

RESEARCH NOTE

Changing Structure of Rural Employment in India

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ABSTRACT

Rural areas are crucial to the growth of the country because they are home to the majority of the population despite rapid urbanization. The population and labour force are largely drawn from rural areas. Significant changes have been occurring in working conditions in rural areas lately. The rural labour market in India is shifting from agriculture to non-farm sectors. The present study has been undertaken to study the changes in the structure of rural employment in India. This study has used secondary data collected from large-scale surveys (Employment and Unemployment Surveys: EUS and Periodic Labour Force Surveys: PLFS) conducted by the National Sample Survey Office (NSSO), now National Statistical Office (NSO), Ministry of Statistics and Programme Implementation (MOSPI), Government of India. The employment and unemployment indicators, such as labour force participation rate, worker population ratio, rural share in total workforce in India, gender-wise changes in workforce structure in rural areas, etc., have been estimated and analyzed. The study encompasses tabular and growth analysis. The results revealed that, there have been significant changes in rural employment dynamics. The transition away from agriculture was sparked by economic development. The rural workforce contributed around 84% of the total workforce in 1972–73, declining to 70% by 2021–22. In 2021–22, rural workers made up nearly 91% of the agricultural and 53% of the non-agricultural workforce. The WPR of rural males remained largely stable, while that of females declined, reflecting a male-dominated workforce. From 1993–94 to 2004–05, non-agricultural activity grew faster than agricultural, indicating job diversification. However, between 2018–19 and 2019–20, the agricultural workforce increased while non-agricultural employment fell, likely due to COVID.

Keywords: Rural employment, Agricultural workforce, Worker population ratio

JEL codes: J20, J21, Q12, R23

I

INTRODUCTION

In both individual and societal contexts, employment is of great significance. It is a key component of economic and social progress, fostering individual development, economic stability, and all-around advancement. Employment acts as a link between economic growth and poverty reduction (Misra & Suresh, 2014). Employment has remained one of the top challenges for Indian policymakers, and over the years, it has become increasingly complex.

Despite rising urbanization, a majority of the population still lives in rural areas, making them vital to the nation's growth. Approximately 63% of India's population resides in rural regions (Srivastava et al., 2017). Remarkable changes have recently been observed in the working conditions of rural areas. India's rural labour market is moving away from agriculture and toward non-farm industries (Chand and Srivastava, 2014). The structural transformation arises as the workforce in rural areas

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shifts away from traditional agricultural industries and toward more contemporary, varied economic activity. Furthermore, conventional job patterns in rural areas are evolving due to changes in technology, farming methods, and societal developments. The rural labour market is influenced by a variety of interrelated factors, including the pace of economic growth, wage rates, worker productivity, education, government initiatives like Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), and socio-cultural aspects. These elements drive workers away from agriculture in search of higher-paying jobs (Chand and Srivastava, 2014).

The disparity or mismatch between the production sectors enjoying strong growth and the sectors offering a plentiful supply of employment opportunities are widening over the years. Due to a major mismatch between structural changes in output and employment, India has experienced rapid expansion in the non-agricultural sector's output without corresponding increases in employment. This is the result of factors such as demographic shifts and an increase in student enrollment. The employment landscape has also changed as a result of numerous other reasons, including technical advancements, sectoral output composition, the migration of female workers from domestic to outside jobs, the development of new skills and technologies, mechanization, and labour laws and regulations (Chand & Singh, 2022).

