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Discussion Paper

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**Rural Employment in India:
Current Situation, Challenges and
Potential for Expansion**

by

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Preface

The experience of countries that succeeded in reducing poverty significantly indicates the importance of high rates of economic growth in achieving this. High growth, however, is not a sufficient condition for poverty reduction; the pattern and sources of growth as well as the manner in which its benefits are distributed are equally important from the point of view of achieving the goal of poverty reduction. And employment plays a key role in that context. Indeed, countries which attained high rates of employment growth alongside high rates of economic growth are also the ones who succeeded in reducing poverty significantly.

Since July 1991, the Indian economy has witnessed a series of economic reforms, encompassing all major sectors of the economy (agriculture, industry, trade, foreign investment and technology, public sector, financial institutions and so on). These reforms favouring an export-linked development strategy mark a significant break from the import-substituting development strategy nurtured by the Indian planning regime since 1951. In this outward-looking approach, different sectors of the Indian economy are linked with the outside world, either through their direct involvement in international trade or through their indirect linkages with the export or import transactions of other sectors of the economy.

As this new policy regime is more than a decade old now, one can begin to assess the precise effects of the reforms on various segments of the Indian economy, and on people's working and general standards of living. In order to do so it becomes crucial to consider the issue of employment, especially from the point of view of poverty reduction. In this context, it is important to examine the rural employment situation because a vast majority of India's population still live in rural areas.

The present paper looks into some of the crucial dimensions of the changing employment scenario in rural India at the national as well as the state level. The paper compares the pace and pattern of rural employment growth during the 1990's (the decade of reforms) with the 1980's (the pre-reform decade), without of course making any attempt to ascertain which element of change has been caused by which specific policy change. In doing so, the paper attempts to figure out the challenges and threats, as well as the potential for employment expansion that lies ahead.

In terms of the all India pattern of rural employment, it is clear that there has been a sectoral shift, with the proportion of male workers engaged in the primary sector steadily declining from 83.2% in 1972-73 to 74.5% in 1987-88 and to 71.4% in 1999-2000. On the other hand the proportion of male workers in the secondary, tertiary and total non-farm sectors has witnessed a steady increase, for instance from 16.8% in 1972-73 to 25.5% in 1987-88 and to 28.6% in 1999-00 for all non-agricultural sectors. For females the trend in sectoral shift is less sharp in particular during the post-1987 years, indicating their relative inability to gain access to jobs in the secondary and tertiary sectors, which in turn is possibly due to the low level of their human capital index.

At the state level, the proportion of rural persons engaged in agriculture continued to decline fairly noticeably, in the states of Assam, Bihar, Himachal Pradesh, Kerala and Uttar

Pradesh, whilst in Gujarat, Karnataka and Maharashtra the proportion increased during the post-reform years. In terms of manufacturing the proportion of rural male as well as female workers declined or remained constant in a number of states in the post-reform years. Only in West Bengal, Kerala and Tamil Nadu and to a lesser extent, in Assam and Orissa did the number of rural works in the manufacturing sector increase. On the whole, it is clear that the process of structural transformation of the rural work-force in favour of non-agricultural jobs, reversed in some states during the post-reform decade and decreased in pace in others; only in a few states, did the shift from agriculture continue even after the reforms arrived.

The paper concludes that in overall terms, the rural workforce has been at a disadvantage; it gained relatively less in work-place increments and lost relatively more in work-place decrements. This is possibly due to the fact that the level of education is very low for rural workers, both in the farm and non-farm sectors as compared with urban workers. In years to come such low levels of education, training and skill capacities are likely to disadvantage rural workers even further. In this context the crucial role of education becomes evident whether towards the creation of additional avenues of self-employment in and outside agriculture, or for getting into wage-paid jobs in non-agricultural activities.

Finally, the post-reform years have witnessed a number of sectors that can be confidently looked at as future sources of rural employment expansion. At the national level a wide range of manufacturing activities stand out as the most promising ones. Yet, it cannot be ignored that the agricultural sector continues to absorb more than 70% of the rural workforce in the majority of states and that the need to strengthen the agricultural base remains. Thus the fact that the public sector's share of investment in agriculture and rural development has ceased to expand in recent years causing a slowdown in agricultural growth, agricultural productivity and rural employment remains a widespread concern.

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G. K. Chadha

I The Decade of Economic Reforms

Since July 1991, the Indian economy has witnessed a series of economic reforms, encompassing all major sectors of the economy (agriculture, industry, trade, foreign investment and technology, public sector, financial institutions, and so on); it has marked a steady break from the past policy regime. The import-substituting development strategy, hitherto nurtured by the Indian planning regime since 1951, was given up in favour of export-linked strategy; India could no more keep aloof from the rest of the world, particularly if technological advances occurring elsewhere were to be assimilated and adapted to India's own production requirements. And then came WTO on January 1, 1995 because of which India got further integrated into the global economic system, and became an adherent of the multilateral trade system. (It is beyond the purview of this paper to spell out details of the diverse sets of economic reforms coming up during the nineties; an excellent analytical account is available in Cassen-Joshi-Lipton, 1993: 172; Nayyar, 1993: 617, Chadha 1999: 883-85; 2001: 28-37).

It is nonetheless essential to say that in the post-Independence history of India's economic life, the nineties are a markedly different development decade where practically the whole of the old policy fabric that had doggedly endured itself since the beginning of the planning era in 1951, came under change. Foreign investment is now invited (perhaps competitively wooed!) by all regions of India, in a wide range of areas, most significantly, for removing the so-called infrastructural bottlenecks. Investment collaborations are negotiated by the hundreds. Technology import is no more a forbidden word. The public sector is 'shedding its unproductive weight' while the private sector, mature enough as it is believed to have grown by now, has entered some of those difficult and strategic areas that were once far beyond their investment capability. National priorities are now being worked out in terms of international market calculations; 'getting the prices right,' both nationally and internationally, is given out to be the infallible panacea for growth, employment and economic welfare. Exports and imports are now free of the regulations that were once taken to be a big hurdle in growth and trade expansion. In brief, every sector of the Indian economy is now attuning itself to the changing economic environment. The state itself is struggling to demarcate the balance between its development and welfare functions.

Every section of the Indian economy is now linked with the world outside, either through its direct involvement in international trade or through its indirect linkages with the export or import transactions of other sectors of the economy. The new policy regime is as much important, and relevant, to farmers, industrialists, traders and sundry service providers as to scientists, writers and singers. It needs hardly to be emphasized that all categories of economic functionaries engaged in production and services sectors have to adjust to the changing technology-intensive investment, production, labour management and marketing requirements, dictated partly by compulsions of internal competitions and partly by international commercial pressures. Production and marketing management now needs new visions, initiatives and networking, both at home and abroad. Concerns for environment, labour standards and product acceptability, etc. have acquired added significance. Human element becomes the kingpin, from the beginning to the end; the era of captive domestic market is over and with that, quality consciousness and price competitiveness become prime considerations, for staying on in the market.

To say the least, the days of protected domestic market are over. The challenge to the rural economy in general, and rural work force in particular, is all the more daunting. For example, even petty farm operators, producing exclusively for the domestic market, are getting linked to the international movement of input prices, just as their brethren engaged in tradable commodity production face more direct, and severe, earning swings under the new and volatile price regimes, exogenously imposed upon them. Similarly, even a small scale, family-based industrial enterprise in a village is bound to face a decline in its economic fortune if the demand for its products declines now that 'cheaper substitutes' are available through imports; alternatively, its production efficiency may improve now that raw material costs are lower under the open trade regime, or else, it is now ancillarized to an urban-based, modern industrial unit. The impact on people engaged in trade, banking and finance, the wide range of service activities, etc., can likewise be visualized, on short- as well as long-term basis. In sum, the whole economic system has to shake itself up to new realities and new exchange relations. Many of the old economic paradigms have to go and new rules of the game have to come in.

1.1 Employment under the Spell of Economic Reforms

The switchover from an inward looking, closed or import-substituting development strategy to outward looking, open or trade-linked strategy necessitates changes in policy perceptions, investment priorities and newer inter-sector linkages, all geared to gain competitiveness in the external trade sector. On a broad plane, *technology upgrading becomes the most inescapable and all-encompassing pre-requisite for 'staying in the game'*. While in some sectors or activities, technology-on-ground has to be straightened out, in terms of the conventional parameters (viz. introduction of new products, new inputs, new methods of using inputs, new marketing methods and strategies, etc.), in others it is the newer god of '*information technology*' that does the whole trick. And then, the people who can effectively grapple with the ticklish requirements of the new technologies, can no more be the lot of the uneducated, unskilled or untrained workers; the quality of manpower emerges as the most binding determinant of its effective participation in global trade, financial flows and investment opportunities. The quality of manpower, in turn, is a direct function of human resource development policies adopted over years.

To put the issue in disaggregated terms, it is essential to point out that for coping with the new production, product-quality, marketing, and net-working norms, all of which are indispensable complements of the open economic regime, the quality of workforce acquires supreme significance. In other words, *employment market too has to substantially reorient itself to new, and more stringent, recruitment standards; even for those aspiring to self-employ themselves, up-to-date knowledge of the trade and market net-working are as much inescapable pre-requisites as higher educational, training and skill accomplishments*. Never before did the Indian economy in general, or its rural counterpart in particular, face such labour market challenges as during the nineties or would face in the coming years. The dualism in the labour market is getting further sharpened. A market for educated, trained and skilled job aspirants, typically characterized by new and upcoming production/marketing/management standards, significantly higher levels of productivity, wage rates and earnings, etc., is steadily expanding simultaneously with sluggishness or a steady

decline in the job market for their less educated, semi- or un-skilled and untrained brethren. Employment prospects are thus getting brightened up for the more qualified while a squeezing scenario sets in for the untrained and the uneducated job seekers; differences in employment prospects get magnified between self-employment and wage-paid jobs, and still more significantly, between urban and rural areas. Rural job aspirants, especially females among them, suffer far more severe setbacks, primarily because of their own educational and skill deficiencies.

Now that the Indian economy has already lived through a full decade of the new policy regime, it is time to know the precise effects of the reforms implemented so far on various segments of the Indian economy; what directions the economy is likely to take; and how would people's working and general standard of living look like after a decade or so, are the questions that are yet to be answered with empirical firmness. *Central to all these questions is the issue of employment, especially from the point of view of poverty reduction through trickling down of the benefits of growth to the poor.* In this context, it is important to ascertain the direction in which the rural labour market is likely to move in the near future now that new technology, production, employment, trade and other policy regimes have taken roots in the Indian economy.

A number of studies on rural employment that have come up in recent years throw up many disturbing features. To say the least, the rate of growth of employment is reported to have slackened, in many segments of the rural economy, during the decade of reforms. For example, the report of the Planning Commission's Task Force on Employment Opportunities shows an absolute decline in the number employed in agriculture, between 1993-94 and 1999-2000, at the all-India level. This raises many important questions. A positive way of looking at it would be to see if the decline in agricultural employment has been due to a fast growth in modern non-agricultural sector employment. On the other hand, it could have been due to changes in agriculture, which are not conducive to employment expansion, irrespective of what has been happening on the non-agricultural front. In the latter case, the outcome is less positive in that one can expect to see large numbers being pushed out of agriculture and ending in low productivity non-agricultural activities as part of a mere survival strategy. Some studies also foresee a deleterious effect of competition arising out of economic liberalization, reflecting itself, *inter alia*, in closure of a large number of non-farm enterprises, especially in the rural areas. The present paper looks into some of the crucial dimensions of the changing employment scenario in rural India.

It would be naïve to attribute the changing pace and pattern of employment either to changes in domestic policy alone, or only to changing external trade regime; given the sequence and manner of policy changes that have been occurring during the nineties, the changes on the employment front must be attributed to both. It is possible, and in many cases is indeed the case, that under the ongoing politico-economic system, technological changes in a wide spectrum of production and service activities are propelled by domestic compulsions and supported by internal institutions, usually through public exchequer. For an economy that has started liberalizing its external trade and has had a long history of domestic policy regimes, it is difficult to isolate the technology- and employment-changing impact of the newly emerging open trade regime from such impacts occurring under the normal development process. Moreover, as we saw above, it is not the trade policy alone that has undergone a substantial reorientation; practically all other major policy spheres have also

been modified in conformity with the rules of the global economic system. For example, foreign investment, not necessarily as a constituent of the trade exchanges, is also welcome to India. If such investment comes into the specified sectors of the domestic economy, along with a committed package of capital goods, and production technology gets geared to international competitive standards, it is difficult to say that this has happened only because of the open trade regime; foreign direct investment too has made its impact. Examples of this kind can be multiplied. But then, it is really not very essential to work out precise magnitudes of individual impacts; it should be sufficient to acknowledge that opening the frontiers of the domestic economy to foreign trade, foreign finance, foreign investment and technical know-how (including collaborative and joint production ventures), etc., on the one hand, and reforming the domestic policy regime (*a la* tax structure and procedure, public sector financial institutions, input pricing and delivery systems, etc.), on the other, work in tandem to make a decisive impact on technology-in-use, in specified sectors/activities, which in turn, would make its impact on employment, not only in the specified sectors but every where else in the economy.

Following the above reasoning, the paper, therefore, looks at the pace and pattern of employment growth during the 1990s (henceforth the decade of reforms) in contrast to the 1980s (the pre-reform decade), without making any attempt to ascertain which element of change has been caused by which specific policy change. In other words, changes in employment that we observe during the nineties are interpreted as a fall-out of all policy changes that have been ushered in during the nineties, first in July 1991 under the package of economic reforms and then in January 1995 under the WTO obligations. Basing ourselves on the published NSS data, we look at the employment situation of the nineties in contrast to its counterpart during the eighties, and then attempt to figure out the challenges and threats, as well as the potential for employment expansion that lies ahead.

1.2 The Scope of the Study

The paper is divided into seven sections. After sketching out the chain, and nature, of economic reforms in Section I, Section II briefly introduces data sources and a few methodological adjustments that had to be effected in the NSS data to enhance their usability. Section III examines changes in labour force and work force participation rates by age group, person's sex and place of residence. The sectoral distribution of rural employment and the nature of employment that has been available to rural workers both at the national and state-level, during the 1970s, 1980s and 1990s, are also examined in Section III. Based on the NSS data, both at the national and the state-level, Section IV throws bare the changes in employment growth rates and associated developments between 1993-94 and 1993-94/1999-2000. The post- and pre-reform contrasts are brought forth for each of the seventeen major states, separately for male and female workers, in respect of major production sectors; sectoral deployment of the incremental work force during the post- and pre-reform years is also analysed in this section. Section V looks into the educational background of rural workers, with the particular intention to see what proportion of the educated rural job aspirants get absorbed in agriculture itself, especially in the post- compared with the pre-reform phase. Section VI explores the behaviour of investment, especially public investment, in relation to agricultural growth and employment, especially the changing relationships among these

macroeconomic variables that may have come up during the post-reform years. Finally, Section VII indicates the broad directions in which future employment strategies should go.

II Data and Concepts

Although we draw upon more than one source of data, yet, in the main, we base our analysis on National Sample Survey (NSS) data, gathered over different rounds. We do so primarily because, for delineating temporal changes, the NSS data are the best to draw upon. Comparable NSS data on employment are available for five points of time: 27th round (covering October 1972- September 1973), 32nd round (July 1977- June 1978), 38th round (January-December 1983), 43rd round (July 1987 - June 1988), 50th round (July 1993- June 1994) and 55th round (July 1999 – June 2000). It is thus the time profile of the NSS data alone that can take us as far back as 1972-73 and bring us as close to the present times as 1999-2000. We use different rounds of NSS data, in varying combinations. More expressly, to see through the pre- and the post-reform contrasts in employment growth and structure, we use NSS data for 1983, 1993-94 and 1999-2000; the period 1983/1993-94 surrogates the pre-reform years while the period 1993-94/1999-2000 is expected to capture the changes brought about by economic reforms. The intermediate data set for 1987-88 is not used firstly because, weather-wise, the year was not a normal one and was likely to throw up avoidable distortions in rural employment scenario many times more than in the urban areas, and secondly, because the pre-reform period need not be shortened to 1987-88/1993-94 when data for 1983 are available. The other secondary data sources, used for a limited purpose, are population census data for 1981, 1991 and 2001, and economic census data for 1980, 1990 and 1998. For a brief look at the quality of rural workforce, we draw upon our own primary survey data gathered during April-June 2000. It may be in the fitness of things to take note of the concepts used, and some adjustments made, in the NSS data. The first most part of our analysis uses the usual (principal + subsidiary) status data. For paucity of space, we did not work out weekly and daily status estimates although these are important in their own right, and are capable of throwing up supplementary insights.¹ Second, while the NSS data do show what percentage of rural workforce is engaged in different gainful activities or what is the share of rural workers in total workforce under each production sector, they provide no straight clue on whether a particular source of employment is in the rural, semi-urban or urban areas. In other words, all references to rural employment imply such employment for rural workers/households, not necessarily located in the rural areas themselves. Third, it has been pointed out in recent studies (Sundaram, March 2001:931-32; August 2001: 3039) that the NSSO estimates of total workers need to be revised, in tandem with those thrown up by the population census data, besides effecting sectoral alignments/clubbing to make data comparable. Accordingly, following the Sundaram methodology, we computed afresh the absolute number of workers

¹ The status of activity on which a person spends relatively longer time of the preceding 365 days from the date of survey is considered as the principal usual status activity of the person. A person categorized as a non-worker who pursued some economic activity in a subsidiary capacity is called a 'subsidiary status worker'. These two groups, viz. principal status workers and subsidiary status workers together constitute 'all workers' according to the usual (principal + subsidiary) status classification.

According to the current weekly status criterion, a person is classified as employed if he/she, while pursuing any economic activity, had worked for at least one hour on at least one day during the 7 days preceding the date of survey. Finally, the current daily activity status for a person is determined on the basis of his/her activity status on each day of the reference week preceding the date of survey (Govt. of India, 2001:9-11).

for 1983, 1993-94 and 1999-2000 and growth rates and associated changes were then based on these very estimates. For the record, using decade-wise compound growth rates, separately for rural and urban population, the rural and urban population was interpolated as on July 1, 1983, January 1, 1994 and January 1, 2000, to align it with NSS estimates for 1983, 1993-94 and 1999-2000. Employment growth rates and associated changes were then computed for the pre-reform (1983/1993-94) and post-reform years (1993-94/1999-2000) with the revised sets of absolute figures. Fourth, growth rates were computed on a point-to-point basis for the pre-reform (1983/1993-94) and post-reform (1993-94/1999-2000) periods. Admittedly, the intervening time point of 1987-88, if included, would have given a different set of growth rates. However, for reasons explained elsewhere, 1987-88 was not included. Finally, unlike other NSS rounds, the 1983 round gave most of the information in respect of persons aged 5 years and above. Consequently, the exclusion of 0-5 age group from the 1983 NSS round rendered labour- and work- force participation rate for this round non-comparable with their counterparts for other rounds. This comparability, especially at the state-level, is ensured by considering all age groups (including 0-5 years in 1983) for each round of NSS data.

Given the size and regional diversity in resource structure, technology-in-use, and agricultural growth, the employment changes observed at the all- India level are likely to hide wide state-level variations in farm and non-farm employment in rural India; accordingly, the state-level picture for 17 major states of India, is also sketched out, for as many aspects of employment changes as the available data permit. Further, to see whether agriculture still occupies the central position in rural employment, and that the growth impulses widely discernible across the regions during the late seventies and the eighties, were still in position during the nineties, changes in agricultural growth and employment is seen in relation to the changing level and composition of investment; the quantum of public investment need to be analysed in particular.

To understand the employment changes in the rural areas in the total context of the Indian economy, in most of the tables, estimates are given separately for rural and urban areas. Again, to verify the validity or otherwise of the commonly held belief that the new production and exchange regimes coming up partly due to domestic economic reforms and partly under the pressure of increasing globalization of the Indian economy, have put female workers, most markedly the rural females, to greater disadvantage, employment estimates are given separately for male and female workers, both for rural and urban areas.

III Structure and Mode of Employment

One can look into the changing levels and pattern of rural employment in many different ways, depending on the type of data available and the precise questions that one has in mind. For example, one can look into the size of the labour force, in relation to different age groups, to see if child labour is increasing, in the post-reform years. One can look into the mode of employment to verify if casualisation of labour in general, and of rural areas in particular, is on the increase. A look at the sectoral distribution of workforce would inform us of the declining and expanding avenues of employment for rural workers; perhaps, a detailed

classification of production/service sectors would throw up more firm empirical clues about the emerging 'trouble spots' or 'cheering corners'. Likewise, an examination of the sector-wise deployment of the incremental workforce would inform us about the relative sufferance or gains of rural workers when the labour market is under transition to new work methods, recruitment norms and performance standards. One can also look into the changing employment, labour productivity and wage rate scenarios within a specified production sector, say, rural manufacturing, to speculate about the future of rural industrialization in India; allied to such inquiries, one can further address oneself to questions on the quality of employment, work conditions including the associated economic benefits, male-female wage differentials, and so on. The ambit of inquiry can thus be extended to numerous directions and diverse searching questions. In a single paper, one can hardly do all this. In what follows, we dwell upon only a few employment issues which, in our opinion, are more germane in the context of economic reforms and the changes unleashed by them in recent years. Let us begin with changes in labour- and workforce participation rates.

3.1 Labour- and Work-force Participation Rate

Table 1 throws up many crucial features. First, in recent years, there is a small decline in the proportion of rural persons offering themselves for work; for them, the labour force participation rate (LFPR) has declined from 44.9 per cent in 1993-94 to 42.3 per cent 1999-2000 while for their urban counterparts, it has declined feebly from 36.3 per cent to 35.4 per cent. The decline in the overall LFPR in rural India is clearly contributed by a varying degree of decline by persons in the age-groups 10-14 years, 15-19 years and 20-24 years, rather than by persons in higher age-groups. For example, the LFPR declined sizeably from 14.1 per cent in 1993-94 to 9.4 per cent in 1999-2000 for the age-group 10-14 years, from 49.5 per cent to 43.1 per cent for the age-group 15-19 years, and from 67.9 per cent to 64.8 per cent for the age-group 20-24 years; the corresponding declines in the urban areas have been of much lower magnitudes. Second, it is interesting to see that the decline in the LFPR has taken place, in varying degree, among different age-groups, both among male and females. In other words, the small degree of withdrawal from the rural labour market is not confined to males or to females. This is true of urban India as well.

Second, the relatively higher decline in LFPR for the age-groups 10-14 years (grown up children) and 15-19 years (young adolescents) lends itself to varying interpretations. Is it that, in recent years, rural incomes have been rising or rural poverty has been declining, so that more and more of rural households, especially at the lower end of the income spectrum, have started sending their children and young adolescents to schools, colleges and other training institutions? Or is it that the labour market flexibility, coming in as a by-product of the globalization of the economy, is inflicting job contractions across the board, and adults are replacing the child and young adolescent workers? Still more, is it that capital-deepening technology with its child labour augmenting effects is yet to overtake the labour-intensive technology under which the adults, endowed with maturity and higher skills, have more chances to stay on, in their pre-existing jobs? With secondary data, all these questions cannot be answered with the needed degree of firmness. Nonetheless, a few conjectures may be in order.

Looking at the age-group specific declines in LFPR in conjunction with the corresponding increases in attendance in educational institutions, it seems the hypothesis of

withdrawal of children/adolescents from the labour market, in favour of education, deserves to be accepted. There is no other convincing explanation for the proportion of the school-going rural children in the age-group 10-14 years to increase from 65.3 per cent in 1993-94 to 71.1 per cent in 1999-2000, and for their adolescent counterparts in the age-group 15-19 years to increase from 28.7 per cent to 34.2 per cent. A mild increase is occurring even in the next age-group (namely 20-24 years). An especially redeeming fact is that the proportion of school-going rural females, both among the children and young adolescents, has increased by higher percentage points (8.9 and 6.8 per cent, respectively) compared with their male counterparts (3.4 and 4.5 per cent, respectively). Again, the fact that similar trends, although with differing magnitudes, have been in evidence during the pre-reform years (1987-88 to 1993-94) also, lends further weight to the withdrawal-from-labour-market-in-favour-of-school hypothesis.

Third, the work force participation rate (WFPR), which we define as workers in relation to labour force, does not throw up disturbing signals in general; it really seems, there is not much change in the proportion of those seeking work actually getting the same. For example, in rural India, 98.9 per cent of the labour force became work force in 1993-94 while in 1999-2000, this happened for 98.6 per cent of the rural labour force. Nearly the same tendency is discernible for rural males and females. A slight decline in WFPR may better be noted in respect of rural children and young adolescents, especially for the latter group where it declined from 98.0 per cent in 1993-94 to 95.4 per cent in 1999-2000. The decline during 1993-94/1999-2000 for the young adolescents must however be seen in conjunction with the rise from 95.7 per cent to 98.0 per cent during the pre-reform years (1987-88/1993-94). There is no such alternating pattern either for children (age-group 10-14 years) or for young adults (age-group 20-24 years). Interestingly, a very similar trend is discernible for the urban areas, both for the post- as well as the pre-reform years.

In total terms, one is, therefore, persuaded to believe that the recent years do not seem to have caused a big decline in WFPR; practically, labour force in each age-group has suffered a very small, perhaps a negligible, decline except for those in the age-group 15-19 years, both in the rural and urban areas; nonetheless, the NSS data do give a nodding signal that young adolescents, comprising as they do school drop-outs, job aspirants with little or no experience, low level of training, not-yet-mature to grasp the nuance of the newer and exacting jobs, etc., have started experiencing difficulties in the labour market, both in the rural and urban areas. Incidentally, it is essential to keep in mind that a very small decline in WFPR for some age-groups and a negligible decline for others, does not rule out the worsening of employment situation, from other angles, especially slow-downs in employment growth rates; as we see later in the paper, much depends on the increase or decrease in the absolute number of workers engaged in different sectors of the rural economy.

3.1.1 State-wise Labour- and Work-force Participation Rate

The state-wise picture on labour- and workforce participation rate is given in Table 2. A few important changes deserve to be highlighted. First, in fourteen of the seventeen states, LFPR for rural persons witnessed a varying degree of decline during the post-reform years; LFPR increased from 40.9 per cent in 1993-94 to 42.2 per cent in 1999-2000 in Kerala, from

39.7 per cent to 41.7 per cent in Punjab and from 49.2 per cent to 50.1 per cent in Gujarat. In sharp contrast, the pre-reform decade (1983/1993-94) witnessed a varying degree of decline in LFPR only in six of the seventeen states. In some of the states, the post-reform decline was of a fairly sizeable magnitude, for example, from 50.2 per cent to 44.8 per cent in Rajasthan, from 55.6 per cent to 50.9 per cent in Himachal Pradesh, from 38.1 per cent to 34.8 per cent in Uttar Pradesh, from 52.1 per cent to 49.1 per cent in Karnataka, from 49.7 per cent to 46.4 per cent in Madhya Pradesh, from 51.8 per cent to 49.0 per cent in Maharashtra, and so on.

Second, the post-reform decline in LFPR decline was shared, by a varying degree, by rural males and females; in particular, in a sense, the decline for rural females in as many as twelve states, like it is so for as many states for rural males, is a redeeming feature of the post-reform labour market developments in India. Still more redeeming is the fact that the post-reform decline in LFPR occurred both for rural males and rural females in as many as eleven states, namely, Andhra Pradesh, Bihar, Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal. The most visible decline in LFPR was in Himachal Pradesh, which is reported to have made significant strides in the matter of rural education during the nineties (Dreze, 1995). In total terms, to the extent that the decline in LFPR is indeed a reflection of rural people's changing approach towards investment in human beings, and its numerous economic and social returns, the post-reform years clearly belonged to rural female more than to their male counterparts. It is worth re-visiting Table 1 if only to reiterate that, at the all-India level, the proportion of rural females, in the age-group 15-19 years, attending educational institutions, improved from 12.5 per cent in 1983 to 19.0 in 1993-94, and further on to 25.8 per cent in 1999-2000, against 32.2, 36.8 and 41.3 per cent for their male counterparts; a little more notable was the increase from 40.8 per cent in 1983 to 54.6 per cent in 1993-94 and to as high as 63.5 per cent in 1999-2000, for rural females in the age-group 10-14 years, compared with 63.4, 74.3 and only 77.7 per cent for their male counterparts.

Third, as we saw earlier in Table 1, the decline in LFPR was the highest for persons in age group 15-19 year, followed by those in age-groups 10-14 years and 20-24 years, in that order. All these facts put together clearly lend some credence to the 'withdrawal from the labour market in favour of school' hypothesis. That this social tendency gained added momentum, in many parts of rural India, after the arrival of economic reforms in the early nineties, tends to give the impression that rural India is awakening to realize the significance of human capital formation. As we see later, this has only marginally improved the overall scenario of educational background of the present lot of rural workers or is likely to improve the educational accomplishments of those who will enter the labour market, say, after five or ten years.

Finally, except for a marginal decline in Kerala, summarily confined to rural females, WFPR has remained practically unchanged between 1993-94 and 1999-2000 in most parts of rural India, both for males and females. *There is thus no convincing evidence to support the contention that since the arrival of economic reforms, a declining proportion of labour-force is getting converted into work-force; in other words, the rate of open unemployment in rural India does not appear to have gone up during the post-reform years.* As a matter of fact,

contrary to the usual perception, even the urban employment market does not seem to have worsened in this regard. Lest the above result lends itself to a misplaced interpretation, it is perhaps in order to clarify that a situation of no-change in WFPR does not rule out the possibility of a decline in the *rate of growth of employment*. It seems, in the post-reform years, a slightly lower proportion of population has been entering into labour market (a decline in LFPR), the number of persons actually at work has also been declining, and the two constituting as they do the denominator and the numerator of WFPR respectively, seem to be balancing each other so that rural-WFPR remains constant during the post-1993 years, in all states.

3.2 Sector-wise Distribution of Workers

Table 3, based on usual status NSS estimates, gives a 28-year long history of sectoral distribution of rural (and urban) workers. The contrast between what has been happening to rural workers in general and to rural female workers in particular, during the pre-1987 years and what happened during the past decade or so, is quite apparent. In rural India, the proportion of male workers engaged in the primary sector has been steadily declining from 83.2 per cent in 1972-73 to 74.5 per cent in 1987-88 and to 71.4 in 1999-2000. On the other hand, the proportion of their employment in the secondary, tertiary and total non-farm sectors has witnessed a steady increase, happily right up to the recent times. In particular, their excessive dependence on agriculture, as a source of livelihood, has steadily been melting down and their employment base has clearly witnessed a modest degree of diversification, all through the preceding three decades, the nineties being no exception. In particular, their base of non-farm employment has expanded from as low as 16.8 per cent in 1972-73 to 28.6 per cent in 1999-2000.

Unluckily, the rural female workers did not witness the uninterrupted trend of the type witnessed by their male counterparts. Their dependence on the primary sector employment too witnessed a steady decline but only until 1987-88; in the post-1987 years, the proportion of these workers engaged in the primary sector remained more or less constant at 85-86 per cent. Consequently, their employment in the secondary sector witnessed a steady increase from a mere 6.0 per cent in 1972-73 to 10.0 in 1987-88, where-after it showed a mild decline. Finally, not more than 5-6 per cent of them were ever employed in the tertiary sector. By any objective reckoning, the employment base of rural female workers remains heavily tagged with agriculture; even as late as 1999-2000, not more than 12-13 per cent of them could get absorbed in the network of non-farm activities. A number of explanations are forthcoming for their continuing excessive dependence on agriculture.

Two points need to be underlined to mark the post- and pre-reform contrasts. First, even through a casual inspection of the figures, it is clear that the inter-sector shifts were relatively sharper during the seventies and the eighties than during the nineties. For example, for rural male workers engaged in the primary sector, the decline was fairly steady and pretty high (from 83.2 per cent in 1972-73 to 74.5 in 1987-88) while during the next phase (1987-88/1999-2000), it declined rather meekly from 74.5 to 71.4 per cent; in the case of female workers, it was much worse in that during the post-1987 years, their proportion in primary sector workforce actually increased, *albeit meekly*, instead of declining. One clear departure

of the nineties is thus a substantial slow-down of the process of weaning away of rural male workers from agriculture, and its complete halt, if not a reversal, in the case of rural female workers. This seems to be happening primarily because of the halting pace of inter-sector shift, both into the secondary and tertiary sectors, during the post-1987 years both for the male and female workers. The post-1987 stumble for the manufacturing segment of the secondary sector and community-social-personal services segment of the tertiary sector needs to be underlined in particular.

Second, the halting pace of rural workers' shift to non-agricultural sectors, witnessed during the years of economic reforms, clearly signals to their relative incapability of gaining access to these jobs, perhaps because of the low level of their human capital index. The infirmities are far more pronounced in the case of rural female workers, because they have not only to compete with their male counterparts in the rural areas but also with their 'more qualified' sisters in the urban areas. Never before, the competing capabilities of rural job aspirants have been put to test as after the arrival of the economic reforms; perhaps, in certain sectors, the knocking-out effects are working more stringently against them. Our contention gains some empirical firmness when we look, later in the paper (Table 10), into sector-wise deployment of the incremental/decremental workforce, at a more detailed two-digit level of sector classification.

3.2.1 State-wise, Sector-wise Distribution of Workers

Table 4 gives agricultural: non-agricultural break-up of rural workers, for each of the 17 major states, for 1983, 1993-94 and 1999-2000, separately for rural male, female and total workers. To gain some insight about employment stakes in rural manufacturing, important not only in its own right but also because of the disturbing signals thrown up by some studies and public analysts (Dubashi, 2000:10), the share of rural manufacturing is also given in the table. The table invites a few comments. First, the pre- and the post-reform years throw up an odd mingle of contrasts and similarities. For example, the proportion of rural persons engaged in agriculture (inclusive of field crop operations, plantations, livestock, forestry and logging and fishing) continued to decline fairly noticeably, during the post-1993 years, in Assam, Bihar, Himachal Pradesh, Kerala, and Uttar Pradesh. The decline did occur in most other states but it was rather meek, for example, in Andhra Pradesh, Haryana, Jammu-Kashmir, Madhya Pradesh, Orissa, Punjab, Rajasthan, Tamil Nadu and West Bengal; it is only in Gujarat, Karnataka, and Maharashtra that the declining proportion of the pre-1993 years converted itself into an increasing proportion. A highly disparate picture is discernible for rural male and rural female workers, especially for the post-reform years. For example, for rural male workers, only five states, namely, Assam, Himachal Pradesh, Kerala, Punjab and Uttar Pradesh, show a greater pace of shift from agriculture to non-agriculture, during the post-1993 period, compared with the pre-1993 years; for rural females, only Bihar, Jammu-Kashmir, Orissa, Uttar Pradesh and West Bengal showed the above tendency. As a matter of fact, in many states, e.g. Andhra Pradesh, Gujarat, Haryana, Himachal Pradesh, Karnataka, Maharashtra, Rajasthan, the proportion of rural female workers engaged in agriculture has actually increased, by differing proportions, or remained constant. On the whole, it is clear that the process of structural transformation of the rural work-force that was steadily tilting in favour of non-agricultural jobs, during the decade preceding economic reforms, both for rural

male and female workers, in most of the states, either got reversed in some states or witnessed a halting pace in others; only in a few states, the noticeable shift from agriculture continued even after the reforms arrived.

Second, irrespective of the structural shifts that took place during the pre- and the post-1993 period, in most of the states, agriculture continues to be the main stay for the rural female workers. In as many as eight of the seventeen states, their share in agricultural employment exceeds 90 per cent; in no fewer than 15 states, their share was no less than 75 per cent even in 1999-2000; it is only in West Bengal and Kerala that the rural females command a fairly respectable proportion of non-agricultural employment. In an overwhelming majority of states, not more than 15 per cent of the rural females are engaged in non-agricultural activities; in some states, e.g. Gujarat, Haryana, Himachal Pradesh, Jammu-Kashmir, Madhya Pradesh, Maharashtra, Punjab, and Rajasthan, this proportion is extremely low, ranging from 4.9 per cent in Himachal Pradesh to 9.3 per cent in Punjab. In plain terms, the excessive dependence of the rural female workers on agricultural employment, not much diluted after the arrival of economic reforms, is a depressing feature of the rural labour market, but then, much of the explaining has to be done by the female job aspirants themselves. The extremely weak human capital base, for an overwhelming majority of rural female workers and job aspirants, is their Achilles' heel that stands in the way of their switch-over to non-agricultural jobs. The post-reform scenario does not seem to promise them much.

Finally, in a preponderant majority of states, rural workers' employment in manufacturing has been of a very low order, and has hardly witnessed any improvement in recent years. During 1999-2000, in as many as 10 of the 17 major states, not more than 5-6 per cent of rural workers were engaged in manufacturing; this is true of rural male workers in respect of 8 states, and rural female workers for as many as 11 states. In some states (e.g. Gujarat, Himachal Pradesh, Haryana, Maharashtra, Punjab, and Rajasthan), female presence in manufacturing does not go beyond 2-3 per cent. The crucial fact that needs to be underlined is that, during the post-reform years compared with the pre-reform decade, the proportion of rural male as well as female workers engaged in manufacturing either declined or remained constant in a number of states. It is only in West Bengal, Kerala and Tamil Nadu, and, to a lesser extent, in Assam and Orissa, that one discovers a noticeable presence of rural workers in the manufacturing sector which has not faced any diminution in recent years; in the first two states, the presence of female workers in this sector has not only been miles ahead of that in most other states, but has also tended to improve in recent years. In these states, a very big proportion of such female workers are engaged in a variety of rural handicrafts, typically based on local craftsmanship, but productivity and earning levels are very poor. That the quality of employment here needs much to be desired raises a different set of issues.

