



Changing Structure of Rural Labour Market: Trends, Drivers and Implications for Agriculture

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Indian economy is undergoing a structural transformation from traditional (agriculture or informal) sectors towards the modern (industrial or formal) sectors. This transformation has been relatively slow in labour employment than in output. However, recently, labour market has also started catching up with the changes in sectoral composition of output. This is more visible from the changes in rural wage rate than in employment share of various sectors. Between 1993-94 and 2009-10, the share of agriculture sector in rural employment declined from 78.43 to 67.96 per cent while agricultural wage rates (for male worker) followed an increase of 2.69 per cent per year in real terms compared to 1.75 per cent increase in wage rate of non-agriculture labour in rural India. This has serious implications for farm sector. Farmers are complaining about shortage of hired labour for undertaking various farm operations (Gulati *et al.*, 2013). The situation is often blamed on Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS). Similarly, strong concerns are expressed about diminishing interest of members of farm families to stay and work in agriculture. There is particular concern about youth abandoning agriculture and its effect on feminization of the sector. This brief presents long run changes in rural and agricultural workforce and occupational diversity for male and female population and identifies underlying factors affecting changes in rural labour supply. Implications of changes in rural labour market and rising wage rate for agriculture and research and development (R&D) are also discussed.

Trend in Rural Employment Based on Usual Status

According to NSSO data, rural sector provided employment to 73 per cent of the total workforce (460 million) in India based on usual status in the year 2009-10. Total rural workforce increased by 15 per cent between 1993-94 and 2009-10 (Table 1). But, this increase comprised of only male workers. The female workers remained stagnant at the level of about 105 million. As a result, the share of female workers in rural workforce declined from 35.81 to 31.09 per cent. Further, the growth rate in workforce was higher than in population (Table 2) which led to decline in one of the important indicator of workforce participation i.e. worker population ratio (WPR). WPR for female workers declined from 32.80 per cent to 26.10 per cent. This pulled down total WPR for rural India from 44.40 per cent to 40.80 per cent with a marginal decline in male WPR. This trend is not in conformity with the oft repeated phenomenon of demographic transition in India as revealed by 4 percentage points increase in the share of population in age group 15-59 years in total population. This is also a pointer to the fact that India is not fully reaping benefit of demographic transition by suitably employing its younger population.

The sector-wise disaggregation revealed comparatively higher employment growth in non-farm sectors than in agriculture sector during the past 16 years. In fact, the agriculture sector witnessed decline in employment due to withdrawal of female workers at the rate of half a per cent per year. This could result from two set of reasons, one related to distress and the other to developmental. It

Table 1. Trend in employment in rural India based on usual status

Year	Workforce (million)			Worker population ratio (%)		
	Male	Female	Person	Male	Female	Person
1993-94	187.76	104.77	292.57	55.30	32.80	44.40
2009-10	231.87	104.62	336.49	54.70	26.10	40.80
Change	44.11	-0.15	43.92	-0.60	-6.70	-3.60

has been observed that women work in agriculture under distress and they are withdrawn from farm work once the economic condition of household starts improving. They in turn can then be confined to their household activities or they may be going for studies. In rural India, both these factors are operating (Rangarajan *et al.*, 2011). Consequent upon the lower growth, the agriculture sector lost 10.47 percentage points share in total rural employment during the period under consideration. On the other hand, construction and services sectors witnessed increase in share by 7.03 and 3.26 percentage points, respectively. This indicates a structural change in the rural employment away from agriculture towards non-farm sectors. The big push for this shift in employment has come from construction sector. It is a matter of concern that the share of industry in rural employment remained at the same level during the past 16 years.

Gender-wise disaggregation revealed higher concentration of female workers in agriculture as compared to their male counterpart as 79.40 per cent of total female workers and 62.80 per cent of male workers were employed in agriculture sector in 2009-10. It needs to be mentioned that despite higher

percentage of women working in agriculture as compared to men, women constituted only 36 per cent of total agriculture workforce. It is also observed that female employment in rural industry and services sectors is growing at a lower rate as compared to their male counterparts whereas opposite is true for construction sector. Based on this, one can conclude that women are getting somewhat marginalized in industry and service sector jobs while construction sector is showing feminization of workforce.

