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Status and Constraints

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Rajasthan, the largest state of India, is one of the BIMRAU states that came into existence in 1956. It started its quest for development with several handicaps and few advantages. It is a land locked state. Nearly two-third of its area is arid or semi-arid, with low and irregular rainfall characterized with extremes of climate. For a predominately agrarian economy these conditions prove a major handicap in ensuring sustainable growth (Vyas 2007). Significant uncertainty leads to sub-optimal resource allocation in its primary, agricultural sector with repercussions in other sectors of the economy. Its high population growth exerts pressure on fragile ecosystem. Weak economic base of the state makes the task of resource mobilization extremely difficult. The cultural history also adds to the woes of the state at times; it makes the task of sustainable growth all the more daunting. In the recent past, economic growth has witnessed rapid increases, but sustenance is a problem. This paper is an attempt to (i) to review the trend in gross state domestic product (GSDP) and changes in the structure of economy since the early nineties; (ii) to summarize the key factors responsible for growth in the main sectors since 1990-91; (iii) to identify the constraints to growth in the key sectors; and (iv) to suggest policies to overcome these constraints and accelerate the growth.

The paper is divided into six sections. Recognizing that the economic performance of any state depends on its natural resource endowments and development initiatives to use them, in the first section some salient features of natural resources and economy of the state are presented. The trend and growth of GSDP and its components and changes in the structure of the state's economy are analyzed in section 2. The trends in the gross fixed capital formation and sources of capital formation are discussed in section 3. Section four looks at financial sector issues. Key factors responsible for the growth and the main constraints to the growth of Rajasthan's economy are identified in the fifth section. Policy options to overcome the constraints and accelerate the growth of the state's economy are presented in the last section.

1 Rajasthan: Natural Resources and Economy

In this section an overview of Rajasthan's natural resources and development initiatives are presented, which would help in identifying the sources of growth, constraints in accelerating the growth and policy options to overcome the constraints. It covers demographic features, employment and occupational pattern, poverty levels, land resources and use pattern, farm size, water resources, cropping pattern, crop yields, livestock resources and infrastructure for development. At the time of formation, Rajasthan had very low level of infrastructure and industrial base. Agriculture was the main economic activity of the people. Even now agricultural sector continues to be the major sector of Rajasthan's economy. Nearly 81 percent of the state's geographical area is characterized as either arid or semi-arid or transitional. In these areas, rainfall is very low and the droughts, which are

common features year after year, threaten the existence of not only crops and vegetation but also of livestock and human beings. The state is required to allocate substantial resources to mitigate the miseries of the people arising out of frequent droughts in several parts of the state.

1.1 Demographic Features

The Rajasthan state which extends over 34.2 lakh sq. km area had a population of 56.5 million in 2001. Out of the total population 52.1 percent were males and 47.9 percent females. The population of the state has been growing at a rate higher than that of the rest of the country. Between 1991 and 2001, the population of Rajasthan went up from 44 million to 56.5 million recording a growth rate of 2.13 percent per annum. The density of population, however, continues to be lower than the national average. The population density in Rajasthan was 129 per sq. km in 1991 and 165 per sq. km in 2001. With the female population growing at a slow rate, the gender ratio defined as females per 1000 males improved from 910 in 1991 to 921 in 2001. Both birth rates and death rates have been declining in the state, though slowly (Singh 2007a). The birth rate declined from 34 per thousand in 1991 to 31.4 per thousand in 2001 and the death rate declined from 9.1 per thousand in 1991 to 8.5 per thousand in 2001. Though the urban population has been growing at a rate higher than the rural population, the proportion of urban population continues to be small. The urban population, which accounted for 22.9 percent of the total population in 1991 marginally increased to 23.4 percent in 2001. Thus, around 77 percent of the population of the state continues to be characterized as rural population. With very low density of population in rural areas (around 100 persons per sq. km) compared to that in urban areas (more than 2000 persons per sq. km), the unit cost (per head) of providing social services and economic infrastructure becomes quite prohibitive.

Why is population growth the way it is? The indicators like under-five mortality rate, infant mortality rate and proportion of one year-old children and immunized against measles provide some answer besides the social and economic issues. State has major role to play in tackling infant mortality. The evidence is that in absence of the state, the market does not solve the problem. When China phased out free public health care in favour of profit-making hospitals and health insurance, household health cost rose forty-fold and progress on tackling infant mortality slowed. Services that were once free are now paid through health insurance, which covers only one in five people in rural China[1]. India and Rajasthan for that matter are no different[2]. The remoteness of habitations further complicates the situation. It is the poor who suffer the most by private service failures. In 2004, percentage of infant deaths to total deaths in Rajasthan was 27.8 and the rural percentage was 31.2 compared with urban percentage of 16.0. Also the infant mortality rate (infant deaths in less than one year) in 2004 was 67 and varied from 74 in rural areas to 42 in urban areas. The gender dimension is that, in 2004, 66 male infants died compared with 69 female infants. A similar trend is visible in both rural and urban areas though infant mortality is much higher in rural areas of both male and female infants.

Are there any changes observed since 1992? Sample Registration System data shows that in 1992-94, the average infant mortality rate was 85.3 that came down to 73.3 in 2002-04. In rural areas the decline during the period was from 89.7 to 77.7 compared with decline from 60.3 to 50.0 in urban areas. Percent of deaths to children below age five to total deaths in Rajasthan as per Sample Registration System (SRS) 2004 was 35.2 (India 24.4) and it varied from 38.6 in rural Rajasthan (India 26.5) to 23.2 in urban Rajasthan (India 16.5). This situation is only better than Madhya Pradesh among all major states.

The death rates for children below age 5 were estimated at 21.0 (India 17.0) in Rajasthan in 2004 that is fairly high. The male children have slightly lower death rates of 20.8 (India 16.6) compared with female children deaths of 21.3 (India 17.5). In rural Rajasthan, the rate is 23.1 across the board (4th highest amongst all states) when at the national level the estimate is 19.1. The male children deaths were 18.7 and 19.6 respectively at the national level when the corresponding rates were 22.2 and 24.1 respectively in Rajasthan. The urban Rajasthan rates are almost half that of rural rates (13.8, 15.7 and 11.7 total, male and female respectively). Here again, the rates at all India level are lower than that for Rajasthan (10.1, 9.8 and 10.5 total, male and female respectively). This means Rajasthan still has to traverse a long way to achieve reduction in infant mortality and more so in rural areas. The health and population policies have apparently little impact in Rajasthan.

The infant and under- five mortality rates are higher in rural areas compared with urban areas. It is also significant in Southeastern region of Rajasthan. In case of educated mothers, the infant and under-five mortality rates are lower compared with illiterate mothers. Hindu children have higher infant and under-five mortality rates as against Muslim children. Scheduled tribe children have the highest under-five mortality rate among all social groups. So is the case with children in low-income status families, having higher infant and under-five mortality rates. Child survival programmes might usefully focus on specific groups of children with particularly high infant and child mortality rates, such children belong to the scheduled tribe and caste, whose mothers are illiterate, children living in rural areas, and children from households with a low to medium standard of living. Rajasthan in recent years has initiated various programmes to improve the health for all. However, it would require concerted efforts to achieve these targets and equitable health system. There is need for a detailed and time-bound action plan for improving the health of the people of the state and to achieve the goal of population stabilization. Though knowledge of family planning is nearly universal, lot need to be done for bridging the gap on unmet need for family planning services. The strategy must focus on avoiding unwanted pregnancies. This would require revamp of the management of service delivery system, especially that of public health units. Reproductive and child health (RCH) care units are most wanted in small and rural areas throughout the state. They are grossly underutilized at present. This means there is need to fill the gap of doctors and paramedical staff, equipment and quality care. Rajasthan can also do with prevention of early marriage, improvement in institutional deliveries and follow ups, placing greater emphasis on female literacy at secondary and tertiary levels and widening female labor market participation that ensures regular wages[3].

1.2 Literacy Rates and Gender Concerns

Overall literacy rates in 2001 were 76.2 percent and male literacy rates were higher at 86.45 percent compared to female literacy rate of 64.67 percent. We observe reduction in gender differences, but still significant across districts. The female literacy rates have improved tremendously during the decade of nineties. Dholpur, Jalore and Rajsamand districts have observed widening gender differences, however. Are there any rural-urban differences? Across the districts, male and female literacy rates are higher in urban areas and female literacy rates have higher gap. In rural areas the gender difference is the highest in Sawai Madhopur district (44.44% points) and the least difference is of 24.73 percent points in Ganganagar. In urban areas, the gender difference is the highest in Jalore district (34.64% points) and the least difference is of 15.06 percent points in Udaipur.

1.3 Work Force and Occupational Structure

As regards the the distribution of population according to work participation, we find that out of the total population, 42.06 percent are workers who support remaining 57.94 percent who are non-workers in 2001. The proportion of workers is considerably higher among males. Among the males, 49.95 percent are workers whereas among females only 33.49 percent are workers. One of the important features of workforce participation in the state that needs to be noted is that between 1981, 1991 and 2001, the participation of females in workforce has increased considerably for the state as a whole and in rural areas, the increase slowed down during the nineties. In urban areas, female workers still constitute less than one-tenth of female population. Two other important aspects of participation of the population in economic activity are (a) relatively large proportion of rural people work to earn as compared to that of urban population; and (b) the proportion of urban females reported as working is very small. In 1991, out of total rural population, 42.04 percent were workers whereas among urban population, workers were only 27.17 percent compared to 45.87 percent and 29.59 percent in 2001 respectively. Among females, in urban areas, only 7.22 percent were workers whereas in rural areas as many as 33.25 percent were workers. These proportions changed to 9.55 percent and 40.63 percent in 2001 respectively. Data shows that women as non-worker are declining as proportion of population while male non-workers' percentage is increasing at the state level and in rural areas over time. In urban areas, both male and female non-worker proportion in total population is declining. Rural Rajasthan has greater proportion of female marginal workers; 20.54 percent in 2001 and this proportion have been increasing. Rural female main workers are also 20.08 percent in 2001 and this proportion was 10.59 percent in 1981.

