



# CHANGES IN THE RURAL WORKFORCE STRUCTURE IN INDIA SINCE ECONOMIC REFORMS-AN AGGREGATE LEVEL ANALYSIS

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**Abstract:** This paper examines the trends of the nature of transformation of rural workforce structure in India at aggregate level since economic reform on the basis of different reports of quinquennial surveys on employment-unemployment situation in India of the National Sample Survey Organization (NSSO). It finds that the workforce participation rates have fallen. However, the proportions of rural workforce employed in different industrial categories of non-farm activities have been found to be increase in the national level. Over time the fall in employment in farming activities has been compensated by the rise in employment in manufacturing and household industries and other categories of non-farm activities like trade, hotelling, construction, storage, transport etc. It seems that the process of diversification of rural workforce may be due to agricultural growth led, economic distress, industrialization, implementation of different employment generating schemes by the Government and so on.

**Key Words:** Rural Workforce; Workforce participation; Farm and Non-Farm activities; Diversification, Economic reform

## I. INTRODUCTION

India had a sharp increasing agricultural economy, which declined in the period of reform, since 1991 it assumes a significant role in the rural economy. Food grain availability was decreased which caused the decline of the farming activities. The reasons for the deteriorating state of agriculture in the post-reform period are many and complex. From the various reports of National Sample Survey Organisation (NSSO) it has been found that a large proportion of rural workforce have shifted from farming activities and engaged themselves in various non-farm activities of different industrial categories viz. manufacturing, mining and quarrying, electricity, gas and water, construction in secondary sector and majority of the workers shifted themselves into tertiary sector which includes trade, hotel and restaurant, transport and storage, service and others. Such a structural transformation though expected in a developing economy, this process has been slower in the rural economy.

## II. LITERATURE REVIEW

- *Pravin Visaria (1994)* argues that development of urban centre's give impetus to non-farm employment in the adjoining rural areas because of low factor prices in the rural areas. Apart from this, the agricultural development and its commercialization encourage various rural industrial activities by supplying raw material, creating greater demand for inputs and allied services, raising demand for consumption goods and generating surplus for investment.
- According to *Islam (1997)*, the factors like extension of infrastructure facilities are highly correlated. Several human resources related parameters like education and skill development of rural workers, credit availability for non-farm activities have also encouraged the process of rural diversification.
- *Vaidyanathan (1986, 1994)* found a direct relation between unemployment rate and the level of incidence of non-farm employment in states. He argues the labour force absorption capacity of agriculture becomes limited whereas urban sector is also not able to accommodate the over-growing and huge labour force. Thus, the rural non-farm sector is acting like a residual sector, and the rural workforce is tilted towards it.

- *G.K Chadha ( 2003)*, conducted a study on Rural Employment in India: Current Situation, Challenges and Potential for Expansion where he observed that at the state level, the post-reform phase witnessed a drastic reversal of the deployment of the workforce between agriculture and non-agricultural sectors.
- *Ghosal (2005)*.pointed out the fall in rural land man ratio due to demographic pressure, causing the unsustainability of family farms without any support from non-farm income, might be one of the reasons for the increase in non-farm activities in non-farm employment.