3.3 Employment Diversification within Agriculture

Table 5 gives us the pre- and post-reform picture on employment shifts within agriculture. We can succinctly see the continuance of rural workers' excessive dependence on field crop production sector. In 1983-84, except for Jammu-Kashmir, Kerala and Punjab, in each of the other fourteen states, agricultural employment was very highly concentrated in

crop production sector, ranging from 81.0 per cent in Rajasthan and West Bengal to 97.3 per cent in Madhya Pradesh; in fact, in as many as 8 of these fourteen states, employment in crop production accounted for as high as 87-88 per cent. The situation changed during the next decade, although the fact of excessive dependence on the crop production sector did not change. In fact, Jammu-Kashmir and Punjab increased their dependence on crop production sector by a fairly sizeable margin; Kerala alone remained the exception. So did Bihar, Karnataka, Maharashtra, Uttar Pradesh and West Bengal. Some of these states joined, *albeit on a moderate scale*, the green revolution club during the eighties, and consequently, their production and employment priorities shifted towards the field crops that had duly demonstrated their higher commercial content in the seventies.

Again, although the excessive dependence on field crop production sector continued right till the end of the nineties, yet, considerable restructuring of agricultural employment overtook a number of states, induced partly by shifts in domestic demand and partly by the opportunities thrown upon by the open economic regime. For example, in Kerala, there was a formidable shift of employment from plantations to field crop production; this lends itself to diverse interpretations. The drastic reduction could be the consequence of rubber plantations going into deep trouble in the post-reform years, and the consequent retrenchment of workers, who, in the absence of better opportunities, might have gone into the field crop sector; perhaps, the traditional segment of coconut too has not been able to sustain itself. It could as well be possible that the traditional field crop sector has started growing fruit (most notably banana and casava) and vegetables, which are more labour-intensive. All these conjectures need to be validated through further research. Then, in Punjab, Gujarat, and Himachal Pradesh, livestock added a substantial weight to agricultural employment; Assam, Jammu-Kashmir, and to a limited extent Maharashtra, looked to plantations; Karnataka's post-reform strategy seems to have favoured new crops (e.g. fruit, vegetables, flowers, etc) in the field crop production sector; Himachal Pradesh foresaw its relative employment advantage through expansion of livestock activities and curtailment of conventional field crops such as wheat, maize and paddy; fishing seems to have been losing its verve in many of the states, most notably in Assam, Kerala, Orissa and West Bengal, and so on. In total terms, different states seem to have responded to the package of economic reforms according to their respective resource endowments and the opportunities that could be availed of. Although, the overbearing importance of the field crop production sector faced no major diminution during the post-reform years, practically in each part of Indian agriculture, yet some re-shuffling of individual segments caused a moderate level of employment restructuring within agriculture.

The pattern of employment restructuring described above for rural workers as a whole applies, *mutatis mutandis*, to male as well as female workers. A few qualitative contrasts need nevertheless be underlined. While it is true that, during the post-reforms period, the proportion of employment in the field crop sector declined or increased, and the reverse happened for the non-crop segment, simultaneously for male and female workers, in some states, the change went in the opposite directions. Jammu-Kashmir is a typical case where female employment in field crop sector, as a proportion of total agricultural employment, increased from 39.41 per cent in 1993-94 to as high as 62.26 per cent in 1999-2000 while its counterpart for males declined from 94.59 per cent to 81.18 per cent, during the same period. In Punjab, the corresponding employment decline in the field crop sector was from 25.48 per

cent to 11.84 per cent for rural females, against no visible change for rural males. In West Bengal, female employment in the field crop sector rose from 75.76 per cent in 1993-94 to as high as 92.89 per cent in 1999-2000. In total terms, except for Jammu-Kashmir, Karnataka, Kerala, Orissa and West Bengal, where the proportion of agricultural employment in the non-crop segment declined, by varying proportions, during 1993-94/1999-2000, in all other states, it registered an increase. The increase was formidable indeed in Bihar, (from 0.64 per cent to 11.03 per cent), Gujarat (from 17.16 per cent to 27.54 per cent), Himachal Pradesh (from 13.87 per cent to 27.75 per cent), and Punjab (from 74.54 per cent to 88.16 per cent). The moot point is that, except in Jammu-Kashmir, the recent employment restructuring within agriculture has been responsible for narrowing the male: female differences in field crop and non-crop employment shares; in 1999-2000, for rural females, the share of non-crop activities in total agricultural employment stood higher than or equal to that for their male counterparts, in sixteen of the seventeen states. In plain terms, the proverbial 'assigned work domains' of rural females (most notably fishing) are breaking down; they are now penetrating into areas where they were almost conspicuous by their absence some two decades back (e.g. agricultural services). For a host of socio-economic and cultural reasons, livestock has, however, continued to be their forte outside the field crop sector.

Livestock accounts for 88.94 per cent of female agricultural employment in Punjab, 51.04 per cent in Haryana, 31.38 per cent in Rajasthan, 30.55 per cent in Kerala, 25.42 per cent in Himachal Pradesh, 24.19 per cent in Gujarat, and so on. It is interesting to see that in the green revolution states of Punjab, Haryana, and (Western) Uttar Pradesh), and a few others, female employment in this segment of total agricultural employment witnessed, during the post-reform years, an increase almost exactly equal to what they lost in the field crop sector; the male workers' involvement in livestock did not increase nor did it decline in the field crop sector, in any of these states. In sum, the rural female workers are not a static entity; they too seem to respond to the post-reform labour market compulsions, and to participate in employment restructuring that has been going on inside (as well as outside) agriculture.

3.4 Increasing Casualization in Rural Employment

Table 6 shows the changing mode of employment between 1972-73 and 1999-2000 in rural and urban areas. It is at once clear that in rural India, the incidence of self-employment has been consistently on a relative decline, both for male and female workers; for rural males, it declined from around 66 per cent in 1972-73 to 55.0 per cent in 1999-2000 and for rural females, it dropped from 65 per cent to 57 per cent. In urban India, it has been hovering around 40.0 per cent for male workers; for urban females, it faced a sizeable decline only during the nineties. Second, regular salaried jobs have unmistakably been on the decline, both for rural male and female, especially the former, and urban male workers; for urban female workers, it remains more or less the same till we enter the 1990s thereafter it started increasing although sluggishly from 27.5 per cent in 1987-88 to 28.6 in 1993-94 and further on to 33.3 per cent in 1999-2000.

Third, and quite strikingly, employment under casual labour basis has increased for all the four categories of workers. The increase has been fairly steep in the case of rural male

workers, a little less so in the case of rural females, and somewhat moderate in the case of urban male and female workers. The point of economic substance is that in rural India, the casual wage-employment is steadily rising at the cost of self-employment, while in urban India, it is the regular salaried jobs which are gradually yielding to casual wage labour. For rural areas, the switch-over is a more worrisome matter since the declining incidence of self-employment may be throwing some people out of self-cultivation only to swell the ranks of the land-less agricultural labourers. In fact, for rural India, independent information through population census does confirm the rising proportion of the land-less agricultural labourers from about 17.0 per cent in 1961 to as high as 32.0 per cent in 1991 (Haan, 1980, Part II: 2; Census of India, Paper-3 of 1991: 193).

It is as well possible that many among the self-employed sub-marginal and marginal cultivators, whose proportion among the cultivating households has been continuously rising during the 1960s, 1970s and 1980s, temporarily give up agriculture and seek work as non-agricultural labourers, on casual basis. That the temporary 'switch-over' or seasonal supplementation is a real possibility, and, by implication, is behind the increasing casualization of wage labour, has its support from the much higher increase in casually employed males compared with their female counterparts.

The extremely high incidence of casualization for rural female workers, and its rise over time, especially during the nineties, is discernible through the rough index of casualization given in Table 6 (Col.7). This index shows the number of casual wage earners for every one-hundred of regular salaried employees. The male-female contrasts in the rural areas are too striking to invite a special emphasis. But then, the real contrast is between the rural females and their urban counterparts, or for that matter, between rural and urban workers as a whole. The ridiculously low share in regular salaried jobs for rural workers (e.g., in 1999-2000, 8.8 per cent only against 36 per cent under casual labour for rural males, and 3.0 per cent only against 40.0 per cent under casual labour for rural females) tells the story of their relative disadvantage in the most blatant manner. The marked rural-urban differences in terms of the proportion of workers engaged as casual wage earners at once confirm numerous disadvantages (e.g. low wage rates, irregularity and uncertainty in employment, uncongenial work conditions) of rural workers, most visibly the females among them.

The quickened pace of casualisation, and a more visible decline in the proportion of self-employed workers, during the nineties, much more markedly among the rural workers, lends some credence to the theory of increasing segmentation in the Indian labour market, in general, and increasing marginalization of rural job aspirants, in particular. Interestingly, in most recent years, casualisation has not been discernible for urban workers; in fact, it has declined for urban females during 1993-94/1999-2000. This is plainly so because of the marked improvement in the educational and training capabilities of urban female job seekers, almost at tandem with urban males; the future cadres of the urban female job aspirants are likely to be equipped with educational, training and skill accomplishments not much different from their male counterparts, and would thus be able to compete effectively in the information-, technology-, and management-intensive urban labour market. The prospective rural female job seekers do not seem to have a very bright chance on such job frontiers. In plain terms, for a preponderant majority of rural workers, coming as they do from the landless

labour, marginal and small cultivating households, self-employment on own or leased-in land and casual wage employment on others' farms or in one or the other non-farm activity are the only two choices; regular salaried jobs do not accommodate more than a handful of them, nearly to the total exclusion of the female job aspirants. It bears some conjecture, therefore, that in terms of quality of employment, rural job seekers have undoubtedly a long gap to cover.

3.4.1 State-wise Evidence on Casualization

Table 7 confirms that our observations on the all-India pattern of casualisation of rural employment broadly holds true for the states as well. In as many as twelve of the seventeen states, the proportion of rural workers employed as casual wage labourers registered a varying degree of increase during the post-1993 years. The increase was rather strong in Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Orissa, and West Bengal. It is equally clear that the process of increasing casualisation of wage labour encompassed workers of both sexes, in most of the states. For rural male workers, the increasing casualization of wage labour is clearly accompanied by a decline in the share of self-employment; the latter is true of as many as fourteen states while the former holds for no less than thirteen states. Again for male workers, the proportion of regular salaried employees did not witness a noticeable diminution except in Jammu-Kashmir and West Bengal; on the contrary, each of the remaining fifteen states had a slight improvement to report for the post-reform years. In any case, the proportion of regular salaried male employees continued to be fairly small, in most of the states, except in Assam, Haryana, Punjab and Tamil Nadu. In overall terms, in most of the states, self-employment for men has been steadily declining while casualisation of wage labour has been on an increase.

For female workers, there is no clear, much less an inverse, relationship between self-employment and casual wage labour, as is discernible for their male counterparts. For some states, the former increased while the latter decreased, in the post-reform years, while the opposite also happened for other states. No significant change occurred, during the post-1993 years, in the proportion of regular salaried female employees; as a matter of fact, for rural females, this source of employment has all along been extremely small for most of the states, except in Assam and Kerala, ranging from 0.8 per cent in Jammu-Kashmir to just 5.3 per cent in West Bengal in 1983, from 0.9 per cent in Rajasthan to 7.3 per cent in West Bengal in 1993-94, and, from 1.0 per cent in Rajasthan to only 6.9 per cent in Tamil Nadu in 1999-2000. Clearly, in most of the states, the choice for them has been only between self-employment and casual wage labour. The fact that, in their case, the index of casualisation has consistently been higher, in some cases many times higher, than that for their male counterparts, in most of the states, testifies to their low standing in the rural labour market. However, in the post-reforms years, the index of casualisation for them did not increase in more than four of the seventeen states while, for male workers, it increased in as many as eight states. In some sense, therefore, during the past few years, the overall composition of employment did not worsen as much for the rural female workers as it did for their male counterparts

IV Growth of Employment

The proponents of economic reforms would make us believe that employment was expected to pick up primarily because the output growth was likely to pick up after economic reforms took roots. Dwelling more on the labour-displacing effects of these reforms, the critics would, however, believe that employment would not grow in the same proportion in which output would grow, given the compulsion of installing a more capital-intensive technology in many branches of production. Since technological changes of the above type are likely to come about only in selected production sectors, and labour-intensive technologies are likely to dominate in many others, a mixed overall picture on employment growth was likely to emerge for some years after the arrival of the reforms. This is what seems to be happening currently in the Indian economy in general, and rural areas in particular.

4.1 Employment Growth Rates: All India Scenario

The NSS data for the nineties clearly throw up a mixture of gains and losses for rural and urban employment growth rates (Table 8); growth rates are estimated for two sub-periods: 1983/1993-94 and 1993-94/1999-2000. As said earlier, for notional convenience, we take these as pre- and post-reform periods. Although Table 8 gives a disparate picture across different production sectors, between male and female workers, and between rural and urban areas, yet, in overall terms, one tends to gather the impression that all has not been well on the employment front, during the post-reform years. On the one hand, the rate of growth of employment has witnessed a varying degree of decline, in many sectors, both in rural and urban areas, and for male and female workers. On the other, in some sectors, the post-reform employment growth rate has been higher, compared with what it was during the pre-reform years. On balance, the improved employment growth rates do not compensate for the declining rates firstly because the number of such sectors is small and secondly because these are not the major absorbers of rural workforce. In brief, the setbacks are more widely spread and more grievous in magnitude; post-reform concern for employment has, therefore, its own empirical validity. Let us look into the details of Table 8.

The overall rate of growth of employment for rural workers declined from 1.75 per cent per annum during 1983/1993-94 to a low of 0.66 per cent per annum during the post-reform years, for rural males, it declined from 1.94 per cent to 0.94 per cent and for rural females, it declined from 1.41 per cent to an abysmally low of 0.15 per cent. All this is hardly a reflection of an employment-friendly scenario. A varying degree of decline was witnessed for urban areas also; from 3.22 per cent to 2.61 per cent for urban males, from 3.44 per cent to 0.94 per cent for females, and from 3.27 per cent to 2.27 for urban persons. Thus, an employment setback has fallen on every section of the Indian work-force. In relative terms, the most grievous setback is suffered by rural females, followed by rural males, urban females and urban males, in that order. But then, it is rather important to underline that the rate of growth of urban employment, continued to be much higher than that in the rural areas, especially when the rural-urban comparison is made for workers belonging to the same sex. In sum, it is pretty much clear that the rosy employment-friendly picture, that was believed by some reform protagonists to follow, has not yet come off; in fact, it is the contrary that seems to have happened, during the 6-7 years of economic reforms. That the overall employment

growth rate suffered a varying degree of setback, during the post- compared with the pre-reform years, for every section of the work-force, most visibly in the rural areas, lends support to the thesis of a negative fallout of economic reforms as far as the overall employment growth rate is concerned. We must, however, look into the post-reform employment scenario in individual sectors before framing a final view.

Highly disparate trends are discernible for employment growth, during 1993-94/1999-2000 over 1983/1993-94, in various sectors of the rural (and urban) economy. For example, for rural workers, transport-storage-communications, construction and agro-based manufacturing were clearly the cheering spots, while agriculture, mining, utilities, trade (especially the whole-sale trade), finance-insurance-real estate, and community-social-personal services, showed negative growth or slow-downs in employment. The benefit of improved employment growth during the post-reform years was not available to both sections of the rural work force. While employment for male workers in the transport-storage-communications sector increased sizably from 4.51 per cent per annum during the pre-reform years to as high as 7.45 per cent during the post-reform period, for their female counterparts, it witnessed a steep decline from 8.30 per cent to 0.15 per cent only. The fast pace of expansion that this sector has witnessed in recent years has generally been more conducive to male job seekers, partly because of the physical labour involved and partly because of the shifting locale of the underlying activities. On the other hand, the benefits of improved employment growth rate in the construction sector are duly shared, *albeit* unevenly, by male and female workers, primarily because of the convenient locale of the construction activities. Another feature of the post-reform employment scenario which, in our view, is more redeeming and less disappointing, is that the pace of employment growth in the manufacturing sector slackened but only marginally, from 2.10 per cent to 1.79 per cent for rural males, and from 2.21 per cent to 1.75 per cent for rural females; summarily, the same story unfolds itself for urban manufacturing also. It may be a sheer coincidence that, during the post-reform years, the rate of growth of employment in this sector was nearly the same for rural male and female workers but it does connote a positive development for the latter in as much as it is generally feared that, under the new economic regime, entry of rural female job seekers in the manufacturing sector becomes particularly difficult. Perhaps, only a more detailed sub-sector break-up would throw bare the branches of manufacturing where the rural females are gaining advantages over their male counterparts, and vice versa.

The fact that the rural economy stands well enmeshed with the rest of the economy, or the rural job aspirants can no more operate outside the precincts of the national labour market is authenticated, *albeit indirectly and meekly*, by a pattern of employment growth commonly shared by rural and urban workers. It cannot be a coincidence that employment growth rates in transport-storage-communications, construction, and agro-based manufacturing sectors, improved during the post-reform years, both for rural and urban workers; likewise, the decline or slow-down in the mining, utilities, finance-insurance-real estates, and community-social-personal services, were the common fate of both the groups. It is only for trade that, during the post-reform years, the urban workers surged much ahead of their rural counterparts when the retail trade activity gained additional momentum under the informal sector of the urban economy, in addition to a high pace of employment expansion in the hotel-restaurant segment.

Let us peep inside the major sectors. For agriculture, we may better concentrate on rural workers alone. Practically, each sub-sector in the primary sector suffered a varying degree of setback; the worst sufferers are fishing, plantations, and forestry-logging. The employment growth rate in the livestock segment did improve but it was not able to switch over from a negative to a positive rate. Some important male-female differences may nonetheless be underlined. The employment setbacks in field crop production, fishing, livestock, and agricultural services were shared, in varying degree, by both groups of workers; the setback in plantations and forestry-logging fell largely to the share of rural male workers only. On the whole, for a host of reasons, most ostensibly the declining land: man ratio in general, and increasing marginalization of holdings in particular, the rising pace of mechanization, cropping pattern adjustments not necessarily attuned to labour-absorbing crop enterprises, the general preference of the young entrants to the labour market in favour of non-farm jobs, etc., agriculture and its constituent sub-sectors could not take on people at the same rate as they did during the pre-reform years. But then, as we see below, the pace of non-farm employment expansion has not compensated for the sluggish labour absorptive capacity of agriculture.

A mingle of improved and shrunken employment growth rates was the fate of the manufacturing sector. Employment growth rates for rural workers witnessed a varying degree of improvement during the post-reform years in textile products, wood and wood products, leather and leather products, chemicals and chemical products, non-metallic mineral products, basic metal industries, metal products, and agro-industries. The opposite was true for food products, beverages, cotton and wool products, paper and paper products, rubber and rubber products, machine tools and electrical machinery, other manufacturing, repair services, and non-agro industries. Improved employment expansion was particularly striking for textile products, leather and leather products, basic metal products, and metal products, while the squeeze in the pace of employment growth was substantially high for cotton and wool products, other manufacturing and repair services. The mixed picture observed for the total of rural workers is discernible, in varying degree and form, for the rural male and female workers. The combined effect of these developments is that for the total of manufacturing, employment growth rate did not witness a big decline; in our view, the mild decline from 2.14 per cent during the pre-reform period to 1.78 per cent in the post-reform years is reflective of the adjustment process that the rural industry in India was involved in during the 6-7 years of the post-reform years. Perhaps, in the next phase, some product lines, especially those which fared well during the period 1993-94/1999-2000, may further consolidate their production base and throw up augmented avenues of employment; our hope stems from the fact that industries such as textile products, leather and leather products, chemicals and chemical products, basic metal products and metal products, have already demonstrated their remarkable employment-expanding capabilities, during 1993-94/1999-2000 contrasted to their dismal performance during 1983/1993-94, even while many other branches, including the conventional agro-based segments, lost their verve during the post- 1993 years.

The employment setbacks reported in community-social-personal services, are fairly widely spread across individual segments. For example, for rural workers, employment growth suffered severe setbacks in sanitary services, community services, recreational and cultural services, and personal services; it is only in respect of education and scientific

personnel that a mild improvement from 2.90 per cent to 3.01 per cent in employment growth rate occurred in the post-1993 years, compared with the pre-1993 period. The above pattern is shared, in varying degree and form, both by rural male and female workers. The all-round setback in this sector is a matter of worry, firstly because, among the non-farm segment of the rural economy, it provides a major share of employment, and secondly because, employment in segments such as sanitary services, medical and health, community services, and recreational and cultural services is largely sustained by the pace and pattern of public expenditure which, as we see later, came under seize during the post-reform years. The fact that the employment setback in this sector has assumed the same shape in urban areas also lends credence to our contention on the all-round post-reform public expenditure seize.

In overall terms, the rural work force has been at a disadvantage; it gained relatively less in work-place increments and lost relatively more in work-place decrements. Perhaps, this tendency might intensify itself in the years ahead inasmuch as the low levels of educational, training and skill capabilities of rural job seekers would push them back in the fiercely competitive labour market. In plain terms, the quality of work force is not the same between the rural and urban areas.

4.1.1. State-wise Growth Rates of Rural Employment

Table 9 gives a synoptic view of rural employment growth, in respect of 9 major sectors, for each of the 17 major states of India. As in Table 8, we discover a highly disparate picture of employment growth across individual sectors, practically in each state. No single state throws up a picture of all cheers, just as none reflects a situation of total gloom; in each state, growth rate of employment improved, during the post- compared with the pre-reform period, in some sectors, while the reverse happened in other sectors. Let us look at the employment growth profile of rural workers for the major sectors.

Within agriculture, the growth rate of employment in **field crop sector** witnessed a varying degree of decline, during 1993-94/1999-2000 compared with 1983/1993-94, in as many as thirteen of the seventeen states while in the remaining two states, it registered a varying degree of improvement. The crucial point to note is that, except in Kerala, in the other three states, the magnitude of increase in the growth rate of employment could hardly be pleasing. For example, the increase was from 0.91 per cent to 1.01 per cent in Gujarat, from 3.32 per cent to 3.36 per cent in Jammu-Kashmir, and from 1.26 per cent to 1.35 per cent in Orissa, against a very impressive increase from -3.25 per cent to as high as 15.85 per cent in Kerala. On the other hand, the magnitude of decline was fairly substantial, in some of the thirteen states. For example, it was from 1.64 per cent during 1983/1993-94 to -3.49 per cent during 1993-94/1999-2000 for Himachal Pradesh, from 2.35 per cent to -0.54 per cent for Andhra Pradesh, from 1.57 per cent to -1.47 per cent for Assam, from 1.88 per cent to -0.02 per cent in Bihar, from 1.23 per cent to -0.98 for Punjab, from 0.57 per cent to -1.30 per cent in Tamil Nadu, and from 1.80 per cent to -0.33 per cent in Uttar Pradesh. It is the highly uneven mingle of increases and decreases in employment growth rate, across the states, that was responsible for causing the all-India growth rate of employment in this most domineering segment of agriculture to decline from 1.68 per cent during 1983/1993-94 to as low as 0.23 per cent during 1993-94/1999-2000. An overview of the field crop sector readily testifies to

the declining capability of the field crop sector to act as a major source of incremental employment. In a preponderant majority of states, field crop production sector is already employing an extremely high proportion of agricultural, for that matter total rural, workers; further employment within agriculture must necessarily be sought outside the field crop sector.

Plantations, livestock and fishing are the major, traditional non-crop segments of agriculture. Employment growth in these segments too has been a mixture of increases and decreases. Employment situation in the traditional **plantation** areas has been deteriorating even during the pre-reform period; it has drastically worsened further during the post-reform years. For example, the rate of growth of employment of rural workers in the plantation sub-sector witnessed a precipitous decline from 1.73 per cent during 1983/1993-94 to -23.73 per cent during 1993-94/1999-2000 in Kerala, from 3.73 per cent to 0.52 per cent in Assam, from 5.68 per cent to -1.02 per cent in Tamil Nadu, and from 1.42 per cent to -5.15 per cent in Karnataka. Consequently, in all these states, the proportion of rural workers engaged in plantations witnessed a sizeable decline during the past few years.

Livestock also has been a none-too-happy episode; the number of states experiencing a higher growth rate of employment during the post-reform years, compared with the pre-reform period, was seven only against eleven states where it decelerated. A still more disturbing fact is that, in some states, the deceleration in the employment growth rate in livestock has been far too steep compared with acceleration in other sub-sectors. For example, among the former group of states, the employment growth rate declined from 0.54 per cent during 1983/1993-94 to -27.14 per cent in Jammu-Kashmir, from -7.07 per cent to -24.30 per cent in West Bengal, from -0.62 per cent to -14.71 per cent in Karnataka, from 0.52 per cent to -5.39 per cent in Orissa, from -4.71 per cent to -7.37 per cent in Madhya Pradesh, from 4.79 per cent to -1.98 per cent in Haryana, and so on. And, among the latter group of states, the change in employment growth rate, from one negative to another negative rate, for example, from -3.83 per cent to -4.19 per cent in Tamil Nadu, from -5.43 per cent to -1.09 per cent in Kerala, and from -0.68 per cent to -1.83 per cent in Andhra Pradesh, shows an equally disappointing performance. It is only in six states that a real breakthrough in employment growth rate in livestock is discernible during the post-reform period. The increase from -9.79 per cent during 1983/1993-94 to 22.94 during 1999-2000 in Assam, from -17.79 per cent, to 21.40 per cent in Bihar, from -4.24 per cent to 2.44 per cent in Uttar Pradesh, from -4.77 per cent to 6.97 per cent in Punjab, from 1.77 per cent to 13.23 per cent in Himachal Pradesh, and from 1.29 per cent to 9.45 per cent in Gujarat, encapsulates the experience of accelerated employment growth in the livestock sector. To conclude, livestock is not only the hope for the regions which have shown an improved employment performance in recent years, but is also the way-out for agricultural diversification in those regions which have not done too well in field crop production sector.

Fishing has also been in trouble. In each of the five coastal states where it has existed as a regular economic activity, employment has witnessed a sizeable decline during 1993-94/1999-2000, compared with 1983/1993-94. For example, employment growth rate declined from 5.20 per cent to -12.99 per cent in Kerala, from 2.69 per cent to -4.76 per cent in Orissa, from 3.96 per cent to -2.14 per cent in Andhra Pradesh, from 5.78 per cent to -1.66

per cent in West Bengal, from 3.87 per cent to –1.89 per cent in Tamil Nadu, and from 4.09 per cent to –6.37 per cent at the national level. Consequently, its employment base, small as it has always been, shrank further to extremely low levels during the post-reform years; in these five states, the percentage of rural workers employed in fishing stood respectively at 1.89, 1.23, 0.77, 1.44, and 0.82 only in 1999-2000, against 4.10, 1.69, 0.88, 1.63 and 0.81 in 1993-94. The post-reform employment history of the fishing sector is thus anything but pleasing.

Because of the highly disparate picture for its individual segments, the post-reform situation on growth of **agricultural employment as a whole** is a highly uneven mixture of deceleration for as many as fifteen against acceleration for two states. For the latter two states too, the improvement was rather modest, from 0.92 per cent to 2.33 per cent in Gujarat and from –0.86 per cent to 1.53 per cent in Punjab. The overall picture on employment in agriculture is, therefore, anything but pleasing. An especially disappointing development is that in as many as five states (namely, Assam, Haryana, Himachal Pradesh, Tamil Nadu and Uttar Pradesh), employment in agriculture flipped over from being positive during the pre-reform years to negative during the post-reform years. In another five states (namely, Andhra Pradesh, Karnataka, Madhya Pradesh, Orissa and Rajasthan), growth rate of employment in agriculture, although remaining positive both during the pre- and the post-reform periods, declined considerably during the latter compared with the former period. It is thus the unsatisfactory performance of practically the whole lot of Indian states that was primarily responsible for scaling down the rate of growth of agricultural employment at the national-level from 1.38 per cent during the pre-1993 decade to as low as 0.18 per cent during the post-1993 years in respect of rural persons, from 1.47 per cent to 0.32 per cent for rural male workers, and from 1.24 per cent to –0.02 per cent for rural female workers (Table 8). As pointed out earlier, for a host of reasons, the labour absorptive capacity of agriculture as a whole is under stress. The declining land: man ratio, increasing marginalization of holdings, labour-saving cropping pattern adjustments, increasing mechanization of field crop operations, increasing threat to domestic agriculture through the open-door trade policy, etc. need to be reiterated in particular.

Let us now look at the **non-agricultural sectors**. As we saw earlier, at the national level, growth rate of employment, for rural persons, witnessed a varying degree of improvement, during the post-reform years compared with the pre-reform period, in transport-storage-communications, construction, and manufacturing especially its agro-based component; it was the opposite in the case of agriculture and some of its constituent segments, non-agro based manufacturing, utilities, community-social-personal services, and finance-insurance-real estate. Table 9 informs us that an overwhelming majority of states conform to the all-India pattern of improved employment growth rates; only a few deviate from it.

In **transport-storage-communications**, the post-reform years brought a varying degree of improvement in employment growth rate, in as many as twelve of the seventeen states; a fairly substantial slow-down occurred in Tamil Nadu and West Bengal, and a relatively mild one in Haryana and Jammu-Kashmir. In a number of states, the post-reform acceleration in employment growth rate gives the impression of a break-through in rural transport and communications. For example, for rural workers as a whole, employment growth rate picked up from 2.19 per cent during 1983/1993-94 to 8.83 in Andhra Pradesh,

from 1.29 per cent to 14.37 per cent in Assam, from 2.11 per cent to 12.37 per cent in Karnataka, from 0.32 per cent to 8.55 per cent in Punjab, from 1.87 per cent to 8.42 per cent in Kerala, from 3.40 per cent to 7.66 per cent in Bihar, and so on. To put the record straight, even during the pre-reform decade, employment growth rate for rural workers was fairly satisfactory in many of these states; substantial improvements added on during the post-reform years testify to the labour absorptive capacity of this sector in the years to come.

Construction sector too evokes an air of employment buoyancy. Employment growth rate for rural workers registered a varying degree of improvement during the post-reform in as many as twelve of the seventeen states; the deceleration occurred in Andhra Pradesh, Himachal Pradesh, Maharashtra, Rajasthan, and West Bengal. In qualitative terms, the nature of deceleration in three of these five states at best reflects a situation of economic slow-down rather than of economic halt, much less of economic collapse, as given out by some critics of economic reforms. More pointedly, employment growth rate for rural workers declining from 5.74 per cent during 1983/1993-94 to 5.17 per cent during 1993-94/1999-2000 in Andhra Pradesh, from 10.10 per cent to 4.98 per cent in Himachal Pradesh, and from 6.37 per cent to 2.33 per cent in West Bengal, deserves to be interpreted as a passing phase, rather than a structural infirmity imposed by changing investment priorities under the post-reform economic regime. Leaving aside these five states, our optimism is enkindled essentially by improvement in employment growth rate in the remaining twelve states. In some of these states, the improvement was indeed fairly substantial: from 0.18 per cent to 20.18 per cent in Assam, from 1.28 per cent to 4.02 per cent in Jammu-Kashmir, from 1.97 per cent to 13.61 per cent in Madhya Pradesh, from 3.53 per cent to 11.51 per cent in Orissa, from 5.75 per cent to 9.57 per cent in Punjab, from 4.70 per cent to 7.87 per cent in Tamil Nadu and from 4.51 per cent to 10.14 per cent in Uttar Pradesh. For future employment plans, construction sector thus stands out as a serious contender.

Agro-based manufacturing is yet another sector that has done pretty well during the post-reform years. Employment growth rate for rural workers registered a varying degree of improvement, during the post-reform years as contrasted to the pre-reform period, in ten states; only in Andhra Pradesh, Gujarat, Himachal Pradesh, Karnataka, Maharashtra, Tamil Nadu and West Bengal, some reverses occurred during the post-reform years. In particular, the improvement from -4.14 per cent to 10.99 in Bihar, from -0.46 per cent to 14.12 per cent in Haryana, from -1.78 per cent to 14.94 per cent in Jammu-Kashmir, -1.47 per cent to 0.58 per cent in Kerala, from 1.11 per cent to 4.65 per cent in Orissa, from -3.21 per cent to 4.24 per cent in Punjab, from 0.90 per cent to 6.12 per cent in Rajasthan, and from 0.12 per cent to 4.71 per cent in Uttar Pradesh, needs to be underlined in particular. Another redeeming feature of the post-reform phase is that the negative employment growth rates, registered for rural workers as a whole by as many as five states (namely Bihar, Haryana, Jammu-Kashmir, Kerala and Punjab) during the pre-reform phase, were converted into positive, and fairly respectable, employment growth rates, during the post-reform phase, by most of these states. Yet one more redeeming feature of the post-reform phase is that negative growth rate of employment for rural workers were registered only by five states, and except for two of them (Karnataka and Maharashtra), the magnitude of the decline was rather mild. In overall terms, the post-reform situation was not discouraging at all.

The record of **non-agro based manufacturing** has not been bad either; as a matter of fact, the pleasing features noticed for the agro-based segment were discernible here also. For example, a higher growth rate of employment was registered in as many as ten states during the post-, compared with the pre-reform period. In some of the states, the improvement was fairly substantial, for example, from -0.05 per cent during 1983/1993-94 to 7.87 per cent during 1993-94/1999-2000 in Bihar, from -0.05 per cent to 6.39 per cent in Haryana, from 1.25 per cent to 16.61 per cent in Himachal Pradesh, -0.15 per cent to 4.89 per cent in Madhya Pradesh, from 2.58 per cent to 5.02 per cent in Maharashtra, -3.34 to 4.14 per cent in Orissa, from 1.88 per cent to 8.55 per cent in Punjab, from 2.21 per cent to 6.25 per cent in Kerala, and so on. It is not a trivial development that, for rural workers as a whole, the negative employment growth rate of the pre-reform phase was transformed into a fairly high positive employment growth rate in Bihar, Haryana, Himachal Pradesh and Orissa. In plain terms, there is clearly a vast unexplored potential for rural employment expansion in this sector; the national-level drop in the employment growth rate from 3.58 per cent during the pre-reform phase to 1.03 per cent during the post-reform years, should not deter the policy makers from identifying and putting in place the needed policy interventions for rejuvenating this sub-sector, in most parts of the rural economy. Such interventions should now take a different, market-driven and promotional form rather than the conventional protectionist stances which, in the opinion of many experts, have no relevance in the new economic regime (Hussain, 1997).

As a consequence of mixed performance put up both by agro-based and non-agro based constituents, the state-level picture in respect of **manufacturing as a whole** is also a mingle of increasing and decreasing rates of growth of employment during the post-, compared with the pre-reform phase; in nine states, the rate of growth of employment registered a varying degree of improvement while in the other eight, it was the reverse. A few remarkable examples of improved employment growth rates are Bihar (from -2.63 per cent during 1983/1993-94 to as high as 9.71 per cent during the post-1993 years), Haryana (from -0.23 per cent to 10.10 per cent), Jammu-Kashmir (from 2.03 per cent to 7.10 per cent), Kerala (from -0.63 per cent to 2.26 per cent), Madhya Pradesh (from 0.92 per cent to 3.50 per cent), Orissa (from -0.63 per cent to 4.48 per cent), Punjab (from -0.64 per cent to 6.83 per cent), and Uttar Pradesh (from 1.05 per cent to 4.00 per cent). As in the case of agro-based and non-agro based manufacturing, it is not a trivial development that in as many as five states, the negative rate of growth of employment in total manufacturing that was registered during the pre-reform decade was reversed into positive, and fairly respectable levels. Again, but for a few exceptions (e.g. Gujarat, Karnataka and West Bengal), the decline in the rate of growth of employment was generally mild, ranging from 1.0 to 3.0 percentage points only. In total terms, although the rate of growth of employment for rural workers did witness a small decline from 2.14 per cent during 1983/1993-94 to 1.78 per cent during 1993-94/1999-2000, at the national-level, yet, the remarkable performance put up by some of the states does not justify pessimism of any kind. As said earlier, perhaps the rural workforce engaged in manufacturing did have to bear the initial brunt of adjustment to more stringent production and trade regimes reminiscent of the early years of economic reform. The next few years may improve employment situation in states which have lost their verve during the post-1993, like many others which did fairly well even during the preceding 6-7 years.

We must now look at those non-agricultural sectors which seemed to have fared poorly during the post-reform phase. The major among such sectors are trade and community-social-personal services while the minor ones are mining-quarrying, utilities and finance-insurance-real estate. For state level analysis, we may better concentrate on the major sectors.

Community-social-personal services suffered a serious employment setback at the national level since the arrival of economic reforms. The employment growth rate for rural workers as a whole had declined from 3.13 per cent during 1983/1993-94 to as low as 0.32 per cent during 1993-94/1999-2000. The decline in employment growth rate was shared, in varying degree and content, by as many as fourteen states many among whom witnessed a steep decline, for example, from 4.14 per cent to -4.73 per cent in Haryana, from 9.61 per cent to 3.74 per cent in Jammu-Kashmir, from 6.65 per cent to -1.71 in Karnataka, from 5.41 per cent to -2.04 per cent in Maharashtra, from 7.10 per cent to -3.21 per cent in Punjab, from 4.42 to -0.12 per cent in Rajasthan, from 1.63 per cent to -4.93 per cent in Tamil Nadu, and from 3.46 per cent to -4.03 per cent in West Bengal. It is only in three states that the rate of growth of employment picked up during the post-, compared with the pre-reform years: from -0.08 per cent to 17.75 per cent in Assam, from 1.60 per cent to 3.81 per cent in Bihar and from 1.37 per cent to 6.44 per cent in Madhya Pradesh. The disturbing employment signals emanating from this sector are thus widespread, and must be looked into more carefully. The national-level analysis suggests that sanitary services, community services, recreational and cultural services, and, personal services, are the dwindling sources of employment; perhaps, it has something to do with the dwindling pace of rural public investment, in recent years, for which much of the explaining has to be done by states themselves.

