Growth and Poverty in Maharashtra

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ABSTRACT: Maharashtra is among the richest states in India in terms of per capita income, yet incidence of poverty in the state remains close to the national average. The state's economy grew at a faster rate than the all-India average during 1980-1 to 1992-3, but it slowed down a bit during 1993-4 to 2003-4 due to poorer performance of agriculture and industry. Agriculture's contribution to GSDP has come down to 12 per cent in 2002-3, but more than 50 per cent of total workers are still engaged in this. Cropping pattern has been shifting to greater value addition non-cereal crops like fruits, vegetables, oilseeds and sugarcane. Composition of manufacturing has shifted towards more capital-intensive sectors. Communication, transport and public administration have accounted for large part of service growth. The benefits of this growth process have, however, not spread equally across social groups or regions, which partly explains prevalence of high poverty compared to other states at similar mean income. The much talked about Maharashtra Employment Guarantee Scheme (MEGS) has had limited success and its coverage across districts/divisions is not proportionate to the share of poor. Despite these developments, rural poverty has reduced from 38 per cent in 1993-4 to around 24 per cent in 1999-2000. Given current investment flows, the overall growth potential of Maharashtra does look bright for the medium run. But, distributional implications of the emerging growth pattern across sectors suggest that the poor might not benefit proportionately from the growth process. The lessons that Maharashtra provides is that growth has to be more broad-based and inclusive, and that intervention through social welfare programmes like MEGS should be designed to suit the local resource base of poorer regions for faster poverty reduction.

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INTRODUCTION

The economic scene in Maharashtra is intriguing. With a per capita Net State Domestic Product (NSDP) of Rs. 28,414 Maharashtra stood second only to Haryana among all major states in 2003-04. It is among the richest states in terms of contribution to the national economy. Maharashtra's Gross State Domestic Product (GSDP) of Rs. 328,808 crore in current prices was 13 per cent of the Gross Domestic Product (GDP) of India in 2003-04. Mumbai, the state's capital city, is considered to be the commercial and financial capital of India and this city alone contributes more than 35 per cent to the country's direct taxes. The state boasts of an enterprising farming community growing among other things sugarcane, Alphonso mangoes and grapes. The Maharashtra Employment Guarantee Scheme (MEGS) is a much talked about social welfare measure and the National Rural Employment Guarantee (NREG) Bill 2004 proposes replicating a similar programme all over the country.

Despite these advantages, incidence of poverty in the state has continued to remain close to the national average. Official estimates of people below the poverty line at 25 per cent for the state in 1999-2000 is just a little lower than the all-India average of 26 per cent. There are areas like Gadchiroli where the Net District Domestic Product (NDDP) in 2003-04 at Rs.13,186 was 45 per cent of the state's per capita NSDP and only 21 per cent of Mumbai's NDDP. There are large tracts under cotton, but production is so un-remunerative that a large number of farmers' suicides have been reported in recent years in this area. A couple of hours drive from Mumbai there are tribal pockets from where people migrate for four to six months in a year in search of jobs and for them malnutrition related child deaths are not uncommon.

One has to go into some detail to understand this apparent paradox. This paper attempts to examine the development process of the state from growth and poverty points of view by looking at the disaggregated picture across sectors, regions and socio-economic groups. It is a selective analysis to draw attention to certain aspects of the growth process and their likely impact on poverty.

We compare some basic indicators in Maharashtra with the all-India average in Section 2. The structure and growth of GSDP in Maharashtra is discussed in Section 3. Spatial and temporal dimensions of poverty are discussed in Section 4. Sectoral

details of the growth pattern are examined in Section 5. Other related issues like growth potential and role of social welfare measures like MEGS are discussed in Section 6 and some concluding remarks are made in Section 7.

BASIC INDICATORS

Located in western India, Maharashtra is one of the largest states with an area of 3.08 lakh square kilometres or 9.4 per cent of India's geographical area. A comparison of the state with India in some demographic and socio-economic features across three time points (1981, 1991, and 2001/latest available) in Table 1 shows that Maharashtra's density of population has been lower than the all-India average, but decennial population growth rate has been slightly higher at 26 per cent compared to 24 per cent for India in the 1980s, and 23 per cent compared to 22 per cent for India in the 1990s. The level of urbanisation in 2001 at 42 per cent for Maharashtra is not only higher than the all-India average, but the percentage point difference with the all-India average has also been increasing over the years. In 2001, more than 40 per cent of the state's urban population was in Mumbai or its surrounding areas including Thane. The relatively high population growth in Maharashtra when compared with the all-India average is largely due to its urban component. Decadal increase in population for urban Maharashtra was almost 20 percentage points higher than that for rural Maharashtra in 1980s as well as in the 1990s.

The proportion of Scheduled Castes (SCs) at 10 per cent was lower by 6 percentage points from the all-India average in 2001 whereas the proportion of Scheduled Tribes (STs) at 9 per cent was greater than the all-India average by 0.5 percentage points. Both communities together constitute less than one-fifth of the state's total population. Between 1981 and 1991, the proportion of SCs increased by 4 percentage points because Buddhist converts among SCs were excluded in earlier censuses. The data for SCs between 1981 and 1991 are thus not comparable due to coverage differences. The literacy rate for Maharashtra has remained higher than the national average while the gender gap and the urban-rural gap in literacy rate has been lower than the corresponding national average. Life expectancy in Maharashtra has remained higher than the all-India average. The sex ratio for Maharashtra declined compared to its increase at the all-India average between 1991 and 2001. This needs a detailed scrutiny in the light of large-scale in-migration, particularly by male

members, to the state. It may be noted that the sex ratio for the age group 0-6 years declined sharply from 946 in 1991 to 916 in 2001 (it fell from 953 to 923 for rural regions and from 934 to 908 in urban regions) and such a big drop in both rural and urban areas indicates an alarming trend.

Maharashtra's female infant mortality rate was 69 per cent more than the male infant mortality rate in 2003 and the excess of female over male infant mortality rate in absolute numbers (57-32=22) is the highest across 15 major states. Though the infant mortality rate in urban areas is two-thirds of the rural infant mortality rate, yet the excess of female infant mortality rate is almost similar (60 for girls as against 37 for boys in rural and 43 as against 23 in urban). This brings forth another paradox: Maharashtra is a state with relatively greater female literacy rate and female life expectancy, yet it is also a state with relatively much greater discrimination against the female foetus/child.

The absolute level of per capita income for Maharashtra has been considerably higher than that at the all-India level whereas the proportion of poor has continued to be near the all-India average. Possible reductions in share of the poor have not been neutralised by growth in income. At an aggregate level Maharashtra's literacy rate, infant mortality rate and per capita income is better than the all-India average. These indicators are also important components in the calculation of the human development index (HDI) and this explains a higher HDI rank for Maharashtra across major states. Against this overview of major indicators, we begin our analysis with the structure and growth of GSDP.

Table 1
Selected Socio-economic Indicators in Maharashtra and India

Socio-economic indicators	1981		1991		2001/latest	
	Maharashtra	India	Maharashtra	India	Maharashtra	India
Geographical area (lakh sq.km.)					3.1	32.9
Total population (million)	62.8	683.3	78.9	846.4	96.9	1028.7
Population density (persons per sq.km.)	204.0	212.0	257.0	267.0	314.0	324.0
Urbanisation rate (%)	35.0	23.3	38.7	25.7	42.4	27.8
Decadal increase, Total (%)	24.5	24.7	25.7	23.9	22.6	21.3
Decadal increase, Rural (%)	17.5	19.7	18.6	20.0	15.2	17.9
Decadal increase, Urban (%)	39.9	46.4	38.9	36.5	34.3	31.2
Proportion, Scheduled Caste (%)	7.2	15.3	11.1	16.3	10.2	16.2
Proportion, Scheduled Tribe (%)	9.2	7.6	9.3	8.0	8.9	8.2
Literacy rate, 7+years (%)*	55.8	43.6	64.9	52.2	77.3	65.4
Gender gap, literacy (%age points)	28.7	26.6	24.3	24.8	18.8	21.7
Urban-rural gap, literacy (%age points)	25.8	31.2	23.8	28.4	15.1	21.2
Life expectancy at birth, Male (years) #	59.6	55.4	63.5	59.7	66.8	64.1
Life expectancy at birth, Female (years) #	62.1	55.7	65.8	60.9	69.8	65.4
Sex ratio (females per '000 males)	937	935	934	927	922	933
Sex ratio, 0-6 age (females per '000 males)	956	962	946	945	916	927
Birth rate (per '000 persons)$	30.4	35.6	28.0	30.9	19.9	24.8
Death rate (per '000 persons)$	10.6	13.7	9.3	10.6	7.2	8.0
IMR (per '000 live births)$	90	119	69	87	42	60
Per capita income, current prices (Rs)@	2435	1861	8083	5596	29204	20989
Proportion Below Poverty Line, BPL (%)†	43.4	44.5	36.9	36.0	25.0	26.1
Human Development Index, Value	0.36	0.30	0.45	0.38	0.52	0.47
Human Development Index, Rank♣	3		4		4	

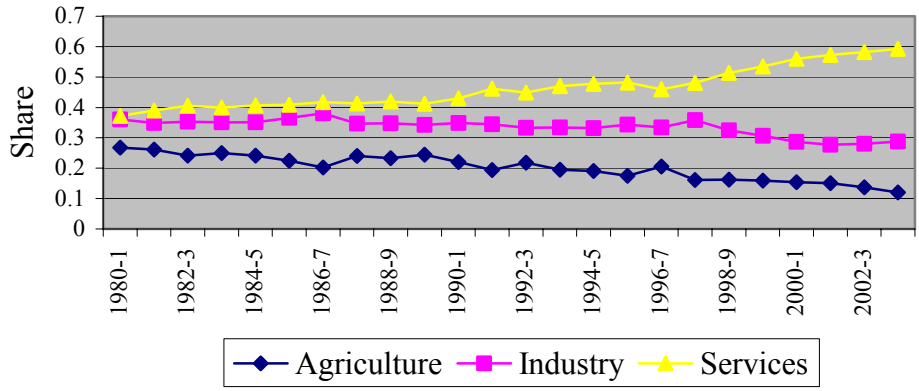
Source*:* www.indiastat.com and *Economic Survey of Maharashtra, 2004-05*.
Note: * Literacy rate for 1981 is for 5+ years of population. # Life Expectancy is for the years 1981-85, 1991-95 and 2001-06. $ The latest data for Birth Rate, Death Rate and Infant Mortality Rate are for the year 2003. IMR denotes infant mortality rate. @ Per Capita Income are for the Years 1980-81, 1990-91 and 2003-04 with latest year being provisional estimates for Maharashtra and quick estimates for India. † Proportion BPL is based on official estimates from National Sample Survey rounds for the Years 1983, 1993-94, and 1999-2000. ♣ Ranks are across 15 major states.