The distribution of workers according to the economic activity reveals that the primary sector continues to account for more than 70 percent of the employment of workers. In 1991, 58.8 percent of main workers were engaged as cultivators and other 10 percent as agricultural laborers. It is important to note that between 1981 and 1991, while the proportion of cultivators declined, that of agricultural labourers increased. There was also a decline in the proportion of total workers engaged in the livestock, forestry and fishing activities from 2.9 percent to 1.8 percent. The primary sector, thus, accounted for 71.63 percent of the main workers in the state during 1991. The secondary sector consisting of manufacturing and construction activities accounted for 9.87 percent of the main workers in 1991 which was nearly 1.0 percent lower than that a decade ago. Within the secondary sector, manufacturing activity saw a decline in percentage of workers from 8.91 percent in 1981 to 7.45 percent in 1991 whereas the employment in construction activity recorded an increase. There were 18.5 percent workers engaged in tertiary sector in 1991 which was considerably higher than that in 1981. These observations point to the fact that the employment in the tertiary sector is growing at a rate faster than that in the primary and secondary sectors. It is thus pertinent to say that with low growth rates of income, high poverty rates and low literacy rates during this period, one would not expect the structure of labor force or its quality to improve.

Looking at NSS data during 1993-94 and 2003-04, one can deduce that work participation rates of male workers (as per the usual status), have more or less remained unchanged overtime, though there appears to be marginal decline in the participation rate between 1993-94 and the later years in rural Rajasthan and a marginal increase in urban Rajasthan. In case of women workers, there is perceptible decline in the work participation rate over time. As per the CWS criterion, both male and female work participation rates have fallen in rural areas, while in urban areas male workers show no visible change in work participation rate overtime, but female workers rate does decline.

This means that women are largely subsidiary workers (proportion is reducing though) more influenced by seasonality of work in agriculture. Census data has also shown that women are replacing less male employment in rural areas. This is an indication of feminization of agriculture. As men move out of agriculture, women get more regular opportunity to regular work. Women also have lower skills (Singh and Sagar 2004) and so are not able to fetch remunerative jobs in urban areas and work largely in low paid rural jobs. This creates rural-urban gap. Another reason for this situation is increase in enrolment at secondary level of schooling. So some scholars argue that these changes are not consequent of economic growth.

Another facet of Rajasthan's labour market is that large number is employed as self-employed. NSS data in rural areas most self-employed are engaged as cultivators on their own land, when in urban areas most are in small retail trade or service sector.

1.3.1 Women in Labour Force

The situation in Rajasthan reveals that women constitute 47.96 percent of total population. In rural areas, the female population was 48.21 percent and it was lower at 47.09 percent in urban areas. Women constituted 67 percent of all women workers as cultivators in Rajasthan in 2001. The share of women in other economic activities is: 16.19 percent agricultural labourers, 2.85 percent household industry and 13.96 percent other workers. This shows that women are concentrated in agriculture and allied activities only (83.19%). Thus, it is still a long way before gender parity in the labour market is achieved. There are of course initial lags. It may also be noted that in many activities women's work is not considered as a work. At the district level, it is observed that the highest percent of female workers in agriculture and allied activities is in Banswara (93.01%) and the least proportion is recorded in Dholpur at 44.77 percent. In 18 of the 32 districts the percentage of female workers in agriculture and allied activities is higher than the state average, which means that in 18 districts women in agriculture and allied activities constitute more than 83 percent. With regards to work participation rate, in 2001, the average male work participation rate was 49.95 percent compared to 33.49 percent for females. There are wide variations in female work participation rate across districts. The maximum rate was observed in Chittorgarh (46.23) and the lowest in Kota (19.41).

Women's work participation has another dimension. Historically and culturally we know that women have stereotype works. NSSO data for 1999-00 reports that only 42.8 percent women in rural Rajasthan are willing to work within household compared to 33.2 percent at the national level in rural areas. The corresponding proportions in urban Rajasthan are lower at 22.3 percent compared to 29.9 percent in India. What are the activities that these women would like to work in? In rural Rajasthan, tailoring is the most preferred activity (17.6%) followed by dairy (13.0%) while in urban Rajasthan the most preferred activity is again tailoring (13.8%) followed by spinning and weaving (1.8%). This shows that women still feel comfortable with activities that require skills learnt from early childhood. Thus, labour market in Rajasthan is witnessing changes, but still opportunities are not available for large number and more so to women due to lack of education and skills. We do find decline in work force in agriculture and allied activities, but with fewer occupational choices owning to lesser geographical mobility, most tend to stay back in rural areas. Casualization among men is higher than women and this is largely in expanding construction sector. Newer generation is reluctant to join as workers in agriculture sector. There is also regional variation in changes being observed. For instance, absolute number of workers in agriculture has

declined in southern districts (badly performing agriculture too). Workers have been pushed out of this sector. This trend is not visible in desert districts implying that there are factors other than natural conditions that make this to happen.

1.4 Poverty Levels and Per Capita Income

Reduction in the levels of poverty has been one of the important objectives of development initiatives. There has been a decline in the absolute number of poor as well as in the proportion of poor in total population. In 1973-74, the number of poor was 12.851 million or 46.14 percent of total population. This number remained the same in 1993-94 though the proportion reduced significantly to 27.41 percent of the total population. In 2004-05 (as per the uniform recall period consumption basis-URP), the number of poor stood at 13.489 million constituting 22.10 percent of the population, while as per the mixed recall period basis-MRP, the number was lower at 10.718 million or 17.5 percent of total population. In the rural Rajasthan, during this period the number of poor declined from 10.141 million (1973-74) to 8.738 million in 2004-05 (URP) and 6.669 million (MRP). In percentage terms, the rural population below poverty line declined from 44.76 to 18.70 percent (14.3%) during this period. In urban Rajasthan, the number of poor however, increased from 2.71 million in 1973-74 to 4.751 million in 2004-05 (4.05 million). Nevertheless, the proportion of population below poverty line in urban area declined from 52.13 percent in 1973-74 to 32.9 percent in 2004-05 as per URP and to 281.0 percent as per MRP. However, rural poor declined by 0.73 million between 1993-94 and 2004-05 (0.999 million as per MRP), while the decline was of only 0.209 million between 1983-84 and 1993-94. In percentage terms, the decline is almost by identical percentage points. In urban Rajasthan, number of poor increased by 0.278 million during 1983-84 and 1993-94, while the increase was by 1.369 million during 1993-94 and 2004-05- URP (by 0.668 million as per MRP). In percentage terms, during 1983-84 and 1993-94 the urban poor declined by 7.45 percent points while during 1993-94 and 2004-05, increased by 1.41 percent points as per URP (but declined by 2.39 percentage points as per MRP). Total number of poor increased by 0.167 million during 1983-84 and 1993-94 and by 0.639 million during 1993-94 and 2004-05 as per URP (but decline by 1.132 million as per MRP). In percentage terms, during 1983-84 and 1993-94 the total poor declined by 7.05 percentage points while during 1993-94 and 2004-05, declined by 5.31 percent points as per URP (by 9.91 percent points as per MRP). This clearly shows that liberalization era has observed increase in number of poor in Rajasthan across regions, though proportions have gone down. There appears to be intensification of urban poverty which is also a fall out of rural poverty. Large proportion of the population who are technically poor, are clustered above the poverty line at low income levels. Any shock like a drought can render large numbers of even non-poor as poor. Some of the features of Rajasthan like levels of real wages (better than most poor states), more egalitarian land ownership, large family and own account workers (Singh 2007b), better performing programs and remittances of migrants have contributed to the improvements.

The poverty situation is linked to the labour market behaviour. The nineties in Rajasthan have seen almost half the poor in Rajasthan as self-employed in agriculture followed by non-agricultural laborer households and agricultural labourer households (1999-00).The share of poor dependent on agriculture has increased from 56.5 percent in 1993-94 to 63.8 percent in 1999-00. At the same time non poor non-farm labourers fell from 27.9 to 22.3 percent. This again point to small holdings and climatic vulnerability of dry land agriculture as causing poverty

to persist. We can also add that Rajasthan over the years had large number of migrant population which has not got integrated into urban labour market due to its requirements. Then there are social categories of poverty as it is largely concentrated in scheduled caste and tribe population. Tribal land alienation in south Rajasthan, poor agriculture in arid districts, inequality and social and geographical isolation too contribute to rural poverty. Besides, there has been slow down of agricultural wages in the recent times. Agriculture is the prime sector thus requires attention in Rajasthan even today. Poverty reduction in Rajasthan has defied all reasons linked to labour market. The major reason could be adaptive strategies including animal husbandry, multiple-occupations (within a household) of an individual, short-term migration and remittances. It is thus critical that training for skill-upgradation, micro-infrastructure and credit are made available to people at large in rural areas. Availability of information on labour market outside the state and within the state is must for poor to extend their livelihood options.

1.4.1 Per Capita Income

There has been a considerable increase in the per capita income in the state. The per capita GSDP at current prices which was Rs.1619 in 1980-81 increased to Rs.21565 in 2007-08. At the constant prices (1999-00 prices) the per capita GSDP rose from Rs.6200 in 1980-81 to Rs.16260 in 2004-05. The gap between constant price and current prices has widened over time. Prices over time have eaten into the significant increases in per capita income; lower purchasing power with poor. During 1980-81 to 1989-90, the per capita GSDP at constant prices recorded a growth of 3.2 percent per annum, while during 1990-91 and 1999-00 the growth rate was 3.9 percent. Per capita income grew at rate of 3.3 percent during 2000-01 and 2007-08. An important aspect of per capita income growth is its picking up during the nineties. The long run growth has been 3.8 percent (1980-81 to 2007-08), but 1990-91 to 2007-08 is lower at 2.6 percent. This means per capita income growth slowed down in the recent years.