Finally, **trade** too has been showing some disturbing trends during the post-reform phase. Between the pre- and the post-reform phases, employment growth rate for rural workers as a whole declined in as many as thirteen of the seventeen states while at the national-level, the decline was from 3.72 per cent to 1.81 per cent (see Table 8). While the decline was fairly big in some of these thirteen states, e.g. from 14.47 per cent to 0.35 per cent in Himachal Pradesh, from 8.26 per cent to -1.62 per cent in Haryana, from 4.48 per cent to 0.46 per cent in Maharashtra, from 5.26 per cent to -0.001 per cent in Punjab, from 4.81 per cent to 2.11 per cent in Uttar Pradesh and from 5.39 per cent to 1.41 per cent in West Bengal. Among the four states (namely, Gujarat, Jammu-Kashmir, Kerala and Madhya Pradesh) that reported improvement in the post-reform phase, it is only Madhya Pradesh that the rate of growth of employment registered a fairly impressive increase from 1.82 per cent to 8.20; in the other three states, the increase varied between 1.0 and 2.5 percentage points only. Presumably, the wide-spread decline in the rate of growth of employment in trade was, *inter alia*, a direct off-shoot of the slow-down in agricultural growth since mid-1990s. A clear signal to this effect is forthcoming from the fact that in as many as fifteen states, the rate of growth of employment of rural persons suffered a varying degree of decline in **retail trade**; and for **wholesale trade**, this happened in no fewer than fourteen states. The post-reform employment scenario on the side of retail trade is indeed a matter of concern primarily because, in general, the prospects for rural employment expansion may not be very bright under wholesale trade, as under retail trade; thanks to the process of increasing rural-urban integration, being reported in varying form and content from different parts of India, the

locale for wholesale trade has gradually been shifting to urban and semi-urban areas. Retail trade, by its very nature, stays on in rural areas, and it is in this segment that policies for future rural employment expansion need to be directed. The wide-spread setback in retail trade during the post-reform phase thus poses a serious challenge to employment policies on rural employment.

Most of the preceding state-level analysis has veered around rural workers as a whole. We have not yet checked if rural male workers have had post-reform employment experiences different from those of their female counterparts. We attempt to do it now, especially for the major segments of the agricultural sector. One can analyse **male: female differences** in many different ways. For paucity of space, we rely more on comparing the employment growth rates for the two groups of workers, in two different ways. In the first place, employment growth rates for male workers are compared with those for their female counterparts, to check if a positive/negative employment growth rate for the former, in any production sector, is or is not accompanied by a positive growth rate for the latter, first during the pre-reform and then in the post-reform periods; the idea is to check if positive/negative employment growth rates are being shared more commonly by the two groups of workers in the post-reform years, or else, the divergent behaviour of the pre-reform period stays unaltered. In the second place, we wish to see if an increase/decrease in employment growth rate for male workers, between the post- and the pre-reform periods, is accompanied by a similar increase/decrease for female workers; to ensure that the comparisons do not become unwieldy, the magnitude of increase/decrease is not considered. Many interesting contrasts and similarities come up. We begin with agriculture and its constituent sectors.

In the field crop production sector, as many as sixteen of the seventeen states showed similar types of employment growth experience by the two groups of workers, during the pre-reform period; in fifteen states, both groups had positive and in one state, both has negative employment growth rates, the exact magnitudes notwithstanding. Only in Bihar, the male workers had a positive while their female counterparts had a negative (although negligible) growth rate of employment during this phase. In the post-reform period, similarities prevailed in as many as fourteen states, in eight of them, both groups had a positive employment growth rate and in six others, a negative growth rate prevailed for either group. Divergent growth patterns operated now for three states (Bihar, Haryana and Rajasthan) against only one (Bihar) during the pre-reform years. Looking separately at the two groups of workers, we find that during the pre-reform period, male workers had a positive growth rate of employment in sixteen states while in the post-reform years, this was so only in ten states. In other words, in as many as seven states, the growth rate of employment for rural males flipped over, in varying degree, from being positive during the pre-reform decade to being negative during the post-reform years; these states are Andhra Pradesh, Assam, Himachal Pradesh, Punjab, Rajasthan, Tamil Nadu and Uttar Pradesh. In contrast, female workers enjoyed a positive growth rate of employment in fifteen and nine states, in the two periods respectively; as in the case of male workers, a change-over from positive to negative growth rate occurred in seven states, namely Andhra Pradesh, Assam, Haryana, Himachal Pradesh, Punjab, Tamil Nadu and Uttar Pradesh. Clearly, the process of slowdown, even in the form of becoming negative employment growth rate, both for male and female workers, is to be found in the same set of states. In brief, the process of employment slow-down encompasses nearly the same set of

states, and affects workers of both sexes, the exact magnitude of growth rates or decline therein notwithstanding. The suffering of the commons is plainly at work.

Livestock does not suggest work restructuring in favour of female workers. In the pre-1993 decade, they had a negative employment growth rate in eleven states; six out of these eleven (joined by five others) continued to show a negative growth rate of employment so that the overall position did not improve. The male workers, however, achieved a remarkable breakthrough in employment. During the pre-reform years, male workers had a negative growth rate of employment in as many as fifteen of the seventeen states, but in the post-reform period, this was so only in eight states. In ten states (namely, Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Kerala, Punjab, Rajasthan and Uttar Pradesh), livestock and animal husbandry threw up additional work places for rural men which, in turn, lent some momentum to the process of diversification of agriculture. This is not to suggest that diversification through livestock expansion rested on the shoulders of men alone; female workers also contributed to it, although on a much lower scale, and in fewer states. In spite of the negative employment growth rate for female workers in ten states during the pre- and in eleven during the post-reform years, employment growth rate for female workers showed a marked improvement in Assam (from -9.72 per cent during 1983/1993-94 to 23.79 per cent during 1993-94/1999-2000), Bihar (from -31.26 per cent to 59.90 per cent), Gujarat (from 2.31 per cent to 9.33 per cent), Himachal Pradesh (from 1.96 per cent to 13.34 per cent), Punjab (from -3.52 per cent to 7.86 per cent) and Uttar Pradesh (from -4.08 per cent to 3.00 per cent). A marked improvement was discernible for rural male workers too, for example, from -10.48 per cent to 12.76 per cent in Assam, from -11.66 per cent to 11.38 per cent in Bihar, from -1.96 per cent to 9.94 per cent in Gujarat, from 0.85 per cent to 12.71 per cent in Himachal Pradesh, from -10.81 per cent to -1.50 per cent in Punjab, from -1.29 per cent to 4.27 per cent in Rajasthan, and from -4.66 per cent to 0.89 per cent in Uttar Pradesh. In total terms, it is clear that the post-reform employment gains in this sector were not confined to male workers alone just as the reverses were not borne by female workers alone; that their distribution was unequally shared by the two groups is hardly under doubt.

For the **total of non-crop activities**, both groups of workers had their own specific strengths and weaknesses, and consequently, both groups had some share in better or worse employment situations. First, in the pre-reform phase, the rural female workers had a positive growth rate of employment in ten states against six only for their male counterparts; the post-reform scenario tilted in favour of male workers inasmuch as they had now a positive growth rate of employment in eight states against nine for the females. Both groups had the same type of employment growth rate (positive or negative) in nine states in the pre-reform phase while this commonality got extended to twelve states in the post-1993 years. Perhaps a fact that provides more encouragement than otherwise is that the 'fortune of the commons' (surrogated by a positive growth rate of employment) stood extended from four to six states while the 'spatial spread of misery' (surrogated by a negative growth rate of employment) extended itself from five to six states only. Finally, a brief description of the magnitudes involved in two backward states (Bihar and Madhya Pradesh), would readily testify that the female workers could vie well with their male counterparts in this segment of agricultural employment, even in slow-going and poor regions. In Bihar, employment growth rate for rural males increased from -7.12 per cent during 1983/1993-94 to as high as 29.47 per cent

during 1993-94/1999-2000 while the same increased from -24.21 per cent to an extraordinarily high level of 63.22 per cent for rural females; in Madhya Pradesh, the change was from -3.52 per cent to -3.16 per cent for males, and, from 1.35 per cent to 7.70 per cent for females.

Let us now sum up our discussion on male-female differentials in agriculture and its constituent segments. Looking at the upward or downward movement of employment growth rates, between the pre- and the post-reform periods, we discover that the rural male workers did relatively better. For example, in the field crop production sector, employment growth rate for rural male workers improved, in the post- compared with the pre-reform years, in six of the seventeen states, against one state in the case of their female counterparts; in livestock, the improvement for men occurred in as many as twelve states while it was so only in seven for females; in the total of non-crop activities, it was so in eleven states for male and eight states for female workers; in agriculture as a whole, men recorded an improved growth of employment in three states while women did so in four. Finally, going by the changes in the magnitude of employment growth rate (superior/inferior performance for female workers if their employment growth rate improves by higher/lower percentage points or declines by lower/higher percentage points, compared with their male counterparts), we get added evidence to conclude that, during the post-reform years, the rural female workers seem to have generally lagged behind their male counterparts in those segments that witnessed a faster pace of employment expansion, and remained ahead of them in those where slow-downs prevailed.

In **manufacturing**, the rural female workers did slightly better than their male counterparts. For example, during the pre-reform decade, the rate of growth of employment was positive in fourteen and negative in three states for rural males while it was positive for nine and negative for eight states for rural females. In the post-reform years, the relative situation of rural male workers worsened inasmuch as they could now register a positive growth rate in twelve states only (against fourteen earlier); on the other hand, the rural female workers were doing so in ten states (against nine earlier). Again, while the rural male workers improved their rate of growth of employment in eight of the seventeen states, their female counterparts could do so in nine states. The edge of rural female workers in **community-social-personal services**, which otherwise suffered the most during the post-reform years, stands out beyond a shade of doubt. For example, while the rural male workers faced worsening levels of employment growth rates in as many as fifteen of the seventeen states, during the post- compared with the pre-reform phase, their female counterparts did not face such a deteriorating situation in more than nine states only. In other words, the rural female workers could insulate themselves from wide-spread job contractions in a much larger part of rural India, compared with the male workers. That such a process throws bold hints towards rising feminisation of certain activities in this service-oriented sector needs hardly to be questioned.

To conclude our discussion on state-level changes in employment, Table 9 throws up important messages for those who put their total faith on economic reforms as a trigger of higher growth, employment and earnings for the rural households as also for those who foresaw a doomsday for the rural economy and a collapse of employment for the rural

households; both groups have to retract from their respective standpoints. To put the record straight, Table 9 tends to give a really worrisome picture if the post-reform decline in the rate of growth of employment is looked at in a mechanical fashion, more expressly when the state-to-state variation in the intensity of decline is not taken cognizance of. We could be criticized for siding with the critics if we go no farther. On the other hand, if differentiating scales are devised, *albeit* arbitrarily, to delineate a marginal decline from a serious setback, the scenario gets considerably improved. This would obviously be to the liking of the pro-reform group. We would not like to take a position on either side. The best for us is to throw bare the regional picture on employment setbacks that emerges when the intensity of decline is taken note of against when it is not. Let us begin with the latter.

For the supporters of economic reforms, Table 9A clears the misconception that economic reforms can push employment to much higher frontiers; our analysis shows that all is not well on the employment front. The rate of growth of employment for rural workers has witnessed a varying degree of slackening in as many as fifteen of the seventeen major states in respect of agriculture as a whole, thirteen in respect of field crop production, eleven for livestock, ten for fishing, and nine for non-crop activities. A similar story is repeated, outside agriculture, in as many as fourteen states for community-social-personal services, thirteen for mining-quarrying and trade, twelve for utilities, and ten for finance-insurance-real estate. The most depressing reality is the slackening pace of employment expansion, during the post-compared with the pre-reform period, in two areas which always occupy the central place in long-term rural employment policy of the developing world; these are non-crop activities within agriculture, and a wide conglomerate of non-farm activities outside agriculture. In both, a majority of states show employment setbacks during the post-reform phase. It is natural that one's pessimism in respect of rural employment gets reinforced when one discovers serious setbacks for urban workers as well. The most devastating reverses are noticed in community-social-personal services where none of the seventeen states could escape the post-reform slackness in employment growth rate. In most other sectors, the urban and rural situations are summarily the same; it is only in trade and, to a slightly lesser extent, manufacturing that urban workers could develop an edge over their rural counterparts, during the post-reform years. In trade, no fewer than twelve of the seventeen states showed improved levels of employment growth rates for urban workers during the post-reform period, in sharp contrast to four states only for rural workers, and, in manufacturing this was noticeable in eleven states for urban and nine for rural workers. It is time the proponents of economic reforms sober down their rosy employment expansion claims that were lodged on the eve of economic reforms.

But then, the critics must also note that even in the midst of an overall depressing employment environment, some sectors have acquitted themselves well. For example, the rate of growth of employment for rural workers registered a varying degree of improvement in as many as twelve of the seventeen states in construction and transport-storage-communications and nine in manufacturing; close to it we discover higher employment growth rates in eight states for non-crop activities in agriculture and seven states for finance-insurance-real estate outside agriculture. So, all is not lost on the rural employment front, the critics may be told.

Nonetheless, for ascertaining how much is really lost and how much is retrievable, we have to dig more deeply into the intensity of employment setbacks. Admittedly, in the preceding paragraphs, all states witnessing any degree of decline in the rate of growth of employment, during the post- compared with the pre-reform period, were treated alike and clubbed together. This is open to questioning on the ground that a state which has lost heavily, in terms of percentage points, cannot be treated at par with the one which has seen a negligible margin of down-slide. In the same vein, a state which has seen a moderate decline from one positive rate of growth of employment to another positive rate is qualitatively much better than a state which has slipped down, although moderately again, from one negative to another negative level. Yet again, a state which has flipped over from a positive pre-reform rate to a negative, *albeit* closely distanced, post-reform rate should not be treated at par with a state which has come down from one positive level to another, although by a slightly higher absolute margin. In plain terms, some qualifying mark needs to be tagged to each state's post-reform performance on the employment front. To say the least, marginal declines in the rate of growth of employment, during the 6-7 post-reform years that intervene between 1999-2000 and 1993-94, deserve to be interpreted as losses of the interim adjustment period; after all, we have already seen, in Table 9, a decisive turn-around from negative to positive growth rates of employment in many sectors, in a number of states, between the pre- and post-reform phases.

In what follows, we go back to Table 9 and classify the setback in the rate of growth of employment into three categories. A decline up to one percentage point is designated as **marginal**, the one ranging between one and two percentage points as **moderate** and the one exceeding two percentage points as **high** (Table 9B). Further, if the decline occurs from one negative level to another (e.g. in Kerala agriculture), it is taken as a case of a serious setback. Dealing as we are with rural households, there is no point re-visiting each sector; it should suffice to look into agriculture and total rural economy. There is some arbitrariness in this exercise also yet it does help us to identify the regions where policy boosting may succeed to reverse the recent decline in employment growth against those which seem to be the real trouble spots. It now comes up clearly that the problem is not equally serious in all regions that experienced a decline in employment growth rate during the post-, compared with the pre-reform years. Let us first look into the regional picture for decline in agriculture.

The picture now looks much less frightening; clearly, the fifteen states that witnessed a post-1993 decline in the rate of growth of agricultural employment for rural workers, fall fairly evenly into the three categories, in terms of our chosen cut-off points. Four states, namely Bihar, West Bengal, Jammu-Kashmir and Maharashtra, witnessed only a marginal decline of the order of 0.20, 0.41, 0.82 and 0.85 percentage points, respectively. These can at best be characterized as cases of jobless agricultural growth. In five other states (Haryana, Karnataka, Madhya Pradesh, Orissa and Rajasthan), that witnessed an extremely low rate of growth of agricultural employment (-0.07, 0.21, 0.18, 0.13 and 0.04 per cent, respectively), the decline, in terms of our criteria, was of a moderate order, being 1.90, 1.61, 1.66, 1.85 and 1.34 percentage points. Clearly enough, these states too witnessed a jobless agricultural growth during the post-1993 years, and their employment setbacks can possibly be remedied through short-term interventions. That leaves six other states (namely, Andhra Pradesh, Assam, Himachal Pradesh, Kerala, Tamil Nadu and Uttar Pradesh), which alone could be

taken as the real trouble spots. In each one of them, the post-1993 decline in the rate of growth of agricultural employment was more than two percentage points; in particular, the seriousness of the situation manifests itself in terms of the negative post-1993 growth rates of employment, ranging from -0.89 per cent in Assam to as high as -1.86 per cent in Tamil Nadu. Be that as it may, there is a silver lining in the case of these states too. Except for Kerala and Tamil Nadu, in the remaining four states, the pre-reform growth rate of agricultural employment (that ranged from 1.29 per cent in Uttar Pradesh to 2.16 per cent in Andhra Pradesh) compared well with that in most others. If remedying of employment reverses is within the realm of possibility, perhaps some of these 'trouble spots' can recover their lost ground in the next few years, just as we believe that the states in the 'moderate decline' campus can do so a little more quickly. While the pro-reform analysts may throw up policy packages to remedy the situation, the critics may do well to concede some more time to let the 'interim disturbances' pass by. Let the next few years decide the shape of things to emerge on an enduring basis.

At the level of overall employment, the situation gets a shade better, in terms of our chosen cut-off points. In two states (Assam and Uttar Pradesh), the post-reform decline in employment growth rate at the aggregate level was marginal only (0.28 and 0.84 percentage points). It is significant to see that both Assam and Uttar Pradesh suffered a serious post-reform setback in the rate of growth of agricultural employment and yet, in terms of the growth rate of overall rural employment, their loss was only marginal. While Assam had a remarkably high compensation in construction, transport-storage-communications, community-social-personal services and non-farm as a whole, Uttar Pradesh made up for its setback in agricultural employment through fairly improved performance in manufacturing, construction, transport-storage-communication, finance-insurance-real estate and the total of non-farm activities. In eight states (namely, Haryana, Jammu-Kashmir, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Rajasthan and West Bengal), the decline was of a moderate degree, ranging from 1.07 percentage points for Jammu-Kashmir to 1.95 percentage points for Karnataka. Interestingly, five of these states, namely, Haryana, Karnataka, Madhya Pradesh, Orissa and Rajasthan, suffered a moderate decline in agricultural employment too. The three other states in this group, namely, Jammu-Kashmir, Maharashtra and West Bengal, could not help a moderate decline at the aggregate employment level although, in terms of our criteria, the decline in agricultural employment was only marginal for each one of them. This was plainly so because in none of these states, adequate compensations were available in any of the major non-agricultural sectors. Finally, only three states (Andhra Pradesh, Himachal Pradesh, Tamil Nadu) reported a serious post-reform decline in employment. All the three states reported a serious setback in agricultural employment also which could not be set off through improvements in non-agricultural sectors; a sizeable post-reform improvement in the rate of growth of employment in transport-storage-communications in Andhra Pradesh, transport-storage-communications and finance-insurance-real estate in Himachal Pradesh and in construction in Tamil Nadu could not improve the depressing situation at the overall level, primarily because none of these sectors are major absorbers of the rural workforce.

What state-level view emerges about the intensity of post-reform employment setbacks? In our opinion, Andhra Pradesh, Himachal Pradesh and Tamil Nadu emerge as the most confirmed trouble spots; they suffered a high degree of post-reform setback, both in

agriculture and overall employment. Haryana, Karnataka, Madhya Pradesh, Orissa and Rajasthan must also receive priority attention; each one of them suffered a medium level of setback, both in agriculture and overall employment. For this group of eight states, employment rejuvenation policies need to be directed not only to individual constituents of agriculture but to many of the non-agricultural sectors/activities. Finally, Jammu-Kashmir, Maharashtra and West Bengal need more pointed attention in agriculture, especially for livestock in Jammu-Kashmir, field crop production in Maharashtra and field crop production, livestock and forestry-logging in West Bengal.

4.2 Incremental Workforce

Table 10 gives a fairly comprehensive view of the deployment of incremental/decremental workforce, both during the pre- and the post-reform phases, for all major sectors of the economy. It clearly shows a mingle of increases and decreases in rural employment growth during 1993-94/1999-2000, compared with 1983/1993-94. On the whole, the decreases were reported by a fairly large number of sectors, and in some cases, the set-backs simply appeared frightening. To fix precise ideas about the real sources of reversal, or the production/service activities which, in a broad sense, are 'refusing' to take on rural workers, we must see the inside realities of each sector. Luckily, the 1983, 1993-94 and 1999-2000 NSS data enable us to peep into each production sector, at 2- or 3-digit level of industrial classification. Table 10 is the outcome of this attempt. We have stayed at the 2-digit level of classification primarily because within each description at this level, individual 3-digit level items, being too many and reflecting an embarrassingly disparate picture on the number of workers involved, would blur rather than capture the real changes, more expressly from the viewpoint of rural workers. Again, to assimilate the degree of distress that the rural workers have been undergoing in the recent past, and the likely employment stringency they may face in the years ahead, the changes are described, first, in terms of sectoral distribution of incremental workers, and second, in terms of rural workers' share in incremental/decremental employment. Table 10 has many things to say.

First, in sharp contrast to the pre-1993 pattern of labour absorption, agriculture could not take on more than 22.0 per cent of the incremental rural workforce, during 1993-94/1999-2000 against 63.2 per cent during 1983/1993-94. This was largely because of the dwindling labour absorptive capacity of the most dominant segment, viz. field crop production. All these developments seem to be the offshoot of slow growth of agriculture during the nineties, and the consequent decline in the rate of growth of employment. In the post-reform years, many things such as an increasing pace of farm mechanization especially under the system of custom-hiring, labour-saving cropping pattern adjustments including cultivation of newer crops, increasing marginalization of landholdings, further decline in land: man ratio and the consequent compulsion for many a rural job aspirant to look for work outside agriculture, etc., are reported to have been at work.

Second, the deployment of the incremental workforce was highly uneven among the non-farm sectors. While manufacturing, construction, transport-storage-communications and trade accommodated 21.0, 27.0, 19.0 and 12.0 per cent of the incremental workforce, respectively, during the period 1993-94/1999-2000, community-social-personal services could

hardly absorb 2.0 per cent of them. In the decade prior to 1993, these very sectors did not absorb more than 9.0, 6.0, 3.0 and 8 per cent, respectively, of the incremental workforce. A shift from agriculture to non-agricultural avenues of employment is usually a welcome development in that, in most cases, the wage rates and earning levels in the latter are higher than those in the former. But all such shifts are not alike. If the shift from agriculture is caused by its failure to take on more people in its employment, and the surplus people hunt around for jobs in any of the non-farm activities, it is clearly a situation of push under distress. On the other hand, if the shift is of a pull type, most ostensibly occasioned by educational and training background of the prospective job aspirants, it testifies to the structural strength of the economy on the one hand, and to prospects for rural households' incomes to rise. In the present case, the relatively more expanded absorption of the incremental workforce in a number of non-farm sectors, closely on the heels of agriculture's failure to absorb more than a small proportion of them, gives the impression of push factors operating more than the pull factors, during the post-1993 years.

Third, the uneven pattern of labour absorption within each of the expanding non-agricultural sectors is equally evident. For example, within manufacturing, nearly 80.0 per cent of the additional workforce was absorbed by agro-based manufacturing alone. While, during 1993-94/1999-2000, each segment took on some additional working hands, except for cotton-wool-jute-mesta, repair services, and other miscellaneous activities, yet food products, beverages, textile products, wood and wood products, non-metallic mineral products, and metal products, were more noticeable in this regard than others. In trade, retail trade and hotel-restaurants were the main absorbers of the additional workforce.

Fourth, Table 10 shows that within each major sector, there was also a decline in the number of the pre-existing workplaces. For example, plantation, livestock and fishing in agriculture, cotton-wool-jute-mesta, machine tool and electrical machinery, repair services and other miscellaneous activities in manufacturing, utilities, and sanitary, community, recreational and cultural, and personal services under community-social-personal services, lost varying proportions of the pre-existing work positions during the post-reform years.

Fifth, urban areas too reflect a mingle of pluses and minuses, across the sectors. The severest jolt is clamped on community-social-personal services where, against a hefty share of 26.72 per cent of the incremental workplaces during the pre-reform years, only 1.19 per cent fell to its share during the post-reform years. Personal services and public administration-defence could not attract any of the additional work places; in fact, the former faced a fairly substantial squeeze in its pre-existing stock of workers. On the other hand, education-science and medical-health showed a significant increase in their share of additional work places. Among other sectors, significant accruals of additional work places are clearly discernible for trade, construction, transport-storage-communications and finance-insurance-real estate. Interestingly, in sharp contrast to rural areas, in urban areas, the proportion of the incremental workforce going to manufacturing years increased only marginally to 21.02 per cent during the post-reform years compared with 18.91 per cent during the pre-reform phase; in rural areas, the increase was from 8.99 per cent to 20.72 per cent.

Sixth, reading through the implicit content of the changes sketched out above, it seems, the **informal sector**, in the rural as well as urban economies, is experiencing expansion side by side with contraction. For example, both in the rural areas, a higher proportion of additional working hands going to construction, trade (more noticeably in the urban economy, and more markedly in retail trade, and to a slightly lesser extent, in hotels-restaurants against a decline in the case of whole-sale trade), transport-storage-communications, etc., during the post-, compared with the pre-reform phase, is a clear reflection of the expansionary trend. On the other hand, a lower proportion of additional working hands going to field crop production, livestock and fishing under agriculture, personal services under community-social-personal services, and a higher proportion of working hands going to a variety of manufacturing activities side by side with a lower proportion in the case of repair services, point towards a contractionary tendency. The same is true, *mutatis mutandis*, of the urban economy. Perhaps, the expansionary tendencies have been more pervasive in the rural areas, and that may be a reason for a slow-down in the reduction of self-employment and a sizeable mark-up in the index of casualization in recent years (Table 6).

Finally, we have again a mixed picture about the rural workers' share in incremental/decremental employment. There are many activities/sectors which experienced work-place increments, both during the pre- and post-reform years (Cols.7-8); for many of them, rural workers' share increased during the post-reform years while the opposite did happen for other sectors. Then, there are activities which experienced work-place decrements, during both the periods (Cols. 9-10); here again, the rural areas had a fairly high share of the total work-place decrements. Finally, we have a mixture of work-place decrements of the pre-reform years being absorbed by rural/urban areas only and the same or opposite happening in the post-reform period. In overall terms, the rural work force has been at a disadvantage; it gained relatively less in work-place increments and lost relatively more in work-place decrements. Perhaps, this tendency might intensify itself in the years ahead inasmuch as the low levels of educational, training and skill capabilities of rural job seekers would push them back in the fiercely competitive labour market. In plain terms, the quality of work force is not the same between the rural and urban areas.

4.2.1 State-wise Analysis of Incremental Workforce

At the state level, we look into the deployment of incremental/decremental workforce only between agriculture and non-agricultural sectors. The analysis goes into two parts. First, we examine the proportion of incremental/decremental workforce that goes to agriculture, during the pre- as well as the post-reform phases, separately for rural males, rural females and rural persons; it is essentially an inter-sector allocation within each of the three groups. We also look into the share of rural male/female workers in the total job gains/losses, separately in agriculture and non-agricultural sectors. Table 11 throws up an interesting mingle of patterns.

Let us first see what proportion of the total of incremental/decremental rural jobs have been going to non-agricultural activities against those staying back in agriculture, first in the pre- and then in the post-reform phases (Cols. 7 and 8, respectively). In the pre-reform phase,

in nine states (Andhra Pradesh, Assam, Bihar, Jammu-Kashmir, Karnataka, Madhya Pradesh, Maharashtra, Orissa, and Tamil Nadu), a majority of the incremental jobs stayed back in agriculture while in Haryana, Himachal Pradesh and Rajasthan, these were nearly evenly distributed between agriculture and non-agriculture. The pre-reform phase thus brought about a fairly substantial expansion of agricultural jobs in twelve of the seventeen states. For the remaining five states, it was the non-agricultural activities which had a bigger slice in the cake of incremental jobs. The most dramatic expansion of the non-agricultural jobs was in Kerala and Punjab where the whole lot of incremental jobs, and some of the pre-existing ones in agriculture, went over to non-agriculture. This was closely followed by Gujarat, Tamil Nadu and West Bengal where a majority of incremental jobs were taken over by non-agriculture. On balance, for rural India as a whole, job restructuring during this phase tilted heavily in favour of agriculture inasmuch as more than 63.0 per cent of incremental jobs stayed back in agriculture (Table 10).

The post-reform phase witnessed a drastic reversal. It was now the turn of non-agriculture to take a bigger share of the incremental jobs. In nine states (namely, Andhra Pradesh, Assam, Haryana, Kerala, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh and West Bengal), non-agriculture had a majority share in the incremental jobs that came up during this phase; in Assam, Haryana, Kerala and Uttar Pradesh, the whole lot of additional work places, and some more out of the pre-existing agricultural jobs, went over to non-agriculture. And in Bihar, the incremental jobs were nearly evenly distributed between agriculture and non-agriculture. It is interesting to see that in as many as eleven of the seventeen states (namely, Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Madhya Pradesh, Orissa, Punjab, Rajasthan, Tamil Nadu and Uttar Pradesh), the pre-reform labour deployment pattern got reversed in the post-reform phase. Out of the remaining six states, agriculture continued to have a bigger share of incremental jobs in Himachal Pradesh, Jammu-Kashmir, Karnataka and Maharashtra, while it was true of non-agriculture in the case of Kerala and West Bengal.

In spite of the highly disparate picture at the state level, the overall change at the national level, points to the fact that during the post-reform phase, the pre-reform tendency for nearly 63.0 per cent of the incremental jobs staying back in agriculture and only 37.0 per cent of them going to non-agriculture, stands reversed; during the post-reform phase, only 22 per cent of the incremental jobs have gone to agriculture. To what extent, this reflects a real and healthy diversification of the rural economy, or improved labour absorptive capacity of non-agriculture, must be kept an open question. Conventionally, it is the backwardness of agriculture that triggers the process of 'distress expansion' of rural non-farm activities. The post-reform developments cannot all be interpreted in this vein. Perhaps, the reality is a mixture of push factors operating simultaneously with pull factors; that in some states, the push factors are more pervasive while in others, the situation is the other way round, is to be taken for granted. We have no hard evidence to pin point the relative strength of the two sets of factors. Perhaps, an in-depth study is called for.

The patterns described above for the total of rural workers apply, *mutatis mutandis*, to rural male as well as rural female workers. Nonetheless, it is in order to point out that the degree of disparateness in the movement of labour into and out of agriculture is much higher

in the case of rural females. To lend a more firm empirical support to this point, we look into the share of female/male workers in incremental/ decremental work places, for the pre- and post-reform phases (Cols. 9 and 10, respectively). It is plainly evident that, in many of the states, the rural female workers are relatively worse placed, both under job increments and decrements. During 1983/1993-94, the entire loss of farm and non-farm jobs in Bihar, the entire loss of non-farm jobs in Haryana, Orissa and Uttar Pradesh, and the entire loss of farm jobs in Kerala, Madhya Pradesh and West Bengal, was born by them alone. To take account of their poor showing in the incremental gains, only 33.75 per cent, 24.26 per cent, 14.14 per cent, 11.56 per cent, 12.88 per cent, 1.92 per cent, 32.93 per cent, 24.36 per cent, 10.39 per cent, 36.00 per cent and 30.12 per cent of additional non-farm jobs in Andhra Pradesh, Assam, Gujarat, Himachal Pradesh, Jammu-Kashmir, Kerala, Madhya Pradesh, Maharashtra, Rajasthan, and West Bengal, respectively, fell to their share.

Their relative position did not improve much during the post-reform period. The entire loss of non-farm jobs in Andhra Pradesh, Haryana, Karnataka, and Maharashtra, and likewise, the entire loss of agricultural jobs in Haryana, Jammu-Kashmir, Karnataka, Orissa, Rajasthan and West Bengal fell to their account. On the other hand, their gains were rather meagre, compared with those of their male counterparts. For example, only 3.88 per cent, 31.65 per cent, and 32.29 per cent of the additional jobs in agriculture went to them in Andhra Pradesh, Bihar, and Maharashtra; again, only 6.89 per cent, 33.79 per cent, 2.95 per cent, 30.53 per cent, 13.31 per cent, 31.90 per cent, 44.20 per cent, 25.78 per cent, 11.42 per cent, and 16.54 per cent of non-agricultural jobs went to them in Assam, Bihar, Himachal Pradesh, Jammu-Kashmir, Kerala, Madhya Pradesh, Orissa, Punjab, Rajasthan, and Uttar Pradesh. We are thus strongly persuaded to conclude that the rural female workers have always stood behind their male counterparts, in the rural labour market. After the arrival of economic reforms, their relative position has worsened. Apart from many socio-cultural prejudices that have all along stood against them in the job market, it is their own weak human capital base which is now inflicting the severest infirmity upon them. This prompts us to look into some aspects of human capital in rural India. Perhaps, even a broad overview of the educational background of rural workers would throw bare the inherent weaknesses of rural workers in general, and of rural female workers in particular, in the context of changing job requirements and the fierce job market competition that has already set in.

V Quality of Workforce

In our view, the poor quality of its workforce is one of the most serious problems of India's rural economy; in fact, *it is its Achilles' heel*. The quality of workforce in an economy essentially depends upon the educational and training systems pursued by it. In India's federal democratic system, education and health are the responsibilities of the states. Although an overall policy umbrella is proposed, from time to time, by the central government, priority thrusts regarding different levels and types of education, and per capita expenditures on basic and higher levels of education and on primary and advanced health services remain within the purview of the state governments. Numerous studies on social infrastructure in India show sharp inter-state variations in education and health services, on the one hand, and increasing rural-urban gaps, on the other. And within the rural areas

themselves, the male: female gaps, although diminishing slowly over time, continue to have glaring dimensions. For paucity of space, we cannot give too many details of the human capital index; education being the most crucial and central parameter of human capital index, we delve into the educational background of rural workers, and the changes that have come about during the post- compared with the pre-reform years, for each of the seventeen major states. For a few other aspects connected with rural workers' educational standards, we explore the changes only at the national-level.

5.1 Educational Background of Rural Workers

Table 12 gives the general educational background of rural workers. It is abundantly clear that, with one or two stray exceptions, in all parts of rural India, and, for both categories of rural workers, there has been a gradual decline, first between 1983 and 1993-94, and then between 1993-94 and 1999-2000, in the proportion of illiterate workers and a gradual increase in the proportion of educated ones; following the usual convention, we take secondary or higher secondary level of schooling and other higher qualifications as the dividing line between educated and uneducated workforce. It is as much evident that the proportion of semi-educated rural workers (those with primary and/or middle level schooling) has also witnessed a steady increase over time, practically in all parts of rural India. These are welcome developments, in their own right.

But then, we cannot hide the fact that, at the national level, as late as 1999-2000, only 11.7 per cent of rural male workers and just 5.0 per cent of their female counterparts constituted the 'educated workforce'. For the former group of workers, this percentage ranged from as low as 7.4 per cent in Madhya Pradesh to about 21.0 per cent in Kerala and Himachal Pradesh; for the latter, it ranged from an extremely low level of 2.0-3.0 per cent in Rajasthan, Bihar and Madhya Pradesh to 18.8 per cent in Kerala. Looking at the other extreme, it is rather frightening to see that in spite of the phenomenal expansion of educational facilities during the five decades of India's economic development, India's rural economy has still to contend with no fewer than 41.2 per cent of illiterate male and no fewer than 61.5 per cent of illiterate female workers. The situation is far worse in some of the states. For example, in 1999-2000, the proportion of illiterate male workers was as high as 54.4 in Bihar, 49.1 in Andhra Pradesh, 44.8 each in Madhya Pradesh and Rajasthan, and Uttar Pradesh, and so on. The only soothing pockets are Kerala (15.2 per cent), and to a lesser extent, Himachal Pradesh (26.9 per cent). The situation is rather appalling in respect of rural female workers. For example, again in 1999-2000, the proportion of illiterate female workers was as high as 76.3 in Bihar, 76.0 in Rajasthan, 69.3 in Uttar Pradesh, 68.3 in Madhya Pradesh, 66.5 in Andhra Pradesh, 62.9 in Orissa, 60.7 in Karnataka, and so on. For this category of workers, Kerala is the only pleasing spot (21.3 per cent). Even Himachal Pradesh which has done remarkably well in the matter of rural education does not seem to have rid itself of the male bias; Table 12 clearly shows that, in the matter of educational standard of its rural female workforce, it is doing no better than many other states.

Table 13 unfolds a few more important facts. First, a fairly high proportion of the educated rural persons are involved in agriculture, primarily because agriculture is the mainstay of the rural economy, and it is not possible for all educated job aspirants to get into

one or the other type of non-agricultural jobs. In a sense, it is redeeming to see that the proportion of educated rural persons choosing to stay back in agriculture has been increasing steadily from 44.38 per cent in 1983 to 50.18 in 1993-94 and to 52.26 per cent in 1999-2000; the corresponding figures for rural males have been 45.45, 51.53 and 52.79, and for rural females 26.93, 34.32 and 46.86, respectively (Cols.3 and 4). While for the rural males, the influx of educated persons into agriculture has been much faster during the pre- compared with the post-reform phase, for their female counterparts, it has been the other way round. The most promising segment in which the educated female, and to a lesser extent male, job seekers seem to have gone to is agricultural services where the rate of growth of employment has been remarkably high during the pre- as well as post-reform years, both for males and females (see Table 8). To the extent that 'new agriculture' too demands higher levels of educational and training pre-requisites, 'modern agriculture', especially that linked with the world outside, is becoming an attractive career to the educated job seekers.