STRUCTURE AND GROWTH OF GSDP

Economic growth leads to a shift in the structure of production from agriculture to industry to services. This structural shift has taken place at a faster rate in Maharashtra when compared with the national level. The composition of major sectors in GSDP in Maharashtra in current prices between 1980-81 and 2003-04 given in Figure 1 and Table 2 shows that the share of agriculture has been declining and that of services has been increasing. The share of industry varied between 33 and 36 per cent till 1998-99 and it has been declining thereafter. The share of the service sector in GSDP has been growing and reached nearly 60 per cent in 2003-04. The share of agriculture in GSDP has fallen to 12 per cent in 2003-04 and would have fallen

further in 2004-05 since advance estimates indicate a negative growth of 1.1 per cent for the primary sector.[1] Across states, a similar decline in the share of agriculture to GSDP is observed in Tamil Nadu.[2] This shift in GSDP/GDP share from agriculture is not quite commensurate with the proportion of workers engaged in the sector. Between 1993-94 and 1999-2000, estimates from the state sample of the National Sample Survey for Maharashtra show that the proportion of workers dependent in agriculture and allied activities declined by 4 percentage points (from 60 per cent to 56 per cent),[3] the proportion of workers in the industry remained around 16 per cent and that in services increased from 24 per cent to 27 per cent. Assuming the continuation of a similar trend, one can say that in 2003-04 more than 50 per cent of the workers and their families depend on about 12 per cent of the state's income. It should be noted that 95 per cent of the workers in agriculture and allied sectors were from rural areas constituting about 83 per cent of the rural work force in both the periods (Government of Maharashtra, 2003).

Figure 1
Share of Major Sectors in Maharashtra GSDP, 1980-1 to 2003-4



[1] *Economic Survey of Maharashtra, 2004-05*, p. 132.
[2] Agriculture's contribution to GSDP is around 40 per cent in Bihar and Punjab reflecting the absence of growth in the former and the source of dynamism in the latter.
[3] According to the 2001 census, 55 per cent of the total workers were dependent on agriculture either as cultivators or agricultural labourers.

Table 2
Share of Maharashtra GSDP and all-India GDP across Major Sectors, 1980-81, 1993-94 and 2003-04 (Current Prices)

	Maharashtra			India		
	1980-1	1993-4	2003-4	1980-1	1993-4	2003-4
Agriculture	26.74	19.50	12.00	38.86	30.97	22.21
Industry	36.03	33.43	28.79	24.50	26.26	26.59
Services	37.23	47.07	59.20	36.64	42.77	51.20

Source*:* www.indiastat.com and National Accounts Statistics.
Note*:* Calculated from current prices data series with 1980-81 and 1993-94 as base years.

Next, we estimate the growth rates for three broad sectors - agriculture, industry and services - for two sub-periods, 1980-81 to 1992-93 and 1993-94 to 2003-04 in Maharshtra's GSDP as well as in all-India GDP.[4] We use the following three types of growth rates:

(1) The annual average growth rate is

$g_1=\sum_t((Y_t - Y_{t-1})/Yt_{-1})/T$ where Y_t is the relevant variable for year t and the data are for t=0,1,…,T years.

(2) The linear trend growth rate is

$g_2 = b$; where b is estimated separately for each period using the relation:

$\ln(Y_t)=a+bt+e_t$

where t=0,…,T denotes time and e_t denotes error term.

(3) Following Boyce (1986), the kinked exponential growth rates g_{31} and g_{32} for the two sub-periods are

$g_{3j}=b_j$; where b_j's (b_1 and b_2) are estimated together using

$\ln(Y_t)=a_1+b_1(dt+(1-d)k)+b_2((1-d)(t-k))+e_t$

where d is a dummy variable (d=1 for sub-period 1 and 0 for sub-period 2), k=13 is the break point between the two sub-periods and e_t denotes error term.[5] It should be noted that estimates using the kinked exponential will not provide a growth rate for the whole period.

[4] The rationale for beginning with 1980-81 and 1993-94 in the two sub-periods is because both are considered as normal years and have been identified as base years in the last two national accounts statistics series. This choice was basically done to enable a comparison between Maharashtra and India in an earlier sub-period and in a recent sub-period. The period since 1993-94 broadly refers to the post-reform period and it might be appropriate to examine happenings after the reforms permitting some lag effects.

[5] It would be appropriate to identify a breakpoint (kink) separately for each sector/sub-sector and separately for Maharashtra and India, but this has not been done in the present exercise for reasons of comparability.

Table 3 gives estimated growth rates in Maharshtra's GSDP by agriculture, industry and service sectors for two sub-periods, 1980-81 to 1992-93 and 1993-94 to 2003-04 along with corresponding national level growth rates. Several conclusions can be drawn from this Table about Maharashtra's overall growth process in relation to that of Indian averages:

- Aggregate income as reflected by real GSDP in Maharashtra grew at a slower rate during 1993-2003 compared to the earlier period 1980-1992.[6] All the three methods of growth rate estimation lead to this conclusion demonstrating its robustness. This deceleration in Maharashtra's economy is in sharp contrast to all indications of acceleration in aggregate income at the national level.
- Like the rest of India, Maharashtra too experienced a slowdown in both agriculture and industry in the post-liberalisation period. Statistical tests indicate that the slowdown in the industrial sector was significant for Maharashtra.
- While the service sector growth in the post-1992 period shows significant acceleration at the all-India level over the earlier period, it was not higher for Maharashtra by either the linear trend or the kinked exponential method, though annual averages of the growth rates do indicate a higher rate for the service sector in Maharashtra.

Table 3
Growth Rate of Maharashtra GSDP and All-India GDP, 1980-81 to 2003-04

	Annual Average				Linear Trend				Kinked Exp		
	1980-1 to 1992-3	1993-4 to 2003-4		1980-1 to 2003-4	1980-1 to 1992-3	1993-4 to 2003-4		1980-1 to 2003-4	1980-1 to 1992-3	1993-4 to 2003-4	
Maharashtra GSDP	6.32	5.75		6.04	6.09	4.81		6.28	6.75	5.59	
Agriculture	5.15	1.56		3.43	3.53	1.26		3.63	4.48	2.39	
Industry	5.88	4.65		5.29	6.24	2.92	*	5.60	6.90	3.70	*
Services	7.95	7.99		7.97	7.36	7.07		7.87	7.94	7.77	
India GDP	5.23	6.19		5.69	5.23	5.82		5.55	5.31	5.91	*
Agriculture	3.31	2.93		3.13	3.03	2.33		2.99	3.25	2.60	
Industry	6.21	6.36		6.28	6.34	5.74		6.13	6.38	5.78	
Services	6.45	8.07		7.22	6.50	7.81	*	7.02	6.48	7.80	*

Source: Own estimates based on www.indiastat.com and National Accounts Statistics.
Note: The growth rates have been calculated at constant 1993-94 prices. The 1980-81 to 1992-93 data for Maharashtra were converted from 1980-81 prices assuming that simple annual growth rates in the two prices would be the same.
* denotes that difference in the growth rates between the two periods is significant at 95% confidence interval.

[6] Note that using the old series of GSDP with 1980-81 as the base year, Ahluwalia (2000) finds that Maharashtra's economy accelerated during 1991-92 and 1997-98 compared to 1980-81 and 1990-91.

District Income

Inter-regional inequality within Maharashtra has been a matter of concern for long. As early as 1984, a fact-finding committee under the chairmanship of V.M. Dandekar had attempted to quantify the regional imbalance in Maharashtra (Government of Maharashtra, 1984). Table 4 gives district-wise income in the state. It should be noted that the calculation of district income has started in recent years and such estimates should be considered tentative. Per capita net district domestic product (PCNDDP) for 2002-03 in 1993-94 prices indicates that the districts of Kolhapur, Mumbai (including Mumbai suburban), Nagpur, Pune, Raigad and Thane have an income greater than the state's average of Rs.16,479. In all these districts, except Raigad, 60 per cent of the population is urban. Districts of Nashik, Ratnagiri, Sangli and Sindhudurg have PCNDDP that is above an average calculated after excluding Mumbai. None of the districts of Amravati and Aurangabad division have PCNDDP that is greater than the state's average even after excluding Mumbai.

