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Employment impact of COVID-19 in Kerala: Is there a V-shaped recovery?

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Abstract[1]

The Indian Economy was experiencing deceleration in GDP growth and historic levels of unemployment before the onset of the COVID-19 crisis, which disrupted the livelihoods of millions. In this context, using the nationally representative CMIE-CPHS data, this study analyses the magnitude of employment loss and its recovery in the first two waves of the pandemic in Kerala in comparison with other states. Our results show that Kerala witnessed the highest employment decline in both the waves of the COVID-19 pandemic. Apart from the greater intensity of employment loss, Kerala (91.6%) lags behind the all-India average (98%) in employment recovery to pre-pandemic levels. Further, our findings suggest the highest employment loss was experienced by women, youth, marginalized communities, people working in the informal sector, people in the urban areas and those working as casual labour. The analysis indicates increased informalisation in the labour market as the employment of daily-wage casual labour and temporary jobs increased faster than others. In terms of employment recovery, Kerala showed distinct trends compared to other states. We found that women, youth, and people belonging to the SC-ST category in Kerala showed faster employment recovery while in rest of the country their recovery is lagging behind.

Key Words: COVID-19 Pandemic, Employment, Job loss, Livelihoods

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1. Introduction

When COVID-19 struck, India's economy was already in a crisis like situation with a decline in GDP for eight consecutive quarters starting from Q1 of 2017-18. The employment growth has been decelerating and resulted in an unprecedented increase in the unemployment rate (CMIE, 2019). In addition, the Periodic Labour Force Survey (PLFS) showed a fall in the absolute number of workers compared to the previous Employment and Unemployment Survey (EUS) in 2011–12. (Kannan and Raveendran, 2019)[2] In this context, the most stringent lockdown measures in the form of nationwide lockdown during April-May 2020 witnessed a standstill in economic activity in most sectors. These restrictive measures have a direct bearing on the employment and livelihoods of the millions who are living at the margins. The most prominent outcome of lockdown has been the loss of jobs, millions of people unemployed for a sustained period to save lives from COVID-19, thus leading to loss of incomes. This is especially alarming for people in developing countries like India, where 77.1% of employment in India is non-regular, and 13.7 % of the jobs are regular but unprotected, which could mean that between 364 and 473 million workers are at risk of being adversely affected by the lockdown (Walter, 2020).

[2] Abraham (2017) also showed stagnation in employment growth from 2004-05 onwards, but the total employment in absolute number declined from 2014-15 onwards.

The severity of the lockdowns showed a record rise in unemployment in the last week of March 2020 and April and May 2020. The week ended 29 March 2020, the unemployment rate was 23.8%, which was much higher than the first two weeks (7.6 %). It continued at 23.5 % in April and May 2020 and declined after that as the country relaxed the lockdown measures from mid-June 2020 (Vyas, 2020). The gradual unlocking of the economy, beginning in late May, resulted in a slow economic activity pick up. The unemployment rate fell to 10.2 per cent in June and further to 7.4 per cent in July. After that, it rose slightly to 8.35 per cent in August and subsequently fell (Abraham et al., 2021). As per CMIE-Consumer Pyramid Household Survey (CPHS), the average monthly employment in 2019–2020 was 403.7 million. The estimates published by the CMIE (2020) showed that 121.5 million people lost work in April 2020 due to the first lockdown indicating close to 30 per cent have lost their jobs. Small traders, hawkers, and daily wage labourers accounted for the major share of the people who lost jobs. The self-employed accounted for 75 per cent of the jobs lost during the lockdown (Vyas, 2020). In addition, around 18.2 million business persons and another 17.7 million salaried persons lost jobs during the month. The available evidence indicates the magnitude and recovery of the COVID-19 crisis have been uneven across sectors and sections of the economy.

From the available evidence, it is clear that the employment effect of COVID-19 is highly disproportionate. Much of the nationally-

representative CPHS data analysis is confined to study at the aggregate level. However, the experience of states with COVID-19 is very diverse. With some states like Maharashtra and Kerala having accounted for more than 60 per cent of daily cases reported for months, the effect of COVID-19 on employment is likely to be very different. Understanding the nature of the impact at the state level is critical to introducing policies that can mitigate the negative effects of employment loss and income loss. In this context, this paper analyses the impact of COVID-19 on employment in Kerala from a comparative perspective. The chapter is organised as follows. Section 2 discusses the data used in the analysis and approach. Section 3 starts with the pre-COVID-19 trends in Labour Force Participation Rate (LFPR), Worker Population Ratio, and Kerala unemployment rate compared to all India trends. Section 4 presents the impact of COVID-19 on employment across the region, gender, social category, sector and occupation, followed by concluding remarks in section 5.