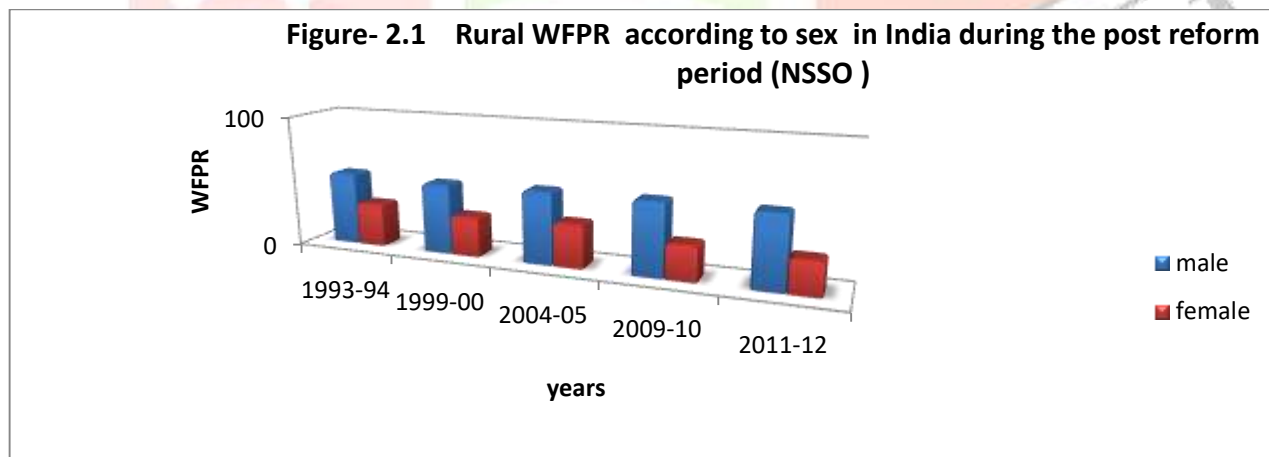
### III. CHANGES IN TRENDS OF RURAL OCCUPATIONAL STRUCTURE

In this study we actually try to explore the trends in rural employment structure in India since economic reform. In rural India, self-employment is the main source of employment followed by casual employment. To understand the trends in rural employment structure at the aggregative level we first analyse the trends in WFPR in rural India on the basis of data available from various NSSO reports. Table 1 show the rural WFPR rates in India during the post reform period and here it is evident from the table that there is a declining tendency of WFPR in India as whole in the year 1999-2000. Male and female WFPRs in India have increased by 2.8 and 9 percentage points respectively in the year 2004-2005. In the year 2004-2005, an increasing tendency is seen for all, irrespective of all sex. The reason behind this may be the massive increase in public expenditure towards different rural poverty alleviation and employment generating programmes during the post reform period. But, again in 2011-12 the WFPR is decreased by 0.73% point for male and 4.98% point for female workers. The reason may be due to rapid increase in growth of rural population, increase in literacy rate, and fall in rural employment opportunities since economic reform in India.

**Table 1:** workforce participation rate (in percentage) of India during the post Reform period

year	India	
	WFPR(male)	WFPR(female)
1993-94	55.3	32.8
1999-00	53.1 (-3.98)	30.0 (-8.54)
2004-05	54.6 (2.82)	32.7(9)
2009-10	54.7 (0.18)	26.1 (-19)
2011-12	54.3 (-0.73)	24.8 (-4.98)

Source: Various Reports of NSSO (Figure in parenthesis represent percentage point change)



As we know, workers are categorized into main and marginal workers. The analysis of rural main workers to total population in India shows a decreasing trend over the three decades especially for male and all persons. Reverse trends are observed in all the categories of marginal workers in same period as they have actually witnessed a sharp rise. In the period of economic reforms a rapid rise in percentages of rural marginal workers is observed in India since 1991. Table 2 represents the percentage of rural main and marginal workers by sex to total population in India since 1991.

It is evident from Table 2 the main workers in India for all persons and male have decreased remarkably from 34.18% and 51 % 1991 to 30.55% and 45.35% in 2001 respectively and further to 29.48 % and 41.63% in 2011. However the percentage of female main workers which has fallen from 16.03 % in 1991 to 14.68 % in 2001, again increased to 16.68% in 2011. On the other hand, with the fall in the proportion of main workers to total population there has been a sharp increase in the proportion of marginal workers to total population for all categories in India indicating a higher degree of casualization of labour. The marginal workers in India for female has increased remarkably from 6.24% in 1991 to 10.99 % in 2001 further to 13.33% in 2011(see Table 2). Whereas the marginal workers for male and person have decreased to 6.59% and 0.61% in the year 2001 from 8.71% and 3.32 % which again raised to 11.4% and 12.33 % in 2011. However, during 1990s and 2000s, the rate of growth in male marginal workers turns up to be higher than their female counterparts. The analysis shows that the marginal workers were growing faster than the main workers.

**Table 2 - Percentage of main and marginal workers by sex (% to total population) in rural India**

Residence	Sex	1991	2001	2011
<b>Main Workers</b>	<b>Persons</b>	34.18	30.55	29.48
	<b>Males</b>	51.00	45.35	41.63
	<b>Females</b>	16.03	14.68	16.68
<b>Marginal Workers</b>	<b>Persons</b>	3.32	0.61	12.33
	<b>Males</b>	8.71	6.59	11.4
	<b>Females</b>	6.24	10.99	13.33

Source: Various Census Report: 1991, 2001, 2011

#### IV. INDUSTRIAL DISTRIBUTION OF RURAL WORKFORCE

The percentage share of employment in different sectors to total rural employment helps us to identify the relative importance of different activities. The sectoral distributions of rural male and female workers are shown here on the basis of NSSO (Table-3). Analysis of the data by sector in terms of the percentage share reveals the following trends:

- i. In rural India, the proportion of male workers engaged in primary sector has been steadily declining. On the other hand, the proportion of employment in the secondary, tertiary and total non-farm sectors has witnessed a steady increase. The share of rural female employment in the non-farm sector gradually increased during the period of reform, since 1991.
- ii. The relative share of agricultural sector in the employment to total rural workforce was 74% for male and 86.2% for female in 1993-94. But, it has substantially decreased to 59.4% for male and 74.9% for female in 2011-12.
- iii. The expansion of the non-farm activities was relatively high during the last two decades of post-reform years for both rural male and female.
- iv. The relative share of non-agricultural sector in the employment to total rural workforce was only 26.0 % for male and 13.8 % for female in 1993-94 .Interestingly it has increased to 40.6 % for male and 25.1 % for female respectively in 2011-12.
- v. The share of employment in manufacturing was highest not only within the secondary activities but also within the overall non-farm activities for both rural male and female workers during the period of economic reform.
- vi. Moreover, manufacturing, trade-commerce and transport-storage-communication were dynamic sectors for rural male workers as the share of employment of these sectors to total rural male employment expanded significantly. For rural female workers, manufacturing was only the dynamic sector where employment share increased. The expansion of the manufacturing employment has substantially high during the recent years, specifically during 2004-05 and 2010-11.

**Table 3: Industry wise classification of the composition of employment(%) (NSSO Reports )**

Category	Year	India	
		Male	Female
Agriculture	1993-94	74.0	86.2
	1999-94	71.4	85.4
	2004-05	66.5	83.3
	2009-10	62.8	79.4
	2011-12	59.4	74.9
Manufacturing	1993-94	7.0	7.0
	1999-94	7.3	7.6
	2004-05	7.9	8.4
	2009-10	7.0	7.5
	2011-12	8.1	9.8
Trade & Hotelling	1993-94	5.5	2.1
	1999-94	6.8	2.0
	2004-05	8.3	2.5
	2009-10	8.2	2.8
	2011-12	8.0	2.9
Services	1993-94	7.0	3.4
	1999-94	6.1	3.7
	2004-05	5.9	3.9
	2009-10	5.5	4.6
	2011-12	6.6	7.9
Total Non-farm	1993-94	26.0	13.8
	1999-94	28.6	14.6
	2004-05	33.5	16.7
	2009-10	37.2	20.6
	2011-12	40.6	25.1

Source: NSSO

From the above discussion we can conclude that the employment opportunity in the non-farm sectors has increased in the period of economic reform which made the rural male and female workers to leave the farming activities and join the non-farm informal activities especially in the secondary and tertiary sectors viz. manufacturing, hotelling, trade and other categories.

## V. FACTORS BEHIND THE TRANSFORMATION OF RURAL WORKFORCE IN INDIA

The reason for diversification may be agricultural growth-led and distress-led diversification (*Vaidyanathan, 1986*). There are several factors behind the transformation of rural workforce in India. Now let us discuss some of the major reasons for diversification of rural occupational structure in India since economic reform:

- **Demographic pressure on land:** The fall in the rural land-man ratio due to demographic pressure is one of the reasons for increase in non-farm employment in rural areas. The rural cultivable land-man ratio in India has declined sharply in the post-reform period. Table 4 reveals the declining trend in the land-man ratio in rural India. It is clear from table, that the land-man ratio which was 0.20 in the year 1990-91 has fallen to 0.15 in the year 2009-10. The fall in rural land man ratio due to demographic pressure, causing the unsustainability of family farms without any support from non-farm income, might be one of the reasons for the increase in non-farm activities in non-farm employment (*Ghosal 2005*).

**Table 4: Land –Man ratio of rural India in the post-reform period**

year	Land-Man ratio
1990-91	0.20
1999-00	0.17
2009-10	0.15

Source: Fertiliser Statistics, 2011-12

- **Growth of Agriculture:** It seems that tremendous growth of agriculture has led to a demand driven expansion of these non-farm activities, that's why the rural workforce tends towards non-farm activities. From 2001 to 2011 the Indian economy has boomed and GDP growth was highest. In Table-5 the output of agriculture and food grains and GDP in India is shown. It is

observed that the output of food grains has increased in the post-reform period in India as a whole which in turn also help in the growth of GDP which shows a sharp increase in 2010-11. The output of agriculture is increased by 10.87 percentage points and a sharp increase in GDP by 141.04 percentage points is witnessed in 2010-2011.