In Amravati and Aurangabad divisions, the average annual growth of PCNDDP between 2000-01 to 2003-04 is lower than the state's average in eight of the 13 districts, viz., Amravati, Aurangabad, Beed, Jalna, Latur, Osmanabad, Parbhani and Yavatma and it was negative in Aurangabad, Beed and Osmanabad. The average annual growth rate was more than 10 per cent per annum in Nandurbar, a poor district with a low base, and Ratnagiri, a prosperous district. Nandurbar's rank across 34 districts increased from 33 in 2000-01 to 26 in 2003-04.

Table 4
Per Capita Income Across Districts

Division	District	PCNDDP 1993-4 Prices	
		Value 2003-4	Avg Annual Growth 2000-1 to 2003-4
Amravati (Western Vidarbha)	Akola	11235	7.2
	Amaravati	11616	4.2
	Buldhana	9644	7.5
	Washim	11035	7.2
	Yavatmal	10474	3.2
	Total	10770	5.3
Aurangabad (Marath-wada)	Aurangabad	11976	-0.1
	Beed	9418	-0.6
	Hingoli	10593	8.8
	Jalna	8714	3.1
	Latur	8963	2.9
	Nanded	9220	7.1
	Osmanabad	8134	-3.4
	Parbhani	9713	4.1
	Total	9713	2.3
Konkan Excluding Mumbai	Raigad	18132	3.2
	Ratnagiri	14064	11.2
	Sindhudurg	15812	7.9
	Thane	18723	2.8
	Total	17867	4.0
Mumbai	Mumbai	35483	6.9
Nagpur (Eastern Vidarbha)	Bhandara	11859	7.8
	Chandrapur	13792	6.1
	Gadchiroli	7577	9.6
	Gondia	10051	3.8
	Nagpur	18996	6.3
	Wardha	13379	6.2
	Total	12212	6.5
Nashik (Dhule, Jal-gaon and Nandurbar are known as Khandesh)	Ahmednagar	11602	3.4
	Dhule	10360	8.3
	Jalgaon	12677	5.5
	Nandurbar	9761	10.7
	Nashik	14413	4.8
	Total	12470	5.8
Pune (Western Maharashtra)	Kolhapur	16832	3.3
	Pune	20424	2.7
	Sangli	14861	0.5
	Satara	13723	4.0
	Solapur	11639	1.4
	Total	16484	2.6
Maharashtra State		16479	4.8
Maharashtra except Mumbai		13818	4.1

Source: *Economic Survey of Maharashtra, 2004-05.*

POVERTY

Table 5 gives official estimates of incidence of poverty in Maharashtra and the all-India level using the National Sample Survey Organisation (NSSO) consumer expenditure data. The proportion of people below the poverty line in Maharashtra decreased from 53 per cent in 1973-74 to 37 per cent in 1993-94 and further reduced to 25 per cent in 1999-2000. Rural poverty declined from 58 per cent in 1973-74 to 24 per cent in 1999-2000 and urban poverty from 44 per cent to 27 per cent during the same period. Between 1973 and 2000, the fall in rural poverty was faster than urban poverty – the extent of fall being 59 per cent in rural areas and 39 per cent in urban areas. It is interesting to note that the proportion of total poor in the state, rural and urban combined, has always been close to the corresponding national average since 1973-74.

Table 5
Percentage of Poor in Maharashtra and India

	Maharashtra			All-India		
	Rural	Urban	Combined	Rural	Urban	Combined
1973-74	57.7	43.9	53.2	56.4	49.0	54.9
1983	45.2	40.3	43.4	45.7	40.8	44.5
1993-94	37.9	35.2	36.9	37.3	32.4	36.0
1999-00	23.7	26.8	25.0	27.1	23.6	26.1

Source: Planning Commission (available at www.indiastat.com).

Questions have been raised by several scholars on the comparability of the latest official poverty estimates with earlier estimates due to s change in recall period in the NSSO survey for 1999-2000 (55th Round). Sen and Himanshu (2004) have examined this issue in detail by looking at alternative estimates proposed in literature. None of the alternative estimates considerably change Maharashtra's position in relation to national averages. Another point of interest to note is the argument by Deaton and Dreze (2002) that price indexes used to update poverty lines over time are based on outdated commodity weights. They claim that the official updating procedure has rendered urban poverty lines implausibly high in recent years and instead they prefer to use the implicit unit prices from the NSSO consumer expenditure survey for updating poverty lines. Their estimates show that rural Maharashtra has higher poverty incidence than in rural all-India by as much as 5 percentage points. Urban poverty estimates by Deaton and Dreze for recent years are substantially lower

compared to the official estimates. It was 12 per cent for Maharashtra in 1999-2000 which again coincides with their all-India estimate. Thus, all available evidence on poverty estimates for 1999-2000 point towards the fact that the proportion of poor in Maharashtra is about the same as that in the national average.

Social and Regional Pattern

Incidence of poverty varies considerably across certain social groups. Table 6 gives poverty estimates for rural and urban areas for four categories of social groups: Scheduled Tribe (ST), Scheduled Caste (SC), Other Backward Castes (OBC) and "others" that comprise the rest of the population. These estimates have been made using the household level 55th Round data. Since the interest here is on comparison across groups, we use only official poverty lines. Table 6 also shows the share of groups in the total population obtained from NSSO data and the contribution of the groups to total poverty (head count ratio) in the state in rural or urban areas. It is seen that the ST and SC groups have a substantially higher incidence of poverty compared to the rest of the population. Poverty proportion for rural ST and SC groups is about 44 per cent and 32 per cent respectively while it is 23 per cent for rural areas as a whole. The proportion of poor among rural STs is, thus, nearly double compared to that among the total rural population in the state. This also gets reflected in the fact that the ST group accounts for 32 per cent of the total rural poor as against a population share of 17 per cent. Incidence of rural poverty at 13 per cent for the "others" category is less than a third compared to STs. Disparity in poverty among social groups in urban areas, which has not been as high as it has been in rural areas, varies between 43 per cent for the ST population and 21 per cent for "others".

Table 6
Head Count Ratio of Poverty By Social Groups, Maharashtra 1999-2000 (%)

Region	Indicator	ST	SC	OBC	Others	Total
Rural	Poverty Ratio (HCR)	44.20	31.64	21.89	12.78	23.22
	Population Share	16.63	13.01	30.27	40.10	100.00
	Contribution to total HCR	31.66	17.73	28.54	22.07	100.00
Urban	Poverty Ratio (HCR)	42.75	40.71	33.85	21.14	26.75
	Population Share	3.13	13.19	18.49	65.18	100.00
	Contribution to total HCR	5.00	20.08	23.40	51.51	100.00

Source*:* Panda and Chavan, 2004.

Poverty ratio estimated for various NSSO regions is given in Table 7. Taking the rural and urban areas together, the proportion of poor at 13 per cent was the least in the Coastal Region (Konkan division that includes Mumbai and its suburban areas) of Maharashtra in 1999-2000. In the Eastern Region (the eastern Vidarbha division after excluding Nagpur and Wardha districts) and the Inland Eastern Region (western Vidarbha division and Nagpur and Wardha districts of eastern Vidarbha), it is as high as 40 per cent, i.e. three times that of the Coastal Region. Poverty ratio seems to have reduced the most in the Inland Central Region (Marathwada division) by more than 20 percentage points. This was largely because of a decline in rural areas by nearly 26 percentage points. In urban areas the decline was the most in inland northern (Nashik division after excluding Ahmednagar district) by nearly 18 percentage points. Rural areas in the Inland Western Region (Pune division and Ahmednagar district of Nashik division) are agriculturally one of the most developed regions in the country and at 11 per cent show the least rural poverty.

Table 7
Percentage of Poor by Regions in Maharashtra

Region	Rural		Urban		Combined	
	1993-94	1999-00	1993-94	1999-00	1993-94	1999-00
Coastal	15.2	18.4	12.5	10.8	13.3	12.9
Inland Western	24.9	10.7	40.2	27.7	29.3	15.6
Inland Northern	47.3	31.8	58.5	40.5	50.3	34.1
Inland Central	49.8	24.2	61.5	54.2	52.4	31.1
Inland Eastern	49.1	31.7	59.0	51.1	52.6	38.4
Eastern	49.3	41.9	52.7	28.0	49.8	39.8

Note: Coastal region comprises of all districts from Konkan division including Mumbai, Inland Western region comprises of all districts from Pune division and Ahmednagar district from Nashik division, Inland Northern region comprises of all districts from Nashik division except Ahmednagar, Inland Central region comprises all districts from Marathwada division, Inland Eastern comprises of all districts from Amravati division and Nagpur and Wardha districts from Nagpur division, Eastern region comprises of the remaining districts from Nagpur division.
Source: Calculated from NSS unit level data.

Table 8 gives distribution of poor across NSS Regions in Maharashtra along with per capital income for the regions calculated from PCNDDP. It shows that per capita income is the lowest in the Inland Central Region. It is only the Coastal Region that has a per capita income that is higher than the state's average. The Inland Eastern Region contributed the maximum to the state's total poor (25 per cent) followed by Inland Central (20 per cent) in 1999-2000.