2. Data and approach

The analysis is carried out by making use of nationally representative CPHS data. The data is collected in waves. One wave represents four months (e.g. January to April), and each sample household is visited thrice in a year. The employment

question is different from NSS Employment Unemployment Survey (EUS) or Periodic Labour Force Survey (PLFS). Estimates of employment provided by CMIE from CPHS are systematically lower than those derived usually from the Periodic Labour Force Survey or Employment/Unemployment Survey of the NSSO because of differences in definitions. CPHS estimates of employment are based on status as of the day of the survey and not during the seven days preceding the date of the survey as is done in PLFS or EUS. Hence, the CPHS definitions are far more stringent in considering a person employed. Based on this survey, CMIE releases monthly estimates of absolute values related to the labour markets in India along with their distribution by region, gender, age, occupation, etc. These give us insights into the total job losses, recovery, and distribution. The employment status in CPHS data has four responses. 1) Employed, 2) Unemployed: not willing and not looking for work, 3) Unemployed: willing and but not looking for work and 4) Unemployed: willing and looking for work. Category two is considered as out of labour force, and Categories 3 and 4 are taken as unemployment indicators.

Since the focus is on understanding the crisis's employment impact and the recovery's nature, the analysis considers data from January 2019 to August 2021 representing eight waves (from waves 16 to 23) for estimating employment growth during the COVID-19

period. [3] To analyse impact and recovery, September-December 2019 is considered as a reference period against which employment trends are analysed. The analysis focuses mainly on Kerala, but for comparison purposes, 16 states are grouped into high-income states and low-income states based on the per capita income. States with higher per-capita income than the national average are classified as high-income states (Andhra Pradesh (AP), Gujarat (GJ), Haryana (HR), Karnataka (KA), Maharashtra (MH), Punjab (PB), Tamil Nadu (TN) and Telangana (TS)) and lower than the national average as low-income states (Assam (AS), Bihar (BH), Chhattisgarh (CT), Jharkhand (JH), Madya Pradesh (MP), Odisha (OD), Rajasthan (RJ), Uttar Pradesh (UP) and West Bengal (WB)).

3. Pre-pandemic employment trends in Kerala

Kerala's labour market has been discussed for various challenges, such as the high unemployment rate, especially among females, even before the pandemic. Kerala's labour force participation is not systematically different from all India trends from 1993-94. Kerala's total Labour Force Participation Rate (LFPR) is higher than allof India except in 2017-18 and 2019-20, where it is lower than all India trends (Table 1). The LFPR showed hardly any increase from 1993-94 to 2019-20. While there is hardly any difference in LFPR of males between Kerala and All India in all

[3] This paper does not include any growth estimates due to space constraints. Estimates are available on request.

the rounds, female LFPR in Kerala is consistently higher than all India average across the period under consideration.

Table 1: Labour force participation rate (LFPR) (in per cent) according to usual status (ps+ss) all age groups

	All India			Kerala		
	Male	**Female**	**Total**	**Male**	**Female**	**Total**
1993-94	55.2	24.75	40.6	56.8	26.4	40.9
2004-05	56.05	25.55	41.4	58.6	31.1	44.4
2011-12	55.6	22.5	39.5	57.9	24.8	40.3
2017-18	55.5	17.5	36.9	53.9	21.3	36.6
2018-19	55.6	18.6	37.5	56.6	24.6	39.5
2019-20	56.8	22.8	40.1	56.4	26.3	40.5

Source: NSSO Employment & Unemployment Survey Reports, NITI Aayog, and Periodic Labour Force Survey (PLFS), NSO.

Despite relatively higher LFPR in Kerala, the Worker Population Ratio (WPR) is consistently lower than all India except in 2018-19 (Table 2). The difference emanates from the lower WPR of females in Kerala until 2017-18. It is indeed shown in the literature that the WPR of females is one of the lowest in India (Abraham, 2012) despite the highest urbanisation in the country. In developed countries, more increased urbanisation is associated with increasing female participation in the labour market. The declining WPR trend in India has drawn considerable scholarly attention in the recent past. However, it is encouraging to note that WPR shows an increasing trend in Kerala from 2017-18. The trend suggests that female WPR in Kerala is higher than the national average in 2018-19 and 2019-20 (Table 2).

Table 2: Worker population ratio (WPR) (in per cent) according to usual status (ps+ss)_all age groups

	All India			Kerala		
	Male	**Female**	**Total**	**Male**	**Female**	**Total**
1993-94	53.7	24.15	39.55	54.8	22.05	37.9
2004-05	54.75	24.65	40.2	55.3	22.8	38.55
2011-12	54.4	21.9	38.6	56.2	21.3	37.7
2017-18	52.1	16.5	34.7	50.5	16.4	32.4
2018-19	52.3	17.6	35.3	53.8	20.4	35.9
2019-20	53.9	21.8	38.2	52.2	22.4	36.5

Source: NSSO Employment & Unemployment Survey Reports, NITI Aayog, and Periodic Labour Force Survey (PLFS), NSO.