Drivers of Changes in Rural Labour Market

Changes in rural labour market are driven by several inter-related factors like pattern of economic growth, wage rate, worker productivity, education, government programmes and socio-cultural factors. These factors are discussed below:

Economic growth

Rural economy has grown at annual rate of 5.74 per cent during 1993-94 and 2009-10 (Table 3). Among all sectors, agriculture has grown at lowest rate – which is exactly half of the growth in total rural economy. Consequently, the share of agriculture in total net domestic product (NDP) in rural sector has declined from 56.10 per cent in 1993-94 to 36.16 per cent in 2009-10 and shares of industry, construction and services have gone up by 3.06, 3.67 and 11.03 percentage points, respectively. It is pertinent to mention that the services sector has surpassed the agriculture sector and emerged as a top contributor (38.93%) in rural NDP since 2004-05.

Table 2. Structure of employment and population by gender in rural India

Sector	Male			Female			Persons		
	1993-94	2009-10	CGR	1993-94	2009-10	CGR	1993-94	2009-10	CGR
Agriculture	139.13	145.61	0.29	90.31	83.07	-0.52	229.44	228.68	-0.02
Industry	13.14	16.23	1.33	7.33	7.85	0.42	20.48	24.08	1.02
Construction	6.01	26.20	9.64	0.94	5.44	11.58	6.95	31.64	9.94
Services	27.60	41.50	2.58	5.87	7.95	1.92	33.47	49.46	2.47
Total workforce	187.76	231.87	1.33	104.77	104.62	-0.01	292.52	336.49	0.88
Total population	339.53	423.89	1.40	319.41	400.85	1.43	658.94	824.74	1.41

CGR: Compound growth rate (%)

(million)

The effect of this structural transformation in rural output is reflected in rural labour market but it is subdued. Employment share of agriculture declined by 10.47 percentage point compared to decline of 19.94 percentage point in its share in rural NDP. This has resulted in widening gap between employment and output shares of agriculture. This also indicates presence of excess workforce in agriculture sector. Although workforce in agriculture sector is withdrawing but at a very slow pace and only by female workers (Table 2).

Though the non-farm sectors have witnessed impressive growth in their output, it could not be gainfully translated into employment generation. This is witnessed from the lower growth in employment than in output in all the sectors except construction sector. The poor technical skills and education status might have been a barrier for entry of largely unskilled and poorly educated workers of rural India into non-farm sectors. The improvement in skills and education of rural labour force would go a long way to boost the employment opportunities in these sectors. The overall trend in rural employment indicates that the impact of structural transformation in rural economy is getting transmitted into the labour market but at the slow pace.

Table 3. Trend in sectoral contribution of rural output in India
(per cent)

Sector	Share in rural NDP			CGR (at 1986-87 prices)
	1993-94	2009-10	Change	
Agriculture	56.10	36.16	-19.94	2.87
Industry	8.14	11.20	3.06	7.86
Construction	4.52	8.19	3.67	9.74
Services	27.91	38.93	11.03	7.96
Total	100.00 (3849)	100.00 (26369)	-	5.74

Figures within parentheses are net domestic product (NDP) in rural sector (estimated using share of 2004-05) at current prices in 2009-10 in billion rupees. CGR: compound growth rate in rural NDP between 1993-94 and 2009-10

Wage rate trend and differentials

Differential wage rate among the sectors is one of the important drivers of inter-sectoral movement of workers. The wage rate of non-agricultural workers has always been higher than the agricultural workers (Fig. 1). This

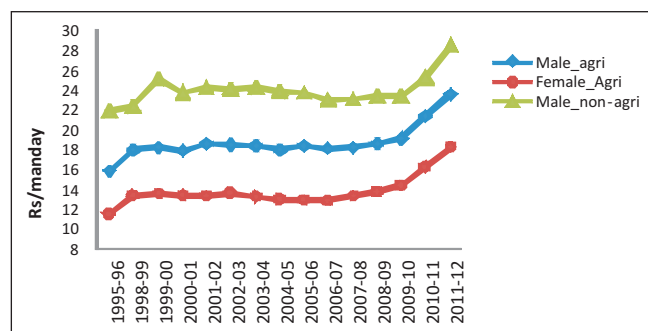


Figure 1. Trend in daily wage rate in rural India at 1986-87 prices

Source: Directorate of Economics and Statistics, Govt. of India

directs movement of the workers away from agriculture towards non-agricultural sectors (to fetch higher income) depending upon the capacity of non-agriculture sector to draw excess labours from agriculture and absorb in productive activities. The 'wage push' movement of workers from agriculture to non-agriculture sectors can be accelerated further through improving employment opportunities in the later till wage differences equalizes or excess labour in the former vanishes.