1.5 Land Use Pattern

The geographical area of Rajasthan is around 34.2 million hectares. During the last five decades, considerable changes have occurred in the land use pattern in the state. The barren land, culturable waste lands and old fallows have been reclaimed/improved and, according to their capabilities, brought under forests and/or arable farming. A part of the land is being diverted for several non-agricultural purposes which are bound to happen with the increase in population and expansion in demand for various amenities for the people and industrialization. Between 1980-81 and 1997-98, 441 thousand hectares of area was added to forest lands and 1807 thousand hectares were added to the net sown area. Correspondingly, the barren and uncultivated land declined by 295 thousand hectares, culturable wastes by 1399 thousand hectares and old fallows declined by 101 thousand hectares. The land use pattern in Rajasthan during 2004-05 shows that 48.3 percent of the geographical area is net sown area. If the current fallow lands are added to it, the total cultivated area works out to 55.0 percent of the geographical area. With livestock being an important economic activity and source of livelihood in several parts of the state, the area under pastures and grazing lands at around 5 percent of the geographical area is a matter of concern. While the area under forests has considerably increased during this period, it continues to be low at only 7.77 percent of the geographical area.

1.6 Farm Size

The average farm size is consistently declining in the state. The average size of the operational holding, which was 4.44 hectares during 1980-81, went down to 3.96 hectares during 1995-96. It further went down to 3.65 hectares in 2000-01. The number of marginal, small, semi medium and medium size holdings in the state is consistently going up. Total number of operational holdings in the state went up from 4487 thousand during 1980-81 to 5364 thousand during 1995-96 and further to 5816 thousand. However, the number of large holdings (above 10 hectares in size) marginally declined from 490 thousand to 487 thousand during this period and further to 460 thousand in 2000-01. It may be mentioned here that though the average size of operational holding in Rajasthan is considerably larger than the country's average, owing to the lack of irrigation facilities coupled with very low and uncertain rainfall and low fertility status of the soil, the average income generating capacity of land in the state is very low. Most of the marginal and small holdings, which account for 53 percent of the total holdings, are economically unviable in most parts of the state. The proportion of such holdings has been going up; marginalization of holdings.

1.7 Water Resources and Irrigation

Water is one of the most important inputs for development in the state. Water availability per unit of land or per capita is considerably lower in Rajasthan than in the rest of the country. While the state accounts for 10 percent of the geographical area and 5.0 percent of the population of India, its share in total water availability of the country is only 1.0 percent. The main source of water in the state is rainfall, which is not only scanty and unevenly spread over various parts of the state but also highly erratic. The use-efficiency of water in agriculture assumes greater importance because more than 90 percent of total water is used for irrigation purposes. Given this situation, harnessing of water for expansion of irrigation facilities and optimum utilization of the available water resources has received added attention in all the five year plans of the state.

Net irrigated area (NIA) in Rajasthan, which was 3.9 million hectares in 1990-91 increased continuously to 5.61 million hectares in 1999-00 to decline significantly in the next year (a drought year). After fluctuating during next couple of years, in 2005-06, NAI stood at 6.29 million hectares. The addition to the net irrigated area in 1999-00 over 1990-91 was considerably higher than that during the eighties. Addition to the NIA during the nineties had been 1.71 million hectares against 0.92 million hectares during the eighties. However, between 1999-00 and 2005-06, the net addition has been only 0.68 million hectares. In 2005-06, irrigation intensity stood at 124.22 percent and it increased from 119.17 percent in 1990-91. The increase in gross irrigated area (GIA) in the state has been more than the increase in NIA. The GIA in Rajasthan increased from 3.749 million hectares in 1980-81 to 3.863 million hectares in 1985-86, 4.652 million hectares in 1990-91 and further to 6.934 million hectares in 1999-00. In 2005-06, GIA stood at 7.818 million hectares.

The net sown area (NSA) in the state increased from 15.268 million hectares in 1980-81 to 15.564 million hectares in 1985-86, 16.377 million hectares in 1990-91 and further to 17.075 million hectares in 1997-98. NSA peaked in 2003-04 at 17.394 million hectares. However, as the rate of increase in NIA, during this period, has been higher than that in NSA, the NIA as percentage of NSA went up from 19.54 in 1980-81 to 19.98 in 1985-86, 23.84 in 1990-91 and further to 31.75 in 1997-98 and touched 40.46 in 2002-03. Along with the increase in GIA, there has been also an expansion in gross cropped area (GCA) in the state. The GCA in Rajasthan went up from 17.35 million hectares in 1980-81 to 18.137 million hectares in 1985-86, 19.38 million hectares in 1990-91 and further to

22.325 million hectares in 1997-98. It declined during the next three years. Since 2003-04, it has been around 21 million hectares. The GIA-GCA ratio went up in line with the increase in NIA-NSA ratio 1980-81 to 1997-98. Thereafter, it has fluctuated. The GIA as percentage of GCA which was little more than 21 percent in 1980-81 and 1985-86, rose to 24.00 in 1990-91 and further to 29.90 in 1997-98. It peaked at 39.89 percent in 2002-03. The GIA as percent of NIA over the period has been between 119.16 percent in 1990-91 and 125.68 percent in 1980-81. Notwithstanding the considerable expansion in irrigation facilities, more than 60 percent of the net sown area in the state continues to be devoid of irrigation facilities which limit the possibilities of increasing the intensity of cropping and introduction of high value crops in the state.

1.7.1 Sources of Irrigation

Though both surface and ground water sources are being used for irrigation, more than half of the irrigation is contributed by the groundwater sources i.e., wells and tube wells. Of the total NIA of 5.878 million hectares in 2004-05, as much as 72.58 percent i.e., 4.266 million hectares was irrigated by ground water sources (wells and tube wells) and remaining 27.42 percent i.e., 1.612 million hectares by surface irrigation sources. Among surface irrigation sources, while canals from major and medium irrigation systems contribute 1.457 million hectares, the share of irrigation by tanks is only 82 thousand hectares. Between 1980-81 and 1990-91, in the incremental net irrigated area of 0.921 million hectares, the contribution of ground water sources was as much as 0.497 million hectares (53.96%) and of canals was 0.413 million hectares (44.84%). Between 1990-91 and 2000-01, in the incremental net irrigated area of 1.004 million hectares, the contribution of ground water sources was as much as 1.132 million hectares (112.75%) and of canals did not change at all. However, between 2000-01 and 2004-05, in the incremental net irrigated area of 0.970 million hectares, the contribution of ground water sources was as much as 0.793 million hectares (81.75%) and of canals was 0.103 million hectares (10.62%). Thus, ground water exploitation is increasing for irrigation which is creating environmental problems. As per the expert committee on integrated development and management of water resource in Rajasthan, total water resources (surface, ground and inter-state transfer) in 2000 was 45.09 BCM and 35.78 BCM was the utilization (79.35%). The groundwater availability was put at 11.15 BCM of which 11.83 BCM was the utilization (106.1%). In 2004, of the 236 blocks, 32 were safe blocks, 140 were dark and another 50 were critical. During the two decades of eighties and nineties, the number of dark and critical blocks increased from 28 to 190. This has serious implications for groundwater use for irrigation as well as drinking water purposes.

1.8 Livestock

Livestock is an important source of income and means of livelihood for a large number of families in rural Rajasthan. In 1997, the total livestock wealth of Rajasthan stood at 54.655 million animals which were higher by 5.015 million over 1983 or by 10.1 percent over that in 1983. In 1983, the goats constituted 31.18 percent, sheep 27.06 percent, cattle 27.2 percent and buffaloes 12.17 percent of the total livestock population in the state. The small ruminants account for 58.24 percent of the total livestock in the state. In 1997, the goats constituted 31.05 percent, sheep 26.69 percent, cattle 22.21 percent and buffaloes 17.88 percent of the total livestock population in the state. The small ruminants account for 57.74 percent of the total livestock in the state. An important feature of the livestock population in the state is that between 1983 and 1997, while the cattle population declined by 1.363 million or 10.09 percent, the buffalo population increased by 3.727 million or 61.67 percent.

In the case of sheep and goat, the population has increased by 8.59 and 9.63 percent respectively during this period. The livestock wealth in Rajasthan declined by 5.519 million animals between 1997 and 2003 or by 10.1 percent, while the cattle population declined by 1.287 million or 10.6 percent, the buffalo population increased by 0.644 million or 6.59 percent. The sheep population has declined significantly by 31.07 percent and the goat population by mere 0.95 percent during this period. These changes have led to share of cattle reducing to 22.09 percent in 2003 from 22.21 percent in 1997 and that of buffaloes increasing to 21.19 percent in 2003 from 17.88 percent in 1997 in livestock wealth. Though the number of goats has marginally declined, the share in livestock wealth has improved from 31.05 percent in 1997 to 34.21 percent in 2003. The small ruminants' share stood at 54.67 percent. Thus, a distinct shift in the composition of livestock in Rajasthan is visible. As observed earlier, grazing lands have reduced significantly and migration of sheep flocks to traditional areas outside the state is also getting limited now. Though reliable statistics on livestock output is not available, the official estimates reveal that during 1997-98, the output of livestock sector consisted of 5.7 million tonnes of milk and 18.4 million kg. of wool. In 2004-05, the corresponding figures stood at 8.122 million tonnes of milk and 15.05 million kg. of wool. The importance of cattle has reduced as milk producer while buffalo is emerging as an important source. Rajasthan's ecological crisis has led to weakening of link between livestock reproduction and the stock of renewable natural resources. Buffalo and goat have outnumbered cattle and sheep as they have greater capacity to bear drought conditions. The changing agriculture profile of the state also rendered such changes. Stall feeding has increased to avoid impact of declining grazing land area. Commercial gains have outstripped agro-ecological input conditions. The government programmes have also influenced this change.