The third indicator of the labour market situation is the unemployment rate. Kerala is known for recording one of the highest unemployment rates in the country. The unemployment rate in Kerala is many folds more elevated than the national average from 1993-94 onwards. The unemployment rate in Kerala increased significantly from 9.85 per cent in 2011-12 to 16.6 p-per cent in 2017-18 though it declined to 13.25 per cent in 2018-19 (Table 3). A similar trend could be observed for all India during the same 2011-12 to 2017-18 wherein unemployment increased from 2.55 per cent to 6.55 per cent. The very high unemployment rate in Kerala is mainly due to the highest unemployment among females. As of 2018-19, the unemployment rate of females is 25 per cent, while that of all India is 6.7 per cent.

Table 3: The unemployment rate in Kerala and all India (per cent) usual

	Male		Female		Total	
	Kerala	**All India**	**Kerala**	**All India**	**Kerala**	**All India**
1993-94	8.8	2.7	19.05	3.5	12.05	2.85
1999-00	8.5	3.1	23	3.35	13.3	3.1
2004-05	8.2	2.7	36.8	4.35	18.5	3.1
2009-10	4.65	2.2	24.5	3.65	11.15	2.5
2011-12	4.45	2.35	21.15	3.45	9.85	2.55
2017-18	9.2	6.45	33.35	7.3	16.6	6.55
2018-19	7.3	6.35	25	6.7	13.25	6.35

Notes: Employment figures are the sum of principal status and subsidiary status.
Source: NSSO Employment & Unemployment Survey Reports, NITI Aayog, and Periodic Labour Force Survey (PLFS), NSO.

From Table 3, it is evident that the difference in unemployment rates between Kerala and All India started declining, especially after 2011-12. In 1993-94 the total unemployment rate was four times higher than in Kerala. This trend continued till 2011-12, and the magnitude of difference declined in 2017-18 and 2018-19. In 2018-19, the unemployment rate between Kerala was two times higher than the national average. It is in this context; the COVID-19 pandemic has hit the state. Therefore, it is important to understand the labour market impacts of the COVID-19 pandemic.

4. Employment impact of COVID in Kerala

This section draws data from CPHS to analyse the impact of COVID-19 on employment and its recovery. To provide an overview of the employment scenario, across major states in the country before and after the COVID-19 pandemic, the projected number of people employed is presented in Table 4.

Table 4: Number of people employed (in Crore)

	1 (Jan-April) 2019	2 (May-Aug) 2019	3 (Sep-Dec) 2019	1 (Jan-April) 2020	2 (May-Aug) 2020	3 (Sep-Dec) 2020	1 (Jan-April) 2021	2 (May-Aug) 2021
Andhra Pradesh	1.72	1.71	1.76	1.57	1.65	1.7	1.7	1.67
Assam	1.21	1.26	1.27	1.25	1.13	1.31	1.34	1.4
Bihar	3.1	3.15	3.15	2.96	2.69	3.15	3.23	3.21
Chhattisgarh	0.98	1.01	1.04	1	0.95	1.02	1.04	1.07
Gujarat	2.67	2.65	2.65	2.54	2.29	2.59	2.62	2.7
Haryana	0.8	0.82	0.82	0.8	0.74	0.76	0.79	0.75
Jharkhand	1.09	1.1	1.14	1.13	0.92	1.17	1.17	1.2
Karnataka	2.42	2.41	2.38	2.41	2.4	2.37	2.37	2.48
Kerala	1.04	1.05	1.04	0.81	1	1	1.02	0.95
Madhya Pradesh	2.59	2.67	2.73	2.6	2.64	2.75	2.74	2.79
Maharashtra	4.74	4.57	4.59	4.32	4.2	4.52	4.69	4.64
Odisha	1.45	1.46	1.48	1.29	1.36	1.48	1.49	1.42
Punjab	1.04	1.05	1.06	1.01	0.97	1.02	1.03	1.03
Rajasthan	2.33	2.35	2.41	2.3	2.33	2.33	2.37	2.32
Tamil Nadu	2.91	3.15	3.06	2.5	2.41	2.62	2.69	2.48
Telangana	1.68	1.75	1.77	1.7	1.67	1.68	1.66	1.74
Uttar Pradesh	6.32	6.4	6.46	6.34	6.2	6.38	6.43	6.51
West Bengal	3.69	3.74	3.75	3.5	3.3	3.66	3.76	3.42
Total	42.33	42.86	43.15	40.57	39.41	42.05	42.68	42.32

Source: Author's calculations based on CMIE-CPHS

Consistent with the evidence shown by other studies (e.g., Vyas, 2020), the number of people employed in Kerala declined from 1.04 crore during September-December 2019 to 0.81 crore in Jan-April 2020, indicating an employment loss of close to 22 per cent,

which is the highest among all other Indian states though it recovered in May-August 2020. During this period number of people employed in all India declined from 43.15 crores to 40.57 crores and it further declined to 39.41 crores.

Since international organisations aim at the nature of recovery, whether it is V-shaped recovery or K shaped recovery and the timeline for getting back to the pre-pandemic levels of GDP, employment and other macro indicators, the analysis focuses on the impact of the crisis and the extent of recovery. The effect of the COVID-19 pandemic and the recovery is analysed by considering September-December 2019 as the base period that is completely free from the COVID-19 pandemic. The index value of employment in Kerala declined from 100 to 77.5 per cent in Jan-April 2020, while that of all India decreased to 94.03 per cent. The fall in employment during this period is higher in high-income states (90.92 per cent) as compared to low-income states (95.50 per cent) (Table 5).

