Changes in Labour force and Employment in Rural and Urban India: 2017-18 to 2020-21

Presidential Address

105TH ANNUAL CONFERENCE

INDIAN ECONOMIC ASSOCIATION
Bengaluru
27th December, 2022

Ramesh Chand
Member, NITI Aayog, Government of India
New Delhi

Indian Economic Association

!! Tamso Maa Jyotir Gamay !!

Changes in Labour force and Employment in Rural and Urban India: 2017-18 to 2020-21

Ramesh Chand
Member, NITI Aayog, Government of India

Employment has remained one of the top challenges for policy planners of India. This challenge has become more complex over time with the improvement in literacy and schooling, attainment of higher education and skills and vocational education. The educated and trained manpower looks not for jobs alone but for decent jobs with better work environments, regular employment and better remuneration. However, job creation for this kind of employment has not kept pace with the increase in the number of job seekers. Two, the growth of industry and services sector has been very uneven across different regions and states. This has resulted in a mismatch in employment opportunities and the supply of labour at local levels. Third, there is a large divergence between structural changes in the output and employment of Indian economy. The industry and services sectors, which constitute more than 80 per cent of the gross value added in the country, provide employment to 54.5 per cent of the workforce, and, agriculture, which constituted one fifth of the total economy (GVA) of the country in 2020-21, retains 46.5 per cent workforce. This divergence in sectoral share in income and employment is manifested in the large and rising gap in per worker income in the agriculture and non-agriculture sectors. Lastly, preference towards government jobs has increased tremendously due to job security, assured salary and other pay and prestige associated with such jobs.

India has experienced more or less consistent and steady changes in the structure of the output of the economy, especially after the economic reforms of 1990–91. The growth rate of the economy, measured by the gross value added, at constant prices, accelerated from 4.27 per cent twenty years before the economic reforms to 6.34 per cent twenty years after the reforms. The growth rate in GVA showed further acceleration and reached 6.58 per cent during

2010–11 to 2019–20 (ie pre Covid decade) at 2011–12 prices. This growth trajectory was accompanied by a steady decline in the share of agriculture and a steady increase in the share of non-agriculture sectors in total economy. However, the trend in employment did not reveal a consistent and clear pattern over time. This is partly due to demographic changes and increased enrolment for post-matric education. Many other factors like technological changes; sectoral composition of output; shift of female workforce from household activities to outside activities and also vice versa; skill creation; mechanisation; labour laws; and regulations have also produced changes in the workforce and employment. These complexities have led to a wide variation in the conclusions drawn by experts and various studies on employment. The problem is further accentuated by a long gap in data on various aspects of employment.

Two major official sources of data on the workforce and employment have been the (i) decennial population census and (ii) nationwide quinquennial surveys on employment and unemployment by the erstwhile NSSO under the Ministry of Statistics and Programme Implementation (MoSPI), Government of India. The Census data is available after an interval of ten years and the last available data refer to the year 2011. Similarly, the quinquennium NSSO data on employment and unemployment is available up to the year 2011–12 only. The nationwide Employment and Unemployment (E&U) surveys have been replaced by the Periodic Labour Force Survey (PLFS) conducted by the National Statistical Office (NSO) of MoSPI, which started in the year 2017–18. The PLFS data is available for both rural and urban and the total population on an annual basis. The quarterly data, on the other hand, is available only for urban households.

According to NSO, the PLFS data measure the dynamics in labour force participation, workers to population ratio and the employment status along with related, important parameters for both rural and urban areas, in the usual status and current weekly status (CWS) annually. Besides, PLFS also brings out the employment aspects for a short time interval of three months for urban areas only in CWS (MoSPI 2021).

The PLFS surveys are based on a different sampling framework and uses a different analytical approach vis à vis the NSSO surveys on employment (Kannan and Khan 2022). Because of this, the time series data on E&U, available from the NSSO surveys, is not comparable with the PLFS data.

Annual data sets from the PLFS are now available for four consecutive years—2017–18 to 2020-21. The quarterly data is available up to April–June 2022, but it pertains only to urban households. Continuous flow of data from PLFS, despite the disruptions caused by the Covid outbreak, is very useful to reveal the effect of various policies and developments, followed during the current regime at the Centre, and to understand and shape the employment scenario in the country. This paper analyses and discuss the country-level scenario of changes in employment and workforce using the annual PLFS data for the years 2017–18, 2018–19, 2019–20 and 2020-21.

Many studies and media articles have expressed serious concern about the deterioration in the employment scene in the country in recent years (Anand Thampi 2021**;** Mehrotra and Jajati 2021, Mehrotra and Tuhinsubhra Giri 2021). This paper examines the veracity of assertions such as (i) decline in worker-to-population ratio in recent years, (ii) increase in unemployment, (iii) withdrawal of women from workforce and (iv) deterioration in the overall employment scenario in the country, among others.

Growth Rate in Economic Activities during PLFS Period

The progress and performance of economic activities in various sectors are major determinants of the workforce and employment. Therefore, it is pertinent to view the changes in employment over the four PLFS annual surveys in the light of the economy's growth. In doing so, the reference period for the growth rate in the economy should correspond to the period of PLFS surveys, which is from July to June. Thus PLFS year is different than the Financial Year, which is from April to March. In order to bring the PLFS estimate and the annual growth rate of the economy to the same reference periods, the growth rates were recalculated for the Gross Value Added output for the period July to June using

Quarterly data. The relevant growth rates are presented in Table 1.