1.9 Agriculture Sector

Agriculture sector is an important source of livelihood for large number of people in rural areas and also a lead sector that determines overall growth as well as source of eradicating rural poverty. This is in spite of a decline in share of agriculture sector in the GSDP over the years. It is so because the fall in share of GSDP has not led to commensurate reduction in share of work force in the sector and also the structure of consumption basket of the rural population has distinctly changed from the raw food basket to processed food and non-food commodities. In this section, we review the changes that have occurred in agriculture sector over the years.

1.9.1 Cropping Pattern

In 2004-05 the GCA under food grains was 10.97 million hectares, which was 12.65 million hectares in 1990-91. The major food grain crop is bajra, followed by wheat and gram and other pulses. The share of bajra in food grain area has fluctuated between 31 percent in 2004-05 and 41.9 percent in 2003-04. For most of the years since 1990-91 the share of bajra has been above 35 percent. The maximum share of wheat area in food grains was in 1999-00 at 24.18 percent and the lowest at 14.34 percent in 1990-91. Other pulses cornered 23 percent food grain area in 2004-05 and 13.38 percent in 1998-99. Share of gram area in food grain area had touched 20.89 percent in 1998-99, but never crossed 10 percent since then. It had a lowest share in 2000-01 at 5.91 percent. The year 1999-00 was the beginning of series of droughts that lasted for four years. Looking at triennium figures, it is found that except for wheat and gram (rabi crops) all others crops observed decline in share of area in food grain area between TE1992-93 and TE1999-00, while the obverse is observed between TE1999-00 and TE2004-05 for most crops. Among food crops diversification is not observed, though the changes in area under these crops are more determined by a good or poor monsoon.

GCA under oilseeds in 1999-91 was 2.95 million hectares which increased to 5.16 million hectares in 2005-06. The main oilseed crop in Rajasthan is rapeseed and mustard. Being a rabi crop dependence on good monsoon is reflected in area fluctuations. Soyabean has emerged as a significant oilseed crop over the years. Linseed has lost ground and in 2005-06 only 2000 hectares was under it. In 1990-91, 46300 hectares area was under it. The share of soyabean in total oilseeds area improved from 4.88 percent in 1990-91 to 25.17 percent in 2000-01 (a drought year). The share fell continuously to 12.11 percent in 2004-05. Sesasum crop also observed a decline in share in oilseed GCA from 19.74 percent in 1990-91 to all time low of 5.63 percent in 1998-99. The drought years saw revival in area share to 10.46 percent in 2001-02 to decline steadily to 5.61 percent in 2004-05. It is only rapeseed and mustard that has gained share in oilseed GCA from 65.01 percent in 1990-91 to 72.35 percent in 1995-96 to its lowest share of 53.57 percent in 2000-01; a drought period that left little soil moisture for rabi season. The share was 71.72 percent in 2004-05. Looking at triennium data, one finds that sesasum lost ground a lot, while rapeseed and mustard and groundnut observed marginal fluctuations. Soyabean has been a major gainer. Oilseed sector has been affected by national policies. For instance, lowering of import duties on palm oil affected area under oilseeds. The factor responsible is negative role of the state in not procuring oilseeds even after MSP being in place. There has been distress selling of oilseeds in Rajasthan. Despite all this, Rajasthan is the second major oilseed producer in the country after Gujarat.

There has been some shift in area towards vegetable crops and fruits over the last decade or two. Area under onions after remaining more or less stagnant has improved from 16.9 thousand hectares in 1990-91 to 24.4 thousand hectares in 1996-97 to fluctuate during next couple of years to touch 28.4 thousand hectares in 2000-01. The area was 42.9 thousand hectares in 2004-05. This appears to be a welcome change, but onion is an irrigated crops. The area under tomatoes has not really changed over the years, though variations are observed. The same is the case with ladyfinger and bringal. Among the fruit crops, area under lemon has observed only marginal changes, though area under oranges has continuously increased since 1993-94; more than doubled by 2004-05. Sugarcane has also seen reduction in area from 22.8 thousand hectares in 1990-91 to 5.8 thousand hectares in 2003-04, though marginally recovered in the next year to 9.0 thousand hectares. Guarseed has emerged as an important crop especially in the desert districts. This industrial raw material had 2090 thousand hectares in 1990-91 that increased to 3056.2 thousand hectares in 2000-01, but since then area has observed fluctuations.

Gross cropped area in Rajasthan has varied over the years due to scanty rainfall. Area under food grains as percent of GCA has fluctuated since 1990-91, but has been above 56 percent throughout. The maximum percentage had been in 2002-03 at 65.51 percent. Of the food crops, bajra is the main crops with area under bajra as percent of GCA ranging between 19.55 percent in 1998-99 and 27 percent in 2003-04. The second most important crop is wheat which has its area as percent of GCA ranging between 9.36 percent 1990-91 and 13.74 percent in 1999-00. Pulses together come as third most important crop. Thus, as far as food crops are concerned there is no visible diversification that has taken place. Area under oilseeds as percent of GCA has varied between a low of 14.52 percent in 2003-04 and a high of 20.11 percent in 1988-99. Among oilseeds, rapeseed and mustard is the major crops as its area as percent of GCA ranged between 7.3 percent in 2000-01 and 14 percent in 1998-99. Soyabean has picked up over the years; 0.74 percent in 1990-91 and 3.43 percent in 2003-04. Cotton area as percent of GCA has not changed much; only fluctuated over the years. There is hardly any change in area under vegetables as percent of GCA over the years, though guarseed area as percent of GCA has observed fluctuating share between 4.21 in 2002-03 and 15.89 in 2000-01.

As the expansion in area has generally occurred under the crops which are partly or wholly irrigated, it is interesting to look at the allocation of incremental GIA to various crops. Of the total incremental GIA, wheat and rapeseed-mustard accounted for as much as 90 percent. The area irrigated under wheat has more than doubled since 1990-91. It has cornered the major share in (40%) incremental GIA. In the case of rapeseed-mustard, the increase in irrigated area account for 51 percent of the incremental GIA. With the expansion in irrigation facilities, there have been some conspicuous changes in the cropping pattern in the state. The changes occurred on account of both expansion in cropped area and shift in area among crops. The expansion in cropped area occurred on account of both extension in NSA and increase in the intensity of cropping. Obviously, it was the expansion in irrigation facilities which helped farmers in growing more than one crop on the same piece of land during an agricultural year. The area under fibres, condiments & spices, fruits, vegetables, and drugs & narcotics crops recorded constant increase over the years. Among the vegetables the important crops are coriander, chillies, onions and tomatoes. It is onions that have observed large increases in area. Cotton is the main crop among fibres. Among citrus crops, oranges dominate. Guarseed is very important crop and it is mainly grown in desert districts like Barmer. It is also due to changing demand and marketing and contract farming by large retail chains like ITC, Reliance and Bharti[4]. The changes in cropping pattern reflect crop diversification in Rajasthan's agriculture. Obviously, the diversification that is observed is not conducive to local environment and declining water table across districts. The R&D efforts have also failed the Rajasthan's farmers. There is hardly any research for better dry land crops.

1.9.2 Production

The area under crops as seen above has been fluctuating, which would have impact on production. If productivity is high then production can be high even if area is declining. Food grain production in Rajasthan has only been below 10 million tonnes in four years viz., 1991-92, 1993-94, 1995-96 and 2002-03. The maximum food grain production recorded in Rajasthan was 17.985 million tones in 2003-04. The contribution of wheat in total food grain production has been 64.76 percent in 2002-03 and the lowest at 32.67 percent in 2003-04. The second most important contributor to food grain production in Rajasthan is bajra with 36.98 percent share in 2003-04 and 9.51 percent in 2002-03. Of the rabi crops, wheat, mustard and gram are important crops, while of the kharif crops, the main crops are bajra and pulses.

As area has fluctuated over the years, so has the production of oilseeds and other crops. The production between TE1992-93 and TE1999-00 increased for groundnut, rapeseed and mustard, castorseed and soyabean among oilseeds and cotton, chillies and coriander among fibres and vegetables. All oilseeds except sesasum and castorseed observed increase in production. Coriander also witnessed an increase in production. Total oilseed production peaked in 2004-05 at 5.54 million tonnes when lowest production was in 2000-01 at 2.02 million tonnes (a drought year). The 2004-05 observed the highest ever production since 1990-91 was due to rapeseed and mustard. Despite expansion in irrigation facilities, still a good monsoon makes all the difference. It is seen that after four years of drought the oilseed production picked up in 2003-04. It is surprising that soyabean is not affected by drought, but is affected by more rains. It is largely grown in irrigated areas. A dip in oilseed production is entirely due to drought. It is surprising that cotton production has not really picked up after the droughts and the peak production of 1996-97 has not been reached in any of the years between 1990-91 and 2004-05. Even in case of chillies the production level of 1997-98 has never been reached. Coriander production peaked in 2004-05, which is more than double the 1990-91 production level.

Among the oilseeds, rapeseed and mustard's contribution was 82.58 percent in 1991-92 and the lowest in 2001-02 at 61.67 percent. Soyabean's contribution to total oilseed production improved significantly after 1991-92; from 4.81 percent to 23.14 percent in 2001-02.Even during the drought years soyabean increased its contribution; from 17.65 percent in 1999-00 to 23.14 percent in 2002-03. Sesasum and linseed have lost ground in production over the years. Groundnut has never touched its 11.72 percent share in total oilseed production of Rajasthan in 1997-98. The major factor for these changes is erratic rainfall, un-assured prices and import policy.