The growth rates in output and employment exhibit significant sectoral and time-varying variability, which is highly helpful in comprehending the country's shift in the rural economy. Employment and output in rural areas grew in different ways. The rural areas have witnessed negative employment growth despite high output growth after 2004-05, a period also marked by agrarian distress, deceleration in real wages, and significant structural changes in the rural labour market (Himanshu, 2008). Thus, employment grew far more slowly than output, and it even declined even as output experienced a strong rise after 2004–2005 (Chand et al., 2017). This pattern is supported by a reexamination of employment trends using the 68th round of the NSSO, which shows that despite expectations of a post-2009 "rebound," employment growth remained slow from 2004–05 to 2011–12, with a continued shift away from agriculture and a steep drop in rural female labour force participation (Shaw, 2013). The fundamental cause of the slow development and subsequent decline in employment in rural areas is that non-farm rural sectors were unable to absorb the labour force, leaving the agricultural sector. The rural economy's ability to accommodate the growing population and the workforce migrating from agriculture is severely affected by employment-insensitive expansion (Srivastava et al., 2017). Though various studies on employment have been carried out in rural India, there is a need to review the current scenario at the macro level using the latest available evidence to recondition existing policies and introduce necessary guidelines. With this background, this study has analysed the changing structure of rural employment, particularly in the farming sector and assessed its implications on the farm economy.

II

MATERIALS AND METHODS

This study has estimated the change in the structure of rural employment at the national level. The secondary data has collected from large-scale surveys such as National Sample Survey Reports on Employment-Unemployment Situation: 27th (1972-73), 38th (1983-84), 50th (1993-94), 55th (1999-2000), 61st (2004-05), 68th rounds (2011-2012) and Periodic labour force survey (PLFS) reports for 2017-18, 2018-19, 2019-20, 2020-21 and 2021-22 conducted by the National Sample Survey Office (NSSO), now National Statistical Office (NSO), Ministry of Statistics and Programme Implementation (MOSPI), Government of India. The employment and unemployment indicators, such as labour force participation rate, worker population ratio, rural share in total workforce in India, gender-wise changes in workforce structure in rural areas, etc., have been estimated and analyzed.

Tabular and growth analysis has been used to analyse the long-run changes in the structure of rural employment in India during 1972-73 to 2021-22. Using the worker population ratio (WPR) and population, the gender-wise size of the workforce has been estimated at the disaggregated level, viz. agriculture, non-agriculture, cultivators, and agricultural labourers. The contribution of rural areas in total employment has been examined by estimating the share of the rural workforce in the total workforce, separately for agricultural and non-agricultural activities.

Compound Annual Growth Rate (CAGR) in workforce has been estimated to compare the changes across the sectors (agriculture/non-agriculture), occupations (cultivators/agricultural labours) and gender (male/female) during the sub-periods (1993-94 to 2004-05, 2004-05 to 2011-12, 2011-12 to 2017-18, 2017-18 to 2018-19, 2018-19 to 2019-20, 2019-20 to 2020-21 and 2020-21 to 2021-22) of the last 50 years. CAGR is calculated using the equation

$$\text{CAGR} = \left(\frac{V_{\text{final}}}{V_{\text{begin}}} \right)^{1/t} - 1$$

Where,

CAGR = Compound Annual Growth Rate

V_{final} = Final value

V_{begin} = Beginning value

T = Time in years

The changing structure of employment, due to differential growth in the workforce, has been analysed using tabular methods.

III

RESULTS AND DISCUSSION

Over the past few decades, there has been a considerable change in the structure of rural employment in India. This transformation can be attributed to a wide range of factors, including advances in agricultural technology, shifts in economic interests, demographic changes, and government initiatives aimed at promoting rural development. This study draws on evidence from successive rounds of the National Sample Survey and Periodic Labour Force Survey (PLFS) to examine the changing structure of rural employment in India.

Results are presented in four parts. The first part encompasses the contribution of rural areas to total employment. The second part deals with gender wise changes in the rural workforce. The third part handles changes in the agricultural and non-agricultural workforce in rural India. The final part tells of changes in the agricultural workforce (cultivators and agricultural labourers) in rural India.