Table 1: Annual rate of change in gross value added in agriculture and non-agriculture sectors, and the total economy during PLFS years 2017–18 to 2020-21 at 2011–12 prices

PLFS Year	Agriculture	Non agriculture	Total economy
2017-18	6.29	6.85	6.76
2018-19	1.84	5.75	5.16
2019-20	5.36	-4.19	-2.79
2020-21	3.14	4.52	4.30

Source: Press Releases of MOSPI, and National Accounts Statistics.

The PLFS year 2019–20 includes the first quarter of FY 2020–21 i.e. April to June 2020 when the first wave of the Covid-19 pandemic hit the country and caused serious disruption in economic activities. The GVA of the non-agriculture sector in this year shrunk by 4.19 per cent, leading to a 2.79 per cent squeeze in the total economy. However, the agriculture GVA followed normal growth despite Covid-19 because production and marketing activities for the agriculture sector were exempted from pandemic-related restrictions. This affected the employment level and the distribution of workers between the agriculture and non-agriculture sectors and rural and urban areas.

The PLFS 2020-21 covers the period 1st July 2020 to 30th June 2021 most of which was covered by Covid 19 cases and restrictions. The first Quarter of PLFS year 2020-21 witnessed 5.9 percent contraction in economy. Due to base effect of 2019-20, the growth in GVA turned out to be positive. Despite Covid cases economic activity revived during the year 2020-21 after October, 2020.

Labour-Force-Participation Rate

Labour force and work status are generally examined based on two indicators of employment viz. Usual Status (US) which includes principal economic activity and subsidiary economic activity of employment and Current weekly status (CWS). It is important to understand the difference between the two indicators.

The economic activity status on which a person spends relatively long time (major time criterion) during the 365 days preceding the date of survey is principal activity status (PS) of the person. Such persons might have also pursued, in addition to his/her principal status, some economic activity for 30 days or more during the reference period of 365 days preceding the date of survey. Such status is known as Subsidiary Status (SS). PS+SS together known as Usual Status which corresponds to the employment for longer duration.

Some persons who are employed for majority of the days in a year may not be employed in the period other than majority days due to various reasons. This is ascertained by looking at Current weekly activity status obtaining for a person during a reference period of 7 days preceding the date of survey. A person is considered working (or employed) as per CWC status if he/ she worked for at least one hour on at least one day during the 7 days preceding the date of survey or if he/she had work for at least 1 hour on at least one day during the 7 days preceding the date of the survey but did not do the work. Given the definitions of US and CWS above, it can be concluded that CWS captures current status of employment/ unemployment while US captures longer duration employment.

Labour force includes persons who were either working (or employed) or those available for work (or unemployed). Some persons in the labour force are abstained from work for various reasons. Subtracting that number from the labour force gives the number of actual workers. These workers are further categorised as persons who are engaged in any activity as self-employed or regular wage/salaried and casual labour. The difference between the labour force and the workforce gives the number of unemployed persons.

The changes in labour force among rural, urban and all households since 2017–18 are presented in Table 2 A&B. The size of the labour force in the country has shown increase in each year since 2017-18 based on both Usual status and Current Weekly status. Usual status criterion shows increase in the size of labour force from 485.3 million during 2017-18 to 563.7 million during 2020-21 ie 16.15 per cent increase in just three years. The increase was witnessed across male and female populations as well as rural and urban households. The increase has been much lower in urban areas as compared to rural areas.

At the aggregate level, the rural labour force constituted 70.7 per cent of the total labour force till 2019–20 and 73 per cent during 2020-21. It is interesting to point out that during the Covid year of 2020-21, size of labour force in rural areas increased by 8 per cent whereas it shrunk by 3 per cent in urban areas. The reason was migration of labour force from urban areas to rural areas. The share of female labour in the total labour force increased from 23.1 to 29.5 per cent between 2017-18 and 2020-21. The increase in female labour force was found much higher than the increase in male labour force in all the years of PLFS data. Between rural and urban areas, female labour force showed much higher percent increase in rural areas.

Table 2A: Labour force in India by gender, and rural and urban categories based on usual status and current weekly status (in million): 2017–18 to 2020-21.

Year	Approach	Rural			Urban			Rural + Urban		
		Male	Female	Person	Male	Female	Person	Male	Female	Person
2017-18	US	261.3	82.4	343.6	111.7	30.0	141.7	373.0	112.4	485.3
2018-19	US	259.4	89.1	348.4	117.3	31.6	148.9	376.7	120.7	497.4
2019-20	US	267.5	113.1	380.6	120.5	36.9	157.3	388.0	150.0	537.9
2020-21	US	280.6	130.6	411.2	116.6	35.8	152.5	397.4	166.6	563.7
2017-18	CWS	258.2	72.7	330.8	111.0	28.9	139.8	369.1	101.5	470.5
2018-19	CWS	255.7	75.7	331.4	117.1	30.5	147.6	372.8	106.2	479.0
2019-20	CWS	262.8	96.6	359.4	119.0	34.9	153.9	381.8	131.6	513.3
2020-21	CWS	275.2	107.0	382.3	115.4	33.3	149.0	390.5	140.7	531.2

Source: Author’s estimates based on NSO-PLFS data and population data
Note: US (Usual status) include principal and subsidiary status and CWS refers to Current Weekly Status

Table 2B: Labour force participation rate (%) in rural and urban households by gender and work status, 2017–18 to 2020-21.