Table 8
Distribution of Poor Population and Per Capital Income Across NSS Regions in Maharashtra

	Distribution of Poor Population						Per Capita Income (Rs)
	Rural		Urban		Combined		
	1993-94	1999-2000	1993-94	1999-2000	1993-94	1999-2000	2003-04
Coastal	4.59 (0.40)	8.83 (0.79)	15.51 (0.36)	18.79 (0.40)	8.46 (0.36)	13.01 (0.52)	26170
Inland Western	19.65 (0.66)	13.72 (0.46)	23.24 (1.15)	20.09 (1.03)	20.92 (0.80)	16.39 (0.63)	15666
Inland Northern	17.14 (1.25)	18.75 (1.37)	14.24 (1.67)	11.98 (1.51)	16.12 (1.37)	15.91 (1.39)	12769
Inland Central	26.82 (1.31)	21.32 (1.04)	17.60 (1.76)	19.56 (2.03)	23.56 (1.42)	20.58 (1.26)	9728
Inland Eastern	21.91 (1.30)	23.22 (1.37)	26.13 (1.69)	27.32 (1.91)	23.40 (1.43)	24.93 (1.56)	13192
Eastern	9.89 (1.30)	14.16 (1.80)	3.27 (1.51)	2.27 (1.05)	7.55 (1.35)	9.18 (1.62)	11518
Total	100.00 (1.00)	100.00 (1.00)	100.00 (1.00)	100.00 (1.00)	100.00 (1.00)	100.00 (1.00)	16479

Note: Figures in parenthesis indicate ratio of share of poor population to share of total population across regions.
Source: Calculated from NSS unit level data.

Between 1993-94 and 1999-2000, the share of rural poor declined only in Inland Western and Inland Central Regions and increased in all the other regions. Eastern, Inland Eastern and Inland Northern are not only poorer regions to begin with but their share in rural areas has also increased over time. The Coastal region's share in poor population has also increased in both rural and urban areas, though the poverty ratios continue to be lower compared to other regions. The latter assumes significance because 45 per cent of the urban population in Maharashtra is in this region. The Coastal Region is the only NSS region where urban poverty was lower than rural poverty in both 1993-94 and 1999-2000. The ratio of the share of poor to their share of the population in 1999-2000 was the highest for rural areas in the Eastern Region (1.8) and for urban areas in the Inland Central Region (2.03). It was the least for rural areas in the Inland Western Region (0.46) and for urban areas in the Coastal Region (0.40).

Turning to the distributional aspect, NSSO consumption expenditure survey data confirm the prevalence of high disparity within the state. Per capita monthly consumption expenditure (MPCE) in Maharashtra for 1999-2000 was Rs. 973 and Rs. 497 for urban and rural areas respectively.[7] Maharashtra tops the rank in urban MPCE among 16 major Indian states while it ranks 8th in rural MPCE. As a consequence, the percentage difference in urban to rural MPCE is the highest in Maharashtra. So far as inequality within rural or urban areas is concerned, the rural Gini coefficient has particularly reduced from 30.7 in 1993-94 to 26.1 in 1999-2000 and the urban Gini marginally from 35.7 to 35.4. Even then, Maharashtra was among the three most unequal states in terms of MPCE in both rural and urban areas across 16 major states during 1993-94 and 1999-2000 (Table 9). As expected, other states with large metropolis like Tamil Nadu and West Bengal too exhibit high inequality.[8]

Table 9
Five States with Highest Inequality in Consumption Expenditure

50th Round		55th Round	
Rural	Urban	Rural	Urban
Haryana	Maharashtra	Kerala	Tamil Nadu
Tamil Nadu	Tamil Nadu	Tamil Nadu	Maharashtra
Maharashtra	Kerala	Maharashtra	West Bengal
Kerala	West Bengal	Punjab	Uttar Pradesh
Andhra Pradesh	MP	Haryana	Karnataka

Source: Own estimates

SECTOR-WISE ANALYSIS

Agricultural Production

Growth rates in Maharashtra's agriculture and allied activities show that there has been a decline in the recent period in all the components: agriculture, forestry and logging and fishing (Table 10). Forestry and logging particularly had negative growth between 1993-94 and 2003-04 implying a fall in the amount of value added during this period. Current price estimates of Maharashtra's GSDP from agriculture as a proportion of all-India GDP from agriculture declined from 9.1 per cent in 1993-94 to 7.9 per cent in 2002-03. While the index of agricultural production (triennium ending

[7] NSSO 60th Round data for January-June 2004 also reveal similar disparities between rural and urban areas: Rs. 608 for rural and Rs. 1,239 for urban (*Economic Survey of Maharashtra, 2004-05*).
[8] Note that the capital city of Chandigarh is not included in Punjab and Haryana data.

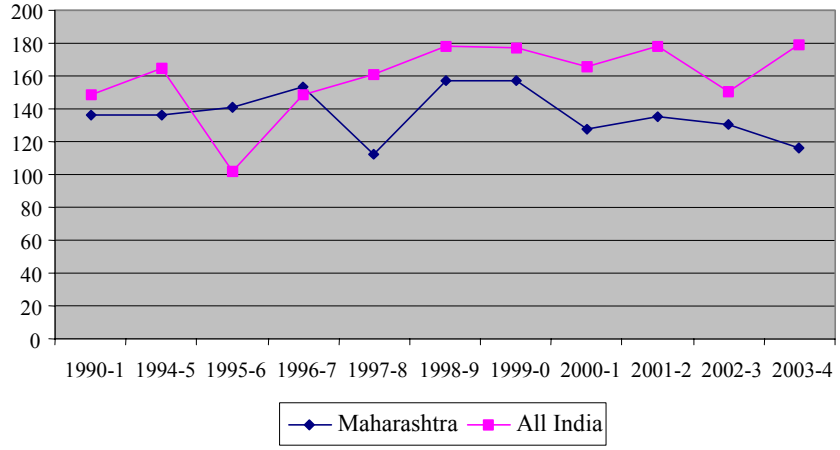
1981-82=100) for Maharashtra and India show year-to-year fluctuations, one observes an overall increasing trend for India, but in Maharashtra there seems to be a decline after 1999-2000 (Figure 2). In 2003-04 the index of output for all crops was as low as 116 for Maharashtra compared to 180 for all-India.

Table 10
Growth Rates in Maharashtra's Agriculture and Allied Activities using the Kinked Exponential form, 1980-81 to 2003-04

	1980-81 to 1992-93	1993-94 to 2003-04	
Agriculture	4.72	2.55	
Forestry & Logging	1.36	-0.22	
Fishing	4.12	2.81	

Note and Source: As in Table 3.

Figure 2
Index of Agricultural Production, Mahrashtra and India, 1990-1 to 2003-4



Source: *Economic Survey of Maharashtra*.

Table 11 shows annual average growth rates in area, production and yield series during 1990-91 and 2004-05 after correcting for short-term cycles through a three-year moving average process.[9] The major features of agricultural development from this Table are:

- The cropping pattern has shifted markedly in favour of cash crops like fruits, vegetables, oil seeds, sugarcane, cotton and pulses. There has been a rapid expansion of the area under fruits and vegetables at 7-8 per cent per annum.

[9] See Sawant et al. (1999) for a detailed analysis of Maharashtra's agricultural performance till the early 1990s.

- The area under cereals, especially that under Jowar has been falling over the years. Despite the fall in area, rice and wheat production has increased due to yield increase. Total cereals production has fallen due to fall in output of coarse cereals.
- Oilseeds and cotton production has grown at a high rate of 7-9 per cent per annum due to both area and yield effects. Yield increase accounts for a substantial part of the production increase in cotton.
- Area allocated to sugarcane production has risen by above 1 per cent annually, though its output has been falling due to the yield factor.
- Pulse output has been increasing at about 2 per cent per annum due to both area and yield effects.

Table 11
Average Annual Growth Rates in Three Year Moving Average Series On Area, Production and Yield Of Selected Crops During 1990-91 to 2004-05

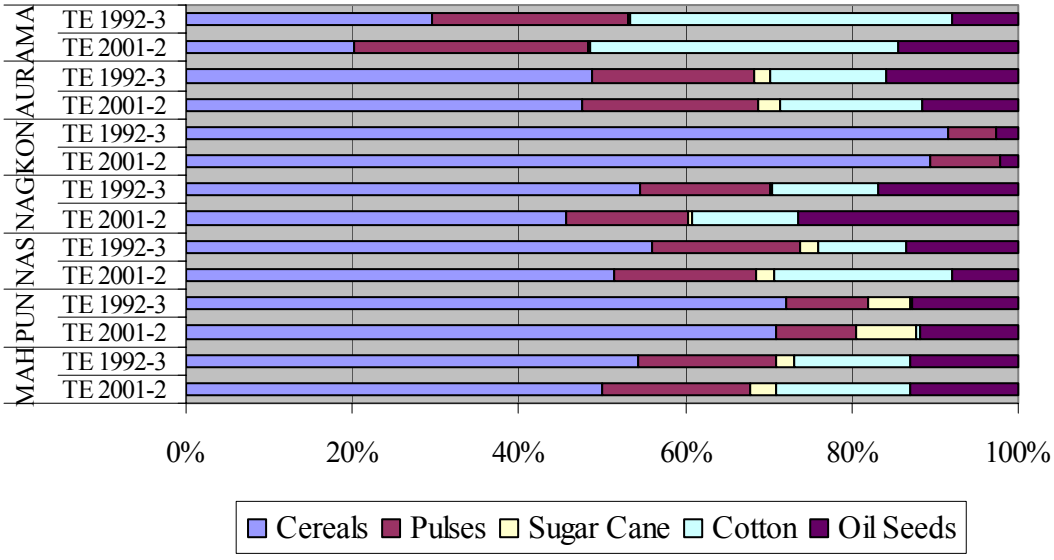
	Average Annual Growth Rate		
	Area	Production	Yield
Cereals	-1.3	-1.1	0.2
Rice	-0.5	0.5	1.0
Wheat	-0.1	0.8	0.7
Jowar	-1.9	-3.4	-1.4
Pulses	0.5	2.0	1.3
Oil Seeds	3.7	9.0	5.1
Sugarcane	1.2	-1.1	-2.5
Cotton	0.6	7.5	6.9
Fruits	8.4		
Vegetables	7.4		