Table 5: Employment impact of COVID-19 and Recovery (%)

Wave	Kerala	Low-Income States	High-Income States	All India
Sep-Dec 2019	100	100	100	100
Jan-April 2020	77.51	95.5	90.92	94.03
May-Aug 2020	96.5	91.82	89.15	91.34
Sep-Dec 2020	95.98	99.22	94.79	97.44
Jan-April 2021	98.06	100.6	96.67	98.92
May-Aug 2021	91.6	99.58	95.29	98.09

Source: Author's calculations based on CMIE-CPHS

Kerala showed a quick recovery in employment during May-August 2020 to 96.5 per cent. It declined to 91.3 per cent for all India, 91.82 per cent in low-income states, and 89.15 per cent in high-income states. The quick recovery could be attributed to the exemplary performance showed by Kerala in effectively containing the spread of the virus in the first wave while many high-income states were reeling from the COVID-19 crisis. By Jan-April 2021, the employment recovery in Kerala is almost 98 per cent, at par with the national level (Table 5). The employment recovery of high-income states together is lagging behind all India average during Jan-April 2021 while low-income states showed 100 per cent recovery. The slow recovery of employment could be attributed to the severe impact of COVID-19 on manufacturing, especially SMEs, which are mostly concentrated in high-income states like Maharashtra, Gujarat and Tamil Nadu. Another plausible reason could be a relatively lower share of the agricultural sector in high-income states which has remained insulated from the COVID-19 crisis.

In the second wave of COVID-19, which broadly corresponds to May-August 2021, the employment index value in Kerala fell to 91.6 per cent, while there is no significant decline in employment at all India levels as well as low-income high-income states. This clearly shows the devastating second wave Kerala experienced. Kerala is perhaps the only state to have continued partial lockdowns for months during the second wave, which could have

played a role in employment loss. Overall, it is clear that Kerala is still lagging in employment recovery while other states almost showed a V-shaped recovery in employment by May-August 2021.

4.1 Employment impact across gender category

Studies using the CPHS data have already shown that the employment impact of the COVID-19 crisis is disproportionate across the gender category, with females bearing the brunt of the crisis while male employment recovered quickly (Deshpande and Srivastava, 2020; Abraham et al., 2021; APU, 2021). The trends of the severity of the employment decline at all Indian levels correspond to the arguments of the previous studies. At the national level, employment of males in the first two waves of 2020 (Jan-April 2020 and May-August 2020) declined to 95.5 per cent and 91 per cent subsequently, while that of females declined to 89.5 per cent and 86.5 per cent (Table 6). The trends remain the same for low-income and high-income states though the fall of female employment is for low-income states than high-income states. On the contrary, Kerala shows the opposite trend. The employment of males declined to 75.93 per cent in Jan-April 2020 while that of females declined hardly by four percentage points (96.7 per cent). The fall in employment of males in Kerala is significantly higher than in both low income and high-income states.

Table 6: Employment impact across gender

Wave	Kerala	Low-Income States	High-Income States	All India
Panel A: Male				
Sep-Dec 2019	100	100	100	100
Jan-April 2020	75.93	96.27	90.71	94.55
May-Aug 2020	93.74	92.98	89.78	91.9
Sep-Dec 2020	95.83	99.9	96.06	98.22
Jan-April 2021	97.54	101.54	97.23	99.46
May-Aug 2021	90.44	100.54	96.64	98.73
Panel B: Female				
Sep-Dec 2019	100	100	100	100
Jan-April 2020	96.73	84.18	91.93	89.58
May-Aug 2020	130.03	74.79	86.09	86.51
Sep-Dec 2020	97.84	89.28	88.57	90.8
Jan-April 2021	104.27	86.72	93.93	94.25
May-Aug 2021	105.7	85.47	88.76	92.62

Source: Author's calculations based on CMIE-CPHS

In the subsequent months, Kerala showed a better recovery than the national average both in males and females. The employment recovery is more than 100 per cent for females during May-August 2020, but at the national level, employment recovery of females is found to be lagged behind males. By May August 2021, low-income states show 100 per cent recovery in the employment of males, and high-income states show 96 per cent recovery (Table 6). Kerala's employment recovery of males during this time showed a significant fall to 90 per cent indicating poor recovery. At the same time, the second wave showed no impact on female employment in Kerala. This trend is completely different from other states where female employment fell marginally during May-August 2021 compared to Jan-April 2021. In addition, the rate of recovery is lowest in low-income states as compared to others.

