RURAL NON-FARM EMPLOYMENT IN INDIA: AN ANALYSIS OF POST-EONOMIC REFORM PERIOD

Dissertation submitted to the Jawaharlal Nehru University in partial fulfillment of the requirements for the award of the degree of

MASTER OF PHILOSOPHY

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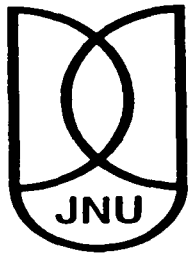

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This is to certify that the dissertation entitled **"RURAL NON-FARM EMPLOYMENT IN INDIA: AN ANALYSIS OF POST-ECONOMIC REFORM PERIOD"**, is my bonafide work for the degree of **MASTER OF PHILOSOPHY** and may be placed before the examiners for evaluation.

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Manoj Jatav

Dedicated to
My loving parents

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Introduction

1.1 Statement of the problem

Rural Non Farm Sector (RNFS) holds the key to faster economic development of the country. It has potential and promise for generating employment and increased income in the rural areas. In the developing countries, attention on expansion of rural non-farm activities for rural development has been in taking place in recent times. In India, Employment, productivity and earnings, and poverty reduction has been come up as a matter of major concern during post-economic reform period.

In India, a large proportion of the rural workforce is engaged in the agricultural sector which is facing a continuous deceleration in growth observed in post economic reform period where the problems related to decline in land productivity, decreasing returns, prevailing low wages etc. became sharper. In these conditions, the agricultural sector seemed to be insufficient to overcome the major problems of poverty and unemployment. A hope comes from the non-farm sector of the economy to overcome these problems. Since, most of the rural labour force is not well educated, skilled and trained, it is questioned that the rural labour force will not be able to fulfil the requirements of the modernized world economic system or it is not able to compete its well educated, skilled and trained counterpart. So there is a need to study the impact of new economic policies adopted since 1991 on rural labour force and see it in a geographical point of view to find out the spatial variations and temporal changes in growth, distribution, composition, concentration etc. It is necessary to see the impacts new economic regime on the nature of RNFE and to see whether the non-farm sector is being capable of reducing the major problems of poverty, inequality and employment generation since the initiation of economic reforms.

1.2 Importance of Rural Non-farm Sector

Non-farm employment is helpful for development of rural areas in many ways-

1. It can absorb surplus labour in agriculture and therefore reduces unemployment rate in rural areas
2. It provides an option to rural households to work in more remunerative works and help to reduce the risks in agriculture

3. It helps to foster the process of rural development through using rural resources and improve overall standard of living in rural areas with increasing demand of goods and services.
4. It provides an option for the rural poor to earn sustainable livelihood when performance of farm sector declines.

Rural non-farm sector plays a very important role in rural economic development by increasing the share of non-farm employment in total workforce. Rural India faces many obstacles in its rural development like dominance of many push factors like very high growth of population, increasing proportions of rural landless and marginal land holding poor households, prevailing poverty, decreasing agricultural performance and unemployment. Rural India may have a good option of rural non-farm sector to overcome such problems, especially the problems related to employment generation and poverty.

1.3 Research Questions

Although, deceleration of rural employment growth in post-economic reform has already been discussed by research scholars in their earlier works yet in present work here is an attempt to analyze the post-economic growth of employment in all rural sectors using census data set. Less attention has been paid to concentration of rural non-farm employment in previous researches. Attempts have been made to identify the regions of higher concentration and distribution of rural non-farm employment. The present work also tries to provide appropriate explanations for concentration and distribution of rural non-farm employment in those regions. Considering the previous researches related to female labour force participation in India, it is necessary to study the gender dimension in rural non-farm employment. Is the female participation increasing in rural employment? If yes, which are the major sectors such increasing pattern? Was the pace of increase recorded sufficient? Is the post-reform growth of rural non-farm sector favouring the female section of the workforce or it is showing favour?

More emphasis is given to the quality of rural workforce in non-farm sector during post-reform period to check out whether the process of economic reforms been gone well for the existing rural labour-force in India whose most of the part is illiterate or not well educated, untrained, and unskilled. The analysis of inequality in household expenditure among rural farm and non-farm households across social groups and wages in farm and non-farm employment across gender is a matter of concern. Does the economic reform period show it

higher? Do regional variations exist in level of inequality? If yes, what could be the possible explanations behind it?

Previous research talks about growth of rural non-farm employment in post-economic reform period. What could be the possible explanations of rural non-farm employment growth? Whether it is demand pulled or distress pushed?

1.4 Objectives of the study

Considering the need for the study and major emerging issues related to the rural non-farm employment the following objectives has been chosen for the study-

1. To study the changes in growth and structure of the rural non-farm employment during post-economic reform period.
2. To examine the quality of rural non-farm employment by checking the process of casualization in both pre-and post reform periods.
3. To compare household expenditure in rural farm and non-farm households across social groups and to compare the wage rates in rural farm and non-farm sector across gender during post-reform period.
4. To find out the determinants of rural non-farm employment by checking out the relative importance of pull and push factors.

1.5 Database

To analyze rural non-farm employment in India, quinquennial survey reports on employment and unemployment situation in India by National Sample Survey Organization has been used for state level data. Data has been taken from following rounds –

38th round (January-December 1983),
50th round (July 1993-June 1994),
55th round (July 1999- June 2000), and
61st round (2004-05).

For analyzing the process of casualization, household expenditure and wage rates, Unit level NSSO data from 61st round has been used. Similar data has been used to analyze

determinants of rural non-farm employment at individual level. Estimates on casualization for other years have been taken from previous reports of NSS mentioned above.

State level data for explanatory variables used for regression analysis has been taken from different sources. Since it is not possible to get data from year 2001 for all variables, the year which is more nearer to the year of 2001 has been used for regression analysis to make the dataset compatible with for regression analysis. Variables and their sources with year are given below-

Table 1.1 - Source of data for different variables used in state wise regression analysis

Variable	Source	Year
Per Capita Agriculture-Livestock Income (Rs.)	Directorate of Economics and Statistics, Ministry of Agriculture, Govt. of India	2000-01
Index Of Commercialization	Statistical Abstract of India	1999-00
Gross Irrigated Area (For Irrigation Ratio)	Directorate of Economics and Statistics, Ministry of Agriculture, Govt. of India	1999-00
Gross Cropped Area (For Irrigation Ratio)	Statistical Abstract of India	1999-00
Average Value Of Farm Business Equipments Of Rural Households	National Sample Survey Organization, 55th round report	2002
Level Of Urbanization	Census of India	2001
Rural Pop Density	Census of India	2001
Percentage Of Inhabited Villages Having Population More Than 1000	Census of India	2001
Road Length Per 100 Sq. Km	Statistical Abstract of India	1999
Rural Unemployment Rate	National Sample Survey Organization, 55th round report	1999-00
Percentage Of Rural Landless Households	National Sample Survey Organization, 59th round report	2002-03
Rural Dependency Ratio	Census of India	2001
Rural Literacy Rates	Census of India	2001
Percentage Of Rural Households Taking Cash Loans	National Sample Survey Organization, 59th round report	2002
Average Amount Of Cash Loans Per Household	National Sample Survey Organization, 59th round report	2002
Average Value Of Non-Farm Business Equipments Of Rural Households	National Sample Survey Organization, 55th round report	2002
Average Rural Household Size	National Sample Survey Organization, 55th round report	1999-00
Incidence Of Poverty Rural	Planning Commission of India	1999-00

Changes in growth and structure of rural non-farm employment are analyzed using state-wise data from Census of India, B-series for the years 1981, 1991 & 2001. District level data has been analyzed for Census year 2001.

1.6 Methodology

Using secondary data from above mentioned sources, the analysis of rural non-farm employment during post-reform period has been done. Only main workers from census and usual principle status workers have been considered for the analysis of the chapters. Whenever necessary, some states were clubbed together to make the censuses comparable[1]. Growth of rural employment in all sectors is analyzed using the formula-

$$r = ((Yf/Yb)^{1/n} - 1) * 100$$

Where,

r	Compound Annual Growth Rate
Yf	final year
Yb	base year
N	Number of years

Also the comparisons have been made between pre- and post-economic reform period across gender. State wise distribution of rural non-farm workers across gender is analyzed for all the three censuses by extracting the share of rural non-farm employment in total rural employment. Moreover, distribution and concentration of has been analyzed at district level for 2001. To show the concentration of rural non-farm workers spatially, a concentration index is used called Location quotient. At district level, concentration rural employment is analyzed for all sectors. The following formula has been used to calculate concentration-

$$L.Q. = \frac{(RNFWs \text{ in district} / \text{Total } RWs \text{ in district})}{(RNFWs \text{ in India} / \text{Total } RWs \text{ in India})}$$

Where,

L.Q.	Location quotient
RNFWs	Rural non-farm workers
RWs	Rural Worekrs

[1] For example, in 1981, Goa and Daman & Diu were clubbed together. Similarly it has been done for other censuses. Newly formed states viz. Uttaranchal, Jharkhand and Chhattisgarh has been clubbed with Uttarnchal, Bihar, and Chhattisgarh to make the censuses comparable.

Sectoral composition of rural non-farm employment is analyzed by extracting the share of each sub-sector of it from total rural non-farm employment.

For casualization in farm and non-farm sectors in India, overall estimates from NSS reports have been taken. Regional variations in process of casualization in rural sectors across genders have been analyzed for recent year 2004-05. Process of casualization is analyzed in two ways-

1. Extent of casualization - measured as number of casual wage labourers for every 100 regular salaried/wage employees.
2. Incidence of casualization – measured as share of casual wages labourers in total rural workforce.

Using estimates of 2004-05, inequality of household expenditure among farm and non-farm households across social groups and wage disparity among males and females has been analyzed in two ways-

1. **At all India level**- with the help of individual data, mean differences in household expenditure among farm and non-farm households across all social groups (SC, ST and other than SC-ST) are analyzed by *Independent Sample T-test* to check to equality of variances using *Levene's test* and *T-test for equality of means* in two groups (which have been taken for comparison). Disparity in wages also analyzed by using the same method.
2. **At regional level**- regional disparity in wages and household expenditure discussed in previous paragraph is analyzed by using *Modified Sopher's indexz (Kundu, A.)*

Also the wages differences on the basis of mode of employment (Whether casual, self-employed and regular) has been analyzed.

To see the relative importance of push and pull factors analysis has been done at two levels- analysis of data on state level and individual level. Description of the variables selected for regression analysis is given below-

1. **State level Analysis**- stepwise regression analysis has been done for state level data keeping the share of rural non-farm workers to total rural workers as dependent variable. Other variables are as below-

Table 1.2 Description of the variables used in state level regression analysis	
Name of the Indicator & Abbreviations	**Description**
Agricultural Indicators	
Index of Commercialization	*Area under non-food crops/ Total Gross Cropped Area.* Measures Commercialization- % of area under commercial crops to GCA. The hypothesis is that since commercial crops are mostly market-oriented, a large area under commercial crops implies more opportunities for non-farm employment
Irrigation Ratio	*Gross Irrigated Area/ Gross Cropped Area.* The hypothesis is that irrigation increases incomes in agriculture and that this will lead to an increase commercialization of agriculture and to increase in the demand for non-farm activities through production and consumption linkages, thereby increasing RNFE
Per Capita Agriculture-Livestock Income (Rs.)	It is pre-assumed that an increase in per capita agricultural income may enhance growth of rural non-farm employment through growth linkages.
Average Value Of Farm Business Equipments Of Rural Households	It is hypothesized that investment in agricultural business can enhance rural non-farm employment through various growth linkages.
Non-agricultural Indicators	
Incidence of Poverty	*% of Rural Population Below Poverty line.* The relationship between poverty and RNFE may be positive or negative. A high level of poverty may result in high level of RNFS due to 'distress diversification'. When agricultural development is not adequate, dependence on non-farm activity is likely to be relatively high, for survival. The initial hypothesis is that there will be an inverse relationship between the incidence of poverty and non-farm employment
Level of Rural Literacy	*% Literates in Rural Areas.* Generally the impact of literacy on RNFS is expected to be positive
Road Length	*Road Length Per 100 Square km.* Infrastructure is required for non-farm activities to develop. The availability of infrastructure facilities, such as roads will be high in areas which are developed. Rural infrastructure is hypothesized to have an influence upon rural non-farm employment.
Level of Urbanization	*% Urban Population to total population.* Urbanization can encourage non-farm activities in neighbouring rural areas to satisfy demands for goods and services.
Average Value Of Non-Farm Business Equipments Of Rural Households	The hypotheses, here, is that it has a positive association with rural non-farm employment. Investment in non-farm business enhances growth in rural non-farm sector.
Average Amount Of Cash Loans Per Household	Availability of loans in rural areas may affect rural non-farm employment both positively and negatively. If shows negative association, then it may noted that availability of cash loans in agriculture may stop movement of labour into non-farm sector.
Percentage Of Rural Households Taking Cash Loans	It should also be associated both positively and negatively.
Rural Dependency Ratio	The hypotheses are that it can be positively or negatively correlated with non-farm employment. A negative association will indicate that households where dependents are more, are engaged in farm related activities. On the other hand, if it is positively

	associated, it can enhance rural non-farm activities indicating a dominance of push factor.
Average Rural Household Size	It could also be positively or negatively correlated with non-farm employment. A negative association will indicate that rural household may belong to cultivators' occupy a large part of cultivable land. On the other hand, if it is positively associated, it can enhance rural non-farm activities indicating a dominance of push factor.
Rural population density	Rural population density may affect the growth of rural non-farm employment by pressurize the rural land resources. In this case, growth of rural non-farm employment favours the population push theory.
Percentage Of Inhabited Villages Having Population More Than 1000	Large size of rural population can enhance rural non-farm activities in a region through better production linkages and organized business atmosphere.
Percentage Of Rural Landless Households	If performance of agricultural is not good in a region, percentage of rural landless household is positively associated with rural non-farm employment showing a distress phenomenon.
Rural Unemployment Rate	If agriculture is no more a labour absorbing sector in a region then association between rural unemployment rates and rural non-farm employment may positively correlated.

2. **Individual level analysis**- the following categorical variables has been used for *binary multiple logistic regression* analysis to find out the factors affecting participation of a workers in non-farm sector-

- ***MPCE classes*** - Rs. 299.99 & Below, 300 – 599.99, 600 – 899.99, 900 – ***1199.99, 1200 & Above***
- ***Age Group*** - 5-14, 15-29, 30-59 & 60+
- ***Land Ownership*** - Landless Households (0 - .999 Hec), Marginal Land Owner Households (1 - 1.999 Hec), Small Land Owner Households (2 - 3.99 Hec), Semi-Large Land Owner Households (4 - 9.99 Hec), Large Land Owner Households (10 Hec & Above)
- ***General Educational Level*** - Illiterate, Up to Primary, Middle to Higher Secondary and Graduate & Above
- ***Technical Education*** - No, Yes
- ***Social Group*** - ST, SC and other than ST-SC
- ***Location of Work*** - Rural, Urban, Not fixed
- ***Household Size*** - 1-5, 6-10 and 11& Above

1.7 Organization of the Study

The study if organized into six chapters. Chapter first introduces the research work. Chapter second discusses the changes in growth and structure of rural non-farm employment during post-reform period. Chapter also provides detailed analytical description of structure of rural non-farm employment in post-reform period by focusing on district level data from 2001 Census year. Chapter third discusses the extent and incidence of casualization in rural farm and non-farm employment during post-reform period. The Chapter also examine it within sub-sectors of non-farm economy. Chapter forth is devoted to the analysis of inequality of household expenditure among rural farm and non-farm households and also to the analysis of wage rate disparity among rural males and females in different rural operations. It also examines the inequality of household expenditure among rural farm and non-farm households across social groups. Chapter fifth discusses major determining factors of rural non-farm employment in India through analysis of state level and individual level data and try to find out the relative significance of push and pull factors affecting growth of rural non-farm employment. Finally, chapter six reviews the conclusions of chapter two, three, four and five. Chapter six also contains some suggestions for regenerating agriculture and suggest ways to growth led development of non-farm sector.

1.8 Concepts and Definitions

There are some important concepts used in the work need to be described. These are as follow-

Rural Non-farm Employment

Rural employment in non-farm related activities excludes farm sector. First two categories namely Agriculture, Hunting and Forestry and Fishing under one digit level classification of industries as given by National Industrial Classification-1998, constitutes farm sector.

For 2001 Census and NSS 61st round, employment under Electricity, Gas and Water Supply has been included in Non-household manufacturing sector to make the previous data comparable.

Pre-economic reform period

For census dataset it refers to the period of 1981 to 1991 and for NSS dataset it is refers to the period of 1983 to 1993-94.

Post-economic reform period

For census dataset it refers to the period of 1991 to 2001 and for NSS dataset it is refers to the period of 1993-94 to 2004-05. For present chapter Census dataset has been used.

Household

As per NSS definition, a group of persons normally living together and taking food from a common kitchen will constitute a household. The members of a household may or may not be related by blood or marriage to one another.

Rural Farm and Non-Farm Households

As per NSS definition, out of the industries listed that one which fetched the maximum earnings to the household during the last 365 days preceding the date of survey would be considered as the principal household industry. It may be farm or non-farm on the basis of which it is decided that whether a rural household is farm or non-farm. In extreme cases, the earnings may be equal in two different occupations or industry-occupation combinations. By convention, in such cases, priority will be given to the occupation or industry-occupation combination of the senior-most member.

Household monthly per capita expenditure

As per NSS definition, household consumer expenditure is measured as the expenditure incurred by a household on domestic account during a specified period, called reference period. In other words, it is the sum total of monetary values of all the items (i.e. goods and services) consumed by the household on domestic account during the reference period.

Self-employed

Persons who operate their own farm or non-farm enterprises or are engaged independently in a profession or trade on own-account or with one or a few partners are self-employed in household enterprises. The essential feature of the self-employed is that they have autonomy (i.e., regarding how, where and when to produce) and economic independence (i.e., regarding market, scale of operation and money) for carrying out operation *(NSS report, 61st round)*.

Regular salaried/wage employee

Persons working in others farm or non-farm enterprises (both household and non-household) and getting in return salary or wages on a regular basis (and not on the basis of daily or

periodic renewal of work contract) are the regular salaried/wage employees *(NSS report, 61st round)*.

Casual wage labour

A person casually engaged in others farm or non-farm enterprises (both household and non-household) and getting in return wage according to the terms of the daily or periodic work contract is a casual wage labour *(NSS report, 61st round)*. Usually, in the rural areas, a type of casual labourers can be seen who normally engage themselves in 'public works' activities.

Usual activity status

As per NSS definition, the usual activity status (whether employed, unemployed or out of labour force) relates to the activity status of a person during the reference period of 365 days preceding the date of survey. The activity status on which a person spent relatively longer time *(major time criterion)* during the 365 days preceding the date of survey is considered the usual principal activity status of the person.

Current daily activity status

In a reference week a person can pursue more than on economic activity. As defined by NSS, 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 using a priority-cum-major time criterion (day to day labour time disposition).

Manual work

A work involving physical labour is considered as manual work. However, jobs essentially involving physical labour but also requiring a certain level of general, professional, scientific or technical education are not to be termed as 'manual work'. On the other hand, jobs not involving much of physical labour and at the same time not requiring much educational (general, scientific, technical or otherwise) background are to be treated as 'manual work'.

Rural Labour

As defined by NSS, manual labour working in agricultural and /or non-agricultural occupations in return for wages paid either in cash or in kind (excluding exchange labour) and living in rural areas, will be taken as rural labour.

Main Workers

According to Census of India, those workers who had worked for the major part of the reference period (i.e. months 6 ≥ and days 183≥ in a year) were termed as Main Workers.

Push and Pull factors

The relative importance of push and pull factors determining rural non-farm employment in India are studied in chapter five. Therefore, it becomes important to explain these. When relative returns are higher to the RNFE than to farming, and returns to farming are relatively more risky, "pull" factors are at work. In these conditions, rural workforce moves to the rural non-farm sector. Conversely, when farm output is inadequate and not sufficient and opportunities for credit and crop insurance are missing, "push" factors are at work (Reardon, 2000). In these conditions, rural workforce is compelled to move in rural non-farm sector to earn sustainable livelihood.

1.9 A Review of Literature

Today, the importance of RNFS is very well known among policy and strategy makers. Many researchers have been emphasized the generation of employment in RNFS is important for poverty alleviation, economic growth, rural development and increasing potential sustainability of natural resources, gender, food security, and prevention of rapid or excessive urbanization through providing jobs within rural areas due to which labour do not migrate to the urban centres *(Bhalla, 2002, Chadha, 2002, Davis, 2003, Ellis, 1998).*

The rural non-farm economy (RNFE) is generally defined as comprising all those non-agricultural activities, which generate income to rural households (including income in kind and remittances), either through waged work or in self-employment. In other words, it includes all economic activities in rural areas except agriculture, hunting and fishing *(Mishra, 2007).* Some of the scholars also defined it in another way.Since it is defined negatively, as non-agriculture, it incorporates a wide range of activities including manufacturing, petty trading, services, as well as transfer payments and remittances from temporary or seasonal migration to rural areas *(Davis and Pearce, 2001).*

A huge work has been done to access the situation of rural non-farm employment in India during post-economic reform period. In post liberalization period, unfortunately, the growth of RNFE registered a dramatic decline compared to the preceding decade of 1983–93. The slowing down of the process of sectoral diversification can thus be seen to have adversely

affected the more vulnerable sections of the population, such as women and the rural population, much more than the others *(Kundu, 2003)*. Indeed, the growth in non-farm employment has taken place largely within the urban informal sector *(Kundu, 2003)*. Mostly the growth of regular employed favoured males.

During post-reform period, it has been observed that share of females in total workforce has increasing gradually, but overall growth trend shows that slowing down of the structural change has been taken place especially among female workers *(Kundu, 2003, Chadha, 2002)*.

The poor quality of its workforce is one of the most serious problems of India's rural economy. Many researchers favour the deterioration of quality of rural labour force. The employment problem has continued to be the *Achilles' heel* of the Indian economy *(Chadha, 2002)*. Post-economic reform period shows a shrinking absorptive capacity of agricultural sector. On the other hand, growth of rural non-farm employment favour largely uneducated, unskilled and untrained labour resulting in share of casual labourers to increase.

During 1970s and 1980s the RNFE grew at very high rate in most of the states. But in post-economic reform period the rate of growth of RNFE slows down. The share of agriculture in GDP is also declining continuously since post economic reform period *(Bhaumik, 2002)*. The annual growth rate of the male workforce in the rural non- farm sector in India was 4.3 per cent during 1977-88 and 2.0 per cent during 1988-2000, whereas in agriculture it was only one per cent during 1977-99 *(N. C. Saxena)*.

As the figures explain, India's rural economy still has no fewer than 41.2 percent of illiterate male and no less than 61.5 percent of illiterate female workers *(Saxena, N.C., 2002)*, Casualization of labour is increasing since 1993-94 *(Chadha and Sahu, 2002, Himanshu, 2007)*. The proportion of Child labour is also increasing in the rural non-farm sector in India. A recent study based on 1991 and 2001 census data shows that the proportion of child workers in total workers in rural non-farm sector is increasing. Thus, there is continuous deterioration of the quality of rural non-farm employment in India.

A number of studies in India favour that growth of agriculture is likely to stimulate the growth and development of the rural non-farm sector *(Bhalla, 2002, Chadha, 2002, Mishra, 2007, Sastry, 2003, Mukherjee, 2002, Ellis, 1998)*. Growth of agricultural production along with NFS results a multiplier effect with direct and induced effects, the income of labour force increases. The various linkages between the agricultural and non-agricultural sectors of the rural economy include, capital flows (investment of agricultural surpluses in non-agricultural activities), labour flows (the counter cyclical involvement of agricultural labour in

non-agricultural activities according to the seasonal character of labour demand in agriculture), production linkages (supply of agricultural inputs like fertilizers, equipments and building materials etc. to the farmers), forward linkages (agro-processing), consumption linkages (demand for housing, consumer durables and other non-food items as a result of rising agricultural incomes) etc. *(Visaria and Basant, 1994, Mishra, 2007).*

Agricultural-led diversification of the rural non-farm economy is based on the theory of structural transformation where the pull factors are more dominant or there may a distress phenomenon where the push factors are more dominant as in case of developed countries today the agriculture is no longer the unique centre of economic life in the countryside.

Using spatio-temporal methods analysing the various aspects of the study one can trace out the main regions of the country showing higher concentration and distribution in RNF activities. Here, it is accepted that economic activities in a region are dependent on the geographical factors dominant there. Hence, as a geographer, one should capture the geographical distribution of the economic activities over time and try to find out those factors. Here an attempt to add the geographical point of view of analysing the workforce has been made in the study. There is lack of literature covering the geographical way of representing the concentration of rural non-farm labour force. Only analysing the data spatio-temporally with the help of statistical tools has been done previously by many researchers.

The geographical conditions of a region largely affect and determine the economic activities of the people. Climate, Terrain, soil etc. are such parameters which determine entry in a particular economic activity. A very important study, in such case, is by Micevska and Rahut (2007), they analyzes the determinants of participation in non-farm activities and of non-farm incomes across rural households in Eastern Himalayas, largely agrarian, based on traditional farming methods and terraced slopes. Because of the hilly terrain and lack of reliable transportation infrastructure, there are no large-scale industries. Services dominate the rural non-farm activities, and the shares of non-farm wage income exceed the shares of non-farm self-employment income across all categories of rural households. Geographical location along with education plays a major role in accessing more remuncrative non-farm employment with household assets and characteristics such as land, social status (Micevska and Rahut, 2007).

The increasing share of female workers in the job sector is linked to the process of greater socio-economic development of a region. In a developed of fast developing region the social acceptance of the women increases rapidly *(Schultz, 1988, Nam, 1991).* Their participation in social, economic and political activities increases as a consequence of the process of fast development. As a result of that female workforce participation increases and

the ratio of male and female workers decreases significantly. The female labour force engaged in the agricultural sector shifts to the non-farm sector. In a region, larger proportion of female workforce engaged in non-farm activities indicates the higher level of development *(Nam, 1991)*. The share of female workers tends to have increased in post-reform period but the pace is not as similar as of males, it is relatively low (*Chadha, 2002, Bhaumik, 2002, Jha, 2007)*. Most of the works on NSS and Census data reveal that the female workforce is dominant in the household manufacturing sector and in agricultural sector in rural India.

Most of the studies talk about push and pull factors which are affecting the participation of rural labour in a particular activity. An approach that is more sensitive to the different potentialities of rural diversity is suggested by a distinction in the literature between *'demand-pull' and 'distress-push' diversification (e.g. Reardon, 1999; Ellis, 2000; Pearce and Davis, 2001*). Distress-push diversification typically occurs in an environment of risk, market imperfections, and of hidden agricultural unemployment. Demand-pull diversification, on the other hand, is characterised as a response to evolving market or technological opportunities, which offer the opportunity of increasing labour productivity and household incomes (*Davis & Bezemer, 2003)*.

The determinants of RNFE have been changed over time. Many researchers have contributed to find out the relative importance of pull and push factors over time; as a consequence various types of results have been come out.

Social and economic infrastructural development in rural areas plays very important roles to enhance the non-farm activities. As many studies shows that increased education, financial, physical infrastructure and other developmental activities have caused the RNFS in India to be broaden with time *(Rao, P. 2005, Kashyap and Mehta, 2007, Srivastav and Dubey, 2002)*.

Further, one can, therefore, argue that people engaged in traditional occupations, such as artisans, craftsmen, carpenters, goldsmiths, blacksmiths, etc are hit badly in Post-economic reform period. Industries and some of the service activities that have high employment potential and are linked with modern sectors should be encouraged to bring about sectoral diversification, as these can enhance levels of productivity. Unfortunately, the capacity of the government to generate such employment directly through anti-poverty and other programmes is limited. It is, therefore, recommended that these programmes should primarily be focused on the creation of an economic infrastructure, the provision of basic amenities and the strengthening of rural-urban (RU) linkages *(Kundu, 2003)*. The responsibility of job creation can be left to the market, the state setting up a framework for legislating and

monitoring wages and working conditions in the private sector. A section of scholars and policy makers, however, are sceptical about this notion and believe that the growth of non-farm employment can largely be attributed to a lack of productive opportunities within the primary sector.

Some of the studies show that growth of RNFS is not led by urban growth. There is no evidence that high urban growth (in terms of output) in post reform period induced employment growth in the rural economy *(Kashyap and Mehta, 2007)*. RNFE reflects no significant relationship with levels of urbanisation. Its correlation with the growth of the urban population in the 1980s also works out as insignificant, which in the 1990s proves negative as well as significant *(Kundu, 2003)*. The regression analysis by Srivastav and Dubey (2002) shows that among different variables, rural literacy and rural road are found to be the important variables in determining the rural non farm employment. They found that non-agricultural employment is the direct result of a significant improvement in rural literacy and rural roads, whereas the earlier studies concluded that it is a result of over crowding in agriculture or unavailability of jobs or low output elasticity of employment in agriculture. An improvement in rural literacy induces the rural work force to shift from agriculture to the non-agricultural sector.

On the contrary, Bhaumik (2002), on the basis of correlation coefficient between growth rates of non-farm and farm workers, says that whenever farm employment declines, the employment in the RNF expands. In most of the Indian states as well as in all-India, non-farm employment grew more significantly in periods that witness sharp decline in farm employment.

Examining the returns to education within rural non-farm sector reports that earnings tend to rise sharply with higher education levels *(Mishra, 2007)*. However, it is far less clear that schooling, beyond primary level and the achievement of literacy and numeracy, provides skills that matter in the majority of RNF activities *(Davis, 2003, Mishra, 2007)*.

Social institutions such as caste, gender and ethnicity often act as important determinant of participation in the RNFE, both as facilitating and constraining factors *(Mishra, 2007)*.

The effect of migration from rural to urban areas is also considerable. In regions with lower productivity seasonal or long term migration can be important producing substantial contributions to rural livelihoods. In the work of Frank Ellis migration is regarded as an integral component of rural economic diversification. Many of the researchers favours that

rural non-farm sector itself should create employment opportunities within rural areas to the rural labour force for the fully fledged development.

The relationship between the incidence of NFE in rural areas with levels and nature of employment, unemployment and poverty *at state level* suggests that a high share of NFE does not necessarily imply healthy economic development *(Kundu, 2003)*.

Today, farmer's suicide is the major serious issue in Indian agriculture. This kind of problems is generated by heavy dependency of the farmers on the informal sources providing credit on very high interest rates. The expansion of rural non-farm economy reduces such dependency on interlinked transactions through diversification of assets and earnings of the households *(Mishra, 2007)*. For such expansion, appropriate policy measures are needed by generating alternative sources of employment, self-employment, and by enhancing rural credit market particularly by rural banks.

Chapter 2

Changes in Growth and Structure of Rural Non-farm Employment in India: A Comparative Study of Pre- and Post-Reform Period

Chapter 2

Changes in Growth and Structure of Rural Non-farm Employment in India: A Comparative Study of Pre- and Post-Reform Period

2.1 Introduction

This chapter deals with the changes growth and structure of rural employment in different sectors, wherein an attempt has been made to compare the pre and post economic reform period. As stated earlier in the introductory chapter, a multi-dimensional inverse impingement of economic reforms on rural employment can be observed during 1990s and onwards. The nature of rural employment in post-reform period is such that it shows a decline in overall growth of rural employment in general, and rural farm employment in particular. Moreover, deterioration of quality of rural employment (in terms of mode of employment), unemployment etc. are the other features of severe inverse impact of economic reforms depicting a multidimensionality of it. Most of the studies on rural employment talk about the deceleration of employment growth in both the farm and the non-farm sector in post-reform period[1]. Although, in most of the past literatures, substantial work has shown such deceleration in growth of rural employment, yet it is important to analyse the issue in its entirety, including its gender dimensions, as also include changing structure of rural non-farm employment in all states of India. Here, the structure of rural employment refers to changes in distribution of rural workers within the farm and the non-farm activities, changes in composition of employment within rural non-farm sector and concentration of rural non-farm workers over the space.

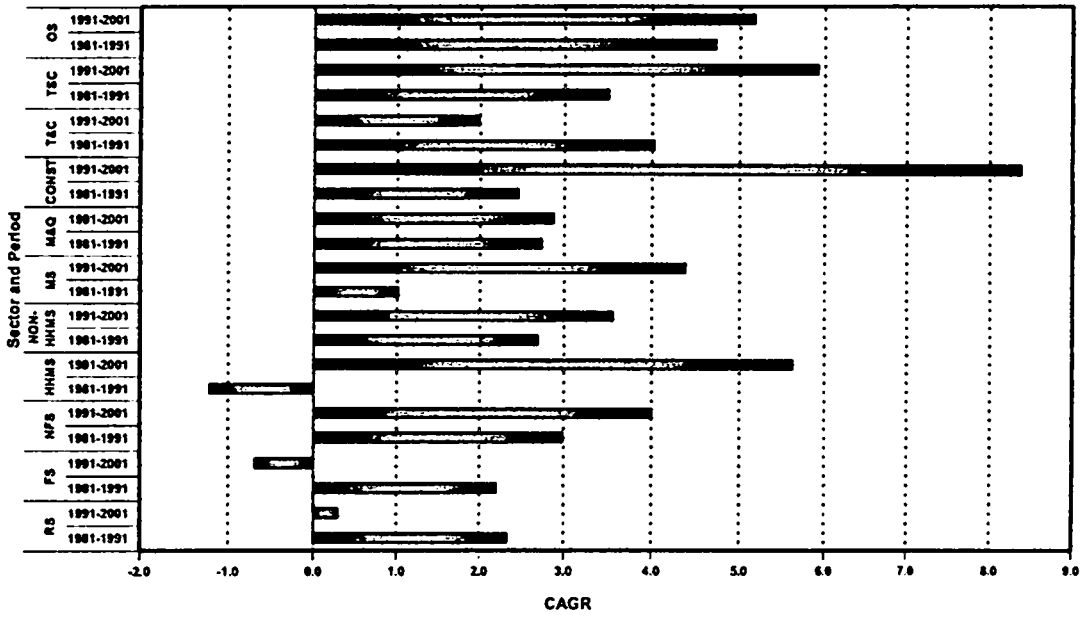
[1] **Pre-economic reform period**- for census dataset it refers to the period of 1981 to 1991 and for NSS dataset it is refers to the period of 1983 to 1993-94. **Post-economic reform period**- for census dataset it refers to the period of 1991 to 2001 and for NSS dataset it is refers to the period of 1993-94 to 2004-05. For present chapter Census dataset has been used.

2.2 Growth Scenario of Rural Employment in India

2.2.1 Growth at all India level

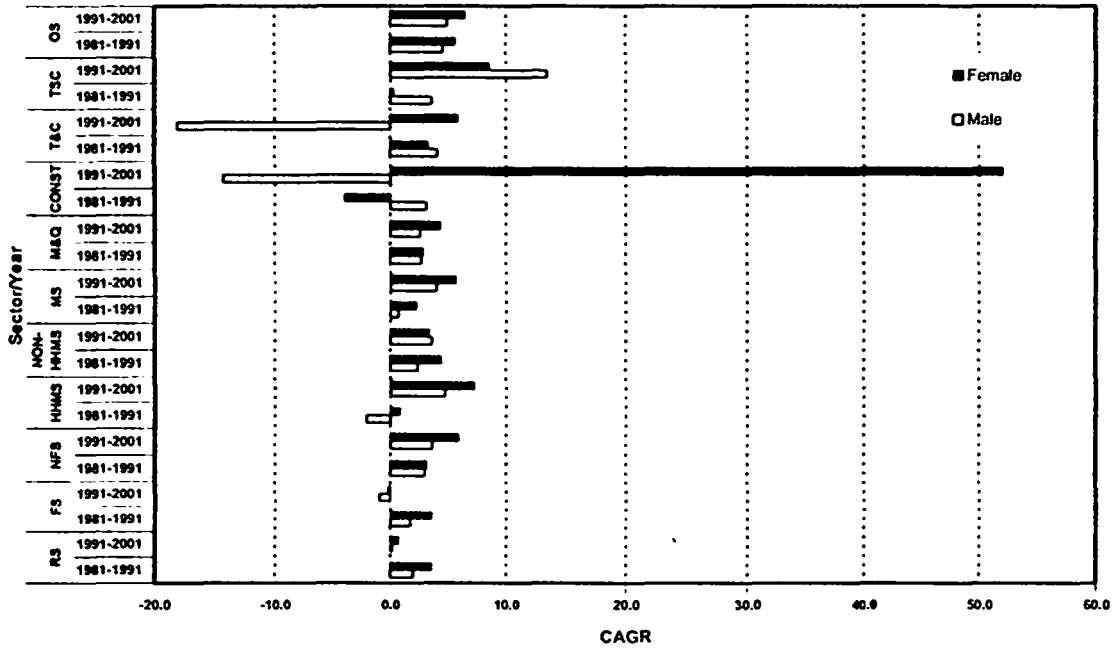
In post-economic reform period, overall rural employment growth decelerated especially in the farm sector, which clearly experienced a negative growth (Figure 2.1). This negative growth in farm sector was sharper among males than females (Figure 2.2). During 1990s, growth of non-farm employment was positive almost in all its sub-sectors except in trade and commerce where it went through a deceleration whereas for males it was even negative.

Figure 2.1 - Changes in Growth of Rural Employment in India
Among Persons



RS- Total rural sector, FS- Farm employment, NFS- Non-farm sector, HHMS- Household manufacturing sector, Non-HHMS- Non-household manufacturing sector, MS- Manufacturing sector, M&Q- Mining & Quarrying, CONST- Construction, T&C- Trade and Commerce, TSC- Transport, Storage and Communication, Other Service, and CAGR- Compound Annual Growth Rate of Rural Employment.