Since 1990-91 only during 2003-04 contribution of kharif cereals was higher than rabi cereals in total cereal production. The contribution of rabi cereals has ranged between 39.96 percent in 2003-04 and 72.53 percent in 1995-95. In case of pulses, again in 2003-04 contribution of kharif pulses has been higher than rabi pulses. The contribution of rabi pulses has ranged between a low of 33.77 percent in 2003-04 and a high of 88.8 percent in 1998-99. Rabi season has been contributing much more to total food grain production in Rajasthan since 1990-91. The maximum contribution was in 1994-95 at 94.67 percent. It was only during 2003-04 that kharif season contribution was higher at 60.82 percent. A similar pattern is observed for oilseeds. This situation is irrespective of a drought year or not. This does call for having varieties of kharif crops that have higher productivity as water availability is relatively higher during kharif season. This also means that rabi cultivation is more dependent on greater withdrawal of ground water for winter crops. In Rajasthan, in 2003-04, 98.76 percent of area under wheat was irrigated, while 87.46 percent of rapeseed and mustard area.

Apart from wheat and rapeseed-mustard, there was considerable increase in irrigated area under cotton in the state. The irrigated area under cotton went up from 0.317 million hectares in 1980-81 to 0.631 million hectares in 1997-98 accounting for 10.75 percent of the incremental GIA during this period. With wheat, rapeseed-mustard and cotton accounting for nearly all of the incremental GIA in the state, the allocative pattern is, by and large, consistent with the natural resource endowments of the state and its relative advantage in growing various crops vis-a-vis rest of the country.

1.9.3 Yield Rates

Yield rate of a crop is dependent on its variety, input use and weather and timely availability of inputs. Rajasthan faces all these factors. Data shows fluctuating yield rates since 1990-91 for all food grain crops. Rice is water based crop and its availability determines the rice yield; it had highest yield rate of 1653 kg. in 2003-04 which is much lower than rice producing states. Jowar never touched its peak yield of 714 kg per hectare in 2003-04 during the entire period under study. Bajra's yield peaked in 2003-04 at 1137 kg., which was more than double the yield in 1990-91. The results show that if Rajasthan wants to maximize its food grain production then in rabi wheat, maize, barley and gram are the crops and during kharif, the crops are bajra and pulses. Rice though has high yield rate does not form part of cropping pattern given its fragile environment.

Yield rates of oilseed crops have fluctuated over the years. Among all oilseed crops, soyabean and castorseed have a yield rate of more than 1000 kg. per hectare in most years. Oilseed as a whole only had 1000 kg plus yield rate in three years. Yield rates of groundnut, rapeseed and mustard, linseed and soyabean have been more stable over the years than compared to other crops. Cotton has not recovered its yield rate after 2000-01; peak rate was in 1995-96. Chillies too have been observing consistent yield rate with exception of few years. TE1990-00 witnessed lowering of yield rate in all crops except a few from TE1992-93. However, TE2004-05 saw improvement in yield rates of only groundnut, sesasum and linseed. The yield rates of cotton, chillies and coriander more or less witnessed a similar pattern.

It is observed that average oilseed yield rate has been 880 kg per hectare during TE1992-93 that almost remained the same during TE1990-00. However, yield rate declined during TE2004-05 to 820 kg per hectare. Among the oilseed crops, yield rate of only groundnut and linseed crops improved between TE1992-93 and TE1999-00. It declined across all other oilseed crops. Decline in yield rate of castorseed was almost half; it had the highest yield rate of 1863 kg. per hectare during TE1992-23 among all oilseed crops. Soyabean had yield rate of 1411 kg per hectare during TE1992-93 which declined to 1184 during TE1999-00 and further to 1035 during TE2004-05. Rapeseed and mustard which had emerged as a major crop after mid-eighties, observed continuous decline in yield rates from 968 kg per hectare during TE1992-93. Overall, annual yield rates of all oilseed crops have been fluctuating. Soyabean yield rate has been more consistently compared to other crops. There are two factors that contribute to better yield rates: one area under HYVs and second, fertilizer use. In Rajasthan, per hectare fertilizer use was 24.37 kg per hectare in 1991-92 that touched 35.64 kg per hectare in 2003-04. The area under HYVs wheat was 1.59 million hectares (79% of total area under wheat) and bajra 1.912 million hectares (42% of total area under bajra) in 2004-05. As irrigation facilities have increased, the scope for introduction of better quality seeds improved which coupled with the increased use of fertilizers and reduced crop failure has led to considerable increase in crop yields.

1.10 Industrial Sector

1.10.1 Structure and Performance

In the planned era, state played a major role in promoting industrial development. However, in Rajasthan industrial development had never been on agenda as is visible from investment outlays in various plans. The outlay earmarked for industry and mining sector stood at 0.85 percent of total outlay during the first plan and it touched 6.35 percent during the seventh plan; the highest ever since the first plan. A decline is observed in the next plan to rise again in the next plan to 7.79 percent. However, the share of this sector fell to 3.5 percent in the tenth plan. It is not to say that in absolute terms the funds for industry and mining sector slowed down; it stood at all time high at Rs.21540.9 million when it was mere Rs.5.5 million during the first plan. But a significant decline occurred during the tenth plan. Since the liberalization began in the early nineties, the funds allocation almost doubled. These trends are reflected the performance of industrial sector in Rajasthan.

The structure of Rajasthan's industry is largely unorganized. The organized industries as per the Annual Survey of Industries reveal that there were 3839 factories in 1992-93 at the beginning of the reform period. The number of factories grew by 18.2 percent by 1995-96 and then by 26.5 percent by 2004-05. Thus, the growth of industries has been faster after 1995-96. Overall since liberalization began, the number of organized factories grew by almost 50 percent to 5740 in 2004-05. But this growth in industries did not lead to employment. During 1992-93 and 1995-96, the employment significantly grew by 11.8 percent, but declined thereafter by 8.7 percent by 2004-05. However, for the period as a whole employment grew by 2.1 percent in the organized industrial activities, the same rate as the population growth. In absolute terms 3839 factories employed 263 thousand workers and in 2004-05 the number stood at 268 thousand workers. It is surprising that wages paid increased by 53.7 percent between 1992-93 and 1995-96 when this growth declined to 36.4 percent between 1995-96 and 2004-05. However, between 1995-96 and 2004-05, the wage bill increased by 109.6 percent. The above reveals two facts: one that a pick up in industrialization took place after 1995-96 and second that shift in employment took place for more skilled workers that demanded higher wages. Contract workers are also on an increase.

1.10.1.1 Unorganized Manufacturing

Unorganized manufacturing sector predominates in Rajasthan. In Rajasthan, there were 466044 enterprises in 1994-95 which increased to 623553 in 2000-01 (33.8% increase), while the number increased to 636470 in 2005-06 (a 2.1% increase). The growth pattern is almost similar across regions, though the number of urban enterprises increased at a faster rate during 1994-95 and 2005-06. Unorganized enterprises are classified into three categories viz., own account enterprises (OAME), non directory enterprises (NDME) and directory enterprises (DME). It is found that in 1994-95, 65.15 percent unorganized manufacturing enterprises were rural and this proportion declined to 62.75 percent in 2000-01, but marginally increased to 62.98 percent in 2005-06. However, in 1994-95, 88.65 percent enterprises were own account enterprise that is using family labour only. This proportion increased to 90.37 percent in 2000-01 to decline to 86.89 percent in 2005-06 and this gain has been of directory enterprises i.e. enterprises employing more than five workers on wages. The important facts that emerge are: (i) OAMEs dominate in rural area with declining importance; (ii) DMEs only marginally exist in rural areas; (iii) OAMEs are main enterprises, though with less importance than in rural areas and; (iv) NDMEs have observed a decline in share in urban areas when DMEs have slightly gained in share. It is further noticed that during the three years preceding 2001-01, 13.8 percent rural enterprises reported expansion and 54.7 percent were stagnating and 22.0 percent were contracting. The situation reversed in 2005-06 when 17.3 percent enterprises reported expansion, 48.3 percent reported stagnation and 23.8 percent were contracting. In case of urban enterprises, there was no change in expanding enterprises though proportion reporting stagnation declined and those contracting the proportion increased. For all enterprises, also a similar trend is noticed. In Rajasthan, thus these five years have observed increase in proportion of enterprises expanding and contracting, but reduction in stagnating enterprises.

As regards the industrial structure in the unorganized manufacturing sector is concerned, it is based on six top industrial groups are: manufacture of wearing apparel; dressing and dyeing of fur; manufacture of food products and beverages; manufacture of furniture; manufacturing nec; manufacture of wood and products of wood and cork, except furniture, manufacture of articles of straw and plaiting materials, manufacture of other non-metallic mineral products and manufacture of textiles accounting for 86.21 percent enterprises in 2000-01, while in 2005-06 the top six industries included manufacture of wearing apparel; dressing and dyeing of fur; manufacture of furniture; manufacturing nec; manufacture of food products and beverages; manufacture of other non-metallic mineral products; manufacture of textiles and manufacture of wood and products of wood and cork, except furniture, manufacture of articles of straw and plaiting materials accounting for 82.76 percent enterprises. No new industrial group has emerged during this period though of the top six some have gained and some have lost ground. The same set of industrial groups predominates in rural and urban areas with varying importance.