Year	Approach	Rural			Urban			Rural + Urban		
		Male	Female	Person	Male	Female	Person	Male	Female	Person
2017-18	US	54.90	18.18	36.99	56.98	15.87	36.79	55.51	17.50	36.93
2018-19	US	55.14	19.65	37.71	56.72	16.10	36.94	55.62	18.58	37.48
2019-20	US	56.33	24.68	40.78	57.84	18.49	38.59	56.79	22.80	40.11
2020-21	US	57.10	27.70	42.70	58.40	18.60	38.90	57.50	25.10	41.60
2017-18	CWS	54.25	16.04	35.61	56.60	15.28	36.31	54.93	15.81	35.81
2018-19	CWS	54.36	16.70	35.86	56.63	15.54	36.62	55.05	16.35	36.10
2019-20	CWS	55.35	21.08	38.51	57.13	17.51	37.75	55.89	20.00	38.28
2020-21	CWS	56.00	22.70	39.70	57.80	17.30	38.00	56.50	21.20	39.20

Source: Same as in Table 2A.
Note: same as in Table 2A.

These changes in the labour force brought about significant changes in the labour-force participation rate (LFPR), which increased from 36.9 per cent in 2017–18 to 40.1 per cent in 2019–20 and 41.6 percent during PLFS year 2020-21 based on Usual status. **Except when specifically mentioned, the discussion in the text refers to Usual status category.** The labour-force-participation rate for female remained less than half of male population though it shows narrowing down over time due to faster increase in the number of female labour. The number of female labour is showing much faster increase in rural areas compared to urban areas. This has turned rural FLPR 50% higher than urban FLPR. The latest data shows that 57.5 per cent of men, 25.1 per cent of women and 41.6 per cent of all persons in India are in the labour force. The increase in LFPR reflects the demographic dividend being experienced by India.

Worker-to-Population Ratio

As already mentioned, some persons willing to undertake work either may not be getting any work or getting the work of their choice and are thus unemployed and not making contribution to the economy. The changes in the workforce of the country derived from the PLFS data are presented in Table 3 A&B. The Usual status shows steady increase in number of workers in the country each year after 2017-18. The increase was 2.7% in 2018-19, 9.4 per cent in 2019-20 and 5.3 per cent in year 2020-21. It may appear strange that number of workers show sizeable increase despite the big squeeze in economic activities in the country during PLFS year 2019-20. An explanation for this is provided in a subsequent Section.

Workforce showed almost similar trends as in the case of labour force. The increase has been much larger in the case of rural areas as compared to the urban areas that shows a decline by 2.8 per cent in year 2020-21. Number of rural workers increased by more than 32 million each during 2019-20 and 2020-21. The increase was only 5.3 million during 2018-19. The increase was much larger in the case of female (48.6% in two years). Rural female account for 58.8 percent of the total increase in workforce in the country in the last three years.

Table 3A: Number of male and female workers in rural and urban India (in million): 2017–18 to 2020–21.

Year	Approach	Rural			Urban			Rural + Urban		
		Male	Female	Person	Male	Female	Person	Male	Female	Person
2017-18	US	246.0	79.2	325.3	103.8	26.8	130.6	349.9	106.0	455.8
2018-19	US	244.9	86.0	330.8	109.0	28.5	137.5	353.9	114.4	468.3
2019-20	US	255.4	110.2	365.5	112.8	33.6	146.4	368.2	143.7	511.9
2020-21	US	269.8	127.8	397.7	109.7	32.7	142.3	379.4	160.6	539.3
2017-18	CWS	235.4	67.1	302.4	101.2	25.2	126.3	336.6	92.3	428.8
2018-19	CWS	233.2	70.2	303.4	106.8	26.8	133.5	340.0	94.3	436.8
2019-20	CWS	239.8	91.3	331.1	106.4	30.6	137.0	346.3	121.9	468.1
2020-21	CWS	255.5	101.9	357.3	104.7	29.2	133.7	360.1	131.4	491.9

Source: Same as in Table 2A.

Note: same as in Table 2A.

Table 3B: Workers to population ratio (%), according to gender and rural-urban categories, 2017–18 to 2020-21.

Year	Approach	Rural			Urban			Rural + Urban		
		Male	Female	Person	Male	Female	Person	Male	Female	Person
2017-18	US	51.70	17.49	35.02	52.96	14.16	33.91	52.07	16.51	34.69
2018-19	US	52.06	18.96	35.80	52.70	14.51	34.11	52.25	17.61	35.29
2019-20	US	53.78	24.03	39.16	54.15	16.85	35.91	53.89	21.85	38.17
2020-21	US	54.90	27.10	41.30	54.90	17.00	36.30	54.90	24.20	39.80
2017-18	CWS	49.47	14.81	32.56	51.60	13.32	32.80	50.09	14.37	32.63
2018-19	CWS	49.58	15.47	32.83	51.61	13.65	33.12	50.20	14.52	32.92
2019-20	CWS	50.50	19.92	35.48	51.08	15.34	33.60	50.68	18.53	34.91
2020-21	CWS	52.00	21.60	37.10	52.40	15.20	34.10	52.10	19.80	36.30

Source: Same as in Table 2A.
Note: same as in Table 2A.

Job creation in urban area was higher than rural areas during 2018-19 ie pre covid year. Number of workers show increase in urban area in the first phase of Covid. However, prolonging of COVID hurt urban employment and many urban workers even moved out to rural areas during 2020-21 resulting in decline in the number of urban workers.

PLFS data show rising feminisation of rural and total workforce in the country. Despite this, female comprise 30 percent of total workforce in the country and 23 percent in urban areas. This shows that male dominance in workforce is continuing but it is weakening.