Figure 2.2 - Male-Female Comparison of Growth of Rural Employment



An exception in trend of growth of rural employment is observed in construction sector during 1990s, which registered not only an increase, but also grew at an accelerated rate. The growth rate is higher among females, and this represented a reversal of trend, as in the pre-reform period, there was a negative growth in female workers engaged in various types of construction activities (Figure 2.2).

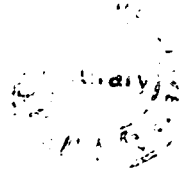
In addition, there were some other sectors like Household manufacturing, Transport, Storage and Communication and Other Rural Services where employment increased at higher pace during nineties. Household manufacturing, where employment growth was negative during pre-reform period, experienced a high positive growth during nineties. The growth of female employment accelerated in both construction and household manufacturing activities during the same period.

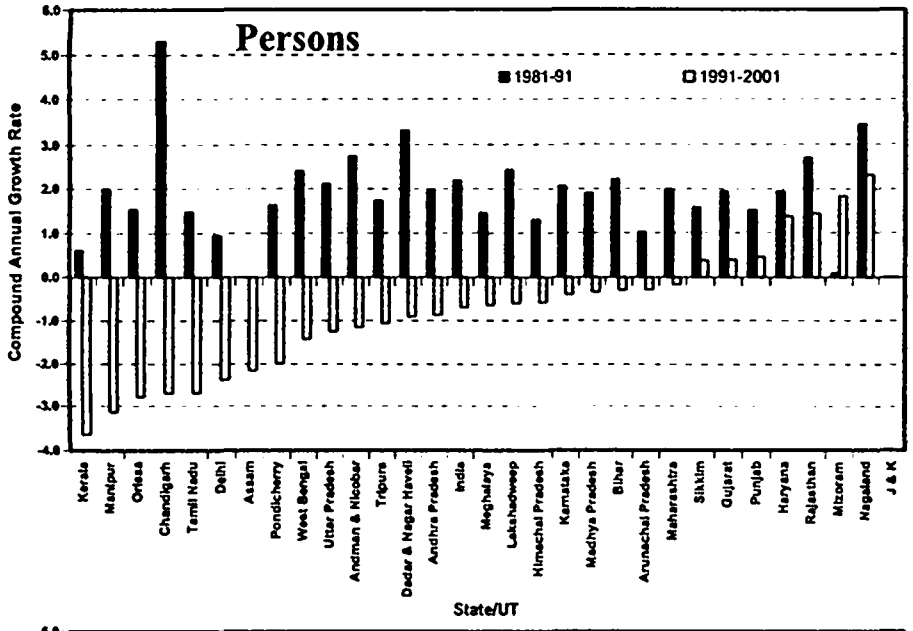
2.2.1 State wise Growth of Rural Employment

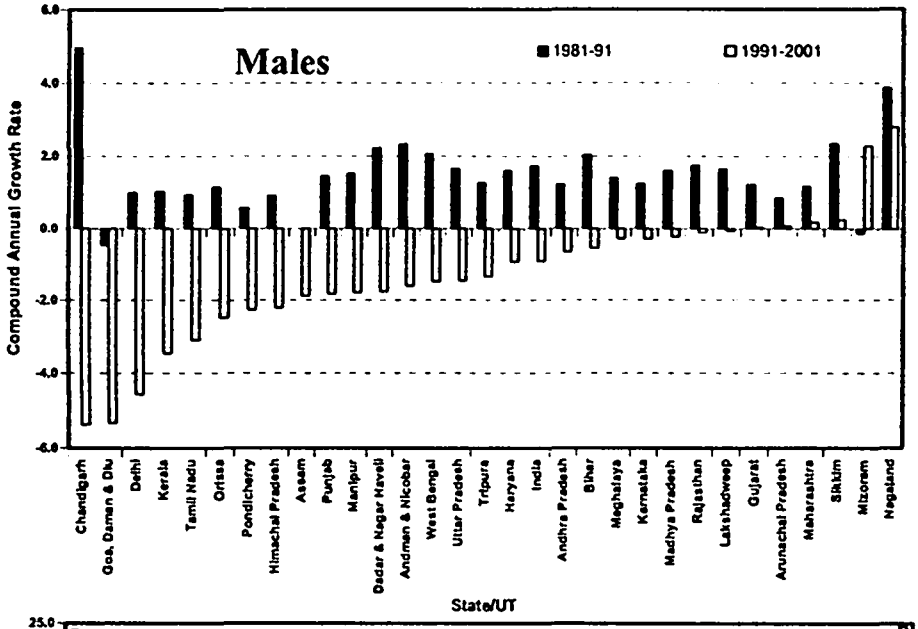
Rural employment growth was hampered in most of the states during 1990s, the result of which is visible at the all-India level. Either a deceleration or negative growth is observed in all states except in two northeastern states of Sikkim and Nagaland (Annexure 2.1). Declining rural

employment can be observed in the period under discussion in some northeastern and southern states like Tamil Nadu (-1.5 %), Orissa (-1.3), Manipur (-1.1), Assam (-0.3), Arunachal Pradesh (-0.3), and Kerala (-0.3). Uttar Pradesh also experienced a marginal negative growth (-0.3). While this trend holds for rural males but for females, the trend is somewhat different. Other than the above-mentioned states, Andhra Pradesh, Meghalaya, Maharashtra and Madhya Pradesh also experienced negative growth of rural employment. Interestingly, in Punjab and Haryana, agriculturally most developed states, shows a positive increase in rural employment during nineties (for Punjab it increased from 4 in pre-reform period to 22 percent in post reform period and for Haryana it is from 4.9 to 11.3 percent).

Growth of farm sector shows a great decline during nineties in most of the states (Figure2.3a, 2.3b & 2.3c). Most of the states faced negative growth of employment in farm sector. Punjab, Haryana, Delhi and Chandigarh were the only cases where it was increased at a good pace (Figure 2.3c).







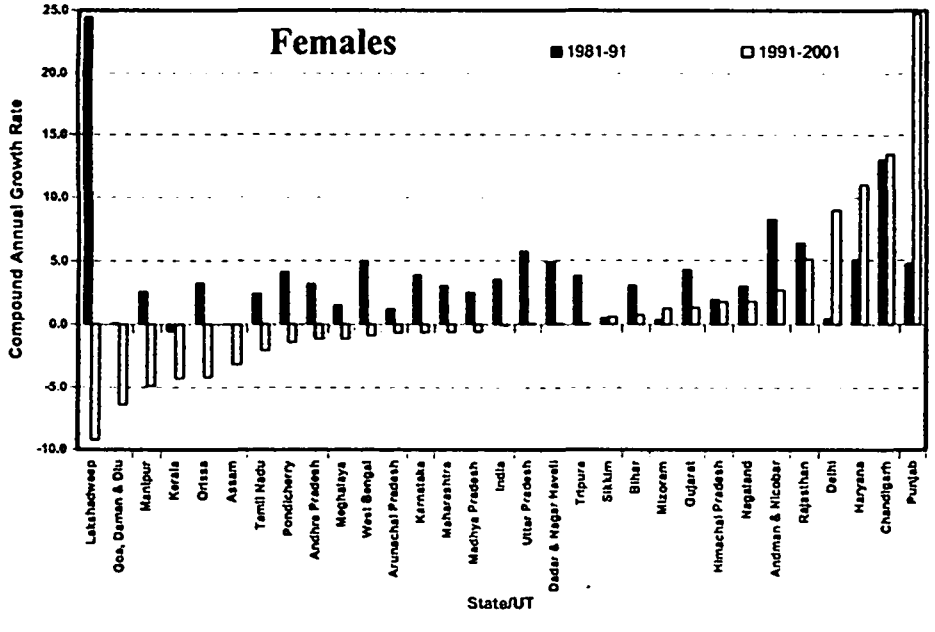


Figure 2.3a, 2.3b & 2.3c showing growth of rural employment in farm sector during pre- and post reform period.

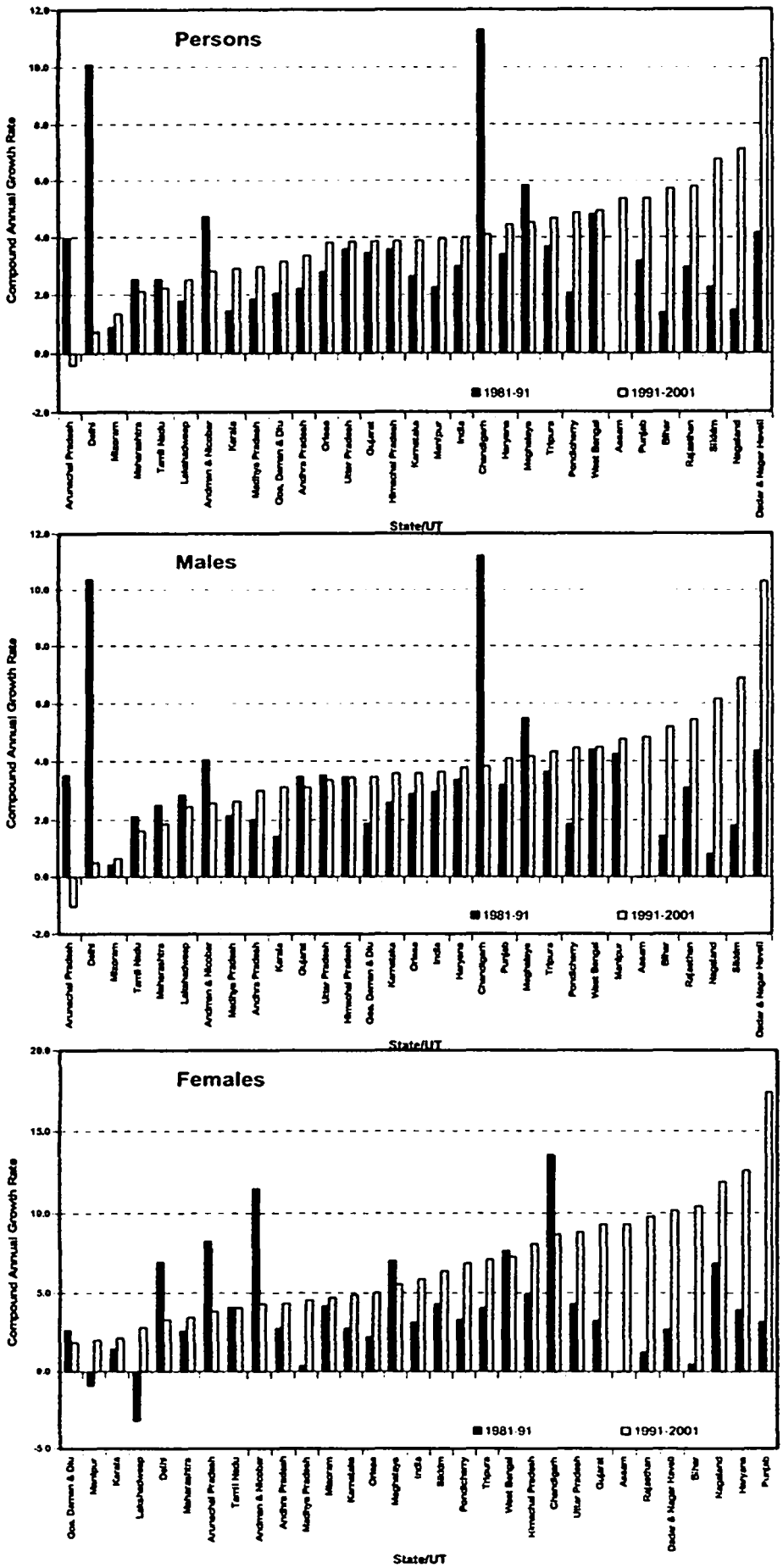


Figure 2.4a, 2.4b & 2.4c showing growth of rural non-farm employment during pre- and post reform periods.

Opposite is true for rural non-farm employment, which shows a positive increase almost in all states during nineties (figure 2.4a, b & c). But growth was negative in Arunachal Pradesh for males. Except these, there were some other states where rural non-farm employment faced a deceleration during nineties as compared to the pre-reform period, namely Meghalaya, Tamil Nadu and Maharashtra. For males, deceleration was slightly high in bigger states like Meghalaya, Tamil Nadu, Gujarat, Uttar Pradesh, Himachal Pradesh, Maharashtra and Tamil Nadu. In case of females, West Bengal, Meghalaya, Arunachal Pradesh, and Goa were the only states faced deceleration.

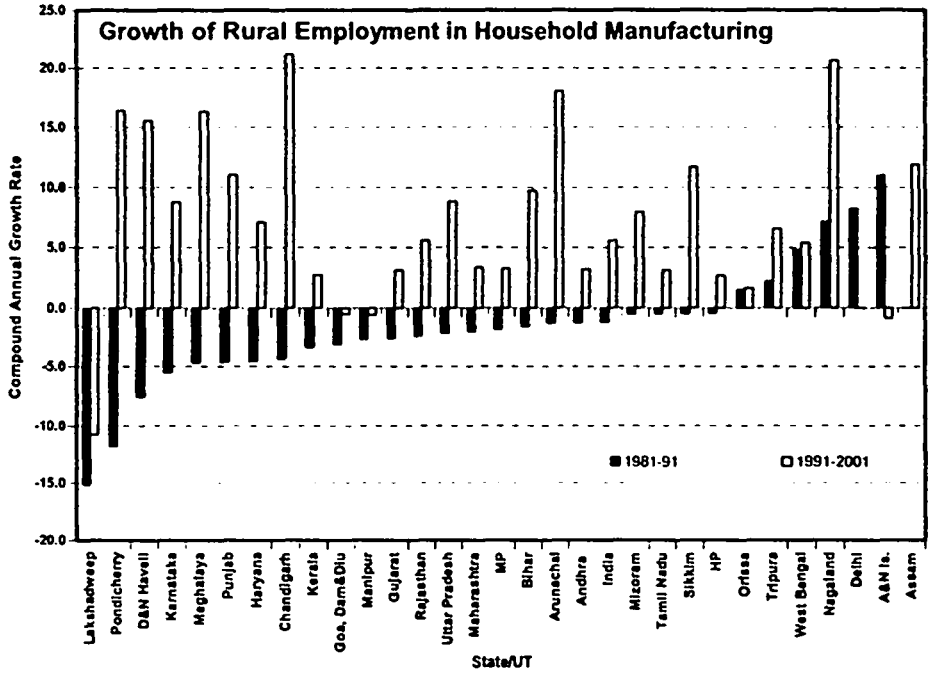
In some states, acceleration in growth of rural non-farm employment experienced during nineties as compare to pre-reform period. Growth accelerated in many bigger states like Punjab, Haryana, Bihar, Rajasthan, Gujarat, Uttar Pradesh, Himachal Pradesh, West Bengal, Tripura, Assam and Nagaland.

Growth acceleration of rural non-farm employment during post-reform period indicates that the declining growth of rural farm sector and impact of new economic policy regimes together pushes the rural labour to non-farm sector. Thus, there may be two reasons why rural labour is shifting toward non-farm sector; first, less satisfaction in farm sector and second, new opportunities given by new policy regimes. But it is still an issue of concern as to why in some states, as stated earlier, there is a deceleration of both rural non-farm employment and farm employment. Probably, it may be due to lack of opportunity for those workers who are not skilled, educated and trained sufficiently to compete with new labour market demands in post-reform period.

Post-reform phase shows a positive growth in rural household manufacturing employment. Most of the states, having negative growth of rural household manufacturing sector in pre-reform period, experienced a positive growth in post-reform period (figure 2.5). Sharper growth can be observed among females (see annexure 2.1 for detail). Generally, working in household manufacturing is considered to be good for rural labour force in India. Quality of labourforce (educational attainments, trainings, and skills) determines type of activity in which labourforce tend to engaged. In rural India, having a large proportion of its labourforce unskilled, less/uneducated, and untrained with lack of managerial power and opportunities to work in globalized and liberalized economy, the labourforce likely to work in household industry, especially in case of rural females. Consequently, rural labourforce is opting to work in

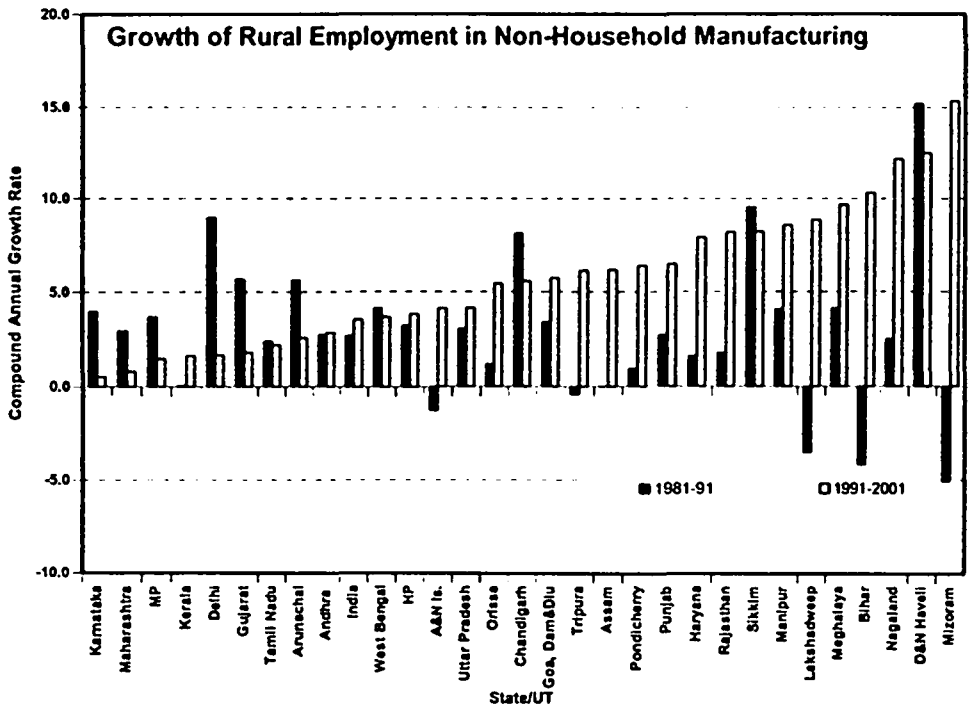
household manufacturing sector. But how far this option is sustainable for rural labour is depend upon income that they are getting from their enterprise. Therefore, it can be stated that engagement of labourforce in household manufacturing sector may indicate a distress phenomena.

Figure 2.5



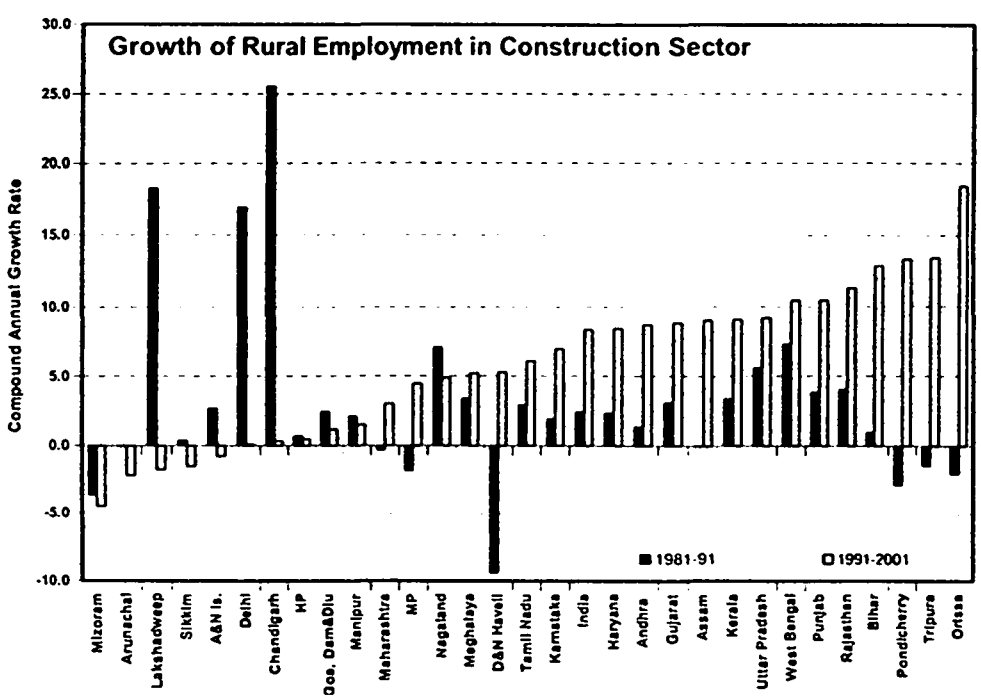
Although, overall employment in non-household manufacturing sector increased in nineties but there are some states where it is decelerating like in West Bengal, Karnataka, Maharashtra, Madhya Pradesh, Gujarat, Tamil Nadu, Arunachal Pradesh and Sikkim (figure 2.6). Bihar, Punjab, Haryana, Rajasthan and most of the northeastern states of India have an accelerated growth of employment in non-household sector. Especially, in Bihar and Mizoram, where it was negative during pre-reform period becomes sharply positive during nineties. Thus, a mixed pattern of growth in all states can be observed. The deceleration is higher among females than in males during nineties. But some states like Bihar, Rajasthan, Orissa, Mizoram and Tripura experienced accelerated growth in case of females (annexure 2.1).

Figure 2.6



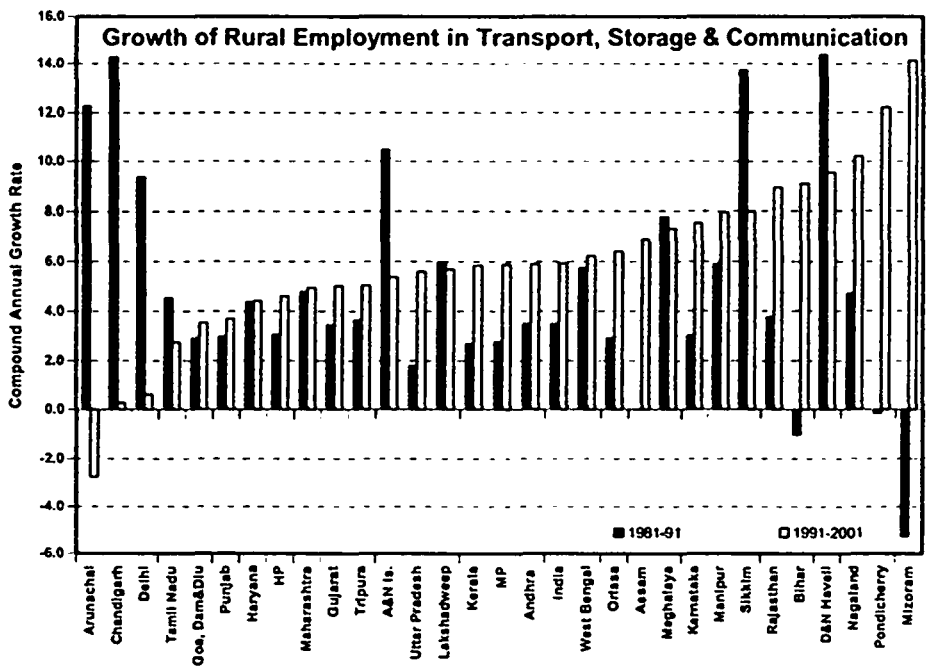
Rural employment in construction has come up during nineties in almost all bigger states. Construction sector has emerged as a large provider of work to rural labourforce. Northeastern states of Sikkim, Mizoram, Arunachal Pradesh, Manipur and Himachal Pradesh, were the only states which faced decelerated or negative growth of employment in construction (figure 2.7).

Figure 2.7



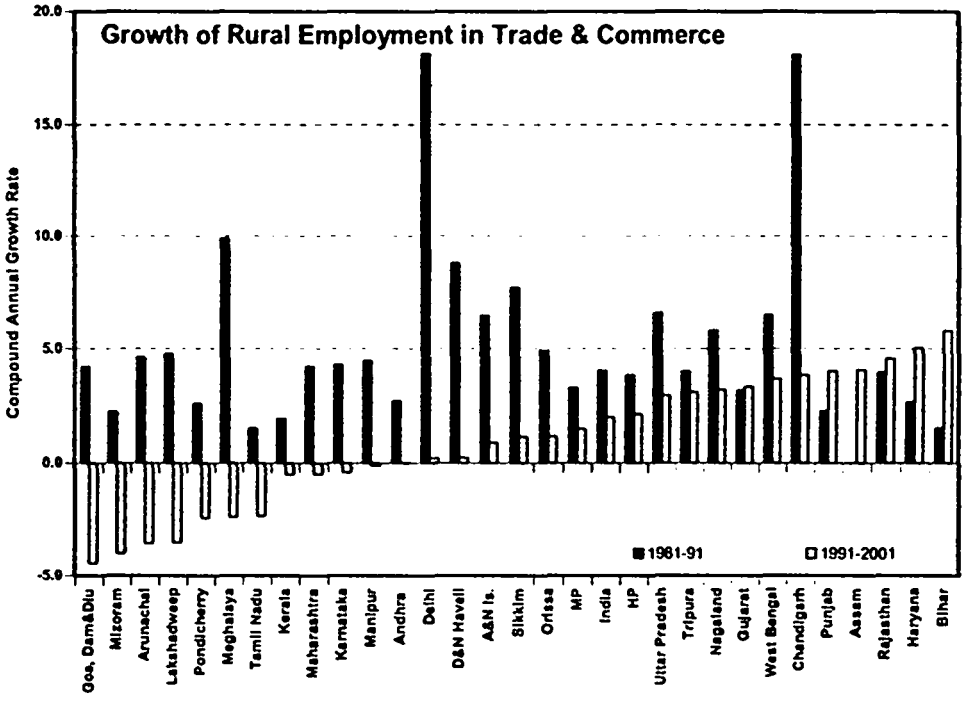
In transport-storage-communications, the post-reform years brought a varying degree of improvement in rural employment growth rate, a fairly substantial slow-down occurred in Tamil Nadu and northeastern states of Arunachal Pradesh, Sikkim and Meghalaya (figure 2.8). To put the record straight, even during the pre-reform decade, employment growth rate for rural workers in this sector was fairly satisfactory in many of these states; substantial improvements in growth during the post-reform period. It indicates labour absorptive capacity of this sector for years to come *(Chadha, 2003).*

Figure 2.8



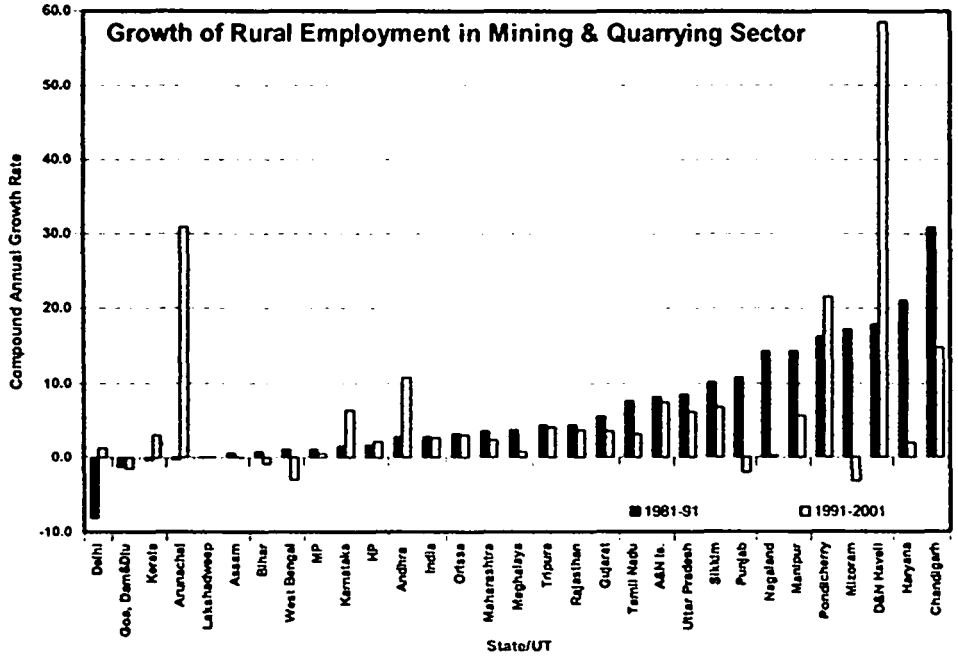
Trade and Commerce shows some disturbing trends during the post-reform phase (figure 2.9). Between the pre- and the post-reform phases, growth rate was either negative or decelerating in most of the states. Presumably, the wide-spread decline in the rate of growth of employment in trade was a direct off-shoot of the slow-down in agricultural growth since mid-1990s *(Chadha, 2003).*

Figure 2.9



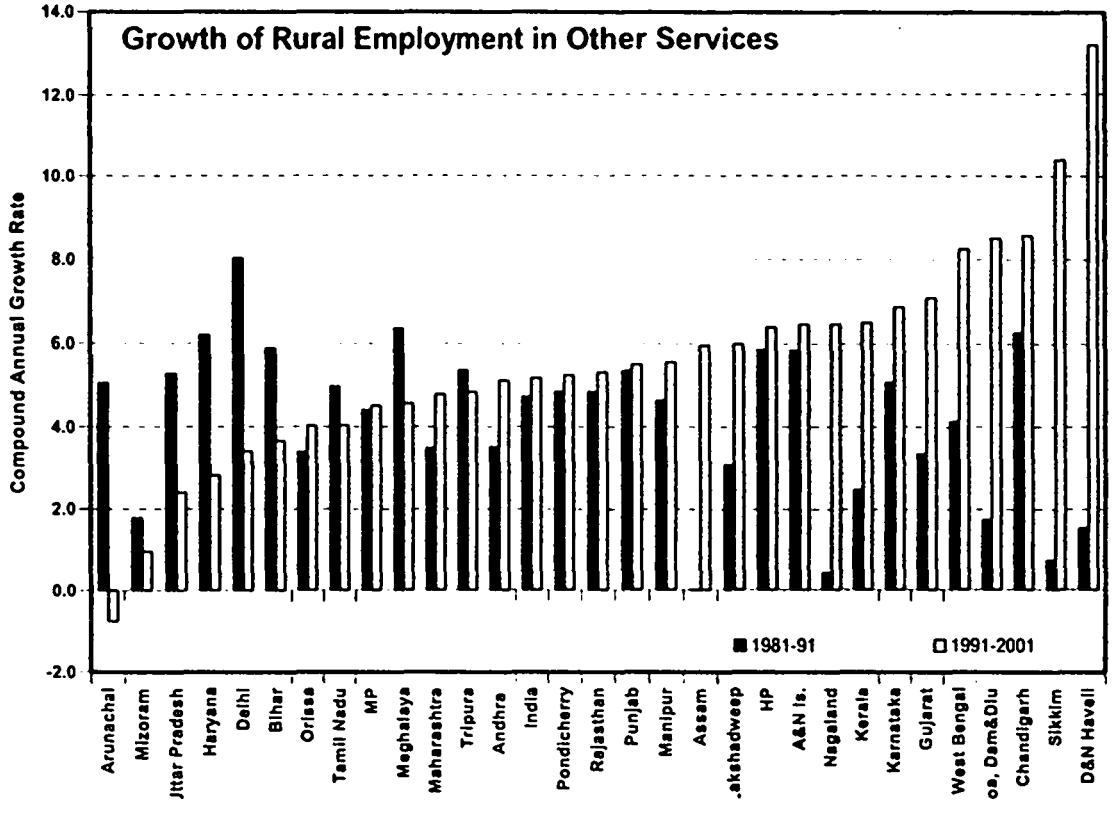
Employment growth in Mining & Quarrying sector also faces a deceleration during post reform phase. Figure 2.10 shows that how deceleration taking place in most of the states. Andhra Pradesh, Himachal Pradesh, Karnataka and Arunachal Pradesh were the only states experiencing positive growth of employment.

Figure 2.10



Finally, employment in rural services shows a mixed picture of growth in all states (figure 2.11). Northeastern states of Arunachal Pradesh, Mizoram, Meghalaya, Tripura, and Bihar, Uttar Pradesh, and Haryana experienced deceleration of growth during post reform period. The remaining states performed substantially well not only in post-reform period but in pre-reform period too, which shows large absorptive capacity of this sector for future.

Figure 2.11



The above discussion makes it amply evident that during economic reform period, the rural non-farm employment picked up primarily because the output growth was likely to pick up after economic reforms took roots. Technological changes during post reform period are likely to come about only in some production sectors, and on the other hand labour- intensive technologies are likely to dominate in many others.

2.3 Concentration, Distribution and Composition of Rural Non-farm Employment

Concentration, distribution and composition of rural employment refer to the structure of rural employment. During post-reform phase the main changes can be seen in distribution and composition of non-farm workers due to the technical changes in the production sectors. On the other hand, concentration of rural workers in India is dependent largely on geographical conditions prevailing in a space and partly on above-mentioned technical changes, which have been taken place in 1990s.For the following analysis, concentration and composition of rural non-farm employment has been shown only for census year 2001.

2.3.1 Concentration of Rural Non-farm Workers

The proportion of rural non-farm employment in all districts is studied in relation to its proportion in India with a concentration index, i.e., Location Quotient. In a district, a higher or lower value of the location quotient indicates relative concentration or dispersion[2] of the rural non-farm employment. In the present section, the location quotient analysis has been done for rural workers in farm and non-farm sector and workers in household manufacturing, non-household manufacturing within non-farm sector and secondary and tertiary sectors as a whole.

Analysis for farm and non-farm workers shows that the regions where farm workers are concentrated show dispersion for non-farm workers. Inter-district range of location quotient values shows relatively high dispersion in farm sector while opposite is true for non-farm workers where concentration in many districts. In other words, the inequality of distribution is more in case of non-farm workers (figure 2.12a and 2.12b). Rural non-farm workers are highly concentrated in some regions, which are either geographically extreme (geographical conditions are such that can not promote farm activities) or industrially developed due to the availability of proper resource base. Concentration is high in-

- Districts of Malabar and Konkan Coasts, Coastal districts of Gujarat
- Industrial regions like Madurai-Coimbatore-Bangalore belt, Chhota Nagapur belt, Ganga-Yamuna Belt and Hugli belt

[2] Concentration and dispersion are the differences from unity which is value 1 for India. If the value of location quotient is more than 1 in a district, the rural non-farm workers were concentrated in that district. Opposite is true for value less than 1 where dispersion exists.

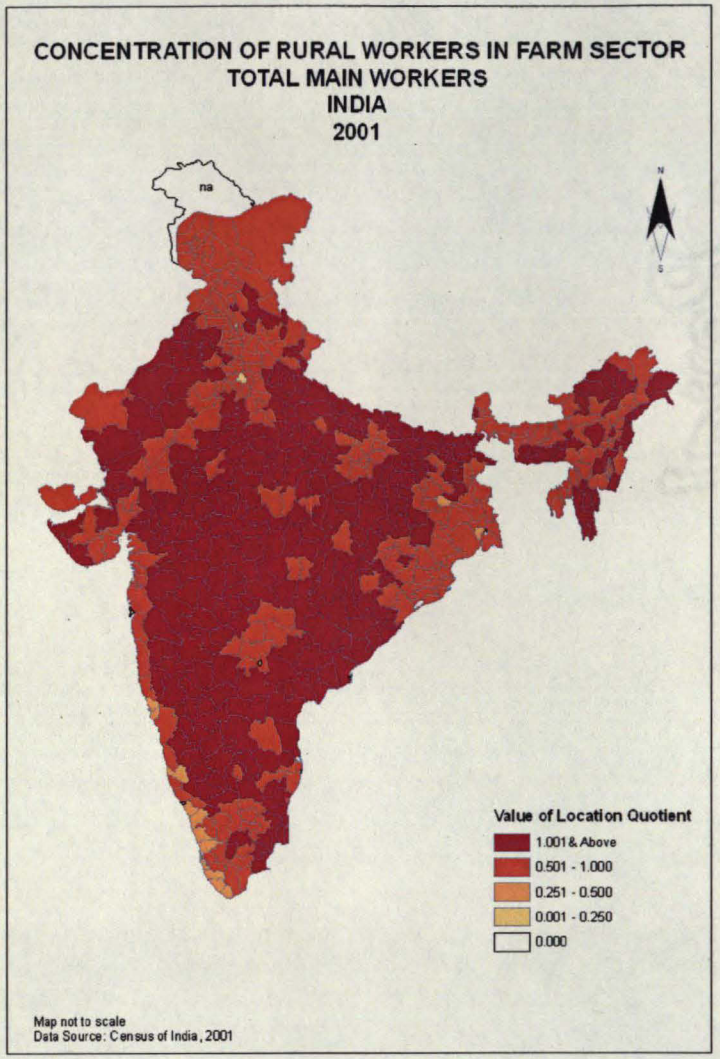
- Mountainous regions like J&K, Mishimi hills and Sonai Rupai wild life area in Arunachal Pradesh, Mikir Hills in Assam, Hilly areas of southern India like Nil Giri, Shevaroy, Panchaimalai, Annamalai, Cardamom, Palni, Nallamala hills, and Gir in Gujarat
- Areas near Nizam Sagar and Kawal, Pocharam, Manjra wildlife sanctuaries in Andhra Pradesh
- Punjab plains and Sundarbans in West Bengal, and
- Major tourist places like Jaisalmer in Rajasthan and Itanagar in Arunachal Pradesh.

Analysis for rural household and non-household manufacturing workers shows a high range of inequality among districts as the range of value of Location quotient exceeds 5 and 6 respectively.