Second, a fairly substantial proportion of the educated incremental workforce, both males and females, has been accommodated by agriculture, during the pre- as well as post-reform years (Cols.5 and 6). It clearly points to the inability of many an educated rural job seeker to gain an entry into the non-agricultural sectors, most ostensibly because the number of such jobs is far too limited and the number of claimants far too large, even if the painful reality of low content of rural education is kept aside. Since the competition for non-agricultural jobs became more intense in the post-reform phase, largely because of the expanding demand-supply hiatus on the labour market, and the rural female job aspirants being the weakest in the chain of competitors, more than 63 per cent of the incremental educated female workers staying back in agriculture should cause no surprise; during 1993-94/1999-2000, only 36.70 per cent of them could get into non-agricultural jobs while during the pre-reform decade, no fewer than 61.83 per cent of them could go to such jobs.

Third, it is extremely gratifying to see that the rate of growth of employment among the educated rural work seekers has been many times higher than that among the job seekers as a whole, irrespective of the sector in which they are ultimately absorbed (Cols. 7 through 12). It is once again a confirmation of our earlier contention that many among the educated rural female job seekers could not get into the non-agricultural sector, more expressly during the post-reform phase, considering that the rate of growth of employment in this sector dropped for them from 9.76 per cent during the pre-reform phase to 6.11 per cent during the post-reform years, against its increase from 13.60 per cent to 15.87 per cent, respectively, in agriculture. For the total of the rural economy, employment growth rates for the educated job claimants declined both for rural males and females, yet these were many times as high as those for the job aspirants in general. The crucial role of education, whether towards creation of additional avenues of self-employment in and outside agriculture, or for getting into wage-paid jobs in non-agricultural activities, is thus more than evident.

Finally, a note of caution is a must. In spite of the high growth rate of employment for educated persons, inside and outside agriculture, for rural males and females, and, during and before the reform years, the fact still remains that the proportion of such educated persons is very low, and a majority of the rural workers, both in the farm and non-farm sectors, do not have much to claim on the educational front. It is a pity that as late as 1999-2000, not more

than 12.17 per cent of rural males, and a ridiculously low of 2.17 per cent of rural females engaged in agriculture constituted the 'educated workforce' (Cols. 13 and 14). With the proportion of educated males and females, engaged in non-agricultural activities during 1999-2000, being 26.69 and 13.06, respectively, the situation is hardly pleasing outside agriculture either. Although these proportions have been increasing steadily over time, yet the low levels in the base year (1983) would not let even an extraordinary expansion improve the situation beyond a point. That is how, the share of educated rural male workers engaged in agriculture, starting from 4.91 per cent in 1983, could not go beyond 8.96 per cent in 1993-94, and to 12.17 per cent in 1999-2000; for their female counterparts, the share could travel from 0.32 per cent to 1.04 per cent, and finally to 2.15 per cent only. The upward journey in the non-agricultural sector commenced from 19.99 per cent in 1983, reached 23.38 per cent in 1993-94, and terminated at 26.69 per cent only, in the case of rural males; for rural females, the three flag points were 5.43, 11.37 and 13.06 per cent only.

The vulnerability of rural workers surfaces most blatantly when we go to technical/professional education, although the expanding network of technical/ professional educational facilities is often glibly claimed as a solid achievement of the post-Independence India. A detailed field survey of tiny and small rural industrial enterprises in the three states of Maharashtra, Haryana and West Bengal, conducted by the author during April-June 2000, shows that on-the job training was reported by as many as 82.0 per cent of the rural and 86.0 per cent of the urban workers; just about 7.0 per cent of them in rural, and 9.0 per cent of them in urban areas, received training through government agencies (Chadha, 2001b:157). The most distressing picture is discernible on the front of technical education. For example, only 8 per cent of rural and 10.5 per cent of urban workers engaged in such industries have had the benefit of technical education; a substantial proportion (65.0 per cent of rural and 48.0 per cent of urban workers) of them nonetheless stopped at the ITI or polytechnic level; rural workers with management degrees (e.g. MBA) were nearly conspicuous by their absence.

VI Investment, Growth and Employment

Since the arrival of economic reforms in the early 1990s, the course of movement of major macro-economic variables has witnessed a varying degree of change, both in form and content. The most noticeable change has been with the level, composition and growth of investment, which in turn, has been affecting the structure and rate of growth of employment, through changes in the rate of growth of income and structural parameters such as employment elasticity, capital: labour ratio, and so on. The post-reform developments on the employment front must, therefore, be understood and interpreted in terms of some of these macro-economic variables.

6.1 Investment in Recent Years

A concern that has been widely expressed, inside and outside government circles, is that investment in the Indian economy in general, and for agriculture and rural development in particular, has ceased to expand in recent years which, in turn, has made serious inroads into agricultural growth and its associated variables such as agricultural productivity, rural employment and poverty, on the one hand, and a general, economy-wide slow-down and

employment squeeze, on the other. The slow-down in the rate of investment is largely attributed to a slow-down in the rate of domestic savings which, in turn, is attributed to a slow-down in the rate, and the changing composition, of household savings, this time around in favour of physical assets rather than financial holdings (Mohanti, 2001: 12). In the ultimate analysis, it is the dwindling pace of investment in general, and of public investment in particular, that are generally held to be the villain of the piece. For paucity of space, we cannot visit all these aspects in detail. In what follows, we briefly look, first, at the level, composition and growth of investment, especially the dwindling space that has been assigned to public sector investment in recent years, and then at the growth rates for some crucial macro-economic variables for the post-, compared with the pre-reform years.

6.1.1 Investment in Production Sectors: All-India Picture

Table 14 provides some broad details of real investment in different sectors of the Indian economy for the 1980s and the 1990s. To be doubly sure about the post-reform behaviour of investment, its growth rate has been computed in 2-3 different ways: for the eighties and the nineties, for 1983/1993-94 and 1993-94/1999-2000, and for most recent years 1995-96/1999-2000. A few salient points need to be underlined.

First, it is not true that the pace of investment in agriculture, and its allied sectors, has slackened during the post-reform years, whatever way the post- and the pre-reform temporal divides are visualized. As a matter of fact, going by the same time-divide as in the case of employment (namely 1993-94/1999-2000 against 1983/1993-94), we discover a substantial step-up in the rate of growth of investment in crop production, forestry and logging, fishing, and agriculture as a whole. The rate of growth of investment in manufacturing and construction was also higher during the post-reform years; it is only in trade, transport-storage-communications and finance-insurance-real estate, that the post-reform years witnessed a substantial dip in the rate of growth of real investment. Because of fairly high weights assigned to the latter two of the three sagging sectors, in terms of the quantum of investment, the rate of growth of investment in non-agricultural segment of the economy, or even the economy as a whole, witnessed some diminution during the post-1993 years. As a matter of fact, a careful year-by-year scrutiny of investment figures, under each sector, shows that the real slackness ensued only beyond 1995-96. While the rate of growth of real investment in agriculture and its allied sub-sectors stands firmly the same when it is measured for the period 1995-96/1999-2000, instead of 1993-94/1999-2000, it faces a substantial decline in the case of manufacturing, trade, transport-storage-communications, construction, and finance-insurance-real estate, and the total of non-agriculture as also for the economy as a whole. In plain terms, while real investment in the post-reform years has expanded steadily, *albeit at a slower rate*, in agriculture and its allied sub-sectors, most of the non-agricultural sectors have put up an unstable investment profile during the post-reform period; for them, the post-1995 years have been unpleasing in particular. It is natural, therefore, to expect that employment effects of the low rate of growth of investment in agriculture would be rather limited, unless certain other structural parameters, most especially the changing magnitude of employment elasticity with respect to output growth, or capital: labour ratio, intervene in

favour of agriculture; for non-agricultural employment, the situation seems to be more serious, most expressly because of the negative growth of investment during the past five years or so.

Second, although the magnitudes change, in some cases (e.g. in finance-insurance-real estate) rather sharply, yet the post- and the pre-reform contrasts in the sectoral rates of investment remain qualitatively the same irrespective of whether the former period is 1980-81/1990-91 or 1983-84/1993-94 and the latter is 1991-92/1999-2000 or 1993-94/1999-2000.

Third, a really worrisome development is that agriculture has consistently been losing its ground in terms of investment priorities. And this has been happening in the pre- as well as the post-reform years; for example, its share in total real investment declined from 15.05 per cent in 1980-81 to 10.04 per cent in 1990-91, and reached an all-time low level of 6.40 per cent in 1995-96, only to improve marginally to 7.0-8.0 per cent towards the close of the 1990s (Col.6). This trend is obviously at odds end with the employment stakes in agriculture; even as late as 1999-2000, more than 71.0 per cent of rural male workers and more than 85.0 per cent of rural female workers were employed in agriculture and its allied activities (Table 2). In a limited sense, this lends some weight to the criticism that 'economic reforms are all about non-farm sectors', although, as we have seen above, the most recent investment profile of the non-agricultural sub-sectors has not been pleasing either.

Fourth, an issue of equal concern is that public sector real investment has been under a kind of seize for many years now. Its share in total investment has been declining, almost unflinchingly, since the beginning of the eighties (Cols. 15-17). For example, its share in investment in agriculture fell from 40.15 per cent in 1980-81 to 25.77 per cent in 1990-91, and further down to 25.17 per cent in 1999-2000. An extremely crucial difference between agriculture and non-agricultural sectors needs to be underlined. While public sector's share of investment in agriculture has been declining both during the 1980s and the 1990s, its counterpart in non-agriculture started declining only during the 1990s. In plain terms, the withdrawal of government investment from agriculture need not, therefore, be attributed to the 'dictates' of economic reforms. As a matter of fact, a careful scrutiny of the trend during the 1990s would tend to give the impression that the axe fell relatively more heavily on non-agriculture rather than agriculture. For example, while the share of public sector investment in agriculture declined from 25.77 per cent in 1990-91 to 25.17 in 1998-99, its counterpart in non-agriculture fell from 49.36 per cent to as low as 31.41 per cent during the same period; moreover, while it tended to improve for some years during the post-reform years in the case of agriculture, a nearly unbroken chain of year-to-year decline is discernible in the case of non-agriculture.

Finally, it is the steep decline in the growth rate of total investment from 5.48 per cent per annum during 1983/1993-94 to 3.90 per cent per annum during 1993-94/1999-2000, or, equally seriously, from 5.97 per cent to 3.90 per cent in the case of the non-agricultural sector, that stares the policy makers more than ever before. With such low rates of investment, the Indian economy cannot fulfil its employment targets for the forthcoming Tenth Five Year Plan, firstly because the pace of investment during the past five years or so would have great bearing on employment expansion in the coming few years, and secondly, because the issue

of employment in a specific sector can no more be tagged to the pace of investment in that sector alone; inter-sector cross employment effects are inescapable in a growing, and globalizing economy.

6.1.2 State-Level Investment Scenario

For a host of reasons, data on investment are not as easily or as neatly available at the state-level as at the national level. This is especially true of private investment in the corporate sector; for private investment in the household sector, some clue could be drawn from the RBI/NSSO decennial debt and investment surveys, but these are likely to raise many questions for which the data system in India has no answer. Even for public sector investment, budget figures on capital expenditure under numerous development heads have to be cobbled together to arrive at surrogates of public sector investment for agriculture and other sectors. Undoubtedly, going by public sector capital expenditure alone involves serious compromises, most ostensibly because, as we have seen above at the national level (Table 14), the share of public sector investment has been declining steadily in the recent past, both in agriculture and non-agriculture, and we have no *a priori* justification to assume an unchanging ratio between public and private investments at the state level. But then, unlike the All-India public sector investment figures for agriculture, as issued by the Central Statistical Organisation, being under-estimated largely because of limited coverage, state-level public sector capital expenditure estimates, as culled out of Budget and Finance Accounts of the states, happily include all possible items of investment relevant to agriculture and rural development. Because of numerous conceptual problems and empirical difficulties in computing state-level private investment estimates, we choose to go by the best that is available at the state-level, and look at the temporal behaviour of public sector capital expenditure, during the pre- and post-reform periods, and draw some clues about its possible impact on rural or agricultural employment. An added advantage of going by state-level public sector investment estimates is to see if the hypothesis of public sector neglect of agriculture in recent years stands empirical scrutiny; undoubtedly, in its own right, public sector investment has still a profound role to play in fostering agricultural/rural development, and thereby agricultural/rural employment.

It may be mentioned, in passing, that some analysts might be tempted to suggest that total public sector expenditure (capital +revenue) might be a better choice than capital expenditure alone. We have two strong reasons not to do so. First, revenue expenditures cannot generally be treated as investment expenditures, notwithstanding the fact that many items are common between the two categories of expenditures. To put the record straight, the orientation and purpose of incurring the two types of expenditures is different. Second, to answer the specific question underlying our study, namely the effect of public sector investment on rural employment, revenue expenditure going overwhelmingly as it does to meet salaries/emoluments and other such commitments of state governments, cannot be the right choice. As a matter of fact, revenue expenditures, even in real terms, have simply been proliferating for well over two decades now, for some states at as high a rate as 25.0 per cent per annum. If such expenditures were indeed to have employment-augmenting effects, the problem of unemployment/underemployment would have been solved long back. We are thus better advised to stay put with capital expenditure alone.

Table 15 gives the temporal profile of public sector capital expenditure (hereafter state-level investment) under three sub-aggregates, namely investment for (1) agricultural development, (2) rural development, and (3) overall development. State-level investment for agriculture includes capital outlay on crop husbandry, soil and water conservation, animal husbandry, dairy development, fisheries, forestry and wild life, plantations, food storage and warehousing, agricultural research and education, cooperation, agricultural programmes, major, medium and minor irrigation, command area development programme, flood control projects, power projects and investment in agricultural financial institutions. Investment for rural development includes public sector capital outlay on rural health services, rural water supply, rural sanitation services, rural housing, village and small industries, and roads, bridges and civil aviation, in addition to all that is included under (1) above. Finally, state-level investment for overall development is the sum total of all capital expenditure. We are prompted to believe that investment in agriculture is only a necessary, but not a sufficient condition, for determining the pace of employment in agriculture; investment for rural development as well as total investment would perhaps be more effective determinants of agricultural employment, if the to and from spill-over effects of investment are to be reckoned with. Hence, our choice of looking at three different versions of the state-level investment estimates.

Finally, all estimates in Table 15 are at constant (1993-94=100.0) prices. The official statistical system in India has no satisfactory state-level series of index numbers of prices which can be used for converting investment at current prices to one at constant prices. Usually, researchers use a common national-level wholesale index of prices, say, for a specific sector or a specific product line, since no index composed over different commodities germane to the investment box, is available even at the national-level; Index Number of Wholesale Prices for Construction and Machinery Manufacturing are the most obvious examples (Chand, 2000). For obvious reasons, it is highly unsatisfactory primarily because, *inter alia*, it does not capture the inter-state variations in prices, and cannot sketch out the relative position of individual states in a realistic manner. On the contrary, it stipulates stringent assumptions about the structure of state economies which may be difficult to subscribe to, on *a priori* basis. A way-out, that is much less unsatisfactory, is to use the state-wise price deflators implicit in the series of total net state domestic product at current and constant prices; such deflators, capturing as they do the price movement at the overall level of the state economy rather than any of its particular sector, are the best available proxy for capturing the movement of prices relevant to the basket of investment goods/items than through any other available index numbers of prices. Table 15, premised on these considerations, gives the temporal profile of public sector capital outlay, for 15 states, from 1980-81 to 1998-99. It throws up a few bold trends.

First, public sector investment, at the state-level, shows a highly disparate mixture of positive and negative growth rates, both during the pre- and the post-reform phases. For example, during the pre-reform years, public sector investment for agricultural development witnessed a varying degree of negative growth in eight of the fifteen states, for rural development, in seven states and for overall development, in six states. The most glaring reverses were recorded by Bihar, Haryana, Punjab and Uttar Pradesh; leaving Bihar aside, for a moment, it seems the state governments in the green revolution regions were abdicating

their responsibilities towards agricultural and rural development. Happily, the post-reform years show a distinct improvement in all the three green revolution states, along with many others, most markedly Bihar, Gujarat, Orissa, and Rajasthan. The negative rate of growth of public sector investment for agricultural development was now discernible only in six of the fifteen states, for rural and overall development, in four states each. In short, although the mixture of positive and negative growth rates continued at the state level, during the post-reform years also, yet a switch-over from negative to positive, or, from low to high levels, was clearly occurring in a large number of states. The total effect of the mixed state-level picture is that, at the national-level, the rate of growth of investment for agricultural development improved, at the national-level, from 0.82 per cent during 1983-84/1993-94 to 1.22 per cent only during 1993-94/1999-2000, for rural development, from 0.83 per cent to 3.26 per cent, and for overall development, from 0.73 per cent to 3.66 per cent.

Second, it cannot escape our notice that in a number of states, the rate of growth of public sector investment for agricultural, rural or overall development, although positive, has been extremely low, both during the pre- and the post-reform phases. The typical cases, for the pre-reform period, are Gujarat, Maharashtra, Orissa, and Tamil Nadu. For the post-1993 period, Madhya Pradesh, Maharashtra, Orissa, Tamil Nadu and West Bengal are the most glaring cases. Looking at the whole range of the rate of growth of public sector investment, especially the one during the post-reform years, and subscribing to the thesis of complementarity between public and private investment, it is abundantly clear that regional unevenness, in the matter of agricultural or rural development, is not likely to decline and with that, the inter-regional differences in the growth rate of rural employment may also get sharpened.

Third, we have a mixture of higher and lower rates of growth of investment for the post-, compared with the pre-reform periods, in respect of individual states. For example, the rate of growth of state-level public sector investment for agricultural development increased during the post-reform period, in eight out of the fifteen states, that for rural development in ten and for overall development, in nine states. The seven states in which the rate of investment for agricultural development witnessed a decline were Andhra Pradesh (from -1.53 per cent to -15.23 per cent), Assam (from -0.34 per cent to -2.48), Karnataka (from 10.13 per cent to -6.12 per cent), Kerala (-0.20 per cent to -2.88 per cent), Maharashtra (from 2.56 per cent to -3.89 per cent), West Bengal (from 0.53 per cent to -12.45 per cent), and Tamil Nadu (from 1.28 per cent to 0.11 per cent). The rate of investment for rural development too witnessed a varying degree of decline in respect of five states (Andhra Pradesh, Assam, Karnataka, Maharashtra and West Bengal) during the post-, compared with the pre-reform period; the biggest decline was recorded by Andhra Pradesh, Karnataka and West Bengal. Likewise, a varying degree of decline was witnessed for six states (Andhra Pradesh, Assam, Karnataka, Maharashtra, Orissa and West Bengal), in respect of investment for overall development. It is thus clear that the post-reform record of public sector investment, whether for agricultural or rural or for overall development, has been highly disappointing in respect of five states (namely Andhra Pradesh, Assam, Karnataka, Maharashtra and West Bengal), and not-so-pleasing for Orissa and Tamil Nadu; for others, it has varied from a mild to moderate to a very high degree of improvement. The improvement of the rate of growth of investment at the national level was a direct consequence of this.

Fourth, in total terms, the pre- and the post-reform growth rates of public sector investment at the state level, whether for agricultural or rural or overall development, are reflective of an improved situation. Distinct improvement, in varying form and content, is discernible in as many as nine states (namely, Bihar, Gujarat, Haryana, Madhya Pradesh, Orissa, Punjab, Rajasthan, Tamil Nadu and Uttar Pradesh) while a varying degree of deceleration occurred in Andhra Pradesh, Assam, Karnataka, Maharashtra and West Bengal; Kerala throws up a mixed picture in that it is highly disappointing in respect of investment for agricultural development but a fairly pleasing improvement in respect of overall development. The sagging pace of public sector investment in 5-6 states needs to be probed into further.

Finally, it is also an important fact that the rate of growth of investment for rural development has been higher or nearly the same, compared with that for agriculture alone, both during 1983-84/1993-94 and 1993-94/1998-99, in a majority of states. This clearly points to the tendency of a higher pace of resource flow in the name of rural development (which includes agricultural development as well) rather than agricultural development alone. That public sector resources for agricultural development flow at a lower pace, once again, proves that the state has been steadily withdrawing from agriculture, and that does not bid well for the future of agricultural employment. But then, the higher pace of resource flow for rural development is a healthy indicator of a more diversified growth of the rural economy. This is adequately corroborated by the fact that the rate of growth of investment for rural development, which was higher compared with that for overall development during the pre-reform phase, in a majority of states, continues to be so during the post-reform period. Looking through the window of the rate of growth of public sector investment for rural and overall development, we have reasons to contest the view that, since the onset of economic reforms, public policy and investment resources have been tilting away from rural areas; it is not true that 'agriculture is no more the darling' of policy makers and resource administrators. Nonetheless, the point cannot, however, be stressed primarily because the difference in the rate of growth of public investment for rural development varies only marginally from that for overall development, in most of the states, both during the pre- and the post-reform years.

6.2 Macro-economic Variables and Employment

It is time we link a few macro-economic variables such as the rate of growth of investment and income with that of employment; the crucial structural parameters, most essentially the elasticity of employment with respect to income, may also be brought in to throw bare the changes in labour-use intensity that have encompassed different sectors of the economy, in the post-reform phase. Let us begin with the All-India picture.

6.2.1 Growth and Employment: All-India Picture

Table 16 puts together growth rates for a few important macro-economic variables, for the pre- and post-reform phases. A few points need to be clarified at this stage. First, to capture the growth of gross domestic product in real terms, we are using the pre- and the post-reform data sets, both now available at 1993-94 prices. Luckily, thanks to the recent adjustments effected by the Central Statistical Organisation, the time series on Gross Fixed Capital

Formation is also now available at 1993-94 prices. Second, agricultural workers are the aggregate of rural and urban workers. In India, no time series of GDP in general, and for agriculture in particular, is available separately for rural and urban areas; it is only recently that the Central Statistical Organization published national-level income data separately for rural and urban areas, for 1970-71, 1980-81 and 1993-94, based upon some strong assumptions on sector-wise productivity levels. The best course, therefore, is to posit GDP originating in agriculture and other sectors against the total of workers taken together from rural and urban areas. Third, public sector capital outlay for a specific sector alone may not be the best explanation to understand the behaviour of employment in that sector; employment in any sector, especially after the onset of economic reforms could as well be equally dependent on private investment on the one hand, and on investment in many related sectors of the rural and semi-urban economies, on the other. Table 16, therefore, uses the total of public and private investment, in preference to private investment alone. In spite of the precautions observed by us, we are admittedly working under some data constraints. Nonetheless, putting together whatever data are available, we make a few conjectures.

To recapitulate, a bunch of four sectors of the Indian economy witnessed a higher growth rate of employment of total (rural + urban) workers during the post-, compared with the pre-reform phase. These are construction, trade, transport-storage-communications, and finance-insurance-real estate. The remaining five sectors that witnessed a varying degree of drop in the growth rate of employment agriculture, mining-quarrying, manufacturing, utilities and community-social-personal services. While mining-quarrying and utilities faced a steep decline, leading to a negative growth rate of employment in the post-reform years, agriculture and community-social-personal services did not actually flip over to a negative growth rates although they too suffered a steep decline in the rate of growth employment. On both these counts, manufacturing is closer to the first bunch of sectors inasmuch the rate of growth of employment here suffered only a marginal setback.

Be that as it may, a careful perusal of the variables set out in Table 16 clearly shows that the pattern of change in employment growth rate has much to do with the changing magnitude of the elasticity of employment with respect to gross domestic product. In each of the four sectors that suffered serious employment setbacks during the post-reform years, the value of employment elasticity too witnessed a sharp decline; from 0.48 during 1983/1993-94 to 0.01 during 1993-94/1999-2000 in agriculture, from 0.61 to -0.49 in mining-quarrying, from 0.48 to -0.52 in utilities, and from 0.63 to 0.02 in community-social-personal services. On the other hand, in some of the sectors that witnessed a varying degree of increase in employment growth rate during the post-reform phase, the magnitude of employment elasticity too witnessed a varying degree of increase. In other words, the rising or declining labour content of growth has indeed been a strong driving factor behind accelerating or decelerating pace of employment expansion in individual sectors. But then, it is not only the labour content of growth but the pace of economic growth itself that added its weight to higher growth rates of employment in these six sectors. It is interesting to see that the slackening pace of investment in three of the six sectors, most noticeably in trade, transport-storage-communications, and finance-insurance-real estate, has not prevented higher employment growth rates to come off, primarily because income growth in these three sectors registered a significant mark-up during the post-, compared with the pre-reform phase.

Among the sectors that suffered employment setbacks during the post-reform phase, agriculture and community-social-personal services need to be looked into more carefully, primarily because of high employment stakes attached to them. In both these sectors, the rate of gross fixed capital formation picked up during the post-reform years, from 1.34 per cent per annum to 3.94 per cent per annum for agriculture and from 2.50 per cent per annum to 6.80 per cent per annum for community-social-personal services, and GDP growth rate too improved from 3.08 per cent to 3.14 per cent, and from 5.86 per cent to 8.61 per cent, respectively. Ordinarily, with upward movement of investment and GDP, one would have expected employment growth rate to pick up as well, but this did not happen. Presumably, it is the steep decline in the magnitude of employment elasticity from 0.48 to 0.01 in agriculture and from 0.63 to 0.02 in community-social-personal services, on the one hand, and the sizeable mark-up in the rate of growth of per worker productivity from 1.38 per cent to 3.04 per cent and from 1.74 per cent to 8.19 per cent, in these two sectors respectively, on the other, that brought forth a fairly high decline in the employment growth, from 1.39 per cent to 0.05 per cent in agriculture, and from 3.69 per cent to 0.21 per cent in community-social-personal services. Moreover, as we saw earlier in Table 8, employment setback in community-social-personal services did not occur to all its constituents; sanitary, community and recreational-cultural services were the main segments that faced a considerable employment squeeze in the post-reform years. Once again, we reiterate our suspicion that it is the slackening pace of investment in general, and of public investment in particular, that may have been responsible for bringing forth high employment setbacks in these specific segments of this sector; our suspicion veers around investment slackness in these segments alone since the sector as a whole did witness a sizeable expansion in the rate of growth of investment in the post-, compared with the pre-reform years.

For the economy as a whole, the scenario evokes a mix of cheers and brooding. That the rate of growth of employment declined from 2.06 per cent per annum during the pre-reform phase to 1.02 per cent during the post-reform period and that employment elasticity has declined steeply from 0.36 to 0.13 are sufficient to cause the brooding. On the other hand, the rate of growth of income improving from 5.37 per cent to 6.64 per cent, and per worker productivity registering a marked improvement from 2.95 per cent to 5.60 per cent, are good enough to bring cheers. But then, all these figures of the post-reform regime pose pertinent questions on India's capability of enhancing its growth to 7.0 or 8.0 per cent, through a substantial hike-up of investment rate, without allowing employment elasticity to go down, and so on. The coming few years are, therefore, going to test the nerve-feeling capability of the policy makers on the one hand, and the manner in which the private sector visualizes its role towards employment creation, on the other. Perhaps, the public-private sector partnership needs to be hammered out along new, market-friendly and more committed lines.

6.2.2 Growth and Employment: State-Level Scenario

Table 17 ventures to seek empirical confirmation of the positive relationship between the rate of growth of net state domestic product (NSDP) originating in agriculture and employment in agriculture, and a few associated relationships, based on an inter-state cross-section of growth rates. Theoretically, four types of relationships can be visualized between

two variables, say, rate of growth of agricultural sector (x) and rate of growth of agricultural employment (y). One, both x and y grow positively; two, both grow negatively; three, x grows positively but y grows negatively; and four, x grows negatively but y grows positively. In this typical example, cases one and two are understandable and all policy efforts must be made to convert case two to case one. The real puzzle, and cause for worry, comes through the negative growth of y (agricultural employment) in the presence of a positive growth of x (NSDP). Are labour displacing technologies coming in? Are the shifts in cropping patterns less and less labour absorbing? For paucity of space, and information, we do not have firm empirical answers to many such questions. Yet, our information base is strong enough to throw bare the changing patterns that have started emerging in the post-reform years.

Let us begin with the changes in the growth rate of NSDP in agriculture and those in agricultural employment, when we move from the pre- to the post-reform phase (Cols. 2-3 and 6-7). In as many as eight states (namely, Andhra Pradesh, Haryana, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra and Tamil Nadu) slower growth of their agricultural sector seems to be responsible for slower growth of agricultural employment, during the post-reform years, compared with the pre-reform phase. It is only in one state (Gujarat) that the improved growth rate of NSDP in its agriculture seems to have caused an increase in the rate of growth of employment. Out of the remaining eight states, we have a puzzling mixture of a higher growth rate of NSDP in agriculture but slower growth rate of agricultural employment in as many as seven states (namely, Assam, Bihar, Jammu-Kashmir, Orissa, Rajasthan, Uttar Pradesh and West Bengal), and a slower growth of NSDP in agriculture but a faster growth rate of agricultural employment in one state (Punjab). To pick up a few typical aberrations, in Assam, the post-reform growth rate of agricultural NSDP has been nearly the same as in the pre-reform years, yet the rate of growth of employment came down sizably from 1.86 per cent to -0.77 percent; in Rajasthan, NSDP in agriculture grew much faster (4.48 per cent during the post-reform phase against 0.56 per cent only during the decade prior to 1993), yet the rate of growth of agricultural employment came down steeply from 1.23 per cent to -0.02 per cent, and, in Uttar Pradesh, NSDP in agriculture grew at a faster pace of 2.98 per cent during the post-reform period, compared with 2.36 per cent during the pre-reform phase, and yet, the pace of agricultural employment growth worsened from 1.41 per cent to -0.29 per cent.

Keeping the puzzle cases apart, it comes out rather clearly that an accelerated pace of agricultural growth is the surest way of augmenting the pace of agricultural employment expansion; during the post-reform phase, many states in India have suffered setbacks in agricultural employment primarily because their agriculture grew at a slower pace, compared with the pre-reform period. But then, why did their agriculture grow slowly? The most convincing explanation is forthcoming through the slower pace of investment growth. Out of the seven states (actually eight; Himachal Pradesh is kept aside since information on investment is not available for it) where NSDP in agriculture, as well as employment in agriculture, grew at a slower pace, during the post-reform years, the pace of public sector investment for agricultural development had slackened, by a varying degree, in five of them (namely Andhra Pradesh, Karnataka, Kerala, Maharashtra and Tamil Nadu). At first sight, it looks puzzling that the two green revolution states of Punjab and Haryana facing a substantial decline in the growth rate of their agricultural NSDP even in the presence of a formidable hike in the rate of growth of public expenditure for agricultural development; it seems,

production efficiency is under siege here, possibly because the green revolution technology of the sixties and the seventies has run out of its cycle. In sum, our analysis succeeds in certifying that the states which did not allow the rate of growth of public sector investment in agriculture to suffer during the post-reform years did register an improved performance of their agriculture which, in turn, became instrumental in pushing up the rate of growth of their agricultural employment.

It is interesting to discover that the inter-state picture on the relationship between agricultural growth and agricultural employment (sketched out in the preceding paragraph) get reinforced when we look at the changes in the rate of growth of NSDP in agriculture and those in the rate of growth of aggregate of rural employment. Here again, seven states (namely, Andhra Pradesh, Haryana, Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra and Tamil Nadu) clearly testify that the pace of rural employment growth suffered during the post-reform phase because of a varying degree of decline in their agricultural sector; Bihar and Gujarat are examples of improved agricultural growth leading to higher pace of rural employment. Yet again, we have another seven states (namely, Assam, Jammu-Kashmir, Kerala, Orissa, Rajasthan, Uttar Pradesh and West Bengal) where the post-reform rate of growth of rural employment suffered in spite of a varying degree of improvement in the performance of their agricultural sector. Perhaps, it is the change in the magnitude of elasticity of employment that may resolve the puzzle for some of these states. It may be pointed out, perhaps in passing, that a more or less similar behaviour of agricultural employment and rural employment as a whole, in relation to the growth of NSDP in agriculture, points towards the multiplier effects of agricultural growth that encompasses employment not only in agriculture itself but in other sectors of the rural economy; in other words, the extreme significance of agricultural growth as the triggering pre-requisite for rural employment, earnings and well-being is well authenticated even by our limited analysis.

It would have been equally educative to look into the triangular relationship between the rate of growth of investment for rural development and that of rural economic growth, on the one hand, and the rate of growth of rural NSDP and rural employment, on the other hand. Unluckily, we cannot do so because the rural-urban break-up of NSDP is not available at the state level. It is nonetheless important to see that in many states, an improvement in the rate of growth of public sector investment for rural development during the post-, compared with the pre-reform period, moves in tandem with an improvement in the rate of growth of rural employment.

Before we conclude, a clarification may better be recorded. Our state-level analysis of the pre- and the post-reform investment patterns and growth has been based exclusively on public sector capital expenditure data; we did not enter into the slippery world of private sector rural investment in the states. Looking at the national-level patterns of change, during the 1990s against those during the 1980s, private investment has been overtaking its public sector counterpart in many sectors of the Indian economy. It is for sure that the rural areas of the Indian states have also been experiencing such public-to-private-sector switch-over. In that case, it is possible, and is quite likely, that private investment has been filling up the gaps being created by the steady withdrawal of public sector investment, or, acting in a complementary relationship with public investment, private investment has been pushing up

the rate of growth of total investment beyond the levels captured in this study through public sector investment alone. These research gaps need to be attended to, on an urgent basis. We are nevertheless confident that the broad conclusions, especially on the relationships between the rate of growth of investment (*albeit* public sector investment alone) and rate of growth of agricultural NSDP, and that between the latter and the rate of growth of agricultural and rural employment, that come out of this study would get further reinforced as and when the indicated data gaps are filled.

VII Summing up Broodings and Cheers

When the preliminary 1999-2000 NSS data on employment was released, many researchers and public analysts declared that rural employment had suffered a tremendous setback during the decade of economic reforms. With the release of the latest all-India employment estimates, and adoption of a few methodological refinements, most of the initial misgivings are now proved to be over-stated. What is coming up now is a mixture of cheers and setbacks, across production/service sectors, individual states, male and female workers, in rural as well as urban areas; in our assessment, the overall situation during the post-, compared with the pre-reform period, does pose some signs of concern. This concluding note sketches out a few developments of the 1990s that, in our view, signal a departure from the employment pattern of the 1980s, mainly to evoke a more intense public debate and further research when more people join the debate on the impact of economic reforms on rural employment.

1) Looking together at age group-wise LFPR, WFPR and attendance in educational institutions, the post-reform years (1993-94/1999-2000) seem to have augured well for children (10-14 years old) and adolescents (15-19 years old); the hypothesis of their withdrawal from the labour market, in favour of education, deserves to be looked into more closely, at the household level, separately for rural and urban areas of each state. The male-female differentials need to be examined more carefully, especially in the context of crucial demographic features and the general level of rural development of each state. Which categories of rural households have started seeing through the value of 'investment in human beings', under the open economic regime, deserves to be brought out in bold relief.

2) Contrary to the initial fears, labour force in each age-group has suffered a very small, perhaps a negligible, decline in WFPR, except for the adolescent job seekers, both in rural and urban areas. Possibly, these adolescent job aspirants being largely school drop-outs, having little training, job experience and maturity, have started experiencing difficulties in labour market. The hypothesis that an adolescent is the last to get a job, and the first to lose the same, deserves a more scientific analysis.

3) At the national-level, employment-friendly claims of the 1991-92 economic reforms have not fully come off. In overall terms, the benefit of higher employment growth rate under the spell of economic reforms has been available neither to rural nor to urban workers, and, neither to male nor to female workers, across the board. It is undoubtedly a situation of the sufferance of the commons. Going by the intensity of the setback in the rate of growth of employment, it was the severest for the rural females, followed by urban females, rural males

and urban males, in that order. Sectorally, for rural workers, transport-storage-communications, construction and, to a slightly lesser extent, manufacturing could be treated as satisfying segments while agriculture, mining-quarrying, utilities, trade (especially the whole-sale trade), finance-insurance-real estate, and community-social-personal services, showed negative growth or slow-downs in employment growth. Moreover, the benefit of improved employment growth during the post-reform years was not available to both sections of the rural workforce. Female workers are getting dislodged from transport-storage-communications while their increasing presence is discernible in construction. In a sense, it is no better than a shift from one source of casual employment to another. Nevertheless, a redeeming feature of the post-reform employment scenario is that the pace of employment growth in the manufacturing sector did not witness a serious setback, both for rural male and female workers, as was widely feared to be happening when rural industry would start facing competition not only from the urban industry at home but also from abroad, under the liberalized trade regime of the nineties. Perhaps, it may not be wrong to suggest that the initial onslaught of competition has fallen more on urban manufacturing inasmuch as the decline of the rate of growth of employment from 2.21 per cent during phase I to 1.83 per cent during phase II could not be helped here too.

4) The state-wise picture on employment growth rates is a mixture of up- and downswings. A straightforward, *albeit* questionable, method of counting post-reform up- and down-swings is to treat all increments and decrements alike, and put individual states into two groups, one representing improvement and the other decline in the rate of growth of employment, irrespective of the magnitude of increase/decline. By this criterion, during the post-1993 years, compared with the preceding decade, the overall employment growth rate for rural persons declined in 13 and increased in 4 states; for non-agriculture as a whole, it declined in 11 and increased in 6; in manufacturing it fell in 8 but increased in 9; in agriculture, it came down in as many as 15 and increased in 2 and so on. The most devastating performance was put up by the community-social-personal services, where the rate of growth of employment for rural persons declined during the post-, compared with the pre-reform years, for as many as 14 of the seventeen states. Taking a composite view of the increases and decreases in the sectoral growth rates of employment, it is evident that improvement has occurred in some states while many others have suffered employment setbacks. The picture looks fairly depressing.