Government programmes: MGNREGS

The effect of MGNREGS on rural labour market can be ascertained from the volume of employment offered by this scheme and its influence on the prevailing wage rate. It was estimated that MGNREGS constitute about 2 per cent of total rural labour supply and about 3 per cent of labour supply from rural labour households (Table 4). Further calculations show that if a labour household, who got work under MGNREGS, was employed for 100 days, as envisaged in the scheme, then MGNREGS share in labour supply increases to 5.1 per cent for all rural households and 8.1 per cent for rural labour households. In a scenario where all rural labour households get work under MGNREGS for 100 days the supply of labour from rural labour households declines by over 22 per cent. The level of employment under MGNREGS during 2009-10 was found to have moderate effect on total labour supply in rural India as only one third of labour households got job under MGNREGS and that too for about one third of the provision of 100 days. MGNREGS will definitely reduce availability of labour, for other types of work including agriculture, with its expansion.

Table 4. The share of MGNREGS in total rural labour employment in 2009-10

S.n.	Particulars	Rural Total	Rural Labour
a	Population in million	825.0	319.3#
b	Households in Million (a/household size)	179.3*	72.5@
c	Households getting employment in MGNREGS		
c ₁	Per cent	24.2	36.3
c ₂	Number in million (b.c./100)	43.4	26.3
d	Average no. of days worked in MGNREGS by households that got MGNREGS work	37	36
e	Total employment in MGNREGS days in a year in million (c ₂ .d)	1605.9	946.9
f	Worker to population ratio	40.8	40.8
g	Workers in rural labour households (a.f/100)	336.5	130.3
h	Total labour supply of households in million days assuming 250 days as full employment (g.250)	84122.5	32566.1
i	Share of MGNREGS in total employment with 37/36 days of MGNREGS work (e/h.100)	1.9	2.9
j	Share of MGNREGS in total employment with 100 days of MGNREGS work (i/d.100)	5.1	8.1

#38.7% of total rural population belong to rural labour category, *Household size: 4.6

@ 40.4% of total rural households belong to rural labour category.

Source: NSS report no.537, pp.30, 32, 76, A22, C3 (MoSPI, 2011)

The MGNREGS was also found to have a direct effect in raising the real wage rate in the rural sector. Real daily wages during six years before MGNREGS (1999-00 to 2005-06) and six years after MGNREGS (2005-06 to 2011-12) revealed that the real daily wage rates have increased rapidly in the later period (Table 5). Moreover, the wage rates of unskilled workers (the intended beneficiary in the scheme) have increased faster than the skilled workers (both agriculture as well as non-agriculture). A detailed study done by Berg *et al.* (2012) on the impact of MGNREGS on real daily wages found that this scheme boosts the real daily wage rate by 5.3 per cent.

Besides reducing labour availability, the MGNREGS affects labour market by increasing reservation wages and affecting work culture and work environment for rural labour. Like most of the public employment schemes, MGNREGS involves very light and non-strenuous work than agriculture activities in private employment. Once a labour get a particular wage for doing very light work and work in a leisurely way, he/she would look for same kind of treatment in private

employment in farm or seek higher wage for work requiring hard labour.

Improvement in education

Pursuit for education is being perceived as an important factor responsible for the lower growth in workforce. The ratio of students to total population has increased from 20.5 per cent in 1993-94 to 26.6 per cent in 2009-10 in India (Thomas, 2012). Consequently, the growth in workforce is moderated by the rising participation in the education. In the rural India, the literacy rate has improved significantly with female witnessing higher growth (21.2 percentage points) than the male (16.1 percentage points) counterparts between 1993-94 and 2009-10. This is a welcome change in terms of improvement in skills and bargaining power of the labour. However, the real challenge will be to create employment opportunities for those educated persons who will join back the labour force after acquiring the education in the near future. This is particularly important because it is found that illiterate have the lowest rate of unemployment, and the rate of

Table 5. Compound growth rate in real rural wages

Period	Agricultural wages			Non-agricultural wages		Unskilled workers		
	Male	Female	Persons	Male	Male	Female	Persons	
1999-00 to 2005-06	0.08	-0.81	-0.29	-0.90	-0.81	-1.62	-1.16	
2005-06 to 2011-12	4.34	5.80	4.96	3.03	5.27	5.62	5.42	
1999-00 to 2011-12	2.19	2.44	2.30	1.05	2.19	1.93	2.08	

(per cent)

unemployment tends to rise with every level of education (Mehrotra *et al.*, 2012). Although majority of the usually employed male and female workers in the rural India were either illiterate or educated upto primary level in 2009-10, the number of workers in the category of higher level of education and their share in total workforce was increasing. The attainment of higher level of education would improve their skills and subsequently accelerate their movement from agriculture to non-farm sectors.