Source: Own estimates based on data in Government of Maharashtra (2000, 2002), and www.indiastat.com.
Note: Fruits data are for 1991-92 to 2001-02 and vegetables data are for 1997 to 2001-02

By taking the five major crop groups, viz. cereals, pulses, sugarcane, cotton and oilseeds we analyse the changes in cropping pattern across districts. In Maharashtra, there has been an increase in the area under cultivation from 194.7 lakh hectares in triennium ending 1992-93 to 195.6 lakh hectares in triennium ending 2001-02. There has been a decrease in area under cultivation in Konkan, Nashik and Pune divisions. In the absence of data for the area under fruits, vegetables and other crops we are not in a position to state whether the total area under cultivation in these districts has declined. The increase in area under fruits and vegetables at the state level (Table 11)

is quite likely to have been concentrated in these three divisions. Figure 3 shows the share of area under these five categories of crops in the triennium ending 1992-93 and the triennium ending 2001-02. It shows a reduction in the share of area under cereals in almost all the divisions and also at the state level. Konkan, which has traditionally been a cereal (paddy) producing region, has shown a shift towards pulses in recent years and it grows no sugarcane or cotton. In Western Maharashtra (Pune) division, there is a shift away from cereals, pulses and oilseeds to sugarcane and cotton. In the Nashik division there has been an increase in the area under cotton and a decrease in the area under other crops. In Marathwada (Aurangabad) division, there is a shift away from oilseeds to other crops. In Western Vidarbha (Amravati) division, there is a shift away from cereals and cotton to pulses, oilseeds and sugarcane. In Eastern Vidarbha (Nagpur) division, there has been a shift away from cereals, pulses and cotton to sugarcane and oilseeds.

Figure 3
Cropping Pattern by Division in Maharashtra, TE 1992-3 & TE 2001-2



Note: AMA, AUR, KON, NAG, NAS, PUN and MAH indicate the divisions of Amravati, Aurangabad, Konkan, Nagpur, Nashik and Pune and Maharashtra state respectively. TE indicates triennium ending.
Source: Own estimates based on data in Government of Maharashtra (2000, 2002)

Now we turn to trends in agricultural income generation by major crops since the early 1990s. Table 12 shows (a) the average value added for two trienniums, 1993-94

to 1995-96 and 1999-2000 to 2002-03, and (b) the incremental value added in the second triennium over the first. This Table clearly shows that horticulture was a major source of agricultural income growth during 1993-94 and 2002-03 followed by sugarcane. It should be noted that income from sugarcane increased even though there was a fall in output. This may be due to changes in terms of trade faced by sugarcane growers, viz., prices received by them from sale of output compared to prices paid by them for inputs. Farmers' income from pulses and oilseeds has increased marginally. On the other hand, income from cereals and cotton has fallen in absolute terms. In terms of contribution to total incremental agricultural income generation, fruits and vegetables contributed 97 per cent and sugarcane another 26 per cent while cereals and cotton accounted for -30 per cent and -4 per cent respectively.

Table 12
Value added by major crops for triennium ending 1995-96 and 2002-03 and percentage contribution to incremental value added in agriculture (Rs. in Lakhs at 1993-94 prices)

	Value added by crops		Incremental Value added		Average Growth of TE Trend
	TE 1995-96	TE 2002-03	Level	% Contribution	
Cereals	414402	352533	-61869	-29.98	-2.20
Paddy	143895	123484	-20412	-9.89	-2.02
Wheat	51070	49146	-1924	-0.93	-0.04
Jowar	167952	125689	-42263	-20.48	-3.98
Bajra	35482	33047	-2435	-1.18	-0.21
Pulses	163946	169689	5743	2.78	0.74
Oilseeds	200501	205875	5375	2.60	0.51
Sugarcane	288802	343116	54314	26.32	2.69
Cotton	187431	179169	-8263	-4.00	-0.19
Fruit & Vegetables	503787	704351	200564	97.20	4.99
Others	230344	240825	10481	5.08	0.66
GVA in agriculture	1989214	2195558	206345	100.00	1.44

Source: Own estimates based on data in Directorate of Economics and Statistics (2005)
Note: TE denotes triennium ending, GVA denotes Gross Value Added

Given its soil and rainfall conditions, Maharashtra does not have a comparative advantage in the production of several crops. In the context of the growth potential, large-scale production of a water intensive crop like sugarcane needs some elaboration. Next to Uttar Pradesh, Maharashtra is the second largest sugarcane

producing state in India and accounted for about 11 per cent of the total production in the country in 2003-04. As noted earlier, the area under sugarcane has grown by 1.2 per cent per annum since the early 1990s on a three-year moving average series (Table 11). Maharashtra has a large number of sugar mills, mostly in the cooperative sector in western Maharashtra. With declining sugarcane production more than half the requirement of the mills in the state had to be met from outside the state in 2004-05.

Estimates made by the World Bank (1997) show that sugarcane is more profitable compared to other crops even if one adjusts for crop periods and input intensity to calculate earnings per hectare per year. This study also found that Maharashtra had a higher sugarcane yield than Uttar Pradesh per hectare of land use, but not when the yield was calculated per unit of inputs like water or fertilisers implying a high input intensity of the crop. But, sugarcane yield has been falling over the last two decades in Maharashtra.. It is a long duration crop, which generally takes 15 to 18 months in the state (as against typically 10 months in Uttar Pradesh). Due to water scarcity, there has been a tendency to shift to a shorter duration annual crop since the longer duration crop faces two dry seasons rather than one. The annual crop, however, has lower yields and has led to a fall in average yield per hectare.

Distribution of Operational Holdings

Now, we will discuss the shifts in size of operational holdings. In India from 1970-71 to 1995-96 the number of operational holdings increased by 64 per cent from 7.0 to 11.6 crores, but the area under operational holdings increased by less than 1 per cent from 16.2 to 16.3 crore hectares. The situation in Maharashtra was worse with the number of operational holdings more than doubling from 0.5 to 1.1 crores and the area under operational holdings decreasing by 6 per cent from 2.1 to 2.0 crore hectares. The percentage change per year between agricultural censuses shows that both the number and area under large size class of holdings started declining in the 1970s, the medium size class of holdings started declining in the early 1980s and the area under semi-medium size class of holdings started declining in the early 1990s (Table 13). The rate of increase in the small size class also shows a deceleration and this is also true for the marginal size class of holdings from the early 1990s. Over the years, this trend has led to an increase in the marginal size class of farmers from 25.1

per cent in 1970-71 to 40.0 per cent in 1995-96 and an increase in the small size class of farmers from 17.7 per cent to 29.8 per cent during the same period. Increasing population pressure leading to land fragmentation and distribution of ceiling surplus land have contributed to this trend. As mentioned earlier, between 1993-94 and 1999-2000 the proportion of workers in the agricultural sector declined by 4 percentage points and the trend in operational holdings suggests that its net effect would largely be a decline among holdings of large, medium or semi-medium size classes. During the same period the area with the marginal size class of farmers increased from 2.7 per cent to 10.5 per cent and that of small size class of farmers increased from 6.1 per cent to 23.2 per cent.

Table 13
Percentage Change per Year in Number and Area of Operational Holdings, Maharashtra, 1970-71 to 1995-96

Size class of Holdings	Number				Area			
	1970-1 to 1980-1	1980-1 to 1985-6	1985-6 to 1990-1	1990-1 to 1995-6	1970-1 to 1980-1	1980-1 to 1985-6	1985-6 to 1990-1	1990-1 to 1995-6
Marginal, < 1 Hectares	5.51	5.84	6.32	6.05	6.85	5.31	6.27	5.80
Small, 1-2 Hectares	7.54	7.30	5.93	3.28	8.17	6.86	5.42	3.13
Semi-Medium, 2-4 H	5.51	3.22	1.73	0.25	5.39	2.92	1.30	-0.03
Medium, 4-10 Hectares	1.32	-1.08	-2.21	-3.89	0.95	-1.39	-2.56	-4.14
Large, 10 Hectares & above	-3.81	-5.17	-5.54	-6.39	-4.35	-4.95	-5.64	-5.48
Total	3.86	3.61	3.38	2.50	0.09	-0.01	-0.40	-1.00
Source: www.indiastat.com								

Cropping Pattern by Social Groups and Poverty

While the changes noted above reveal a shift towards cash crops and the inherent overall dynamism in the state's agriculture, it is important to look at associated distributional implications.[10] One might ask whether all sections of society, in particular the underprivileged sections like marginal farmers and SC-ST groups have benefited equally in this growth process. Panda and Chavan (2004) examine the cropping pattern by socio-economic groups using household level data from the 54th NSSO Round for 1998-99. This round covered a total of 5,359 households from 344 villages in Maharashtra and the data collected included information relating to crops cultivated and area under various crops.[11] They found that cropping the pattern of ST or SC groups was diversified and not confined to staple foodgrains (Table 14). The

[10] It is well-known that the poor benefit more from Agriculture than Industry or Service (see Ravallion and Datt, 1996).
[11] Cotton, which is a major crop in Maharashtra, is not a separate crop in this data set, but forms a part of "other cash crops".

SC and ST groups allocated 58 per cent and 68 per cent of total land under their cultivation to foodgrains compared to 64 per cent for all the social groups taken together.