Workers in household manufacturing are largely concentrated in belt of gangatic plains, West Bengal and Orissa, Western J&K, southern parts of India (especially Telangana region in Andhra Pradesh, Coastal areas of Tamil Nadu and Kerala, and South Western Rajasthan (figure 2.13a). Some districts in Bundelkhand region in Madhya Pradesh also show very high concentration. On the other hand, some regions show very high dispersion of household manufacturing workers like in Himalayan region, Kathiawar peninsula of Gujarat, some economically backward districts of western Rajasthan, Mizo hills, Arunachal Pradesh and Nagaland, along wit some districts of western Madhya Pradesh and Chhattisgarh.

Workers in non-household manufacturing are highly concentrated in some pockets like areas around Aravali and Western Rajasthan, Gujarat, Punjab and Haryana, West Bengal and southern parts of India, especially coastal districts of western India (figure 2.13b). On the other hand, high level of dispersion exists in almost all districts of Central India.

Figure - 2.12a & 2.12b Concentration of Rural farm and non-farm workers in India



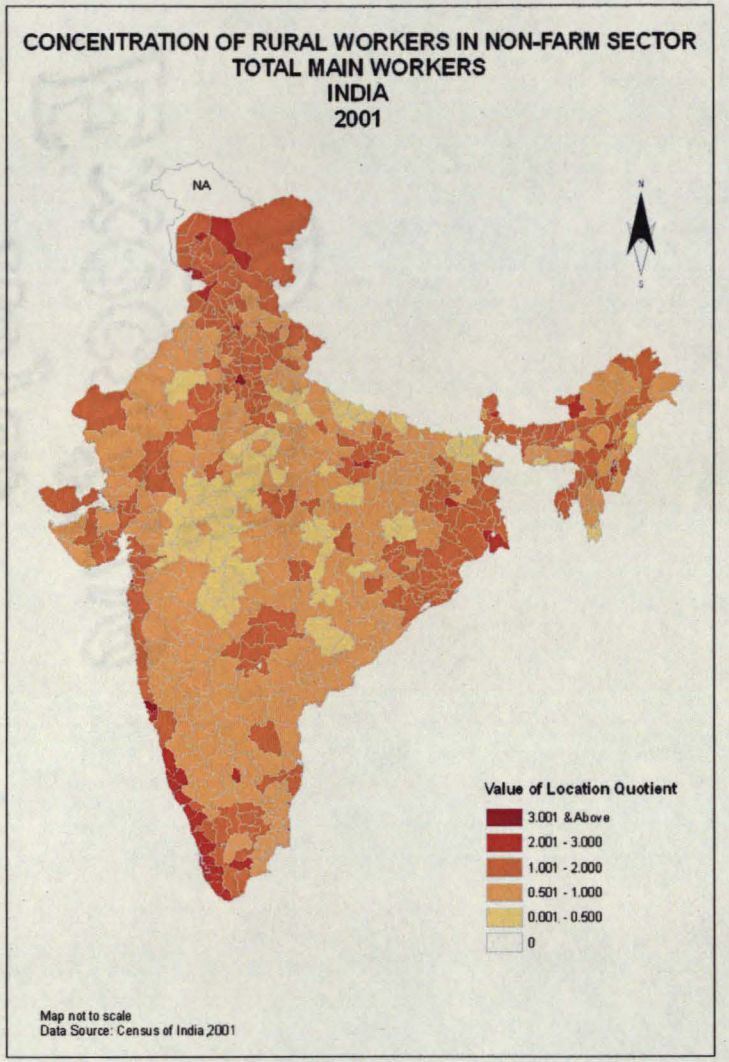
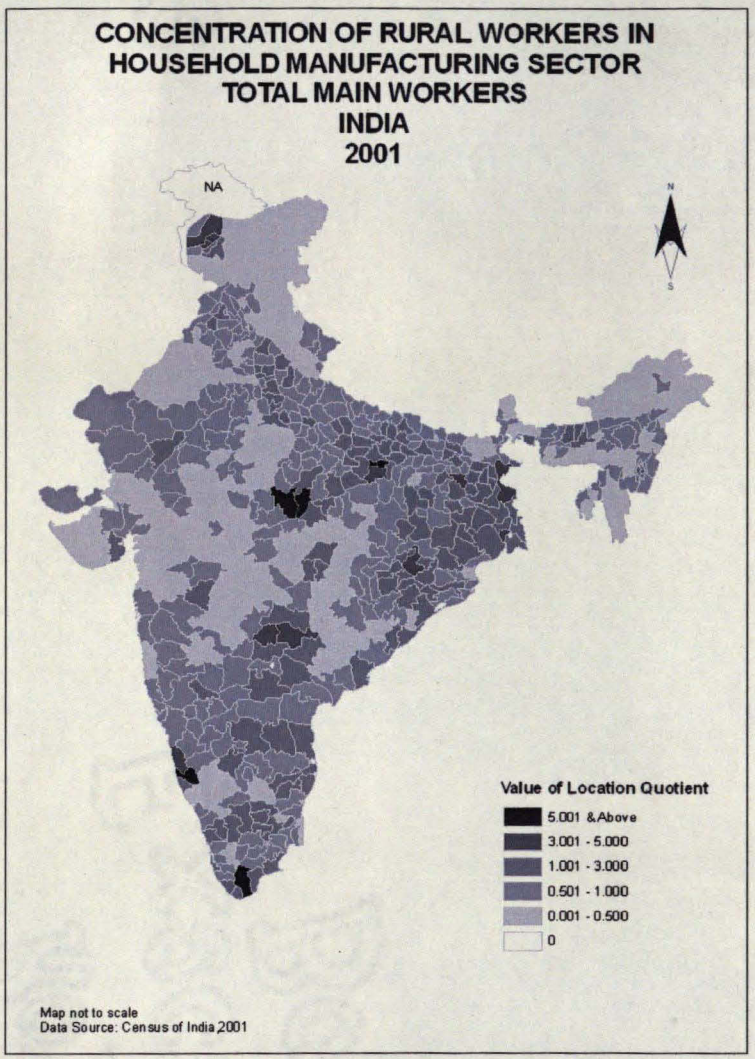


Figure - 2.13a & 2.13b Concentration of Rural workers in Manufacturing Sector



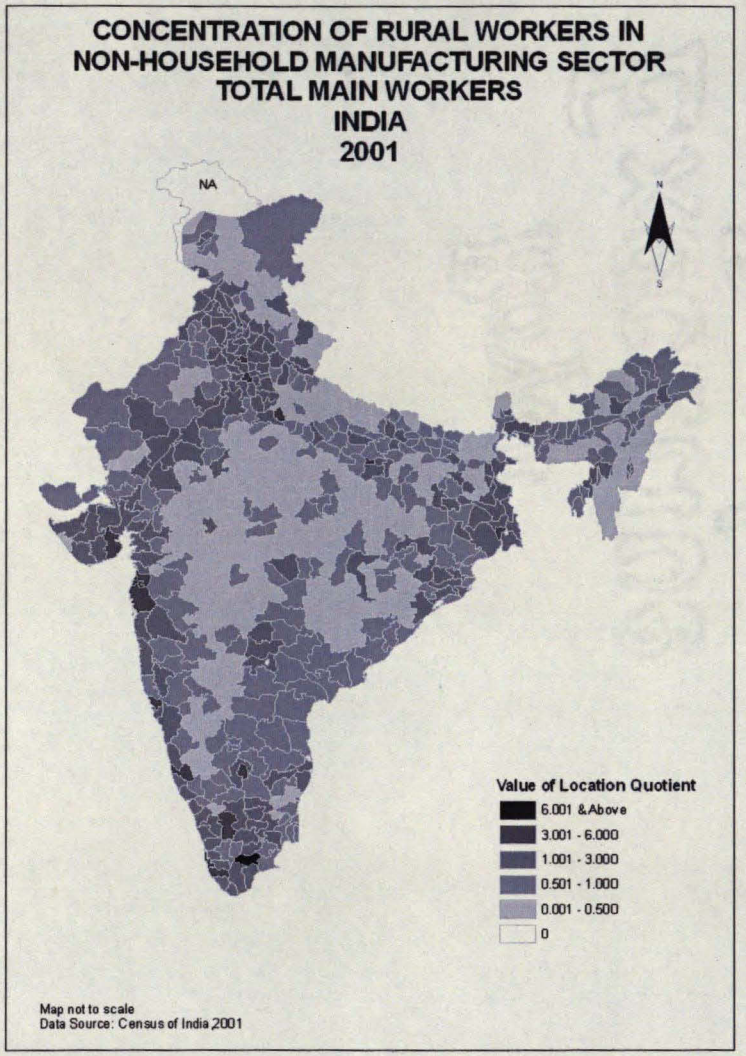
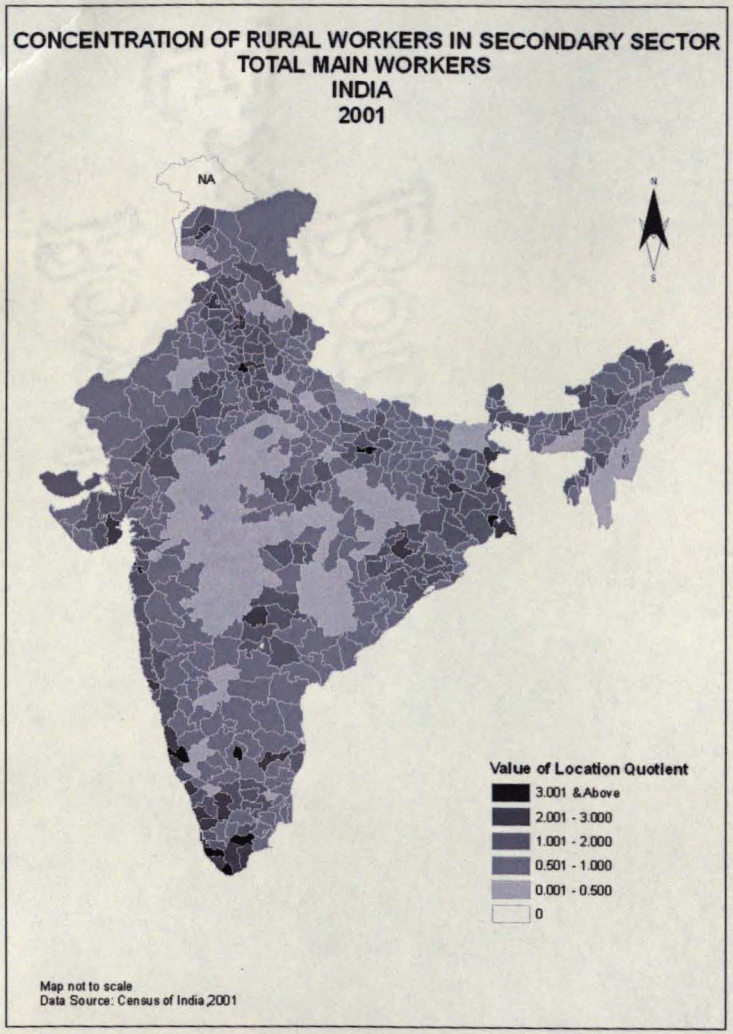


Figure - 2.14a & 2.14b Concentration of Rural workers engaged in Secondary and Tertiary Sector in India



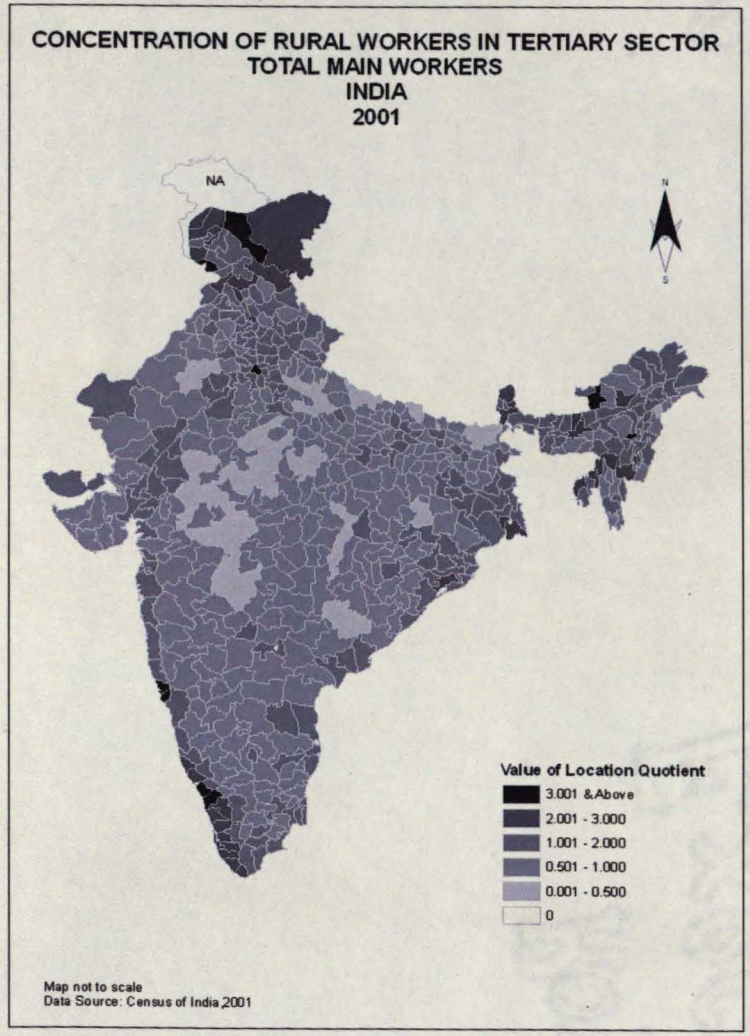


Figure 2.14 distributes rural non-farm workers into two sectors secondary (includes manufacturing and construction activities) and tertiary or service sector (other than primary and secondary). Concentration of rural workers in secondary and tertiary sector shows almost same pattern (figure 2.14a and 2.14b). Gujarat, Aravali region of Rajasthan, Western Rajasthan, Himalayan Region, West Bengal and Orissa, Telangana, Western coastal districts and districts of hilly region of southern India show concentration of workers in both secondary and tertiary sectors.

2.3.2 Distribution and Composition of Rural Non-farm Employment

During past three decades, percentage share of rural non-farm employment to total rural employment has been rising at a substantial pace. Improvement in its share is observed almost in all the states during post economic reform period. Comparison of the changes in share of rural non-farm employment between pre- and post reform period reveals that post-reform period experienced higher increase than pre-reform in almost all bigger states (table 2.1)[3]. During post-reform period, Arunachal Pradesh was the only state, which experienced decrease in share of rural non-farm employment. Kerala, Punjab, Goa, Orissa, West Bengal and almost all the northeastern states except Mizoram and UTs performed well during post-reform period. Other big states also show a substantial increase in share like Haryana, Himachal Pradesh, Gujarat, Bihar and Uttar Pradesh. Some states which show a decrease in share in eighties, performed well in nineties like Bihar, Madhya Pradesh, and Nagaland.

Gender wise distribution of rural non-farm workers in all states shows that females are less likely to engaged in non-farm activities as compared to the their male counterpart (figure 2.2 and 2.3). Pre-reform phase shows a decline in share of rural non-farm employment in most of the states for females. However, post reform period shows a positive sign in this direction; among females, share of rural non-farm employment is increasing in post reform period. Distribution of female workers shows that even in present time a large chunk of the female main workers is engaged in primary activities. Although, post-reform period shows a positive change in female employment structure but there is still a need to increase the share of rural non-farm employment.

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[3] To look at distributional changes in share of rural non-farm employment during pre-and post reform period, see annexure 2.2a, b & c.

Table 2.1 - Change in Distribution of Rural Non-farm Employment (Among Persons) in India During 1981-2001

(Percentage of Rural Non-farm Employment to Total Rural Employment, Main Workers)

1981				1991				2001			
Less than 25 %	**25-50 %**	**50-75%**	**75 & Above**	**Less than 25 %**	**25-50 %**	**50-75%**	**75 & Above**	**Less than 25 %**	**25-50 %**	**50-75%**	**75 & Above**
Meghalaya 10.1 MP 10.8 Bihar 12.6 UP 13.2 Maharashtra 14.8 Rajasthan 15.2 Mizoram 15.3 Karnataka 15.4 Orissa 15.8 **India 16.6** Andhra 16.9 Gujarat 17.4 Nagaland 18.1 Tamil Nadu 19.0 Arunachal 20.9 HP 21.5 Tripura 22.0 Manipur 22.2 West Bengal 22.2 D&N Haveli 22.6 Punjab 22.8 Haryana 23.6 J & K 23.6 Sikkim 24.6	Pondicherry 28.1 Kerala 41.9	A & N Is 50.7 Goa, Daman & Diu 53.5 Delhi 67.2 Lakshadweep 74.2	Chandigarh 78.6	MP 10.7 Bihar 11.7 Meghalaya 14.6 UP 14.9 Nagaland 15.5 Maharashtra 15.5 Rajasthan 15.6 Karnataka 16.1 Mizoram 16.3 Andhra 17.1 Orissa 17.5 **India 17.7** Assam 18.6 Gujarat 19.6 Tamil Nadu 20.6 Manipur 22.6 D & N Haveli 24.1	HP 25.5 Punjab 25.8 Sikkim 25.8 Arunachal 26.1 Haryana 26.2 West Bengal 26.5 Tripura 26.8 Pondicherry 28.9 Kerala 43.9	Daman & Diu 51.7 A & N Is 55.4 Goa 59.8 Lakshadweep 73.0	Delhi 83.0 Chandigarh 86.5	Chhattisgarh 14.0 MP 14.4 Mizoram 15.6 Bihar 17.2 Maharashtra 18.7 Rajasthan 21.9 Meghalaya 22.1 UP 22.1 Nagaland 22.5 Karnataka 22.6 Andhra 23.9	**India 25.5** Gujarat 25.5 Arunachal 25.9 Jharkhand 26.5 Orissa 29.1 Uttaranchal 29.1 Tamil Nadu 29.9 Haryana 32.4 Assam 32.5 HP 34.6 Punjab 35.9 Manipur 37.2 Tripura 39.1 Sikkim 39.3 West Bengal 0.2 J & K 0.4 Pondicherry 44.4 D & N Haveli 48.0	Kerala 60.2 A & N Is 64.8	Goa 76.4 Lakshadweep 78.6 Daman & Diu 85.1 Delhi 87.0 Chandigarh 92.6

Data Source: Census of India. Red coloured figures are showing a decrease in share of rural non-farm employment.

Table 2.2 - Change in Distribution of Rural Non-farm Employment (Among Males) in India During 1981-2001

(Percentage of Rural Non-farm Employment to Total Rural Employment, Main Workers)

1981				1991				2001			
Less than 25 %	**25-50 %**	**50-75%**	**75 & Above**	**Less than 25 %**	**25-50 %**	**50-75%**	**75 & Above**	**Less than 25 %**	**25-50 %**	**50-75%**	**75 & Above**
MP 12.7 Meghalaya 13.1 Bihar 13.6 UP 13.7 Orissa 16.0 Karnataka 16.4 Rajasthan 16.7 **India 18.3** Gujarat 19.6 Andhra 19.7 Maharashtra 19.9 Punjab 22.1 Manipur 22.2 WB 22.2 Tamil Nadu 22.5 Mizoram 22.7 Tripura 22.8 J & K 24.1 Haryana 24.4	HP 27.9 D&N Haveli 28.9 Nagaland 30.3 Pondicherry 31.4 Arunachal 32.0 Sikkim 32.5 Kerala 43.0	A & N Is 50.4 Goa, Dam & Diu 58.8 Delhi 67.2 Lakshad 69.4	Chandigarh 78.5	Bihar 12.9 MP 13.3 UP 15.9 Meghalaya 18.3 Karnataka 18.3 Orissa 18.4 Rajasthan 18.6 India 20.2 Andhra 20.9 Assam 21.1 Maharashtra 22.1 Gujarat 23.3 Mizoram 23.7 Nagaland 24.3 Tamil Nadu 24.6	Punjab 25.2 WB 26.4 Manipur 27.1 Haryana 27.7 Tripura 28.8 Sikkim 31.4 HP 33.2 D&N Haveli 33.3 Pondicherry 34.1 Arunachal 38.0 Kerala 44.0	Dam & Diu 53.1 A & N Is. 54.5 Goa 65.4 Lakshad 71.9	Delhi 83.3 Chandigarh 86.7	MP 16.6 Chhattisgarh 17.8 Bihar 18.5 Mizoram 20.9 UP 22.7 Karnataka 24.7	Maharashtra 25.1 Meghalaya 25.7 Andhra 27.5 Rajasthan 28.2 **India 28.4** Jharkhand 29.0 Gujarat 29.1 Orissa 29.2 Nagaland 30.7 Assam 34.1 Tamil Nadu 34.4 Arunachal 35.4 Punjab 37.7 Haryana 38.0 WB 39.2 Uttaranchal 40.8 Tripura 41.5 Manipur 41.5 J&K 42.4 Sikkim 46.4 HP 46.6	Pondicherry 50.2 Kerala 60.3 D&N Haveli 61.4 A&N Is 64.5	Lakshad 76.7 Goa 80.0 Dam & Diu 86.4 Delhi 89.3 Chandigarh 94.3

Data Source: Census of India. Red coloured figures are showing a decrease in share of rural non-farm employment.

Table 2.3 - Change in Distribution of Rural Non-farm Employment (Among Females) in India During 1981-2001

(Percentage of Rural Non-farm Employment to Total Rural Employment, Main Workers)

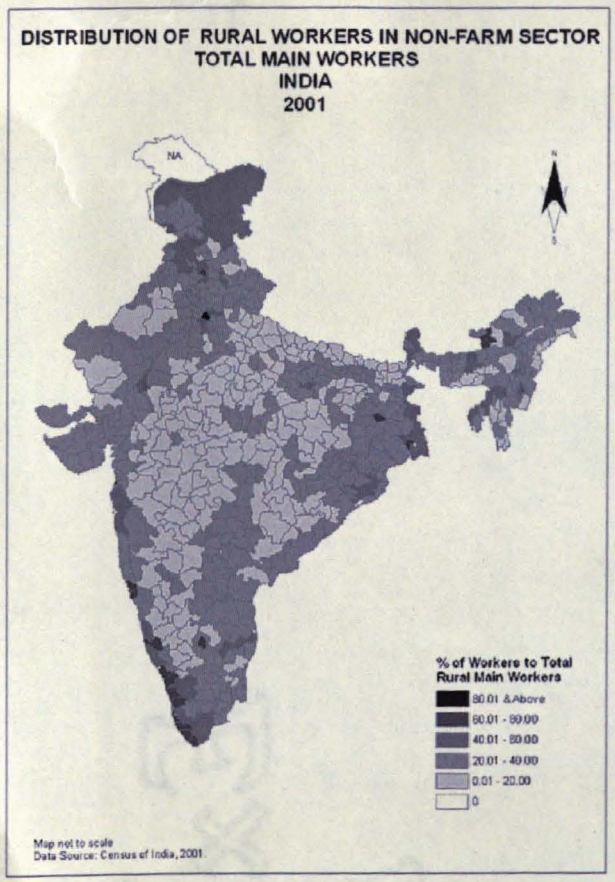
1981				1991				2001			
Less than 25 %	**25-50 %**	**50-75%**	**75 & Above**	**Less than 25 %**	**25-50 %**	**50-75%**	**75 & Above**	**Less than 25 %**	**25-50 %**	**50-75%**	**75 & Above**
Nagaland 3.4	Kerala 38.8	A&N Is 55.7	Chandigarh 81.5	Nagaland 4.8	WB 27.2	A&N Is 62.8	Lakshadweep 80.7	Chhattisgarh 7.2	Assam 25.2	Kerala 59.7	Lakshadweep 93.6
Arunachal 3.9	Goa, Daman & Diu 39.1	Delhi 67.2	Lakshadweep 98.1	Rajasthan 4.9	Punjab 42.5	Delhi 79.4	Chandigarh 82.0	Rajasthan 7.3	Orissa 28.7	Goa 65.4	
Mizoram 4.1				MP 5.4	Kerala 43.7			Mizoram 7.9	Tripura 28.7	A&N Is 66.3	
HP 5.1				Maharashtra 5.6	Goa 45.3			Uttaranchal 8.0	Punjab 28.8	Delhi 69.2	
Meghalaya 5.4				Bihar 5.7	Daman & Diu 45.5			Maharashtra 8.2	Manipur 29.0	Daman & Diu 72.2	
Maharashtra 5.9				Mizoram 5.8				MP 9.3	Pondicherry 29.2	Chandigarh 74.8	
MP 6.6				HP 6.6				Arunachal 11.1	J&K 30.2		
Bihar 7.2				Arunachal 7.4				Bihar 11.3	WB 45.2		
Rajasthan 7.7				D&N Haveli 7.6				Nagaland 11.4			
Gujarat 8.6				Gujarat 7.8				HP 11.4			
UP 9.3				UP 8.2				Haryana 14.8			
D&N Haveli 9.3				Meghalaya 8.9				Gujarat 15.3			
India 10.9				Assam 9.2				Meghalaya 15.9			
Sikkim 11.0				**India 10.4**				**India 17.3**			
Andhra 11.5				Andhra 11.1				Andhra 17.7			
Tamil Nadu 11.6				Karnataka 11.4				D&N Haveli 17.7			
Karnataka 12.6				Haryana 13.2				Jharkhand 18.0			
Haryana 14.5				Tamil Nadu 13.4				Karnataka 18.2			
Orissa 15.1				Orissa 13.9				UP 18.4			
Pondicherry 16.6				Sikkim 15.2				Tamil Nadu 22.1			
Tripura 16.9				Pondicherry 15.5				Sikkim 24.0			
J & K 19.2				Manipur 16.8							
Manipur 22.3				Tripura 17.0							
West Bengal 22.5											

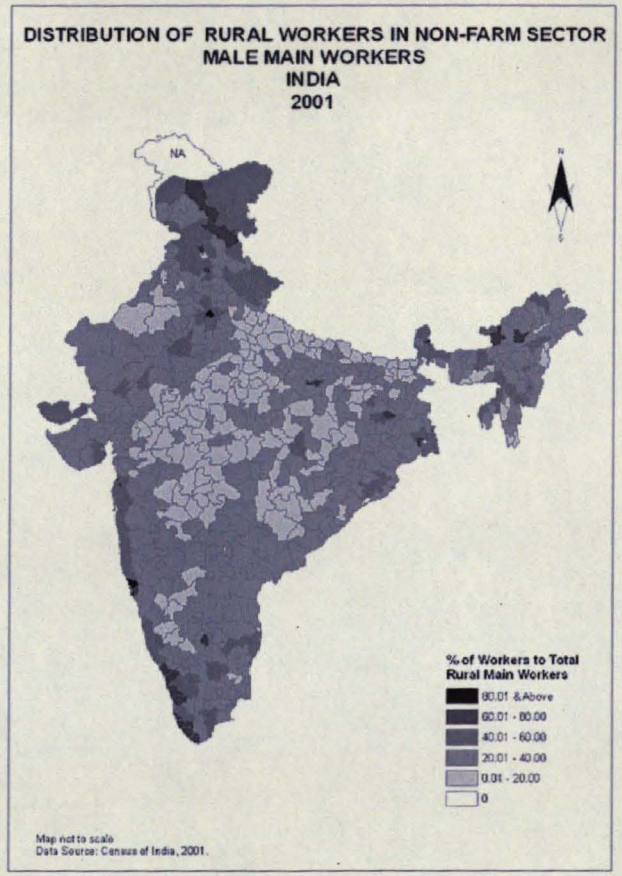
Data Source: Census of India. Red coloured figures are showing a decrease in share of rural non-farm employment.

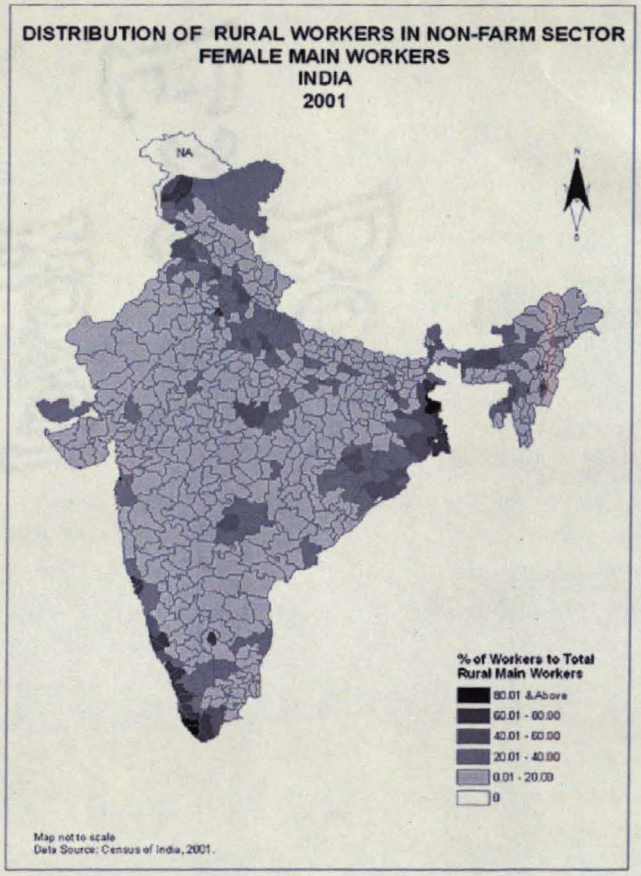
Distributional pattern of rural non-farm workers shows a similarity among persons and males in both pre-and post reform periods. Figure 2.15 a, b and c show share of rural non-farm workers to total workers district wise in 2001. It is clearly observable that the distribution of female rural non-farm workers differs from that of persons and males. Higher proportion of rural non-farm employment among females can be observed in Kerala, Goa, West Bengal, Jammu & Kashmir, Manipur, Punjab, Tripura, Orissa and Assam. In case of males and total workers, rural non-farm workers are distributed in high proportions in most of the UTs, Kerala, West Bengal, Northern states like Punjab, Himachal Pradesh, Haryana, North-eastern states like Sikkim, Tripura, Manipur, Assam, and Tamil Nadu, Orissa, and Jharkhand (figure 2.15 a & b, Table 2.1 & 2.2).

Up to now, we have analyzed distribution of male and female workers separately for males and females. To look at the relative dominance of a gender in a particular sector we have to analyze it by taking share of male and female workers in total workers in that particular sector. The next section analyses such gender differences in rural employment structure.

Figure 2.15 a, b & c – Share of Rural non-farm employment to total rural employment in India (among persons, males and females)







2.3.3 Share of Male and Female workers in Rural Employment

Male workers having larger proportions in total workforce dominate all the rural sectors. Overall, males dominate one third of the rural workforce in farm sector, while it exceeds 80 percent for non-farm sector (figure 2.16 and 2.17). Females have relatively higher proportions in rural household manufacturing sector and farm related activities (annexure 2.3). Northeastern states, Maharashtra, Tamil Nadu and Andhra Pradesh show equality in share of male and female in some extent in the non-farm sector to some extent.

In non-farm sector, all states show dominance of males in workforce. Female are less likely to engage in most of the sectors of rural non-farm economy. But in the household manufacturing sector, females dominate to some extent in states like in Manipur, Andhra Pradesh, Tamil Nadu, Karnataka, Meghalaya, Nagaland and West Bengal. During post reform period, it is noticeable that share of females in rural workforce is continuously increasing year by year.

Figure 2.16 a, b & c – Share of Male and Female in Rural Farm Sector

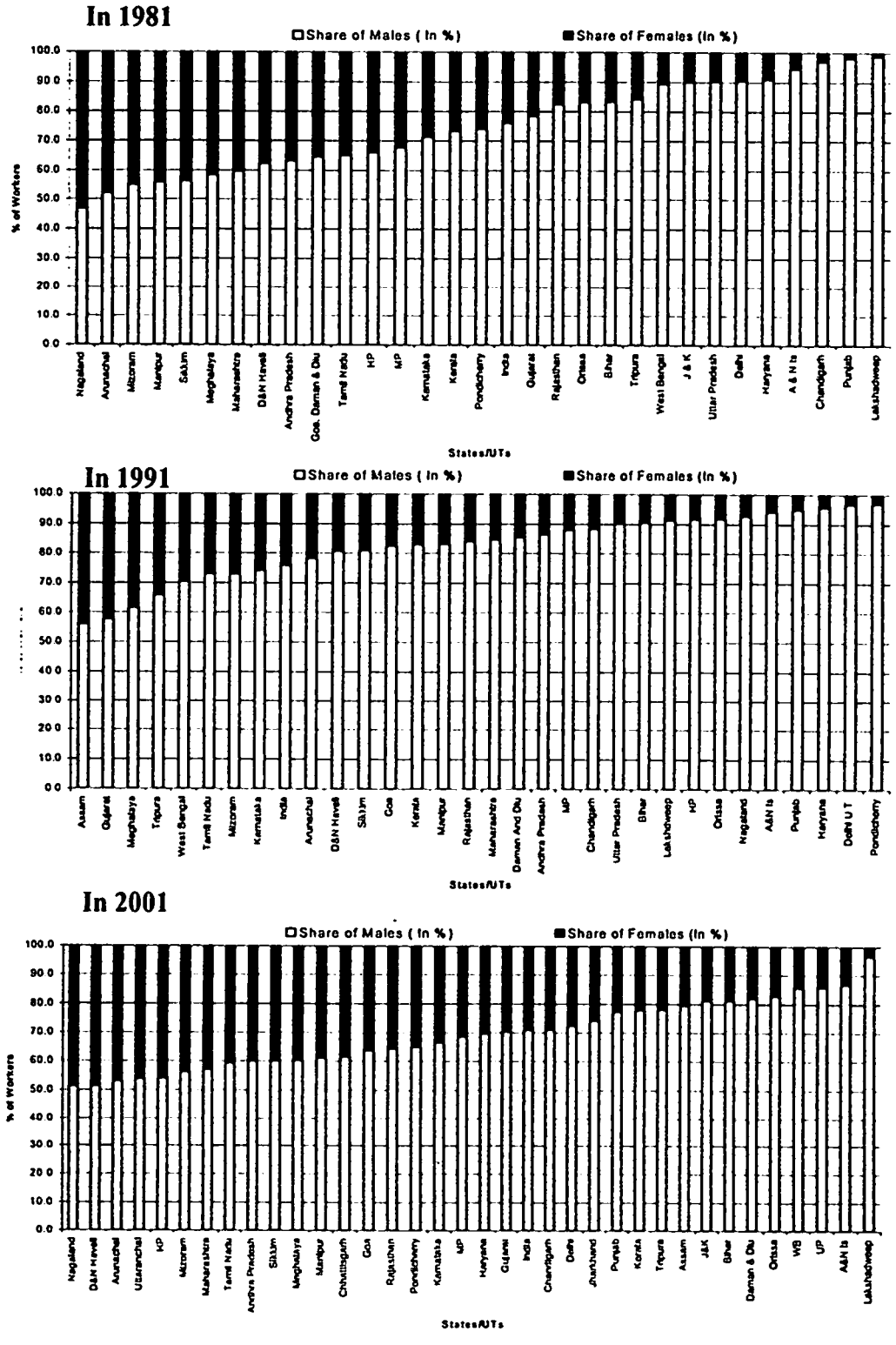
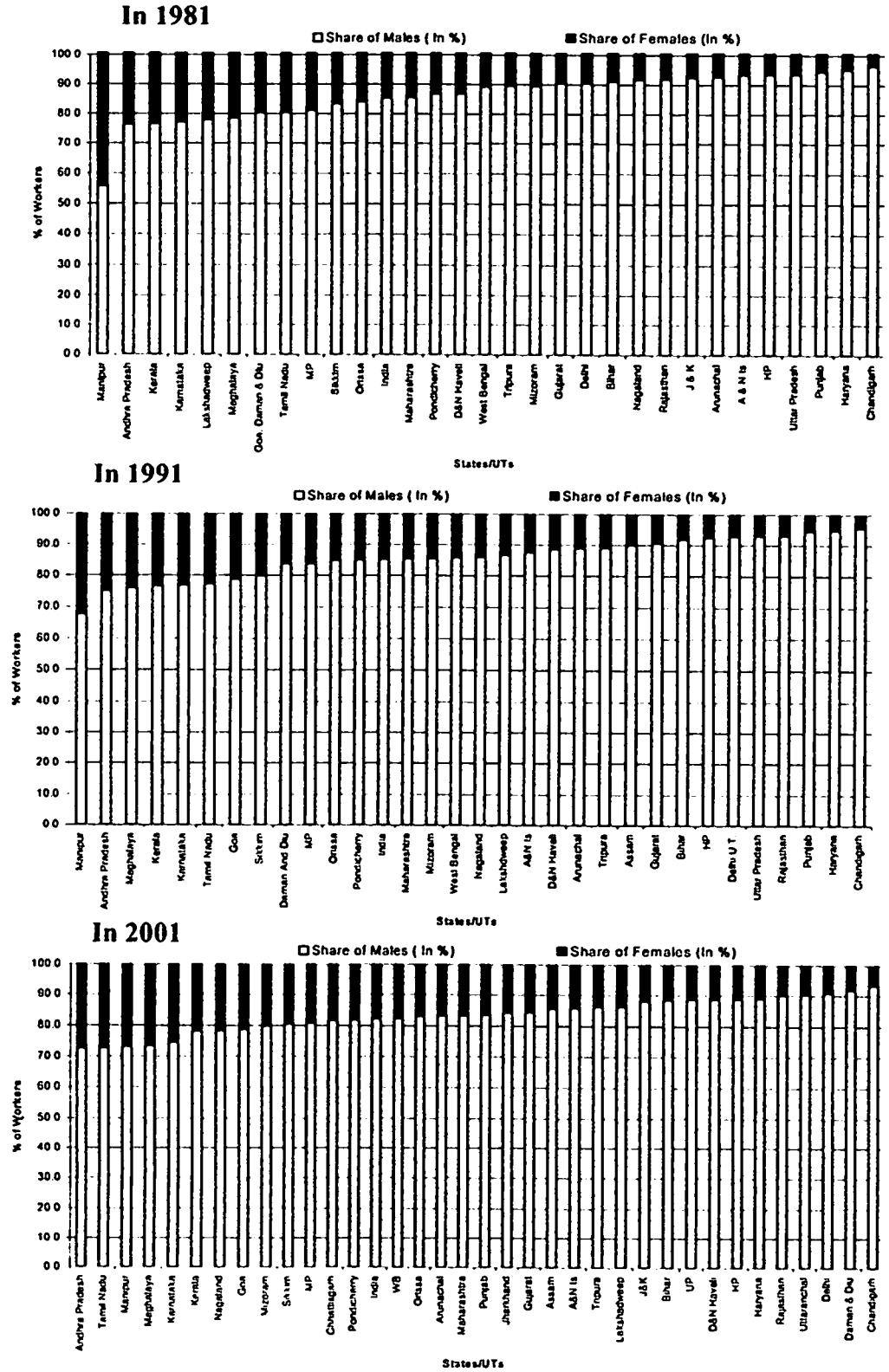


Figure 2.17 a, b & c – Share of Male and Female in Rural Non-farm Sector



2.3.4 Composition of Rural Non-farm Employment in India

A large proportion rural workforce is engaged in other services followed by manufacturing, trade and commerce and construction activities. Overall, in post reform period, the share of mining and quarrying, non-household manufacturing, trade and commerce and other services decreased, while household manufacturing, construction, transport, storage and communication sectors increased their share in non-farm employment. Construction is one of the most emerging sectors providing employment to rural labour (table 2.4).

