 5.2: Actual and Estimated Normative Expenditures

Functional Area	(Rs Lakh in 1999-2000 prices)		
	Exp 2004-05 (actual)	Exp 2005-06 (actual)	Estimated Exp 2005-06
Education	397472.64	469441.11	397830.04
Health	107854.96	120220.87	108019.70
Water Supply	147626.5	171482.56	147757.78
Housing	6691.4	4380.58	6699.89
Urban Development	91885.84	86434.87	91941.90
Rural Development	114076.3	117796.24	114189.74
Labour and Employment	4333.35	4688.75	4340.24
Agriculture and Allied	71241.93	96438.16	71319.60
Irrigation and Flood Control	172107.91	191928.16	248304.66
Energy	153557.93	183044.02	155076.11
Industry & Minerals	8120.73	11599.67	8121.22
Transport	54320.97	80666.35	184520.46
Grand Total	1329290.46	1538121.34	1538121.34

We are then left with an unenviable position of the state being able to finance only a small part of the estimated additional resources needed from its revenue receipts, even if it did its best. Even if one assumes that parts of the estimated additional expenditures will be covered by sources we have not considered, still the financing gap is too large to be assumed away lightly. Additional funding (possibly through new schemes) from the central government or by multilateral donors appear to be the only realistic possibilities to bridge the financing gap that we are ending up with. There are indeed some projects of the latter type already operating in the state, but the scale of expenditure requirement is probably larger than it is possible to meet with the donor-funded projects. Clearly, it will be necessary to use private financing as much as possible; unfortunately, it is not easy to predict it with any confidence. In any case, there are some qualitative observations that can be made regarding private financing. To begin with, private financing of the commercial type will be available only if profits are to be had, and human development areas (or social services in general) are not ideally suited for it. However, with unbundling provision of various services, it should be possible to find specific parts that would be amenable to private provision or public-private partnerships (PPP). There are already examples of such endeavours in Rajasthan. More of such opportunities have to be exploited, always keeping in mind the issue of accessibility to those that need these services the most, the poor. It cannot be denied that there are certain risks involved and there are reservations about moving away from public supply (see, for example, an assessment of Swajaldhara programme along the same parameters by Sampat, 2007). But if there are simply not enough public resources available, there is little option; policy framework must insure non-discrimination against the poor and strong monitoring mechanism has to be put in place to guarantee accessibility to the poor.

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