Yet, SC and ST households seem to have benefited only to a small extent from the two sectors that contributed the most to the state's agriculture, namely fruits and vegetables, and from sugarcane. In the case of fruits and vegetables, SC households do not seem to have benefited from recent dynamics. Allocation of land to fruits and vegetables by SC households is only about one-tenth compared to that by the non-backward "others" group. Being forest dwellers, STs traditionally grow fruits and vegetables and allocate about 4 per cent of the land for this purpose. But, whether the ST households are equal participants in the state's recent initiatives on high value adding horticulture needs a detailed study.

Table 14
Cropping Pattern by Social Groups, 1998-99

	Percentage of Gross Cultivated Area of Various Social Groups					
	Foodgrains	Oilseeds	Sugarcane	Vegetables fruits & nuts	Others	Total
SC	58.50	6.94	1.16	0.38	33.01	100.00
ST	68.53	6.70	0.64	3.91	20.21	100.00
OBC	56.80	6.75	0.65	3.09	32.72	100.00
OTHERS	68.26	5.68	4.44	3.62	18.00	100.00
TOTAL	64.86	6.12	2.96	3.24	22.82	100.00

Source: Panda and Chavan, 2004.
Note: ST, SC and OBC denote Scheduled Tribe, Scheduled Caste and Other Backward Caste respectively. Others denote all castes excluding ST, SC and OBC.

In case of sugarcane, SC, ST and even the OBC groups allocated 0.6-1.2 per cent of the total area under their cultivation, while "others" allocated as much as 4.4 per cent of their total area to sugarcane. As a result, the backward groups together accounted for less than 10 per cent of the area under sugarcane as against their share of about 40 per cent in total gross crop area in the state (Table 15). Given the small share of ST, SC and OBC groups in the total area under sugarcane, these social groups have benefited only marginally from sugarcane production.

In order to further examine the cropping pattern aspect by land size, we look at the distribution of area under various crops by both land size and social groups in Table 16. Taking all the social groups together, one finds that the marginal and small farmers allocated relatively more area to foodgrains and less to oilseeds compared to their share in the total cultivable area. Marginal and small farmers among ST, SC or OBC groups hardly cultivated sugarcane, their combined share being less than 1.5 per cent of the total sugarcane area. But, marginal and small farmers among the "others" category accounted for as much as 36 per cent of the sugarcane area which is larger than the total area cultivated by them. Similarly, while 11.7 per cent of the area under fruits and vegetables was cultivated by farmers with less than 1 hectare of land, only 1.5 per cent of this was cultivated by farmers belonging to ST, SC and OBC groups.

Table 15
Distribution of Area under Crops by Social Groups, 1998-99

	Estimated per cent of households	Percentage of Gross Area Under Crop Cultivation					
		Food grains	Oilseeds	Sugar-cane	Vege-tables fruits nuts	Other crops	Total gross cropped area (ha)
SC	18.76	8.09	10.18	3.52	1.05	12.98	7.26
ST	11.21	9.40	9.74	1.94	10.74	7.88	8.86
OBC	16.02	19.49	24.53	4.87	21.22	31.92	24.29
OTHERS	54.01	63.01	55.55	89.68	66.98	47.21	59.58
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Panda and Chavan (2004).
Note: Other crops = Mixed crop, fodder, other cash crops and others.

It should be noted that the top 10 sugarcane producing districts (Ahmednagar, Beed, Kholapur, Latur, Nashik, Osmanabad, Pune, Sangli, Satara and Sholapur) accounted for 42 per cent of the rural population of the state, but 45 percent of the rural SC population of the state. This indicates that SCs residing in these areas are either landless or are not able to grow sugarcane due to various bottlenecks. These 10 districts were also home to 24 per cent of the rural ST population of the state, but 60 per cent of these were in the single district of Nashik indicating that the remaining nine districts accounted for less than 10 per cent of the rural ST population in the state. This indicates that STs largely reside in areas where absence of irrigation and other facilities is not conducive for sugarcane cultivation. In fact even in Nashik the

tribal population is likely to be concentrated in *talukas* where less of sugarcane or other value addition horticultural crops are grown.

Table 16
Distribution of Area under Cultivation by Land Size and Social Groups, 1998-99

Caste Caste	Land Owned (ha.)	Estimated No of households	Percentage of Gross Crop Area Under Cultivation						
			Foodgrains	Oilseeds	Sugarcane	Vegetables fruits nuts	Other crops	Gross Crop area (All crops)	Gross Irrigated area
ST	<0.01	3.98	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	0.01-1.00	4.00	1.41	1.29	0.00	1.36	0.70	0.98	0.73
	1.01-2.00	1.59	2.6	3.20	0.00	1.46	1.83	2.10	1.57
	>2.00	1.64	5.39	5.26	1.94	7.92	5.35	5.78	3.28
	Sub-total	11.21	9.41	9.75	1.94	10.74	7.88	8.86	5.58
SC	<0.01	7.83	0.05	0.00	0.00	0.00	0.06	0.03	0.00
	0.01-1.00	7.58	1.9	1.11	0.51	0.29	1.68	1.23	0.73
	1.01-2.00	1.90	2.44	2.31	0	0.48	3.67	1.65	0.89
	>2.00	1.45	3.71	6.75	3.01	0.27	7.57	4.35	2.96
	Sub-total	18.76	8.10	10.17	3.52	1.04	12.98	7.26	4.59
OBC	<0.01	5.14	0.04	0.00	0.00	0.00	0.00	0.03	0.00
	0.01-1.00	4.72	1.97	1.65	0.3	0.82	1.94	1.86	1.26
	1.01-2.00	2.57	3.52	3.58	0.54	1.71	4.45	2.87	2.43
	>2.00	3.60	13.97	19.31	4.03	18.68	25.53	19.53	16.26
	Sub-total	16.03	19.50	24.54	4.87	21.21	31.92	24.29	19.95
Others	<0.01	13.65	0.12	0.00	0.00	0.00	0.01	0.02	0.00
	0.01-1.00	21.62	8.71	5.17	14.07	9.17	4.41	7.28	6.93
	1.01-2.00	8.54	13.51	9.14	21.90	14.94	9.47	12.43	14.50
	>2.00	10.19	40.67	41.25	53.71	42.87	33.32	39.85	48.46
	Sub-total	54.00	63.01	55.56	89.68	66.98	47.21	59.58	69.89
All	<0.01	30.6	0.21	0.00	0.00	0.00	0.07	0.08	0.00
	0.01-1.00	37.91	13.99	9.22	14.89	11.65	8.74	11.36	9.65
	1.01-2.00	14.60	22.06	18.22	22.44	18.6	19.43	19.04	19.39
	>2.00	16.88	63.73	72.56	62.68	69.75	71.76	69.51	70.96
	Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Panda and Chavan, 2004.

The NSSO dataset for the 54th Round also gives information regarding irrigated area and one finds that availability of irrigation facilities is unevenly distributed across social classes. The "ST-SC-OBC" group cultivates about 40 per cent of the total gross cropped area, but possesses only 30 per cent of the total gross irrigated area. Thus, the ST-SC-OBC group has less access to irrigation facilities as compared to the "others". Under these conditions the poverty reducing effect of high value added crops like fruits and vegetables or sugarcane seems to be limited. This point obviously

needs further detailed investigation so as to throw light on the constraints faced by the socio-economically backward classes.

Industry

Sub-sector specific kinked exponential growth in industry shows that the components of mining and quarrying, manufacturing (both registered and unregistered) and electricity, gas and water supply showed a decline whereas construction showed an increase in the period 1993-94 to 2003-04, but the decline in manufacturing (particularly registered) and electricity gas and water were statistically significant (Table 17).

Table 17
Sub-sector wise and Period-wise Kinked Exponential Growth Rate in Maharashtra's Industry, 1980-81 to 2003-04

	1980-1 to 1992-3	1993-4 to 2003-4	
Mining & Quarrying	5.98	5.10	
Manufacturing	7.43	3.56	*
Registered	7.40	2.63	*
Unregistered	7.48	5.67	
Construction	3.48	3.81	
Electricity, Gas & Water	8.94	3.61	*

Source and Note: As in Table 3.

The share of industry to total GSDP has declined in recent years (1993-94 to 1995-96 and 2001-02 to 2003-04) (Figure 1 and Table 18). Taking the first and the last three years of this period one observes that all the sub-sectors of industry except for mining and quarrying showed a decline in their share to GSDP. The mining and quarrying, unregistered manufacturing, construction and electricity, gas and water supply sub-sectors show an increase in their share to total industry.

Between 1993-94 and 1999-2000 estimates from the state NSS sample show that the share of workers in industry remained at about 16 per cent. Within industry there was an increase of 3 percentage points in the share of workers in construction, but this was quite striking in rural areas where the increase was by more than 13 percentage points (Table 19). Correspondingly, there was a large decline in the share of workers in manufacturing. In fact, at an aggregate level, the absolute number of workers in

industry declined in rural areas and this was true for both mining and quarrying and manufacturing.