The estimates of worker-to-population ratio (WPR) are presented in Part B of Table 3. This indicates a very large increase in WPR. The WPR in rural areas increased from 35.0 per cent to 41.3 per cent and in urban areas from 33.91 per cent to 36.3 per cent. Of a female population of 1000, in 2017–18, 165 were in workforce. This ratio increased to 218 in 2019–20 and 242 in 2020-21. Despite this progress, the worker to population ratio of women in the country remained less than half the WPR for men. Among all categories, the largest increase in WPR is observed among women in rural areas.

Some experts prefer the use of current weekly status of workers as an indicator of employment. Table 3 includes the estimates of workforce (per cent as well as absolute number) based on CWS. This shows that 8 million new workers joined the workforce during 2018–19 and 31.3 million during 2019–20. The increase was 23.8 million during 2020-21. The WPR based on CWS shows an increase from 32.63 per cent in 2017–18 to 36.30 per cent during 2020-21. The direction and pattern of change in employment based on CWS data was similar to Usual status employment, though the increase in former is smaller compared to the latter.

The PLFS data clearly indicate that number of workers in the country during 2017–18 to 2020–21 have seen a significant rise. The increase is greater for women and in rural areas.

Unemployment

The results of unemployment in the country for the four survey years of PLFS for usual status and current weekly status are presented in Table 4 A&B. During 2017–18, 29.1 million persons in the labour force of the country remained without jobs for a major part of the year, i.e., based on usual status. Their number declined to 26.0 million in 2019–20 and 24.4 million during 2020-21, despite a huge increase of 83.5 million new entrants into the labour force between 2017-18 and 2020-21. The number of unemployed persons based on usual status declined from 18 million to 13.5 million in the rural areas and from 11.1 million to 10.2 million in the urban areas.

The rate of unemployment at country level shows a significant decline every year according to usual status and CWS. The unemployment rate dropped from 6.07 per cent during 2017–18 to 5.84 per cent during 2018–19. This was followed by a further decline to the level of 4.84 per cent in the year 2019–20 and 4.33% in 2020-21. The unemployment rate in rural areas was much lower than urban areas. Similarly, the unemployment rate among rural females was lower than rural males while the opposite holds true in urban areas.

The extent and incidence of unemployment based on current weekly status of employment is more severe and shows an increase in the number of unemployed persons in two years by 3.4 million. The unemployment rate based on current weekly status remained around 8.8 percent during 2017-18 to 2019-20 and declined in year 2020-21 to 7.4 per cent. CWS unemployment was much lower in rural areas than in urban areas. Also, it showed a decline in rural households and a rise in urban households.

Table 4A: Number of unemployed persons by gender and rural urban categories based on Usual status and CWS (in Million): 2017–18 to 2020-21.

Year	Approach	Rural			Urban			Rural + Urban		
		Male	Female	Person	Male	Female	Person	Male	Female	Person
2017-18	US	15.2	3.1	18.3	7.9	3.2	11.1	23.1	6.4	29.4
2018-19	US	14.5	3.1	17.6	8.3	3.1	11.4	22.8	6.3	29.1
2019-20	US	12.1	3.0	15.1	7.7	3.3	10.9	19.8	6.2	26.0
2020-21	US	10.8	2.8	13.5	7.0	3.1	10.2	18.0	6.0	24.4
2017-18	CWS	22.7	5.6	28.3	9.8	3.7	13.5	32.5	9.2	41.8
2018-19	CWS	22.5	5.6	28.0	10.4	3.7	14.1	32.8	11.9	42.2
2019-20	CWS	23.0	5.3	28.3	12.6	4.3	16.9	35.6	9.7	45.2
2020-21	CWS	19.7	5.2	25.0	10.8	4.0	15.3	30.4	9.3	39.3

Source: Same as in Table 2A.
Note: same as in Table 2A.

Table 4B: Unemployment rate (%) by gender and rural urban categories based on Usual status and CWS: 2017–18 to 2018–19.

Year	Approach	Rural			Urban			Rural + Urban		
		Male	Female	Person	Male	Female	Person	Male	Female	Person
2017-18	US	5.83	3.80	5.33	7.06	10.78	7.83	6.20	5.66	6.07
2018-19	US	5.59	3.51	5.06	7.09	9.88	7.66	6.06	5.22	5.84
2019-20	US	4.53	2.63	3.97	6.38	8.87	6.94	5.11	4.17	4.84
2020-21	US	3.85	2.17	3.28	5.99	8.60	6.68	4.52	3.59	4.33
2017-18	CWS	8.81	7.67	8.57	8.83	12.83	9.67	8.81	9.11	8.88
2018-19	CWS	8.79	7.37	8.45	8.86	12.16	9.56	8.81	11.19	8.81
2019-20	CWS	8.76	5.50	7.87	10.59	12.39	10.99	9.32	7.35	8.80
2020-21	CWS	7.14	4.85	6.55	9.34	12.14	10.26	7.79	6.60	7.40

Source: Same as in Table 2A.
Note: same as in Table 2A.

Sectoral Distribution of Workers

The distribution of the workforce among the three broad sectors—agriculture and allied sector, industry sector and service sector—has been presented in Table 5 A&B, based on usual status. The general expectation about the workforce distribution is that it will move from agriculture to industry and services sector as labour productivity is much higher in the latter two categories compared to agriculture. This was revealed by the data from the previous two Censuses as well as the NSSO survey after 2004–05. Consistent with this past trend, PLFS data also shows a decline in the absolute number and share of workers employed in agriculture between 2018–19 and 2017–18. However, this process was reversed the next year, which witnessed not only a big increase in employment in the agriculture sector but also an increase in the share of agriculture in the total workforce. Consequently, the share of industry and services in total employment followed a decline (Table 5B).