In 2000-01, as per the NSS 56th round, gross value added per worker was the highest in DMEs followed by NDMEs and OAMEs. Among DMEs, the highest labour productivity was estimated for manufacture of electrical machinery and apparatus nec. at Rs.77502 while it is highest in manufacture of basic metals in NDMEs at Rs.51646 and Rs.47031 in manufacture of electrical machinery and apparatus nec. (OAMEs). This means that as the size grows, labour productivity improves and thus as a policy implication efforts should be to help firms grow in size- up-scaling of enterprise's production.

1.10.2 Recent Industrial Investment Scenario

The thrust of the new industrial policy at the national level has been to enable entrepreneurs to take investment decisions based on their own commercial perception with a greatly reduced regulatory role of the government. Licensing stands abolished for most of the industries, and the entrepreneurs are only required to file an investment intention. The structure has also invoked response from foreign investors. Since the new industrial policy (NEP) aimed at making industries globally competitive, the process of foreign collaboration through technology agreements was considerably simplified. In Rajasthan many step have been taken to boost investment. During past decade or so the government has set up Economic Development Board, Board of Infrastructure Development and Investment Promotion, Inland Container Depot at Bhilwara, Rajasthan Foundation and various committees to advise the State government on industrialization processes. The ensuing discussion looks at the results of all these efforts. Rajasthan has not been able to attract investment despite the liberal environment across the country. Of the total 26466 approvals[5], Rajasthan obtained only 1.3 percent. In case of technical approvals that would bring new technology, the share of Rajasthan is mere 1.34 percent and it is 1.28 percent in case of financial approvals. This means that Rajasthan has not been able to attract foreign investment despite all the fairs, exhibitions and seminars abroad and in India. Rajasthan ranks tenth among all states in India. In value terms, the flow of FDI into Rajasthan was Rs.29112.11 million or 752.29 US$ million. It constituted only 1.16 percent of all FDI that flowed into India during August 1991 and December 2004. The FDI flow registered at Jaipur RBI office from January 2000 to January 2006 stood at Rs.187.6 miilion or US$ 4.2 million and it was mere 0.02 percent of national FDI figure. The investment climate in Rajasthan during August 1991 and December 2004 shows that a total of 2662 IEMs (4.73 percent of national share) were filed to bring in investment of Rs.417600 million (2.93% of national share) and would have created employment to the tune of 481069 (4.42% of national share)[6]. In case of Letter of Intents (LOIs) and (DILs), during August 1991 and December 2004 a total of 97 (2.43% of national share) were filed to bring in investment of Rs.16260 million (1.42% of national share) and would have created employment to the tune of 15455 (1.79% of national share). The total number of foreign technical collaboration cases approved has been 103 while 241 cases of FDI were approved amounting to investment of Rs.29112 million[7]. This is in sharp contrast to what was expected at the beginning of the reforms. The reduction in regulatory role to enable entrepreneurs to take investment decisions based on commercial judgement, the industrial investment was expected to get a boost. In fact prior to reforms, Indian industry often blamed licensing policy and subsequent bureaucratic red-tapeism as the main hurdle in their investment decisions. The initial bubble of enthusiasm burst very soon[8]. Rajasthan has always been adversely placed in terms of private initiative because of its natural location. Maharashtra, Gujarat, Uttar Pradesh and Tamil Nadu have cornered most of the investment proposals that have came up. Just poor infrastructure cannot be blamed for poor performance in attracting investment[9]. It is the mindset of the investor that determines the investment flow. World Bank (2006) also notes that there has been virtually no foreign direct investment in industry in Rajasthan. The key factors articulated for this are the *usual* legal and regulatory inefficiencies and red tape that restrict entry, exist and efficient operation of businesses particularly of small and medium enterprises, insufficient access to credit, infrastructural shortages and slow urbanisation.

Finally, on the size of large companies, there are 90 companies listed as on March 2006 with market capital of Rs.437749 million. The biggest company in terms of market capital is Hindustan Zinc and the smallest one is Richirich Agro with market capital of Rs.11.3 million. The private joint stock companies in 1997-98 were 1162 with authorised capital of Rs.1202.6 million that has decline to Rs.255.1 million for 542 companies. There are only 101 such companies with authorized capital of Rs.40.2 million only. Public joint stock companies registered in Rajasthan in 1997-98 were 78 with authorised capital of

Rs.492.3 million that reduced to Rs.126.5 million for 23 companies. These are basically finance, real estate and business services companies; only 5 are in manufacturing with authorized capital of Rs.5.5 million. This also shows that Rajasthan has not performed well at this end of the industries. Finally, even the World Bank that is highly praising economic performance of Rajasthan reports that to date the record is that Rajasthan has failed in attracting private investment, it is only modest. It reports that what is of more serious concern is that private investment rates have been falling since the early 1990s (World Bank 2006). Private investment stood at less than 6 percent of GSDP in 2002-03 (15.7% of national), while public investment stood at 5.7 percent of GSDP (6.3% of national).

2 Economic Growth and Structural Changes in the Economy

2.1 Trend and Growth of Gross State Domestic Product

The gross state domestic product of Rajasthan at current prices increased from Rs.57562 million in 1980-81 to Rs.250764 million in 1990-91 to Rs.824349 million in 2000-01 and Rs.1595151 million in 2007-08. At constant (1999-00) prices, the GSDP went up from Rs.260042 million to Rs.1183448 million in 2007-08 recording a growth rate of 5.9 percent per annum which is quite impressive. However, the inter-year fluctuations have been quite conspicuous which a matter of concern is. However, the growth rate of GSDP has tended to accelerate during the nineties; the GSDP grew at 6.5 percent during the nineties compared to 5.9 percent during the eighties. During the period 2000-01 to 2007-08, GSDP grew at 5.4 percent; a slow down from nineties. The liberalization period of 1990-91 to 2007-08 growth rate in GSDP is 5.2 percent. The main sectors viz., primary, secondary and tertiary sector have shown varied pattern. The growth rate of primary sector during the eighties was 3.5 percent which increased to 3.8 percent during the nineties. The secondary sector also witnesses improvement in growth rate during the nineties (9.6%) compared to eighties (7.3%). In case of tertiary sector a slow down in growth was observed during the nineties (7.5% against 8.1%). During the period 2000-01 to 2007-08, primary, secondary and tertiary sectors grew at 5.9, 4.7 and 5.5 percent respectively; a pick up for primary sector while a slow down for secondary and tertiary sector from nineties. The liberalization period of 1990-91 to 2007-08 observed growth rates in three sectors of 3.1, 6.9 and 6.2 percent respectively. A disaggregated picture would reflect on this pattern.

At the sector level, the GSDP at constant prices accruing in agriculture sector which was Rs.115059 million in 1980-81 went up to Rs.175022 million in 1989-90 recording a growth of 3.1 percent per annum, while during the nineties the growth rate was 3.5 percent; marginally higher. It further went up to 5.7 percent during 2000-01 to 2007-08. The long-term growth of agriculture (1980-81 to 2007-08) is 3.5 percent while it was lower at 2.7 percent during 1990-91 to 2007-08. Forestry and fisheries sectors have uneven growth rates for varied periods. However, mining sector observed higher growth during the nineties compared to eighties, but a slow down during 2000-01 to 2007-08. The long-term growth rates have been more than 8 percent. In fact it is this sector's growth rate that is reflected in primary sectors growth. It may also be pointed out here that within agriculture sector, the more buoyant sector is animal husbandry.

The manufacturing sector GSDP went up from Rs.25180 million in 1980-81 to Rs.46273 million in 2007-08 recording a growth of 6.5 percent per annum. The growth rate during nineties (9.5%) is higher than the eighties (6.5%), but a slow down is observed during 2000-01 to 2007-08. Within the manufacturing sector, the organized sector growth improved from 8.6 percent during the eighties to 11.9 percent during the nineties, but fell drastically during 2000-01 to 2007-08 to 3.6 percent. Even the liberalization period growth is lower at 7.0 percent compared to 8.2 percent during the long-term. The unorganized sector observed a similar pattern with lower growth trajectories.

Construction sector has been quite buoyant as it grew at the rate of 8.6 percent during the nineties compared to 6.8 percent during the eighties. However, the growth rate marginally slowed down to 8.1 percent during 2000-01 to 2007-08. The liberalization period since 1990-91 saw a 7.8 percent growth.

The sector that fuels growth of all other sector viz., electricity, gas and water grew at significant 15.0 percent during the eighties to slow down during the nineties to 11.9 percent and further to -2.6 percent during 2000-01 to 2007-08. The liberalization period since 1990-91 saw a 6.0 percent growth. The other infrastructure sector, railways observed a high growth of 8.7 percent during 2000-01 to 2007-08 when it grew at only 3.4 percent during the nineties. Other transport and storage sector observed a decline in growth during the nineties compared to eighties, but recovered during the 2000-01 to 2007-08. The liberalization period since 1990-91 saw a 6.9 percent growth. Communication is the fastest growing sector, especially during the nineties at 20.8 percent (mere 5.0% during the 1980s) and this momentum could not be maintained and the growth fell to 15.8 percent during 2000-01. Rajasthan is a tourist destination and hotel and restaurants along with trading activities should flourish. The sector grew at 10.7 percent during the eighties, but growth rate decelerated to 7.4 percent during the nineties and further to 6.1 percent during 2000-01 to 2007-08. The growth during liberalization period is 5.1 percent, but the long- term trend growth rate is 7.0 percent. Among the service sector, the fastest growing sector has been banking and insurance that grew at 13.1 percent per annum in the eighties, but at a lower rate of 10.8 percent in the nineties and still at a lower rate of 8.7 percent during 2000-01 to 2007-08. The liberalization period of 1990-91 to 2007-08 has a growth of 9.6 percent. Banking sector slowed down during the nineties due to financial liberalization as banks became more prudent.