This overall pattern differs for male and female separately. Although, among females the highest share is in other services, but household manufacturing, trade and commerce, construction and transport, storage and communication sectors has come up with more employment opportunities in post reform period. For rural males, other services, non-household manufacturing, and construction are the major sectors providing employment (table 2.4).

Table 2.4 – Changes in Composition of Rural Non-farm Employment in India

Sector	Person/Male/Female	Year		
		1981	1991	2001
Mining and Quarrying	Person	2.7	2.6	2.4
	Male	2.7	2.6	2.4
	Female	2.8	2.7	2.3
Household Manufacturing	Person	18.5	12.2	14.2
	Male	15.7	9.5	10.5
	Female	34.8	27.8	31.5
Non- Household Manufacturing	Person	20.6	20.0	19.2
	Male	20.8	19.7	19.6
	Female	19.5	22.0	17.3
Construction	Person	6.2	5.9	9.7
	Male	6.4	6.5	10.8
	Female	5.2	2.5	4.5
Trade and Commerce	Person	16.8	18.5	16.8
	Male	17.9	19.9	18.5
	Female	10.2	10.4	8.8
Transport, storage and communications	Person	6.6	7.0	8.4
	Male	7.6	8.0	9.9
	Female	1.0	0.8	1.0
Other services	Person	28.6	33.8	29.4
	Male	29.0	33.8	28.3
	Female	26.5	33.7	34.6

Data Source: Census of India

From the table 2.4, it is noticeable that rural males are shifting from mining and quarrying, non-household manufacturing, trade and commerce, and other rural services to construction, transport, storage and communication, and household manufacturing sectors indicating the process of restructuring of rural non-farm employment in post-reform period. Similarly, female employment is shifting from mining & quarrying, non-household manufacturing and trade activities to other rural services, household manufacturing and construction activities in the same period.

2.4 Summing Up

In post-economic reform period, overall rural employment growth decelerated especially in farm sector, which experienced a negative growth. This negative growth in farm sector was sharper among males than females. During 1990s, growth of non-farm employment was positive almost in all its sub-sectors except in trade and commerce where it went through a deceleration whereas for males it was even negative. Growth of rural employment in construction, household manufacturing and transport, storage and communication activities is a major phenomenon of post economic reform period.

Punjab, Haryana, Bihar, Rajasthan, Gujarat, Uttar Pradesh, Himachal Pradesh, West Bengal, Tripura, Assam and Nagaland are the states experienced accelerated growth of rural non-farm employment during post reform period.

Overall, males are dominating in all production sectors. On some extent, rural household manufacturing and farm sectors favours female employment. But in post economic reform period, opportunities to work in different sectors for females have taken place.

Post reform period shows a process of restructuring of rural non-farm employment as rural workers are working more and more in selected sectors like household manufacturing, construction, transport, storage and communication and other rural services.

Rural non-farm workers are highly concentrated in some regions, which are either geographically extreme or industrially developed due to the availability of proper resource base.

During past three decades, percentage share of rural non-farm employment to total rural employment has been rising at substantial pace. Improvement in its share observed almost in all the states during post economic reform period. Comparison of the changes in share of rural non-farm employment between pre- and post reform period reveals that post-reform period experienced higher increase than pre-reform in almost all bigger states.

Chapter 3

Casualization of Workforce in Rural Non-farm Sector of India: A Regional Level Analysis across Industries

Chapter 3

Casualization of Workforce in Rural Non-farm Sector of India: A Regional Level Analysis across Industries

3.1 Introduction

On the basis National Sample Survey (NSS) data, this chapter looks at the trends and patterns of rural casual employment during the post economic reform period. Generally, each and every section of the workforce, and most of the sectors of the economy, witnessed an increase in extent of casualisation during the period. There are a number of studies that observe that the process of casualisation has a distinct relationship with the opening up of the economy (references). In this chapter, we attempt to analyse whether casualisation, which is a larger process that has characterised our economy in the recent years, is also a phenomenon that is observed in the non-farm sector in the same period.

As per NSS definition, a person casually engaged in others' farms or non-farm enterprises (both household and non-household) and is getting wage in return for his work according to the terms of the daily or periodic work contract is a casual wage labour. Usually, in the rural areas, a type of casual labourers that can be seen who normally engage themselves in 'public works' activities. 'Public works' are those activities that are sponsored by Government or local bodies for construction of roads, bunds, digging of ponds, etc. as 'test relief' measures (like flood relief, drought relief, famine relief, etc.) and also includes work created through employment generation scheme under poverty alleviation programmes.[1] Lower wages, less satisfying work conditions, no claim on any accident or injury allowances etc. are major characteristics of casual labour. For any study that aims to analyse employment issues in India, it is important to look at process of casualization. Increase in incidence of casualization suggests that people are getting lower quality of work *(Sahu, 2003)*.

The present chapter studies the increasing level of casualization in rural workforce at all India level, with a particular reference to the non-farm sector. It also looks upon recent scenario

[1] As described by NSS in 61st round on employment and unemployment situation in India, 2004-05.

of casualization at regional level separately for rural farm and non-farm sector. Further, the chapter also analyses the incidence of casualization across rural industries and also on the basis of educational attainments of rural non-farm workers of usual principle status. To analyze the incidence of casualization, only the usual principle status workers have been considered because of availability of most of the finer details under this category.

3.2 Extent of Casualization in Rural Workforce

The liberalization period shows a clear picture of increasing casualization of workforce in both the farm and non-farm sector of the rural economy in India. By nature of the job, a large chunk of workforce engaged in farm sector, whether male or female, has casual labour contracts, as shown in table 3.1. In case of female workers, it is extremely high where nearly 6600 females are casual wage labourers for every 100 regular workers. Similarly, it is increasing quickly even in the rural non-farm sector where I.C.L is 110 for persons; it is higher in male (115) as compared to female counterparts.

Table (3.1)- Casualization in Rural Farm and Non-farm Sector of India

sector	Person/Male/Female	Index of Casualization		
		1993-94	1999-00	2004-05
Farm	Person	176	1299	3400
Farm	Male	70	835	2592
Farm	Female	358	3056	6598
Non-farm	Person	36	42	110
Non-farm	Male	19	42	115
Non-farm	Female	38	41	88

Index of Casualization- Number of casual wage labourers for every 100 regular salaried/wage employees.
Data Source: NSS reports on Employment & unemployment situation in India.

3.2.1 Regional Extent of Casualization of Workforce in Rural Non-farm sector

State-wise picture shows very large variations in extent of casual workforce in rural areas of India as shown by table (3.2). Northeastern region of India shows low levels of casualization of rural non-farm sector except Tripura, which has a very high index of casualization (I.C.L). The States of Jharkhand, Tripura, Rajasthan, West Bengal, Orissa, Assam, Kerala, Uttar Pradesh, Chhattisgarh, Bihar, Madhya Pradesh and Tamil Nadu all have more than an index value of 100. Other states show moderate levels of casualization of employment in rural non-farm sector.

Among UTs, Lakshadweep and A & N Islands shows higher level of casualization. Casualization is more among males as compare to males. Among males, it is higher in Jharkhand, Tripura, Kerala, Rajasthan, West Bengal, Orissa, and Lakshadweep and so on. On the other hand, female workforce casualization is higher in Daman & Diu, Jharkhand, Rajasthan, Tripura, Orissa, and Chhattisgarh, Assam and so on.

Table (3.2)- State/UT wise Extent of Casualization in Rural Non farm sector in India- 2004-05

Index of Casualization				Index of Casualization			
States	All	Male	Female	States	All	Male	Female
Jharkhand	392	395	380	Haryana	67	65	96
Tripura	295	301	256	Maharashtra	59	56	76
Rajasthan	184	173	277	Jammu & Kashmir	58	57	70
West Bengal	138	152	83	Meghalaya	57	67	29
Orissa	137	125	212	Arunachal Pradesh	46	35	121
Assam	136	131	171	Manipur	27	31	8
Kerala	135	182	63	Goa	20	20	20
Uttar Pradesh	128	134	64	Sikkim	18	19	15
Chhattisgarh	126	116	173	Mizoram	15	15	18
Bihar	104	111	51	Nagaland	3	3	4
Madhya Pradesh	102	98	115	Lakshadweep	168	170	NCL
Tamil Nadu	100	108	81	A & N Is.	80	88	52
Gujarat	95	91	113	Daman & Diu	49	29	3,741
Andhra Pradesh	94	107	60	Pondicherry	42	52	16
Karnataka	92	100	67	Chandigarh	42	42	NCL
Punjab	83	93	19	D & N Haveli	40	35	74
Himachal Pradesh	82	100	16	Delhi	7	7	NCL
Uttaranchal	71	75	45	India	110	115	88

Index of casualization- Number of casual wage labourers for every 100 regular salaried/wage employees

NCL- No Casual Wage Labourer

NA- Not applicable (No rural workers)

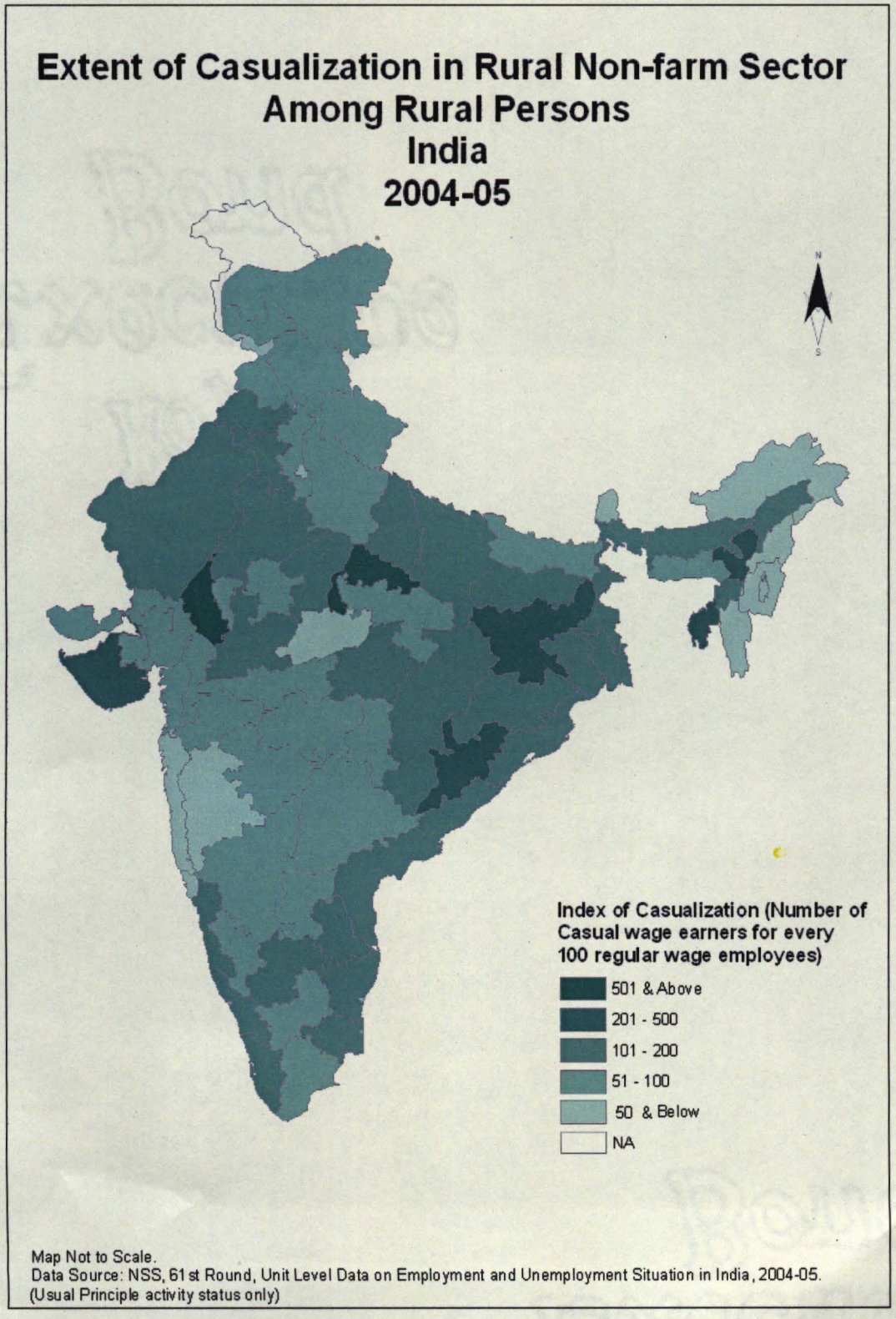
More variations in extent of casualization in rural non-farm sector can be easily represented geographically through regional level analysis[2]. Figures 3.1, 3.2 and 3.3 depict the patterns of regional variation clearly. As figure (3.1) shows, the Southern regions of Uttar Pradesh and Rajasthan shows very high level of casualization followed by Jharkhand, Hilly Region of Assam , Tripura , Southern Orissa , Saurashtra region of Gujarat State, Himalayan region of West Bengal , Northern Madhya Pradesh and Eastern Plains of Assam.

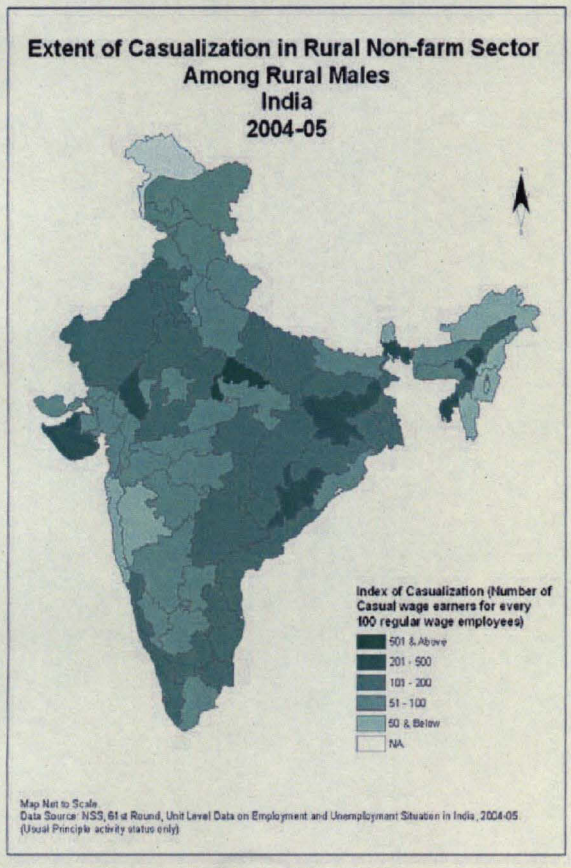
On the contrary, in an increasing sequence, Manipur Hills, Nagaland, Mizoram, Sikkim, Goa, Manipur Plains, Central Madhya Pradesh, Arunachal Pradesh, Coastal Maharashtra,

[2] Regions- as taken by NSS on its 61st round on employment and unemployment situation in India, 2004-05.

Mountainous region of J & K and most of the UTs have very low level of casualization of employment in rural non-farm sector with values less than 50.

Figure (3.1) - Showing extent of Casualization in Rural Non-farm Sector of India for all workers in Usual Principle Status during 2004-05.





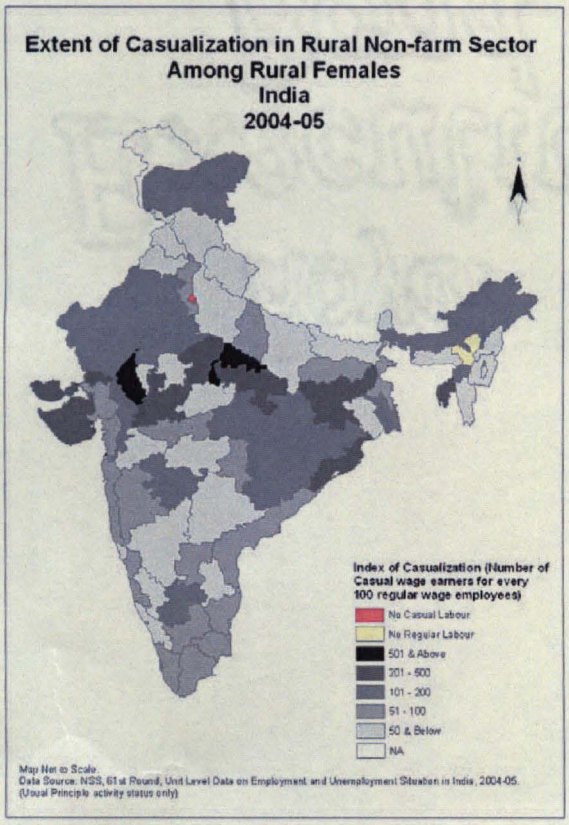


Figure (3.2) shows Casualization among rural males in non-farm sector. Similar pattern of casualisation is observed for male non-farm workers in Fig. (3.2) with a very few exceptions. Since male workers are very large, the casualisation pattern of total workers is driven largely by the pattern of male workers. Roughly in the peninsular region, the eastern side has higher indices of casualisation compared to the western side. The Konkan region has particularly low levels of casualisation, though in the Kutch region it is very high. The hilly states have by and large low levels of casualisation.

Figure (3.3) shows Casualization among rural females in non-farm sector. There is some difference in pattern of male and female incidence of casualisation. From the casualisation pattern for females, four broad regions emerge; the northern hilly states, both in west and east, where the levels of casualisation is high; the Indo-gangatic plains, where the levels are low; the central belt running from north west to south directions which is characterised by high to very high level, with some pockets of low casualisation; lastly, the peninsular region, which has low to very low levels of casualisation. The reasons as to why the male and female patterns are different are not clear at this stage and require further

investigations.

3.2.2 Extent of Casualization in Rural Non-farm Employment across Different Sub-sectors

Mode of employment is largely determined by the nature of work available in different sectors in rural areas as well as by availability of surplus labour seeking jobs; incidence of casualization found to be more in those regions which are having a surplus labour. In rural India, with a large chunk of surplus labour, labour is engaged in low payment jobs in different industrial categories. At large numbers the casual labour is working in rural farm sector (Table .3). In addition, in Construction and Mining & Quarrying sectors, where less educated labour is needed, and is a sector which has low pay with a relatively easy entry and exit, very high level of casualization of workforce exists, and this is followed by Manufacturing sector, Transport, Storage and Communication sector, Wholesales and Retail Trade , and Other Services.

Table (3.3) - Index of Casualization (All Usual Principle Status Workers in Different Rural Industrial categories): Employment in Rural India, 2004-05

Farm	Mining & Quarrying	Manufacturing	Construction	Wholesale and Retail Trade	Transport, storage and communication	Other services
3400	459	103	3117	45	62	10

Index of Casualization- Number of casual wage labourers for every 100 regular salaried/wage employees

Rural Mining & Quarrying sector in 2004-05 shows a very high level of casualization in India; Most of the regions where Mining & Quarrying activities are prominent, casualization is rampant e.g. Western Rajasthan, Himachal Pradesh, Run of Kutch, hilly parts of southern India (mostly Kerala and Tamil Nadu), eastern ghats and Hilly areas of Madhya Pradesh and Chhattisgarh (figure 3.4).

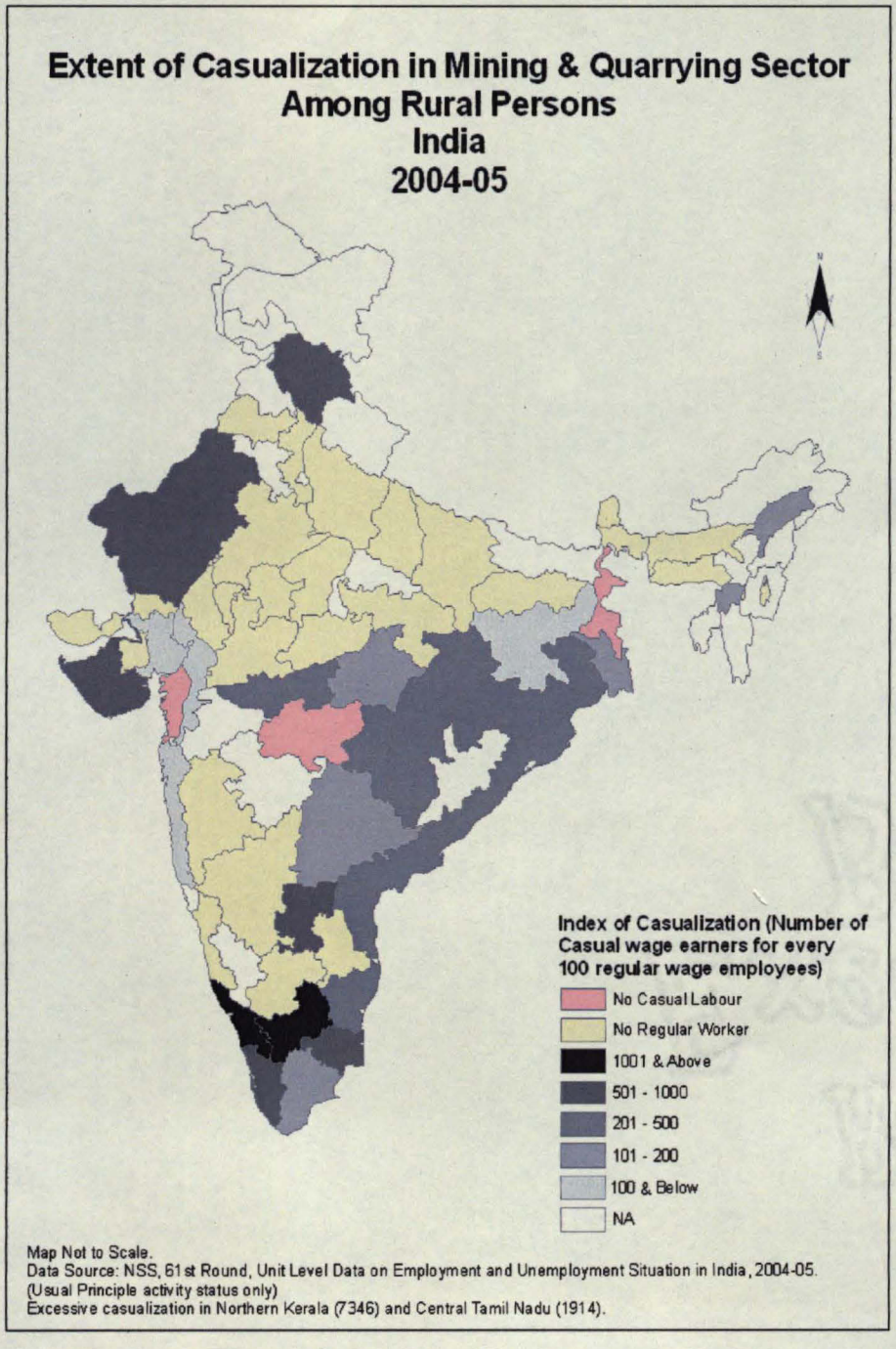


Figure (3.4) represents the above discussion on Casualization of workforce in rural mining and quarrying sector.

Manufacturing sector shows sufficient variations in level of casualization rural areas. Where the Casualization is 103 I.C.L. at national level, Some States shows a very large extent of Casualization like in Jharkhand (1051), Manipur (903), Bihar (408), Orissa (244), Mizoram (222), Assam (213), Kerala and West Bengal (205) etc.

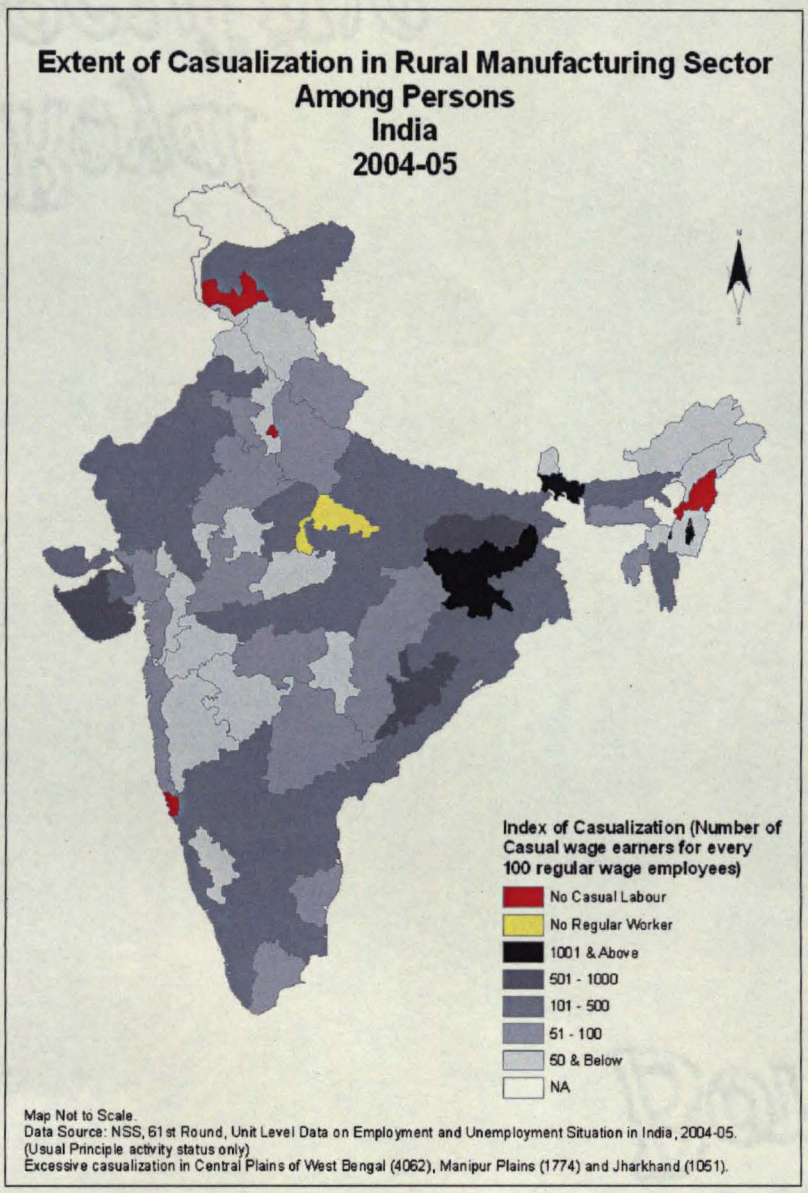


Figure (3.5) represents the above discussion on Casualization of workforce in rural manufacturing sector.

A large proportion of the rural employment in **construction sector** is casual. As the index of casualization indicates, states where construction activities are concentrated are also characterised with high levels of casualisation. Rural employment in construction sector is based on daily or periodic wages; greater extent of casualization in this sector suggest that the requirement of labour relative to availability is low, as by and large the higher values of casualisation are noted in states with high density of population (table 3.4)-.

Table (3.4) - Index of Casualization in Rural Construction Sector in India, 2004-05

Meghalaya	NRW	Kerala	2922
Daman & Diu	NRW	Chhattisgarh	2266
Bihar	39887	Jammu & Kashmir	2159
Uttar Pradesh	18329	Gujarat	1966
Jharkhand	17439	Andhra Pradesh	1627
Manipur	11514	Uttaranchal	1302
West Bengal	10373	Punjab	959
Madhya Pradesh	9970	D & N Haveli	890
Tripura	9819	Himachal Pradesh	825
Rajasthan	8556	Goa	781
Mizoram	5950	Haryana	684
Karnataka	5830	Arunachal Pradesh	454
Orissa	4748	A & N Is.	233
Assam	4264	Chandigarh	139
Lakshdweep	4143	Sikkim	132
Tamil Nadu	3635	Pondicherry	94
Delhi	3467	Nagaland	32
Maharashtra	3261	**India**	**3117**

Index of Casualization- Number of casual wage labourers for every 100 regular salaried/wage employees

NRW- No Regular salaried/wage employee

Table (3.4) shows a very high level of casualization in Bihar, Uttar Pradesh, Jharkhand, Manipur, West Bengal, Madhya Pradesh, Tripura, Rajasthan, Mizoram, and Karnataka and so on.

Figure (3.6) depicts the regional pattern of casualisation in the rural construction sector clearly. Some of the regions where no regular employment was found in rural construction sector are Southern Uttar Pradesh, Saurashtra in Gujarat, Southern Orissa, Inland Southern Andhra, Dry Areas of Gujarat, Northern Bihar, Karnataka Coastal and Ghats, Western Plains of West Bengal, Central Uttar Pradesh, Northern, Central and South Madhya Pradesh, Meghalaya, Maharashtra inland Eastern, Western Haryana, South-eastern Rajasthan, Daman and Diu, Manipur Hills.

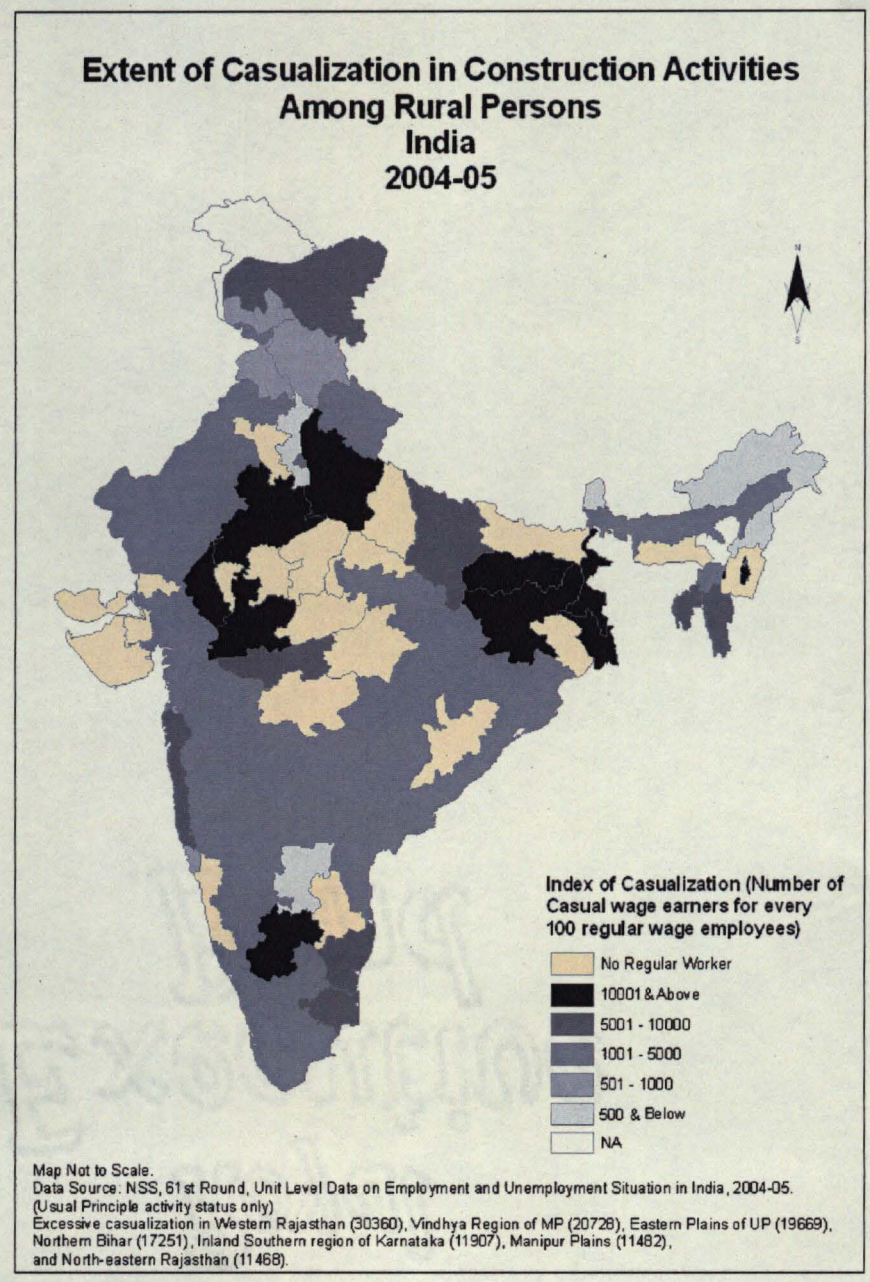


Figure (3.6) represents the above discussion on Casualization of rural workforce in Construction

The other sectors other than the ones discussed above, have very low levels of casualization of rural employment. As in **Trade sector**, in most of the states it is below 100. The only states which have a value higher than this benchmark are Arunachal Pradesh (307), Meghalaya (128)

and West Bengal (100). Further, in Mizoram, Southern Uttar Pradesh and Himalayan West Bengal no regular workers exist in rural Trade sector (all workers are working as casual labour in these states).

Similarly, as in Trade sector, **Rural Transport, Storage and Communication Sector** also not dominated by casual labour as most of the states and regions have less than I.C.L. 100). Exceptions are Kerala (184), West Bengal (151), Jharkhand (139), Chhattisgarh (130), Karnataka (117) and Orissa (100). Further, it is comparatively high in regions like Southern Orissa (698), Northern Kerala (243), Inland Eastern Maharashtra (217), Eastern Plains of Assam (213) and Western Plains of West Bengal (212).

In **Other Rural Services**, most of the States and regions have less than 50 I.C.L. except in Tripura (197).

3.2.3 Extent of Casualization in Rural Non-farm Employment on the Basis of General Educational Level

Better level of education provides a choice for worker to work under different type of remunerative jobs. Education among workers determines the engagement of labour in different type of jobs; as clear by analysis, extent of casualization on the basis of general educational level of workers reveals that it is more prominent among rural illiterate workers than educated counterparts. Higher educational level of workers results in low probability of them to work as casual labourers. At all India level, irrespective of male or female, the workers who are illiterate work as casual labour in rural areas e.g. I.C.L. is 1590 in case of illiterate workforce. On the contrary its counterparts viz. workers literate up to secondary and above secondary were having I.C.L. value respectively 361 and 20. Very low level of casualization exists among workers having educational level above secondary to post graduation and above (Table 3.5).

Table (3.5)- Extent of Casualization on the basis of General Educational Level of Persons engaged in Rural Non-farm Activities

State	General Educational Level			State	General Educational Level		
	Illiterate	Literate up to Secondary	From Sr. Secondary to Post Graduation & Above		Illiterate	Literate up to Secondary	From Sr. Secondary to Post Graduation & Above
Andhra Pradesh	235	89	5	Maharashtra	250	79	6
Arunachal Pradesh	228	49	8	Manipur	254	58	1
Assam	1793	178	1	Meghalaya	313	90	1
Bihar	367	73	4	Mizoram	NCL	25	2
Chhattisgarh	397	157	26	Nagaland	NCL	8	1
Delhi	21	9	NCL	Orissa	794	118	2
Goa	5284	29	NCL	Punjab	263	76	6
Gujarat	285	97	12	Rajasthan	785	139	10
Haryana	140	84	2	Sikkim	58	19	NCL
Himachal Pradesh	181	119	8	Tamil Nadu	309	109	14
Jammu & Kashmir	320	49	3	Tripura	1049	325	7
Jharkhand	3164	308	15	Uttar Pradesh	459	113	11
Karnataka	395	97	6	Uttaranchal	286	109	NCL
Kerala	340	229	16	West Bengal	372	143	11
Madhya Pradesh	284	97	9	India	1590	361	20

Index of Casualization- Number of casual wage labourers for every 100 regular salaried/wage employees

NCL- No Casual Wage Labourer

State-wise picture shows that casualization is higher among illiterates in States of Goa, Jharkhand, Assam, Tripura Orissa, Rajasthan, Uttar Pradesh, West Bengal etc. Further, it although level of casualization is low among workers having educational level up to secondary but comparably it is higher in some States like Tripura, Jharkhand, Kerala, Assam, Chhattisgarh, West Bengal etc. Among highly educated workers the level of casualization is lowest (highest in Chhattisgarh).