The observed patterns of divergent employment recovery across gender categories and an opposite trend could be broadly attributed to the nature of employment and type of occupations females engaged in in these states. A definite conclusion warrants a more nuanced analysis. However, Kerala's resilience in women employment shows that they may be mostly involved in more resilient service sectors. Given their relatively better education status in Kerala compared to other states, females in Kerala would be working on socially acceptable occupations like teachers, nurses, banking and financial services, and other business services where COVID-19 impact has been relatively low. This argument could be further substantiated by the severe effect on female employment in low-income states compared to high-income states. This may be due to women working in the informal sector, severely impacted than the formal sector.

4.2 Employment impact across the region

Going by the number of COVID-19 cases reported, rural areas have been relatively more resilient than urban areas. Similarly, South Indian states like Kerala, Tamil Nadu, Andhra Pradesh, with relatively high urbanisation, showed a much higher spread of COVID-19 than north Indian regions. Therefore, the employment impact of COVID-19 is significantly higher in urban areas than in rural areas.

Rural employment declined to 84.37 per cent during Jan-April 2020 compared to the base period. This decline is much more intense as compared to all India average (95.3 per cent) as well as low-income (96.55 per cent) and high-income states (92.5 per cent). In the next period (May-August 2020), Kerala's rural employment recovered (94.9 per cent) while that of low-income and high-income states further declined to 92.5 per cent and 89.3 per cent, respectively (Table 7). The impact of COVID-19 on rural employment is relatively low in low-income states and showed a complete recovery by September-December 2020. This could be attributed to the high dependence on agriculture and allied sectors in low-income states. Kerala showed a full recovery by Jan-April 2021, but it declined drastically (more than the first wave) to 89 per cent in May-August 2021 (Table 7).

In the first wave (Jan-April 2020), employment in urban areas in Kerala was hit the hardest as the value declined to 69.38 per cent, which is manifold higher than the national average (91 per cent). However, it recovered to almost 98.38 per cent in May-August 2020, while the low-income and high-income states experienced a further decline in employment (Table 7).

Table 7: Employment impact across the region

Wave	Kerala	Low-Income States	High-Income States	All India
Panel A: Rural				
Sep-Dec 2019	100	100	100	100
Jan-April 2020	84.37	96.55	92.55	95.3
May-Aug 2020	94.92	92.5	89.38	91.77
Sep-Dec 2020	97.74	100.14	94.17	97.91
Jan-April 2021	100.09	101.53	96.23	99.54
May-Aug 2021	89.92	100.41	95.08	98.82
Panel B: Urban				
Sep-Dec 2019	100	100	100	100
Jan-April 2020	69.38	91.88	88.3	91.01
May-Aug 2020	98.38	89.49	88.78	90.3
Sep-Dec 2020	93.89	96.07	95.78	96.32
Jan-April 2021	95.64	97.39	97.37	97.45
May-Aug 2021	93.59	96.72	95.64	96.36

Source: Author's calculations based on CMIE-CPHS

It is interesting to note that the employment recovery in urban Kerala is quicker than in rural Kerala. This may be attributed to the unique Ayyankali urban employment guarantee scheme implemented by the state. During the second wave, urban employment in Kerala marginally declined from 95.64 per cent to 93.59 per cent in May-August 2021. As observed at the aggregate level, low-income states showed better recovery in urban employment than high-income states, while Kerala is lagging behind both.

4. 3 Employment impact across the social category

In India, caste hierarchy manifests in an occupational hierarchy, with the under-privileged occupations taking up much of the low paying informal sector. Sengupta and Kannan (2008) finds that about 98 per cent of people living below poverty among SC/ST categories are engaged in the informal sector. Since the available evidence indicates that the informal sector has taken the hardest hit, the employment impact of the COVID-19 crisis across the social categories is likely to be disproportional. APU (2021) and Abraham et al. (2021) show that vulnerable sections like people belonging to SC-ST communities are harder. However, Kerala shows a very different trend from the rest of the country. At all India levels and in low-income and high-income states, SC-STs have been hit the hardest, followed by the OBC and general category, while in Kerala, SC-STs were hit affected hard in the first wave, and OBCs took a major hit in employment in the second wave followed by the SC-STs. Compared to the base period, the employment index value for all India in Jan-April 2020 declined to 98.41 per cent, 95 per cent and 88 per cent, respectively for general category, OBCs and SC-STs, Kerala shows a similar trend during this period with effect on OBCs (78.4 per cent) and SC-STs (75.5 per cent) is much higher in Kerala as compared to the national average as well as high-income and low-income states (Table 8).

During May-Aug 2020, employment of the general category in Kerala showed a significant decline to 82.6 per cent, while the same

for OBC shows a marginal increase to 79.6 per cent. The employment recovery for SC-STs during this period is more than 100 per cent. Neither India nor high-income and low-income states showed such a fast recovery. If any, there was a further decline in employment (Table 8, Panel C).