The real estate and related activities though performed better during the nineties have a low growth rate. Public administration sector reflect the reduction in government since the 1990-91. Other services that include education etc has performed well during the eighties and the nineties, but observed deceleration in growth rate during 2000-01 to 2007-08 to mere 2.5 percent. The liberalization period of 1990-91 to 2007-08 has a growth of 6.0 percent and the overall growth of 7.5 percent.

2.2 Contribution of Major Sectors in GSDP

Between 1980-81 and 1989-90, the GSDP at constant prices, increased by Rs.192553 million, while it increased by Rs.305896 million between 1990-91 and 1999-00 and by Rs.372852 million. In the incremental GSDP between these three periods, the contribution of tertiary sector during 1980-81 to 1989-90 was the maximum (45.8%) followed by that of the agricultural sector (36.2%), while during the period 1990-91 to 1999-00 the contribution of tertiary sector was the maximum (50.5%) followed by that of the secondary sector (38.2%). The service sector contributed 43.3 percent and agricultural sector 36.6 percent to the incremental GSDP during 2000-01 to 2007-08. The contribution of the secondary sector was 20.1 percent. A good agriculture performance pulls down tertiary sector. It is revealed that in Rajasthan economy, the changes in GSDP are mainly contributed by agricultural sector though its share in GSDP has been declining over the years. The other important sectors (in top five sectors) are trade, hotels and restaurants; manufacturing; other services, and public administration during the eighties and manufacturing sector; trade, hotels and restaurants; other services; construction and electricity, gas and water supply during the nineties. In the recent period, the top five sectors are trade, hotels and restaurants; construction; manufacturing; communication and banking and insurance. It is also important to note that the sectors like construction, communication and banking and insurance sectors have increasingly contributed to incremental change in GSDP, while for all other sectors the contribution has fluctuated from decade to decade.

3 Capital Formation in Rajasthan

Capital formation is an important determinant of economic performance. Till 1991, when a programme of economic reforms was launched in the country, the contribution of private capital in key sectors was not well recognized. National policies did not encourage private investment in important sectors and, where permitted, central licensing authorities, not the enabling environment, determined the volume and composition of private investment. Consequently, a state's pace of development was determined by its ability to expand public investment in agriculture, infrastructure, and manufacturing. For this purpose, states relied mostly on resources transferred from the Central Government. However, the policy environment has since changed. In this section, the trend in gross fixed capital formation (GFCF) and its composition have been analyzed.

3.1 Growth of GFCF

The gross fixed capital formation (GFCF) at current prices in Rajasthan increased from Rs.8717.5 million in 1980-81 to Rs.218449.1 million in 2006-07; recording a growth rate of 12.6 percent per annum. Notwithstanding this high growth rate in GFCF in the state, four important observations need to be emphasized. One, there have been considerable fluctuations in year to year changes in GFCF. Two, the growth rate of GFCF has tended to decelerate during the nineties. The growth of GFCF which was 13.1 percent during the eighties decelerated to 12.4 percent during the nineties. The third important observation is that among the two important constituents, while the share of construction has shown a declining trend, that of machinery and equipment has increased somewhat. However, GFCF through construction continues to account for more than 50 percent of total GFCF. Fourth, growth rate of public sector has been higher than private sector for all periods (14.9% public sector and 11.2% private sector during 1980s; 13.2% and 11.5% during the 1990s respectively and 10.2% and 8.2% during 1990-91 to 2006-07). Over all growth rate of GFCF during 1980-81 to 2006-07 is 9.2 percent.

3.2 Share of Public and Private Sectors in GFCF

The trends in public and private sector capital formation reveal that the increase in public sector GFCF has been much higher than that in the private sector GFCF. The share of public sector GFCF has gone up from around 45.7 percent in 1980-81 to 55.6 percent in 1989-90 and to 57.8 percent in 1997-98 and was 62.3 percent in 2007-08 with corresponding decline in the private sector GFCF. This shows that in Rajasthan the liberalized economic environment has not led to substitution of public sector capital by private sector capital. The development spending is still increasingly focused on the state's efforts. Attracting private capital requires the state to provide an enabling and investor-friendly environment viz:, good quality and abundant infrastructure, an educated and skilled labour force, a business-friendly public administration and moderate levels of taxation. The annual increase in public sector GFCF outstripped that in private sector GFCF in most of the years. The growth rate of both public and private GFCF have accelerated during the nineties - but the growth of public GFCF was considerably higher than that of private GFCF. The gross fixed capital formation in Rajasthan grew at 15.5 percent during 1980-81 to 1996-97 and its growth rate was higher during the nineties compared to 13.8 percent during the eighties. In the case of public sector GFCF, the growth rate during the entire period was 16.9 percent and it too grew at a higher rate during the nineties compared to the eighties. The same is the case with private sector GFCF. However, private sector even in the nineties has not replaced the public sector efforts.

During the period 1980-81 to 1990-91, the total GFCF increased by Rs.213023 million of which 50.3 percent was contributed by the public sector. During 1991-92 to 1999-00, the increase in GFCF was to the tune of Rs.715435 million of which 53 percent was due to public sector and during 2001-01 to 2006-07, GSCF increased by Rs.1011396 million and public sector contributed 56 percent. This again shows that public sector investment still pre- dominates in Rajasthan sector. Though the growth of private sector GFCF has shown an improvement in the post-liberalization period over the pre-liberalization period, the improvement is slower than that of the public sector GFCF.

4 Financial Flow and Development

Credit is an important instrument that acts a facilitator for development of economic activities. Agriculture sector is more dependent on formal sector finance than industry as industry can mobilize resources through market and new instruments like IPO and BPOs. In 1990 there were 3071 bank offices of scheduled commercial bank in Rajasthan with deposit of Rs.46.47 billion and devolved credit of Rs.26.61 billion. This gave a high credit deposit ratio (utilization) of 61.5 percent. Credit deposit ratio indicates credit absorptive capacity of a region. The number of bank offices has continuously increased to 3493 in 2006 though in the initial years of financial sector reforms the number did go down. Deposits too have multiplied 11.64 times since 1990 in 2006. The CD ratio in 2005 stood at 76.5 percent. The CD as per sanctions is higher than CD as per utilization (81.8%) in 2006.

What has been the direction credit flow in Rajasthan? Total credit outstanding in 1990 was Rs.28578 million 37.4 percent belonged to industry and 28.8 percent to agriculture. The other two important activities in 1990 were other small-scale industry and trade. In 2006 the credit outstanding was Rs.420769 million. In percentage terms, the share of agriculture sector in total outstanding credit had declined continuously since 1990 from 28.8 percent to 19.9 percent in 1998. This was period when bankers become prudent under Basel I norms. From 1999 till 2003 the share of agriculture in total credit outstanding went up to 25.1 percent; these were drought years in Rajasthan. Next three years, the share has been fluctuating. The share of industry sector in total outstanding credit has been fluctuating since 1990 to peak in 1997 at 41.8 percent. The share then continuously declined till 2003 to touch 28.4 percent. So till the early reform period the share of industry in credit outstanding has been going up, but with slow down in agriculture sector due to drought, impact appears to be visible in industry sector too. This period also saw emergence of new vistas for banking sector and shift took place in lending. This shift was towards personal loans and since 1996, the share of personal loans in credit outstanding rose from 12.2 percent to 28.1 percent in 2006. The share of trading activities in total credit outstanding has not changed much; there has year to year marginal changes. Since 2003, a decline has been to around 11 percent from early period average of around 14 percent. Artisan and other small-scale industry have lost ground over the years. Banking sector has itself not been fulfilling the priority sector lending to these sectors. The same has been the case with professional category loans outstanding. Transport sector also has lost ground over the years. These trends are quite similar to all India trends and shifts that have taken place in lending of formal sector institutions. This shift is visible from development sectors to individual banking.

4.2 Development Fund

We find that though developmental expenditure has increased since 1990-01, the share of developmental expenditure as percent of total expenditure has declined from 72.45 percent in 1990-91 to 59.84 percent in 2001-02 to recover to touch 66.22 percent in 2005-06. This partially answers why GSDP behaved the way it behaved during this period.

4.3 Exports

Rajasthan is famous for handicrafts and also employs large number of workers. Exports from Rajasthan have increased from Rs.34806 million in 1996-97 to Rs.12560 million in 2005-06; more than trebled. In 1996-97, gem and jewelry was the main export item followed by textiles, agro foods and readymade garments (72.2% of total exports), but in 2005-06, the top four items were textiles, gem and jewelry, handicrafts and chemicals (52.7% share). This shows that in ten years time there has been structural change in the exports from Rajasthan. Agro-foods have lost major ground and it is because of national policy to import oilseeds that led to closure of oil processing mills. Gem and jewelry also is victim of national export-import policy; reduced share in total exports. Handicrafts, chemicals, engineering and marble exports have improved over the years. A diversified basket of exports is visible now in Rajasthan and this should play a role in bridging the development gap.

5 Main Constraints to Rapid Economic Growth

Notwithstanding the reasonable performance of all the three main sectors of the state's economy, there are quite a few constraints, which have hinder faster economic growth in the state. Some of these are listed below:

(i) 60 percent of the geographical area is arid, where density of population is low and consequently the unit cost per head of providing social services and economic infrastructure is higher.

(ii) Agriculture continues to be an important sector of the state's economy. For a vibrant agricultural sector, water is the most critical input but the state is deficient in water resources.

(iii) The state is deficient in power availability despite major steps undertaken in the recent years to increase production of power using lignite and curb power theft and control transmission losses. Almost half of the electric power is borrowed which means erratic supply and dependence on others.

(iv) Road and marketing infrastructure in the state still continues to be inadequate in many parts of the state, which hinders the development of rural areas in several regions of the state.

(v) Long international border puts heavy financial burden on the state for policing. This also comes in the way of attracting investment and entrepreneurs in the state. This may change in coming years with large reserves of oil found in border desert districts.