3.3 Composition of Rural Non-farm Workforce on the Basis of Mode of Employment

A major part of workforce in rural areas is engaged in self-employment activities where females dominate for all periods. Overall almost half of the workforce has self- employment. From 1983

to 1999-00 there was a continuous decline in share of self- employment, which again increases in 2004-05 to almost the same level of 1983 (Table 3.6). But it is important to note that among females, the share of regular employment increased at the cost of self-employment and casual employment and recently it female labour has been shifting to regular jobs at a reasonably good pace. The decline in the share of females in casual and self-employment indicates that they are getting work on regular basis irrespective of wage rates and working condition.

Table (3.6) - Distribution of Rural Non-farm Workers (Usual Principle Statue) by Mode of Employment in India

NSS Year	Male			Female			Person		
	S.E.	R.E.	C.L.	S.E.	R.E.	C.L.	S.E.	R.E.	C.L.
1983	48.8	29.9	21.2	52.1	18	29.9	49.5	27.4	23.1
1993-94	47.4	28	24.7	53.1	19.5	27.4	48.4	26.4	25.2
1999-00	45.4	26.8	27.8	58	20	22	47.7	25.6	26.7
2004-05	47.6	24.4	28.0	56.3	23.2	20.5	49.3	24.1	26.6

S.E. - Self Employed

R.E. - Regular Salaried/ Wage Employee

C.L. - Casual Wage Labourer

Among the male counterparts, the share of self and casual employment increasing at the cost of regular employment. From 1983 to1999-00, the share of regular workers experienced a sharp decline of 5.5 %. On the other hand, casualization increased at 6.8 % in the same period. Overall, irrespective of male and female, incidence of casualization[3] increased at cost of regular employment (Your statement here is contradicting the last paragraph). The share of self-employment has increased substantially in recent times (2004-05) as compared to previous liberalization period.

From table (3.6), it is worth noting that the post-economic reform period provided opportunity to rural females to get regular jobs. On the other hand, male counterpart tends to work as self-employed and casual labours in recent times indicating continuous deterioration of quality of rural employment among them.

Further break up of rural workers suggests that incidence of casualization is higher in Construction, Mining & Quarrying, and farm sectors (table 3.7). In trade and other services, it is very low. In other rural services proportion of self-employment is higher in case of all categories

[3] Incidence of Casualization- measured as percentage share of casual workers in total workforce.

of rural workers. Self-employment dominates in all sectors except in construction and other services. Most of the female self-employment is concentrated in trade and manufacturing sectors. Rural males more or less follow the same pattern. Regular employment is higher in other rural other services and transport, storage and communication sector.

Table (3.7) – Composition of Rural Workforce by Mode of Employment across Different Sectors in India, 2004-05

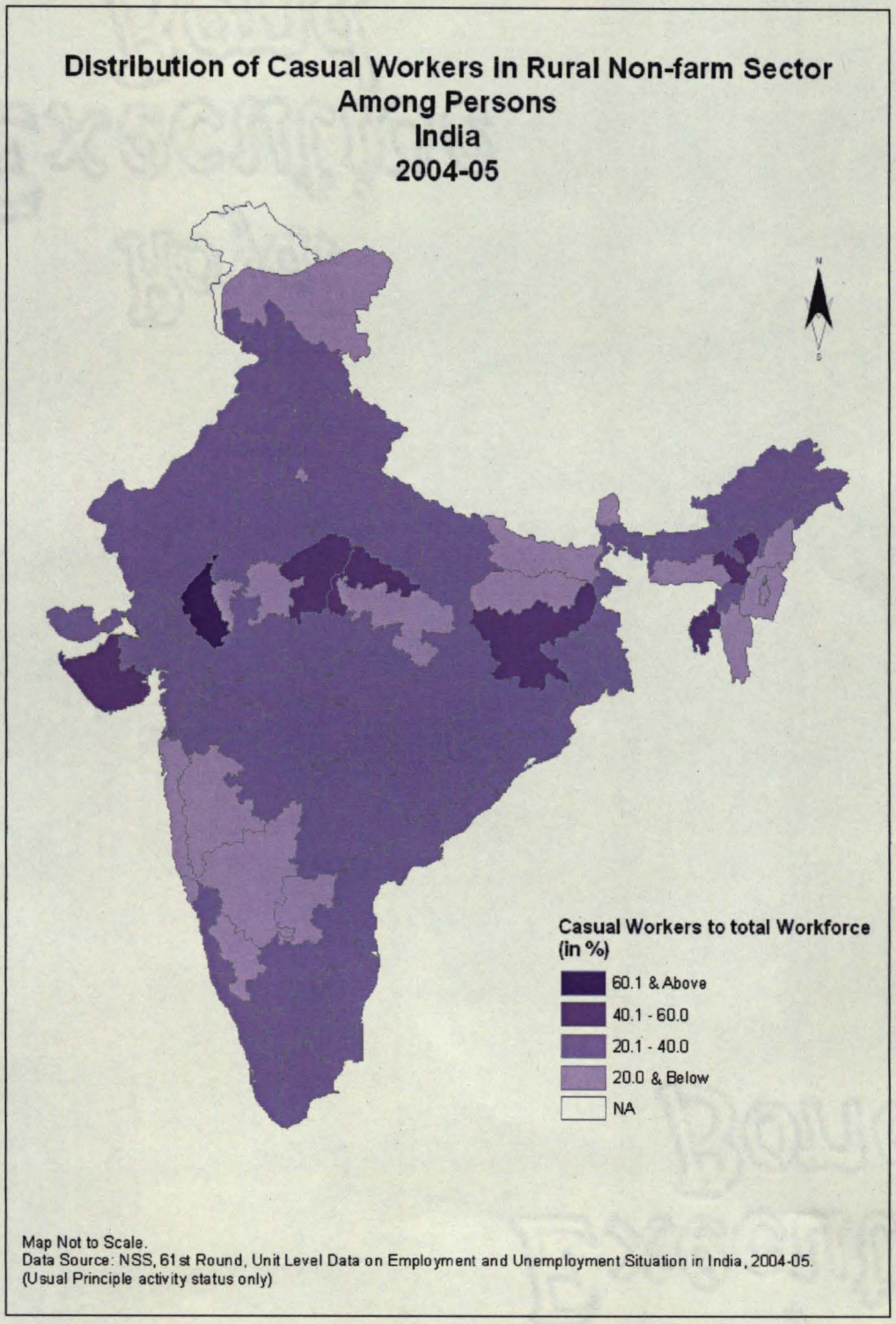
Sector	Mode of Employment								
	Male			Female			Person		
	S.E.	R.E.	C.L.	S.E.	R.E.	C.L.	S.E.	R.E.	C.L.
Farm activities	63.1	1.4	35.5	56.6	0.6	42.7	60.9	1.1	38.0
Manufacturing	51.3	25.4	23.3	73.9	9.7	16.4	58.4	20.5	21.1
Other services	41.0	53.1	5.9	36.4	59.6	4.0	39.9	54.6	5.5
Mining & Quarrying	8.7	18.9	72.5	9.5	6.2	84.4	8.8	16.3	74.9
Construction	17.0	2.8	80.2	1.0	0.9	98.2	15.4	2.6	82.0
Wholesales and Retail Trade	81.4	12.8	5.8	95.3	3.4	1.2	83.0	11.7	5.2
Transport, storage and communication	44.0	34.5	21.5	22.9	49.6	27.6	43.6	34.8	21.6
S.E. - Self Employed									
R.E. - Regular Salaried/ Wage Employee									
C.L. - Casual Wage Labourer									

3.3 A Regional Analysis of Incidence of Casualization in Rural Non-Farm Sector

Earlier we discussed about extent of casualization which shows the ratio of regular and casual labour. Incidence of casualization measures the share of casual workforce in total rural workforce. Males in rural workforce account higher incidence of casualization of rural non-farm employment as compare to its female counterpart (table 3.6). If we see the incidence of Casualization geographically, the regions like Southern economically backward districts of Rajasthan, Run of Kutch, Jharkhand, Tripura, southern Assam and adjoining parts of southern Uttar Pradesh and northern Madhya Pradesh were having high proportion of their rural non-farm workforce engaged as casual labour (Figure 3.7). Most of the regions are showing incidence of casual labour 20 to 40 percent. Other north-eastern regions show very low incidence of casualization. The regions of Bihar which shows a very high extent of casualization in construction sector have low level of incidence of casualization in non- farm sector. It shows the nature of work available in construction activities require casual labour and it applies not only for

Bihar but also in all states. Parts of southern Maharashtra and Karnataka also shows low incidence of casualization.

Figure (3.7)



3.4 Association of Educational Level, Accessibility of Land and Poverty with Casualization in Rural Non-farm Sector

Illiteracy among rural workforce in non-farm sector and incidence of poverty in rural areas have a high association with quality of rural workforce measured in terms of casualization of employment. State level correlation analysis suggests that persons who are illiterates and belong to poor rural households have greater chance to work as casual labour in rural non-farm sector. Results from Table (3.8) also reveal positive significant correlation between rural poverty and illiteracy among rural non-farm workforce with index of casualization. Besides, higher is the level of education lesser is the probability to work as casual labour.

Table (3.8) – Correlations

	Per_Illiterates	Rural_BPL	ICL
Per_Illiterates	1	0.49**	0.48**
Rural_BPL		1	0.40*
ICL			1

** *Correlation is significant at the 0.01 level (2-tailed).*

* *Correlation is significant at the 0.05 level (2-tailed).*

Per_illiterates- Percentage of rural non-farm workforce (usual principle status) which is illiterate; Rural_BPL- Incidence of Poverty in Rural Areas; ICL- Index of Casualization in non-farm employment.

The relationship of percentage of rural landless households to total rural households[4] and percentage of rural non-farm workforce educated up to secondary was found negative but insignificant with casualization (Value of R^2 respectively -0.044 and -0.157 but not significant).

3.5 Summing Up

The liberalization period shows a clear picture of increasing casualization of workforce in both the farm and non-farm sector of the rural economy in India. Casual labour dominates Construction, Mining & Quarrying, and farm sectors. Illiteracy among rural workforce in non-farm sector and incidence of poverty in rural areas have a high association with quality of rural workforce measured in terms of casualization of employment.

Excessive casualization can be observed in some regions. Southern regions of Uttar Pradesh and Rajasthan shows very high level of casualization followed by Jharkhand, Hilly

[4] Data for landless households in rural areas has been taken from NSS 59th Round, Report No. 491(59/18.1/4), Household Ownership Holdings in India, (January–December 2003). Other variables are extracted from the same round (NSS 61st).

Region of Assam , Tripura , Southern Orissa , Saurashtra region of Gujarat State, Himalayan region of West Bengal , Northern Madhya Pradesh and Eastern Plains of Assam. On the contrary, in an increasing sequence, Manipur Hills, Nagaland, Mizoram, Sikkim, Goa, Manipur Plains, Central Madhya Pradesh, Arunachal Pradesh, Coastal Maharashtra, Mountainous region of J & K and most of the UTs have very low level of casualization of employment in rural non-farm sector with values less than 50.

Incidence of casualization is higher in regions like Southern economically backward districts of Rajasthan, Run of Kutch, Jharkhand, Tripura, southern Assam and adjoining parts of southern Uttar Pradesh and northern Madhya Pradesh were having high proportion of their rural non-farm workforce engaged as casual labour.

Chapter 4

Household Expenditure and Wage Rates in Rural Farm and Non-farm Sector: A Comparative Analysis across Social Groups and Gender

Chapter 4

Household Expenditure and Wage Rates in Rural Farm and Non-farm Sector: A Comparative Analysis across Social Groups and Gender

4.1 Introduction

Past literature reveals that households engaged in non-farm activities enjoy relatively higher wages and are having more expenditure on different types of items (durables, non-durables, food, non-food items etc.) as compared to that engaged in farm related activities. The present chapter[1] attempts to analyse the difference between expenditure and wage rates of farm and non-farm households across different social groups and also both male and female workers.

One of the major drivers of choice of employment is relative wage rates in different sectors and activities. Workers might move from less remunerative jobs to more remunerative ones to fulfil their household consumption requirements at a satisfactory level. It is expected that individuals would move from farm to non-farm jobs, to get relatively higher earnings. It is already clear from previous reports by National Sample Surveys that the share of rural non-farm sector in total rural employment is increasing year by year. To the above hypothesis of better opportunities in the non-farm sector, income and expenditure gaps between farm and non-farm households has been compared analysing the differences in mean Monthly Per capita expenditure of farm and non-farm households. Similarly, differences in mean wages of the individuals (across genders) in both farm and non-farm sectors of the rural economy have also been compared.

The Levene's Test has been used to check variations in levels of MPCE among rural farm and non-farm households separately by comparing variances of both groups in terms of MPCE and among individuals in terms of total weekly wages. Here, inequality in wages is analyzed across genders as well.

To look at the disparities across social groups, state wise level of disparity among rural farm and non-farm households MPCE has been analyzed through Modified Sopher's Index of

[1] This chapter is based on NSS 61st round data on employment and unemployment situation in India for the year 2004-05. Individual level data has been analysed to compare the household expenditure and wage rates in both farm and non-farm sectors.

disparity. The same has been used to analyze disparity in terms of total weekly wages in different rural operations across genders. The differences in per day wages in different rural operations across genders and MPCE among farm and non-farm sector households are extracted State-wise and NSS State-region/State wise respectively.

4.2 Rural Household Expenditures

Household monthly consumer expenditure could serve as a proxy for household monthly income and is taken to reflect the standard of living of the members of a household. Household income, or for that matter 'standard of living', is highly related to employment characteristics and earnings of the household members. Thus, the distribution of households and population by income level provides a useful background information for a study on any comparative analysis of employment in different sectors, as the present study is aiming to do. Usually household expenditure instead of the income of the household are looked at though the latter provides a more direct measure for livelihood status of a household. The reason is that the measuring income is a much more difficult task, which is most cases is more inaccurate than expenditures. For the same reason, NSS data do not provide information on income of the household. Since the household expenditure on different requirements depends largely on the level of income of a household, household monthly per capita expenditure is usually taken as an alternative to study standard of living of rural households.

4.2.1 Inequality among Rural Farm and Non-farm Households across and within different Social Groups

While analysing monthly per capita expenditure of the households, inequality can be looked into in two ways. First, there is a significant difference in MPCE among households engaged in farm and non-farm activities separately for all social groups. Second, it is also found that MPCE of farm and non-farm households differs significantly for all social groups and as a whole.

At all levels, as shown below by table (4.1), the mean MPCE of farm and non-farm households (compared for all social groups, Scheduled and non-scheduled groups of the rural sample households) are significantly different indicating that –

1. There is a significant difference in the household level MPCE of individuals working in the rural farm and non-farm. This is true controlling for the social groups too. In other words, within similar social groups as scheduled castes and tribes and non-scheduled castes and tribes, the differences in MPCE of farm and non-farm workers are significant.
2. The mean MPCE also varies significantly across social groups within overall rural workers, workers engaged in the farm sector and workers engaged in the non-farm sectors.
3. The above-mentioned differences are as per our expectation-MPCEs of farm workers being lower that those in non-farm activities- and this is true overall, for SC/STs as well as for non-SC-STs.
4. Scheduled groups tend to earn lower than the non-scheduled groups, irrespective of the activities.
5. MPCEs of STs are better than the SCs, again irrespective of the sectors they are engaged in.

Results from Tables 4.1 can be analyzed in another way. The difference in average MPCE among rural farm and non-farm households was found significant. It is Rs. 68 more for non-farm households in rural India. It is higher for scheduled households (107.8) than non-scheduled (48.2). There is no equality among different social groups as well. Difference is higher among scheduled and non-scheduled households than among STs and SCs separately for total, farm and non-farm households in rural India. But in non-farm households there is a large difference of mean MPCE among STs and SCs (Rs. 159.5 more for STs).[2]

[2] For further inquiry, see annexure 4.1 showing inequality of variances in mean monthly per capita income of farm and non-farm households for difference social groups.

Table (4.1)- Comparison of Mean Monthly Per Capita Monthly Expenditure of the Households in Rural Farm and Non-farm sectors across different Social Groups in India

Household Type/ Comparison between Household Types	Social Groups/Comparison between Social Groups	N	Mean	Mean Difference	Sig. (2-tailed)
Total Rural	Scheduled Groups	130108	557.2	-98.8	0 **
	Non-Scheduled Groups	267570	656		
Total Rural	ST	62548	601	84.3	0 **
	SC	67560	516.7		
Farm	Scheduled Groups	69755	507.8	-123.5	0 **
	Non-Scheduled Groups	142362	631.3		
Farm	ST	37457	532.1	52.6	0 **
	SC	32298	479.5		
Non-farm	Scheduled Groups	56225	615.5	-63.9	0 **
	Non-Scheduled Groups	115300	679.4		
Non-farm	ST	23486	708.4	159.5	0 **
	SC	32739	548.9		
Farm	All	212310	590.6	-68	0 **
Non-farm		171660	658.6		
Farm	Scheduled Group	69755	507.8	-107.8	0 **
Non-farm		56225	615.5		
Farm	Non-scheduled Group	142362	631.3	-48.2	0 **
Non-farm		115300	679.4		

** *significant at 0.01 level*

Up to now, we analyzed household expenditure in India at all India level, it is clear that there is a significant difference in average MPCE among rural household working in farm and non-farm sector across and within social groups.

4.2.2 Regional Dimensions in Rural Household Expenditure

After analyzing mean MPCE differences among rural households at all India level, it is important to assess the nature of regional differences that exist within the country. Also, it is important to compare the regional distribution of average MPCE of rural farm and non-farm sector households. One can easily notice the spatial variations in distribution of average MPCE, in general, and difference in distribution of average MPCE across different social groups, in particular, in rural farm and non-farm sector by representing it through appropriate cartographic methods. Moreover, regional disparity among scheduled and non-scheduled households has been analyzed by using Sopher's indices on the basis of which regions have been ranked.

4.2.2a Regional Distribution of Rural Household Expenditure

Average MPCE of the rural households is relatively high for those engaged in non-farm activities. Generally, in all regions[3] rural non-farm households have an advantageous status compared to those engaged in farm-activities. In some regions, expenditure by the rural non-farm households seems to be determined by expenditure of rural farm households. This indicates that an increase in farm income tends to increase the rural non-farm income as well and therefore the pattern of household expenditure distribution indicates that growth of the rural non-farm economy is based on growth in farm sector. In such situations, the non-farm income increases by multiple mechanisms, like capital flows, labour flows, production linkages, forward linkages (agro-processing) and consumption linkages *(Visaria and Basant, 1994, Mishra, 2007).*

Table (4.2) - Regions of Higher Average MPCE among Rural Households in India, 2004-05

NSS Region	Expenditure of the Households (in Rs.)	
	Households in Farm sector	Households in Non-farm sector
Lakshadweep	824	1304
Nagaland	912	1248
Kerala: Southern	1011	1073
Mizoram	734	1033
Haryana: Eastern	858	1029
Jammu & Kashmir: Mountainous	880	885
Punjab: Northern	942	845
Himachal Pradesh	744	787
Gujarat: Saurashtra	704	779
Kerala: Northern	701	764
Punjab: Southern	781	732

Table (4.2) shows That the regions that have high level of expenditure among both rural farm and non-farm households and mostly belong to Punjab, Haryana, Kerala, Gujarat, Himachal Pradesh, Kerala, Nagaland and Mizoram, most of them having a higher proportion of their rural workforce in non-farm sector.

Reverse is true for regions having low level of average MPCE among both rural farm and non-farm households. In this case, rural household income in Farm sector, being very low, stimulates no increase in income of non-farm households. This fact further expresses that these

[3] Regions as defined by NSS in 61st round survey on employment & unemployment situation in India, 2004-05.

regions are economically poor since low levels of MPCE exists among both type of rural households. Table (4.3) shows such pattern in some poor regions in India. These regions belong to Uttar Pradesh, Madhya Pradesh, Orissa, West Bengal, Bihar, Jharkhand, Chhattisgarh, Assam, Tripura and Karnataka.

Table (4.3) - Regions of Lower Average MPCE among Rural Households in India, 2004-05

NSS Region	Expenditure of the Households (In Rs.)	
	Households in Farm sector	Households in Non-farm sector
Orissa: Southern	290	395
Orissa: Northern	334	397
Madhya Pradesh: South	372	436
Madhya Pradesh: Vindhya	386	475
Madhya Pradesh: Central	409	393
Orissa: Coastal	410	477
Chhattisgarh	417	508
Bihar: Central	419	420
West Bengal: Eastern Plains	423	507
Jharkhand	424	453
Karnataka: Inland Northern	436	492
Bihar: Northern	439	452
Madhya Pradesh: South Western	443	499
Assam: Hills	466	506
West Bengal: Himalayan	471	569
Uttar Pradesh: Eastern	474	464
Madhya Pradesh: Northern	477	509
Tripura	479	495
Uttar Pradesh: Central	492	509

To make the above observations clearer, region-of the spatial patterns of average monthly per capita expenditure of rural farm and non-farm households has been done through figure 4.1a and 4.1b. Darker polygons in both figures shows higher level of expenditure in farm and non-farm households. Opposite is true for lighter polygons-

Figure (4.1a)

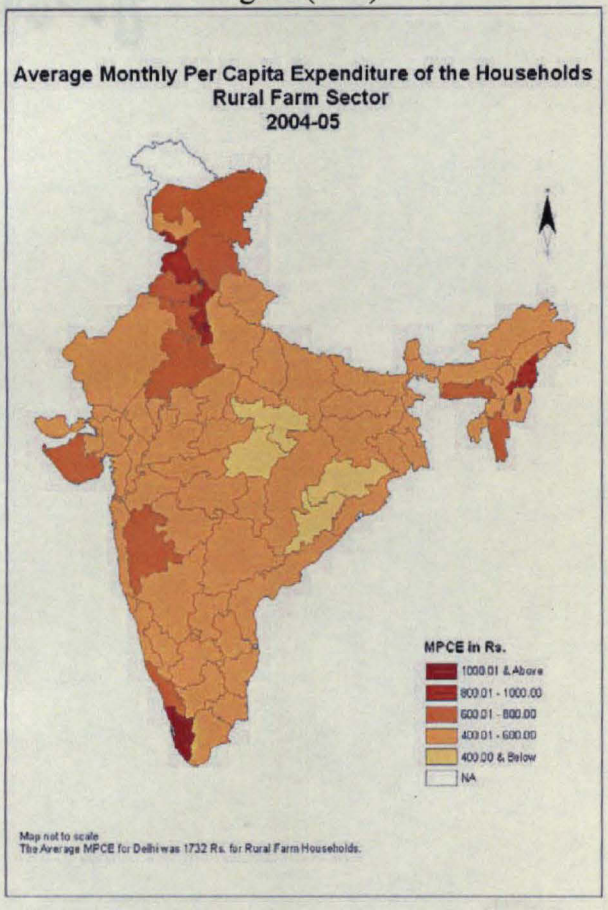
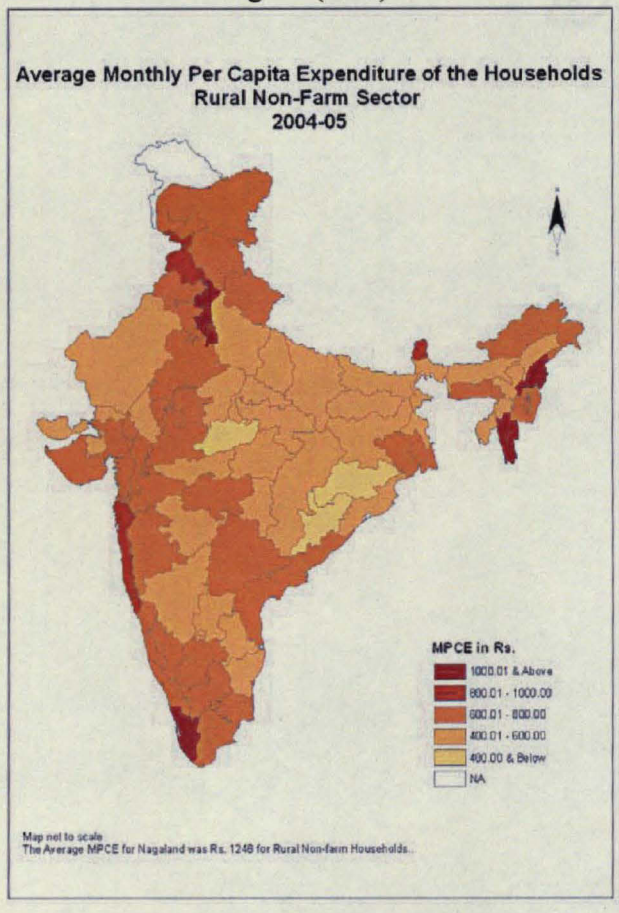


Figure (4.1b)

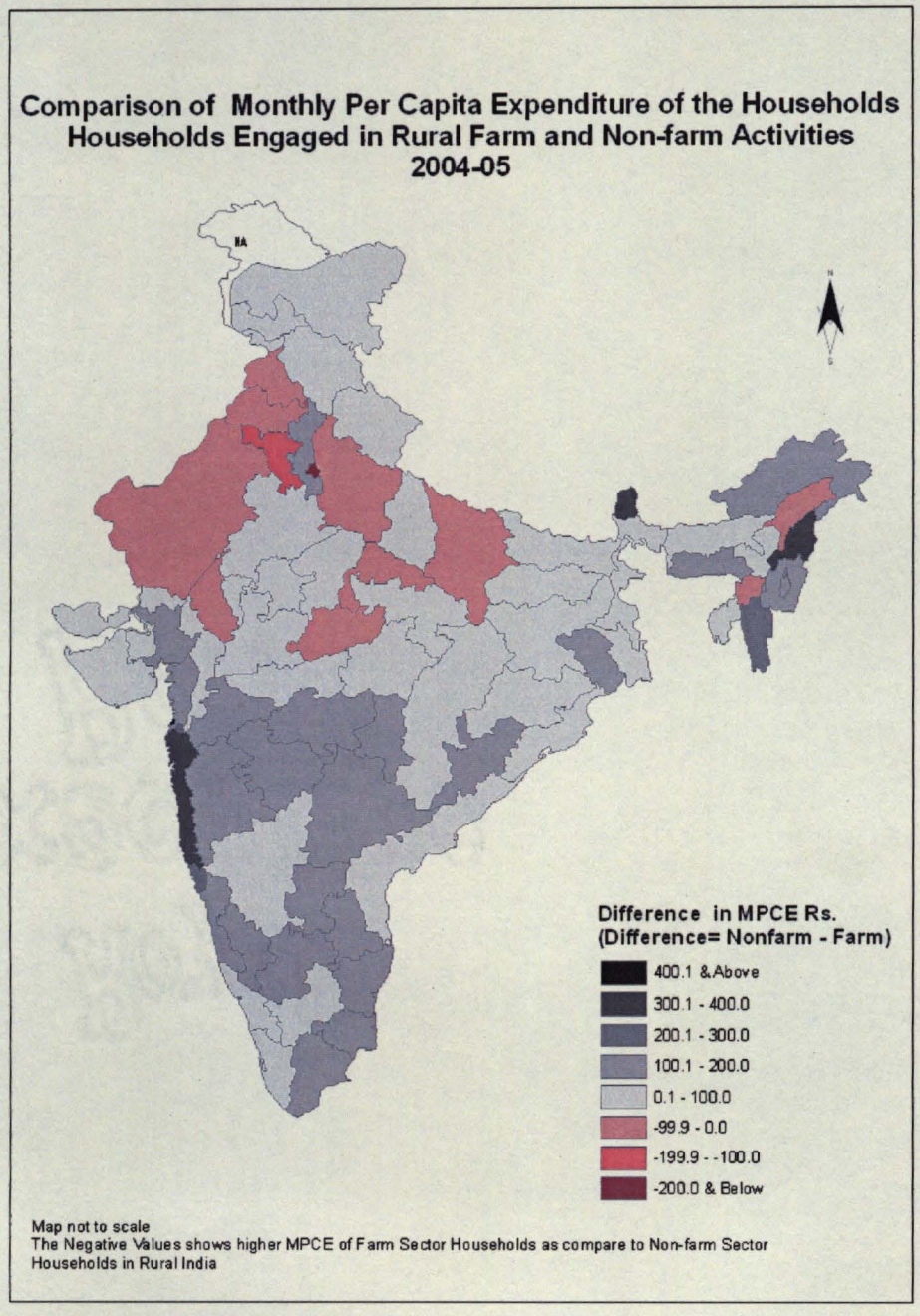


4.2.2b Regional Disparity in Average MPCE among Rural Farm and Non-farm Households

Though we in general observe a higher rural non-farm MPCE compared to farm MPCE, it is important to assess whether such differences are similar across all regions in the country. Regional variations of the difference in MPCE of farm and non-farm households have been shown in the figure (4.2). The regions that have higher rural farm household expenditure more than that of non-farm households are Delhi (-755[4]), Western Haryana (-137), Chandigarh (-117), Northern Punjab (-97), Southern Punjab (-49), Southern Uttar Pradesh (-40), Western Uttar Pradesh (-31), Southern Rajasthan (-22), Central Madhya Pradesh (-16), Western Rajasthan (-11), Eastern Uttar Pradesh (-9), and Eastern Plains of Assam (-7).

[4] Average MPCE among rural non-farm households – Average MPCE among rural farm households.

Figure (4.2)



At national level, the difference was nearly Rs. 91, with the non-farm sector workers belonging to higher MPCE classes. Most of the UTs show high level of difference in favour of non-farm households except in Chandigarh and Delhi where opposite is the case. High level of difference was found in Sikkim (352), Coastal Maharashtra (345), Nagaland (336), Mizoram (298), Goa (275) followed by Arunachal Pradesh (194), Maharashtra Inland Eastern (186), Eastern Haryana (172), Maharashtra Inland Western (171), Maharashtra Inland Northern (170), Gujarat

Plains Northern (166), Coastal Tamil Nadu (158), Gujarat Plains Southern (149), Karnataka Coastal & Ghats (149), Karnataka Inland Eastern (144), Coastal Northern Tamil Nadu (137), Meghalaya (133), Eastern Maharashtra (130), South Western Andhra Pradesh (121), Manipur Plains (119), Maharashtra Inland Central (117), Southern Tamil Nadu (116), Manipur Hills (106), Inland Southern Andhra (106), Southern Orissa (105), Karnataka Inland Southern (104), Inland Northern Andhra Pradesh (104), Western Plains of West Bengal (103).

Except these regions, there was not much difference in average MPCE of rural farm and non-farm households in the remaining regions and these are Central Bihar, Mountainous parts of J&K, West Plains of Assam, Northern Bihar, North-eastern Rajasthan, Tripura, Central Uttar Pradesh, Jhelum Valley of J&K, Jharkhand, Northern Madhya Pradesh, Outer Hills of J&K, dry Areas of Gujarat, Hilly region of Assam, South-eastern Rajasthan, Himachal Pradesh, and Uttarnchal have somewhat higher expenditures in non-farm households while Eastern Plains of Assam, Eastern Uttar Pradesh, Western Rajasthan, Central Madhya Pradesh, Southern Rajasthan, Western and Southern Uttar Pradesh, and Southern Punjab have somewhat lower of farm households expenditures.

The regional pattern of difference in MPCE among rural farm and non-farm households reveals that many regions where farm households have higher levels of MPCE are those regions which experienced higher pace of commercialization of agriculture in post liberalization period. But it is not true for all regions in which expenditure of farm household is more. It appears that other than extensive commercialization of agriculture (in experienced regions), the distribution of land ownership among farm and non-farm household is also important. Concentration of a large fraction of the landholdings by farm households in rural areas may also create differences in MPCE among farm and non-farm households.

4.2.2c Disparity in Average MPCE among Rural farm and Non-farm Households across Different Social Groups

(i) Disparity At all India Level- At all levels, disparities were found in average MPCE among rural households as it is clearly noticeable through table 4.4 below. Levels of disparity were relatively high for most categories of non-farm households which we have compared, except between SCs and STs. In other words, low level of disparity exists among deprived sections of rural areas. Disparity in average MPCE was highest among Other than ST-SC and SC groups of

rural farm households. Similarly, in rural non-farm households too, disparity was high among advantageous and deprived sections of rural households except among SCs and STs.

But it is important to notice that among rural scheduled households (whether SCs or STs), those engaged in farm activities are having lower MPCE than those in non-farm. On the other hand, disparity is low among non-scheduled households indicating that this section has the equal opportunity to get sufficient income from both farm and non-farm sectors. It is probably due to the fact that non-scheduled section of rural households occupies a large proportion of cultivable land as well as have greater opportunity to work in remunerative rural non-farm activities. But a deeper analysis is required before making firm conclusions in this respect.

Table (4.4) - Disparity in Average MPCE of Rural Households in India, 2004-05

Sector/Disparity among Sector	Social Group/ Disparity among Social Groups	Value of Sopher's Index (Modified)
Farm	Non-scheduled and ST	0.084
Farm	Non-scheduled and SC	0.266
Farm	Non-Scheduled and Scheduled	0.073
Farm	SC and ST	0.017
Non-farm	Non-scheduled and ST	0.062
Non-farm	Non-scheduled and SC	0.052
Non-farm	Non-Scheduled and Scheduled	0.054
Non-farm	SC and ST	0.010
Non-farm and Farm	ST	0.055
Non-farm and Farm	SC	0.048
Non-farm and Farm	Scheduled	0.052
Non-farm and Farm	Non-Scheduled	0.033

(ii) Regional Disparity-

Regional differences in average MPCE among different social groups in rural areas largely reflect the geographical distribution and socio-economic condition of social groups in various parts of the country. To some extent, whether a social group belongs to a higher expenditure class, as compared to its other counterparts, is determined by its distribution over space. Regional dominance of a social group in general and socio-economic conditions of that group in a region, in particular, affects the distribution of MPCE. In addition, the distribution of MPCE among farm households across different social groups shows an image of agrarian structure prevailing in a particular region. The inequality in land ownership has been further exacerbated as a result of differential income gains by rural households. The persistence of extreme inequality in the

Table (4.5) – Regions of Higher Disparity[5] in Average MPCE of Rural Households in India, 2004-05		
Sector/Disparity among Sector	**Social Group/ Disparity among Social Groups**	**Regions of Higher Disparity (Based on Values obtained by Modified Sopher's Index)**
Farm	Non-scheduled and ST	Karnataka Coastal & Ghats (0.465), Tamil Nadu Inland (0.279), S. Orissa (0.225), Malwa of MP (0.216), Maharashtra Inland Northern (0.201), Central Bihar (0.187), Central MP (0.184), S. Punjab (0.170), N. Kerala (0.164), Gujarat Dry Areas (0.162), Andhra Pradesh Inland Southern (0.159), Coastal Andhra (0.159), E. Maharashtra (0.150), Coastal Orissa (0.148), N. Orissa (0.140), Coastal Maharashtra (0.133), Vindhya of MP (0.131), N. MP (0.128), S. Rajasthan (0.119) and S. MP (0.118).
Farm	Non-scheduled and SC	S. Punjab (0.612), S. Rajasthan (0.611), Malwa of Madhya Pradesh (0.609), Pondicherry (0.594), N. Punjab (0.582), Karnataka Coastal & Ghats (0.570), Inland S. Andhra (0.526), E. Haryana (0.492), S.W. Andhra (0.444), W. Haryana (0.435), Inland Central Maharashtra (0.415), Central MP (0.382), Gujarat Plains Southern (0.368), Saurashtra of Gujarat (0.367), W. Rajasthan (0.361), Inland N. Maharashtra (0.360), S. Kerala (0.344), E. Gujarat (0.342), Gujarat Dry Areas (0.337), W. Plains of WB (0.327), E. Plains of Assam (0.324), Inland N. Karnataka (0.322), N. Plains of Gujarat (0.297), Inland N. Andhra (0.290), S. Orissa (0.289), S. MP (0.281), Central Bihar (0.281), W. UP (0.279), HP (0.272), Inland W. Maharashtra (0.270), India (0.266), Goa (0.260), Coastal Andhra (0.255), N.E. Rajasthan (0.248), Inland Tamil Nadu (0.246), N. Kerala (0.242), S. UP (0.240), N. Bihar (0.231), Inland S. Karnataka (0.226), Uttamchal (0.221), E. UP (0.217), Chandigarh (0.214), S.W. MP (0.207), N. Orissa (0.190), Inland E. Karnataka (0.186), Coastal N. Tamil Nadu (0.181), Central Plains of WB (0.177), Coastal Tamil Nadu (0.163), Jharkhand (0.162), N. MP (0.158), Inland E. Maharashtra (0.147), Vindhya of MP (0.132), S.E. Rajasthan (0.120) and S. Tamil Nadu (0.118).
Farm	Non-Scheduled and Scheduled	Karnataka Coastal & Ghats (0.245), S. Orissa (0.206), Malwa of MP (0.195), Maharashtra Inland Northern (0.177), Andhra Pradesh Inland Southern (0.156), Central MP (0.151), S.W. Andhra (0.134), Pondicherry (0.131), S. Rajasthan (0.121), N. Orissa (0.119), Maharashtra Inland Central (0.115), S. MP (0.114), Gujarat Dry Areas (0.114), S. Punjab (0.107) and Coastal Maharashtra (0.100).
Farm	SC and ST	S.W. MP (-0.109) and S. MP (0.106).
Non-farm	Non-scheduled and ST	Lakshadweep (-0.206), S. Orissa (0.199), N. Orissa (0.156), S. Rajasthan (0.145), Coastal Orissa (0.136), Vindhya of MP (0.130), S. MP (0.126), Coastal Maharashtra (0.124), Daman & Diu (0.122), Maharashtra Inland Eastern (0.121), E. Haryana (0.111), J&K Outer Hills (0.110), W. UP (0.110) and D&N Haveli (0.108).
Non-farm	Non-scheduled and SC	Lakshadweep (-0.164), S.W. MP (0.163), Inland Southern Andhra (0.147), S. Orissa (0.138), N. Orissa (0.137), Central MP (0.128), Vindhya of MP (0.125) and S. Rajasthan (0.101).
Non-farm	Non-Scheduled and Scheduled	Lakshadweep (-0.206), S. Orissa (0.171), N. Orissa (0.145), S. Rajasthan (0.142), Inland Southern Andhra (0.136), Vindhya of MP (0.127), Central MP (0.117), S.W. MP (0.109), D&N Haveli (0.108) and E. Haryana (0.094).
Non-farm	SC and ST	Karnataka Coastal & Ghats (0.282), Tamil Nadu Inland (0.218), S.W. Andhra (-0.204), E. Maharashtra (0.157), Coastal Orissa (0.131), Gujarat Plains Northern (-0.127), N. Kerala (0.121), S. UP (-0.108), S. Tamil Nadu (-0.106), N. Punjab (-0.102), Coastal Tamil Nadu (-0.100), Coastal Andhra (0.104) and Inland Northern Maharashtra (0.102).
Non-farm and Farm	ST	Karnataka Coastal & Ghats (0.487), E. Maharashtra (0.206), Inland N. Maharashtra (0.198), S. Punjab (0.172), S. Orissa (0.169), J & K Outer Hills (-0.168), Malwa of MP (0.164), N. Kerala (0.137), Central Bihar (0.124), Gujarat Dry Areas (0.106), W. UP (-0.104) and Coastal Maharashtra (0.100).
Non-farm and Farm	SC	S.W. Andhra Pradesh (0.182), Karnataka Coastal & Ghats (0.141), S. Orissa (0.141), Inland Central Maharashtra (0.130), S MP (0.123), Pondicherry (0.121), Inland N. Maharashtra (0.118) and Gujarat Plains Southern (0.109).
Non-farm and Farm	Scheduled	S. Orissa (0.177), Karnataka Coastal & Ghats (0.206), S.W. Andhra (0.146), Malwa of MP (0.124), Inland Central Maharashtra (0.121) and Inland N. Maharashtra (0.188).
Non-farm and Farm	Non-Scheduled	S. Orissa (0.143)

[5] Regions, which are having value of Modified Sopher's Index 0.100 and above. Negative values of the index shows that deprived sections i.e. farm, Non-scheduled and ST, have an advantageous position in term of households expenditure.

countryside in terms of distribution of MPCE and the preponderance of small and marginal farmers with limited resources causes such differentials in MPCE among different social groups working in farm and non-farm households.