3.1 Contribution of Rural Areas in Total Employment

The results from NSSO and PLFS employment surveys reveal that a large share of the workforce (based on usual activity status) resides in rural areas (Table 1). The estimated rural workforce has increased from 191 million in 1972-73 to 383 million in 2021-22. In the same period, the rural population increased from 438.86 million to 938.61 million. As a result of this sharp relative increase in rural population size compared to the rural workforce, the worker population ratio (WPR) declined from 46 in 1972-73 to 40 in 2021-22. The growth in the workforce has lagged behind population growth, as reflected in the declining worker-population ratio (WPR) from 46 in 1972-73 to 40 in 2021-22. During 1972-73, a noteworthy share of the total workforce was rural, at around 84 per cent. Due to better job opportunities in urban areas at relatively higher wages, the rural contribution in total employment declined to around 70 per cent in 2021-22. This shift reflects a broader economic transition in rural India, where, despite an increase in the absolute number of workers in agriculture, its share in the total workforce has witnessed a significant decline over the years (Gulati and Juneja, 2022).

Segmentation by industry reveals that a practically significant share of all agricultural operations occurs in rural areas. Despite the gradual decline from 97 per cent in 1972-73 to 91 per cent in 2021-22, the rural population still constitutes an overwhelmingly large share of the total agricultural workforce. In addition, more than half of non-agricultural activities are carried out in rural areas. The share of rural areas in non-agricultural activities increased from 47% in 1972-73 to 53% in 2021-22.

TABLE 1. WORKER POPULATION RATIO (WPR) AND RURAL SHARE IN TOTAL WORKFORCE IN INDIA

Year	Rural workforce (million)	WPR	Rural share in total workforce (%)		
			Agriculture	Non-agriculture	Total rural workforce
1972-73	191	46	97	47	84
1983-84	226	45	96	48	81
1993-94	293	44	94	48	78
2004-05	342	44	92	49	75
2011-12	336	40	93	50	71
2017-18	315	35	93	50	69
2018-19	327	36	94	51	69
2019-20	361	39	95	50	70
2020-21	383	41	93	52	71
2021-22	383	40	91	53	70

3.2 Gender-Wise Changes in Rural Workforce

The Workforce Participation Rate (WPR), based on usual status and the gender-wise composition of the rural workforce, is shown in Table 2. Usual Status refers to the long-term employment status of a person over a reference period of one year (i.e., at least 183 days or more in the last 365 days). Evidence from NSSO and PLFS estimates reveals a significantly higher participation rate among the male workforce than the female workforce in rural areas. The WPR of the rural male workforce remained more or less stagnant (55) over the years, whereas the female workforce exhibited a declining trend. The rural workforce is dominated by men, and their share has increased from 64 per cent in 1972-73 to 68 per cent in 2021-22. During the same period, the share of the female workforce declined from 36 per cent in 1972-73 to 32 per cent in 2021-22. This trend reveals the withdrawal of women from the rural workforce. The decline in the participation of female workers initiated since 2004-05 and continued till 2017-18. Notwithstanding, the declining trend in female WPR has begun to reverse since 2017-18. Similar trends were observed by (Chand and Srivastava, 2014) for the period 1993-94 and 2009-10 indicating a defeminizing trend in rural workforce in India. There is also evidence that in 2004-05 and 2009-10, women's employment in agriculture declined while men's employment remained stagnant. A slowdown in non-farm employment growth hindered the absorption of the displaced workforce, particularly affecting women in rural areas

(Jatav & Sen, 2013). Further, previous studies found that the female workforce shows greater degree of fluctuation as compared to the male counterparts in terms of their participation- coefficient of variation (CV) ranged from 9 to 14 compared to 1 to 3 for male workforce during 1999 to 2012. As a result of the strong growth in agricultural output and the consequent terms of trade for agriculture from 2004-05 to 2011-12, farmers' and agricultural labours' incomes increased rapidly during this time, which in turn caused them (female workers) to stop working on farm (Roy and Mukhopadhyay, 2018).