However, it would not look as much depressing when we take cognizance of the intensity of the post-reform setbacks. But then, what degree of improvement in employment growth rate should be satisfying, or what level of setback should be viewed with concern, are the questions that cannot be firmly answered; some degree of arbitrariness is always involved, especially in devising scales for measuring downward movement. Without being deterred by such procedural limitations, we treat a post-reform decline in the rate of growth of employment up to 1.0 percentage point as a marginal setback, the one between 1.0 and 2.0 percentage points as a moderate setback, and the one going beyond 2.0 percentage points as a serious setback, and look into the position of individual states, in respect of agriculture and total rural employment. Andhra Pradesh, Himachal Pradesh and Tamil Nadu emerge as the most confirmed trouble spots; they suffered a high degree of post-reform setback, both in agriculture and overall employment. Haryana, Karnataka, Madhya Pradesh, Orissa and

Rajasthan must also receive priority attention; each one of them suffered a medium level of setback, both in agriculture and overall employment. For this group of eight states, employment rejuvenation policies need to be directed not only to individual constituents of agriculture but to many of the non-agricultural sectors/activities. Finally, going again by the post-reform intensity of employment setbacks, Jammu-Kashmir, Maharashtra and West Bengal need more pointed attention in agriculture, especially for livestock in Jammu-Kashmir, field crop production in Maharashtra and field crop production, livestock and forestry-logging in West Bengal.

5) The post-reform years have brought about many significant changes in the pre-reform pattern of sectoral deployment of incremental workforce. Agriculture could not take on more than 22.0 per cent of the incremental rural workforce, during 1993-94/1999-2000 against 63.2 per cent during 1983/1993-94. Manufacturing, construction, transport-storage-communications and trade accommodated 21.0, 27.0, 19.0 and 12.0 per cent of the incremental workforce, respectively, during the period 1993-94/1999-2000; community-social-personal services could hardly absorb 2.0 per cent of them. In the decade prior to 1993, these five sectors did not absorb more than 9.0, 6.0, 3.0 and 8.0 and 8.0 per cent, respectively, of the incremental workforce.

A highly uneven pattern of absorption of incremental workforce within each of the major sectors is equally evident. For example, in agriculture, its most domineering segment of field crop production could not take on more than 24.44 per cent of the incremental workforce during the post- against as high as 67.55 per cent during the pre-1993 decade; in manufacturing, nearly 80.0 per cent of the additional workforce was absorbed by agro-based manufacturing alone; in trade, it was the retail trade that accommodated a lion's share of the incremental workplaces; and in community-social-personal services, it was public administration, defence personnel and education-scientific personnel that claimed most of the incremental jobs. Also, in many sub-sectors, there was a decline in the number of the pre-existing workplaces. For example, plantation, livestock and fishing in agriculture, cotton-wool-jute-mesta, machine tool and electrical machinery, repair services and other miscellaneous activities in manufacturing, utilities and, sanitary, community, recreational and cultural, and personal services under community-social-personal services, lost varying proportions of the pre-existing work positions during the post-reform years.

At the state level, the post-reform phase witnessed a drastic reversal of the deployment of incremental/decremental workforce between agriculture and non-agricultural sectors. In as many as eight of the seventeen states (namely, Andhra Pradesh, Assam, Bihar, Haryana, Madhya Pradesh, Orissa, Rajasthan, and Uttar Pradesh), a majority of the incremental workplaces was absorbed in agriculture during the pre-reform phase while it was the non-agricultural sectors that did so during the post-reform years. In three states (namely, Gujarat, Punjab and Tamil Nadu), it was a shift from non-agriculture to agriculture. Out of the remaining six states, agriculture continued to have a bigger share of incremental jobs in Himachal Pradesh, Jammu-Kashmir, Karnataka and Maharashtra, while it was true of non-agriculture in the case of Kerala and West Bengal. The post-reform years have thus disturbed the agriculture-to-non-agriculture or non-agriculture-to-agriculture shifts that have been occurring during the eighties. That, in a majority of states, the post-reform years have

witnessed a sizeable shift from agriculture to non-agriculture, should ordinarily be welcome. It needs, however, a separate in-depth study to identify the states where the shift was occasioned by a push from agriculture and those where it was the pull of the non-agricultural sectors that brought about this change

The patterns described above for the total of rural workers apply, *mutatis mutandis*, to rural male as well as rural female workers. Nonetheless, it is in order to point out that the degree of disparateness in the movement of labour into and out of agriculture has continued to remain much higher in the case of rural females. In many states, the rural female workers are relatively worse placed, both under job increments and decrements. They lose far more heavily when workplaces decline and gain relatively fewer of the incremental workplaces. For example, during the post-reform phase, the entire loss of non-farm jobs in Andhra Pradesh, Haryana, Karnataka, and Maharashtra, and likewise, the entire loss of agricultural jobs in Haryana, Jammu-Kashmir, Karnataka, Orissa, Rajasthan and West Bengal fell to their account. On the other hand, only 3.88 per cent, 31.65 per cent, and 32.29 per cent of the additional jobs in agriculture went to them in Andhra Pradesh, Bihar, and Maharashtra, respectively; again, only 6.89 per cent, 33.79 per cent, 2.95 per cent, 30.53 per cent, 13.31 per cent, 31.90 per cent, 44.20 per cent, 25.78 per cent, 11.42 per cent, and 16.54 per cent of non-agricultural jobs went to them in Assam, Bihar, Himachal Pradesh, Jammu-Kashmir, Kerala, Madhya Pradesh, Orissa, Punjab, Rajasthan, and Uttar Pradesh, respectively. We are thus strongly persuaded to conclude that the rural female workers have always stood behind their male counterparts, in the rural labour market. After the arrival of economic reforms, their relative position has worsened. Apart from many socio-cultural prejudices that have all along stood against them in the job market, it is their own weak human capital base which is now inflicting the severest infirmity upon them. This prompts us to look into some aspects of human capital in rural India. Perhaps, even a broad overview of the educational background of rural workers would throw bare the inherent weaknesses of rural workers in general, and of rural female workers in particular, in the context of changing job requirements and the fierce job market competition that has already set in.

6) During the nineties, a mixed picture operated on the rural workers' share in incremental/decremental employment. In overall terms, however, the rural workforce has been at a disadvantage; it gained relatively less in work-place increments and lost relatively more in work-place decrements. We suspect, this tendency might intensify itself in years ahead inasmuch as the low levels of educational, training and skill capabilities of rural job seekers, compared with their urban counterparts, would push them back in the national labour market that is becoming more and more competitive. Our suspicion stems largely from the fact that during 1993-94/1999-2000, rural workers alone bore the total brunt of job losses in many sectors/activities that are usually knowledge-, skill- and capital-intensive (most markedly machine tools and electrical machinery, transport equipment, other manufacturing, repair services under manufacturing, whole-sale trade under trade-hotelling-restaurant, public administration and defence, community services and recreational and cultural services under community-social-personal services).

7) The state-level evidence too shows that the rate of growth of rural non-farm employment witnessed a varying degree of slow-down during the post-, compared with the

pre-reform period, in as many as eleven states, namely Andhra Pradesh, Gujarat, Haryana, Himachal Pradesh, Jammu-Kashmir, Karnataka, Maharashtra, Punjab Rajasthan, Tamil Nadu and West Bengal. It is the declining pace of employment expansion in this sector that has been responsible for keeping the proportion of rural workers engaged in it under a near-arrest, or an actual decline during the post-reform years. The evidence on the former trend is clearly discernible in Andhra Pradesh, Haryana, Maharashtra, Rajasthan and West Bengal, while that on the latter is forthcoming in Gujarat and Karnataka. On the other hand, the improvement in the employment growth rate in the remaining six states (namely Assam, Bihar, Kerala, Madhya Pradesh, Orissa and Uttar Pradesh) was fairly impressive. That is perhaps the reason that the proportion of rural workers engaged in the non-farm sector stood as high as 51.2 per cent in Kerala, 32.2 per cent in Assam, 23.6 per cent in Uttar Pradesh, and so on. On the whole, the process of structural shift of rural workforce from agriculture to non-agriculture has been operating highly unevenly among the states, both during the pre- and the post-reform periods, but has tended to widen in recent years. For example, the proportion of rural workers engaged in the non-farm sector varied sharply from as low as 10.1 per cent in Madhya Pradesh to as high as 43.9 per cent in Kerala, during 1993-94, and from 12.8 per cent to 51.2 per cent, for the very two states, during 1999-2000. The inter-state divide became particularly sharper in respect of the proportion of rural female workers that varied, during 1993-94, from as low as 4.5 per cent in Himachal Pradesh to as high as 40.4 per cent in West Bengal, and, during 1999-2000, from 4.9 per cent to 47.4 per cent, for the very two states.

Another way of looking at the inter-state position about the structural shift of rural work-force is to put individual states into three groups, on the basis of the proportion of rural workers engaged in the non-farm sector, say, during 1993-94 and 1999-2000. For notional convenience, states with less than 15.0 per cent of rural workers engaged in the non-farm sector are taken to represent low level of non-farm development, those with greater than 15.0 per cent but less than 25.0 per cent as medium level, and those with 25.0 per cent and above as high level of non-farm development. On these criteria, during 1993-94, one state (Madhya Pradesh) fell in the low-level category, eleven states (Andhra Pradesh, Assam, Bihar, Gujarat, Himachal Pradesh, Jammu-Kashmir, Karnataka, Maharashtra, Orissa, Rajasthan and Uttar Pradesh) fell in the medium-level group, and five states (Haryana, Kerala, Punjab, Tamil Nadu, and West Bengal) belonged to the high-level category. Between 1993-94 and 1999-2000, practically each state registered some improvement but only three (smaller and mountainous, and perhaps, as yet not much affected by economic reforms) states, namely, Assam, Himachal Pradesh and Jammu-Kashmir, could jump over from the medium- to the high-level group. This again testifies to the slower growth of non-farm activities after the onset of reforms.

8) It seems, the informal sector is experiencing expansion side by side with contraction, in India's rural economy. For example, a higher proportion of additional working hands going to construction, trade (more markedly in retail trade, and to a slightly lesser extent, in hotels-restaurants against a decline in the case of whole-sale trade), transport-storage-communications, etc., during the post-, compared with the pre-reform phase, is a clear reflection of the expansionary trend. On the other hand, a lower proportion of additional working hands going to field crop production, livestock and fishing under agriculture, personal services under community-social-personal services, and a higher proportion of

working hands going to a variety of manufacturing activities side by side with a lower proportion in the case of repair services, point towards a contractionary tendency. The same is true, *mutatis mutandis*, of the urban economy. Perhaps, the expansionary tendencies have been more pervasive in the rural areas, and that may be a reason for a slow-down in the reduction of self-employment and a sizeable mark-up in the index of casualization in recent years.

9) Highly disparate trends were discernible for sector-wise growth of rural as well as urban employment, both during 1993-94/1999-2000 and 1983/1993-94. However, unlike the pre-1993 phase, in most sectors, gains and losses in rural employment during the post-1993 years were in tandem with their urban counterparts. It seems, the rural economy is getting enmeshed into the rest of the economy, and the rural job aspirants can no more operate outside the precincts of the national labour market. Clearly, the domain of exclusive non-farm employment preserves, largely propelled and sustained by ex-market or ad hoc considerations, are getting lost to rural workers, especially to the self-employed among them. No easy time lies ahead of them.

10) Although there is adequate evidence to show that the process of improvement of the quality of rural labour-force, most certainly under the impact of a remarkable expansion of educational facilities in the past decades, that has been steadily going on much before the arrival of economic reforms, has continued its forward march during the post-reform years as well. For example, the proportion of illiterate rural workers has witnessed a varying degree of decline in each state; on the other hand, the proportion of rural workers with, say, middle or higher level of schooling has been increasing, again in all the states. In spite of all these positive developments, a poor human capital base of India's rural economy continues to be its Achilles' heel. Even as late as 1999-2000, a sizeable proportion of rural workers were totally illiterate; in particular, the proportion of illiterate workers 'dumped' in agriculture is alarmingly high. The vulnerability of rural workers surfaces most blatantly when we go to technical/professional education. It seems India's claim to a 'spectacular expansion' of IT professionals, at home and abroad, during the nineties, has nearly completely bypassed the rural population. The rural females are the worst placed job claimants, in most of the states.

11) It is redeeming to see that, during the past 12-13 years, the proportion of educated persons choosing to stay back in agriculture has increased; this is possibly so because the 'new agriculture' too demands higher levels of educational and training pre-requisites. Presumably, to many of the educated job seekers, 'modern agriculture', especially that linked with the world outside, is becoming an attractive career. Nonetheless, it is crucial to remember that the proportion of such persons is very low, and a majority of the rural workers, both in the farm and non-farm sectors, are still devoid of any creditable achievement on the educational front; in this regard, the rural females are the worst placed.

12) Going by the national-level investment scenario, it is not true that the pace of investment in agriculture, and its allied sectors, has slackened during the post-reform years; in fact, we discover a substantial step-up in the rate of growth of investment in crop production, forestry and logging, fishing, and agriculture as a whole. The rate of growth of investment in manufacturing and construction was also higher during the post-reform years; it is only in

trade, transport-storage-communications and finance-insurance-real estate, that the post-reform years witnessed a substantial dip in the rate of growth of real investment. But then, a really worrisome development is that agriculture has consistently been losing its ground in terms of investment priorities. And this has been happening in the pre- as well as the post-reform years. This trend is obviously at odds end with the employment stakes in agriculture.

Another worrisome matter is that public sector real investment has been under a kind of seize for many years now. Its share in total investment has been declining, almost unfailingly, since the beginning of the eighties. An extremely crucial difference between agriculture and non-agricultural sectors is that while public sector's share of investment in agriculture has been declining both during the 1980s and the 1990s, its counterpart in non-agriculture started declining only during the 1990s. In other words, after the arrival of economic reforms, the axe fell relatively more heavily on non-agriculture rather than agriculture. Moreover, while it tended to improve for some years during the post-reform years in the case of agriculture, a nearly unbroken chain of year-to-year decline is discernible in the case of non-agriculture.

13) The state-level investment scenario throws up its own post-reform strengths and weaknesses. The post-reform record of public sector investment, whether for agricultural or rural or for overall development, shows distinct improvement, in varying form and content, in as many as nine states (namely, Bihar, Gujarat, Haryana, Madhya Pradesh, Orissa, Punjab, Rajasthan, Tamil Nadu and Uttar Pradesh) while a varying degree of deceleration occurred in Andhra Pradesh, Assam, Karnataka, Maharashtra and West Bengal; Kerala throws up a mixed picture in that it is highly disappointing in respect of investment for agricultural development but a fairly pleasing improvement in respect of overall development. The sagging pace of public sector investment in 5-6 states is likely to adversely affect rural employment situation there, with serious implications towards poverty eradication.

14) At the level of Indian economy as a whole, the higher rates of growth of employment in construction and transport-storage-communications, and a minor decline in manufacturing, during the post-, compared with the pre-reform years, have much to do with the changing magnitude of the elasticity of employment with respect to gross domestic product, as also the rate of growth of GDP originating in each of these sectors. On the other hand, most of the remaining sectors that suffered serious employment setbacks during the post-reform years are the ones where employment elasticity has witnessed a sharp decline, while GDP witnessed a sluggish or negative growth rate. In respect of the overall rate of growth of employment, the national scenario throws up a mix of cheers and brooding. That the rate of growth of employment declined from 2.06 per cent per annum during the pre-reform phase to 1.02 per cent during the post-reform period and that employment elasticity has declined steeply from 0.36 to 0.13 are sufficient to cause the brooding. On the other hand, the rate of growth of income improving from 5.37 per cent to 6.64 per cent, and per worker productivity registering a marked improvement from 2.95 per cent to 5.60 per cent, are good enough to bring cheers. But then, all these figures of the post-reform regime pose pertinent questions on India's capability of enhancing its growth rate to 7.0 or 8.0 per cent, through a substantial hike-up of investment rate, without allowing employment elasticity to go down. The coming few years would, therefore, test the nerve-feeling capability of the policy makers on the one hand, and the manner in which the private sector visualizes its role towards

employment creation, on the other. Perhaps, the public-private sector partnership needs to be hammered out along new, market-friendly and more committed lines.

15) The state-level analysis of the rate of growth of agricultural employment also throws up a mixture of up- and down-swings. On the whole, it decelerated in a larger number of states while it registered an improvement in very few. But then, it comes out clearly that an accelerated pace of agricultural growth is the surest way of augmenting the pace of agricultural employment expansion; during the post-reform phase, many states in India have suffered setbacks in agricultural employment primarily because their agriculture grew at a slower pace, compared with the pre-reform period. The most convincing explanation for the slower pace of agricultural growth comes forth through the slower pace of investment growth. Our analysis succeeds in certifying that the states which did not allow the rate of growth of public sector investment in agriculture to suffer during the post-reform years did register an improved performance of their agriculture which, in turn, became instrumental in pushing up the rate of growth of their agricultural employment.

To conclude, the post-reform years have thrown bare the sectors/activities that can be confidently looked at as future sources of rural employment expansion. At the national level, a wide range of manufacturing activities (e.g. textile products, wood and leather products, chemicals and metal products, non-metallic mineral products, basic metal industries, and with special efforts food processing and beverages, etc.), construction, hotel-restaurant and tourism, transport-storage-communications, and some activities under community-social-personal services (e.g. education and scientific personnel, medical and health services, etc.), stand out as the most likely thrust areas.

At the state-level, the choices essentially depend on the level of diversification already reached in rural economies, and a scientific identification of rural economic activities that are likely to get boosted up against those that may face a steady decline as the process of economic liberalization grows apace in the near future. The post-reform experience, however roughly sketched out in this study, should throw up hints on the nature of changes that the open and market-driven economies would brook in days ahead. As a short-term strategy, the states must strive to strengthen their agricultural base, through reversing the recent trend of down-swings in the rate of growth of investment. The hard reality of the crucial role that public sector investment has to play in strengthening the infrastructure and other supporting institutions, which seems to have receded to low levels of government memory, must be restored to the level of priority investment. This would have to stay as an inescapable public choice, partly because, in a preponderant majority of states, more than 70.0 per cent of the rural workforce is still absorbed by agriculture, and partly because it is this very sector that has the potential to absorb the employment setbacks that may emerge in other sectors when we go further into the new economic regime. In this context, Andhra Pradesh, Assam, Haryana, Himachal Pradesh, Karnataka, Madhya Pradesh, Orissa, Tamil Nadu, and to a slightly lower extent, Maharashtra, Rajasthan and Uttar Pradesh, are the states that must strive to reverse the adverse trend of agricultural employment.

The above does not imply that the non-agricultural base, especially the rural manufacturing sector, that has stood well the test of economic reforms during the 1990s, in a

number of states, should not be nursed to gain further competitiveness and expanded employment potential. The fact that as many as nine states (namely, Bihar, Haryana, Himachal Pradesh, Jammu-Kashmir, Kerala, Madhya Pradesh, Orissa, Punjab, and Uttar Pradesh) witnessed, during the post- compared with the pre-reform years, a varying degree of increase in their rate of growth of employment in rural manufacturing, testifies to the potential that lies ahead, under a medium-term development strategy. In fact, the rural industrial base in many of these states is undergoing a steady modernization, which is forging, *inter alia*, a diverse variety of rural-urban linkages including sub-contracting and ancillarization (Chadha, 2001b); the rural industry must look in new directions.

Finally, quality of employment must also be an issue of importance to the central and state governments. Happily, the Tenth Plan Approach Paper makes a strong plea for improving the quality of employment: “the challenge, however, is to bring about a qualitative change in the structure and pattern of employment in terms of promoting growth of good quality work opportunities” (Govt. of India, 2001a: 6). Earlier, in the Ninth Plan Mid Term Appraisal, the urgency of bringing the unorganised workers, a very substantial proportion of which is in the very midst of rural workforce, under a legislative cover, was also a public initiative to improve the quality of employment (Govt. of India, 2000: 310-11). Although not expressly addressed to rural areas, yet the heightened emphasis on social infrastructure (most notably education, health and rural water supply), and economic infrastructure (notably electric power, roads and telecommunications), along with greater decentralization of authority to panchayati raj institutions and other people’s organizations, shows, at least for the time being, that the future development thrust is on the right lines (Govt. of India, 2001a: 35-54). Good quality employment is indispensably linked with good quality of labour force which, in turn, pre-supposes a big lump of public investment, under an enduring scrutiny of grass-roots people’s institutions. Will all these pious hopes materialize, especially at the state-level? Will the issue of resource crunch hold back the state policy makers from what is crucial for the future generations of workers in general, and rural workers in particular?

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Table 1 Labour Force and Work Force Participation Rate by Age-Group, Place of Residence and Person's Sex: 1987/1999-00

Age Group	Year	Labour Force Participation Rate						Work Force Participation Rate						Attending Educational Institution					
		R_M	R_F	R_P	U_M	U_F	U_P	R_M	R_F	R_P	U_M	U_F	U_P	R_M	R_F	R_P	U_M	U_F	U_P
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
5-9	1987-88	2.3	2.4	2.3	0.5	0.3	0.4	100.0	100.0	100.0	100.0	100.0	100.0	26.8	22.8	24.9	72.6	67.7	70.2
	1993-94	1.1	1.4	1.3	0.5	0.5	0.5	100.0	100.0	100.0	100.0	100.0	100.0	67.0	56.1	61.8	84.1	80.1	82.2
	1999-00	0.7	0.7	0.7	0.3	0.2	0.3	85.7	100.0	100.0	100.0	100.0	100.0	70.7	63.1	67.1	83.8	81.0	82.4
10-14	1987-88	19.3	18.3	18.8	9.2	6.6	7.9	98.4	99.5	98.9	92.4	98.5	94.9	63.4	40.8	53.1	80.3	71.6	76.2
	1993-94	14.0	14.1	14.1	6.9	4.6	5.8	98.6	100.0	99.3	95.7	97.8	96.6	74.3	54.6	65.3	86.6	81.2	84.0
	1999-00	9.3	9.6	9.4	5.2	3.7	4.5	97.8	100.0	98.9	94.2	97.3	95.6	77.7	63.5	71.1	87.3	82.1	84.8
15-19	1987-88	63.0	41.5	53	42.9	16.9	30.9	95.2	96.1	95.7	82.8	86.4	83.5	32.2	12.5	23.0	52.2	39.4	46.3
	1993-94	59.8	37.1	49.5	40.4	14.1	28.4	96.5	98.1	98.0	88.1	87.2	88.0	36.8	19.0	28.7	55.9	49.0	52.8
	1999-00	53.2	31.4	43.1	36.6	12.1	25.4	94.5	96.8	95.4	85.8	86.8	85.8	41.3	25.8	34.2	58.5	51.7	55.4
20-24	1987-88	91.8	48.4	68.8	79.2	22.5	51.8	95.0	96.1	95.3	85.1	82.2	84.6	6.4	1.3	3.7	18.4	8.4	13.6
	1993-94	90.2	46.9	67.9	77.1	23	51	95.2	97.2	95.9	87.7	78.3	85.5	8.0	1.9	4.9	20.5	12.2	16.5
	1999-00	88.9	42.5	64.8	75.5	19.1	48.8	94.9	96.2	95.4	87.2	81.2	86.1	8.6	2.9	5.6	21.8	15.8	19.0
25-29	1987-88	98.1	53.9	75.6	96.7	24.4	61.7	97.8	97.0	97.5	94.5	91.4	93.8	0.6	0.1	0.4	1.8	0.6	1.2
	1993-94	98.0	53	74.6	95.9	24.8	61	97.7	99.1	98.1	94.3	90.3	93.6	0.8	0.2	0.5	2.9	0.8	1.9
	1999-00	97.5	49.8	72.9	95.1	21.4	58.7	97.4	98.6	97.8	92.8	90.7	92.5	0.9	0.2	0.5	3.0	1.1	2.1
30-34	1987-88	99.0	58.8	79	98.5	28.2	65.5	99.2	98.1	98.9	98.4	96.5	98.0	0.1	0.0	0.1	0.2	0.2	0.2
	1993-94	98.9	58.7	78.6	98.3	28.3	64.7	99.4	99.7	99.5	98.1	96.1	97.7	0.1	0.0	0.1	0.3	0.2	0.2
	1999-00	98.7	55.7	76.3	98	24.5	61.4	99.2	99.6	99.3	98.0	95.9	97.6	0.1	0.1	0.1	0.3	0.2	0.2
35-39	1987-88	99.1	60.8	80	98.9	31.3	66.7	99.5	98.0	99.0	99.2	98.7	99.1	0.0	0.0	0.0	0.1	0.0	0.0
	1993-94	99.1	60.9	80.9	98.8	30.5	65.6	99.8	99.8	99.8	99.5	98.4	99.2	0.0	0.0	0.0	0.1	0.1	0.1
	1999-00	98.6	57.9	78.5	98.6	28.9	64.4	99.8	100.0	99.9	98.9	98.6	98.9	0.0	0.0	0.0	0.0	0.2	0.1
All Age Groups	1987-88	54.9	33.1	44.3	53.4	16.2	35.6	98.2	97.6	98.0	94.8	93.8	94.7	15.8	9.1	12.5	25.9	21.6	23.9
	1993-94	56.1	33.0	44.9	54.3	16.5	36.3	98.6	99.4	98.9	95.9	93.9	95.6	22.3	14.8	18.6	27.9	24.5	26.3
	1999-00	54.0	30.2	42.3	54.2	14.7	35.4	98.3	99.0	98.6	95.6	94.6	95.2	24.5	18.1	21.4	28.1	25.1	26.7

Note: R_M = Rural Male, R_F = Rural Female, R_P = Rural Persons
 U_M = Urban Male, U_F = Urban Female, U_P = Urban Persons

Source: 1. Govt. of India, SARVEKSHANA, Special No., Sept. 1990: S188-S193.
 2. Govt. of India, Key Results on Employment and Unemployment, NSS Reort No 409, March 1997: A 112- A 117.
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Table 2 State-wise Labour Force and Work Force Participation Rate by Place of Residence and Person's Sex: 1983/1999-00

State	Year	Labour Force Participation Rate						Workforce Participation Rate					
		R_M	R_F	R_P	U_M	U_F	U_P	R_M	R_F	R_P	U_M	U_F	U_P
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Andhra Pradesh	1983	61.2	47.2	54.1	53.4	18.6	36.4	99.0	99.8	99.5	95.3	96.7	95.7
	1993-94	63.5	52.1	57.8	56.0	20.7	38.7	99.4	100.0	99.5	97.1	96.1	97.2
	1999-00	61.1	48.0	54.6	53.2	18.4	36.2	99.0	99.6	99.3	96.1	96.7	96.1
Assam	1983	51.1	12.9	33.3	52.4	8.6	32.7	98.0	98.0	97.9	95.6	90.4	95.3
	1993-94	54.1	17.2	37.3	55.9	12.4	35.2	95.4	92.4	94.6	94.5	74.2	91.2
	1999-00	54.6	16.1	36.4	56.5	13.8	36.8	96.9	93.8	95.9	92.4	81.2	90.2
Bihar	1983	51.5	24.9	38.3	49.5	21.0	45.5	98.7	99.7	98.9	95.1	99.2	95.6
	1993-94	52.1	17.3	35.6	47.1	7.6	29.1	98.1	99.4	98.6	93.2	90.8	93.1
	1999-00	50.3	17.4	34.4	46.6	8.2	28.7	97.8	99.4	98.3	92.7	91.5	92.7
Gujarat	1983	55.4	41.2	48.5	54.5	13.6	35.3	99.2	99.8	99.5	95.4	96.8	95.8
	1993-94	58.1	39.7	49.2	55.1	14.8	35.9	98.8	99.7	99.2	97.1	95.9	96.7
	1999-00	58.7	41.3	50.1	54.7	13.8	35.2	99.5	100.0	99.6	98.0	97.8	98.0
Haryana	1983	48.0	23.3	36.4	55.8	11.6	35.2	96.8	99.6	97.9	95.7	93.9	95.3
	1993-94	47.0	27.2	37.7	53.2	15.7	36.1	98.5	99.6	98.7	97.6	96.8	97.5
	1999-00	48.1	20.2	34.9	52.0	10.1	32.3	98.8	100.0	99.1	97.3	97.0	97.2
Himachal Pradesh	1983	53.6	47.8	50.7	57.6	18.5	40.2	98.7	99.5	99.0	92.5	92.8	92.0
	1993-94	59.5	52.0	55.6	50.5	20.2	37.2	99.2	100.0	99.6	96.6	99.5	97.6
	1999-00	54.6	47.4	50.9	53.3	14.2	34.4	98.2	99.4	98.8	93.6	91.5	93.6
Jammu & Kashmir	1983	55.6	28.5	42.6	55.6	10.8	34.6	99.4	99.7	99.6	96.8	92.6	96.1
	1993-94	52.4	39.3	45.9	52.2	14.3	34.0	99.0	99.5	99.3	94.1	90.9	93.2
	1999-00	55.4	33.0	44.7	50.0	6.8	29.6	98.9	99.1	98.9	95.6	91.2	94.9
Karnataka	1983	59.1	38.8	49.0	53.5	20.4	37.4	99.3	99.3	99.3	95.7	95.7	95.8
	1993-94	60.9	43.2	52.1	55.8	19.1	37.9	99.2	99.5	99.2	97.1	94.8	96.6
	1999-00	60.1	38.1	49.1	56.2	18.6	37.8	99.0	99.7	99.2	97.0	95.7	96.8
Kerala	1983	52.2	33.8	42.8	55.1	25.9	39.8	93.1	92.8	92.9	90.6	84.7	88.5
	1993-94	56.8	26.4	40.9	59.9	25.0	42.0	94.5	90.2	93.2	93.3	81.2	89.8
	1999-00	58.7	27.3	42.2	59.1	25.4	41.5	94.2	87.2	91.7	94.4	79.9	89.9
Madhya Pradesh	1983	56.4	43.3	49.9	49.3	14.7	33.2	99.7	100.0	99.8	96.9	98.8	97.1
	1993-94	57.6	41.1	49.7	49.8	14.8	33.4	99.3	99.8	99.4	94.6	95.9	94.9
	1999-00	54.0	38.3	46.4	50.9	13.6	33.1	99.3	99.7	99.6	95.9	98.5	96.4
Maharashtra	1983	56.6	47.4	52.0	54.2	15.7	36.1	99.1	99.8	99.5	94.6	96.6	95.1
	1993-94	55.8	47.8	51.8	54.9	17.7	37.3	98.7	99.8	99.2	95.8	95.5	95.4
	1999-00	54.2	43.7	49.0	56.3	14.6	36.7	98.0	99.3	98.8	94.5	93.8	94.3
Orissa	1983	58.3	29.6	43.9	52.6	11.8	33.1	98.5	99.4	99.0	95.4	94.1	95.0
	1993-94	57.7	31.9	44.9	54.6	16.1	36.5	98.1	99.4	98.4	93.4	93.8	93.4
	1999-00	56.4	30.2	43.2	51.1	15.3	33.9	97.7	99.0	97.9	93.0	94.8	93.5
Punjab	1983	59.3	32.4	46.6	55.8	13.6	36.4	98.0	98.4	97.9	96.4	95.5	95.2
	1993-94	55.4	22.3	39.7	57.1	9.9	34.8	98.6	98.7	98.7	96.8	93.9	96.6
	1999-00	54.3	28.2	41.7	56.5	12.8	36.3	97.6	99.3	98.3	97.2	97.7	97.2
Rajasthan	1983	55.3	46.5	51.1	49.6	19.7	35.3	99.5	100.0	99.7	96.2	99.1	97.1
	1993-94	54.2	45.8	50.2	49.8	16.3	34.0	99.6	99.8	99.6	98.4	100.0	98.5
	1999-00	50.3	38.9	44.8	49.9	14.1	33.2	99.4	99.7	99.6	97.4	97.9	97.3
Tamil Nadu	1983	61.0	46.0	53.4	57.9	22.5	40.2	97.6	98.8	98.2	93.3	94.0	93.6
	1993-94	61.3	48.1	54.6	60.1	24.7	42.3	98.2	99.4	98.7	95.7	93.1	95.0
	1999-00	61.0	43.4	52.3	58.5	22.7	41.0	97.4	99.1	98.1	96.2	94.7	95.9
Uttar Pradesh	1983	53.5	25.7	40.3	52.2	9.9	32.3	99.4	100.0	99.4	96.2	97.4	96.2
	1993-94	52.7	21.9	38.1	49.8	10.3	31.4	99.1	100.0	99.2	96.8	99.0	97.1
	1999-00	48.6	20.1	34.8	51.2	9.7	31.7	99.0	100.0	99.1	95.7	96.9	95.9
West Bengal	1983	55.2	19.6	37.8	59.1	14.8	38.7	97.5	98.7	97.7	91.7	88.4	91.1
	1993-94	56.7	18.9	38.2	58.7	16.7	39.3	98.2	97.9	98.4	93.7	85.6	92.1
	1999-00	54.9	16.5	35.9	61.2	12.9	37.8	97.3	97.0	97.2	92.6	90.7	92.6

Note: R_M = Rural Male, R_F = Rural Female, R_P = Rural Persons
 U_M = Urban Male, U_F = Urban Female, U_P = Urban Persons

Source: 1. Govt. of India, SARVEKSHANA, Vol. XIV, No 1 & 2 Oct-Dec. 1990.
 2. 1993-94 and 1999-00 data are extracted from household level data on CD-ROM supplied by NSSO, Govt. of India.

Table 3

Sectoral Distribution of Usual Status Workers in India by Workers' Sex and Residence : NSS Data: 1972-73/1999-00

Sector Description		Male						Female					
		1972-73	1977-78	1983	1987-88	1993-94	1999-00	1972-73	1977-78	1983	1987-88	1993-94	1999-00
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Primary sector	Rural	83.2	80.6	77.5	74.5	74.1	71.4	89.7	88.1	87.5	84.7	86.2	85.3
	Urban	10.8	10.6	10.6	9.1	9.0	6.5	32.0	31.9	31.5	29.4	24.7	17.6
Mining & Quarring	Rural	0.4	0.5	0.6	0.7	0.7	0.6	0.2	0.2	0.3	0.4	0.4	0.3
	Urban	1.0	0.9	1.2	1.3	1.3	0.9	0.7	0.5	0.7	0.8	0.6	0.4
Manufacturing	Rural	5.7	6.4	7.0	7.4	7.0	7.3	4.7	5.9	6.4	6.9	7.0	7.6
	Urban	26.9	27.6	26.8	25.7	23.5	22.4	26.2	29.6	26.7	27.1	24.1	24.0
Utilities	Rural	0.1	0.2	0.2	0.3	0.3	0.2	-	-	-	-	0.1	0.0
	Urban	0.8	0.1	1.1	1.2	1.2	0.8	0.1	0.1	0.2	0.2	0.3	0.2
Construction	Rural	1.6	1.7	2.2	3.7	3.2	4.5	1.1	0.6	0.7	2.7	0.9	1.1
	Urban	4.3	4.2	5.1	5.8	6.9	8.7	3.3	2.3	3.2	3.7	4.1	4.8
Secondary Sector	Rural	7.8	8.8	10.0	12.1	11.2	12.6	6.0	6.8	8.7	10.0	8.4	9.0
	Urban	33.0	32.8	34.2	34.0	32.9	32.8	30.3	32.5	30.8	31.8	29.1	29.4
Trade, Hotelling etc.	Rural	3.1	4.0	4.4	5.1	5.5	6.8	1.5	2.0	1.9	2.1	2.1	2.0
	Urban	20.2	21.6	20.4	21.5	21.9	29.4	9.5	9.7	9.5	9.8	10.0	16.9
Transport, Communication	Rural	1.0	1.2	1.7	2.0	2.2	3.2	-	0.1	0.1	0.1	0.1	0.1
	Urban	9.0	9.8	10.0	9.7	9.7	10.4	1.0	1.0	0.6	1.2	1.3	1.8
Services	Rural	4.8	5.3	6.1	6.2	7.0	6.2	2.8	3.0	2.8	3.0	3.4	3.6
	Urban	27.1	24.3	24.7	25.2	26.4	19.0	27.2	25.9	26.7	27.8	35.0	34.2
Tertiary Sector	Rural	9.0	10.6	12.5	13.4	14.7	16.2	4.3	5.1	4.8	5.3	5.6	5.7
	Urban	56.2	55.6	55.2	56.9	58.0	58.8	37.7	35.6	37.7	38.8	46.3	52.9
All Non-Agricultural	Rural	16.8	19.4	22.5	25.5	25.9	28.6	10.3	11.9	13.5	15.3	13.8	13.7
	Urban	89.2	89.4	89.4	90.9	91.0	93.5	68.0	68.1	68.5	70.6	75.3	82.4

Source: 1. Govt. of India, SARVEKSHANA, Special Number, Sept. 1990: 99.

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3. Visaria P. and Minhas, B.S., "Evolving an Employment Policy for the 1990s: What Do the Data Tell Us?", *Economic and Political Weekly*, No.15, April 1991: 977.

4. Govt. of India, *Employment and Unemployment NSS Fiftieth Round, July 1993-June 1994*, NSS Report No 409, New Delhi, March 1997: 33,82-86.