The distribution of average MPCE of rural households among different social groups within farm sector strengthens the above argument as in most of the regions, disparity among non-scheduled and scheduled households was very high especially among non-scheduled group and SCs. On the other hand, the same is negligible in among scheduled households (table 4.5). Within farm sector it is observable that non-scheduled households, at all levels, have an advantageous position in terms of average MPCE.

Within non-farm households, non-scheduled group have an advantageous position separately over STs, SCs and all scheduled households, with high levels of disparity in all states except in Lakshadweep. Non-scheduled households have more of an advantageous position in regions of Southern and Northern Orissa, Southern Rajasthan, Inland Southern Andhra, Vindhya of Madhya Pradesh, Central and South Western Madhya Pradesh, D&N Haveli and Eastern Haryana with very high disparity levels. Similarly, in regions of South and North Orissa, Southern Rajasthan, Coastal Orissa, Vindhya of Madhya Pradesh, Southern Madhya Pradesh, Coastal and Inland Eastern Maharashtra, Daman and Diu, Eastern Haryana, J&K outer hills, Western Uttar Pradesh and D&N Haveli, non-scheduled households have an advantageous position over STs with high disparity in average MPCE. The regions of South-western, Central and Vindhya in Madhya Pradesh, Inland Southern Andhra, Southern and Northern Orissa, and South Rajasthan were having higher MPCE levels for Non-scheduled households engaged in non-farm activities as compare to STs. In some regions, the expenditure of STs was exceeding that of SCs like in South-western Andhra Pradesh, Northern Plains of Gujarat, Southern Uttar Pradesh, Southern Tamil Nadu, Northern Punjab and Coastal Tamil Nadu. On the other hand, SCs were having more expenditure in regions of Karnataka Coastal & Ghats, Inland Tamil Nadu, Eastern Maharashtra, Coastal Orissa, Northern Kerala, Coastal Andhra Pradesh, and Inland Northern Maharashtra compared to SCs.

Regional pattern of disparity shows that it is lowest for non-scheduled rural households as we compare average MPCE of **Non-farm and farm households** with the exception of Southern Orissa[6]. For the same comparison, it is relatively high among scheduled group households as

[6] Table 4.5, comparison of farm and non-farm households for different social groups.

many regions have disparity level more than 0.100 like Southern Orissa, Karnataka Coastal & Ghats, South Western Andhra, Malwa of MP, Inland Central Maharashtra and Inland Northern Maharashtra (table 4.5).

Among ST households, Karnataka Coastal & Ghats, Eastern Maharashtra, Inland Northern Maharashtra, Southern Punjab, Southern Orissa, J & K Outer Hills, Malwa of MP, Northern Kerala, Central Bihar, Gujarat Dry Areas, Western Uttar Pradesh and Coastal Maharashtra are the regions having higher level of disparity (value of Sopher's index is more than 0.100) in average MPCE of Non-farm and farm households. The regions of J&K outer hills and Western Uttar Pradesh were having farm households as an advantageous position[7] among STs (table 4.5).

Among SCs, South Western Andhra Pradesh, Karnataka Coastal & Ghats, Southern Orissa, Inland Central Maharashtra, Southern MP, Pondicherry, Inland Northern Maharashtra and Gujarat Plains Southern were the regions where non-farm households were in advantageous position with higher disparity (table 4.5, value of Sopher's index is more than 0.100).

4.3 Rural Wages and Salary Earnings

Engagement of rural workforce in different activities depends on prevailing wages for those activities. In labour surplus economies like India, wage rates are defined by availability of labour in different operations. In the agricultural sector, work force is usually characterised by low skill levels and educational attainments and hence also command lower wage rates compared to the other sectors.

Wages and salary earnings differ significantly in different operational activities across genders in rural India. An attempt has been made to analyze the spatial pattern of existing disparity among males and females in different rural operations. On the basis of Current Daily Status of Workers[8], weekly total of Wages and Salary earnings has been obtained for all workers engaged in different rural operations.

4.3.1 Wage Differentials in Rural India across Genders

[7] In these regions average MPCE of farm households is higher than non-farm households.

[8] On the basis of current daily status of the workers, total of wages for all seven days is added. For a worker, wages are obtained only for that rural operation in which s/he spent relatively more time.

Rural workers have a relative advantage in working in the non-farm sector than in farm activities with respect to wage rates. Similarly, workers have high wages in non-manual works (whether in farm or non-farm sector) than in manual works. Also, in all operations, males get higher wages than their female counterparts. But it is noted that in some regions where nature of rural activities are such that requires excessive female labour, females are getting higher wages than their male counterpart. But, nature of an activity is not the only factor which affects distribution of wages among male and female. There would be some other reason for example migration of males to other places may create opportunities for females to earn more. This will be analyzed further separately in a section. However, generally males earn more than females in all rural operations (Table 4.6).

Among all rural operations, the male-female difference was highest in manual work in non-farm activities (table 4.6). Except it, in other remaining operations, the difference was considerably high.

Table (4.6) - Average wage and salary earnings in Rural areas in different operations in India 2004-05

Operation	Total Wage and Salary In a Week (in Rs.)			Per Day Wage and Salary (in Rs.)			% Male-female difference
	Male	Female	Person	Male	Female	Person	
Manual Work in Cultivation	255.00	163.78	219.14	36.43	23.40	31.31	35.77
Manual Work in other agricultural activities	318.84	231.66	291.62	45.55	33.09	41.66	27.34
Manual work in Non-agricultural activities	487.75	267.15	448.17	69.68	38.16	64.02	45.23
Non-manual work in cultivation	486.92	267.85	449.64	69.56	38.26	64.23	44.99
Non-manual work in other than cultivation	951.13	646.39	900.15	135.88	92.34	128.59	32.04

Higher levels of disparity in different rural operations in terms of wages across genders can be remarked by looking at the differences in mean wages of the workers. Inter-operational wage and earning disparity exist for all genders in rural areas as shown by table 4.7. Same is true for male-female differences in all rural operations. These are the estimates on all India level.

Table 4.7 shows the differences mentioned above in the previous paragraph. At all levels (inter-operational and male-female differences in wages), these differences were found to be

considerably significant. The only rural operation in which mean wages of male and female do not differ significantly, was non-manual work in cultivation (*t* value 0.177).

Furthermore, it is stated that mean wages differ significantly in rural India within male and female groups for each rural operation indicating that the pattern of distribution of wages among male and female workers is not equal as the variations in mean wages for both groups are not same (annexure 4.2). The only rural operation in which such variation is not significant (variation in mean wages of male and female is almost equal) is non-manual work in cultivation, indicating that the patterns of wage distribution among male and female workers is almost same (*t* value 0.071).

Same is true when we compare the variations of wages in different rural operations gender wise (viz. Manual Work in Agricultural & Non-agricultural Activities, and Non-Manual work in Cultivation & Other than Cultivation). But for males, variations of mean wages in non-manual work in cultivation and non-manual work in other than cultivation do not differ significantly (*t* value 0.051)

Table (4.7) - Difference in Total Weekly Wages in Rural India

Operation/ Gender	Comparison Between Operations/ Genders	t-test for Equality of Means	
		Mean Difference)	Sig. (2-tailed
Person	Manual Work in Agricultural & Non-agricultural Activities	0.00**	-297.7
Person	Non-Manual work in Cultivation & Other than Cultivation	0.00**	-338.5
Male	Manual Work in Agricultural & Non-agricultural Activities	0.00**	-295.0
Male	Non-Manual work in Cultivation & Other than Cultivation	0.0047 *	-347.6
Female	Manual Work in Agricultural & Non-agricultural Activities	0.00**	-149.0
Female	Non-Manual work in Cultivation & Other than Cultivation	0.037*	-371.6
Manual Work in Agriculture	Male & Female	0.00**	119.7
Manual Work in Non-Agriculture	Male & Female	0.00**	265.7
Non-Manual Work in Cultivation	Male & Female	0.177	344.7
Non-Manual Work in Other than Cultivation	Male & Female	0.00**	320.7
Manual Work in Cultivation	Male & Female	0.00**	108.4
Person	Manual and Non-Manual Work in Cultivation	0.00**	-599.7
Male	Manual and Non-Manual Work in Cultivation	0.00**	-600.3
Female	Manual and Non-Manual Work in Cultivation	0.040*	-363.9
** *Significant at 0.01 level* * *Significant at 0.05 level*			

4.3.1a Wage Differences among Males and Females in Different Rural Operations on the basis of Mode of Employment

It is noticeable that regular workers in rural India earn more salaries in all rural operations than casual labourers and they also have better educational attainments and skill. Highest salary earnings were found among regular workers engaged in non-manual work in other than cultivation activities, followed by non-manual work in cultivation. Other easily detected thing is that the regular male workers in manual non-agricultural activities get higher wages than their female counterpart with a difference of 56.48 % (table 4.8). Although, Overall gender differences are very high but it is relatively low in activities related to manual work in farm related activities (table 4.8). Furthermore, regular workers engaged in non-manual work in both farm and non-farm activities earn considerably more wages than those engaged in manual laborious activities. On the other contrary, casual workers in different rural operations earn comparatively lower wages than regular workers. For all operations, gender differences in wages are high bestowing a privilege for males.

Table 4.8 shows that in almost all rural operation, gender significant gender differences in wage rates exist in both regular and casual employment. Wages are not differing significantly among male and female in manual work in cultivation and non-manual work in cultivation for regular workers. Similarly, it does not differ in non-manual work in cultivation for casual workers.

Table (4.8) - Average wage and salary earnings in Rural areas in different operations in India 2004-05

Current Daily Activity Status	Operation	Per Day Wage and Salary (in Rs.)			% Male-female difference	Significance of Difference
		Male	Female	Person		
RE	Manual Work in Cultivation	54.49	42.73	53.79	21.59	0.341
RE	Manual Work in other agricultural activities	55.13	50.58	53.81	8.25	0.00 **
RE	Manual work in Non-agricultural activities	100.92	43.92	89.64	56.48	0.00 **
RE	Non-manual work in cultivation	114.51	67.43	107.79	41.12	0.309
RE	Non-manual work in other than cultivation	180.09	116.06	168.57	35.55	0.00 **
CL	Manual Work in Cultivation	36.06	23.36	31.01	35.21	0.00 **
CL	Manual Work in other agricultural activities	43.63	30	39.31	31.23	0.00 **
CL	Manual work in Non-agricultural activities	55.73	35.1	52.2	37.03	0.00 **

CL	Non-manual work in cultivation	42.9	25.62	39.69	40.27	0.186
CL	Non-manual work in other than cultivation	53.43	33.98	50.65	36.4	0.00 **
RE - Regular Salaried/wage employee						
CL - Casual Wage Labourer						
*** Significant at 0.01 level*						

4.3.2 Spatial Pattern of Disparity in Wages and Salary Earnings among Males and Females in Different Rural Operations

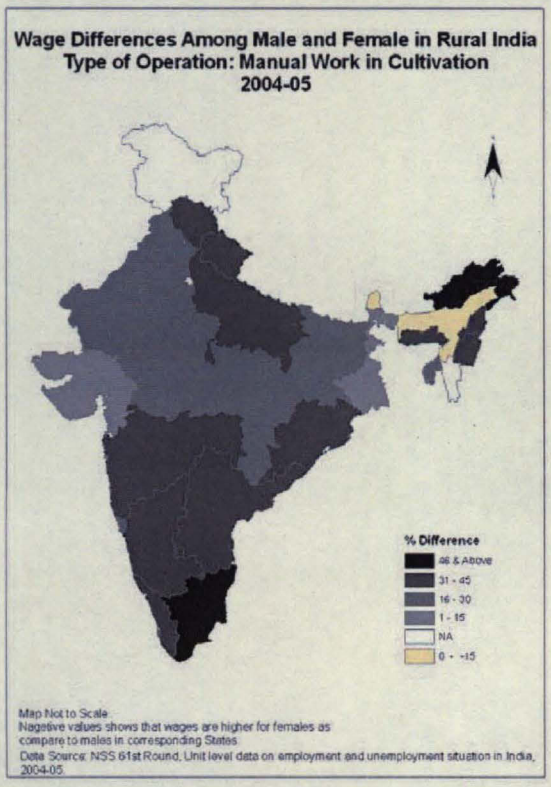
Spatial pattern of distribution of wages and salary earnings among males and females largely reflects the nature of the work available in a particular region. Female dominance in some States like Assam, Sikkim and Uttaranchal for manual work and Kerala for non-manual work illustrates it in figure 4.3 (a,b,c and d). Female wage rates are higher in cultivation activities in States of Sikkim and Assam. In these States the nature of work available largely demands female labourforce; for example, being the biggest producer of tea in the world with a fair share of India's production of rice, rapeseed, mustard, jute, potato, sweet potato, banana, papaya, areca nut and turmeric and large varieties of citrus fruits, leaf vegetables, vegetables, useful spices, Assam has a high demand of female labour and consequently, wages are higher for females as compare to males. Similarly, Sikkim, being a largely agrarian economy having most of its cultivable land under cardamom, tea and rice production, has higher female wages as compare to males..

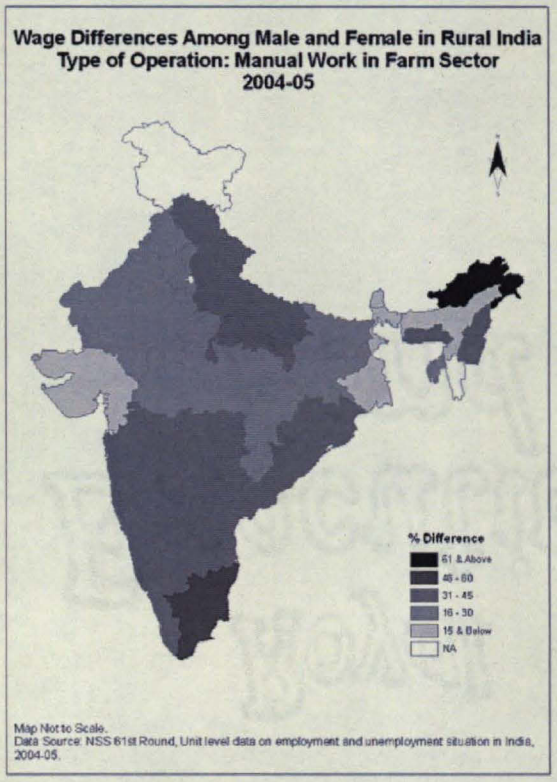
On the other hand, in Kerala, the most developed State managed as a democratic socialist welfare economy with 63.8% of its GSDP by service sector in 2002-03, has greater opportunity for females to get higher wages (as compared males) in rural non-manual type of work, with the exception of activities related to cultivation. With the advantage of better female literacy and out migration of skilled male workforce from Kerala provide opportunities for female. Consequently, wages are higher for females.

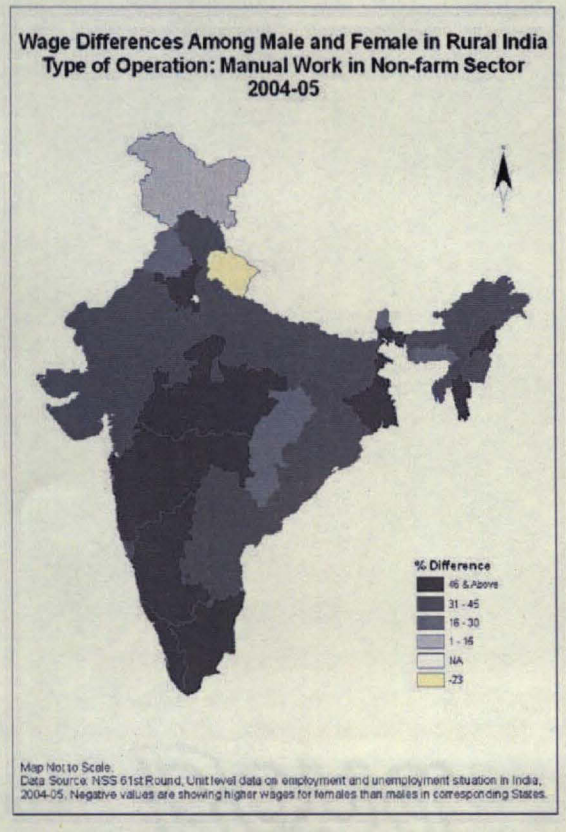
Interestingly, in Uttarakhand, of which 93% geographical area is mountainous and 64% is covered by forest, wages are higher for females as compare to males in rural non-farm sector for manual activities. There may be several reasons of it. The most probable reason is migration of a large chunk of male labour-force to urban areas of metros and other bigger cities get sufficient work and high wage rates; in this condition, female-labour can have a relatively better opportunity to get higher wages even in manual work in rural non-farm sector. The other reasons

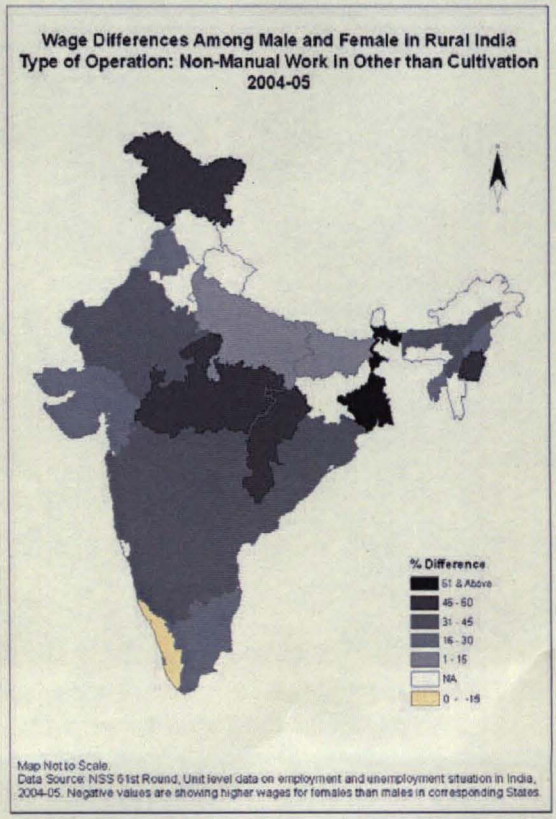
may be related to household decision-making, in which females are required to work in laborious rural non-farm activities to get supplemental income to meet family budget constraints. But to accept these statements, a sufficient work on wages and employment conditions in this region is required.

Figures (4.3 a, b, c & d)









Some of the States have very high level of disparity in wages among male and female in different rural manual operations. As figure 4.3 (a and b) shows that it is higher in Arunachal Pradesh, most of the southern States, States of Uttaranchal, Himachal, Uttar Pradesh, Nagaland, Meghalaya and Manipur in favour of males. Similarly for non-manual work in other than cultivation activities, wage differences are very high in favour of males as compare to males in States of West Bengal, J&K, MP, Chhattisgarh, Assam, Tripura and Nagaland.

To brush up the above discussion on spatial disparity, it is useful to compare level of disparity among different rural operations across genders with the help of Modified Sopher's index of disparity (table 4.9).

Table (4 .9) - Gender Disparity in Wage/Salary Earnings in Rural India, 2004-05

Operation	Value of Modified Sopher's Index (Rural India)	States/UTs (having higher disparity level than National)
Manual Work in Agriculture	0.224	Arunachal Pradesh (1.174), Nagaland (0.526), Manipur (0.346), Tamil Nadu (0.336), Pondicherry (0.307), HP (0.289), Goa (0.278), Kerala (0.273), Maharashtra (0.265), Andhra Pradesh (0.247), Uttaranchal (0.247) and Meghalaya (0.237).
Manual Work in Cultivation	0.226	Arunachal Pradesh (0.605), Nagaland (0.417), HP (0.352), Tamil Nadu (0.349), Manipur (0.337), Pondicherry (0.310), Kerala (0.293), Maharashtra (0.257), Goa (0.253), Andhra Pradesh (0.246), Uttaranchal (0.231) and Meghalaya (0.228).
Manual Work in Non-Agriculture	0.355	Arunachal Pradesh (1.437), Mizoram (0.816), Daman & Diu (0.606), Nagaland (0.586), Kerala (0.546), A & N Is (0.517), Manipur (0.502), Haryana (0.480), Chandigarh (0.428), Tamil Nadu (0.426), Karnataka (0.419), Goa (0.392), WB (0.390), Maharashtra (0.380), MP (0.358) and Pondicherry (0.357).
Non-Manual Work in Cultivation	0.353	Uttar Pradesh (0.849) and West Bengal (0.830)
Non-Manual Work in Other than Cultivation	0.393	Lakshadweep (1.089), West Bengal (0.798), J&K (0.786), Maharashtra (0.745), Punjab (0.690), Nagaland (0.639), Karnataka (0.489), Assam (0.460), MP (0.453), Chhattisgarh (0.446) and Rajasthan (0.431).

All positive values indicate that Male workers are in advantageous position and getting higher wage/salary earnings.

As table 4.9 shows, at National Level the gender disparity in wages is comparably higher in rural non-manual work in other than cultivation followed by manual work in non-farm sector, then in non-manual work in cultivation. The States mentioned in table 4.9 are those which have higher level of gender disparity than the national level. Manual work in farm sector has

comparatively lower level of gender disparity in wage. Some of the states show significantly high levels of gender disparity in almost all rural operations (except non-manual work in cultivation); such states are Arunachal Pradesh, Nagaland, Manipur, and Maharashtra. Some of the states having higher level of gender disparity even in wages for manual activities e.g. Tamil Nadu, Pondicherry, Goa, Kerala, Uttarnchal, and Meghalaya (including Arunachal Pradesh, Nagaland, Manipur and Maharashtra).

4.4 Summing Up

While analysing monthly per capita expenditure of the households, inequality can be looked into in two ways. First, there is a significant difference in MPCE among households engaged in farm and non-farm activities separately for all social groups. Second, it is also found that MPCE of farm and non-farm households differs significantly for all social groups and as a whole.

Rural workers have a relative advantage in working in the non-farm sector than in farm activities with respect to wage rates. Similarly, workers have high wages in non-manual works (whether in farm or non-farm sector) than in manual works. Also, in all operations, males get higher wages than their female counterparts. But it is noted that in some regions where nature of rural activities are such that requires excessive female labour, females are getting higher wages than their male counterpart. But, nature of an activity is not the only factor which affects distribution of wages among male and female. There would be some other reason for example migration of males to other places may create opportunities for females to earn more.

Spatial pattern of distribution of wages and salary earnings among males and females largely reflects the nature of the work available in a particular region. Female dominance in some States like Assam, Sikkim and Uttaranchal for manual work and Kerala for non-manual work illustrates it. Female wage rates are higher in cultivation activities in States of Sikkim and Assam.

Chapter 5

Determinants of Rural Non-farm Employment in India

Chapter 5

Determinants of Rural Non-farm Employment in India

5.1 Introduction

An analysis of the factors that promote the probability of a rural worker entering non-farm sector can, to some extent, enhance understanding about the structure and functioning of the rural labour markets. To understand the nature of rural employment in post-liberalization period, it is important to analyze the relative importance of pull and push factors in mobilization of rural workers in different economic activities. Up to now, it is clear from earlier analysis that the share of rural non-farm workers in total rural workers is increasing year by year. But merely positive growth of rural non-farm employment does not mean that it indicates sustainable transformation of rural employment structure in a manner that the quality of rural livelihood is not compromised. From the previous chapters, the trend and quality of rural employment in India during post-reform period has emerged clearly. Moreover, decline in growth and increasing labour burden in farm sector in the post reform period compels us to study the dynamics of rural non-farm employment in the same period.

The main purpose of the chapter is to test 'distress diversification of rural employment structure' against 'growth linkages (agricultural led diversification)' in rural non-farm economy.[1] The *strict* agricultural growth linkages lead a region with faster growing agricultural income to increase rural non-farm activities by investments in the sector, offering better options to the agricultural work-force. Growth of agricultural production along with rural non-farm activities results in a multiplier effect through various growth linkages with direct and induced impacts, consequently income of the workers increases. On the contrary, distress diversification hypothesis postulates that low performance of farm sector induces faster growth of rural non-farm employment, where 'push' factors become operative.

The present chapter examines major factors determining the participation of rural workers in non-farm sector during post-reform period in India. For this purpose, the relative impact of pull

[1] Prasada Rao, 2002, p.5. There are two kind of diversification in RNFS i.e. first, agricultural growth led diversification (by increasing productivity in agriculture), and second, agricultural led distress diversification (when returns decreases from the agricultural sector).

and push factors has been analyzed state wise during 2001. An analysis has been also carried out at individual level for 2004-05 with the help of NSS Data set to understand the conditions under which a worker joins the non-farm sector.

Percentage of rural non-farm workers to total rural workers has been taken as dependent variable from Census of India, 2001. In case of independent variables for regression analysis, most of the variables have been taken equivalent to the year of 2001 from various sources to make the dataset compatible with for regression analysis as it is not possible to get data for the same period for all variables.

5.2 Explanations for Variations in Rural non-farm Workforce to total Rural Workforce across States

In one of the earlier chapters, it is clearly observed that at the state level and also at the level of NSS regions, rural non-farm workers are better off compared to the agricultural workers in terms of wage-rates and related indicators. The starting point of this analysis, thus, is that a higher share of rural workers in the non-farm sector is indicative of a more conducive environment for the rural work force. The broad question that we attempt to answer here is whether such a condition is achieved through a growth-induced scenario or a distress driven condition. The high index of casualization in the sector leads one to believe that the conditions under which even the non-farm worker works is not such that pull factors would have worked significantly. An attempt to enhance our understanding on this issue has been made through a stepwise regression analysis, in which an attempt has been made to explain the variations of share of non-farm workers to total rural workforce.

Before explaining the results of regression analysis, first, we will examine table 5.1 to understand the relationship between all variables with rural non-farm employment.

Table 5.1 - Correlation of Rural Non-farm Employment with Explanatory Variables- 2001		
Indicators	Correlations	Sig. (2-tailed)
Agricultural Indicators		
Per Capita Agriculture-Livestock Income (Rs.)	0.03	0.86
Index Of Commercialization	-0.01	0.96
Irrigation Ratio (Gross irrigated area/gross cropped area)	0.06	0.75
Average Value Of Farm Business Equipments Of Rural Households	-0.04	0.85
Non-agricultural Indicators		
Level Of Urbanization	0.62 **	0
Rural Pop Density	0.72 **	0
Percentage Of Inhabited Villages Having Population More Than 1000	0.53 **	0
Road Length Per 100 Sq. Km	0.72 **	0
Rural Unemployment Rate	0.53 **	0
Percentage Of Rural Landless Households	0.73 **	0
Rural Dependency Ratio	-0.73 **	0
Rural Literacy Rates	0.62	0
Percentage Of Rural Households Taking Cash Loans	-0.29	0.09
Average Amount Of Cash Loans Per Household	-0.08	0.63
Average Value Of Non-Farm Business Equipments Of Rural Households	0.40 *	0.03
Average Rural Household Size	-0.56 **	0
Incidence Of Poverty Rural	-0.49 **	0
* *Correlation is significant at the 0.05 level (2-tailed).*		
** *Correlation is significant at the 0.01 level (2-tailed).*		

The relationship of percentage of rural landless households to total households and rural employment is considerably positive (table 5.1) betokening greater association of landless households in rural non-farm activities.

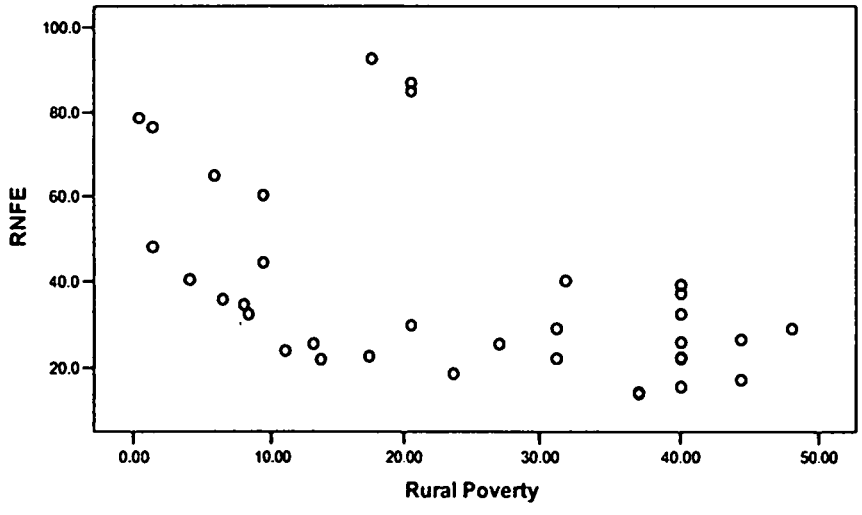
Rural non-farm employment also have a significant positive correlation with level of urbanization, rural density of population and percentage of village with population above 1000 pointing out on growth linkages with increasing demand and supply of goods and services. A significant relationship between rural non-farm employment and investment on non-farm business equipments in rural areas shows that states in which rural households have higher value of non-farm business equipments also have positive association with rural non-farm employment. Investment in non-farm business may enhance rural non-farm employment.

Rural Dependency Ratio has a significant negative correlation with non-farm employment showing that in rural areas with higher dependency, workers are less likely to engage in non-farm activities and they might work in rural farm sector as unpaid family labour.

A significant negative association between rural poverty and rural non-farm employment (RNFE) indicates that the states where poverty level is low also have high share of RNFE (table 5.1 & figure 5.1). It can be, therefore, stated that in post reform period non-farm employment helped to decrease level of rural poverty.

Figure 5.1 - Correlation Between Rural Poverty and RNFE

2001



The states which are having relatively higher unemployment rates also have higher share of rural non-farm employment to total rural employment (table 5.1 and figure 5.2).

Figure 5.2 - Correlation Between Rural Unemployment Rate and RNFE

2001

Figure 5.3 shows significant negative association of rural unemployment rate with level of poverty (-0.359, for further details see annexure 5.1). It shows that in states of high poverty the rural unemployment is low indicating that level of poverty pushes the labour to work more and more for sustainable livelihood.

Figure 5.3 - Correlation Between Rural Unemployment Rate and Rural Poverty 2001

From the above analysis it can be stated that unemployment rate, level of poverty with other factors significantly affect RNFE. Now, with the help of stepwise regression we will find out major determinants of RNFE. The table 5.2 and 5.3 summarizes the model-

Table 5.2- Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change
1	.719(a)	.517	.498	7.2794	.517
2	.783(b)	.613	.581	6.6518	.096
3	.841(c)	.708	.669	5.9067	.095

a Predictors: Rural Unemployment Rate
b Predictors: Rural Unemployment Rate, Incidence of Rural Poverty
c Predictors: Rural Unemployment Rate, Incidence of Rural Poverty and Average Amount of Cash Loans Per Rural Household

Table 5.3 - Coefficients(a)								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	21.04	2.03		10.38	0.00	16.86	25.21
	Rural Unemployment Rate	4.68	0.91	0.72	5.18	0.00	2.82	6.55
2	(Constant)	27.40	3.20		8.56	0.00	20.79	34.00
	V8	4.61	0.83	0.71	5.57	0.00	2.90	6.32
	Incidence of Rural Poverty	-0.22	0.09	-0.31	-2.44	0.02	-0.41	-0.03
3	(Constant)	37.58	4.69		8.01	0.00	27.87	47.29
	Rural Unemployment Rate	5.12	0.76	0.79	6.75	0.00	3.55	6.69
	Incidence of Rural Poverty	-0.44	0.11	-0.61	-3.87	0.00	-0.67	-0.20
	Average Amount of Cash Loans Per Rural Household	0.00	0.00	-0.44	-2.73	0.01	0.00	0.00
a- Dependent Variable: Percentage of Rural Non-farm Workers to Total Rural Workers								

A positive and significant coefficient of unemployment rates in rural areas indicates that higher rates of unemployment in rural areas force labour to push towards non-farm sector. A negative and significant value of poverty, however, shows that low poverty levels are necessary to promote opportunities in the non-farm sector. But in some states, as shown by the figure 5.1, higher levels of poverty exist with high RNFE indicating a mixed pattern of association. In this case, extremity of rural poverty pushes labour to work in non-farm sector for sustainable earnings and results in high level of rural non-farm activities showing a distress diversification of rural employment. If states are extremely poor, effective demand may be so low that it prevents the development of rural non-farm sector rather than encouraging it. Cash loans per rural households have a negative and significant impact on RNFE, indicating that if cash loans are available for agriculture, workers are not pushed out into the non-farm sector. This supports the hypothesis that growth of RNFE in India is, at least in parts, distress driven.

Variables that indicated a positive agricultural scenario like per capita agriculture-livestock income (Rs.), index of commercialization, irrigation ratio (gross irrigated area/gross cropped area) and average value of farm business equipments of rural households, show insignificant correlation with extent of rural non-farm employment. In our regression analysis, the three above-mentioned variables explain the variations in dependent variable (% of rural non-farm workers to total rural workers) up to 70 % (Table 5.2). Prevailing rural unemployment alone explains it up to 50%. Other explanatory variables were excluded from the optimum regression equation.

5.3 Analysis of Individual Level Data

Finer results on factors determining participation of a worker in rural non-farm sector can be elaborated with the help of binary logistic regression model. Engagement of a rural worker in non-farm sector depends upon various factors, which can be determined with the help of some categorical explanatory variables[2]. In table 5.4 below, estimates from NSS 61st round individual data are summarized as follow-

- In India, rural non-farm workers are more likely to work in urban areas than in rural showing how urbanization is providing employment for rural workers in rural non-farm employment during recent times. It also intensifies the fact that urban areas hinterlands create demand for relatively cheaper non-farm products and services from rural areas.
- In India, rural workers with higher level of educational attainments are more likely to work in non-farm sector as compare to illiterate and less educated workers. Similarly, rural workers with technical education have more opportunities to work in non-farm sector.
- Rural workers who belong to low MPCE class households, have greater probability to work in non-farm sector than those belong to higher MPCE class households. Here, it is necessary to recall that MPCE is an equivalent measure of income of the rural households and therefore an indicator of level of prosperity of the rural households. Poor or Less prosperous rural households are more likely to work in rural non-farm sector than prosperous households.
- Rural workers belonging to landless or marginal landowner families are more likely to be engaged in non-farm activities than bigger landowner families. Since they have no land, they are pushed to non-farm sector. This fact somewhat reflects distress growth of rural non-farm employment in India.
- Rural Households with smaller size are more likely to work in non-farm sector. Probability of working in non-farm sector for a rural household decreases with increasing size of rural households. It may be due to the fact that rural families with bigger size occupy a large proportion of agricultural land in India due to a relative dominance of various socio-economic and cultural factors.

[2] As described in methodology section of the Chapter 1st and also mentioned in table 5.3 below.