However, the total number of jobs in industry and services shows an increase, even during 2019–20 and 2020-21, despite effect of Covid-19 on economic activities. The PLFS estimates indicate that industry added 4.8 million new jobs during 2018–19 and 3.4 million during 2019–20. The increase was much higher, 7.6 million, during 2020-21. Similarly, the services sector provided additional employment to 10.1 million persons during 2018–19, 6 million during 2019–20 and 2.3 million during 2020-21.

Table 5A: Number of workers employed in agriculture, industry and services during PLFS years, million.

Year	Sex	Rural			Urban			Rural + Urban		
		Agri.	Industry	Service	Agri.	Industry	Service	Agri.	Industry	Service
2017-18	Male	135.2	56.8	54.0	5.6	37.4	60.9	140.8	94.2	114.9
2018-19	Male	130.3	57.8	56.9	5.4	38.5	65.2	135.6	96.3	121.9
2019-20	Male	141.5	58.7	55.2	5.6	38.6	68.6	147.1	97.2	123.7
2020-21	Male	145.2	65.0	59.6	5.8	37.8	66.0	151.1	102.9	125.5
2017-18	Female	58.0	10.8	10.4	2.4	8.1	16.3	60.4	18.9	26.7
2018-19	Female	61.1	13.2	11.7	2.2	8.3	17.9	63.3	21.4	29.6
2019-20	Female	83.4	14.4	12.3	2.8	9.4	21.4	86.1	23.9	33.7
2020-21	Female	96.3	17.1	14.4	3.4	9.2	20.1	99.9	26.3	34.5
2017-18	Person	193.2	67.7	64.4	8.0	45.4	77.2	201.2	113.0	141.5
2018-19	Person	191.3	70.9	68.5	7.6	46.8	83.1	199.0	117.8	151.6
2019-20	Person	224.8	73.1	67.5	8.4	48.0	90.0	233.2	121.2	157.5
2020-21	Person	241.6	82.1	73.9	9.2	46.9	86.1	250.6	128.8	159.8

Source: Same as in Table 2A.

Note: same as in Table 2A.

Table 5B: Per cent distribution of workers over sectors and gender and industry type, 2017–18 to 2020-21.

Year	Sex	Rural			Urban			Rural + Urban		
		Agri.	Industry	Service	Agri.	Industry	Service	Agri.	Industry	Service
2017-18	Male	55.0	23.1	22.0	5.4	36.0	58.6	40.2	26.9	32.8
2018-19	Male	53.2	23.6	23.2	4.9	35.3	59.8	38.3	27.2	34.5
2019-20	Male	55.4	23.0	21.6	5.0	34.2	60.8	40.0	26.4	33.6
2020-21	Male	53.8	24.1	22.1	5.3	34.5	60.2	39.8	27.1	33.1
2017-18	Female	73.2	13.7	13.1	9.1	30.1	60.8	57.0	17.8	25.2
2018-19	Female	71.1	15.3	13.6	7.8	29.2	63.0	55.3	18.7	25.9
2019-20	Female	75.7	13.1	11.2	8.2	28.0	63.8	59.9	16.6	23.5
2020-21	Female	75.4	13.4	11.3	10.4	28.1	61.6	62.2	16.4	21.5
2017-18	Person	59.4	20.8	19.8	6.1	34.8	59.1	44.1	24.8	31.0
2018-19	Person	57.8	21.4	20.7	5.5	34.1	60.4	42.5	25.2	32.4
2019-20	Person	61.5	20.0	18.5	5.7	32.8	61.5	45.6	23.7	30.8
2020-21	Person	60.8	20.7	18.6	6.5	33.0	60.5	46.5	23.9	29.6

Source: Same as in Table 2A.

Note: same as in Table 2A.

The reversal of the declining trend in the share of agriculture in the workforce during 2019–20 and 2020-21 can be attributed to two factors. The last quarter of PLFS 2019–20 (which is the first quarter of FY 2020–21) shows a decent growth rate (3.45%) of the agriculture sector in contrast to the 26 per cent decline in the output of the non-agriculture sector. Two, the agriculture sector experienced much better growth in labour-intensive horticulture and livestock subsectors despite ongoing menace of Covid.

Looking at the gender aspect, close to 100 million women worked in the agriculture sector, 34.5 million in the service sector, and 26.3 million in the industry sector which includes construction. These numbers show that 62.2 per cent of all women workers in the country were engaged in agricultural activities, 16.3 per cent in industry, and 21.5 per cent in the service sector during 2020-21. In the case of male workers, 40 per cent were employed in agriculture, 27 per cent in industry and one third in the service sector.

It is interesting to note that 63 per cent employment in the industry sector and 43 per cent in the service sector originated in the rural areas. Overall, 74 per cent of the workforce belongs to rural households and 26 per cent to urban households. Due to the effect of COVID on urban economic activities, employment share of urban areas witnessed decline.

As already mentioned, the employment share of agriculture and allied activities increased during the years 2019–20 and 2020-21. In the same years share of women in agricultural workforce and share of women engaged in agriculture in total women workers also increased. The table also shows that 75.7% of the total rural women workers were absorbed by agriculture sector.

The agriculture and allied sectors provided employment to 40 per cent male workers, 62 per cent female workers and 46.5 per cent of all workers during 2020–21. The industry sector absorbed 26 per cent of male workers and 16.6 per cent of female workers. The service sector provided employment to 33.6 per cent male and 23.5 per cent female workers.