Inter-sectoral differences in worker productivity

The inter-sectoral variation in worker productivity (income generated per worker) is an important factor influencing the labour movement among different sectors of the economy. The worker productivity in agriculture sector increased by 57.92 per cent in the past 16 years at the annualized rate of 2.90 per cent. But, the level of worker productivity in agriculture sector is still about one fifth of services sector, one third of industry sector and two third of construction sector in rural India. This prompts rural labour to move away from agriculture to those sectors. However, this is happening slowly. The reason for this are many like (a) requirement of skill and education level particular in services sector and white collars jobs in Industry (b) concentration of industrial unit away from rural habitation (c) limited capacity of non-farm sector to ensure productive employment to in-coming workers.

Availability of farm family labour for farm work

Consequent upon the improvement in income due to economic growth and development, the first thing a farm household does is to withdraw its female family labour from the farm works. This is evident from the fact that female workforce from agriculture declined by 8.02 per cent between 1993-94 and 2009-10 (Table 2). Though, this decline comprises female workers from labour households as well as farm households, the extent of withdrawal seems much higher among the farm households. This decline has affected labour supply for farm work.

Social factors

Traditionally, labour-employer relation in agriculture was of master-servant type wherein a land owning farmer considers himself as master and hired labour as his servant. Labour class has been resenting this feudal treatment in their work, so they started either seeking

employment in a employer-employee framework, or labour arrangements of contractual nature where they work on piece-meal basis for a fixed wage which does not involve master-servant relationship. This requires complete change in attitude of farmers towards hired labour which albeit is changing slowly. This has been one of the sources for built up and rise in tensions between labour households and farm households and consequent emergence of bargaining power as a determinant of wage rate and labour supply in rural India. Reluctance of farm family members to undertake farm work strengthens bargaining power of labour to seek higher wages and dictate terms of contract.

Implications of Changing Labour Market for Agriculture

Though employment diversification is desirable from economic development point of view, it leads to decline in labour supply and increase in wage rate in agriculture sector. Shortage in labour during the peak agricultural season hampers farm operations while persistent wage rise has potential for cost-push inflation in the economy. Any significant rise in wages leads to increase in cost of production which in turn (if not compensated by productivity enhancement) transmits to food prices and puts inflationary pressure in the economy. Thus attempts need to be made to improve agricultural productivity to absorb the wage rise and prevent cost-push inflation. Any effect of labour scarcity needs to be addressed through the labour saving technological interventions for farm operations. Acceleration in farm mechanization is a viable strategy to partially substitute labour as well as increase the agricultural productivity. However, the economic feasibility of farm mechanization needs to be ascertained especially for the predominant small and marginal farmers. For these small holdings, custom hiring and lease arrangement of farm machinery can be planned at the community level.

Conclusions and Policy Suggestions

The long run trend in rural employment revealed the declining workers participation (primarily due to stagnant or declining female workforce) and a structural change away from agriculture towards non-farm sectors. Further, the rural India is not fully reaping the benefits of oft repeated phenomenon of demographic

transition by suitably employing its younger population. The changes in rural labour market are influenced by a set of complex factors such as pattern of economic growth, inter-sectoral wage rate and worker productivity differentials, education, MGNREGS and socio-cultural factors.

It is to be noted that changes in rural labour market have been slow due to requirement of skill and education level in non-farm sectors, concentration of industrial unit away from rural habitation and limited capacity of non-farm sector to ensure productive employment to incoming workers. The improvement in education and skills of the largely uneducated and unskilled rural labours and improving employment opportunities in non-farm sectors will accelerate the changing structure of rural workforce.

Though the movement of labour out of agriculture is a welcome development from the economic growth and development point of view, there is a strong need to develop effective strategy to face labour scarcity and wage rate increase in agriculture, which subsequently increases the cost of production and prices. This should include the strategy for farm sector in the form of appropriate mechanization, farm practices and custom hiring arrangements. Agriculture R&D has to play vital role in terms of offering substitute for labour in farm operations and in terms of offsetting cost push inflation resulting from structural shift in labour and rise in wages. The strategy in non-farm sector need to

focus on employment creation in rural areas through agro processing, secondary agriculture and rural industrialization.

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