Table 5.4 - Binary Logistic Regression Estimates			
Variables in the Equation (Rural Workers belongs to)	Estimates		
	B	Sig.	Exp(B)
MPCE Rs. 299.99 & Below (RC)*			
MPCE Rs. 300 – 599.99	-0.23	0.00 **	0.79
MPCE Rs. 600 – 899.99	-0.52	0.00 **	0.60
MPCE Rs. 900 – 1199.99	-0.73	0.00 **	0.48
MPCE Rs. 1200 & Above	-0.71	0.00 **	0.49
Age 5-14 (RC)			
Age 15-29	1.30	0.00 **	3.66
Age 30-59	1.42	0.00 **	4.12
Age 60+	0.95	0.00 **	2.58
Landless Households (0 - .999 Hec) (RC)			
Marginal Land Owner Households (1 - 1.999 Hec)	-0.65	0.00 **	0.52
Small Land Owner Households (2 - 3.99 Hec)	-0.93	0.00 **	0.39
Semi-Large Land Owner Households (4 - 9.99 Hec)	-1.43	0.00 **	0.24
Large Land Owner Households (10 Hec & Above)	-2.02	0.00 **	0.13
General Education: No (Illiterate) (RC)			
General Education: Up to Primary	0.91	0.00 **	2.48
General Education: Middle to Higher Secondary	1.53	0.00 **	4.62
General Education: Graduate & Above	2.76	0.00 **	15.82
Technical Education: No (RC)			
Technical Education: Yes	0.87	0.00 **	2.39
Social Group: ST (RC)			
Social Group: SC	0.01	0.80	1.01
Social Group: Other than ST-SC	-0.19	0.00 **	0.83
Location of Work: Rural (RC)			
Location of Work: Urban	1.60	0.00 **	4.95
Location of Work: Not Fixed	-0.322	0.00 **	0.72
Household Size: 1-5 Persons (RC)			
Household Size: 6-10 Persons	-0.13	0.00 **	0.88
Household Size: 11 & Above	-0.08	0.21	0.92

Dependent Variable: Whether a person works in non-farm sector or not (1 if working and 0 if not working)
*** Significant at 0.01 level*
** RC – Reference Category*
B – estimates the probability of occurring of a categorical variables as first category has been taken for reference.
Exp(b) – labels for the odds ratio of the row independent with the dependent (non- farm sector). It is the predicted change in odds or likelihood ratio for a unit increase in the corresponding independent variable. Odds ratios less than 1 correspond to decreases and odds ratios more than 1.0 correspond to increases in odds. Odds oratios close to 1.0 indicate that unit changes in that independent variable do not affect the dependent variable.

- Scheduled groups dominate rural non-farm sector in terms of share in total rural non-farm employment. It is also noted that rural workers who belong to non-scheduled groups are less likely to work in non-farm sector than ST-SCs. If we recall from chapter 4, MPCE of

scheduled households is significantly lower than that of non-scheduled households in rural non-farm sector indicating that workers belongs to scheduled groups are engaged in low grade activities.

- Finally, working age groups (15-59) have largest share in rural non-farm employment.

5.4 Summing up

From state level and individual data analysis, an attempt has been made to understand whether RNFE is distress driven or growth driven in India. We get mixed results in favour of both processes, and are tempted to conclude that both processes operate in the country. It may be due to the fact that in India where large variations in geographical conditions are prevailing, all states do not necessarily fall into the same pattern as shown by overall general picture.

Significant and positive correlation of RNFE with rural unemployment indicates a distress-induced growth. During 2004-05, the share of rural workers who quit their work from farm sector due to its non-remunerative nature was 53.9 % in total unemployment on the basis of weekly status. On the other hand, the corresponding figure for non-farm sector was only 38 % . Similar implications hold given the dependent variable's relationship with availability of cash loans in rural household. Moreover, insignificant correlation of rural non-farm employment with all included agricultural variables strengthen the statement that growth of rural non-farm employment in recent times is distressed led.

On the other hand, a negative significant association of rural poverty with RNFE shows that states with high level of poverty have low share of RNFE in total rural workforce. In other words, states, which show high share of RNFE, have low incidence of poverty indicating that states with high share of RNFE in total workforce are more prosperous than those have higher share of their workforce in agricultural sector.

Also, while poor performance of agricultural sector pushes the labourforce into other sectors, the process of urbanization works as a pull factor on the other hand absorbing rural labourforce. Therefore, RNFE is partially distress driven and partially demand driven.

At the same time, a significant association of non-farm employment with increasing population pressure (in terms of density of population and number of inhabited villages with population size more than 100) and process of urbanization strenthens the growth-linkage hypothesis of the rural non-farm economy. On the other hand, RNFE holds opportunities for those pushed out of

agriculture. These indications, coupled by the fact the non-farm sector offers significantly higher wage rates compared to the farm sector, indicates that future promotion of RNF sector by the government could have beneficial impact on the rural livelihoods.

Chapter 6

Summary and Conclusions

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In post-economic reform period, overall rural employment growth decelerated especially in farm sector, which experienced a negative growth. This negative growth in farm sector was sharper among males than females. However, participation of rural females in total rural workforce has been increasing since the initiation of economic-reform period. It is a positive sign for Indian rural economy due to the fact that when economic development takes place female labour supply increases. During 1990s, growth of non-farm employment was positive almost in all its sub-sectors except in trade and commerce where it went through a deceleration whereas for males it was even negative. Growth of rural employment in construction, household manufacturing and transport, storage and communication activities is a major phenomenon of post economic reform period.

Punjab, Haryana, Bihar, Rajasthan, Gujarat, Uttar Pradesh, Himachal Pradesh, West Bengal, Tripura, Assam and Nagaland are the states experienced accelerated growth of rural non-farm employment during post reform period.

In post-reform period, it has been observed that overall males are dominating in all production sectors. On some extent, rural household manufacturing and farm sectors favours female employment. But in post economic reform period, opportunities to work in different sectors for females have taken place. Post-reform period shows a process of restructuring of rural non-farm employment as rural workers are working more and more in selected sectors like household manufacturing, construction, transport, storage and communication and other rural services.

From the analysis it is firmly accepted that rural non-farm workers are highly concentrated in some regions, which are either geographically extreme (where geographical conditions are such that do not favour agricultural activities) or industrially developed due to the availability of proper resource base. Regional analysis shows that rural non-farm workers are concentrated in Mostly Western coastal regions of India, Himalayan mountainous region, hilly regions of southern India, Areas near to wildlife sanctuaries, Hilly areas near to Aravali, districts

Indian desert (Mostly Jaisalmer), Hilly areas of northeastern states and some industrial regions like Madurai-Coimbatore-Bangalore belt, Chhota Nagapur belt, Ganga-Yamuna Belt and Hugli belt.

The liberalization period shows a clear picture of increasing casualization of workforce in both the farm and non-farm sector of the rural economy in India. Casual labour dominates Construction, Mining & Quarrying, and farm sectors. Illiteracy among rural workforce in non-farm sector and incidence of poverty in rural areas have a high association with quality of rural workforce measured in terms of casualization of employment. But at the same time it is noted that the share of rural non-farm employment is increasing in post-liberalization period. It may be a good sign for the rural poor who are not getting sufficient wages in farm sector. Since the results from present study largely favours the distress pushed diversification of rural economy, farm sector in alone is not able to absorb the rural labour force. In these conditions, if the rural labour is working as casual labour in non-farm sector may be a positive sign in the sense that at least they are getting work for their livelihood in post-economic reform period where skilled, well educated and well trained workforce is gradually replacing rural unskilled, less educated and untrained workforce.

In post-reform period, higher level of casualization co-exists with some economically poor state e.g. southern regions of Uttar Pradesh and Rajasthan shows very high level of casualization followed by Jharkhand, Hilly Region of Assam, Tripura, Southern Orissa, Saurashtra region of Gujarat State, Himalayan region of West Bengal , Northern Madhya Pradesh and Eastern Plains of Assam. On the contrary, some of the northeastern states, most of the UTs, mountainous regions of J&K, Central MP and coastal Maharashtra show very low level of casualization in rural non-farm employment.

While analysing monthly per capita expenditure of the households, inequality can be observed in two ways. First, there is a significant difference in MPCE among households engaged in farm and non-farm activities separately for all social groups. Second, it is also found that MPCE of farm and non-farm households differs significantly for all social groups and as a whole. Rural non-farm households enjoy higher level of monthly expenditure as compared to farm households. Both in rural farm and non-farm households, Scheduled group households have lower level of expenditure as compared to non-scheduled group households. Except these

inequalities, post-economic reform period also shows disparity in household expenditure among and within rural farm and non-farm households.

Rural workers have a relative advantage in working in the non-farm sector than in farm activities with respect to wage rates. Similarly, workers have high wages in non-manual works (whether in farm or non-farm sector) than in manual works. Also, in all operations, males get higher wages than their female counterparts. But it is noted that in some regions where nature of rural activities are such that requires excessive female labour, females are getting higher wages than their male counterpart. But, nature of an activity is not the only factor which affects distribution of wages among male and female. There would be some other reason for example migration of males to other places may create opportunities for females to earn more.

Spatial pattern of distribution of wages and salary earnings among males and females largely reflects the nature of the work available in a particular region. Female dominance in some States like Assam, Sikkim and Uttaranchal for manual work and Kerala for non-manual work illustrates it. Female wage rates are higher in cultivation activities in States of Sikkim and Assam. During post-economic reform period, migration of rural male workers in urban areas from some regions has been come up as a major factor affecting participation of rural females in non-farm sector and higher participation of female workers in non-farm sector in turn, affecting wage rates in favour of females e.g. in Assam and Uttaranchal.

From state level and individual data analysis, an attempt has been made to understand whether RNFE is distress driven or growth driven in India. We get mixed results in favour of both processes, and are tempted to conclude that both processes operate in the country. It may be due to the fact that in India where large variations in geographical conditions are prevailing, all states do not necessarily fall into the same pattern as shown by overall general picture.

Significant and positive correlation of RNFE with rural unemployment indicates a distress-induced growth. Similar implications hold given the dependent variable's relationship with availability of cash loans in rural household. Moreover, insignificant correlation of rural non-farm employment with all included agricultural variables strengthen the statement that growth of rural non-farm employment in recent times is distressed led.

On the other hand, a negative significant association of rural poverty with RNFE shows that states with high level of poverty have low share of RNFE in total rural workforce. In other words, states, which show high share of RNFE, have low incidence of poverty indicating that

states with high share of RNFE in total workforce are more prosperous than those have higher share of their workforce in agricultural sector.

Also, while poor performance of agricultural sector pushes the labourforce into other sectors, the process of urbanization works as a pull factor on the other hand absorbing rural labourforce. Therefore, RNFE is partially distress driven and partially demand driven.

At the same time, a significant association of non-farm employment with increasing population pressure (in terms of density of population and number of inhabited villages with population size more than 100) and process of urbanization strenthens the growth-linkage hypothesis of the rural non-farm economy. On the other hand, RNFE holds opportunities for those pushed out of agriculture. These indications, coupled by the fact the non-farm sector offers significantly higher wage rates compared to the farm sector, indicates that future promotion of RNF sector by the government could have beneficial impact on the rural livelihoods.

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Annexure

A 2.1 - Compound Annual Growth Rates of Rural Employment in Different Sectors and Sub-sectors (Main Workers)

State/UT	Total Rural Sector						Farm Sector						Non-farm sector					
	Persons		Male		Female		Persons		Males		Females		Persons		Males		Females	
	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Andman & Nicobar	3.8	1.2	3.2	0.9	10.2	3.7	2.8	-1.1	2.3	-1.6	8.3	2.7	4.7	2.8	4.1	2.6	11.5	4.3
Andhra Pradesh	2.0	0.0	1.4	0.2	3.2	-0.4	2.0	-0.9	1.2	-0.7	3.2	-1.2	2.2	3.4	2.0	3.0	2.8	4.3
Arunachal Pradesh	1.7	-0.3	1.8	-0.3	1.6	-0.3	1.0	-0.3	0.8	0.1	1.2	-0.7	4.0	-0.4	3.5	-1.0	8.3	3.8
Assam	NA	-0.3	NA	-0.1	NA	-1.2	NA	-2.2	NA	-1.9	NA	-3.1	NA	5.4	NA	4.8	NA	9.3
Bihar	2.1	0.6	2.0	0.4	2.9	1.6	2.2	-0.3	2.0	-0.5	3.1	0.8	1.4	5.7	1.4	5.2	0.5	10.4
Chandigarh	10.3	3.4	10.1	3.0	13.5	9.7	5.3	-2.7	5.0	-5.4	13.0	13.5	11.3	4.1	11.2	3.8	13.5	8.7
D & N Haveli	3.5	2.9	2.9	3.8	4.7	1.3	3.3	-0.9	2.2	-1.8	4.9	0.1	4.1	10.3	4.4	10.3	2.7	10.2
Delhi	7.8	0.3	8.0	-0.2	5.2	4.7	0.9	-2.4	1.0	-4.6	0.5	9.0	10.1	0.7	10.4	0.5	7.0	3.3
Gujarat	2.2	1.2	1.7	0.8	4.2	2.2	2.0	0.4	1.2	0.0	4.3	1.3	3.5	3.9	3.5	3.1	3.2	9.3
Haryana	2.3	2.3	2.1	0.6	4.9	11.3	2.0	1.4	1.6	-0.9	5.0	11.0	3.4	4.4	3.4	3.8	3.9	12.6
Himachal Pradesh	1.8	0.7	1.7	0.0	2.2	2.3	1.3	-0.6	0.9	-2.2	2.0	1.8	3.6	3.9	3.5	3.5	5.0	8.1
J & K	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Karnataka	2.2	0.4	1.5	0.5	3.8	0.1	2.1	-0.4	1.2	-0.3	3.9	-0.6	2.6	3.9	2.6	3.6	2.8	4.9
Kerala	1.0	-0.3	1.2	-0.1	0.3	-1.0	0.6	-3.6	1.0	-3.5	-0.6	-4.3	1.4	2.9	1.4	3.1	1.5	2.2
Lakshadweep	2.0	1.8	2.5	1.8	-1.3	1.3	2.4	-0.6	1.6	-0.1	24.5	-9.2	1.8	2.5	2.9	2.5	-3.2	2.8
Madhya Pradesh	1.9	0.1	1.7	0.2	2.4	-0.2	1.9	-0.3	1.6	-0.2	2.5	-0.6	1.8	3.0	2.1	2.6	0.4	4.5
Maharashtra	2.1	0.2	1.5	0.6	3.1	-0.3	2.0	-0.2	1.2	0.2	3.1	-0.6	2.5	2.1	2.5	1.9	2.6	3.4
Manipur	2.1	-1.1	2.2	0.4	1.9	-3.4	2.0	-3.1	1.5	-1.8	2.6	-4.9	2.2	4.0	4.3	4.8	-0.9	2.0
Meghalaya	2.0	0.3	2.0	0.7	1.9	-0.4	1.5	-0.6	1.4	-0.3	1.5	-1.2	5.8	4.5	5.5	4.2	7.1	5.5
Mizoram	0.2	1.8	0.0	1.9	0.6	1.5	0.1	1.8	-0.1	2.3	0.4	1.3	0.9	1.3	0.4	0.7	4.2	4.7
Nagaland	3.1	3.2	3.0	3.7	3.2	2.6	3.4	2.3	3.9	2.8	3.0	1.8	1.5	7.1	0.8	6.2	6.9	11.9
Orissa	1.7	-1.3	1.4	-1.1	3.1	-2.3	1.5	-2.8	1.2	-2.5	3.3	-4.2	2.8	3.8	2.9	3.6	2.2	5.0
Pondicherry	1.7	0.5	1.0	0.5	4.0	0.3	1.6	-2.0	0.6	-2.3	4.1	-1.4	2.0	4.9	1.8	4.5	3.3	6.9
Punjab	1.9	1.9	1.9	0.0	4.0	22.1	1.5	0.5	1.5	-1.8	4.7	24.7	3.2	5.4	3.2	4.1	3.1	17.4
Rajasthan	2.7	2.2	2.0	1.2	6.0	5.4	2.7	1.4	1.7	-0.1	6.4	5.1	3.0	5.8	3.1	5.4	1.3	9.8
Sikkim	1.8	2.4	2.2	2.8	1.0	1.7	1.6	0.4	2.4	0.2	0.5	0.6	2.3	6.8	1.8	6.9	4.3	6.4
Tamil Nadu	1.7	-1.5	1.2	-1.7	2.6	-1.0	1.5	-2.7	0.9	-3.1	2.4	-2.1	2.5	2.2	2.1	1.6	4.1	4.1
Tripura	1.7	0.8	1.3	0.6	3.9	1.7	1.7	-1.1	1.3	-1.4	3.9	0.1	3.7	4.7	3.6	4.3	4.0	7.1
Uttar Pradesh	2.3	-0.3	1.9	-0.5	5.6	1.1	2.1	-1.2	1.7	-1.5	5.7	0.0	3.6	3.8	3.5	3.4	4.3	8.8
West Bengal	3.0	0.6	2.6	0.4	5.6	2.0	2.4	-1.4	2.1	-1.5	5.0	-0.9	4.8	4.9	4.4	4.5	7.7	7.3
Goa, Daman & Diu	1.0	0.3	1.0	1.1	1.1	-1.9	-0.3	-5.7	-0.5	-5.3	0.1	-6.4	2.0	3.2	1.9	3.5	2.7	1.9
India	2.3	0.3	2.0	0.2	3.5	0.7	2.2	-0.7	1.7	-0.9	3.6	-0.1	3.0	4.0	3.0	3.6	3.1	5.9

Contd.

Contd. A 2.1 - Compound Annual Growth Rates of Rural Employment in Different Sectors and Sub-sectors (Main Workers)

State/UT	Household Manufacturing Sector						Non-HH Manu. Sector						Total Manufacturing Sector					
	Persons		Males		Females		Persons		Males		Females		Persons		Males		Females	
	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001
	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Andman & Nicobar	11.0	-0.9	11.0	-0.2	11.2	-3.8	-1.3	4.1	-1.5	3.6	7.4	12.7	3.6	1.6	2.8	1.9	10.7	-0.1
Andhra Pradesh	-1.3	3.2	-3.4	1.5	1.9	4.9	2.7	2.8	2.5	2.5	3.7	4.1	0.4	3.0	-0.5	2.1	2.4	4.7
Arunachal Pradesh	-1.3	18.1	-2.8	16.2	3.7	21.6	5.6	2.6	6.2	2.1	1.2	6.7	4.9	4.7	5.3	3.6	1.7	11.8
Assam	NA	11.9	NA	13.7	NA	9.9	NA	6.2	NA	5.6	NA	11.2	NA	8.1	NA	7.5	NA	10.3
Bihar	-1.6	9.7	-1.9	8.5	-0.3	13.6	-4.2	10.3	-4.1	10.1	-4.4	11.7	-2.8	10.0	-3.0	9.3	-1.6	13.2
Chandigarh	-4.3	21.2	-4.7	18.9	5.2	38.4	8.1	5.6	8.4	5.2	-2.7	17.5	7.8	6.0	8.1	5.5	-2.5	19.5
D & N Haveli	-7.5	15.6	-7.3	12.6	-8.3	22.5	15.2	12.5	15.1	12.5	17.0	11.7	13.5	12.6	13.7	12.5	11.2	12.7
Delhi	8.3	0.0	8.5	-1.7	5.5	10.9	9.0	1.7	9.8	1.9	2.2	-2.2	8.9	1.6	9.7	1.7	2.4	-0.3
Gujarat	-2.6	3.1	-3.2	2.7	0.1	4.6	5.7	1.8	5.8	1.6	3.8	4.8	3.7	2.0	3.8	1.8	2.0	4.7
Haryana	-4.6	7.1	-4.7	4.6	-2.6	21.1	1.6	7.9	1.3	7.2	5.6	14.2	-0.1	7.7	-0.3	6.7	3.1	16.1
Himachal Pradesh	-0.5	2.7	-0.9	2.1	2.2	6.1	3.2	3.9	3.2	3.7	3.9	5.3	1.9	3.5	1.8	3.3	3.1	5.7
J & K	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Karnataka	-5.5	8.8	-3.6	4.2	-8.8	15.6	4.0	0.5	1.3	2.8	10.0	-3.7	0.1	3.6	-0.6	3.3	1.4	4.1
Kerala	-3.4	2.7	-3.5	4.7	-3.3	0.6	0.0	1.6	-0.8	1.6	1.8	1.7	-0.8	1.9	-1.2	2.1	0.0	1.4
Lakshadweep	-15.2	-10.8	-10.2	-12.6	-30.4	1.7	-3.5	8.8	-5.8	10.9	5.2	2.9	-9.9	4.7	-8.1	5.2	-14.2	2.8
Madhya Pradesh	-1.9	3.3	-2.5	3.1	-0.8	3.6	3.7	1.5	3.4	2.0	5.4	-1.3	0.2	2.5	0.1	2.5	0.6	2.5
Maharashtra	-2.0	3.4	-2.3	2.7	-1.4	4.8	2.9	0.8	2.7	1.0	4.7	-0.3	1.3	1.6	1.3	1.4	1.3	2.4
Manipur	-2.7	-0.6	0.7	9.7	-3.1	-3.4	4.1	8.6	3.2	8.7	6.5	8.3	-1.7	1.9	2.0	9.1	-2.6	-1.9
Meghalaya	-4.7	16.4	-3.5	15.0	-5.9	17.9	4.1	9.7	4.9	9.3	0.6	11.8	0.3	12.2	2.2	10.8	-3.8	15.7
Mizoram	-0.5	8.0	1.6	6.8	-5.8	11.4	-5.1	15.3	-4.3	14.6	-11.9	22.7	-2.5	11.3	-1.3	10.7	-7.1	14.0
Nagaland	7.2	20.6	4.7	22.5	9.6	19.0	2.5	12.1	2.2	11.9	5.2	13.6	3.5	15.0	2.5	14.2	7.8	17.4
Orissa	1.5	1.7	1.2	0.8	2.4	3.5	1.2	5.4	1.4	5.6	-0.3	4.3	1.4	3.3	1.3	3.2	1.8	3.7
Pondicherry	-11.8	16.4	-11.5	13.3	-12.8	22.4	0.9	6.4	0.7	5.1	5.1	16.6	-0.4	7.1	-0.3	5.6	-1.4	17.8
Punjab	-4.6	11.1	-5.0	6.8	-1.2	27.3	2.7	6.5	2.8	5.2	1.0	21.2	0.9	7.4	0.9	5.5	0.2	23.6
Rajasthan	-2.4	5.6	-2.9	4.3	0.5	10.6	1.8	8.2	2.0	7.9	-1.3	12.3	-0.2	7.2	-0.2	6.6	-0.2	11.2
Sikkim	-0.5	11.7	0.4	10.7	-4.2	15.8	9.5	8.2	9.3	9.1	10.5	3.9	6.5	9.0	6.6	9.4	6.0	6.8
Tamil Nadu	-0.5	3.2	-2.1	1.4	1.7	4.9	2.4	2.2	1.9	1.4	4.5	4.7	1.2	2.6	0.6	1.4	2.9	4.8
Tripura	2.3	6.6	1.5	5.6	4.2	8.4	-0.4	6.1	-0.1	6.0	-2.7	7.1	0.4	6.3	0.3	5.9	0.9	7.9
Uttar Pradesh	-2.2	8.8	-2.7	8.0	1.1	12.1	3.0	4.2	2.8	4.1	6.3	4.4	0.6	6.2	0.4	5.7	2.9	9.6
West Bengal	4.8	5.4	2.6	3.6	10.0	7.8	4.2	3.7	3.8	3.7	6.5	3.9	4.4	4.4	3.4	3.6	8.6	6.5
Goa, Daman & Diu	-3.1	-0.5	-3.2	-1.0	-2.9	0.9	3.4	5.7	3.2	6.2	4.6	3.2	2.0	5.0	2.0	5.4	2.2	2.8
India	-1.2	5.6	-2.1	4.7	0.8	7.2	2.7	3.6	2.4	3.6	4.4	3.3	1.0	4.4	0.7	4.0	2.2	5.7

Contd.

Contd. Annexure 2.1 - Compound Annual Growth Rates of Rural Employment in Different Sectors and Sub-sectors (Main Workers)

State/UT	Mining and Quarrying						Construction						Trade and Commerce					
	Persons		Males		Females		Persons		Males		Females		Persons		Males		Females	
	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001
	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55
Andman & Nicobar	7.5	8.2	3.5	9.5	30.8	5.2	2.7	-0.8	2.2	-21.4	24.8	25.7	6.4	0.9	5.9	-15.9	17.9	6.3
Andhra Pradesh	10.8	2.8	10.5	1.9	11.8	5.6	1.4	8.8	1.5	-7.4	0.7	46.3	2.7	0.0	2.8	-13.0	2.2	-2.1
Arunachal Pradesh	30.9	-0.4	30.8	-0.7	0.0	28.2	-0.1	-2.2	-0.3	-14.3	2.6	14.6	4.6	-3.6	4.2	-18.1	10.4	2.7
Assam	NA	0.6	NA	0.3	NA	6.8	NA	9.1	NA	-18.3	NA	85.3	NA	4.0	NA	-21.8	NA	14.8
Bihar	-0.9	0.8	-0.5	0.6	-4.3	4.1	1.0	12.8	0.8	-16.7	5.5	67.3	1.5	5.8	1.6	-19.7	-0.4	9.9
Chandigarh	14.9	30.9	14.9	30.9	0.0	0.0	25.5	0.3	25.5	-34.4	29.4	50.9	18.1	3.8	18.0	-23.2	24.4	23.8
D & N Haveli	58.6	17.9	53.2	20.4	0.0	9.0	-9.4	5.3	-9.8	-5.4	-6.7	22.8	8.8	0.3	9.1	-17.4	5.5	17.6
Delhi	1.3	-8.2	1.1	-6.9	1.8	-15.1	17.0	0.1	18.0	-22.3	7.5	40.2	18.2	0.2	18.2	-25.3	17.3	11.6
Gujarat	3.6	5.6	3.8	5.8	2.9	4.7	3.1	8.9	3.9	-11.1	-3.6	55.9	3.1	3.3	3.1	-9.9	3.5	5.4
Haryana	2.0	21.0	2.5	20.2	-4.6	31.2	2.4	8.5	2.5	-16.7	0.4	54.7	2.6	5.0	2.7	-21.8	-0.1	20.8
Himachal Pradesh	2.2	1.8	2.2	1.7	1.5	5.9	0.7	0.5	0.9	-23.9	-3.7	36.7	3.8	2.1	3.7	-23.7	8.6	23.2
J & K	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Karnataka	6.4	1.6	7.0	1.2	4.8	2.7	2.0	7.0	2.7	-13.0	-3.9	46.1	4.3	-0.4	4.4	-15.1	3.8	4.7
Kerala	3.1	-0.4	2.1	-0.5	11.1	-0.2	3.4	9.1	3.6	-16.9	-0.1	51.9	1.9	-0.5	1.8	-22.4	3.2	12.0
Lakshadweep	NA	0.0	NA	0.0	0.0	0.0	18.3	-1.7	18.2	-33.9	25.2	29.3	4.8	-3.5	4.3	-22.9	12.0	14.0
Madhya Pradesh	0.5	1.2	1.0	0.7	-2.3	3.8	-1.8	4.5	0.2	-13.4	-11.6	42.0	3.2	1.5	3.5	-18.7	0.6	5.0
Maharashtra	2.4	3.6	1.7	3.6	5.7	3.5	-0.3	3.1	1.3	-12.6	-8.0	37.2	4.2	-0.5	4.1	-18.2	5.4	3.6
Manipur	5.8	14.5	5.0	15.5	9.3	9.6	2.2	1.5	1.8	-22.0	7.8	42.7	4.5	-0.1	7.3	-1.2	1.1	-7.7
Meghalaya	0.8	3.8	0.7	3.5	1.4	5.1	3.4	5.2	2.0	-15.1	14.5	35.4	9.9	-2.4	8.5	-4.6	12.9	-5.1
Mizoram	-3.2	17.3	-2.6	13.2	NA	0.0	-3.6	-4.5	-3.7	-28.0	4.7	48.7	2.2	-4.0	0.2	3.5	4.6	-7.3
Nagaland	0.3	14.4	0.5	14.3	-2.5	14.9	7.1	4.9	6.5	-15.0	25.4	38.5	5.8	3.1	5.1	-6.9	13.1	2.9
Orissa	3.1	3.3	4.0	3.6	0.5	2.3	-2.1	18.4	-1.1	-1.0	-9.9	61.9	4.9	1.2	5.3	-20.9	2.0	5.0
Pondicherry	21.5	16.3	21.3	15.3	0.0	43.5	-2.9	13.3	-2.5	-10.3	-8.1	61.0	2.5	-2.4	2.1	-14.4	4.6	-3.3
Punjab	-2.0	10.8	-1.9	10.2	-19.7	51.8	3.8	10.4	4.0	-23.4	-3.0	73.4	2.2	4.0	2.1	-17.5	10.0	13.7
Rajasthan	3.8	4.5	4.3	4.9	0.6	0.6	4.0	11.2	4.7	-12.2	-3.9	52.7	3.9	4.6	4.0	-20.4	1.5	22.6
Sikkim	6.8	10.1	6.1	5.9	27.7	29.6	0.4	-1.5	1.0	-14.9	-2.1	13.7	7.7	1.1	7.3	-8.1	10.3	3.4
Tamil Nadu	3.2	7.7	3.4	7.1	2.4	9.7	2.9	6.1	3.3	-13.2	-0.5	42.8	1.5	-2.4	1.6	-17.5	1.0	3.5
Tripura	4.2	4.4	3.5	3.2	16.9	13.3	-1.5	13.4	-1.5	-12.5	-0.5	66.0	4.0	3.0	4.0	-22.1	3.5	16.5
Uttar Pradesh	6.2	8.5	6.0	8.0	8.7	13.2	5.6	9.3	5.5	-22.8	7.0	62.5	6.6	2.9	6.5	-22.4	8.7	7.3
West Bengal	-3.0	1.1	-2.9	0.6	-4.5	6.5	7.3	10.4	7.5	-21.9	2.6	79.0	6.5	3.6	6.4	-21.5	7.7	10.1
Goa, Daman & Diu	-1.5	-1.3	-2.2	-0.6	1.2	-4.2	2.5	1.2	2.8	-15.8	0.2	29.2	4.2	-4.4	4.4	-13.5	3.5	6.0
India	2.7	2.9	2.7	2.6	2.8	4.3	2.5	8.4	3.1	-14.3	-4.0	52.0	4.0	2.0	4.1	-18.1	3.3	5.9

Contd.

Contd. A 2.1 - Compound Annual Growth Rates of Rural Employment in Different Sectors and Sub-sectors (Main Workers)

State/UT	Transport, storage and communications						Other services					
	Persons		Males		Females		Persons		Males		Females	
	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001
	56	57	58	59	60	61	62	63	64	65	66	67
Andman & Nicobar	10.5	5.4	10.4	5.3	15.1	8.7	5.8	6.5	5.2	6.5	9.2	8.1
Andhra Pradesh	3.5	5.9	3.5	5.8	4.2	11.1	3.5	5.1	3.6	5.4	3.2	4.2
Arunachal Pradesh	12.3	-2.7	12.2	-2.8	16.4	1.8	5.1	-0.8	4.4	-1.1	11.7	1.2
Assam	NA	6.9	NA	6.9	NA	9.1	NA	6.0	NA	5.6	NA	8.4
Bihar	-1.0	9.1	-1.1	9.0	2.2	11.7	5.9	3.7	5.9	3.3	5.4	7.6
Chandigarh	14.3	0.3	14.3	0.2	14.9	16.5	6.3	8.6	5.2	8.8	18.7	7.0
D&N Haveli	14.4	9.5	13.9	9.8	20.6	5.9	1.5	13.2	1.5	14.1	1.7	9.6
Delhi	9.3	0.6	9.4	0.5	5.2	4.8	8.0	3.4	7.7	3.1	10.9	5.8
Gujarat	3.5	5.0	3.6	4.9	-3.3	10.5	3.3	7.1	2.9	6.6	5.6	9.3
Haryana	4.4	4.4	4.4	4.4	1.8	13.9	6.2	2.8	6.3	2.3	5.5	8.6
Himachal Pradesh	3.1	4.6	3.1	4.6	2.3	5.8	5.9	6.4	5.7	6.0	7.9	9.3
J & K	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Karnataka	3.0	7.5	3.4	7.4	-6.6	12.8	5.1	6.9	4.5	6.7	7.6	7.6
Kerala	2.7	5.8	3.0	6.0	-1.5	3.0	2.5	6.5	2.2	7.8	2.9	3.3
Lakshadweep	6.0	5.7	5.9	5.4	11.6	18.9	3.1	6.0	2.5	6.5	5.6	3.5
Madhya Pradesh	2.8	5.9	2.9	5.8	-1.2	11.0	4.4	4.5	4.3	3.9	5.2	8.5
Maharashtra	4.8	4.9	4.9	4.9	0.8	9.0	3.5	4.8	2.9	4.8	7.6	4.7
Manipur	5.9	7.9	5.6	8.1	20.9	3.3	4.6	5.6	4.5	4.9	5.7	9.3
Meghalaya	7.8	7.3	8.1	7.4	2.0	4.2	6.4	4.6	6.0	4.1	7.7	6.0
Mizoram	-5.3	14.2	-5.3	14.0	-5.0	17.1	1.8	1.0	1.4	0.4	5.5	4.4
Nagaland	4.7	10.2	4.5	10.3	12.7	9.4	0.4	6.5	-0.2	5.6	5.9	10.7
Orissa	2.9	6.4	2.9	6.4	5.9	9.2	3.4	4.0	3.2	3.6	4.6	6.6
Pondicherry	-0.2	12.2	-0.1	11.9	-14.0	38.6	4.8	5.2	4.8	5.3	5.0	5.1
Punjab	3.0	3.7	3.0	3.6	-1.6	18.4	5.4	5.5	5.5	4.2	4.3	13.9
Rajasthan	3.8	8.9	3.9	8.8	-5.9	21.4	4.8	5.3	4.9	5.1	4.7	7.2
Sikkim	13.7	8.0	13.6	7.9	18.4	9.5	0.7	10.4	-0.7	11.2	7.0	7.7
Tamil Nadu	4.5	2.8	4.5	2.7	5.2	6.7	5.0	4.0	4.0	4.5	8.3	2.8
Tripura	3.7	5.0	3.7	5.0	4.4	8.9	5.4	4.8	5.3	4.6	5.8	6.0
Uttar Pradesh	1.8	5.6	1.8	5.5	8.8	10.3	5.3	2.4	5.3	1.9	5.2	8.3
West Bengal	5.7	6.2	5.8	6.2	2.1	11.4	4.1	8.2	3.8	8.0	6.3	9.6
Goa, Daman & Diu	2.9	3.6	2.9	3.5	3.4	6.9	1.7	8.5	1.1	10.1	3.2	4.3
India	3.5	5.9	3.6	13.5	0.3	8.5	4.7	5.2	4.6	4.9	5.6	6.5

A 2.2a - Percentage Change in Distribution of Rural Non-farm Workers in Total Rural Workers Among Persons in India (Main Workers)						
States/Uts	1981	1991	2001	Change between 1981-1991	Change between 1991-2001	Change between 1981-2001
Andaman & Nicobar Islands	50.7	55.4	64.8	4.7	9.4	14.1
Andhra Pradesh	16.9	17.1	23.9	0.3	6.7	7.0
Arunachal Pradesh	20.9	26.1	25.9	5.1	-0.2	4.9
Assam	NA	18.6	32.5	NA	13.8	NA
Bihar+Jharkhand	12.6	11.7	19.2	-0.9	7.5	6.6
Chandigarh	78.6	86.5	92.6	7.9	6.2	14.0
Dadra & Nagar Haveli	22.6	24.1	48.0	1.4	24.0	25.4
Daman & Diu	NA	51.7	85.1	NA	33.4	NA
Delhi	67.2	83.0	87.0	15.8	4.0	19.8
Goa+Daman & Diu	53.5	59.2	78.1	5.7	18.9	24.6
Goa	NA	59.8	76.4	NA	16.6	NA
Gujarat	17.4	19.6	25.5	2.2	5.9	8.1
Haryana	23.6	26.2	32.4	2.6	6.2	8.8
Himachal Pradesh	21.5	25.5	34.6	4.0	9.2	13.1
India	16.6	17.7	25.5	1.1	7.8	8.9
Jammu & Kashmir	23.6	NA	40.4	NA	NA	16.8
Karnataka	15.4	16.1	22.6	0.7	6.5	7.3
Kerala	41.9	43.9	60.2	2.0	16.2	18.2
Lakshadweep	74.2	73.0	78.6	-1.2	5.6	4.4
MP+Chhattisgarh	10.8	10.7	14.3	-0.1	3.6	3.5
Maharashtra	14.8	15.5	18.7	0.7	3.2	3.9
Manipur	22.2	22.6	37.2	0.4	14.6	15.0
Meghalaya	10.1	14.6	22.1	4.5	7.5	12.0
Mizoram	15.3	16.3	15.6	1.0	-0.7	0.4
Nagaland	18.1	15.5	22.5	-2.7	7.0	4.3
Orissa	15.8	17.5	29.1	1.7	11.6	13.3
Pondicherry	28.1	28.9	44.4	0.8	15.5	16.3
Punjab	22.8	25.8	35.9	3.0	10.1	13.1
Rajasthan	15.2	15.6	21.9	0.3	6.4	6.7
Sikkim	24.6	25.8	39.3	1.3	13.4	14.7
Tamil Nadu	19.0	20.6	29.9	1.6	9.2	10.9
Tripura	22.0	26.8	39.1	4.8	12.3	17.1
Uttar Pradesh+Uttaranchal	13.2	14.9	22.5	1.7	7.6	9.3
West Bengal	22.2	26.5	40.2	4.2	13.7	17.9