(vi) Industry continues to be attracted towards the developed areas in the country as well as within the states. Various policy pronouncements by Rajasthan state lacked innovativeness and dynamism in the sense that these, more or less, were framed to overcome deficiencies vis-a-vis those adopted by relatively advanced and progressive states. This, over the years, has not only diluted the competitive positioning of Rajasthan but has also widened the gap between states in terms of the level of relative industrialization. Consequently, the Rajasthan has been successful in attracting only the foot loose industries or the resource based ones. Big investments have still eluded Rajasthan. The example is only three SEZs proposed in the state and below 2 percent FDI coming to the state. State's bureaucratic hurdles have not reduced yet.

(vii) Natural peculiarities of Rajasthan have rendered it less attractive to prospective industrial investors. These include: paucity of water resources, particularly that of perennial water source; vast desert expanse and susceptibility to frequent droughts.

(viii) A significant impediment to industrial growth in Rajasthan has been complete lack of traditional fuel sources such as coal, oil and natural gas. Consequently, large power intensive industries do not even consider Rajasthan as their possible destination. This may change in coming years.

(ix) Attitude of state administrative machinery including that of concerned departments, regulatory or otherwise, for industrialists is not only indifferent but also suspicious. For the rapid economic growth of Rajasthan, the industrialist should be recognized as a 'producer' who supports the state's revenue. His seeking benefits in the form of incentives/ facilities should be considered state's investment and not the 'gift' to him.

(x) As already mentioned, Rajasthan continues to be power deficient thereby restricting the growth of industries which are important from the point of view of utilization of state's resources, capital formation and value addition. Ceramic, Glass ferro-silicon and Ferro-chrome are the examples in this regard.

(xi) Social service infrastructure of Rajasthan is not commensurate to attract large investment. The level of education, health, drinking- water and sanitation facilities is extremely low in the state for attracting investment on the pattern of other states (Singh and Sagar 2004; Singh 2007a).

(xii) Rail network has been an important constraint, as it obstructs movement of industrial products. The pace of conversion of meter gauge lines to broad gauge needs to be expedited for accelerating the growth of industrialization. The road network also happens to be inadequate. It is noteworthy that significant industrial development has been taking place around National Highway No. 8, which passes through the state.

(xiii) Inadequate emphasis on human resource development (Singh and Sagar 2004; Singh 2005) and consequent skill formation is also a serious bottleneck in attracting industrial investment to the state.

(xiv) Inadequate basic infrastructure at the time of formation of the state forced the state government to first emphasize on creation of basic infrastructure through plan expenditure. Consequently, industrial sector lacked sufficient plan allocations resulting in lower contribution of the manufacturing sector in the State Domestic Product.

(xv) Agricultural research and education, particularly relating to livestock based farming systems did not receive adequate emphasis. As a consequence, the contribution of livestock to the economic growth has been much lower than the potential.

6 Suggested Policy and Strategic Changes

In order to put Rajasthan's economy on a higher growth path, certain strategic changes in the development priorities are called for. Along with these, it will be important to create a policy framework to effectively operationalize the stipulated changes in the development strategy. Some of the broad priority areas are summarized below:

(1) Though in the very long run, secondary and tertiary sectors should grow in size to provide sustainable employment, during the next decade or so, agricultural sector would continue to be the important sector of the state's economy for accelerating the growth. In this context, several new initiatives are required which include:

Increasing resource allocation for harnessing surface water in certain river basins; better management of existing surface irrigation systems; and training and involvement of farmers in on-farm water management;

Improvement in the existing organizational structure of technology evolution, perfection and transfer system by way of promoting Agricultural Universities structure with well defined mandate- one for livestock based farming systems and other for crop based farming systems that had to dry land farming based;

Improvement in the terms of trade for the agricultural sector by (a) effective implementation of guaranteed price policy and price stabilization measures; and (b) increasing the share of farmers and farmers organizations in trade and processing of agricultural products; and Strengthening and enlarging the agro-processing and packaging facilities in the rural areas.

(2) Roads, power and harnessing of water are critical for rapid economic growth of Rajasthan. In all these areas, public resources are hard to come. It is in this context that greater private sector participation or external sources of funding need to be mobilized. Policy environment to attract investment in these areas is necessary.

(3) Despite considerable progress in improving education and primary health care facilities, the state is considerably short of the required level of these facilities. The level of investment in secondary and higher education and health care needs to be enhanced. This would call for higher cost recovery in higher and technical education and speciality health services and attracting private investment in these social sectors. These services are concentrated in few cities. State has got Institute of Technology and many private engineering colleges may help in future. Private colleges are mushrooming but quality of education is bad.

(4) With the gap in demand and availability of financial resources rising, there is a need for reducing the expenditure on government machinery. The number of government employees, whose salaries now account for 80 percent of the state's revenue income, has been increasing. With the increasing burden of government's establishment costs and higher requirement of plan expenditure, the government has been resorting to borrowings. The state's debt during the last 20 years has been increasing at a rate of around 30 percent per annum. The interest burden on the state is now around 5-6 percent of GSDP and 25 percent of its revenues. There is certainly a need for reducing the size of government employees.

(5) Despite several measures taken by the state government to attract investment and entrepreneurs in the state, the response has been less than anticipated. Inadequate availability of power, water and road connectivity coupled with near hostile attitude of bureaucrats, had continued to come in the way of rapid expansion of economic activities in the secondary and tertiary sectors. It is in this context that the state should adopt a corridor-based model of development.

(6) Tourism and marketing of traditional handicrafts and culture are other potential areas for achieving the rapid economic growth in certain regions of the state. More attention in terms of initial public investment and attraction to private investment is needed in these activities.

(7) One other area which needs attention is the establishment of primary rural markets and linking these with higher level hierarchy of markets viz., tehsil markets, district markets and terminal markets. This will have two-way affect of transmitting growth impulses from urban centers to rural areas and providing markets for non-farm goods in rural center.

(8) Livestock is an important resource in several regions of the state. This resource has not been fully utilized to trigger the economic growth and improve the living conditions of people in these regions. There is a need for special efforts in improving the productivity of livestock and providing marketing and processing facilities for livestock and its products. Up-scaling in terms of number of animals per household or dairy unit is required where modern technologies can be used and the sector becomes competitive.

(9) Whether it is allocation of resources to alternative uses; mobilizing additional resources; or identifying new avenues of growth and development; a think tank at the state level is necessary

to provide continuous inputs to the policy makers based on objective analysis of the performance of various sectors. Rajasthan state does not have such formal body of experts to advise the state government on such matters on a continuing basis. As agriculture is still very important to the state economy a farmers' commission is called for. There is also need for Knowledge Commission that can guide technical manpower planning. During the last few years, bodies like Infrastructure Development Board, Livelihood Mission (still not growing out of small scale training activities) etc. have being playing some role in state's development.

To summarize, the state needs to allocate more resources to agriculture research and extension; secondary and vocational education, primary health care, rural electrification and rural infrastructure like rural roads, rural markets, rural warehouses and rural non-farm enterprises. The resources can be found by reducing the size of government establishment to at least half of the present size; withdrawing unnecessary concessions to industry; effecting full cost recovery in higher education and speciality health services; and redefining the role of several government departments and organizations. The corporate and cooperative sectors need to be involved in development of and creation of infrastructure and non-farm employment activities in rural areas. One other area which needs serious consideration is encouraging self-help groups of farmers and farm women on a massive scale to increase the share of these in agricultural and rural trade to take advantage of scale and technology in marketing which will not only create employment opportunities for the rural youth but also help in reaching the benefits of scale and technology in trade in agricultural commodities to the growers who are generally small and marginal farmers. There is need for greater involvement of states by the central government in policy formulations which have major influence on states.

Notes

This papert is a part of larger study "Economic Performance of Rajasthan's Economy : Growth, Constraints and Potential" done for the World Bank, New Delhi.

[1] An Oxfam International's study in 2006 of 20 countries receiving World Bank and IMF loans found that privatisation was a condition in 18 of them, an increase compared with previous years (Oxfam International 2006).

[2] Rajasthan had 220 hospitals, 325 CHCs, 204 dispensaries, 13 aid post, 118, MCW centers, 1713 rural PHCs and 31 urban PHCs, 293 family welfare centers, 10512 sub-centers, 651 doctors in 2005-06. There were 106 hospitals, 3739 dispensaries, 6 mobile units, 4014 hakeems/vaidyas and 4161 nurses under Indian system medicines (Statistical Abstract, Rajasthan 2005).

[3] It is argued that if current fertility trends continue, then replacement level fertility is achieved in 2011. This does not require too much by way of resources, but reorientation of programme management (Kothari 2007).

[4] National Dairy Development Board's F&V project does have farmers on contract for fruits and vegetables in Rajasthan. Bharti (field fresh) has also tie-up in Rajasthan (Singh 2007).

[5] The break-up of this data is not available by industry. However, it does reflect the trend in investment attracted by the state and reflects on the investment climate created by policy changes within the state.

[6] Between August 1991 and January 2006, 2847 IEMs (4.51% Indian share) were proposed with total investment of Rs.473710 million (2.64% Indian share) (see, www.investrajasthan.com).

[7] There are only 10 MNCs operating in Rajasthan that brought in technical backing. The major groups are Ericsson Telecommunication Ltd., MICO, GE Capital International Services and Gillette India Ltd.

[8] The rate of implementation for the period August 1991 and March 1998 is 11.43 (numbers), 32.26% for investment, and 11.74 percent for employment (CMIE 2006).

[9] Mazumdar and Sarkar (2006) while developing an argument of urbanisation (population in metros) and FDI flow point out that in case of Rajasthan inflow of FDI per capita in metros is low, yet it shares the characteristics of the high FDI states in having a relatively high growth rate in the larger towns.

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