TABLE 2. GENDER-WISE CHANGES IN WORKFORCE STRUCTURE IN RURAL AREAS

Year	WPR (Usual Status)		Share in total workforce (%)		
	Male	Female	Male	Female	Total rural workforce (million)
1972-73	54	32	64	36	191
1983-84	55	32	63	37	226
1993-94	55	33	64	36	293
2004-05	55	33	64	36	343
2011-12	54	25	70	30	336
2017-18	52	18	76	24	316
2018-19	52	19	74	26	327
2019-20	54	24	70	30	361
2020-21	55	27	68	32	383
2021-22	55	26	68	32	383

3.3 Changes in Agricultural and Non-Agricultural Workforce in Rural India

The job landscape in rural areas has changed structurally over time. During 1993-94, 229 million rural workers were engaged in agricultural activities and 63 million in non-agricultural activities. With the economic development over the years, rural communities began diversifying their engagement away from agriculture. Between 1993-94 and 2004-05, growth in the non-agricultural workforce was much higher (3.9%) than in the agricultural workforce (0.82%), which implies an accelerated pace of employment diversification. Previous studies have shown that rural non-farm employment has increased significantly since the early 1990s, and that

the share of rural employment in agriculture fell substantially from 2004–05 to 2009–10, when agricultural employment declined. However, the dominance of industries like construction in rural non-farm employment raises questions about how long this transition will last (Reddy et al., 2014). It is pertinent to note that between 2004–05 and 2011–12, the agricultural workforce shrank by roughly 34 million, at an annual growth rate of -2.06 per cent. During the same period, around 28 million workers entered the non-agricultural sector, with annual growth of 3.70 per cent. The rate of withdrawal of agricultural workers accelerated further during 2011–12 to 2017–18. Such trends demonstrate an apparent preference among the rural workforce for non-agricultural employment opportunities. The migration of workers outside agriculture is influenced by an array of variables, such as patterns of economic growth, intersectoral differences in wage rates and worker productivity, government initiatives, education, and socio-cultural factors prevalent in rural areas. The shift of the workforce away from agriculture, increasing casualisation, and the decline in female workforce participation have been identified as key factors influencing rural wage dynamics in India (Himanshu, 2008).

It is to be noted that the increase in the number of non-agricultural workforce (7 million) during 2011–12 to 2017–18 was far less than the withdrawal of the agricultural workforce (28 million). This implies that not all workers who left agriculture joined non-agricultural activities. Long-term studies show that employment structure and workforce composition have changed slowly, pointing to underlying structural constraints beyond short-term cycles (Himanshu, 2011). This evidence shows the limited capacity of rural non-agricultural sectors to offer new workers productive job opportunities. Job creation in non-agricultural industries is challenging due to several constraints. All the workers who were leaving agriculture were not found to be absorbed into the non-agricultural sector in rural areas (Srivastava et al., 2017), and similar results were found: non-farm rural sectors were unable to provide gainful employment to the labour force leaving the agricultural sector. From 2017–18 to 2018–19, male agricultural workers continued to leave agricultural activities, but about 4 million female workers joined agriculture, resulting in a marginal increase in the total agricultural workforce. Non-agricultural sectors also witnessed 7 per cent increase in workforce during 2017–18 to 2018–19.

During 2018–19 to 2019–20, the agricultural sector witnessed a sharp change, with the male workforce increasing by 9.3 per cent and the female workforce by 35.0 per cent. This led to an overall 19.1 per cent rise in the country's agricultural workforce. During the same period, the non-agricultural workforce also increased but marginally. This could be due to the impact of the lockdown imposed in March, 2020 to curb COVID-19. Notwithstanding, the last quarter of the year 2019–20 in the PLFS survey falls in April–June, which witnessed a large-scale reverse migration due to the lockdown.