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Table 4 Sectoral Distribution of Usual Status Rural Workers in Indian States by Workers' Sex: 1983/1999-00

State	Year	Agriculture			Manufacturing			Non-Agriculture		
		R_M	R_F	R_P	R_M	R_F	R_P	R_M	R_F	R_P
1	2	3	4	5	6	7	8	9	10	11
Andhra Pradesh	1983	77.1	83.4	79.9	8.0	7.6	7.7	22.6	16.3	19.7
	1993-94	75.6	83.7	79.3	7.1	7.4	7.3	24.4	16.3	20.7
	1999-00	74.4	84.4	78.8	6.2	6.1	6.2	25.6	15.6	21.2
Assam	1983	78.6	79.8	78.8	3.3	9.2	4.4	21.2	18.0	20.0
	1993-94	77.7	82.9	78.7	4.0	10.5	5.4	22.3	17.1	21.2
	1999-00	64.5	79.3	67.7	4.2	10.0	5.4	35.5	20.7	32.3
Bihar	1983	81.2	88.1	83.5	6.3	6.1	6.3	18.6	11.8	16.4
	1993-94	81.9	91.8	84.2	4.2	4.1	4.1	18.1	8.2	15.8
	1999-00	79.0	85.8	80.7	5.8	8.5	6.5	21.0	14.2	19.3
Gujarat	1983	78.9	92.0	84.4	7.4	3.3	5.7	20.3	7.1	14.8
	1993-94	71.0	90.6	78.6	12.9	4.2	9.5	28.8	9.4	21.3
	1999-00	71.9	92.2	80.4	10.2	2.1	6.8	28.1	7.8	19.6
Haryana	1983	71.2	89.5	76.8	7.6	3.8	6.1	28.5	9.9	22.3
	1993-94	60.8	93.0	71.8	6.5	1.5	4.8	39.2	6.8	28.1
	1999-00	59.5	92.7	69.8	10.5	2.1	7.9	40.5	7.3	30.2
Himachal Pradesh	1983	77.0	97.5	87.1	5.5	1.1	3.3	22.1	2.4	12.4
	1993-94	65.8	95.5	80.2	5.3	1.7	3.5	34.2	4.5	19.8
	1999-00	55.3	95.1	74.8	7.8	1.1	4.5	44.7	4.9	25.2
Jammu & Kashmir	1983	71.7	96.1	79.5	5.9	2.1	4.6	27.9	3.6	19.8
	1993-94	61.3	94.7	75.5	6.5	0.9	4.1	38.6	5.2	24.4
	1999-00	64.1	91.0	73.0	5.6	5.7	5.6	35.9	9.0	27.0
Karnataka	1983	81.6	88.2	84.2	5.6	6.6	6.0	18.2	11.6	15.5
	1993-94	80.4	84.1	81.9	5.9	7.8	6.6	19.6	15.9	18.1
	1999-00	78.5	88.0	82.2	6.0	5.8	5.9	21.5	12.0	17.8
Kerala	1983	57.6	70.4	62.8	12.6	17.7	14.5	42.3	29.5	36.9
	1993-94	52.8	62.8	56.1	10.7	19.4	13.6	47.1	37.1	43.9
	1999-00	43.0	60.6	48.8	11.6	20.2	14.4	57.0	39.4	51.2
Madhya Pradesh	1983	87.3	93.8	90.0	4.4	3.3	3.9	12.5	5.8	9.7
	1993-94	87.2	93.9	89.9	3.7	3.3	3.5	12.8	6.1	10.1
	1999-00	84.2	91.7	87.2	4.3	4.0	4.2	15.8	8.3	12.8
Maharashtra	1983	79.5	92.7	85.6	6.9	2.7	5.0	20.2	7.0	14.2
	1993-94	75.3	91.2	82.6	7.2	3.1	5.3	24.7	8.8	17.4
	1999-00	73.9	94.0	82.8	7.6	2.2	5.2	26.1	6.0	17.2
Orissa	1983	78.1	81.0	79.1	8.0	10.0	8.7	21.8	19.0	20.8
	1993-94	78.8	85.1	81.0	6.3	7.6	6.8	21.2	14.9	19.0
	1999-00	77.0	81.2	78.6	6.2	12.6	8.6	23.0	18.8	21.4
Punjab	1983	77.0	92.1	82.0	7.3	4.2	6.3	22.3	7.2	17.4
	1993-94	68.0	92.7	74.6	7.5	1.3	5.9	31.9	7.3	25.4
	1999-00	64.0	90.7	72.9	10.0	3.0	7.7	36.0	9.3	27.1
Rajasthan	1983	80.7	94.0	86.6	5.7	2.5	4.2	19.0	6.0	13.3
	1993-94	69.5	93.0	79.8	6.9	1.5	4.6	30.4	7.0	20.2
	1999-00	67.1	92.1	77.9	6.4	2.9	4.8	32.9	7.9	22.1
Tamil Nadu	1983	68.7	81.7	74.4	12.5	9.9	10.9	31.2	18.1	25.1
	1993-94	63.8	78.4	70.3	14.0	13.1	13.6	36.2	21.6	29.6
	1999-00	62.6	76.4	68.3	14.4	14.4	14.4	37.4	23.6	31.7
Uttar Pradesh	1983	78.5	89.5	81.8	8.3	5.4	7.4	21.0	11.1	17.7
	1993-94	76.2	90.0	80.0	7.9	4.8	7.1	23.8	10.0	20.0
	1999-00	71.7	87.7	76.4	9.4	6.5	8.5	28.3	12.3	23.6
West Bengal	1983	73.0	74.8	73.4	9.3	16.6	11.1	26.8	24.8	26.3
	1993-94	64.8	59.6	63.5	12.8	30.3	17.0	35.1	40.4	36.4
	1999-00	66.0	52.6	63.0	11.9	38.0	17.7	34.0	47.4	37.0

Note: R_M = Rural Male, R_F = Rural Female, R_P = Rural Persons

Source: 1. Govt. of India, SARVEKSHANA, Vol. XIV, No 1 & 2 Oct-Dec. 1990.
2. 1993-94 and 1999-00 data are extracted from household level data on CD-ROM supplied by NSSO, Govt. of India.

Table 5 Distribution of Usual Status (Principal+Subsidiary) Rural Workers within Agriculture:1983/199-00

Code/Description/State	MALE			FEMALE			PERSONS		
	1983	1993-94	1999-00	1983	1993-94	1999-00	1983	1993-94	999-00
1	2	3	4	5	6	7	8	9	10
Andhra Pradesh									
00 Field Crop Production	87.27	89.51	86.22	90.47	91.44	87.38	88.73	90.44	86.77
01 Plantation	2.18	2.06	1.81	1.63	1.13	1.51	1.93	1.61	1.67
02 Livestock	8.79	5.57	5.68	7.20	6.50	4.92	8.06	6.01	5.32
03 Agricultural Services	0.16	0.22	4.57	0.01	0.00	5.27	0.09	0.12	4.90
04 Hunting, Trapping etc.	0.19	0.11	0.00	0.23	0.06	0.00	0.21	0.08	0.00
05 Forestry & Logging	0.31	0.96	0.54	0.16	0.76	0.60	0.24	0.87	0.57
06 Fishing	1.10	1.58	1.18	0.30	0.11	0.31	0.74	0.88	0.77
Non-Crop Activities(01-06)	12.73	10.49	13.78	9.53	8.56	12.62	11.27	9.56	13.23
Assam									
00 Field Crop Production	87.42	83.95	81.22	55.00	60.17	58.76	81.50	78.84	75.58
01 Plantation	11.23	14.07	17.04	37.44	37.54	34.30	16.03	19.11	21.37
02 Livestock	0.18	0.05	0.11	6.52	1.49	5.38	1.33	0.36	1.43
03 Agricultural Services	0.00	0.00	0.77	0.00	0.00	1.55	0.00	0.00	0.97
04 Hunting, Trapping etc.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
05 Forestry & Logging	0.19	0.48	0.08	0.98	0.00	0.00	0.33	0.37	0.06
06 Fishing	0.98	1.46	0.78	0.06	0.79	0.00	0.81	1.32	0.58
Non-Crop Activities(01-06)	12.58	16.05	18.78	45.00	39.83	41.24	18.50	21.16	24.42
Bihar									
00 Field Crop Production	95.54	98.41	92.96	89.63	99.36	88.97	93.51	98.65	91.90
01 Plantation	0.07	0.02	0.13	0.00	0.00	0.03	0.05	0.01	0.10
02 Livestock	3.63	0.77	1.37	9.58	0.21	3.23	5.67	0.63	1.87
03 Agricultural Services	0.15	0.04	4.72	0.05	0.00	6.78	0.12	0.03	5.26
04 Hunting, Trapping etc.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
05 Forestry & Logging	0.30	0.14	0.58	0.75	0.28	0.97	0.46	0.17	0.68
06 Fishing	0.31	0.64	0.24	0.00	0.15	0.03	0.20	0.51	0.18
Non-Crop Activities(01-06)	4.46	1.59	7.04	10.37	0.64	11.03	6.49	1.35	8.10
Gujarat									
00 Field Crop Production	93.31	94.40	91.00	84.29	82.84	72.46	89.22	89.23	82.10
01 Plantation	1.33	1.57	0.73	0.68	0.65	0.21	1.03	1.16	0.48
02 Livestock	4.59	3.39	5.27	14.31	16.52	24.19	9.00	9.26	14.35
03 Agricultural Services	0.13	0.44	2.83	0.14	0.00	2.84	0.13	0.24	2.84
04 Hunting, Trapping etc.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
05 Forestry & Logging	0.29	0.12	0.17	0.34	0.00	0.29	0.31	0.07	0.23
06 Fishing	0.35	0.09	0.00	0.24	0.00	0.00	0.31	0.05	0.00
Non-Crop Activities(01-06)	6.69	5.60	9.00	15.71	17.16	27.54	10.78	10.77	17.90
Haryana									
00 Field Crop Production	92.39	94.09	95.29	63.32	50.97	48.48	82.09	74.95	76.08
01 Plantation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02 Livestock	7.50	4.64	4.36	36.53	49.03	51.04	17.80	24.34	23.52
03 Agricultural Services	0.06	0.36	0.08	0.15	0.00	0.48	0.08	0.20	0.25
04 Hunting, Trapping etc.	0.06	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00

Code/Description/State	MALE			FEMALE			PERSONS		
	1983	1993-94	1999-00	1983	1993-94	1999-00	1983	1993-94	1999-00
1	2	3	4	5	6	7	8	9	10
05 Forestry & Logging	0.00	0.79	0.27	0.00	0.00	0.00	0.00	0.44	0.16
06 Fishing	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.07	0.00
Non-Crop Activities(01-06)	7.61	5.91	4.71	36.68	49.03	51.52	17.91	25.05	23.92
Himachal Pradesh									
00 Field Crop Production	94.57	92.35	86.83	87.45	86.13	72.25	90.66	88.75	77.73
01 Plantation	1.94	3.91	4.93	0.16	1.99	2.22	0.96	2.80	3.24
02 Livestock	3.18	3.06	7.52	12.35	11.83	25.42	8.21	8.14	18.70
03 Agricultural Services	0.05	0.00	0.00	0.00	0.00	0.08	0.02	0.00	0.05
04 Hunting, Trapping etc.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
05 Forestry & Logging	0.26	0.67	0.62	0.00	0.05	0.04	0.11	0.31	0.26
06 Fishing	0.00	0.00	0.09	0.03	0.00	0.00	0.02	0.00	0.03
Non-Crop Activities(01-06)	5.43	7.65	13.17	12.55	13.87	27.75	9.34	11.25	22.27
Jammu & Kashmir									
00 Field Crop Production	91.19	94.59	81.18	39.41	62.26	92.10	71.01	77.29	85.71
01 Plantation	0.28	0.00	15.98	0.00	0.00	2.82	0.18	0.00	10.52
02 Livestock	5.99	4.97	1.34	60.40	37.74	5.08	27.19	22.50	2.89
03 Agricultural Services	0.38	0.26	0.87	0.00	0.00	0.00	0.23	0.12	0.51
04 Hunting, Trapping etc.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
05 Forestry & Logging	1.76	0.18	0.27	0.09	0.00	0.00	1.11	0.08	0.16
06 Fishing	0.40	0.00	0.36	0.10	0.00	0.00	0.29	0.00	0.21
Non-Crop Activities(01-06)	8.81	5.41	18.82	60.59	37.74	7.90	28.99	22.71	14.29
Karnataka									
00 Field Crop Production	84.91	85.63	92.73	82.65	86.35	92.72	83.98	85.92	92.73
01 Plantation	4.84	4.40	2.91	3.46	3.68	3.00	4.26	4.11	2.95
02 Livestock	9.88	8.43	2.99	13.58	9.36	3.87	11.41	8.80	3.36
03 Agricultural Services	0.09	0.94	0.39	0.24	0.32	0.09	0.14	0.69	0.26
04 Hunting, Trapping etc.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
05 Forestry & Logging	0.22	0.24	0.19	0.08	0.28	0.00	0.15	0.26	0.11
06 Fishing	0.07	0.36	0.79	0.00	0.00	0.33	0.05	0.22	0.59
Non-Crop Activities(01-06)	15.09	14.37	7.27	17.35	13.65	7.28	16.02	14.08	7.27
Kerala									
00 Field Crop Production	37.13	25.38	77.03	31.39	29.69	57.93	34.51	26.96	69.26
01 Plantation	52.63	61.92	12.26	23.92	35.13	9.12	39.50	52.09	10.98
02 Livestock	4.93	2.75	3.26	44.36	34.17	30.55	22.97	14.28	14.36
03 Agricultural Services	0.24	2.23	3.55	0.00	1.01	2.24	0.13	1.78	3.02
04 Hunting, Trapping etc.	0.02	0.00	0.00	0.16	0.00	0.00	0.02	0.00	0.00
05 Forestry & Logging	1.01	1.25	0.72	0.17	0.00	0.17	0.60	0.79	0.49
06 Fishing	4.04	6.47	3.18	0.00	0.00	0.00	2.28	4.10	1.89
Non-Crop Activities(01-06)	62.87	74.62	22.97	68.61	70.31	42.07	65.49	73.04	30.74
Madhya Pradesh									
00 Field Crop Production	96.08	97.50	97.95	98.73	98.52	97.72	97.27	97.92	97.85
01 Plantation	0.01	0.05	0.01	0.00	0.00	0.00	0.00	0.03	0.00
02 Livestock	3.13	1.51	0.98	0.88	0.45	0.23	2.13	1.07	0.67

Code/Description/State	MALE			FEMALE			PERSONS		
	1983	1993-94	1999-00	1983	1993-94	1999-00	1983	1993-94	1999-00
1	2	3	4	5	6	7	8	9	10
03 Agricultural Services	0.11	0.45	0.37	0.02	0.37	0.41	0.07	0.42	0.39
04 Hunting, Trapping etc.	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
05 Forestry & Logging	0.54	0.47	0.61	0.32	0.64	1.62	0.44	0.54	1.03
06 Fishing	0.10	0.03	0.07	0.04	0.02	0.02	0.08	0.03	0.05
Non-Crop Activities(01-06)	3.92	2.50	2.05	1.27	1.48	2.28	2.73	2.08	2.15
Maharashtra									
00 Field Crop Production	89.86	93.64	93.88	93.66	95.01	94.16	91.74	94.33	94.02
01 Plantation	0.89	0.55	1.60	0.58	0.73	1.48	0.74	0.64	1.54
02 Livestock	7.70	4.54	3.58	4.87	4.03	3.17	6.30	4.28	3.37
03 Agricultural Services	0.25	0.16	0.35	0.12	0.10	0.24	0.19	0.13	0.29
04 Hunting, Trapping etc.	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.01
05 Forestry & Logging	0.31	0.09	0.11	0.33	0.06	0.87	0.33	0.08	0.49
06 Fishing	0.98	1.02	0.46	0.43	0.06	0.08	0.71	0.54	0.27
Non-Crop Activities(01-06)	10.14	6.36	6.12	6.34	4.99	5.84	8.26	5.67	5.98
Orissa									
00 Field Crop Production	95.02	89.68	95.58	94.79	85.95	93.70	94.93	88.29	94.86
01 Plantation	0.08	0.14	0.69	0.00	0.04	0.94	0.05	0.10	0.79
02 Livestock	2.30	1.45	1.05	2.14	2.73	1.95	2.25	1.93	1.40
03 Agricultural Services	0.14	5.12	0.24	0.05	8.69	0.12	0.11	6.45	0.20
04 Hunting, Trapping etc.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
05 Forestry & Logging	0.69	1.11	0.89	1.84	2.27	2.58	1.09	1.54	1.53
06 Fishing	1.77	2.51	1.56	1.19	0.31	0.70	1.57	1.69	1.23
Non-Crop Activities(01-06)	4.98	10.32	4.42	5.21	14.05	6.30	5.07	11.71	5.14
Punjab									
00 Field Crop Production	84.70	94.71	95.28	11.62	25.46	11.84	57.68	71.86	60.51
01 Plantation	0.00	0.13	0.00	0.00	0.00	0.00	0.02	0.09	0.00
02 Livestock	15.19	4.71	4.39	88.38	74.54	87.94	42.22	27.75	39.20
03 Agricultural Services	0.00	0.10	0.30	0.00	0.00	0.22	0.00	0.06	0.27
04 Hunting, Trapping etc.	0.06	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00
05 Forestry & Logging	0.03	0.30	0.03	0.00	0.00	0.00	0.01	0.20	0.02
06 Fishing	0.03	0.06	0.00	0.00	0.00	0.00	0.02	0.04	0.00
Non-Crop Activities(01-06)	15.30	5.29	4.72	88.38	74.54	88.16	42.32	28.14	39.49
Rajasthan									
00 Field Crop Production	87.62	89.76	87.02	74.09	66.42	68.59	81.12	77.84	77.60
01 Plantation	0.01	0.00	0.05	0.04	0.02	0.02	0.03	0.01	0.04
02 Livestock	12.02	9.70	12.12	25.58	33.28	31.38	18.52	21.75	21.97
03 Agricultural Services	0.05	0.06	0.55	0.02	0.00	0.00	0.03	0.03	0.27
04 Hunting, Trapping etc.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
05 Forestry & Logging	0.30	0.48	0.26	0.27	0.28	0.00	0.29	0.38	0.13
06 Fishing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Non-Crop Activities(01-06)	12.38	10.24	12.98	25.91	33.58	31.41	18.88	22.16	22.40
Tamil nadu									
00 Field Crop Production	88.10	88.15	91.08	84.19	85.43	88.43	86.20	86.79	89.84

Code/Description/State	MALE			FEMALE			PERSONS		
	1983	1993-94	1999-00	1983	1993-94	1999-00	1983	1993-94	1999-00
1	2	3	4	5	6	7	8	9	10
01 Plantation	1.54	2.61	2.64	1.20	2.06	2.26	1.38	2.34	2.46
02 Livestock	8.30	4.57	3.68	14.03	9.39	8.65	11.07	6.97	6.00
03 Agricultural Services	0.17	2.76	0.29	0.02	2.63	0.47	0.11	2.70	0.38
04 Hunting, Trapping etc.	0.03	0.06	0.00	0.00	0.00	0.00	0.01	0.03	0.00
05 Forestry & Logging	0.84	0.49	0.77	0.44	0.23	0.19	0.65	0.36	0.50
06 Fishing	1.01	1.36	1.54	0.11	0.26	0.00	0.58	0.81	0.82
Non-Crop Activities(01-06)	11.90	11.85	8.92	15.81	14.57	11.57	13.80	13.21	10.16
Uttar Pradesh									
00 Field Crop Production	94.82	96.74	96.52	74.84	84.44	81.89	88.16	92.95	91.61
01 Plantation	0.01	0.23	0.19	0.02	0.18	0.12	0.01	0.21	0.17
02 Livestock	4.98	2.55	2.75	25.04	15.21	17.73	11.67	6.45	7.77
03 Agricultural Services	0.04	0.32	0.38	0.03	0.12	0.13	0.04	0.26	0.29
04 Hunting, Trapping etc.	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.01	0.00
05 Forestry & Logging	0.08	0.13	0.14	0.07	0.00	0.14	0.07	0.09	0.14
06 Fishing	0.08	0.02	0.03	0.00	0.02	0.00	0.05	0.02	0.02
Non-Crop Activities(01-06)	5.18	3.26	3.48	25.16	15.56	18.11	11.84	7.05	8.39
West Bengal									
00 Field Crop Production	91.64	95.41	96.56	48.92	75.76	92.89	80.52	90.98	95.87
01 Plantation	2.19	0.14	0.67	4.75	0.11	0.23	2.86	0.13	0.59
02 Livestock	4.66	2.53	0.57	44.26	19.80	3.89	14.97	6.43	1.19
03 Agricultural Services	0.08	0.13	0.77	0.16	0.12	0.93	0.10	0.13	0.80
04 Hunting, Trapping etc.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
05 Forestry & Logging	0.41	0.52	0.09	1.07	1.36	0.19	0.59	0.71	0.11
06 Fishing	1.01	1.27	1.35	0.84	2.85	1.87	0.97	1.63	1.44
Non-Crop Activities(01-06)	8.36	4.59	3.44	51.08	24.24	7.11	19.48	9.02	4.13
India									
00 Field Crop Production	90.39	92.17	92.72	80.75	84.80	84.53	86.51	89.29	89.52
01 Plantation	2.37	2.56	1.82	1.79	1.86	1.88	2.14	2.30	1.83
02 Livestock	6.13	3.37	3.08	16.81	11.95	11.49	10.42	6.76	6.42
03 Agricultural Services	0.12	0.67	1.54	0.06	0.81	1.52	0.10	0.77	1.44
04 Hunting, Trapping etc.	0.03	0.00	0.00	0.02	0.00	0.00	0.02	0.00	0.00
05 Forestry & Logging	0.36	0.40	0.28	0.37	0.35	0.47	0.36	0.38	0.39
06 Fishing	0.61	0.81	0.56	0.19	0.23	0.12	0.44	0.51	0.39
Non-Crop Activities(01-06)	9.61	7.83	7.28	19.25	15.20	15.47	13.49	10.71	10.48

Source:

1. Govt. of India, SARVEKSHANA, Vol. XIV, No 1 & 2 Oct-Dec. 1990.
2. 1993-94 and 1999-00 data are extracted from household level data on CD-ROM supplied by NSSO, Govt. of India.

Table 6 Composition of Usual Status (Principal+Subsidiary) Workers by Sex and Rural-Urban Residence: NSS Data 1972-73/1999-00: All-India (Percentage)

Workers' Residence	Workers' Sex	Year	Mode of Employment			Index of Casualisation
			Self Employed	Regular Employees	Casual Labour	
1	2	3	4	5	6	7
Rural	Male	1972-73	65.9	12.1	22.0	182
		1977-78	62.8	10.6	26.6	251
		1983	60.5	10.3	29.2	283
		1987-88	58.6	10.0	31.4	314
		1993-94	57.9	8.3	33.8	407
		1999-00	55.0	8.8	36.2	411
Rural	Female	1972-73	64.5	4.1	31.4	766
		1977-78	62.1	2.8	35.1	1254
		1983	61.9	2.8	35.3	1261
		1987-88	60.8	3.7	35.5	959
		1993-94	58.5	2.8	38.7	1382
		1999-00	57.3	3.1	39.6	1277
Urban	Male	1972-73	39.2	50.7	10.1	20
		1977-78	40.4	46.4	13.2	28
		1983	40.9	43.7	15.4	35
		1987-88	41.7	43.7	14.6	33
		1993-94	41.7	42.1	16.2	38
		1999-00	41.5	41.7	16.8	40
Urban	Female	1972-73	48.4	27.9	23.7	85
		1977-78	49.5	24.9	25.6	103
		1983	45.8	25.8	28.4	110
		1987-88	47.1	27.5	25.4	92
		1993-94	45.4	28.6	26.0	91
		1999-00	45.3	33.3	21.4	64

Note: Index of Casualisation shows the number of casual wage earners for every one hundred regular salaried employees; $7=(6/5)*100$

Source:

1. Govt. of India, SARVEKSHANA, Special No., Sept. 1990: 92.
2. Govt. of India, Employment and Unemployment in India, NSS Report No.409, March,1997: 73.
3. Govt. of India, Employment and Unemployment Situation in India, 1999-2000, Part I, NSS Report No. 458, May 2001: 73.

Table 7 Composition of Rural Usual Status (Principal+Subsidiary) Workers in Indian States: NSS Data 1983/1999-2000

State	Year	Rural Male				Rural Female				Rural Persons			
		S.E	R.E	C.L.	I.C.L	S.E	R.E	C.L.	I.C.L	S.E	R.E	C.L.	I.C.L
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Andhra Pradesh	1983	51.0	11.5	36.4	315.9	44.5	2.9	52.6	1834.0	48.1	7.7	43.5	561.4
	1993-94	49.1	8.1	42.8	528.4	45.3	1.9	52.8	2778.9	47.5	5.2	47.3	909.6
	1999-00	48.4	7.6	44.0	578.9	42.6	3.6	53.8	1494.4	45.8	5.9	48.3	818.6
Assam	1983	64.2	17.1	18.3	107.2	50.8	26.1	22.8	87.1	61.8	18.7	19.1	102.1
	1993-94	60.0	13.4	26.6	198.5	49.1	18.2	32.7	179.7	57.8	14.4	27.8	193.1
	1999-00	59.0	15.7	25.3	161.1	54.8	19.8	25.4	128.3	58.2	16.6	25.2	151.8
Bihar	1983	56.8	6.7	35.7	537.2	56.0	1.2	42.4	3413.9	56.6	4.9	37.9	776.5
	1993-94	55.4	4.7	39.9	848.9	41.9	1.2	56.9	4741.7	52.3	4.0	43.7	1092.5
	1999-00	53.9	4.2	41.9	997.6	47.7	1.5	50.8	3386.7	52.3	3.5	44.2	1262.9
Gujarat	1983	59.0	7.7	32.7	423.8	60.8	1.5	37.4	2459.2	59.8	5.2	34.6	672.2
	1993-94	46.9	9.9	43.2	436.4	55.4	1.5	43.1	2873.3	50.2	6.8	43.0	632.4
	1999-00	50.9	9.6	39.5	411.5	59.1	1.6	39.3	2456.3	54.2	6.3	39.5	627.0
Haryana	1983	62.5	16.2	19.1	117.9	73.5	5.2	21.6	412.5	70.2	12.9	19.9	154.8
	1993-94	63.3	13.5	23.2	171.9	77.4	1.1	21.5	1954.5	67.7	9.4	22.9	243.6
	1999-00	59.0	16.6	24.4	147.0	86.0	1.5	12.5	833.3	66.4	12.4	21.2	171.0
Himachal Pradesh	1983	81.0	9.1	9.6	105.4	97.6	1.0	1.2	117.5	89.2	5.2	5.5	105.6
	1993-94	75.1	12.2	12.7	104.1	96.7	1.7	1.6	94.1	85.6	7.1	7.3	102.8
	1999-00	62.9	16.7	20.4	122.2	95.9	2.9	1.2	41.4	78.7	10.1	11.2	110.9
Jammu & Kashmir	1983	75.3	9.0	14.4	158.9	97.8	0.8	1.2	135.7	82.6	6.4	10.8	169.0
	1993-94	72.0	16.2	11.8	72.8	96.2	2.0	1.8	90.0	82.4	10.0	7.6	76.0
	1999-00	73.3	12.2	14.5	118.9	97.4	2.1	0.5	23.8	81.8	8.6	9.6	111.6
Karnataka	1983	59.0	5.9	34.1	573.1	51.1	2.8	46.1	1621.1	55.9	4.6	38.8	835.4
	1993-94	57.9	6.5	35.6	547.7	53.4	2.3	44.3	1926.1	55.9	4.8	39.3	818.8
	1999-00	51.8	7.6	40.6	534.2	47.6	1.9	50.5	2657.9	50.2	5.3	44.5	839.6
Kerala	1983	44.3	15.4	40.2	260.7	58.7	9.9	31.4	318.8	50.2	13.2	36.6	278.1
	1993-94	40.8	12.3	46.9	381.3	55.0	9.7	35.3	363.9	45.4	11.5	43.1	374.8
	1999-00	38.1	13.0	48.9	376.2	53.0	15.0	32.0	213.3	42.9	13.7	43.4	316.8
Madhya Pradesh	1983	66.1	8.6	24.7	287.2	66.3	2.9	30.8	1080.7	66.2	6.1	27.3	445.0
	1993-94	62.4	5.9	31.7	537.3	61.2	1.2	37.6	3133.3	61.9	4.0	34.1	852.5
	1999-00	58.0	4.9	37.1	757.1	54.4	1.5	44.1	2940.0	56.6	3.5	39.9	1140.0
Maharashtra	1983	51.7	13.7	34.4	250.6	51.0	1.3	47.6	3600.0	51.4	8.0	40.5	505.2
	1993-94	49.3	11.9	38.8	326.1	48.1	2.5	49.4	1976.0	48.7	7.6	43.7	575.0
	1999-00	44.1	11.8	44.1	373.7	44.5	1.5	54.0	3600.0	44.3	7.3	48.4	663.0
Orissa	1983	53.5	11.2	34.7	308.9	52.9	1.8	45.3	2564.4	53.3	8.0	38.3	479.5
	1993-94	56.6	6.2	37.2	600.0	56.2	1.3	42.5	3269.2	56.4	4.5	39.1	868.9
	1999-00	48.4	5.8	45.8	789.7	49.2	1.3	49.5	3807.7	48.7	4.2	47.1	1121.4
Punjab	1983	65.8	12.7	21.4	168.1	90.2	2.7	7.0	258.6	73.8	9.4	16.7	176.6
	1993-94	54.7	13.2	32.1	243.2	85.0	3.2	11.8	368.8	62.7	10.5	26.8	255.2
	1999-00	54.0	17.5	28.5	162.9	88.9	3.7	7.4	200.0	65.5	13.0	21.5	165.4
Rajasthan	1983	80.7	6.4	12.8	199.3	89.4	0.9	9.8	1134.0	84.5	4.0	11.4	289.4
	1993-94	71.8	7.4	20.8	281.1	88.4	0.9	10.7	1188.9	79.0	4.6	16.4	356.5
	1999-00	73.3	7.8	18.9	242.3	89.0	1.0	10.0	1000.0	79.9	4.9	15.2	310.2
Tamil Nadu	1983	44.5	11.8	43.1	364.1	43.9	3.6	52.4	1449.5	44.2	8.2	47.2	573.5
	1993-94	41.4	12.5	46.1	368.8	41.9	5.2	52.9	1017.3	41.6	9.3	49.1	528.0
	1999-00	35.8	15.3	48.9	319.6	38.0	6.9	55.1	798.6	36.7	11.8	51.5	436.4
Uttar Pradesh	1983	76.0	6.4	17.4	271.7	82.0	1.0	16.9	1645.2	77.8	4.8	17.3	362.5
	1993-94	72.4	5.7	21.9	384.2	79.5	0.9	19.6	2177.8	74.3	4.5	21.1	468.9
	1999-00	70.8	7.1	22.1	311.3	77.5	1.6	20.9	1306.3	72.7	5.6	21.7	387.5
West Bengal	1983	49.5	11.4	38.8	339.9	60.6	5.3	34.0	644.4	52.3	9.9	37.6	381.3
	1993-94	54.7	10.3	35.0	339.8	59.0	7.3	33.7	461.6	55.7	9.5	34.8	366.3
	1999-00	49.2	7.5	43.3	577.3	62.4	5.1	32.5	637.3	52.2	7.0	40.8	582.9

Note: 1. S.E.= Self-Employed; R.S.= Regular Salaried; CL= Casual Labour
I.C.L. =Index of Casualisation

2. Index of Casualisation shows the number of casual wage earners for every one hundred regular salaried employees.

Source: 1. Govt. of India, SARVEKSHANA, Vol. XIV, No 1 & 2 Oct-Dec. 1990.
2. Govt. of India, Employment and Unemployment NSS Fiftieth Round, July 1993-June 1994, NSS Report No 409, New Delhi, March 1997: 104-106.
3. Govt. of India, Employment and Unemployment in India, NSS 55th Round, July 1999- June 2000, NSS Report No. 458, New Delhi, may 2001: 106-108.

Table 8 Annual Compound Growth Rate of Employment for Usual Status (Principal+Subsidiary) Workers by Sex, Residence and Production Sectors

Code	Description	Rural Workers						Urban Workers					
		Male		Female		Persons		Male		Female		Persons	
		1983/ 1993-94	1993-94/ 1999-00										
1	2	3	4	5	6	7	8	9	10	11	12	13	14
0	Total Agriculture	1.47	0.32	1.24	-0.02	1.38	0.18	1.83	-2.56	1.16	-4.60	1.54	-3.40
00	Field Crop Production	1.66	0.42	1.71	-0.08	1.68	0.23	1.72	-2.51	1.42	-4.36	1.60	-3.23
01	Plantation	2.23	-5.24	1.57	0.15	2.01	-3.35	6.70	-14.56	7.34	-13.36	6.95	-14.07
02	Livestock	-4.13	-1.19	-2.00	-0.68	-2.70	-0.83	-0.84	-1.60	-0.72	-5.12	-0.76	-3.75
03	Agricultural Services	19.99	15.12	30.36	11.03	23.40	13.42	10.17	2.61	23.84	17.59	11.88	6.73
04	Hunting, Trapping etc.												
05	Forestry & Logging	2.59	-5.65	0.76	5.07	1.89	-1.12	2.20	2.61	-3.23	0.94	0.74	2.27
06	Fishing	4.31	-5.65	2.97	-10.78	4.09	-6.37	2.43	2.61	0.11	0.94	2.26	2.51
1	Mining & Quarrying	3.93	-1.62	3.56	-4.54	3.84	-2.28	4.35	-3.49	2.74	-5.66	4.15	-3.71
20-21	Food Products	3.77	2.42	2.53	1.92	3.36	2.26	1.43	4.82	3.66	-1.28	1.89	3.60
22	Beverages, etc.	1.17	-2.74	4.54	4.63	3.35	2.62	-0.12	0.01	2.70	-0.02	1.68	-0.01
23+24+25	Cotton, Wool, Jute etc.	2.94	-2.74	1.84	-4.13	2.46	-3.32	-0.04	-5.51	1.80	-4.00	0.38	-5.13
26	Textile Products	-5.38	9.17	-2.09	4.43	-4.09	7.22	-2.01	8.12	-0.40	2.19	-1.47	6.21
27	Wood Products	1.32	5.08	3.29	0.15	1.89	3.66	1.22	4.53	5.26	0.94	1.71	4.04
28	Paper Products	5.43	0.94			2.56	0.94	2.38	4.25	0.11	5.26	1.98	4.42
29	Leather Products	-3.64	0.94			-5.27	0.94	4.66	8.90	7.54	4.05	5.06	8.19
30	Rubber Products	18.80	0.94	34.86	7.15	22.31	3.38	13.34	0.01	25.24	5.00	15.03	1.23
31	Chemical Products	0.99	0.94			-3.37	0.94	-1.01	8.20	-5.27	-2.75	-1.76	6.95
32	Non-metallic Mineral Products	1.70	2.73	0.18	2.76	1.26	2.74	0.59	-1.13	-1.15	-0.82	0.19	-1.07
33	Basic Metal Ind.	-1.30	13.30			-2.06	13.30	0.84	-0.46	-0.22	0.94	0.79	-0.40
34	Metal Products	2.59	5.90			1.99	8.13	3.26	3.65	0.82	13.30	3.17	4.04
35+36	Machine tool & Elect. Machinery	0.99	0.94	13.70		2.14	-1.89	4.01	4.25	14.47	5.26	4.56	4.34
37	Transport Equipment							2.20	-2.19	3.37		2.24	-2.73
38	Other Manfg .	6.99	-3.78	4.89	0.15	6.49	-2.86	4.17	1.64	3.71	12.23	4.12	3.20
39+97+99	Repair Services	6.84	-2.38	4.89		6.74	-3.18	6.27	-1.66	4.87	29.21	6.22	0.42
2 & 3	Total Manufacturing	2.10	1.79	2.21	1.75	2.14	1.78	2.17	1.77	2.39	2.07	2.21	1.83
(a)	Agro-based (20-21 to 29)	0.95	2.42	2.19	1.81	1.45	2.16	0.41	2.47	1.96	-0.25	0.83	1.72
(b)	Others (30-38,97)	3.85	0.94	2.32	1.50	3.58	1.03	3.98	1.15	4.03	8.42	3.98	1.95
4	Utilities	4.97	-5.65			4.70	-5.65	4.27	-4.09	7.97	-5.66	4.46	-4.19
5	Construction	5.43	6.84	3.70	3.56	5.18	6.43	6.23	6.65	6.03	3.63	6.20	6.26
6	Trade	4.19	2.13	1.68	0.15	3.72	1.81	3.94	5.30	3.93	7.39	3.94	5.54
60-64	Wholesale Trade	9.22	0.94	8.30	0.15	9.14	0.88	5.80	-1.88	7.90	-1.28	5.91	-1.84
65-68	Retail Trade	3.90	2.08	1.27	-0.92	3.39	1.60	3.69	6.84	3.72	7.84	3.69	6.96

Code	Description	Rural Workers						Urban Workers					
		Male		Female		Persons		Male		Female		Persons	
		1983/ 1993-94	1993-94/ 1999-00										
3	4	5	6	7	8	9	10	11	12	13	14		
69	Hotel+Restaurant	2.59	3.57	2.41	5.07	2.55	3.91	3.34	3.76	3.30	8.84	3.34	4.40
7	Transport, Storage and Communication	4.51	7.45	8.30	0.15	4.58	7.29	2.93	3.81	2.10	6.56	2.90	3.91
8	Finance, Insurance & Real Estate	5.08	4.77	18.18		5.99	2.51	5.03	7.05	12.12	7.03	5.63	7.05
9	Community, Social and Personal Services	3.09	0.05	3.27	1.14	3.13	0.32	3.49	-0.05	5.84	0.52	4.16	0.13
90	Public Admin, Defence etc	1.74	0.94	7.02	5.07	2.11	1.35	2.58	0.04	7.08	-4.09	3.06	-0.46
91	Sanitary Services	8.87		0.47	0.15	4.92	-15.60	1.63	-4.09	3.50	-10.07	2.36	-6.35
92	Education, Scientific etc	2.27	2.11	5.25	5.61	2.90	3.01	2.93	3.80	5.62	5.64	4.04	4.65
93	Medical & Health etc.	1.29	0.94	5.63	0.15	2.27	0.73	1.16	5.28	2.44	6.97	1.58	5.88
94	Community Services	3.31	-5.65	6.44	0.15	3.74	-4.62	1.49	-0.46	2.44	4.76	1.63	0.42
95	Recreational & Cultural Services	8.87	-10.07			7.72	-10.07	4.33	0.01	7.97	0.94	4.65	0.11
96	Personal Services	4.89	-0.01	2.00	-1.80	3.75	-0.63	7.82	-4.83	6.47	-2.55	7.16	-3.73
	Non-Agriculture	3.44	2.62	2.58	1.21	3.23	2.31	3.37	3.06	4.34	2.47	3.54	2.95
	All Sectors	1.94	0.94	1.41	0.15	1.75	0.66	3.22	2.61	3.44	0.94	3.27	2.27

Source: SARVEKSHANA, April 1988: S151-S167; NSS Report No. 409, March 1997:A 163-A176; NSS Report No. 458, May 2001: A182-A194.