Table 8: Employment impact across the social category

Wave	Kerala	Low-Income States	High-Income States	All India
Panel A: General Category				
Sep-Dec 2019	100	100	100	100
Jan-April 2020	96.69	98.39	98.39	98.41
May-Aug 2020	82.65	98.94	88.52	94.16
Sep-Dec 2020	95.45	98.63	96.76	97.53
Jan-April 2021	101.49	99.18	97.41	98.56
May-Aug 2021	95.73	100.66	97.2	99.21
Panel B: OBC				
Sep-Dec 2019	100	100	100	100
Jan-April 2020	78.42	97.62	91.63	95.32
May-Aug 2020	79.69	90.75	90.35	92.14
Sep-Dec 2020	94.54	97.69	96.51	97.33
Jan-April 2021	92.89	100.57	97.38	99.11
May-Aug 2021	89.18	100.96	94.56	98.56
Panel C: SC-ST				
Sep-Dec 2019	100	100	100	100
Jan-April 2020	75.56	90.42	84.3	88.93
May-Aug 2020	149.65	87.22	88.52	88.09
Sep-Dec 2020	99.33	101.79	90.89	97.75
Jan-April 2021	110.38	101.91	94.75	98.97
May-Aug 2021	96.39	96.99	94.55	96.53

Source: Author's calculations based on CMIE-CPHS

The employment recovery is almost 100 per cent for the general category by May-Aug 2021, followed by OBCs (98.5 per cent) and SC-STs (96.93). Both low-income and high-income states show a

similar trend indicating slow employment recovery among the OBCs and SC-STs. On the contrary, Kerala shows very different trends in employment recovery. By May-Aug 2021, employment recovery for SC-STs is 96 per cent, followed by the general category (95 per cent) and the OBCs (89 per cent). Though the SC-STs showed a better recovery in the second wave (May-Aug 2021), the magnitude of the impact is the highest among other categories as the employment declined from 110.3 per cent to 96, which is almost 14 percentage points decline. Kerala's better employment recovery among the SC-STs needs further exploration.

4.4 Employment impact across age groups

Even before the onset of the COVID-19 crisis, youth employment has been a challenge across the developing world. During the pandemic, youth have lost more jobs than other age groups in the Asia Pacific (ILO, 2020). Nearly half of young workers in the region are employed in the four sectors hit hardest by the crisis. India is no exception to this trend as the study by APU (2021) shows that youth have been impacted severely compared to the non-youth population and that 33% of workers in the 15-24 years age group failed to recover employment even by Dec 2020. Following the national youth policy document, this study categorises the youth population as people aged between 15-29 years, and the rest are classified as non-youth.

Table 9: Employment impact across youth and non-youth

	Kerala	Low-Income States	High-Income States	All India
Panel A: Youth				
Sep-Dec 2019	100	100	100	100
Jan-April 2020	76.06	92.28	92.93	92.26
May-Aug 2020	91.51	79.35	86.74	82.35
Sep-Dec 2020	100.1	87.48	88.45	87.94
Jan-April 2021	109.66	89.77	88.61	89.57
May-Aug 2021	109.49	82.75	88.19	85.16
Panel B: Non-youth				
Sep-Dec 2019	100	100	100	100
Jan-April 2020	77.82	96.68	93.03	94.59
May-Aug 2020	97.55	96.41	91.23	94.21
Sep-Dec 2020	95.11	103.54	97.22	100.47
Jan-April 2021	95.6	104.58	99.2	101.9
May-Aug 2021	87.81	105.77	98.93	102.21

Source: Author's calculations based on CMIE-CPHS

In the first wave of the COVID-19 crisis, youth employment in Kerala declined by 24 per cent during Jan-April 2020 compared to close to 8 per cent decline at all India levels indicating the three times more job loss of youth population in Kerala. However, it is interesting to note that youth employment in Kerala recovered in Kerala in the subsequent months while both high-income and low-income states showed a decline of close to 14 per cent and 20 per cent, respectively, in May-Aug 2020 (Table 9 Panel A). In the second wave (May-Aug 2021), Kerala did not show any decline in youth employment, and the number of youths employed is higher than the pre-pandemic level. On the contrary, at all Indian levels, the employment recovery by May-Aug 2021 is found to be 85 per cent for all India, 88 per cent for high-income states and 82.7 per

cent for low-income states (Table 9 Panel A). The low-income states are bearing a greater impact of youth employment loss than high-income states could be attributed to the nature of the labour market.

In the case of non-youth, the employment loss in Kerala was significantly higher (23%) than 6 per cent at all India levels, 7 per cent in high-income states and 3.5 per cent in low-income states Jan-April 2020. The non-youth employment showed a considerable improvement after that. By Sep-Dec 2020, there was 100 per cent employment recovery in both low-income and high-income states, but Kerala's recovery was lower at 95 per cent. In the second wave (May-Aug 2021), the employment of non-youth declined to 87 per cent from 95 per cent during Jan-April 2021, while there was no significant decline at all India level (rather, the number marginally increased) (Table 9 Panel B). In Kerala, youth lost more employment in the first wave, but in the second wave, non-youth lost more jobs. The trends at the national level are in contrast to the trends in Kerala. The youth suffered more job loss in both the waves during the pandemic, and their employment recovery is poor while non-youth showed a 100 per cent recovery.