Table 18
Sub-sector of Industry Share to GSDP and Share to Total Industry
1993-94 to 1995-96 and 2001-02 to 2003-04

	Share to GSDP		Share to Total Industries	
	1993-94 to 1995-96	2001-02 to 2003-04	1993-94 to 1995-96	2001-02 to 2003-04
Mining & Quarrying	0.7	0.8	2.0	2.8
Manufacturing	25.6	21.4	75.7	73.3
Registered	17.4	14.0	51.4	47.9
Unregistered	8.2	7.4	24.2	25.5
Construction	4.7	4.5	13.9	15.4
Electricity, Gas and Water	2.8	2.5	8.4	8.5
Total Industry	33.8	29.2	100.0	100.0

Source: As in Table 3

Table 19
Share of Workers Across Sub-sectors of Industry, 1993-94 and 1999-2000

	Rural		Urban		Total	
	1993-94	1999-2000	1993-94	1999-2000	1993-94	1999-2000
Mining & Quarrying	4.5	4.8	1.1	1.4	2.1	2.3
Manufacturing	70.2	54.8	69.1	70.4	69.4	66.6
Elect, Gas & Water	3.0	4.8	2.5	1.4	2.7	2.3
Construction	22.4	35.5	27.3	26.8	25.9	28.9
Total Industry	100.0	100.0	100.0	100.0	100.0	100.0

Source: Government of Maharashtra (2003)

In recent years, one observes that Maharashtra's share in Indian industry in terms of number of factories, number of workers and net value added have been declining (Table 20). The share of invested capital and the share of wages to workers have remained at nearly one-fifth of the all-India average. Between 2001-02 and 2003-04 Maharashtra was the destination for Rs. 8,859 crores of foreign direct investment (FDI), which is about 19 per cent of the FDI inflow to India during that period. A recent study (Burange, 2004) states that there has been a shift from consumer goods to capital and intermediate goods. The share of agriculture related industries in total industrial employment, value of output and net value added has been declining. In the post-liberalisation period (1991-92 to 1997-98) as compared to the pre-liberalisation

period (1980-81 to 1991-92) there has been relatively higher growth in employment, value of output and gross fixed capital, but relatively lower growth in increases in real wage and total factor productivity.

Table 20
Maharashtra's Share in Indian Industry

	1980-81	1990-91	1999-2000	2000-01	2001-02	2002-03
Number of Factories	14.83	14.15	14.45	14.11	13.89	13.73
Invested Capital	15.41	18.16	18.48	18.12	17.34	18.65
Number of Workers	16.18	14.40	13.60	13.32	13.70	13.46
Wages to Workers	19.02	21.67	20.12	19.54	20.30	18.48
Net Value Added	20.58	23.30	22.32	21.77	20.37	20.26

Source: *Economic Survey of Maharashtra 2004-05 and other years*

One also observes that the industrial production scenario in Maharashtra has been shifting towards refined petroleum, rubber and plastic products, food, beverages and tobacco products and furniture (Table 21). There has been a decline in the absolute amount of value addition for textiles and others. Broadly, one observes an inverse relationship in the ordered ranks of wage as per cent of value added and the industry's share of total value added. There seems to be a shift away from labour-intensive industries like textiles towards capital-intensive industries like refined petroleum, rubber and plastic products.

Table 21
Sectoral Composition Within Industry and Wage Intensity, 1993-94 and 2003-04

Industry	1993-94			2003-04		
	Value Added	Share in Total Indus-try's Value Added	Wage as per cent of Value Added	Value Added	Share in Total Indus-try's Value Added	Wage as per cent of Value Added
Refined Petroleum, Rubber & Plastic Products	1914	9.9	6.4	9038	25.7	4.2
Chemicals & Chemical Products	4252	22.0	11.7	7157	20.4	12.2
Machinery & Equipments	2984	15.4	19.1	4879	13.9	19.2
Food, Beverages & Tobacco Products	874	4.5	25.8	3716	10.6	22.3
Transport Equipments	1392	7.2	25.7	3057	8.7	22.3
Textiles	1689	8.7	36.5	1453	4.1	50.7
Furniture	25	0.1	25.6	1063	3.0	25.2
Others	5645	29.2	21.4	3747	10.7	23.6
Total	19355	100.0	19.2	35149	100.0	16.5

Source: *Economic Survey of Maharashtra, 2004-05* and other years.

Services

The sub-sector specific kinked exponential growth in services shows mixed results (Table 22). Transport and allied activities (particularly communication) and public administration show a significant increase whereas other means of transport after excluding railways and banking and insurance show a significant decline in the recent period. The buoyancy in the service sector in during 1993-94 to 2003-04 when compared with 1980-81 to 1992-93 is evident

Table 22
Sub-sector wise and Period-wise Kinked Exponential Growth Rate in Maharashtra's Service Sector, 1980-81 to 2003-04

	1980-1 to 1992-3	1993-4 to 2003-4	
Transport & Allied	6.59	9.20	*
Railways	3.71	4.99	*
Other Transport	7.18	5.17	*
Communication	6.57	15.88	*
Trade, Hotel/Restaurant	6.44	6.66	
Banking & Insurance	14.13	8.42	*
Public Administration	3.13	4.14	*
Other Services	6.03	6.17	

Source and Note: As in Table 3.

Figure 1 and Table 23 show that the share of services to total GSDP increased has in recent years. When one observes each sub-sector's share to GSDP and to that of the total services in trienniums ending 1995-96 and 2003-04, the increases can be largely identified with communication and other services. The trade, hotel and restaurant and banking and insurance sub-sectors show an increase only in their share of GSDP.

Between 1993-94 and 1999-2000, estimates from the state NSS sample show that the share of workers in services increased by only 3 percentage points from 24 per cent to 27 per cent. This was largely urban because the absolute number of workers in services in rural areas declined. Within services there was an increase in absolute number of workers only for trade and allied activities. This explains the large increase in the share of workers under trade and allied activities in rural areas (Table 24). At an overall level, the share of workers decreased only for other services. The increase for trade and allied activities by more than 5 percentage points is the highest.

Table 23 Sub-sector of Services Share to GSDP and Share to Total Services 1993-94 to 1995-96 and 2001-02 to 2003-04				
	Share to GSDP		Share to Total Services	
	1993-4 to 1995-6	2001-2 to 2003-4	1993-4 to 1995-6	2001-2 to 2003-4
Transport & Allied	8.3	11.5	17.4	20.3
Railways	0.9	0.9	1.9	1.6
Other Transport	5.0	4.9	10.5	8.6
Communication	2.4	5.7	5.0	10.1
Trade, Hotel & Restaurant	11.6	13.2	24.4	23.3
Banking & Insurance	13.1	14.2	27.5	25.2
Real Estate & Allied	5.8	5.5	12.1	9.7
Public Administration	3.4	3.8	7.2	6.8
Other Services	5.4	8.3	11.4	14.7
Total Services	47.6	56.5	100.0	100.80
Source: As in Table 3.				

Table 24 Share of Workers Across Sub-sectors of Services, 1993-94 and 1999-2000						
	Rural		Urban		Total	
	1993-4	1999-2000	1993-4	1999-2000	1993-4	1999-2000
Transport & Communication	13.1	10.8	15.1	16.2	14.5	14.9
Trade & Hotel	25.2	39.2	35.7	38.2	32.8	38.5
Finance & Insurance	5.0	1.9	7.9	10.2	7.1	8.2
Other Services	56.6	48.0	41.2	35.4	45.5	38.5
Total	100.0	100.0	100.0	100.0	100.0	100.0
Source: Government of Maharashtra, 2003.						

OTHER RELATED ISSUES

We now briefly discuss two other related issues, (i) growth potential of the state in the medium run and (ii) the role of public welfare programmes in poverty reduction.

Growth Potential

Being a state with very well developed regions, Maharashtra continues to attract a large volume of investment. About 12,000 projects with an investment of Rs. 260,000 crores were registered with the government of India during 1991 and 2004.[12] About 46 per cent of these projects involving 33 per cent outlay have started production and

[12] Data in this paragraph are from the *Economic Survey of Maharashtra, 2004-05*.

another 12 per cent projects are under execution. The sectors which have attracted major investments are chemicals and fertilisers, metallurgy, food processing, textiles, IT and engineering (in this order). Maharashtra accounted for 17 per cent of the total investment in the country during 1991-2004. This percentage was larger than its share in GDP and indicates not only the relative attractiveness of the state for industrial investment but its growth potential too. Another indication can be seen from the fact that Maharashtra has been the most favoured destination for foreign direct investment (FDI) among the Indian states with a share of 21 per cent of such investment in the country since 1991. The services sector in the state received 24 per cent FDI followed by IT (21 per cent) and infrastructure (12 per cent). While these developments point towards a better than average growth potential of the state, the regional spread of industrial locations is likely to get more concentrated. The Vidharba region for example receives only 10 per cent of industrial investment, while Konkan (including Mumbai) and Pune regions receive 52 and 25 per cent respectively. Thus, opportunities for diversification of income in the poor regions is not likely to expand much through the normal growth process except for those who are able to migrate to the developed Mumbai-Pune belt. A large majority of the poor would need to depend on supplementary employment generation measures and this brings us to public employment.

Public Employment Programmes

The Maharashtra Employment Guarantee Scheme (MEGS) has been in operation since the mid-1970s and has attracted wide policy attention. The programme generated 19.4 crore man-days of employment with an expenditure of Rs.1,080 crores during April-December 2004 implying an expenditure of Rs. 56 per man-day. The number of labourers attending MEGS was only 4.8 lakh per day which is small compared to the need. Unemployment rates in rural areas were 6.5 per cent in 1999-2000 as per current daily status. Utilising this number and workforce data from the census, a rough estimate of the number of job seekers in rural Maharashtra turns out to be 18 lakh in 2001. The recent national employment guarantee bill passed by Parliament could make a difference when implemented over the entire country. Given the current size of MEGS, the programme has largely been successful as a relief measure, but not as a poverty eradication measure. Further, the recent introduction of

horticulture schemes (mostly in Coastal Regions) in individual household farms under MEGS has been successful from the productivity point of view (Vatsa, 2005).