Table 9 Growth of Rural Employment in Indian States by Workers' Sex and Major Sectors:1983/1999-2000

Description/State	MALE		FEMALE		PERSONS	
	1983	93-94	1983	93-94	1983	93-94
	93-94	99-00	93-94	99-00	93-94	99-00
1	2	3	4	5	6	7
Andhra Pradesh						
Agriculture	1.81	0.27	2.58	0.01	2.16	0.15
Field Crop Production	2.05	-0.35	2.69	-0.74	2.35	-0.54
Plantation	1.24	-1.86	-0.95	5.04	0.46	0.68
Livestock	-2.53	0.62	1.58	-4.51	-0.68	-1.83
Agricultural Services	5.30	66.04			4.68	86.62
Forestry & Logging	13.34	-8.77	19.33	-3.87	15.42	-6.58
Fishing	5.37	-4.54	-6.53	18.60	3.96	-2.14
Non-Crop Activities	-0.05	4.94	1.54	6.70	0.58	5.70
Mining	4.05	1.15	1.48	4.66	3.16	2.32
Manufacturing	0.86	-1.68	2.32	-3.20	1.49	-2.36
(a) Agro-based Manufacturing	-0.97	-1.52	2.03	-2.88	0.51	-2.24
(b) Other Manufacturing	5.52	-1.98	4.98	-5.89	5.40	-2.74
Utilities	-4.49	7.37			-4.49	7.53
Construction	6.06	5.65	4.29	2.56	5.74	5.17
Trade	3.92	-0.81	2.80	-2.18	3.53	-1.26
(a) Wholesale Trade	6.27	-7.89	9.16	-20.99	6.83	-10.02
(b) Retail Trade	3.83	-1.03	2.71	-4.45	3.43	-2.14
Transport, Storage and Communication	2.26	8.62	-12.94	55.43	2.19	8.83
Finance, Insurance & Real Estate	7.65	0.73	22.45	-	8.63	-1.45
Community, Social and Personal Services	2.95	1.84	2.62	2.34	2.83	2.02
Non-Agriculture	2.75	1.36	2.56	-0.90	2.68	0.60
All Sectors	2.03	0.55	2.58	-0.13	2.27	0.24
Assam						
Agriculture	1.39	-1.17	3.88	-0.02	1.92	-0.89
Field Crop Production	1.00	-1.71	4.78	-0.42	1.57	-1.47
Plantation	3.59	2.04	3.91	-1.51	3.73	0.52
Livestock	-10.48	12.76	-9.72	23.79	-9.79	22.94
Agricultural Services						
Forestry & Logging	10.63	-26.01			2.53	-26.01
Fishing	5.33	-11.04	32.24		6.73	-13.29
Non-Crop Activities	3.77	1.45	2.68	0.56	3.28	1.07
Mining	7.32	11.86			7.32	11.86
Manufacturing	3.46	2.54	4.88	-0.18	4.04	1.41
(a) Agro-based Manufacturing	0.45	8.99	3.03	2.50	1.83	5.53
(b) Other Manufacturing	6.77	-4.39	17.16	-13.54	8.40	-6.17
Utilities	5.66	-19.22			5.66	-19.22
Construction	-0.08	20.87	7.33	-0.08	0.18	20.18
Trade	2.73	2.85	11.44	-5.13	3.10	2.43
(a) Wholesale Trade	-12.96	8.51			-13.22	8.51
(b) Retail Trade	3.96	2.86	13.09	-5.42	4.36	2.39

Description/State	MALE		FEMALE		PERSONS	
	1983	93-94	1983	93-94	1983	93-94
	93-94	99-00	93-94	99-00	93-94	99-00
1	2	3	4	5	6	7
Transport, Storage and Communication	1.47	14.12	-6.11	26.93	1.29	14.37
Finance, Insurance & Real Estate	6.38	4.62		12.11	7.41	5.46
Community, Social and Personal Services	0.34	18.49	-2.01	13.35	-0.08	17.75
Non-Agriculture	1.97	10.17	3.00	3.97	2.14	9.17
All Sectors	1.52	1.95	3.73	0.72	1.96	1.68
Bihar						
Agriculture	2.43	1.08	-1.11	1.42	1.37	1.17
Field Crop Production	2.72	0.12	-0.13	-0.43	1.88	-0.02
Plantation	-11.54	43.67			-11.54	45.56
Livestock	-11.66	11.38	-31.26	59.93	-17.79	21.40
Agricultural Services	-10.37				-11.59	
Forestry & Logging	-4.76	28.51	-10.00	24.79	-7.35	27.04
Fishing	9.77	-14.32		-22.38	10.58	-14.80
Non-Crop Activities	-7.12	29.47	-24.21	63.22	-12.67	36.41
Mining	-4.87	5.63	-8.74	-17.52	-5.67	3.18
Manufacturing	-1.66	7.37	-5.20	16.02	-2.63	9.71
(a) Agro-based Manufacturing	-3.27	8.69	-5.92	15.70	-4.14	10.99
(b) Other Manufacturing	0.60	5.78	-2.95	16.85	-0.05	7.87
Utilities	11.45	-18.64	-3.13		10.68	-18.94
Construction	9.36	11.39	-1.96	18.52	8.44	11.75
Trade	4.10	0.10	-3.20	1.56	3.03	0.25
(a) Wholesale Trade	5.59	-19.50			5.25	-19.50
(b) Retail Trade	4.06	0.40	-3.85	3.12	2.85	0.70
Transport, Storage and Communication	3.39	7.47	4.42	31.91	3.40	7.66
Finance, Insurance & Real Estate	10.03	8.44		91.37	10.06	9.96
Community, Social and Personal Services	2.70	2.25	-4.95	14.67	1.60	3.81
Non-Agriculture	2.09	4.24	-4.82	12.47	0.87	5.44
All Sectors	2.37	1.69	-1.48	2.58	1.29	1.90
Gujarat						
Agriculture	0.91	2.11	0.93	2.59	0.92	2.33
Field Crop Production	1.02	1.49	0.76	0.33	0.91	1.01
Plantation	2.50	-10.11	0.36	-14.81	1.90	-11.20
Livestock	-1.96	9.94	2.31	9.33	1.29	9.45
Agricultural Services	13.57	39.33			6.68	54.56
Forestry & Logging	-7.42	8.51			-13.18	26.16
Fishing	-11.14				-14.83	
Non-Crop Activities	-0.78	10.50	1.78	11.00	0.98	10.86
Mining	15.29	-4.80	13.30	26.79	15.04	2.25
Manufacturing	7.51	-2.01	3.54	-9.05	6.68	-3.07
(a) Agro-based Manufacturing	0.46	2.95	2.01	-19.55	0.97	-2.25
(b) Other Manufacturing	13.36	-4.48	9.58	5.17	13.02	-3.56
Utilities	4.47	5.88			6.56	2.26

Description/State	MALE		FEMALE		PERSONS	
	1983	93-94	1983	93-94	1983	93-94
	93-94	99-00	93-94	99-00	93-94	99-00
1	2	3	4	5	6	7
Construction	4.10	3.99	6.77	6.76	4.66	4.68
Trade	3.51	4.61	-0.71	10.65	2.84	5.50
(a) Wholesale Trade	19.39	-6.35			19.39	-6.35
(b) Retail Trade	1.84	7.66	-0.71	10.05	1.32	8.11
Transport, Storage and Communication	6.83	9.44			6.18	9.85
Finance, Insurance & Real Estate	9.25	-3.44			8.20	-3.44
Community, Social and Personal Services	1.86	1.49	5.62	-4.50	2.70	0.09
Non-Agriculture	5.38	1.47	3.84	-0.90	5.09	1.08
All Sectors	1.99	1.93	1.16	2.29	1.65	2.07
Haryana						
Agriculture	0.51	1.95	3.89	-3.02	1.83	-0.07
Field Crop Production	0.68	2.17	1.76	-3.82	0.99	0.58
Plantation						
Livestock	-3.98	0.90	6.84	-2.37	4.79	-1.98
Agricultural Services	19.88	-19.95			10.22	2.16
Forestry & Logging		-14.96				-14.96
Fishing						
Non-Crop Activities	-1.88	-1.84	6.80	-2.21	5.02	-2.16
Mining	1.58	-2.61			1.58	-2.61
Manufacturing	0.57	10.84	-5.08	2.52	-0.23	10.10
(a) Agro-based Manufacturing	1.25	14.21	-8.37	13.33	-0.46	14.12
(b) Other Manufacturing	0.08	7.83	-1.15	-13.50	-0.05	6.39
Utilities	9.72	15.77			9.72	15.77
Construction	6.66	8.26	0.54	7.49	6.39	8.23
Trade	8.01	-2.53	11.62	6.71	8.26	-1.62
(a) Wholesale Trade	10.37	-9.56			11.62	-11.32
(b) Retail Trade	10.20	-2.40	9.15	10.96	10.11	-0.99
Transport, Storage and Communication	8.97	0.61			9.36	-0.01
Finance, Insurance & Real Estate	5.36	19.10			5.36	19.10
Community, Social and Personal Services	5.05	-4.22	-0.64	-8.90	4.14	-4.73
Non-Agriculture	5.19	2.86	-0.10	-1.81	4.63	2.51
All Sectors	2.07	2.31	3.55	-2.93	2.54	0.70
Himachal Pradesh						
Agriculture	1.22	-2.96	2.38	-0.23	1.85	-1.39
Field Crop Production	0.99	-3.95	2.23	-3.11	1.64	-3.49
Plantation	8.24	0.86	29.82	1.60	12.51	1.15
Livestock	0.85	12.71	1.96	13.34	1.77	13.23
Agricultural Services						
Forestry & Logging	10.81	-4.13		-5.08	11.73	-4.21
Fishing						
Non-Crop Activities	4.58	6.24	3.36	12.00	3.71	10.41
Mining	-4.54	-29.63			-3.45	-31.02

Description/State	MALE		FEMALE		PERSONS	
	1983	93-94	1983	93-94	1983	93-94
	93-94	99-00	93-94	99-00	93-94	99-00
1	2	3	4	5	6	7
Manufacturing	2.39	6.64	7.16	-6.85	3.23	4.40
(a) Agro-based Manufacturing	2.75	-1.48	8.99	-6.52	4.08	-2.73
(b) Other Manufacturing	1.70	17.49	-4.27	-12.33	1.25	16.61
Utilities	11.71	5.79		-9.13	13.02	4.54
Construction	10.12	5.06	9.37	1.95	10.10	4.98
Trade	13.61	-0.34	30.85	-0.41	14.47	-0.35
(a) Wholesale Trade		-20.19				-24.58
(b) Retail Trade	11.54	-0.62	27.17	3.04	12.35	-0.23
Transport, Storage and Communication	6.64	16.96			6.64	17.35
Finance, Insurance & Real Estate	3.53	13.40			3.53	14.56
Community, Social and Personal Services	5.10	0.91	6.14	7.74	5.24	2.00
Non-Agriculture	7.14	4.45	8.93	1.29	7.30	4.15
All Sectors	2.84	-0.11	2.59	-0.16	2.72	-0.13
Jammu & Kashmir						
Agriculture	0.06	4.29	5.47	-1.14	2.47	1.65
Field Crop Production	0.41	1.67	10.16	5.53	3.32	3.36
Plantation						
Livestock	-1.69	-16.21	0.85	-29.22	0.54	-27.14
Agricultural Services	-3.46	27.67			-3.46	27.67
Forestry & Logging	-19.58	12.06			-19.83	12.06
Fishing						
Non-Crop Activities	-4.48	28.39	0.82	-23.82	0.00	-5.87
Mining	-10.57		12.70		-5.45	
Manufacturing	2.55	1.12	-1.94	34.10	2.03	7.10
(a) Agro-based Manufacturing	-1.72	8.10	-2.12	36.03	-1.78	14.94
(b) Other Manufacturing	11.28	-9.97	-0.65	14.72	10.68	-8.74
Utilities	9.22	-12.50			11.84	-16.06
Construction	0.98	4.60	11.80	-14.05	1.28	4.02
Trade	4.85	5.61	-1.50	20.98	4.59	6.23
(a) Wholesale Trade	-14.44	42.81			-14.44	45.47
(b) Retail Trade	6.94	5.37	-1.50	15.93	6.49	5.82
Transport, Storage and Communication	9.97	-4.64			9.97	-3.91
Finance, Insurance & Real Estate	22.50	-14.61			22.50	-12.26
Community, Social and Personal Services	8.71	4.70	18.18	-3.16	9.61	3.74
Non-Agriculture	4.78	2.28	9.29	8.96	5.09	2.95
All Sectors	1.60	3.54	5.63	-0.47	3.05	1.98
Karnataka						
Agriculture	1.65	0.47	2.09	-0.16	1.83	0.21
Field Crop Production	1.73	1.81	2.51	1.03	2.06	1.48
Plantation	0.73	-6.20	2.70	-3.53	1.42	-5.15
Livestock	0.13	-15.46	-1.46	-13.83	-0.62	-14.71
Agricultural Services	27.64	-13.32	4.92	-19.43	17.67	-14.36
Forestry & Logging	2.42	-3.32	15.29		6.40	-12.86

Description/State	MALE		FEMALE		PERSONS	
	1983	93-94	1983	93-94	1983	93-94
	93-94	99-00	93-94	99-00	93-94	99-00
1	2	3	4	5	6	7
Fishing	18.40	14.20			18.40	19.14
Non-Crop Activities	1.17	-10.32	-0.22	-10.09	0.58	-10.23
Mining	3.10	-0.69	4.43	-4.56	3.48	-1.78
Manufacturing	2.27	1.24	4.15	-5.59	3.13	-1.75
(a) Agro-based Manufacturing	2.39	-1.93	3.50	-6.22	2.98	-4.13
(b) Other Manufacturing	2.02	6.77	10.94	-1.66	3.67	4.86
Utilities	11.59	-16.72			13.29	-18.89
Construction	-1.55	2.00	-0.96	-6.69	-1.43	0.51
Trade	2.38	3.44	4.56	-2.81	2.97	1.79
(a) Wholesale Trade	3.94	3.56		-56.51	6.60	-0.89
(b) Retail Trade	3.22	2.76	5.97	-4.95	4.04	0.54
Transport, Storage and Communication	2.17	14.99		-38.17	3.56	12.37
Finance, Insurance & Real Estate	-4.29	14.90	19.11	-33.06	0.96	3.74
Community, Social and Personal Services	5.70	-0.54	13.52	-4.33	7.65	-1.71
Non-Agriculture	2.52	2.48	5.68	-5.39	3.54	-0.01
All Sectors	1.82	0.88	2.57	-0.90	2.12	0.17
Kerala						
Agriculture	0.59	-2.04	-3.13	0.47	-0.92	-1.11
Field Crop Production	-2.99	17.88	-3.64	12.30	-3.25	15.85
Plantation	2.16	-25.22	0.48	-19.76	1.73	-23.73
Livestock	-4.86	0.83	-5.51	-1.39	-5.43	-1.09
Agricultural Services	24.25	5.83		14.68	26.91	7.91
Forestry & Logging	2.66	-10.71			1.40	-8.57
Fishing	5.20	-12.99			5.20	-12.99
Non-Crop Activities	2.25	-19.51	-2.90	-7.77	0.13	-14.55
Mining	5.19	2.19	-6.15	12.10	3.36	3.27
Manufacturing	-0.13	2.66	-1.19	1.77	-0.63	2.26
(a) Agro-based Manufacturing	-1.32	-0.14	-1.61	1.18	-1.47	0.58
(b) Other Manufacturing	2.30	6.62	1.94	5.01	2.21	6.25
Utilities	-1.46	-2.21			-0.33	-4.14
Construction	7.76	10.21	11.49	4.73	8.12	9.65
Trade	2.88	4.02	3.51	-0.02	2.96	3.55
(a) Wholesale Trade	12.71	1.16	12.90	-12.20	12.73	-0.13
(b) Retail Trade	2.74	3.38	3.48	-3.74	2.82	2.70
Transport, Storage and Communication	3.61	8.78	-5.51	-7.31	3.10	8.42
Finance, Insurance & Real Estate	1.45	8.57	5.16	16.42	1.87	9.81
Community, Social and Personal Services	1.35	-2.91	0.90	1.79	1.17	-0.95
Non-Agriculture	2.49	4.60	0.12	2.07	1.79	3.96
All Sectors	1.44	1.37	-2.06	1.08	0.17	1.28
Madhya Pradesh						
Agriculture	2.18	0.12	1.41	0.26	1.84	0.18

Description/State	MALE		FEMALE		PERSONS	
	1983	93-94	1983	93-94	1983	93-94
	93-94	99-00	93-94	99-00	93-94	99-00
1	2	3	4	5	6	7
Field Crop Production	2.32	0.20	1.39	0.12	1.91	0.17
Plantation	17.10	-25.69			17.10	-25.69
Livestock	-4.66	-6.80	-4.94	-10.25	-4.71	-7.37
Agricultural Services	16.39	-2.95	33.14	1.82	20.16	-1.02
Forestry & Logging	0.78	4.76	8.34	16.99	3.80	11.71
Fishing	-9.19	16.71	-5.21	0.91	-8.05	12.51
Non-Crop Activities	-2.09	-3.16	2.92	7.70	-0.86	0.76
Mining	8.86	-17.96	7.67	-17.40	8.53	-17.80
Manufacturing	0.56	3.45	1.55	3.57	0.92	3.50
(a) Agro-based Manufacturing	0.59	1.81	2.81	3.79	1.54	2.74
(b) Other Manufacturing	0.52	5.50	-2.07	2.70	-0.15	4.89
Utilities	12.16	-11.15	19.04		12.84	-13.23
Construction	2.38	11.10	0.09	23.50	1.97	13.61
Trade	2.15	8.90	0.54	4.95	1.82	8.20
(a) Wholesale Trade	6.10	-7.30	2.79	-13.62	5.88	-7.59
(b) Retail Trade	2.47	10.30	1.10	4.79	2.16	9.22
Transport, Storage and Communication	8.18	9.21		-20.16	8.66	8.49
Finance, Insurance & Real Estate	-0.52	7.81			-0.52	7.81
Community, Social and Personal Services	1.52	4.07	0.57	16.62	1.37	6.44
Non-Agriculture	2.40	4.27	1.92	5.91	2.28	4.69
All Sectors	2.21	0.70	1.44	0.65	1.89	0.68
Maharashtra						
Agriculture	1.04	0.56	1.49	0.26	1.26	0.41
Field Crop Production	1.44	0.60	1.63	0.11	1.53	0.35
Plantation	-3.60	20.33	3.72	12.71	-0.14	16.24
Livestock	-3.92	-3.35	-0.34	-3.66	-2.41	-3.50
Agricultural Services	-3.17	14.24	0.14	15.65	-2.02	14.80
Forestry & Logging	-10.18	3.25	-13.50	55.61	-11.71	36.72
Fishing	1.43	-12.02	-15.77	4.55	-1.39	-10.56
Non-Crop Activities	-3.35	-0.10	-0.81	2.94	-2.32	1.31
Mining	9.10	-18.49	2.33	-18.21	6.86	-18.42
Manufacturing	2.02	1.65	3.02	-5.74	2.27	-0.04
(a) Agro-based Manufacturing	0.85	-0.70	4.93	-11.28	2.10	-3.83
(b) Other Manufacturing	3.68	4.17	-3.34	10.94	2.58	5.02
Utilities	-1.44	7.24	16.72		-0.57	5.24
Construction	2.97	1.45	-2.60	-2.41	1.40	0.66
Trade	3.87	2.41	6.55	-6.69	4.48	0.46
(a) Wholesale Trade	6.79	8.36	6.36	-17.09	6.76	7.27
(b) Retail Trade	3.90	1.68	7.51	-8.18	4.80	-0.67
Transport, Storage and Communication	5.48	10.37	1.45	-17.15	5.33	9.93
Finance, Insurance & Real Estate	9.38	-1.14			10.27	-2.53
Community, Social and Personal Services	4.53	-0.71	8.95	-7.03	5.41	-2.04

Description/State	MALE		FEMALE		PERSONS	
	1983	93-94	1983	93-94	1983	93-94
	93-94	99-00	93-94	99-00	93-94	99-00
1	2	3	4	5	6	7
Non-Agriculture	3.53	1.78	3.89	-6.29	3.61	0.20
All Sectors	1.59	0.87	1.68	-0.23	1.63	0.37
Orissa						
Agriculture	1.53	0.48	2.73	-0.46	1.96	0.13
Field Crop Production	0.97	1.56	1.78	0.98	1.26	1.35
Plantation	7.15	31.86		67.97	8.85	41.08
Livestock	-2.82	-4.85	5.18	-5.88	0.52	-5.39
Agricultural Services	42.97	-39.54		-51.20	8.03	-43.93
Forestry & Logging	6.18	-3.16	4.81	1.66	5.40	-0.36
Fishing	4.97	-7.20	-9.48	13.87	2.69	-4.76
Non-Crop Activities	8.83	-12.75	12.91	-12.92	10.45	-12.83
Mining	7.39	-8.28	12.12	-25.90	8.68	-12.26
Manufacturing	-0.84	0.69	-0.33	9.10	-0.63	4.48
(a) Agro-based Manufacturing	0.77	1.47	1.47	7.44	1.11	4.65
(b) Other Manufacturing	-2.53	-0.35	-5.82	15.62	-3.34	4.14
Utilities	9.36	4.40			9.36	4.40
Construction	4.16	11.75	1.34	10.52	3.53	11.51
Trade	2.99	1.11	-0.64	-8.49	1.99	-0.75
(a) Wholesale Trade	10.58	4.30	4.05	-100.00	8.10	-1.74
(b) Retail Trade	2.91	-0.19	-1.54	-8.78	1.67	-1.86
Transport, Storage and Communication	5.63	9.08			5.63	9.50
Finance, Insurance & Real Estate	-11.46	21.85			-12.04	21.85
Community, Social and Personal Services	0.02	-0.71	-1.26	0.91	-0.27	-0.35
Non-Agriculture	1.20	2.19	-0.04	4.23	0.84	2.78
All Sectors	1.46	0.86	2.26	0.31	1.74	0.66
Punjab						
Agriculture	-0.28	-0.36	-1.94	4.93	-0.86	1.53
Field Crop Production	0.78	-0.26	5.67	-7.65	1.23	-0.98
Plantation						
Livestock	-10.81	-1.50	-3.52	7.86	-4.77	6.97
Agricultural Services		20.75				29.01
Forestry & Logging	25.76	-31.23			25.76	-31.23
Fishing	7.38				7.38	
Non-Crop Activities	-9.88	-2.21	-3.52	7.90	-4.66	6.86
Mining			-12.94		0.32	
Manufacturing	1.11	5.60	-12.12	20.51	-0.64	6.83
(a) Agro-based Manufacturing	-0.53	1.75	-12.98	18.09	-3.21	4.24
(b) Other Manufacturing	2.41	7.82	-8.49	26.88	1.88	8.55
Utilities	9.35	-5.16		2.11	9.82	-4.77
Construction	5.86	9.46			5.75	9.57
Trade	5.46	-0.46	2.26	6.99	5.26	0.001
(a) Wholesale Trade	2.74	6.75	5.94		3.13	4.10

Description/State	MALE		FEMALE		PERSONS	
	1983	93-94	1983	93-94	1983	93-94
	93-94	99-00	93-94	99-00	93-94	99-00
1	2	3	4	5	6	7
(b) Retail Trade	5.78	-1.42	3.30	7.73	5.65	-0.88
Transport, Storage and Communication	1.81	8.55			1.69	8.55
Finance, Insurance & Real Estate	8.13	0.53			8.13	0.53
Community, Social and Personal Services	7.42	-6.02	5.75	6.13	7.10	-3.21
Non-Agriculture	4.40	2.71	-1.95	9.71	3.73	3.32
All Sectors	0.96	0.67	-1.94	5.31	0.10	2.00
Rajasthan						
Agriculture	0.75	0.48	2.04	-0.38	1.38	0.04
Field Crop Production	0.98	-0.04	0.98	0.15	0.98	0.04
Plantation			-5.73	3.78	-8.19	26.37
Livestock	-1.29	4.27	4.63	-1.35	2.96	0.01
Agricultural Services	3.27	43.73			0.06	43.73
Forestry & Logging	5.37	-9.02	2.48		4.17	-15.97
Fishing						
Non-Crop Activities	-1.06	4.53	4.59	-1.49	2.96	0.04
Mining	15.93	-2.22	15.89	-6.43	15.92	-3.16
Manufacturing	4.08	-0.40	-2.66	10.89	2.72	1.67
(a) Agro-based Manufacturing	1.81	4.32	-1.98	12.01	0.90	6.12
(b) Other Manufacturing	6.33	-5.02	-3.81	8.57	4.70	-3.27
Utilities	0.41	0.82			0.41	0.82
Construction	10.99	3.05	5.51	-0.05	9.90	2.60
Trade	4.48	5.13	7.69	-2.50	4.81	4.34
(a) Wholesale Trade	4.27	4.86			5.48	2.77
(b) Retail Trade	4.54	5.09	6.98	-2.21	4.83	4.24
Transport, Storage and Communication	5.57	9.86			5.33	9.86
Finance, Insurance & Real Estate	16.23	13.90			16.23	13.93
Community, Social and Personal Services	4.22	0.13	5.28	-1.17	4.42	-0.12
Non-Agriculture	6.86	2.42	3.78	1.76	6.31	2.32
All Sectors	2.21	1.09	2.15	-0.23	2.18	0.52
Tamil Nadu						
Agriculture	0.19	-1.13	0.84	-2.65	0.50	-1.86
Field Crop Production	0.20	-0.59	0.98	-2.09	0.57	-1.30
Plantation	5.33	-0.92	6.17	-1.16	5.68	-1.02
Livestock	-5.34	-4.64	-2.95	-3.97	-3.83	-4.19
Agricultural Services	30.30	-32.11		-26.86	37.07	-29.35
Forestry & Logging	-4.86	6.62	-5.06	-5.91	-4.93	3.45
Fishing	3.14	0.89	9.40		3.87	-1.89
Non-Crop Activities	0.16	-5.70	0.06	-6.32	0.10	-6.03
Mining	-2.81	2.82	-2.67	-0.32	-2.77	2.05
Manufacturing	1.97	-0.29	3.94	-0.66	2.75	-0.45
(a) Agro-based Manufacturing	-0.15	1.79	2.64	-0.91	1.06	0.56
(b) Other Manufacturing	6.43	-3.80	8.78	-0.01	7.14	-2.47

Description/State	MALE		FEMALE		PERSONS	
	1983	93-94	1983	93-94	1983	93-94
	93-94	99-00	93-94	99-00	93-94	99-00
1	2	3	4	5	6	7
Utilities	0.75	-7.29		-7.28	1.39	-7.29
Construction	4.85	7.11	3.72	12.62	4.70	7.87
Trade	1.08	-0.86	-0.25	1.10	0.72	-0.34
(a) Wholesale Trade	8.52	-7.88		-21.06	9.54	-8.77
(b) Retail Trade	0.30	-0.73	-0.68	0.35	0.03	-0.44
Transport, Storage and Communication	6.51	1.73		21.83	6.63	2.12
Finance, Insurance & Real Estate	6.58	-8.47	27.26	-6.27	7.66	-8.19
Community, Social and Personal Services	1.37	-4.68	2.12	-5.40	1.63	-4.93
Non-Agriculture	2.34	-0.25	2.91	-0.70	2.52	-0.39
All Sectors	0.91	-0.81	1.25	-2.21	1.06	-1.41
Uttar Pradesh						
Agriculture	1.62	-0.38	0.59	0.40	1.29	-0.13
Field Crop Production	1.82	-0.41	1.75	-0.11	1.80	-0.33
Plantation	33.66	-2.84	22.60	-5.87	29.61	-3.58
Livestock	-4.66	0.89	-4.08	3.00	-4.24	2.44
Agricultural Services	24.51	2.28	13.75	0.86	22.11	2.08
Forestry & Logging	7.07	0.52	-22.81	79.78	3.61	6.75
Fishing	-9.31	1.60			-6.34	-3.97
Non-Crop Activities	-2.76	0.73	-3.92	2.98	-3.56	2.28
Mining	13.71	-3.36		-3.14	14.20	-3.35
Manufacturing	1.47	3.50	-0.61	6.07	1.05	4.00
(a) Agro-based Manufacturing	0.45	4.12	-0.89	6.54	0.12	4.71
(b) Other Manufacturing	3.05	2.65	0.36	4.48	2.71	2.86
Utilities	5.38	-0.58			5.81	-1.28
Construction	4.80	9.83	-2.93	20.04	4.51	10.14
Trade	5.28	2.75	2.29	-2.51	4.81	2.11
(a) Wholesale Trade	9.80	-2.13	-3.68	2.57	8.14	-1.83
(b) Retail Trade	4.58	3.47	2.01	-2.10	4.18	2.79
Transport, Storage and Communication	3.23	6.48	8.04	4.04	3.24	6.47
Finance, Insurance & Real Estate	6.99	10.20		-3.38	7.52	9.69
Community, Social and Personal Services	2.81	-0.70	-2.05	4.84	1.83	0.29
Non-Agriculture	3.14	3.58	-0.47	4.42	2.56	3.69
All Sectors	1.96	0.64	0.48	0.84	1.53	0.69
West Bengal						
Agriculture	1.15	1.12	-0.64	-2.84	0.71	0.30
Field Crop Production	1.54	1.33	3.58	0.52	1.88	1.18
Plantation	-22.21	31.38	-30.77	10.48	-24.84	28.68
Livestock	-4.56	-21.19	-7.97	-25.91	-7.07	-24.30
Agricultural Services	5.84	35.57	-3.24	36.31	3.02	35.72
Forestry & Logging	3.36	-24.69	1.65	-29.83	2.58	-26.69
Fishing	3.34	2.10	11.59	-9.45	5.78	-1.66
Non-Crop Activities	-4.47	-3.63	-7.45	-20.80	-6.40	-11.93
Mining	-7.80	14.33	-2.57	-100.00	-7.20	11.26

Description/State	MALE		FEMALE		PERSONS	
	1983	93-94	1983	93-94	1983	93-94
	93-94	99-00	93-94	99-00	93-94	99-00
1	2	3	4	5	6	7
Manufacturing	5.53	-0.47	7.51	3.03	6.32	1.09
(a) Agro-based Manufacturing	5.93	-0.24	7.72	3.09	6.78	1.50
(b) Other Manufacturing	4.67	-1.00	4.46	1.96	4.65	-0.63
Utilities	0.32	3.33			0.32	3.33
Construction	6.01	2.77	13.48	-4.95	6.37	2.33
Trade	5.92	1.53	1.10	0.16	5.39	1.41
(a) Wholesale Trade	11.59	-2.31	13.14	-2.05	11.66	-2.29
(b) Retail Trade	5.33	1.68	0.46	-0.01	4.79	1.54
Transport, Storage and Communication	5.14	4.45	25.80	-31.29	5.35	4.05
Finance, Insurance & Real Estate	4.81	-0.70		-1.76	5.41	-0.76
Community, Social and Personal Services	3.32	-4.74	3.92	-1.88	3.46	-4.03
Non-Agriculture	4.97	0.28	6.37	1.87	5.32	0.72
All Sectors	2.31	0.83	1.57	-0.80	2.13	0.45
All India						
Agriculture	1.47	0.32	1.24	-0.02	1.38	0.18
Field Crop Production	1.66	0.42	1.71	-0.08	1.68	0.23
Plantation	2.23	-5.24	1.57	0.15	2.01	-3.35
Livestock	-4.13	-1.19	-2.00	-0.68	-2.70	-0.83
Agricultural Services	19.99	15.12	30.36	11.03	23.40	13.42
Forestry & Logging	2.59	-5.65	0.76	5.07	1.89	-1.12
Fishing	4.31	-5.65	2.97	-10.78	4.09	-6.37
Non-Crop Activities	-0.49	-0.88	-1.01	0.28	-0.78	-0.23
Mining	3.93	-1.62	3.56	-4.54	3.84	-2.28
Manufacturing	2.10	1.79	2.21	1.75	2.14	1.78
(a) Agro-based Manufacturing	0.95	2.42	2.19	1.81	1.45	2.16
(b) Other Manufacturing	3.85	0.94	2.32	1.50	3.58	1.03
Utilities	4.97	-5.65			4.70	-5.65
Construction	5.43	6.84	3.70	3.56	5.18	6.43
Trade	4.19	2.13	1.68	0.15	3.72	1.81
(a) Wholesale Trade	9.22	0.94	8.30	0.15	9.14	0.88
(b) Retail Trade	3.90	2.08	1.27	-0.92	3.39	1.60
Transport, Storage and Communication	4.51	7.45	8.30	0.15	4.58	7.29
Finance, Insurance & Real Estate	5.08	4.77	18.18		5.99	2.51
Community, Social and Personal Services	3.09	0.05	3.27	1.14	3.13	0.32
Non-Agriculture	3.44	2.62	2.58	1.21	3.23	2.31
All Sectors	1.94	0.94	1.41	0.15	1.75	0.66

Source: 1. Govt. of India, SARVEKSHANA, Vol. XIV, No 1 & 2 Oct-Dec. 1990.
2. 1993-94 and 1999-00 data are extracted from household level data on CD-ROM supplied by NSSO, Govt. of India.

Table 9A Number of States Witnessing Higher/Lower Growth Rate in Post -Reform Period

	Rural Workers		Urban Workers		Total Workers	
	Higher	Lower	Higher	Lower	Higher	Lower
1	2	3	4	5	6	7
Field Crop Production	4	13	6	11	4	13
Plantation	6	8	1	11	5	9
Livestock	6	11	5	12	6	11
Fishing	2	10	4	6	2	10
Non-Crop Activities	8	9	4	13	8	9
Agriculture & Allied Activities	2	15	4	13	2	15
Mining & Quarrying	4	13	3	14	3	14
Manufacturing	9	8	11	6	10	7
Utilities	5	12	2	15	0	17
Construction	12	5	10	7	10	7
Trade	4	13	12	5	9	8
Transport, Storage & Communication	12	5	10	7	11	6
Finance, Insurance & Real Estate	7	10	9	8	7	10
Community, Social & Personal Services	3	14	0	17	2	15
Non-Agriculture	6	11	6	11	7	10
All Sectors	4	13	4	13	4	13

Source: Derived from Table 9.

Table 9B Intensity of the Post-Reform Employment Setback for Rural Workers: A State Level View for Agriculture and Aggregate Employment

1	Agriculture	Total
	2	3
Andhra Pradesh	(-Ve) Serious	(-Ve) Serious
Assam	(-Ve) Serious	(-Ve) Marginal
Bihar	(-Ve) Marginal	(+Ve) Moderate
Gujarat	(+Ve) Moderate	(+Ve) Marginal
Haryana	(-Ve) Serious	(-Ve) Moderate
Himachal Pradesh	(-Ve) Serious	(-Ve) Serious
Jammu & Kashmir	(-Ve) Marginal	(-Ve) Moderate
Karnataka	(-Ve) Moderate	(-Ve) Moderate
Kerala	(-Ve) Serious	(+Ve) Moderate
Madhya Pradesh	(-Ve) Moderate	(-Ve) Moderate
Maharashtra	(-Ve) Marginal	(-Ve) Moderate
Orissa	(-Ve) Moderate	(-Ve) Moderate
Punjab	(+Ve) High	(+Ve) Moderate
Rajasthan	(-Ve) Moderate	(-Ve) Moderate
Tamil Nadu	(-Ve) Serious	(-Ve) Serious
Uttar Pradesh	(-Ve) Serious	(-Ve) Marginal
West Bengal	(-Ve) Marginal	(-Ve) Moderate
India	(-Ve) Moderate	(-Ve) Moderate

Note: A post-reform decline in the rate of growth of employment upto one percentage point is designated as marginal; the one ranging between one and two percentage points as **moderate** and the one exceeding two percentage points as **serious**.

Source: Derived from Table 9.