The changes in employment in different activities, which are clubbed under the industry group, can be seen in Table 6. Of the 15.8 million additional jobs created in industry between 2017–18 and 2020–21, 76 per cent were in the construction sector. The employment data for the manufacturing sector show an increase of 3.55 million jobs in the said period. Further, the employment of male workers in manufacturing remained stagnant, whereas that of women revealed an increase from 13.21 million to 16.95 million.

Table 6: Estimates of workforce in different categories of Industry, Million

Year	Sex	Mining and quar-rying	Manuf-ac-turing	Electricity, gas, steam and air con-ditioning supply	Water supply; sewerage, waste management and remediation activities	Con-str-uc-tion	Total Industry
2017-18	Male	1.71	42.09	1.50	1.01	47.86	94.19
2018-19	Male	1.73	41.83	1.31	1.03	50.36	96.26
2019-20	Male	1.33	41.42	1.58	1.18	51.73	97.24
2020-21	Male	1.63	42.01	1.71	1.18	56.35	102.9
2017-18	Female	0.18	13.21	0.06	0.13	5.33	18.91
2018-19	Female	0.23	14.66	0.09	0.17	6.29	21.44
2019-20	Female	0.07	15.62	0.07	0.29	7.82	23.87
2020-21	Female	0.11	16.95	0.08	0.18	8.95	26.27
2017-18	Person	1.87	55.29	1.55	1.14	53.19	113.04
2018-19	Person	1.97	56.52	1.40	1.22	56.66	117.78
2019-20	Person	1.43	57.07	1.64	1.48	59.53	121.16
2020-21	Person	1.73	58.84	1.78	1.35	65.15	128.84

Source: Same as in Table 2A.

Note: same as in Table 2A.

Occupation Status

Workers are classified under three categories of occupational status: self-employed, working as casual labour, and working on regular wage/salary. The distribution of total workers over these three categories is presented in Table 7. Self employed persons are further divided into two categories namely own account worker ie employer, and helper in household enterprise.

Table 7: Distribution of workers among various occupation types, (in % and in million) 2017-18 to 2020-21

Sex	Year	self-employed			Regular wage/salary	Casual labour
		own account worker, employer	helper in household enterprise	all self employed		
		Share (%) in Workforce				
Male	2017-18	44.13	8.17	52.31	23.38	24.31
	2018-19	44.03	7.61	51.64	24.39	23.97
	2019-20	43.90	8.48	52.38	24.06	23.56
	2020-21	44.78	9.14	53.93	22.75	23.32
Female	2017-18	20.21	31.71	51.92	21.03	27.05
	2018-19	22.55	30.84	53.39	21.89	24.72
	2019-20	21.29	35.06	56.36	19.96	23.68
	2020-21	22.78	36.64	59.42	17.42	23.16
Person	2017-18	38.57	13.65	52.22	22.84	24.95
	2018-19	38.77	13.29	52.06	23.78	24.16
	2019-20	37.55	15.95	53.50	22.90	23.60
	2020-21	38.24	17.33	55.56	21.16	23.27
		Number of Workforce (in Million)				
Male	2017-18	154.4	28.6	183.0	81.8	85.1
	2018-19	155.8	26.9	182.7	86.3	84.8
	2019-20	161.6	31.2	192.9	88.6	86.8
	2020-21	169.9	34.7	204.5	86.3	88.4
Female	2017-18	21.4	33.6	55.0	22.3	28.7
	2018-19	25.8	35.3	61.1	25.0	28.3
	2019-20	30.6	50.4	81.0	28.7	34.0
	2020-21	36.6	58.8	95.4	28.0	37.2
Person	2017-18	175.8	62.2	238.0	104.1	113.7
	2018-19	181.6	62.2	243.8	111.4	113.1
	2019-20	192.2	81.6	273.8	117.2	120.8
	2020-21	206.4	93.5	299.9	114.2	125.6

Source: Same as in Table 2A.
Note: same as in Table 2A.

Number of casual workers increased from 113.7 million during the two pre covid years to 120.8 million in the first year of Covid and 125.6 during the second Covid year ie 2020-21. Most of this increase resulted from the increase in the number of women casual labour which increased by nearly 31.4 percent during the second Covid year. Regular wage/salary employment measured by Usual status showed increase during 2019-20 but the increase was lower than the previous year. Regular wage/salaried employment fell during 2020-21 when 3 million persons lost their jobs. This loss was much higher in the case of male workers. Self employment continued to rise despite the Covid. This shifted the scale of employment somewhat towards self employment both in the case of male as well as female.

At overall level, 23.3 per cent of the total workers were employed as casual labour, 55.6 per cent were self-employed and 21.1 percent were in regular wage/salary employment. Within the self employment category, there was much higher increase in helper in household enterprises. Number of employer in own account enterprises increased by 24.8 million and helper increased by 31.3 million between 2018-19 and 2020-21.

Between 2020-21 and 2017-18, total employment increased by 84 million (18.5 percent) out of which 73.8 percent increase happened in self employment, 14.2 per cent in casual labour category and 12.1 per cent in regular/salary employment. Within self employment, number of helpers in household employment, which is a sort of unpaid employment, increased by 50 per cent from 62 million to 93.3 million as against only 17 percent increase in employer of own account enterprises. Thus, it is clear that COVID had not only rendered some regular salaried workers unemployed it also affected quality of self employment. COVID disruptions put pressure on households to start own economic enterprises and involve other family members in a sort of unpaid employment to cope with the pressure of COVID on household earningss.

Thus it is clear that COVID had not only halted growth in quality employment it even rendered some regular salaried workers unemployed. COVID disruptions also put pressure on households to start own economic enterprise and involve other family members in a sort of unpaid employment to cope with the pressure of COVID.