Division-wise expenditure under MEGS in the last four years, as also the average for the last 10 years, shows that the share of the Inland Central Region (Aurangabad division) in total MEGS expenditure has been consistently higher than its share of rural population and also higher than its share of rural poor (Table 25). As discussed earlier, the share of poor in the NSS regions of Eastern, Inland Eastern, Inland Central and Inland Northern is higher than their share of the population, but MEGS expenditure is higher than the share of poor only in Inland Central, a drought prone region. It should be noted that the Inland Central Region had the highest reduction in poverty in the 1990s. Between 2000-01 and 2003-04, there was no single year when expenditure under MEGS was higher than the share of rural poor in Eastern, Inland Eastern and Inland Northern Regions. In fact, the share of the two latter regions has been declining. In Wardha district under the Inland Eastern Region there has been virtually no expenditure under MEGS, except for establishment expenses in 2003-04. Ironically, expenditure under MEGS has been greater than its share of rural poor in the Coastal Region during 2000-01 to 2002-03 and also in the Inland Western Region in 2003-04.

Item-wise MEGS expenditure, aggregated for four years (2000-01 to 2003-04), shows that in comparison its share of the poor the Coastal Region has a relatively greater proportion of expenditure for Forestry and Horticulture; the Inland Western Region has proportionately higher expenditure for Agriculture, Irrigation, Jawahar Wells and Horticulture; and the Inland Central Region has proportionately higher expenditure under Roads, Agriculture, Irrigation, Forestry, and Jawahar Wells. In contrast, the Eastern, Inland Eastern and Inland Northern Regions have proportionately higher expenditure under Establishment. Notable region-specific MEGS expenditure with proportionately larger shares for the region are Horticulture in the Coastal Region (41 per cent), Agriculture in the Inland Western Region (36 per cent) and Irrigation in the Inland Central Region (53 per cent). These expenditure patterns under MEGS show that the Eastern, Inland Eastern and Inland Northern Regions have not benefited much from this scheme. This is indicative of the failure of public administration, political leadership and civil society.

Table 25
Year-wise and Item-wise Share of MEGS Expenditure Across NSS Regions of Maharashtra, 2000-01 to 2003-04 (%)

Year/Item	Coastal	Inland Western	Inland North-ern	Inland Central	Inland Eastern	Eastern	Maharashtra*	
Rural population, 2001	11.1	28.3	14.4	21.1	17.3	7.8	100.0	(5.6)
Rural poor, 1999-2000	8.8	13.7	18.8	21.3	23.2	14.2	100.0	(1.3)
Year								
2000-01	11.7	11.8	16.7	34.4	14.4	11.1	100.0	(540.8)
2001-02	9.9	11.3	15.2	39.9	12.6	11.1	100.0	(892.7)
2002-03	14.7	17	8.6	40.1	11	8.6	100.0	(865.1)
2003-04	5.2	37.8	5.1	34.9	6	11.1	100.0	(1039.4)
Item								
Roads#	11.5	12.8	14.4	38.0	13.0	10.3	100.0	(954.8)
Agriculture#	8.4	36.3	6.1	36.7	4.2	8.3	100.0	(929.9)
Irrigation#	0.3	17.2	7.7	53.4	6.5	15.0	100.0	(528.6)
Forestry#	10.7	10.6	13.7	33.2	17.9	14.0	100.0	(331.1)
Jawahar Wells#	7.0	20.5	14.4	25.7	21.6	10.7	100.0	(218.1)
Horticulture#	40.9	19.8	7.4	16.1	13.0	2.8	100.0	(211.9)
Establishment#	2.6	19.2	12.2	36.5	13.5	16.0	100.0	(86.7)
Miscellaneous#	5.3	20.4	19.1	43.1	5.9	6.3	100.0	(76.9)
Total#	10.0	21.1	10.6	37.5	10.4	10.5	100.0	(3338.0)
Total, 10 years$	10.4	21.5	9.8	35.8	11.4	11.1	100.0	(5523.4)

Source: For rural population, Census of India 2001; for share of rural poor, Table 8 above; and for MEGS expenditure, communication from Mantralaya, Mumbai, facilitated through Secretary, Relief & Rehabilitation.
Note: * Figures in parentheses indicate total. For expenditure under MEGS it excludes certain miscellaneous expenditure at the aggregate level for the state. # Item-wise as well as total expenditure has been combined for four years: 2000-01 to 2003-04. $ Total 10 years data are average for 1994-95 to 2003-04.

Despite interventions through MEGS and other programmes, a recent study by Panda and Mishra (2005) based largely on below poverty line households in two districts (one in the NSS Coastal Region and the other in the NSS Inland Eastern Region), indicates that 42 per cent of the poor households were faced with a situation where all family members did not get two square meals a day at some time or the other during the year.[13] This survey was designed to choose 80 per cent poor households in the sample in areas that might be characterised as less than average developed. Adjusting for this, one gets roughly 6-8 per cent rural households facing food shortages at some time or the other during the year. This figure is in sharp contrast to seasonal hunger incidence of 7 per 1,000 rural households in the state reported by NSSO data for

[13] The situation was more severe in Jawhar, a tribal *taluka* in Thane (NSS Coastal Region) where 56 per cent of the households faced food shortage.

2001-02 (57th round.).[14] Across seasons, vulnerability was higher during the monsoon months. Many of the food insecure households resorted to migration to make both ends meet. This also effected their utilisation of benefits from public facilities like Anganwadi and schools that existed in their villages. One also observed non-payment of wages under public works and denial of food subsidies by not providing appropriate ration cards. There were also instances of some success stories. For instance, the "Wadi Project" (horticulture development) linked with MEGS and other programmes lead to improved livelihood opportunities.

In recent years, the centrally sponsored Sampoorna Grameen Rozgar Yojana (SGRY) has been a major public employment programme targeted at the poor. The employment generated under SGRY was 6.3 crore man-days during 2002-03 in Maharashtra. Wages were paid in both cash and kind (foodgrains) under this programme. A recent evaluation of SGRY in Maharashtra (Panda *et al.*, 2005) found that the food-for-work component of SGRY had a mixed success record. Most of the beneficiaries were likely to be around or below the poverty line, but there were some deviations indicating failure of targeting. Average employment available to a beneficiary under SGRY was about 30 days in a year, but some beneficiaries did not get work for more than a week. There was lack of peoples' involvement in identifying beneficiaries and undertaking works useful for the village. Most respondents reported that foodgrains received were of good or average quality. But the beneficiaries did not receive foodgrains or wages in time. Poor maintenance of records is a larger issue. Given the objective of supplementing the earning opportunity for the poor during the lean season and natural calamities, the size of SGRY should be flexible. This requires coordination between government officials, Panchayati Raj Institutions and local non-governmental organisations. Timing is crucial for the success of SGRY. Demand for regular public works is high during February to June so unless sufficient food and funds are available during these months, out-migration creating "footloose" labour with less bargaining power becomes a regular feature.

[14] See, *Economic Survey of Maharashtra, 2004-05*, p.226.

CONCLUSION

To conclude, Maharashtra is economically among the most developed states in the country. The state's economy grew faster than the national average in the 1980s but has slowed down to a bit lower than the national level growth since the early 1990s. While the slowdown period coincides with the post-liberalisation phase, we have not attempted to empirically examine whether such a slowdown is a consequence of the liberalisation process itself. *A priori*, one can raise points both in favour and against such an argument. The economy is witnessing considerable structural change and might be passing through a transition phase. Anyway, the magnitude of the slowdown is not large and the state's economy continues to grow at an average rate of above 5 per cent per annum.

Maharashtra does not have comparative advantage in agriculture as compared to the other states due to soil and climate conditions. About a third of the state falls under the rain shadow area and the gross irrigated area in the state constitutes only 17 per cent as compared to 41 per cent for India as a whole. Yields for several crops are law and agricultural growth rate as a result has not kept pace with the population growth rate since early 1990s. While agriculture now accounts for 12 per cent of GSDP, about 55 per cent of the total workers are engaged in this sector. Responding to its comparative advantage, the cropping pattern has been shifting from cereals to non-cereals cash crops. Sugarcane and horticulture were the major driving forces of agricultural income growth during the 1980s and 1990s. The benefits of growth have, however, not spread equally across social groups or regions, which partly explains the prevalence of high poverty in rural areas compared to other states with similar mean incomes. Despite these developments, rural poverty in the state has fallen due to a variety of factors like some reduction in the proportion of population dependent on agriculture, public employment prorammes and growth of non-farm income. There is need for more systematic data and analysis to conclusively comment on these factors.

Even though its per capita industrial production continues to remain high, Maharashtra's contribution to the total industrial income of the nation has fallen during the last decade. Shifts in the industrial production structure away from textiles

and towards petroleum and chemicals in the 1990s meant that the share of wages in industrial value added have been coming down. Similarly, newly emerging industries like information technology, information technology enabled services and bio-technology which have picked up considerably in recent years will mostly generate skilled and semi-skilled jobs in urban areas. Their impact on reducing poverty will mostly be felt indirectly.

Given current investment flows, the overall growth potential of Maharashtra does look bright for the medium run. But, distributional implications of the emerging growth pattern across sectors suggest that the poor might not benefit proportionately from the growth process. The much talked about Maharashtra Employment Guarantee Scheme (MEGS) has been successful as a relief measure with a greater presence in the drought prone districts of western Maharashtra and Marathwada. The horticultural intervention in individual farms has largely benefited marginal and small farmers in Konkan. In contrast, the poorer regions of Vidarbha and northern Maharashtra had expenditure under MEGS that is lower than their share of rural poor.

The lesson that Maharashtra provides is that growth has to be more broad-based and inclusive. Social welfare programmes like MEGS should be focused and designed to suit the local resource base of poorer regions for faster poverty reduction. This requires a combination of political will, bureaucratic enterprise and civil society participation. In Maharashtra, this combination has to go beyond Konkan and western Maharashtra.

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