Table 10 Sectoral Distribution of and Rural Workers' Share in Incremental Workers by Major Production Sector and Place of Residence: 1983/1993-94 and 1993-94/1999-2000

Code	Description	Sectoral Distribution of Incremental Workers				Rural Workers' Share in Incremental/Decremental Employment						
		Rural Workers		Urban Workers		Increment both in Rural and Urban Areas		Decrement both in Rural and Urban Areas		Mixed Pattern		
		1983/1993-94	1993/1999-00	1983/1993-94	1993/1999-00	1983/1993-94	1993/1999-00	1983/1993-94	1993/1999-00	1983/1993-94	1993/1999-00	
		3	4	5	6	7	8	9	10	11	12	
00	Field Crop Production	67.55	24.44	4.79	-11.10	96.70						100**
01	Plantation	2.03	-8.21	1.39	-3.27	75.16			71.55			
02	Livestock	-10.60	-6.39	-0.56	-2.74			97.50	70.00			
03	Agricultural Services	3.06	15.97	0.48	0.66	92.93	96.02					
05	Forestry & Logging	0.32	-0.49	0.03	0.10	96.24						100*
06	Fishing	0.94	-3.69	0.25	0.37	88.83						100*
0	Total	63.20	21.63	6.36	-15.97	95.38						100**
1	Mining	1.16	-1.90	1.40	-1.62	63.32			53.95			
20-21	Food Products	1.81	3.66	1.39	3.67	72.90	49.96					
22	Beverages, etc.	1.82	4.31	0.94	-0.01	80.04						100**
23+24+25	Cotton, Wool, Jute etc.	1.50	-5.02	0.59	-8.06	84.15			38.44			
26	Textile Products	-1.89	7.35	-1.36	7.01		51.24	74.24				
27	Wood Products	1.10	6.13	0.89	2.93	71.90	67.70					
28	Paper Products	0.09	0.09	0.61	1.92	23.47	4.57					
29	Leather Products	-0.29	0.09	0.93	2.75		3.24			100*		
30	Rubber Products	1.06	1.09	3.82	0.75	36.49	59.46					
31	Chemical Products	-0.17	0.09	-0.53	2.54		3.50	39.64				
32	Non-metallic Mineral Produ	0.59	3.45	0.07	-0.43	94.60						100**
33	Basic Metal Ind.	-0.09	1.77	0.27	-0.16					100*		100**
34	Metal Products	0.22	2.85	1.27	2.43	26.08	54.03					
35+36	Machine tool & Elect. Mach	0.27	-0.61	2.25	3.48	20.12						100*
37	Transport Equipment	-0.19	0.00	0.47	-0.69					100*		100**
38	Other Manfg .	0.95	-1.30	1.94	2.32	50.50						100*
39+97+99	Repair Services	2.21	-3.24	5.34	0.58	46.19						100*
(a)	Agro-based (20-21 to 29)	4.14	16.60	4.00	10.22	68.29	61.94					
(b)	Others (30-38,97)	4.84	4.12	14.91	10.80	40.28	45.42					
2 & 3	Total Manfg.	8.99	20.72	18.91	21.02	49.67	56.63					
4	Utilities	0.44	-1.41	1.30	-1.59	41.52			47.01			
5	Construction	5.87	26.66	10.31	19.25	54.20	58.11					
6	Trade	8.12	11.94	22.64	51.58	42.69	18.83					
60-64	Wholesale Trade	1.52	0.56	4.51	-2.09	41.17						100*
65-68	Retail Trade	5.91	8.23	15.50	48.38	44.20	14.56					

		Rural Workers' Share in Incremental/Decremental Employment									
		Sectoral Distribution of Incremental Workers				Increment both in Rural and Urban Areas		Decrement both in Rural and Urban Areas		Mixed Pattern	
		Rural Workers		Urban Workers							
		1983/ 1993-94	1993/ 1999-00	1983/ 1993-94	1993/ 1999-00	1983/ 1993-94	1993/ 1999-00	1983/ 1993-94	1993/ 1999-00	1983/ 1993-94	1993/ 1999-00
Code	Description	3	4	5	6	7	8	9	10	11	12
69	Hotel+Restaurant	0.69	3.15	2.63	5.29	35.18	37.39				
7	Transport, Storage & Communication	3.26	18.84	7.18	14.24	48.55	57.00				
8	Finance, Insurance & Real Estate	0.80	1.16	5.19	11.90	24.35	8.91				
9	Community, Social & Personal Services	8.15	2.35	26.72	1.19	38.79	12.15				
90	Public Admin, Defence etc	1.42	2.48	7.93	-1.60	27.06					100**
91	Sanitary Services	0.24	-1.58	0.31	-0.91	61.68			63.40		
92	Education, Scientific etc	1.85	5.72	4.77	8.73	44.57	39.60				
93	Medical & Health etc.	0.33	0.29	0.77	4.12	47.35	6.62				
94	Community Services	0.44	-1.40	0.30	0.10	74.98					100*
95	Recreational & Cultural Ser	0.42	-1.50	0.81	0.03	51.58					100*
96	Personal Services	3.46	-1.67	11.82	-9.28	37.82			15.27		
	Non-Agriculture	36.80	78.37	93.64	115.97	44.94	40.36				
	All Sectors	100.00	100.00	100.00	100.00	67.50	50.04				

Note: * Decrement in rural area only
 ** Decerement in urban area only

Source: SARVEKSHANA, Sept. 1990: S218-S247; NSS Report No. 409, March 1997:A 63-A76; NSS Report NO 458, May 2001:A182-A194.

Table 11

Sectoral Distribution of Incremental Rural Workers in Indian States

State	Sector	Female Workers' Share in Incremental/Decremental Employment							
		MALE		FEMALE		PERSONS			
		1983/ 1993-94	1993/ 1999-00	1983/ 1993-94	1993/ 1999-00	1983/ 1993-94	1993/ 1999-00	1983/ 1993-94	1993/ 1999-00
1	2	3	4	5	6	7	8	9	10
Andhra Pradesh	Agr.	68.19	37.67	83.78	-7.83	75.98	48.61	55.10	3.88
	Non-Agr.	31.81	62.33	16.22	107.83	24.02	51.39	33.75	100*
Assam	Agr.	71.80	-43.09	85.66	-2.60	77.16	-39.30	42.89	0.62**
	Non-Agr.	28.20	143.09	14.34	102.60	22.84	139.30	24.26	6.89
Bihar	Agr.	83.77	51.50	67.21	49.07	89.09	50.71	100*	31.65
	Non-Agr.	16.23	48.50	32.79	50.93	10.91	49.29	100*	33.79
Gujarat	Agr.	34.59	78.17	73.12	103.42	45.61	89.27	45.87	50.96
	Non-Agr.	65.41	21.83	26.88	-3.42	54.39	10.73	14.14	100+
Haryana	Agr.	16.33	50.91	100.23	95.65	53.67	-6.55	83.11	100*
	Non-Agr.	83.67	49.09	-0.23	4.35	46.33	106.55	100*	100*
Himachal Pradesh	Agr.	30.83	1704.61	88.79	138.34	56.71	827.82	69.92	9.35**
	Non-Agr.	69.17	-1604.61	11.21	-38.34	43.29	-727.82	11.56	2.95
Jammu & Kashmir	Agr.	2.70	75.85	92.78	225.81	62.69	62.03	98.56	100*
	Non-Agr.	97.30	24.15	7.22	-125.81	37.31	37.97	12.88	30.53
Karnataka	Agr.	73.82	42.54	70.15	15.49	72.04	100.81	47.24	100*
	Non-Agr.	26.18	57.46	29.85	84.51	27.96	-0.81	51.79	100*
Kerala	Agr.	22.83	-72.41	101.86	26.81	-315.90	-46.06	100*	100+
	Non-Agr.	77.17	172.41	-1.86	73.19	415.90	146.06	1.92	13.31
Madhya Pradesh	Agr.	86.24	14.69	92.02	36.68	88.06	23.20	100*	61.17
	Non-Agr.	13.76	85.31	7.98	63.32	11.94	76.80	32.93	31.90
Maharashtra	Agr.	50.64	48.11	81.92	-105.25	65.27	90.85	58.72	32.29
	Non-Agr.	49.36	51.89	18.08	205.25	34.73	9.15	24.36	100*
Orissa	Agr.	82.29	43.96	100.31	-124.11	90.40	16.17	49.91	100*
	Non-Agr.	17.71	56.04	-0.31	224.11	9.60	83.83	100*	44.20
Punjab	Agr.	-21.53	-35.05	92.70	85.18	-689.16	56.31	78.61**	100+
	Non-Agr.	121.53	135.05	7.30	14.82	789.16	43.69	5.40*	25.78
Rajasthan	Agr.	25.48	30.02	88.67	157.61	52.82	6.31	72.62	100*
	Non-Agr.	74.52	69.98	11.33	-57.61	47.18	93.69	10.39	11.42
Tamil Nadu	Agr.	14.12	88.52	54.05	92.89	34.58	91.47	80.09	68.47**
	Non-Agr.	85.88	11.48	45.95	7.11	65.42	8.53	36.00	56.19**
Uttar Pradesh	Agr.	64.27	-44.01	110.32	42.55	68.40	-15.28	14.46	100+
	Non-Agr.	35.73	144.01	-10.32	57.45	31.60	115.28	100*	16.54
West Bengal	Agr.	34.27	88.17	-27.71	201.00	23.02	42.29	100*	100*
	Non-Agr.	65.73	11.83	127.71	-101.00	76.98	57.71	30.12	71.16

Note: * shows decrement for females only; + means decrement for males only; ** means decrement for both.

Source:

1. Govt. of India, SARVEKSHANA, Vol. XIV, No 1 & 2 Oct-Dec. 1990.
2. 1993-94 and 1999-00 data are extracted from household level data on CD-ROM supplied by NSSO, Govt. of India.

Table 12 Educational Background of Rural Workers in Indian States:NSS Data 1983/1999-00

State	Year	Rural Male				Rural Female				Rural Persons			
		Not Literate	Upto Primary	Middle	Secondary & Above	Not Literate	Upto Primary	Middle	Secondary & Above	Not Literate	Upto Primary	Middle	Secondary & Above
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Andhra Pradesh	1983	62.4	23.1	7.4	7.0	86.1	10.3	2.2	1.4	-	-	-	-
	1993-94	54.7	29.4	8.3	7.5	75.2	19.5	3.4	1.9	65.0	24.4	5.8	4.7
	1999-00	49.1	31.0	9.6	10.3	66.5	24.1	5.4	4.0	57.8	27.5	7.5	7.1
Assam	1983	33.4	37.9	17.8	10.8	62.6	24.5	9.8	3.1	-	-	-	-
	1993-94	32.9	40.4	16.2	10.4	47.9	35.4	11.3	5.3	39.8	38.2	13.9	8.0
	1999-00	31.6	39.6	17.2	11.6	46.3	34.1	13.2	6.2	38.6	37.0	15.3	9.0
Bihar	1983	58.4	17.8	14.5	9.3	90.2	5.6	3.2	0.9	-	-	-	-
	1993-94	54.0	25.5	9.9	10.4	80.3	14.1	3.4	2.2	66.5	20.1	6.8	6.5
	1999-00	54.4	26.2	9.0	10.3	76.3	17.0	4.0	2.7	64.9	21.7	6.6	6.7
Gujarat	1983	45.3	32.8	12.2	9.5	74.2	18.1	4.9	2.7	-	-	-	-
	1993-94	39.5	39.1	9.0	12.3	63.9	26.0	5.1	5.1	51.2	32.8	7.1	8.8
	1999-00	34.6	36.4	16.1	12.9	57.0	28.4	8.8	5.8	45.7	32.4	12.5	9.4
Haryana	1983	47.6	21.0	18.0	13.4	88.2	8.1	1.7	2.1	-	-	-	-
	1993-94	41.3	36.2	8.1	14.3	66.0	25.8	4.4	3.9	52.9	31.3	6.3	9.4
	1999-00	33.7	37.1	10.6	18.5	55.4	30.8	7.2	6.4	43.9	34.1	9.0	12.8
Himachal Pradesh	1983	43.1	29.3	12.8	14.9	68.4	20.3	6.4	4.8	-	-	-	-
	1993-94	32.4	41.3	11.0	15.4	48.9	37.1	6.5	7.4	40.9	39.1	8.7	11.2
	1999-00	26.9	38.9	13.3	20.8	41.4	36.9	9.1	12.6	34.3	37.9	11.2	16.6
Jammu & Kashmir	1983	61.4	16.2	13.6	8.7	87.3	6.9	3.5	2.3	-	-	-	-
	1993-94	40.7	34.5	13.9	10.9	61.3	26.5	7.4	4.7	50.9	30.5	10.7	7.9
	1999-00	36.3	34.9	14.2	14.4	59.3	23.5	9.6	7.4	47.3	29.6	12.0	11.1
Karnataka	1983	51.7	27.4	11.9	9.0	79.4	13.6	4.4	2.6	-	-	-	-
	1993-94	46.5	32.2	11.0	10.3	66.0	23.1	7.1	3.8	56.2	27.7	9.1	7.0
	1999-00	42.8	29.8	13.7	13.3	60.7	24.5	9.1	5.4	51.8	27.3	11.4	9.4
Kerala	1983	13.1	45.7	26.4	14.8	26.8	41.1	20.2	11.8	-	-	-	-
	1993-94	14.5	41.0	27.4	17.1	18.3	40.6	25.9	15.2	16.5	40.8	26.6	16.1
	1999-00	15.2	36.4	27.6	20.5	21.3	35.4	24.5	18.8	18.4	35.9	26.0	19.7
Madhya Pradesh	1983	57.4	29.7	8.1	4.7	89.3	8.4	1.7	0.6	-	-	-	-
	1993-94	52.5	34.3	6.4	5.8	77.9	18.9	1.8	1.4	64.7	26.9	4.2	4.2
	1999-00	44.8	39.0	8.6	7.4	68.3	26.2	3.3	2.1	56.1	32.9	6.0	5.0
Maharashtra	1983	41.4	35.1	14.7	8.7	76.8	16.3	4.9	2.0	-	-	-	-
	1993-94	37.1	36.0	15.6	11.3	60.3	27.1	8.8	3.8	48.5	31.6	12.2	7.6
	1999-00	32.2	35.7	17.3	14.5	51.4	30.1	12.2	6.2	41.6	33.0	14.8	10.5
Orissa	1983	47.7	34.4	12.1	5.9	79.9	14.2	4.3	1.5	-	-	-	-
	1993-94	47.8	33.7	12.2	6.2	69.5	22.4	5.8	2.3	58.6	28.1	9.0	4.3
	1999-00	43.3	35.1	13.1	8.4	62.9	25.3	7.9	3.8	53.2	30.2	10.5	6.1
Punjab	1983	51.3	24.6	11.3	12.6	71.1	17.5	5.9	5.4	-	-	-	-
	1993-94	43.5	32.1	10.2	14.2	56.1	28.5	6.8	8.6	49.5	30.4	8.6	11.5
	1999-00	37.6	34.5	10.5	17.4	47.2	33.8	7.2	11.6	42.2	34.0	8.9	14.6
Rajasthan	1983	63.9	21.5	8.8	5.6	93.1	5.3	0.8	0.7	-	-	-	-
	1993-94	52.7	32.9	8.2	6.2	85.0	12.4	1.7	1.0	68.2	23.1	5.0	3.7
	1999-00	44.8	37.2	10.2	8.0	76.0	19.5	2.8	1.7	59.9	28.7	6.6	4.9
Tamil Nadu	1983	40.4	37.7	13.8	8.1	73.2	18.8	5.1	2.8	-	-	-	-
	1993-94	35.0	41.5	11.7	11.8	57.2	30.8	6.4	5.5	46.2	36.1	9.0	8.6
	1999-00	32.1	39.1	14.2	14.4	49.7	31.4	10.8	8.0	40.8	35.4	12.5	11.1
Uttar Pradesh	1983	55.8	22.4	12.4	9.2	88.1	8.5	2.0	1.3	-	-	-	-
	1993-94	50.4	29.5	10.3	9.7	77.1	17.1	3.3	2.5	63.1	23.6	7.0	6.3
	1999-00	44.8	31.4	11.9	11.6	69.3	21.9	4.6	4.0	56.7	26.9	8.4	7.8
West Bengal	1983	38.6	37.7	12.3	11.3	72.0	20.1	5.3	2.5	-	-	-	-
	1993-94	41.4	40.4	10.5	7.7	59.3	32.2	6.1	2.3	50.1	36.4	8.3	5.1
	1999-00	37.2	40.2	13.4	9.2	54.7	32.9	9.0	3.3	45.8	36.5	11.2	6.3
India	1983	49.7	28.5	12.7	9.0	79.8	13.6	4.3	2.3	-	-	-	-
	1993-94	45.5	33.7	10.9	9.8	67.9	23.0	5.6	3.4	56.4	28.5	8.3	6.7
	1999-00	41.2	34.2	12.6	11.7	61.5	26.0	7.5	5.0	51.1	30.2	10.1	8.3

Source:

1. Govt. of India, SARVEKSHANA, Vol. XI, No 4, April 1988: 19-21.
2. Govt. of India, Employment and Unemployment, NSS Reort No 409, March 1997: 52-57.
3. Govt. of India, Employment and Unemployment Situation in India, 1999-2000, Part I, NSS Report No. 458, May 2001: 54-57.

Table 13 Distribution of Educated Rural - Workers Staying Back in Agriculture and those Moving out to Non-Agricultural Jobs by Workers' Sex: 1983/1999-2000

Woker Category	Year/ Period	Proportion of Educated Workers Engaged in		Proportion of Incremental Educated Workers Engaged in		Growth Rate of Employment (Annual Compound: %)						Share of Educated Workers among Total Workers	
						Agriculture		Non-agriculture		All Sectors			
		Agr.	Non-agr.	Agr.	Non-agr.	Educated Workers	All Workers	Educated Workers	All Workers	Educated Workers	All Workers	Agr.	Non-agr.
		3	4	5	6	7	8	9	10	11	12	13	14
Rural Male	1983	45.45	54.55									4.91	19.99
	1993-94	51.53	48.47									8.96	23.38
	1999-00	52.79	47.21									12.17	26.69
	1983/93-94			56.90	43.10	9.26	0.05	6.62	1.99	7.89	0.51		
	93-94/99-00			55.62	44.38	6.91	0.32	6.00	2.62	6.47	0.94		
Rural Female	1983	26.93	73.07									0.32	5.43
	1993-94	34.32	65.68									1.04	11.37
	1999-00	46.86	53.14									2.15	13.06
	1983/93-94			38.17	61.83	13.60	-0.15	9.76	1.18	10.92	0.02		
	93-94/99-00			63.30	36.70	15.87	-0.02	6.11	1.21	9.94	0.15		
Rural Persons	1983	44.38	55.62									2.92	14.72
	1993-94	50.18	49.82									6.46	21.25
	1999-00	52.26	47.74									8.84	24.17
	1983/93-94			55.23	44.77	9.43	-0.03	6.92	1.79	8.10	0.33		
	93-94/99-00			56.54	43.46	7.44	0.18	5.95	2.31	6.71	0.66		

Source: 1. Govt. of India, SARVEKSHANA, Vol. XIV, No 1 & 2 Oct-Dec. 1990.
 2. 1993-94 and 1999-00 data are extracted from household level data on CD-ROM supplied by NSSO, Govt. of India.

Table 14 Gross Fixed Capital Formation in India by Industry of Use: 1993-94 Prices (Rs. Crores)

Year	Crop Prodn.	Forestry & Logging	Fishing	Total Agr.	% Share of Agri.*	Manuf-acturing	Const-ruction	Trade etc.	Transport Storage etc.	Finance Insurance	Community Personal etc.	Total Non-Agr.	Total Economy	% of Public Sector GFCF in		
														Total Agriculture	Total Non-Agr.	Total Economy
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1980-81	12951	385	385	13721	15.05	24125	1407	4386	12196	11341	11422	77472	91193	53.63	43.29	44.84
1981-82	12594	390	423	13407	12.05	38571	1907	5177	12172	11816	12009	97897	111304	52.20	39.45	40.99
1982-83	12866	437	463	13766	13.27	31452	2053	4336	8910	10688	12510	89940	103706	51.00	49.41	49.62
1983-84	12907	509	510	13926	13.72	29719	1781	3939	9802	10882	12147	87567	101493	50.90	52.11	51.94
1984-85	12808	478	560	13846	11.75	41835	1823	4406	12472	11725	13294	104034	117880	48.38	46.47	46.69
1985-86	12054	397	610	13061	10.19	45376	1459	5415	14231	12609	14275	115103	128164	45.98	44.69	44.82
1986-87	11628	489	672	12789	9.76	44506	1653	4965	14857	11305	15114	118217	131006	44.87	49.57	49.11
1987-88	12197	447	731	13375	11.33	30317	1885	4294	14153	14337	14443	104627	118002	44.89	53.86	52.84
1988-89	13046	492	797	14335	9.92	45357	1969	7107	18054	16519	15281	130173	144508	39.99	45.66	45.10
1989-90	11332	524	872	12728	8.46	48190	2744	6941	20107	19370	13861	137670	150398	38.58	42.95	42.59
1990-91	14266	584	955	15805	10.04	47141	2593	6509	19016	22378	15873	141625	157430	30.82	44.29	42.94
1991-92	12977	524	1045	14546	8.38	58028	1856	7023	23591	23565	15334	158981	173527	30.25	40.65	39.78
1992-93	13953	514	1143	15610	9.33	54138	2341	6483	19959	24231	16550	151768	167378	29.14	39.64	38.66
1993-94	13014	483	1252	14749	8.07	62620	2021	5836	22341	28115	16606	168058	182807	33.87	38.00	37.66
1994-95	14138	469	1371	15978	7.37	71883	3323	8530	27648	33369	20450	200762	216740	33.83	37.78	37.49
1995-96	14825	498	1501	16824	6.40	116502	4935	11065	29274	35090	20218	246178	263002	31.61	28.69	28.88
1996-97	14860	506	1643	17009	6.56	121748	2633	7782	29332	33578	19897	242385	259394	29.06	27.45	27.56
1997-98	14696	550	1800	17046	6.90	112321	5617	6957	23680	34057	19855	230018	247064	26.21	28.27	28.13
1998-99	15140	618	1972	17730	7.34	103381	4819	6934	22607	33671	23651	223750	241480	25.17	31.41	30.95
1999-00	16978	574	2160	19712	7.94	96067	5096	6824	26429	34200	28026	228524	248236	-	-	-
Growth Rate																
1980-81/1990-91	-0.10	3.12	9.48	0.42	-	5.07	4.08	4.58	6.82	6.76	3.04	5.58	4.97	-	-	-
1991-92/1999-00	2.72	2.11	9.50	3.30	-	9.88	14.30	0.58	1.69	4.89	6.56	5.89	5.68	-	-	-
1983-84/1993-94	0.86	1.26	9.36	1.34	-	5.68	3.36	4.95	7.90	10.71	2.50	5.97	5.48	-	-	-
1993-94/1999-00	3.36	4.26	9.51	3.97	-	7.30	13.91	-1.45	-0.39	2.08	6.80	3.90	3.90	-	-	-
1995-96/1999-00	2.94	4.96	9.53	3.65	-	-5.34	6.92	-10.26	-4.54	-0.48	8.61	-2.26	-1.85	-	-	-

Note: Growth rates have been estimated by using the usual semi-log model.

* Col. 6= Col. 5 as a % of Col.14.

Source: Govt. of India, National Accounts Statistics: Back series, 1950-51-1992-93, CSO, 2001:131-143, 205-211.
Govt. of India, National Accounts Statistics 2001, CSO, July 2001:37-49, 87-95.

Table 15 Public Sector Capital Expenditure for Agricultural and Rural Development in Indian States: 1983-84/1998-99 (Rs Lakhs at Constant 1993-94 Prices)

State	Capital Expr.	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	Growth Rate	
																		1983-84/ 1993-94	1993-94/ 1998-99
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Andhra	Agri. Dev.	56851	67478	63640	76820	64204	67726	56084	44921	32492	59908	84978	150483	165052	-19746	55475	55775	-1.53	-15.23
Pradesh	Rural Dev.	61470	71479	69432	82656	69114	73184	60360	49554	37111	71888	101296	159666	172550	-12939	62506	72978	-0.47	-13.40
	Overall Dev.	87006	95519	94068	105863	83952	92152	75451	64065	49752	89875	136596	169691	195509	9985	76359	90101	-0.91	-19.17
Assam	Agri. Dev.	13366	15734	15943	9583	17920	13975	16517	15372	17527	12074	12183	11643	9421	8623	12426	10002	-0.34	-2.48
	Rural Dev.	19799	21220	20961	17730	25048	18381	23732	22111	25402	20019	18660	17135	16915	13770	18174	18126	0.40	-0.50
	Overall Dev.	25691	28491	27673	27745	38121	26367	35260	31071	33469	25969	25080	24490	24736	18975	23958	24218	0.21	-1.43
Bihar	Agri. Dev.	63909	67898	78056	82545	85225	61675	64951	55624	34718	33505	25185	20446	22511	23733	24182	37236	-9.49	7.44
	Rural Dev.	74526	80798	94874	103714	97314	76126	81950	66861	43575	45942	31469	27957	31686	35179	37554	55814	-8.65	11.64
	Overall Dev.	83055	90245	113684	120712	111563	87092	96252	74476	51134	51942	32415	30388	34228	41494	42759	61137	-9.04	13.36
Gujarat	Agri. Dev.	48916	48660	34683	34867	44288	45757	55883	75842	75022	68594	32917	56859	72810	91060	109503	113385	3.23	27.03
	Rural Dev.	58241	60525	41003	41567	53781	54075	65569	87195	86692	76659	51805	80863	85895	107000	131316	153113	3.97	22.46
	Overall Dev.	71634	73440	56711	62449	68533	66033	77677	98271	110911	92229	62386	87843	108289	122001	145954	172837	3.01	21.23
Haryana	Agri. Dev.	17091	25995	33135	23268	3253	15041	11624	15241	6795	11992	16812	5449	8553	13690	19539	51588	-6.59	32.72
	Rural Dev.	21122	30013	37569	29189	5922	18130	14272	17944	9774	17056	21518	10829	13759	18593	25417	57363	-5.57	24.83
	Overall Dev.	26423	35548	43845	35661	11093	24274	20839	26175	17516	26004	30292	18595	23169	33766	34652	67186	-2.96	19.47
Karnataka	Agri. Dev.	33718	37185	38289	42734	29675	33672	38204	69808	73063	65664	94837	79573	78022	71824	63972	70630	10.13	-6.12
	Rural Dev.	39779	43165	45295	50360	32913	36605	41823	76144	79321	73598	102375	88059	84277	80158	72542	92345	9.13	-3.22
	Overall Dev.	54146	55280	55142	62894	42468	44095	49641	87327	90790	85252	118786	102735	101485	88040	88796	120288	7.51	-1.47
Kerala	Agri. Dev.	15025	15382	17014	13516	9285	11697	15439	14617	14733	13065	15632	16382	17485	16893	15787	13114	-0.20	-2.88
	Rural Dev.	30728	19780	24502	20973	14694	18575	22571	21496	21046	19402	23834	26254	27958	28288	29299	22222	-1.20	-0.03
	Overall Dev.	43158	33082	39905	35357	26057	27775	32873	34142	31363	28716	36333	39815	42977	42869	47136	38019	-1.79	2.11
Madhya Pradesh	Agri. Dev.	64732	69655	79886	76093	70742	68144	70306	66088	69296	69256	59953	56437	55000	56479	107265	50182	-1.01	3.09
	Rural Dev.	75705	76815	90842	89024	81763	78010	80225	73889	76458	76633	67034	64868	61039	63611	113229	55954	-1.38	2.34
	Overall Dev.	87777	88479	104535	106211	100143	94771	95303	93847	89535	93656	80739	81070	75050	82839	127777	73147	-0.86	2.81
Maharashtra	Agri. Dev.	90792	93986	94690	97830	91552	92341	118561	95734	88251	121325	129043	289571	169856	153957	174583	135010	2.56	-3.89
	Rural Dev.	104939	108851	105691	108914	105689	106461	134263	112888	102721	136849	148122	324475	207257	196558	219974	195395	2.64	0.47
	Overall Dev.	126749	132284	118292	129279	120263	123541	150753	129776	115384	151032	167462	337987	221280	210328	235186	221336	1.91	0.73
Orissa	Agri. Dev.	35541	33211	33352	39500	50408	47234	44305	50820	51655	44271	38484	24516	16729	45245	41680	43663	2.98	9.63
	Rural Dev.	39203	38134	38537	46016	56256	54690	52978	61615	63724	54032	51844	39674	29066	58030	52261	52775	4.48	4.70
	Overall Dev.	47252	50779	51512	60509	69748	71170	68038	74847	77575	63677	58519	54593	33180	63864	57666	57013	3.33	1.99

State	Capital Expr.	Growth Rate																	
		1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1983-84/ 1993-94	1993-94/ 1998-99
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Punjab	Agrl. Dev.	18013	43387	52398	-14326	-19300	25342	16824	18488	11654	13704	35566	54291	40500	-30712	48243	60200	-6.03	7.30
	Rural Dev.	22408	47819	56803	-9475	-16249	28350	20630	20274	14915	15230	38118	57200	45221	-26354	50166	64441	-6.25	7.03
	Overall Dev.	30346	57092	64958	827	-2300	43075	35493	31454	36304	29374	49534	64792	56924	-18734	71218	77857	5.26	8.01
Rajas than	Agrl. Dev.	31282	22658	25806	28045	31657	34065	32908	33051	104063	38467	35132	46453	79217	76857	128302	62153	6.81	18.26
	Rural Dev.	55899	40847	45141	49035	50157	57905	51549	48213	125358	59670	59144	77166	121074	110258	172301	101166	4.51	15.36
	Overall Dev.	63913	51867	54462	59679	67142	74225	69830	67968	141469	79632	78255	99098	149105	127973	194692	125856	5.50	12.91
Tamil Nadu	Agrl. Dev.	17868	17456	16320	16400	14785	15303	12520	13161	12942	15469	33768	34268	10908	20263	53173	23094	1.28	0.11
	Rural Dev.	24304	22187	21478	23470	20708	21360	17688	18432	19419	21945	40664	48280	25262	37475	70452	40832	1.45	4.52
	Overall Dev.	45139	39368	33122	32527	30945	31648	32352	31610	34577	36087	55051	64267	50645	72730	107395	77479	0.69	10.87
Uttar Pradesh	Agrl. Dev.	74841	95247	99325	118607	83676	93879	82261	87223	28140	70524	43717	42632	32969	45924	56717	62383	-7.27	8.84
	Rural Dev.	99366	129738	133540	152510	118025	127699	110780	120840	54520	97087	68340	74802	66075	78974	85121	113840	-5.52	9.32
	Overall Dev.	131349	168596	148486	195273	190017	157395	147867	159771	84133	139527	94912	101463	94133	110584	120820	141295	-4.22	7.94
West Bengal	Agrl. Dev.	9194	7000	11682	17059	18916	18448	30655	26917	19409	12707	23571	42939	78975	87181	16040	16453	9.53	-12.45
	Rural Dev.	12790	9680	14762	21189	22414	22491	36247	32968	24319	18809	30245	50777	87294	95940	27535	29974	9.34	-4.98
	Overall Dev.	20284	17502	20989	34037	34838	37670	52836	43681	34568	28195	40204	70880	96476	115512	45616	46432	7.29	-1.20
All India*	Agrl. Dev.	591139	660931	694220	662544	596286	644299	667042	682909	639759	650526	681778	931943	858006	661269	926887	804869	0.53	1.59
	Rural Dev.	740278	801052	840430	826870	737548	792042	814637	830424	784354	804820	854468	1148005	1075328	884540	1167847	1126339	0.58	3.60
	Overall Dev.	943921	1017570	1027384	1069023	992582	1001282	1040465	1048480	998480	1021167	1066564	1347706	1307187	1122226	1419983	1394202	0.50	3.91

- Note:
- * includes only the states listed above.
 - Growth rates have been estimated by using the usual semi-log model.
 - Investment on agriculture includes capital outlay on crop husbandary, soil and water conservation, animal husbandary, dairy development, fishries, forestry and wild life, plantations, food storage and warehousing, agricultural research and education, co-operation, agricultural programmes, major, medium and minor irrigation, command area development programme drainage and flood control projects, power projects and investments in agricultural financial institutions.
 - Investment on rural development includes capital outlay on rural health services, rural water supply, rural sanitation services, rural electrification, rural housing, village and small industries, on civil aviation and roads and bridges etc. plus capital outlay on all heads mentioned above under (3) above.

Source: Budget Documents of the State Governments, (courtesy: National Institute of Public Finance and Policy, New Delhi).

Table 16

Investment, Growth and Employment in the Indian Economy:1983/1999-2000

Sector	Growth Rate of								Elasticity of Employment	
	GDP		Employment		GFCF		Per Worker Productivity		Relative to GDP	
	1983-84/ 1993-94	1993-94/ 1999-00	1983/ 1993-94	1993-94/ 1999-00	1983-84/ 1993-94	1993-94/ 1999-00	1983/ 1993-94	1993-94/ 1999-00	1983/ 1993-94	1993-94/ 1999-00
1	2	3	4	5	6	7	8	9	10	11
Agriculture & Allied Activities	3.08	3.14	1.39	0.05	1.34	3.97	1.38	3.04	0.48	0.01
Mining & Quarrying	7.28	4.61	3.95	-2.78	1.05	-10.71	1.97	7.68	0.61	-0.49
Manufacturing	6.13	7.40	2.17	1.80	5.68	7.30	3.60	5.88	0.32	0.20
Utilities	8.97	6.76	4.56	-4.77	6.30	2.38	3.45	12.18	0.48	-0.52
Construction	5.52	6.26	5.60	6.36	3.36	13.91	-0.96	-0.01	1.27	1.00
Trade	5.55	9.06	3.84	3.99	4.95	-1.45	1.49	5.00	0.67	0.38
Transport, Storage & Communication	5.94	8.62	3.53	5.31	7.90	-0.39	2.30	3.24	0.55	0.56
Finance, Insurance & Real Estate	10.14	9.47	5.71	6.07	10.71	2.08	3.87	2.25	0.49	0.68
Community, Social & Personal Services	5.86	8.61	3.69	0.21	2.50	6.80	1.74	8.19	0.63	0.02
All Sectors	5.37	6.64	2.06	1.02	5.48	3.90	2.95	5.6	0.36	0.13

Note: GDP and GFCF figures are at 1993-94 prices.

Growth rates of GDP and GFCF have been estimated by using the usual semi-log model.

Elasticity of employment = Percentage change in employment in each period/ percentage change in GDP in each period.

Source: For Employment SARVEKSHANA, Sept. 1990; NSS Report No. 409, March 1997; and NSS Report No 458, May 2001.

For GDP and GFCF, National Accounts Statistics (Various Issues), CSO.

Table 17 State-wise Growth Rate of Public Sector Capital Expenditure, for Agriculture and Rural Development and Employment

State	Growth Rate of						Growth Rate of Capital Expenditure for					
	Agricultural Employment		Rural Employment		NSDP from Agr.		Agricultural Development		Rural Development		Overall Development	
	1983-84/ 1993-94	1993-94/ 1999-00	1983-84/ 1993-94	1993-94/ 1999-00	1983-84/ 1993-94	1993-94/ 1999-00	1983-84/ 1993-94	1993-94/ 1998-99	1983-84/ 1993-94	1993-94/ 1998-99	1983-84/ 1993-94	1993-94/ 1998-99
1	2	3	4	5	6	7	8	9	10	11	12	13
Andhra Pradesh	2.26	-0.18	2.27	0.24	2.06	1.53	-1.53	-15.23	-0.47	-13.40	-0.91	-19.17
Assam	1.86	-0.77	1.96	1.68	1.65	1.76	-0.34	-2.48	0.40	-0.50	0.21	-1.43
Bihar	1.28	1.17	1.29	1.90	-0.12	0.005	-9.49	7.44	-8.65	11.64	-9.04	13.36
Gujarat	0.65	2.50	1.65	2.07	-1.59	2.27	3.23	27.03	3.97	22.46	3.01	21.23
Haryana	1.79	-0.01	2.54	0.70	4.54	2.33	-6.59	32.72	-5.57	24.83	-2.96	19.47
Himachal Pradesh	1.90	-1.45	2.72	-0.13	1.82	1.73	-	-	-	-	-	-
Jammu & Kashmir	2.45	1.59	3.05	1.98	0.53	4.48	-	-	-	-	-	-
Karnataka	1.79	-0.05	2.12	0.17	3.90	2.85	10.13	-6.12	9.13	-3.23	7.51	-1.47
Kerala	-0.43	-2.47	0.17	1.28	4.46	0.73	-0.20	-2.88	-1.20	-0.03	-1.79	2.11
Madhya Pradesh	1.91	0.25	1.89	0.68	2.84	1.81	-1.01	3.08	-1.38	2.34	-0.86	2.81
Maharashtra	1.24	0.16	1.63	0.37	4.92	1.80	2.56	-3.89	2.64	0.48	1.91	0.74
Orissa	1.99	0.10	1.74	0.66	-0.39	0.66	2.98	9.63	4.48	4.70	3.33	1.99
Punjab	-0.88	1.62	0.10	2.00	5.20	2.38	-6.03	7.30	-6.25	7.03	5.26	8.01
Rajasthan	1.23	-0.02	2.18	0.52	0.56	4.48	6.81	18.26	4.51	15.36	5.50	12.91
Tamil Nadu	0.51	-1.85	1.06	-1.41	5.14	1.23	1.28	0.11	1.45	4.52	0.69	10.87
Uttar Pradesh	1.41	-0.29	1.53	0.69	2.36	2.98	-7.27	8.84	-5.52	9.32	-4.22	7.94
West Bengal	0.81	0.08	2.13	0.45	4.71	5.05	9.53	-12.45	9.34	5.24	7.29	-1.20
India*	1.39	0.05	1.75	0.66	2.75	3.04	0.53	1.59	0.58	3.60	0.50	3.91

Note 1. Investment on agriculture includes capital outlay on crop husbandary, soil and water conservation, animal husbandary, dairy development, fishries, forestry and wild life, plantations, food storage and warehousing, agricultural research and education, co-operation, agricultural programm major, medium and minor irrigation, command area development programme, drainage and flood control projects and investments in agricultural fin

2. Investment on rural development includes capital outlay on rural health services, rural water supply, rural sanitation services, rural electrification, rural housing, village and small industries, on civil aviation and roads and bridges etc. plus capital outlay on all heads mentioned under (1) above.

3. NSDP estimates for 1983-84/1993-94 are at 1980-81 prices while those for 1993-94/1999-00 are at 1993-94 prices.

4. State-wise estimates of capital expenditure (Col 8-13) are at constant 1993-94 prices;

* All India estimates are based on figures for the listed states only.

5. Growth rates of capital expenditure (Col 8-13) have been estimated by using the usual semi-log model.

Source: For Employment SARVEKSHANA, Sept. 1990; NSS Report No. 409, March 1997; and NSS Report NO 458, May 2001.

For NSDP, National Accounts Statistics (Various Issues), CSO.

For capital expenditure, Budget Documents of the State Governments, (courtesy: National Institute of Public Finance and Policy, New Delhi).