4.5 Employment impact across industry category

The quarterly estimates of GDP published by National Account Statistics (NAS) clearly showed the differential impact of COVID-19 on different sectors. Agriculture seems to be the most resilient

sector during the COVID-19 crisis. Though Kerala experienced a relatively large impact (86.8 per cent) in Jan-April 2020 compared to the base period, it recovered most significantly in the subsequent waves (Table 10, Panel A). In the next wave (May-August 2020), the employment recovery has been 186 per cent though it gradually declined in the subsequent waves. By May-August 2021, Kerala's agricultural employment recovery is 153.8 per cent, while that of all India was 107.6 per cent (Table 10, Panel A). The low-income states showed no decline in agricultural employment during the COVID-19 period compared to the pre-COVID-19 base period. Kerala's substantial increase in agricultural employment indicates people moving to agricultural and allied jobs due to the loss of jobs in the non-agricultural sector like manufacturing and services. Secondly, this could also mean that the influx of return migration that Kerala experienced would have found agriculture the temporary source of livelihoods in the absence of employment opportunities in the non-agricultural sector.

People employed in the industrial sector have been most affected compared to other sectors. This trend is consistent across high-income and low-income states. However, the magnitude of industrial employment in Kerala is manifold higher than the national average (Table 10, Panel B), and show no signs of recovery in the subsequent waves. In Jan-April 2020, industrial employment in Kerala declined to 73.9 per cent compared to the base period. This is the highest decline in comparison with low-income states

(88. 7 per cent), high-income states (90.85) and the national average (89.8 per cent). It further declined to 32 per cent in Kerala, 80 per cent in low-income states, 56.7 per cent in high-income states and 68.2 per cent in all India. Though other states showed a gradual recovery in industrial employment in the subsequent waves, Kerala's industrial employment declined. However, there was a marginal improvement (29 per cent from 25.8 per cent in Jan-April 2021) in the second wave (May-August 2021). Low-income states have experienced a relatively low decline in industrial employment in the first wave. Still, in the second wave, the fall in industrial employment is higher than in the high-income states. In terms of recovery, high-income states have shown better recovery than low-income states.

Table 10: Employment impact across industry category

Wave	Kerala	Low-Income States	High-Income States	All India
Panel A: Agriculture and allied				
Sep-Dec 2019	100	100	100	100
Jan-April 2020	86.88	100.6	92.18	97.12
May-Aug 2020	186.11	109.85	99	105.3
Sep-Dec 2020	178.67	110.61	93.07	102.73
Jan-April 2021	152.98	107.98	96.58	103.37
May-Aug 2021	153.85	112.82	99.23	107.62
Panel B: Industry				
Sep-Dec 2019	100	100	100	100
Jan-April 2020	73.93	88.71	90.85	89.86
May-Aug 2020	32.05	80.14	56.75	68.27
Sep-Dec 2020	36.56	75.9	65.8	72.18
Jan-April 2021	25.87	73.83	75.35	77.06
May-Aug 2021	29.57	67.88	72.39	73.05
Panel C: Construction				
Sep-Dec 2019	100	100	100	100
Jan-April 2020	53.94	92.79	76.74	88.19
May-Aug 2020	107.28	67.65	103.88	77.31
Sep-Dec 2020	89.9	98.88	124.3	105.7
Jan-April 2021	99.82	109.76	126.91	113.72
May-Aug 2021	94.39	98.67	118.97	103.64
Panel D: Services				
Sep-Dec 2019	100	100	100	100
Jan-April 2020	90.94	93.21	93.41	94.42
May-Aug 2020	91.06	88.94	87.08	89.12
Sep-Dec 2020	100.37	92.74	100.12	95.7
Jan-April 2021	102.25	93.85	97.03	94.4
May-Aug 2021	93.05	93.41	93.68	93.02

Source: Author's Estimation based on CMIE-CPHS

The construction sector's share in Kerala's GDP is almost double that of all Indian levels. Hence, construction sector revival is crucial for employment generation in Kerala. In the first wave (Jan-April 2020), Kerala's construction employment fell to 54 per cent

compared to the base period. The fall in construction employment during the period is less severe in low-income states (92.7 per cent) than in high-income states (76.7 per cent). In the next period (May-August 2020), Kerala's and high-income states construction employment increased more than the base period (107 per cent and 103 per cent respectively), low-income states experienced a major decline (67.6 per cent from 92.7 in the previous period). In the second wave (May-August 2021), construction employment fell from 99.8 per cent in the previous wave to 94.3 per cent in Kerala, 109.7 per cent to 98.6 per cent in low-income states, 126 per cent to 118 per cent in high-income states and 113.7 per cent to 103 per cent for All India (Table 10, Panel C). In terms of the magnitude of the decline in the COVID-19 second wave, low-income states experienced a much higher decline (11 percentage points decline). Kerala is still lagging in recovery as high-income states showed increased construction employment compared to the base period.