Agriculture Workforce: Gender and Youth

There are some popular perceptions about the agriculture workforce that need empirical verification. It is often said that agriculture has more women than men, as the latter is migrating away from rural areas in search of better paid employment. The other popular perception is that the youth are not staying in agriculture any more and this can affect agriculture production adversely and add uncertainty to the future of food production. It is also asserted that agriculture is facing de-peasantisation as tiny holdings are not generating enough income and forcing many farmers to join the rank of agricultural labourers.

The exact status of the agriculture workforce by gender and age group has been presented in Table 8A and their distribution in these groups is presented in Table 8B. The PLFS data shows that the participation of women in agriculture is rising. Female workers constituted 30 per cent of the agriculture workforce in 2017–18 and 40 per cent in year 2020-21.

The confusion about the dominance of women in the agri-workforce seems to have arisen due to mistaking it with source-wise employment of women workers. Of 100 women who are in the workforce, 62 are employed in agriculture and allied activities. Similarly, of 100 women working in agriculture, 73 per cent are self-employed, i.e., they belong to the cultivator household. As WPR of women is less than half of that of men, the total female labour engaged in agriculture turns out to be much smaller than the male labour engaged in agriculture. Estimates derived from PLFS 2020-21 show that 100 million agriculture workers were females and 151 million were males. Therefore, policies for agricultural development need to focus on both, males as well as females.

Table 8A: Number of agriculture workers by gender and age group, 2017-18 to 2020-21, million

Sex	Year	India All age group				Youth (15-29 year age)			
		Agricultural worker			Total Worker	Agricultural worker			Total Worker
		Cultivator	Labour	Total Worker		Cultivator	Labour	Total Worker	
Male	2017-18	108.4	30.7	140.8	349.9	21.7	7.4	29.4	89.84
	2018-19	104.6	29.3	135.5	353.9	20.4	7.1	27.9	90.16
	2019-20	112.6	31.8	147.1	368.2	23.0	7.3	31.1	94.50
	2020-21	118.2	30.4	150.9	379.2	26.0	8.1	34.7	100.2
Female	2017-18	39.0	20.7	60.4	106.0	7.6	3.8	11.5	23.51
	2018-19	42.8	19.7	63.3	114.4	7.4	3.4	11.0	23.42
	2019-20	60.6	24.1	86.2	143.7	11.6	4.0	15.9	30.72
	2020-21	72.8	25.8	99.8	160.5	13.4	4.6	18.2	32.68
Person	2017-18	147.3	51.4	201.2	455.8	29.2	11.1	40.9	113.39
	2018-19	147.5	49.1	199.0	468.3	27.8	10.5	38.8	113.61
	2019-20	173.2	56.0	233.3	511.9	34.6	11.3	47.0	125.24
	2020-21	190.8	56.3	250.6	539.3	39.4	12.7	52.9	132.86

Source: Same as in Table 2A.

Note: same as in Table 2A.

Table 8B: Per cent distribution of agricultural worker among cultivators and labour categories by gender and age group (youth) 2017–18 to 2020-21.

Sex	Year	India All age groups				Youth (15-29 year age)			
		Agricultural worker			WPR	Agricultural workers			WPR
		Cultivator	Labour	Share in total workers		Cultivator	Labour	Share in total workers	
Male	2017-18	76.96	21.83	40.24	52.07	73.63	25.01	32.73	48.32
	2018-19	77.18	21.60	38.28	52.25	73.17	25.47	30.89	48.59
	2019-20	76.55	21.63	39.95	53.89	73.97	23.33	32.9	50.94
	2020-21	78.28	20.15	39.81	54.86	74.97	23.47	34.65	52.30
Female	2017-18	64.52	34.21	56.99	16.51	65.75	33.00	48.87	13.46
	2018-19	67.66	31.20	55.29	17.61	67.3	30.99	46.82	13.32
	2019-20	70.34	28.00	59.95	21.85	72.63	25.31	51.86	17.55
	2020-21	72.99	25.89	62.16	24.18	73.76	25.30	55.56	18.48
Person	2017-18	73.23	25.55	44.13	34.69	71.42	27.24	36.08	31.44
	2018-19	74.15	24.66	42.49	35.29	71.52	27.03	34.17	31.43
	2019-20	74.25	23.99	45.57	38.17	73.51	24.00	37.55	34.73
	2020-21	76.15	22.46	46.46	39.80	74.56	24.10	39.79	36.06

Source: Same as in Table 2A.

Note: same as in Table 2A.

The PLFS data shows that 78 percent of agriculture workers are self-employed as cultivators and this share has remained more or less stable. The number of cultivators in India has increased from 147 million in 2017–18 to 191 million in 2020-21 while the number of agricultural labour showed an increase of only 5 million in three years. These changes do not support the assertion of de-peasantisation in the country.

Age-wise estimates of the workforce reveal a big increase in the number of youth (aged 15–29 years) working in agriculture during 2019-20 and 2020-21 which happened to be the Covid years. Youth constituted 26 of total workforce and 23 per cent of agriculture workforce in the country. Annual PLFS data show that based on usual status, about 40 per cent of young workers were employed in agriculture activities while 60 per cent in non-agricultural activities. The distribution of elderly workforce between agriculture and non agriculture is 52 per cent and 48 percent respectively (ref year 2019-20 and 2020-21). These results show that the youth have a greater preference to work in non-agricultural occupations as compared to an older age group. However, four years' data present a mixed picture of change in this preference for agriculture vis à vis non agriculture. These facts, though pertain to a very short period, do not support the argument that youths are leaving agriculture in large number at all India level.