TABLE 3. CHANGES IN AGRICULTURAL AND NON-AGRICULTURAL WORKFORCE IN RURAL INDIA

Year	Agriculture			Non-agriculture			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Number (million)									
1993-94	139	90	229	49	14	63	188	105	293
2004-05	146	103	249	73	21	93	219	124	342
2011-12	139	76	215	95	25	121	234	102	336
2017-18	131	56	187	108	21	128	239	77	315
2018-19	129	60	188	114	24	137	243	84	326
2019-20	141	81	222	113	26	139	254	107	360
2020-21	141	92	233	121	31	150	262	123	383
2021-22	134	92	226	129	29	157	263	122	383
Growth rate (%)									
1993-94 to 2004-05	0.45	1.35	0.82	4.19	3.66	3.99	1.55	1.70	1.59
2004-05 to 2011-12	-0.64	-4.26	-2.06	3.81	3.00	3.70	0.98	-2.80	-0.28
2011-12 to 2017-18	-0.96	-4.94	-2.29	2.06	-3.49	1.01	0.32	-4.57	-1.04
2017-18 to 2018-19	-1.5	7.1	0.5	5.6	14.3	7.0	1.7	9.1	3.5
2018-19 to 2019-20	9.3	35.0	18.1	-0.9	8.3	1.5	4.5	27.4	10.4
2019-20 to 2020-21	0.0	13.6	5.0	7.1	19.2	7.9	3.1	15.0	6.4
2020-21 to 2021-22	-5.0	0.0	-3.0	6.6	-6.5	4.7	0.4	-0.8	0.0

The male agricultural workers who joined the sector during 2019-20 remained till 2020-21, while the female workers further increased by 13.6 per cent. Consequently, the agricultural workforce increased by 5 per cent during 2019-20 to 2020-21. Similarly, the non-agricultural workforce increased by 7.9 per cent. Overall,

the evidence shows that rural areas, in general, and particularly the agricultural sector, absorbed the lockdown-led reverse-migrating workforce. Interestingly, after 2021 (July), when the COVID pandemic began to diminish, the agricultural workforce declined by 3 per cent, while the non-agricultural workforce increased by 4.7 per cent. The total rural workforce in 2021-22 did not increase and remained at the 2020-21 level of 383 million.

3.4 Changes in the Agricultural Workforce (Cultivator and Agricultural Labour) in Rural India

A cultivator is a person who is engaged in the cultivation of land owned by them or held from the government or private entities for payment in cash, kind, or shares. Cultivation includes effective supervision or direct involvement in agricultural operations. However, an agricultural labourer is a person who works on another person's land for wages in cash, kind, or a share of the produce. They have no ownership, leasehold, or operational rights over the land and do not bear any risk associated with the cultivation process (Ministry of Statistics and Programme Implementation (MoSPI), Government of India). The agricultural labourers and cultivators both constitute the agricultural workforce. The number of cultivators increased by 22 million between 1993-94 and 2004-05, at an annual growth rate of 1.47 per cent (Table 4). This was accompanied by a marginal decrease in agricultural labourers, and total agricultural workers increased at an annual growth rate of 0.82 per cent. The period 2004-05 witnessed a consistent decline in the number of cultivators till 2017-18, from 160 million in 2004-05 to 138 million in 2017-18. Similarly, agricultural labourers witnessed a large-scale withdrawal from the agricultural sector. This resulted in a decline in the overall agricultural workforce of more than 2 per cent from 2004-05 to 2017-18. Such labour shortages have major effects on farming activities, as research indicates that crop output suffers when labour is scarce, although these impacts can be reduced by implementing labour-saving technologies. However, high costs, a lack of skill, and small landholdings continue to limit the application of such technologies (Prabakar et al., 2011). It is to be noted that cultivators witnessed a deceleration in their withdrawal from agriculture between 2011-12 and 2017-18 as compared to the earlier period, whereas agricultural labourers witnessed an acceleration in their withdrawal in the latter period. The deceleration in the rate of withdrawal of cultivators could be due to the government's focus on boosting farmers' income and/or the limited capacity of non-agricultural sectors to provide meaningful employment. The decline in the cultivator workforce is primarily due to the female workforce, whereas both male and female workers contributed to the overall decline in the number of agricultural labourers.