**Table 5: GDP and food production in India**

Year	GDP (rs. Crore) at factor cost	Output of food grains (million tons)
1990-91	1,083,572	176.4
2000-01	1,864,300	196.8
2010-11	4,493,743	218.2

Source: Census Data

- Land holding structure:** The rapid transformation of the land holding structure in the rural areas of India and effective implementation of the rural-led development strategies and also rigorous implementation of the radical land reform policies of the Government may be one of the causes for shifting of the workers from farm to non-farm activities. Table 6 gives the message of distribution of land in India. A few important observations can be made from the available data .First; there are no large landowners in India. In India as a whole, households with large operational holdings account for 0.71 per cent of households and 10.6 per cent of all area owned (Table 6). Secondly, in India as a whole, households with small and marginal operational holdings account for 85.0 per cent of all households and cover 44.5 per cent of all area owned. Thirdly, it is of interest that while medium landowners operate only 4.24 per cent of land holdings in rural India, medium and large landholders operate 32 per cent of the extent of operational holdings in the country as a whole. However, after few decades, the marginal category has become the maximum percent of area owned during 2010-11. It is also observed that, over the last three decades since 1991, the percentage distribution of households has progressively declined for all the category of operational holdings except for the small and marginal holders; whereas percentage distribution of area owned has increased for all the category of holdings, except for the small and marginal holdings recording 23.5% and 28.1 % in 1995-96 to 22.1% and 22.5% 2010-11 respectively. The large and medium holdings together, operated around 26% of the total land in 1995-96, which progressively declined over the years.

**Table 6 - Distribution of operational holdings in rural India during post-reform period (Agricultural Census, GoI)**

Size class of operational holding	Percentage of number of operational holdings to total				Percentage of area operated to total			
	1995-96	2000-01	2005-06	2010-11	1995-96	2000-01	2005-06	2010-11
Marginal holdings	73.3	62.9	64.8	67.1	28.1	18.7	20.2	22.5
Small holdings	15.7	18.9	18.52	17.9	23.5	20.2	20.9	22.1
Semi-Medium holdings	7.7	11.7	10.9	10.0	22.0	23.9	23.9	23.6
Medium holdings	2.8	5.5	4.93	4.24	17.4	23.9	23.1	21.1
Large holdings	0.5	1.03	0.84	0.71	8.98	13.2	11.8	10.6
<b>All Size Group (all classes)</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: Agricultural Census, GOI

Category	Operated Area
Marginal holdings	Below 1.00 ha
Small holdings	1.00 – 2.00 ha
Semi-Medium holdings	2.00 – 4.00 ha
Medium holdings	4.00 – 10.00 ha
Large holdings	ha and above

- **Employment generating programmes:** There are certain anti-poverty measures and employment generating schemes launched during the post-reform period in the initiative of the Government. These schemes have been introduced for different purposes viz., poverty alleviation, expansion of education, eradication of unemployment, agricultural development; empowering females so on and so forth. Some of the programmes are: Swarnajayanthi Gram Swarozgar Yojana (1999), Food for Work Programme (2001), Pradhan Mantri Gramodaya Yojana (2001), Samagra Awas Yojana (2000), Pradhan Mantri Gram Sadak Yojana (2000), Sampoorna Grameen Rozgar Yojana (2001), Jawahar Gram Samridhi Yojana (1999).

## VI. CONCLUSION

The diversification of rural workforce in favour of non-farm activities in India may be partly distress driven and partly due to agricultural growth. Rise in the employment in manufacturing and household and other industrial categories and non-farm activities like trade, construction, hotelling, transport etc is mainly due to the fall in the employment in farming activities. The major findings, which emerge out of our study, can be outlined as follows:

First, India had a sharply increasing agricultural economy, which declined in the post-reform period since 1991; it assumed a pivotal role in the rural economy. The post-reform years have witnessed a number of sectors that can be confidently looked at as future sources of rural employment expansion.

Second, as per NSSO data the workforce participation ratios in rural India since economic reforms reveal a declining tendency of WFPR in rural India as a whole in the year 1999-2000. In the year 2004-2005, an increasing tendency is seen for all, irrespective of all sex. But, again in 2011-12 the WFPR is decreased for both male and female workers.

Third, it is found that in general there is a falling tendency of the proportion of workforce engaged in primary sector. This is accompanied by an increase in the same in tertiary non-farm activities and sometimes in the secondary sector with some variation according to sex since 1993-94. Growth rate of rural male non-farm employment has also improved during the later period. The growth rate of female rural non-farm employment was also higher than that of male during the post-reform period. In fact, there is a continuous process of diversification of the rural workforce structure since 1990.

Fourth, the rural secondary sector has positive growth rates during the period of reforms, though the growth has expanded for male and decelerated for female. During the period of economic reform the expansion of rural female employment in construction has outnumbered the fall of employment in mining & quarrying and manufacturing. The resultant outcome is the positive growth rate of the secondary sector.

Lastly, the factors behind the changes of workforce structure since economic reforms are – agricultural growth, increase in demographic pressure on land, institutional factors, development of infrastructure, employment generating programmes by the Government, increase in literacy rate, some problems in the rural sectors, inadequate utilization of development programmes, inadequate utilization of resources and partly may be due to economic distress.

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