Summary and Conclusions

India has experienced a serious mismatch between structural changes in output and employment as growth rate in the output of the non-agriculture sector did not generate commensurate employment. Further, improvement in literacy, schooling, and attainment of higher education and skills and vocational education have led to a much faster increase in the number of persons seeking decent jobs with better work environments, regular employment and higher remuneration. Job creation for this kind of employment has not kept pace with the increase in the number of job seekers. Lastly, because of job security, assured salary and other pay and prestige associated with it, preference towards government jobs has increased tremendously. All these factors have a significant bearing on the labour market, labour force, workforce, unemployment, nature of employment and distribution of workers over various activities, and necessitate appropriate policy response for employment generation. However, uninterrupted data flow on various aspects of employment has been a big gap for evidence-based policymaking on employment in the country.

The Periodic Labour Force Survey started in 2017–18 filled this gap and provide a rich source of data for examining labour and employment issues and for designing appropriate policies to address them. This paper uses PLFS data sets for four consecutive years, i.e., 2017–18, 2018–19, 2019-20 and 2020-21, to analyze changes in employment and workforce and to ascertain the veracity of various assertions such as a decline in worker-to-population ratio, increase in unemployment, withdrawal of women from workforce and deterioration in the overall employment scenario in the country, etc. The last two years of PLFS data falls in the COVID period which caused serious disruption in economic activities during 2019-20 and 2020-21 with sharp fall in economic output in the quarter April – June 2020 which forms part of PLFS year.

Between 2020-21 and 2017-18, the labour force in the country has increased by 16.1 per cent which show the rising force of demographic transition in the country. This has raised the LFPR from 36.9 per cent to 41.20 per cent based on Usual status and from

35.8 percent to 39.2 per cent based on Current Weekly status. The increase was much higher for female labour and this raised their share in the total labour force in the country from 23.1 to close to 30 per cent between 2017–18 and 2020-21. The latest PLFS data shows that 57.5 per cent of men, 25.1 per cent women and 41.6 per cent of all persons in India are either engaged in some economic activity or seeking the opportunity for work.

It is interesting to point out that the number of persons entering workforce exceeded the number of persons entering labour force every year since 2018-19. Obviously, this has reduced rate of unemployment during the last four years. Between 2017–18 and 2020-21, 54.6 million women and 29.5 million men joined the workforce. As a result of these changes, the WPR in rural areas increased from 35.0 per cent to 41.3 per cent and in urban areas from 33.9 per cent to 36.3 per cent. The WPR of women increased from 16.5 per cent to 24.2 per cent. This shows that women are catching up with men but their workers' participation rate remains less than half (44 per cent) of men.

The direction and pattern of change in employment based on CWS data were similar to Usual status employment but the increase was smaller. The PLFS data clearly indicates that employment in economic activities in the country has seen a significant increase during 2017-18 to 2020-21. The rate of unemployment shows a big decline and ruled at 4.33 per cent based on usual status and 7.4 per cent based on CWS in year 2020-21.

The number of jobs created in industry and services continued to increase except in urban areas in year 2020-21. Between 2017-18 and 2020-21, industry added 8.7 million jobs and the services sector added 10.6 million jobs. The agriculture and allied sectors provided employment to 40 per cent male workers, 62 per cent female workers and 46.5 per cent to all during 2020-21.

Sixty-two per cent of all women workers in the country are employed in agriculture, 16 per cent in industry and 22 per cent in the service sector. In the case of male workers, 40 per cent are employed in agriculture, 27 per cent in industry and one third in the services sector.

The participation of women in agriculture is rising but men continue to dominate the agriculture workforce with a 60 per cent share. The PLFS data shows an increase in the number of cultivators in India, thus refuting the assertion of de-peasantisation of the country. The age-wise estimates of the workforce reveal a sizeable increase in the number of youth working in agriculture in the Covid years. The analysis reveals that youth have a higher preference to work in non-agricultural occupations as compared to an older age group, but four years' data do not support the argument that youths are not staying in agriculture.

Acknowledgements

The paper is updated version of the NITI Discussion Paper *"Workforce Changes and Employment: Some Findings from PLFS Data Series*" by Ramesh Chand and Jaspal Singh, NITI Aayog, 2022. Assistance provided by Jaspal Singh in updating PLFS data tables to 2020-21 is gratefully acknowledged.

Disclaimer

Views expressed in the paper are personal.

References

Anand, Ishan & Anjana, Thampi (2021). Growing Distress and a Falling Unemployment Rate, What is going on in the labour market? *The India Forum*, 12 OCT 2021, Issue: October 1, 2021.

GOI (2021). *Annual Report, Periodic Labour Force Survey (PLFS),* July 2019 – June 2020. National Statistical Office, Ministry of Statistics and Programme Implementation, July.

Kannan, K. P., & Mohd, Imran Khan (2022). Loss of Job, Work and Income in the Time of Covid-19: An Analysis of PLFS Data, *Economic & Political Weekly*, **57** (2): 37-41.

Mehrotra, Santosh & Jajati, JK (2021) Stalled Structural Change Brings an Employment Crisis in India, *The Indian Journal of Labour Economics*, **64**: 281–308.

Mehrotra, Santosh & Tuhinsubhra, Giri (2022). Claims vs Reality: India's Bleak Job Picture Poor Pandemic Management has added 10 Million Youth to the Ranks of the Unemployed in the Country, *Deccan Herald*, FEB 13 2022.

Indian Economic Association

!! Tamso Maa Jyotir Gamay !!