TABLE 4. CHANGES IN AGRICULTURAL WORKFORCE IN RURAL INDIA

Year	Cultivator			Agri. Labour			Agri. Workers		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Number (million)									
1993-94	85	53	138	54	37	91	139	90	229
2004-05	93	67	160	53	37	89	146	103	249
2011-12	91	49	140	48	27	75	139	76	215
2017-18	101	37	138	30	20	50	131	56	187
2018-19	100	41	140	29	19	49	129	60	188
2019-20	108	58	165	33	24	57	141	81	222
2020-21	110	67	177	28	24	52	140	92	233
2021-22	107	70	177	25	21	47	134	92	226
Growth rate (%)									
1993-94 to 2004-05	0.89	2.32	1.47	-0.27	-0.18	-0.23	0.45	1.35	0.82
2004-05 to 2011-12	-0.24	-4.32	-1.83	-1.41	-4.34	-2.56	-0.64	-4.26	-2.06
2011-12 to 2017-18	1.76	-4.75	-0.30	-7.54	-5.07	-6.56	-0.96	-4.94	-2.29
2017-18 to 2018-19	-1.0	10.8	1.4	-3.3	-5.0	-2.0	-1.5	7.1	0.5
2018-19 to 2019-20	8.0	41.5	17.9	13.8	26.3	16.3	9.3	35.0	18.1
2019-20 to 2020-21	1.9	15.5	7.3	-15.2	0.0	-8.8	-0.7	13.6	5.0
2020-21 to 2021-22	-2.7	4.5	0.0	-10.7	-12.5	-9.6	-4.3	0.0	-3.0

There was a reversal in the declining trend in cultivators in 2018-19, with an addition of 2 million cultivators. Agricultural labourers, on the other hand, declined further by 2.0 per cent during 2017-18 and 2018-19. During 2018-19 to 2019-20, the increase in the agricultural workforce due to the lockdown's impact was accounted for by both cultivators and agricultural labourers. It is surprising that female cultivators and agricultural labourers experienced 41.5 per cent and 26.3 per cent increases during this period, respectively. Later on, the rate of increase among cultivators decelerated, whereas agricultural labourers resumed their declining trend.

By 2021-22, the number of agricultural labourers in the country was at its lowest level, at 47 million.

IV

CONCLUSION AND POLICY IMPLICATIONS

India's rural employment dynamics have changed significantly for several reasons, including technological developments, shifting economic priorities, demographic changes, and government rural development programs. The worker-population ratio (WPR) has decreased, indicating that the rural workforce has not kept pace with population growth. Due to improved urban employment possibilities, the share of rural areas in total employment has declined over the years. Nevertheless, agriculture remains a predominant employer in rural areas, despite increasing diversification of employment into non-agricultural activities. This change has emerged from a broader economic transformation underway in rural India. The rural workforce is dominated by men. WPR for women is falling over time.

There have been significant changes in rural employment dynamics. The transition away from agriculture was sparked by economic development. During 1993-94 to 2004-05, non-agricultural growth outpaced agricultural growth, which was the main driver of employment diversification. A preference for non-agricultural jobs is evidenced by the decline in the agricultural workforce from 2004-05 to 2011-12 and again from 2011-12 to 2017-18. Both genders experienced growth in non-agricultural industries during these periods. The declining trend in cultivators and agricultural labourers came to a sudden halt, and from 2018-19 to 2019-20, both male and female agricultural workers increased significantly. This was due to the lockdown during the COVID-19 period, which led to large-scale reverse migration of labourers from urban centres to rural areas. Most of the incoming workers were absorbed in agriculture. In other words, the agricultural sector emerged as a predominant employer and provided a cushion for reverse-migrating workers during the COVID period.

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