A 2.2b - Percentage Change in Distribution of Rural Non-farm Workers in Total Rural Workers Among Males in India (Main Workers)						
State/UT	1981	1991	2001	Change between 1981-1991	Change between 1991-2001	Change between 1981-2001
Andman & Nicobar	50.4	54.5	64.5	4.1	10.0	14.2
Andhra Pradesh	19.7	20.9	27.5	1.3	6.6	7.9
Arunachal Pradesh	32.0	38.0	35.4	6.0	-2.6	3.4
Assam	NA	21.1	34.1	NA	13.0	NA
Bihar	13.6	12.9	20.6	-0.7	7.7	7.0
Chandigarh	78.5	86.7	94.3	8.2	7.6	15.8
Dadar & Nagar Haveli	28.9	33.3	61.4	4.4	28.1	32.5
Daman & Diu	NA	53.1	86.4	NA	33.4	NA
Delhi	67.2	83.3	89.3	16.1	6.0	22.1
Goa, Daman & Diu	58.8	64.4	81.5	5.5	17.1	22.6
Goa	NA	65.4	80.0	NA	14.6	NA
Gujarat	19.6	23.3	29.1	3.7	5.9	9.6
Haryana	24.4	27.7	38.0	3.3	10.2	13.5
Himachal Pradesh	27.9	33.2	46.6	5.3	13.4	18.7
India	**18.3**	**20.2**	**28.4**	**1.9**	**8.2**	**10.1**
J & K	24.1	NA	42.4	NA	NA	18.3
Karnataka	16.4	18.3	24.7	1.9	6.4	8.3
Kerala	43.0	44.0	60.3	1.0	16.3	17.3
Lakshadweep	69.4	71.9	76.7	2.5	4.7	7.3
Madhya Pradesh	12.7	13.3	16.9	0.6	3.6	4.2
Maharashtra	19.9	22.1	25.1	2.2	3.0	5.2
Manipur	22.2	27.1	41.5	4.9	14.4	19.3
Meghalaya	13.1	18.3	25.7	5.2	7.4	12.6
Mizoram	22.7	23.7	20.9	1.0	-2.8	-1.8
Nagaland	30.3	24.3	30.7	-5.9	6.3	0.4
Orissa	16.0	18.4	29.2	2.4	10.8	13.2
Pondicherry	31.4	34.1	50.2	2.7	16.1	18.8
Punjab	22.1	25.2	37.7	3.1	12.5	15.6
Rajasthan	16.7	18.6	28.2	1.9	9.6	11.5
Sikkim	32.5	31.4	46.4	-1.2	15.1	13.9
Tamil Nadu	22.5	24.6	34.4	2.1	9.8	11.9
Tripura	22.8	28.8	41.5	6.0	12.7	18.6
Uttar Pradesh	13.7	15.9	23.5	2.3	7.5	9.8
West Bengal	22.2	26.4	39.2	4.2	12.9	17.0

A 2.2c - Percentage Change in Distribution of Rural Non-farm Workers in Total Rural Workers Among Females in India (Main Workers)						
State/UT	1981	1991	2001	Change between 1981-1991	Change between 1991-2001	Change between 1981-2001
Andman & Nicobar	55.7	62.8	66.3	7.1	3.5	10.6
Andhra Pradesh	11.5	11.1	17.7	-0.4	6.6	6.1
Arunachal Pradesh	3.9	7.4	11.1	3.5	3.7	7.2
Assam	NA	9.2	25.2	NA	16.1	NA
Bihar	7.2	5.7	13.1	-1.5	7.4	5.9
Chandigarh	81.5	82.0	74.8	0.5	-7.3	-6.8
Dadar & Nagar Haveli	9.3	7.6	17.7	-1.7	10.1	8.4
Daman & Diu	NA	45.5	72.2	NA	26.6	NA
Delhi	67.2	79.4	69.2	12.1	-10.2	1.9
Goa, Daman & Diu	39.1	45.3	66.0	6.3	20.7	26.9
Goa	NA	45.3	65.4	NA	20.1	NA
Gujarat	8.6	7.8	15.3	-0.8	7.5	6.7
Haryana	14.5	13.2	14.8	-1.3	1.6	0.4
Himachal Pradesh	5.1	6.6	11.4	1.6	4.8	6.4
India	**10.9**	**10.4**	**17.3**	**-0.4**	**6.8**	**6.4**
J & K	19.2	NA	30.2	NA	NA	11.0
Karnataka	12.6	11.4	18.2	-1.2	6.7	5.5
Kerala	38.8	43.7	59.7	4.8	16.1	20.9
Lakshadweep	98.1	80.7	93.6	-17.4	12.9	-4.5
Madhya Pradesh	6.6	5.4	8.6	-1.2	3.2	2.0
Maharashtra	5.9	5.6	8.2	-0.3	2.6	2.3
Manipur	22.3	16.8	29.0	-5.4	12.2	6.7
Meghalaya	5.4	8.9	15.9	3.5	7.0	10.5
Mizoram	4.1	5.8	7.9	1.7	2.1	3.8
Nagaland	3.4	4.8	11.4	1.4	6.6	8.0
Orissa	15.1	13.9	28.7	-1.3	14.8	13.6
Pondicherry	16.6	15.5	29.2	-1.1	13.7	12.6
Punjab	46.4	42.5	28.8	-3.8	-13.8	-17.6
Rajasthan	7.7	4.9	7.3	-2.8	2.5	-0.4
Sikkim	11.0	15.2	24.0	4.2	8.7	12.9
Tamil Nadu	11.6	13.4	22.1	1.8	8.7	10.5
Tripura	16.9	17.0	28.7	0.2	11.7	11.9
Uttar Pradesh	9.3	8.2	17.1	-1.1	8.9	7.8
West Bengal	22.5	27.2	45.2	4.7	18.0	22.7

A 2.3 - Share of Male and Female in Rural Workforce in India, 2001

State/UT	Farm Sector		Non-farm sector		HHI Manufacturing		Non HHI Manufacturing including E		Primary Sector		Secondary Sector		Tertiary Sector	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
A & N Is.	86.6	13.4	85.7	14.3	83.2	16.8	91.8	8.2	86.2	13.8	89.7	10.3	83.3	16.7
ANDHRA PRADESH	59.9	40.1	72.6	27.4	45.0	55.0	75.2	24.8	60.0	40.0	64.5	35.5	79.6	20.4
Arunachal Pradesh	53.1	46.9	83.3	16.7	59.9	40.1	87.0	13.0	53.2	46.8	80.5	19.5	84.7	15.3
ASSAM	79.3	20.7	85.5	14.5	58.1	41.9	87.1	12.9	79.4	20.6	81.3	18.7	87.0	13.0
BIHAR	81.2	18.8	88.5	11.5	72.3	27.7	92.4	7.6	81.2	18.8	83.5	16.5	91.9	8.1
CHANDIGARH	71.1	28.9	93.2	6.8	77.5	22.5	95.2	4.8	71.6	28.4	95.7	4.3	90.8	9.2
CHHATTISGARH	61.4	38.6	81.5	18.5	65.7	34.3	85.7	14.3	61.6	38.4	78.7	21.3	82.8	17.2
D & N Haveli	51.5	48.5	88.7	11.3	60.0	40.0	93.7	6.3	51.9	48.1	90.8	9.2	83.9	16.1
DAMAN & DIU	81.9	18.1	91.8	8.2	69.2	30.8	94.8	5.2	82.1	17.9	93.6	6.4	86.1	13.9
DELHI	72.5	27.5	90.7	9.3	77.3	22.7	95.1	4.9	73.3	26.7	93.7	6.3	88.7	11.3
GOA	63.6	36.4	78.8	21.2	70.5	29.5	80.0	20.0	67.4	32.6	81.4	18.6	76.8	23.2
GUJARAT	70.3	29.7	84.3	15.7	76.6	23.4	92.6	7.4	70.4	29.6	89.5	10.5	79.9	20.1
HARYANA	69.6	30.4	89.0	11.0	72.3	27.7	87.1	12.9	69.8	30.2	86.7	13.3	90.8	9.2
HIMACHAL PRADESH	54.0	46.0	88.8	11.2	80.8	19.2	92.1	7.9	54.2	45.8	91.2	8.8	87.6	12.4
JAMMU & KASHMIR	81.1	18.9	88.0	12.0	69.9	30.1	91.9	8.1	81.2	18.8	82.5	17.5	90.2	9.8
JHARKHAND	74.2	25.8	84.2	15.8	66.5	33.5	80.1	19.9	74.8	25.2	76.6	23.4	89.9	10.1
KARNATAKA	66.5	33.5	74.6	25.4	46.0	54.0	73.2	26.8	66.5	33.5	67.2	32.8	80.7	19.3
KERALA	77.8	22.2	78.2	21.8	57.1	42.9	65.4	34.6	77.9	22.1	74.8	25.2	80.3	19.7
LAKSHADWEEP	96.5	3.5	86.2	13.8	75.9	24.1	81.7	18.3	96.5	3.5	90.1	9.9	84.4	15.6
MADHYA PRADESH	68.5	31.5	80.8	19.2	61.8	38.2	88.1	11.9	68.6	31.4	74.7	25.3	86.0	14.0
MAHARASHTRA	57.0	43.0	83.3	16.7	63.3	36.7	88.4	11.6	57.1	42.9	81.3	18.7	85.0	15.0
MANIPUR	61.1	38.9	73.2	26.8	34.2	65.8	70.7	29.3	61.1	38.9	54.6	45.4	80.2	19.8
MEGHALAYA	60.2	39.8	73.4	26.6	49.0	51.0	82.1	17.9	60.4	39.6	74.4	25.6	72.7	27.3
MIZORAM	56.1	43.9	79.8	20.2	70.8	29.2	87.7	12.3	56.1	43.9	84.7	15.3	79.0	21.0
NAGALAND	51.3	48.7	78.4	21.6	50.6	49.4	87.7	12.3	51.3	48.7	77.2	22.8	78.6	21.4
ORISSA	82.7	17.3	83.0	17.0	62.9	37.1	88.6	11.4	82.7	17.3	78.4	21.6	86.6	13.4
PONDICHERRY	64.9	35.1	81.8	18.2	56.4	43.6	82.5	17.5	65.0	35.0	82.4	17.6	81.2	18.8
PUNJAB	77.3	22.7	83.6	16.4	60.9	39.1	85.5	14.5	77.3	22.7	84.4	15.6	82.9	17.1
RAJASTHAN	64.4	35.6	90.0	10.0	74.5	25.5	91.1	8.9	64.8	35.2	87.5	12.5	91.9	8.1
SIKKIM	60.0	40.0	80.5	19.5	77.0	23.0	86.5	13.5	60.0	40.0	84.0	16.0	79.3	20.7
TAMIL NADU	59.2	40.8	72.7	27.3	45.3	54.7	72.9	27.1	59.3	40.7	66.9	33.1	79.0	21.0
TRIPURA	78.0	22.0	86.2	13.8	62.9	37.1	88.1	11.9	78.0	22.0	83.9	16.1	87.1	12.9
UTTAR PRADESH	85.8	14.2	88.7	11.3	76.7	23.3	92.4	7.6	85.8	14.2	86.6	13.4	90.6	9.4
UTTARANCHAL	53.8	46.2	90.3	9.7	72.8	27.2	94.4	5.6	54.4	45.6	91.7	8.3	90.0	10.0
WEST BENGAL	85.6	14.4	82.3	17.7	51.6	48.4	84.4	15.6	85.6	14.4	74.6	25.4	88.7	11.3
INDIA	70.9	29.1	82.2	17.8	60.6	39.4	84.0	16.0	71.0	29.0	78.1	21.9	85.5	14.5

Data Source: Census of India, 2001

A 2.4 - Composition of Rural Non-farm Employment in India, 2001									
	C-Mining and Quarrying			HH Manufacturing			Non-HH Manufacturing		
State/UT	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
A & N Is	1.8	1.5	3.2	9.3	9.1	11	12.2	13.1	7
ANDHRA PRADESH	3.7	3.6	3.9	18.6	11.5	37.3	16.7	17.3	15
ARUNACHAL PRADESH	0.8	0.9	0.2	3.7	2.7	8.9	11.1	11.6	8.6
ASSAM	1.4	1.6	0.7	7.9	5.4	22.9	11.6	11.8	10.3
BIHAR	0.7	0.7	0.6	19.7	16.1	47.3	15.1	15.8	10
CHANDIGARH	0.2	0.2	0	1.6	1.4	5.3	31.6	32.3	22
CHHATTISGARH	4.7	5.1	2.9	14.2	11.4	26.3	16.2	17.1	12.5
D & N Haveli	1.5	1.4	1.7	1.6	1.1	5.6	58.8	62.1	33.1
DAMAN & DIU	0.4	0.4	0.4	0.6	0.5	2.3	68.7	70.9	43.7
DELHI	0.7	0.7	0.8	2	1.7	4.8	27.8	29.1	14.8
GOA	7.2	7.7	5.7	3.6	3.3	5.1	19.3	19.6	18.1
GUJARAT	2	2	2.2	6.8	6.1	10.1	30	32.9	14.2
HARYANA	1.5	1.5	1.5	6.3	5.1	15.8	26.3	25.7	30.7
HIMACHAL PRADESH	0.8	0.9	0.2	5.1	4.6	8.7	12.7	13.1	8.9
JAMMU & KASHMIR	0.2	0.2	0.1	13.6	10.8	34.1	8.2	8.6	5.6
JHARKHAND	11.1	11.9	6.5	18.8	14.8	40	15.7	14.9	19.8
KARNATAKA	3.1	3.1	3.1	15.9	9.8	33.8	17.7	17.4	18.7
KERALA	1.8	1.9	1.4	5.6	4.1	11	19	15.9	30.2
LAKSHADWEEP	0	0	0	1.2	1	2	14.2	13.4	18.8
MADHYA PRADESH	4	4	4.1	22.3	17.1	44.4	12.8	13.9	7.9
MAHARASHTRA	2	1.9	2.5	10.8	8.2	23.6	22	23.3	15.2
Manipur	0.2	0.3	0.1	14.7	6.9	36	8.8	8.5	9.6
MEGHALAYA	3.7	4.2	2.6	7.3	4.9	14.1	8.8	9.8	5.9
MIZORAM	0.2	0.2	0.3	4.7	4.1	6.8	5.4	5.9	3.3
NAGALAND	0.4	0.4	0.1	7	4.5	16	9.4	10.5	5.3
ORISSA	4.4	4.3	4.9	14.9	11.2	32.5	13.3	14.2	9
PONDICHERRY	0.8	0.8	0.4	3.7	2.5	8.8	28.9	29.2	27.9
PUNJAB	0.1	0.1	0	7.6	5.6	18.2	23.5	24.1	20.8
RAJASTHAN	5.4	5.5	4.3	10.3	8.5	26.2	18.8	19	16.7
SIKKIM	1.1	0.9	2.1	3.9	3.7	4.6	11.4	12.2	7.9
TAMIL NADU	2.2	2.2	2.1	16.2	10.1	32.6	25.7	25.8	25.5
TRIPURA	0.6	0.5	0.8	6.5	4.8	17.4	11.7	12	10.1
UTTAR PRADESH	0.6	0.6	0.7	20.2	17.5	41.6	19.4	20.2	13
UTTARANCHAL	4.5	4.1	8.1	6.5	5.3	18.3	15.5	16.3	8.9
WEST BENGAL	1.1	1.2	0.7	16.7	10.5	45.6	20.9	21.4	18.4
INDIA	2.4	2.4	2.3	14.2	10.5	31.5	19.2	19.6	17.3
Data Source: Census of India, 2001.									

Contd.

Contd. A 2.4 - Composition of Rural Non-farm Employment in India, 2001												
State/UT	Construction			Wholesale nad Retail Trade			Transoprt, Storage and Communication			other services		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	Person	male	female
A & N Is	18.3	19.6	10.6	11.2	11.4	10.2	7.4	8.4	1.7	39.8	37	56.4
ANDHRA PRADESH	8.9	10.4	4.9	16.8	19.2	10.2	7.6	10.2	0.7	27.8	27.7	28
ARUNACHAL PRADESH	20.5	19.9	23.7	7.5	7.7	6.8	2.4	2.9	0.3	53.9	54.4	51.4
ASSAM	8.6	9.5	3.1	21	23.2	7.6	8.7	10.1	0.8	40.8	38.4	54.6
BIHAR	6.2	6.8	1.3	21.5	22.9	10.5	8.1	9.1	0.7	28.6	28.5	29.6
CHANDIGARH	14.8	15.7	3	15.9	16.3	10.6	8.2	8.7	1.5	27.7	25.5	57.6
CHHATTISGARH	7.2	7.8	4.5	16.3	18	9.1	5.5	6.5	0.7	36	34.1	44
D & N Haveli	8.8	7.7	17.7	4.7	4.7	4.9	8.7	9.1	5.1	15.9	13.9	31.8
DAMAN & DIU	5.7	5.1	12.2	6.2	5.1	18.2	5.8	6.2	1.4	12.7	11.9	21.9
DELHI	10.7	11	8.1	16.2	17	8.5	11	11.9	2.2	31.6	28.6	60.8
GOA	9.6	10.8	5.2	11.9	11.8	12.2	12.9	15.7	2.3	35.5	31.2	51.4
GUJARAT	8.7	9.2	6.1	19	18.2	23.4	9.7	11.2	1.1	23.8	20.3	42.9
HARYANA	11.5	12.1	6.7	15.1	16.1	6.7	8.8	9.8	0.8	30.5	29.6	37.8
HIMACHAL PRADESH	13.1	13.9	6.6	10.3	11	4.6	6.6	7.3	0.9	51.5	49.1	70.1
JAMMU & KASHMIR	6.6	7.3	1.9	9.2	10	3.3	4.5	5	0.7	57.7	58.1	54.4
JHARKHAND	8.7	9.6	4.3	14.6	16.3	5.4	9.2	10.7	1.2	21.9	21.7	22.7
KARNATAKA	10.3	12.4	4.2	16	18.3	9.3	8.3	10.7	1.1	28.6	28.2	29.7
KERALA	14.3	17.2	3.8	17.6	20.9	5.8	13.8	16.9	2.7	28	23.2	45.1
LAKSHADWEEP	16.6	18.9	2.2	5.4	5.7	3.4	11.9	13.4	2.7	50.8	47.6	70.9
MADHYA PRADESH	9.2	10	5.9	13.7	15.6	6.1	5.7	6.9	0.6	32.2	32.5	31
MAHARASHTRA	9.4	9.6	8.3	15.3	16.4	10.3	9.8	11.5	1.3	30.7	29.1	38.8
Manipur	4	5.1	0.9	8.9	7.8	11.8	5.2	6.9	0.5	58.3	64.6	41.1
MEGHALAYA	7.1	8.8	2.3	15	13.6	19	5.8	7.6	0.7	52.3	51.2	55.4
MIZORAM	5	5.9	1.4	8.2	5.1	20.7	4.1	4.9	0.9	72.4	73.8	66.6
NAGALAND	6.9	7.9	3.2	7.1	6.9	8	3.2	3.9	0.6	66	65.8	66.8
ORISSA	11.9	12.4	9.5	16.2	18.1	6.8	6.3	7.4	0.8	33	32.4	36.4
PONDICHERRY	10.3	11.5	4.8	15.3	15.4	15.1	7.2	8.5	1.1	33.9	32.1	41.9
PUNJAB	11.9	13.8	1.8	15.3	16.7	8.3	8.5	10	0.8	33.1	29.8	50.1
RAJASTHAN	15.3	15.6	12.4	16.4	17.2	9.9	9.4	10.3	1.6	24.4	23.9	29
SIKKIM	14.1	14.6	11.6	8.3	7.8	10.4	6.3	7.5	1.3	55	53.2	62.1
TAMIL NADU	8.7	10.7	3.5	13	15.3	6.7	6.9	9.2	0.8	27.3	26.8	28.9
TRIPURA	9.3	10.1	4.5	18.5	20.3	7.5	7.1	8.1	0.7	46.4	44.3	59
UTTAR PRADESH	8.3	9.1	2.2	16.5	17.6	8.2	6.8	7.6	0.8	28.1	27.4	33.7
UTTARANCHAL	14.6	15.7	4.1	13.4	14.4	4.1	7.6	8.3	1.2	37.9	36	55.2
WEST BENGAL	8.1	9.5	1.4	21.1	24.2	6.7	9.2	11	0.7	22.9	22.1	26.6
INDIA	9.7	10.8	4.5	16.8	18.5	8.8	8.4	9.9	1	29.4	28.3	34.6
Data Source: Census of India, 2001.												

A 4.1 - Inequality in Per Capita Monthly Expenditure of the Households within Farm and Non-farm sectors across different Social Groups in Rural India			
Household Type/ Comparison between Household Types	Social Groups/Comparison between Social Groups	Levene's Test for Equality of Variances	
		F	Sig.
Total Rural	Scheduled & Non-Scheduled	2134.3	0.00
Total Rural	STs & SCs	2113.8	0.00
Farm	Scheduled & Non-Scheduled	2738.8	0.00
Farm	STs & SCs	920.9	0.00
Non-farm	Scheduled & Non-Scheduled	281.6	0.00
Non-farm	STs & SCs	1787.8	0.00
Farm & Non-farm	All	2388.8	0.00
Farm & Non-farm	Scheduled Groups	3513.1	0.00
Farm & Non-farm	Non-scheduled Groups	871.3	0.00
Sig. Values below 0.5 shows significant variation among in both groups			

A 5.1 Correlations

	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19
V2	1																	
V3	.302	1																
V4	-.035	.714(**)	1															
V5	.129	.501(**)	.602(**)	1														
V6	.102	.835(**)	.882(**)	.519(**)	1													
V7	.398(*)	.180	.234	.264	.075	1												
V8	-.046	.223	.355(*)	.371(*)	.215	-.134	1											
V9	-.112	.556(**)	.574(**)	.401(*)	.558(**)	-.047	.333	1										
V10	-.118	-.482(**)	-.384(*)	-.465(**)	-.405(*)	-.038	-.319	-.602(**)	1									
V11	.214	.507(**)	.367(*)	.349(*)	.417(*)	-.118	.550(**)	.387(*)	-.685(**)	1								
V12	.141	-.058	-.054	.388(*)	-.198	.243	.065	-.159	-.005	-.009	1							
V13	.383(*)	.089	.020	.414(*)	-.073	.213	.279	-.087	-.044	.234	.812(**)	1						
V14	.775(**)	.280	.113	.176	-.055	.708(**)	-.239	-.175	.155	-.069	.276	.556(**)	1					
V15	.402(*)	.323	.160	.398(*)	.252	.238	.179	-.109	-.382	.152	.327	.506(**)	.402(*)	1				
V16	.083	-.582(**)	-.641(**)	-.441(**)	-.610(**)	.076	-.090	-.569(**)	.713(**)	-.413(*)	.068	.129	.493(**)	-.161	1			
V17	-.421(*)	-.366(*)	-.232	-.473(**)	-.192	-.235	-.359(*)	-.418(*)	.487(**)	-.361(*)	-.263	-.507(**)	-.518(**)	-.800(**)	.220	1		
V18	.127	-.206	-.299	-.168	-.228	-.177	.022	-.022	-.272	.299	.199	.178	-.134	.323	-.094	-.374(*)	1	
V19	.030	.615(**)	.725(**)	.525(**)	.716(**)	.055	.534(**)	.731(**)	-.726(**)	.622(**)	-.286	-.083	-.038	.405(*)	-.564(**)	-.490(**)	-.009	1

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

V2 *Per Capita Agriculture-Livestock Income (Rs.)*
V3 *Index Of Commercialization*
V4 *Irrigation Ratio (Gross Irrigated area/gross cropped area)*
V5 *Average Value Of Farm Business Equipments Of Rural Households*
V6 *Level Of Urbanization*
V7 *Rural Pop Density*
V8 *Percentage Of Inhabited Villages Having Population More Than 1000*
V9 *Road Length Per 100 Sq. Km*

Cont.....

V10 *Rural Unemployment Rate*
V11 *Percentage Of Rural Landless Households*
V12 *Rural Dependency Ratio*
V13 *Rural Literacy Rates*
V14 *Percentage Of Rural Households Taking Cash Loans*
V15 *Average Amount Of Cash Loans Per Household*
V16 *Average Value Of Non-Farm Business Equipments Of Rural Households*
V17 *Average Rural Household Size*
V18 *Incidence Of Poverty Rural*
V19 *Percentage of Non-farm Workers to total Rural Workers*

RURAL NON-FARM EMPLOYMENT IN INDIA: AN ANALYSIS OF POST-EONOMIC REFORM PERIOD

Dissertation submitted to the Jawaharlal Nehru University in partial fulfillment of the requirements for the award of the degree of

MASTER OF PHILOSOPHY

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Abstract

Statement of the problem

Rural Non Farm Sector (RNFS) holds the key to faster economic development of the country. It has potential and promise for generating employment and increased income in the rural areas. In the developing countries, attention on expansion of rural non-farm activities for rural development has been in taking place in recent times. In India, Employment, productivity and earnings, and poverty reduction has been come up as a matter of major concern during post-economic reform period.

In India, a large proportion of the rural workforce is engaged in the agricultural sector which is facing a continuous deceleration in growth observed in post economic reform period where the problems related to decline in land productivity, decreasing returns, prevailing low wages etc. became sharper. In these conditions, the agricultural sector seemed to be insufficient to overcome the major problems of poverty and unemployment. A hope comes from the non-farm sector of the economy to overcome these problems. Since, most of the rural labour force is not well educated, skilled and trained, it is questioned that the rural labour force will not be able to fulfil the requirements of the modernized world economic system or it is not able to compete its well educated, skilled and trained counterpart. So there is a need to study the impact of new economic policies adopted since 1991 on rural labour force and see it in a geographical point of view to find out the spatial variations and temporal changes in growth, distribution, composition, concentration etc. It is necessary to see the impacts new economic regime on the nature of RNFE and to see whether the non-farm sector is being capable of reducing the major problems of poverty, inequality and employment generation since the initiation of economic reforms.

Research Questions

Although, deceleration of rural employment growth in post-economic reform has already been discussed by research scholars in their earlier works yet in present work here is an attempt to analyze the post-economic growth of employment in all rural sectors using census data set. Less attention has been paid to concentration of rural non-farm employment in previous researches. Attempts have been made to identify the regions of higher concentration and distribution of rural non-farm employment. The present work also tries to provide appropriate explanations for concentration and distribution of rural non-farm employment in those

regions. Considering the previous researches related to female labour force participation in India, it is necessary to study the gender dimension in rural non-farm employment. Is the female participation increasing in rural employment? If yes, which are the major sectors such increasing pattern? Was the pace of increase recorded sufficient? Is the post-reform growth of rural non-farm sector favouring the female section of the workforce or it is showing favour?

More emphasis is given to the quality of rural workforce in non-farm sector during post-reform period to check out whether the process of economic reforms been gone well for the existing rural labour-force in India whose most of the part is illiterate or not well educated, untrained, and unskilled. The analysis of inequality in household expenditure among rural farm and non-farm households across social groups and wages in farm and non-farm employment across gender is a matter of concern. Does the economic reform period show it higher? Do regional variations exist in level of inequality? If yes, what could be the possible explanations behind it?

Previous research talks about growth of rural non-farm employment in post-economic reform period. What could be the possible explanations of rural non-farm employment growth? Whether it is demand pulled or distress pushed?

Objectives of the study

Considering the need for the study and major emerging issues related to the rural non-farm employment the following objectives has been chosen for the study-

1. To study the changes in growth and structure of the rural non-farm employment during post-economic reform period.
2. To examine the quality of rural non-farm employment by checking the process of casualization in both pre-and post reform periods.
3. To compare household expenditure in rural farm and non-farm households across social groups and to compare the wage rates in rural farm and non-farm sector across gender during post-reform period.
4. To find out the determinants of rural non-farm employment by checking out the relative importance of pull and push factors.

Database

To analyze rural non-farm employment in India, quinquennial survey reports (38th, 50th, 55th and 61st round) on employment and unemployment situation in India by National Sample Survey Organization has been used for state level data.

For analyzing the process of casualization, household expenditure and wage rates, Unit level NSSO data from 61st round has been used. Similar data has been used to analyze determinants of rural non-farm employment at individual level. Estimates on casualization for other years have been taken from previous reports of NSS mentioned above.

State level data for explanatory variables used for regression analysis has been taken from different sources. Since it is not possible to get data from year 2001 for all variables, the year which is more nearer to the year of 2001 has been used for regression analysis to make the dataset compatible with for regression analysis.

Changes in growth and structure of rural non-farm employment are analyzed using state-wise data from Census of India, B-series for the years 1981, 1991 & 2001. District level data has been analyzed for Census year 2001.

Methodology

Using secondary data from above mentioned sources, the analysis of rural non-farm employment during post-reform period has been done. Only main workers from census and usual principle status workers have been considered for the analysis of the chapters. Whenever necessary, some states were clubbed together to make the censuses comparable. Compound annual growth of rural employment in all sectors is analyzed.

Also the comparisons have been made between pre- and post-economic reform period across gender. State wise distribution of rural non-farm workers across gender is analyzed for all the three censuses by extracting the share of rural non-farm employment in total rural employment. Moreover, distribution and concentration of has been analyzed at district level for 2001. To show the concentration of rural non-farm workers spatially, a concentration index is used called Location quotient. Sectoral composition of rural non-farm employment is analyzed by extracting the share of each sub-sector of it from total rural non-farm employment.

For casualization in farm and non-farm sectors in India, overall estimates from NSS reports have been taken. Regional variations in process of casualization in rural sectors across

genders have been analyzed for recent year 2004-05. Process of casualization is analyzed in two ways-

1. Extent of casualization - measured as number of casual wage labourers for every 100 regular salaried/wage employees.
2. Incidence of casualization – measured as share of casual wages labourers in total rural workforce.

Using estimates of 2004-05, inequality of household expenditure among farm and non-farm households across social groups and wage disparity among males and females has been analyzed in two ways-

1. **At all India level-** with the help of individual data, mean differences in household expenditure among farm and non-farm households across all social groups (SC, ST and other than SC-ST) are analyzed by *Independent Sample T-test* to check to equality of variances using *Levene's test* and *T-test for equality of means* in two groups (which have been taken for comparison). Disparity in wages also analyzed by using the same method.
2. **At regional level-** regional disparity in wages and household expenditure discussed in previous paragraph is analyzed by using *Modified Sopher's indexz (Kundu, A.)*

Also the wages differences on the basis of mode of employment (Whether casual, self-employed and regular) has been analyzed.

To see the relative importance of push and pull factors analysis has been done at two levels- analysis of data on state level and individual level.

1.7 Organization of the Study

The study if organized into six chapters. Chapter first introduces the research work. Chapter second discusses the changes in growth and structure of rural non-farm employment during post-reform period. Chapter also provides detailed analytical description of structure of rural non-farm employment in post-reform period by focusing on district level data from 2001 Census year. Chapter third discusses the extent and incidence of casualization in rural farm and non-farm employment during post-reform period. The Chapter also examine it within sub-sectors of non-farm economy. Chapter forth is devoted to the analysis of inequality of household expenditure among rural farm and non-farm households and also to the analysis of wage rate disparity among rural males and females in different rural operations. It also examines the inequality of household expenditure among rural farm and non-farm households

across social groups. Chapter fifth discusses major determining factors of rural non-farm employment in India through analysis of state level and individual level data and try to find out the relative significance of push and pull factors affecting growth of rural non-farm employment. Finally, chapter six reviews the conclusions of chapter two, three, four and five. Chapter six also contains some suggestions for regenerating agriculture and suggest ways to

Summary and Conclusions

In post-economic reform period, overall rural employment growth decelerated especially in farm sector, which experienced a negative growth. This negative growth in farm sector was sharper among males than females. However, participation of rural females in total rural workforce has been increasing since the initiation of economic-reform period. It is a positive sign for Indian rural economy due to the fact that when economic development takes place female labour supply increases. During 1990s, growth of non-farm employment was positive almost in all its sub-sectors except in trade and commerce where it went through a deceleration whereas for males it was even negative. Growth of rural employment in construction, household manufacturing and transport, storage and communication activities is a major phenomenon of post economic reform period.

Punjab, Haryana, Bihar, Rajasthan, Gujarat, Uttar Pradesh, Himachal Pradesh, West Bengal, Tripura, Assam and Nagaland are the states experienced accelerated growth of rural non-farm employment during post reform period.

In post-reform period, it has been observed that overall males are dominating in all production sectors. On some extent, rural household manufacturing and farm sectors favours female employment. But in post economic reform period, opportunities to work in different sectors for females have taken place. Post-reform period shows a process of restructuring of rural non-farm employment as rural workers are working more and more in selected sectors like household manufacturing, construction, transport, storage and communication and other rural services.

From the analysis it is firmly accepted that rural non-farm workers are highly concentrated in some regions, which are either geographically extreme (where geographical conditions are such that do not favour agricultural activities) or industrially developed due to the availability of proper resource base. Regional analysis shows that rural non-farm workers are concentrated in Mostly Western coastal regions of India, Himalayan mountainous region, hilly regions of southern India, Areas near to wildlife sanctuaries, Hilly areas near to Aravali, districts Indian desert (Mostly Jaisalmer), Hilly areas of northeastern states and some

industrial regions like Madurai-Coimbatore-Bangalore belt, Chhota Nagapur belt, Ganga-Yamuna Belt and Hugli belt.

The liberalization period shows a clear picture of increasing casualization of workforce in both the farm and non-farm sector of the rural economy in India. Casual labour dominates Construction, Mining & Quarrying, and farm sectors. Illiteracy among rural workforce in non-farm sector and incidence of poverty in rural areas have a high association with quality of rural workforce measured in terms of casualization of employment. But at the same time it is noted that the share of rural non-farm employment is increasing in post-liberalization period. It may be a good sign for the rural poor who are not getting sufficient wages in farm sector. Since the results from present study largely favours the distress pushed diversification of rural economy, farm sector in alone is not able to absorb the rural labour force. In these conditions, if the rural labour is working as casual labour in non-farm sector may be a positive sign in the sense that at least they are getting work for their livelihood in post-economic reform period where skilled, well educated and well trained workforce is gradually replacing rural unskilled, less educated and untrained workforce.

In post-reform period, higher level of casualization co-exists with some economically poor state e.g. southern regions of Uttar Pradesh and Rajasthan shows very high level of casualization followed by Jharkhand, Hilly Region of Assam, Tripura, Southern Orissa, Saurashtra region of Gujarat State, Himalayan region of West Bengal , Northern Madhya Pradesh and Eastern Plains of Assam. On the contrary, some of the northeastern states, most of the UTs, mountainous regions of J&K, Central MP and coastal Maharashtra show very low level of casualization in rural non-farm employment.

While analysing monthly per capita expenditure of the households, inequality can be observed in two ways. First, there is a significant difference in MPCE among households engaged in farm and non-farm activities separately for all social groups. Second, it is also found that MPCE of farm and non-farm households differs significantly for all social groups and as a whole. Rural non-farm households enjoy higher level of monthly expenditure as compared to farm households. Both in rural farm and non-farm households, Scheduled group households have lower level of expenditure as compared to non-scheduled group households. Except these inequalities, post-economic reform period also shows disparity in household expenditure among and within rural farm and non-farm households.

Rural workers have a relative advantage in working in the non-farm sector than in farm activities with respect to wage rates. Similarly, workers have high wages in non-manual works (whether in farm or non-farm sector) than in manual works. Also, in all operations,

males get higher wages than their female counterparts. But it is noted that in some regions where nature of rural activities are such that requires excessive female labour, females are getting higher wages than their male counterpart. But, nature of an activity is not the only factor which affects distribution of wages among male and female. There would be some other reason for example migration of males to other places may create opportunities for females to earn more.

Spatial pattern of distribution of wages and salary earnings among males and females largely reflects the nature of the work available in a particular region. Female dominance in some States like Assam, Sikkim and Uttaranchal for manual work and Kerala for non-manual work illustrates it. Female wage rates are higher in cultivation activities in States of Sikkim and Assam. During post-economic reform period, migration of rural male workers in urban areas from some regions has been come up as a major factor affecting participation of rural females in non-farm sector and higher participation of female workers in non-farm sector in turn, affecting wage rates in favour of females e.g. in Assam and Uttaranchal.

From state level and individual data analysis, an attempt has been made to understand whether RNFE is distress driven or growth driven in India. We get mixed results in favour of both processes, and are tempted to conclude that both processes operate in the country. It may be due to the fact that in India where large variations in geographical conditions are prevailing, all states do not necessarily fall into the same pattern as shown by overall general picture.

Significant and positive correlation of RNFE with rural unemployment indicates a distress-induced growth. Similar implications hold given the dependent variable's relationship with availability of cash loans in rural household. Moreover, insignificant correlation of rural non-farm employment with all included agricultural variables strengthen the statement that growth of rural non-farm employment in recent times is distressed led.

On the other hand, a negative significant association of rural poverty with RNFE shows that states with high level of poverty have low share of RNFE in total rural workforce. In other words, states, which show high share of RNFE, have low incidence of poverty indicating that states with high share of RNFE in total workforce are more prosperous than those have higher share of their workforce in agricultural sector.

Also, while poor performance of agricultural sector pushes the labourforce into other sectors, the process of urbanization works as a pull factor on the other hand absorbing rural labourforce. Therefore, RNFE is partially distress driven and partially demand driven.

At the same time, a significant association of non-farm employment with increasing population pressure (in terms of density of population and number of inhabited villages with population size more than 100) and process of urbanization strenthens the growth-linkage hypothesis of the rural non-farm economy. On the other hand, RNFE holds opportunities for those pushed out of agriculture. These indications, coupled by the fact the non-farm sector offers significantly higher wage rates compared to the farm sector, indicates that future promotion of RNF sector by the government could have beneficial impact on the rural livelihoods.