Service sector employment is relatively less affected than manufacturing and construction, but the recovery is slower than the construction sector. In the first wave of the COVID-19 crisis (Jan-April 2020), Kerala experienced a relatively higher decline in service sector unemployment (90.9 per cent) compared to 93 per cent in both high-income and low-income states and 94 per cent at all Indian levels. By Jan April 2021, the service sector employment is higher (102.2 per cent) as compared to the base

period indicating a complete recovery which is better than all India average (94 per cent), high-income states (97.03 per cent) and low-income states (93.4 per cent). Kerala experienced the most significant fall in the second wave (employment in May-Aug 2021 declined almost by ten percentage points compared to the previous period) while all India average hardly showed any major decline (Table 10, Panel D).

4.6 Employment impact across education category

The sample is divided into four categories of education. Primary education represents people with less than six years of schooling. Secondary education means people whose education is more than the 5th standard to the 10th standard. Higher secondary represents people class 11 and 12 education or diploma holders. All the graduates and above are classified as the fourth category. It appears that people with primary education and graduate degree have been severely affected. In contrast, people with secondary and higher secondary employment increased significantly compared to the base period (Table 11).

People with primary education experienced the largest employment decline in Kerala and other states. In the first wave of the COVID-19 crisis (Jan-April 2020), the employment of people with primary education declined to 66.3 per cent in Kerala, while the magnitude of the decline is considerably less in all India (86.24 per cent) and low-income states (89.3 per cent) and high-income

states (81.3) per cent. The employment further declined to 35.58 per cent in Kerala during May-August 2020. The decline during this period is more than 100 per cent for all India (from 86 per cent to 43 per cent). Both low-income and high-income states showed a similar magnitude of decline during May-August 2020, followed by a gradual recovery after that. In the second wave corresponding to May-Aug 2021, employment of people with primary education declined from 51.3 per cent to 40.6 per cent recording the highest decline compared to all India or low-income and high-income states where the drop is negligible (Table 11 Panel A).

In Kerala, the employment decline for people with secondary education and higher education was 73.4 and 79.8 per cent in Jan-April 2020. In the next period, i.e. May-August 2020, the work of people with secondary education increased to 123 per cent, higher than the base period and continued after that though the index value declined marginally. In the employment of people with higher secondary education, though 85 per cent of work is recovered, it is lower than the employment recovery of people with secondary education (Table 11, Panel B&C). In both cases, employment increase is higher in low-income states than in high-income states. In the second pandemic wave (May-August 2021), Kerala experienced the highest decline in employment in both education categories compared to the national average and other states. During the pandemic, better employment recovery of people with secondary and higher-secondary education could be

attributed to the rise of the gig economy and online delivery services where the qualification required is secondary or higher secondary.

The employment of people with a graduate degree and above shows a gradual decline in Kerala and other states. It declined to 96.4 per cent in Jan-April 2020 and further to 74 per cent and 69.5 per cent respectively in subsequent two periods, followed by an increase in Jan-April 2021. This is the only category wherein the second wave (May-Aug 2021) did not show any decline in employment in Kerala while the employment increased in low-income and high-income states and all India. As of May-Aug 2021, employment recovery for people with a graduate degree and above in Kerala is only 75.8 per cent, which is much lower than the national average of 89.11 per cent. (Table 11, Panel D)

Table 11: Employment impact across education category

Wave	Kerala	Low-Income States	High-Income States	All India
Panel A: Primary				
Sep-Dec 2019	100	100	100	100
Jan-April 2020	66.33	89.31	81.13	86.24
May-Aug 2020	35.58	43.1	43.69	42.98
Sep-Dec 2020	43.51	44.92	49.15	46.31
Jan-April 2021	51.35	59.97	61.79	60.81
May-Aug 2021	40.68	57.61	61.68	59.21
Panel B: Secondary				
Sep-Dec 2019	100	100	100	100
Jan-April 2020	73.47	99.72	93.1	96.97
May-Aug 2020	123.67	128.5	116.83	123.98
Sep-Dec 2020	115.66	143.38	124.64	135.42
Jan-April 2021	114.52	138.01	124.09	131.24
May-Aug 2021	107.45	136.73	120.83	129.7
Panel C: Higher Secondary				
Sep-Dec 2019	100	100	100	100
Jan-April 2020	79.89	101.07	94.02	98.09
May-Aug 2020	85.31	103.07	94.44	100.06
Sep-Dec 2020	106.49	106.63	103.94	105.25
Jan-April 2021	110.3	114.35	106.46	110.05
May-Aug 2021	101.99	116.89	106.38	111.95
Panel D: Graduate and above				
Sep-Dec 2019	100	100	100	100
Jan-April 2020	96.45	94.04	97.71	97.85
May-Aug 2020	74.1	78.24	75.23	80.65
Sep-Dec 2020	69.53	80.59	84.33	83.29
Jan-April 2021	75.06	84.1	86.52	86.69
May-Aug 2021	75.84	87.1	86.99	89.11

Source: Author's calculations based on CMIE-CPHS

4.7 Employment impact by type of employment

It is evident by now that the employment impact of the COVID-19 crisis is disproportional across different sections of society.

Another major source of the disproportionate impact is a type of employment contract. Using the employment nature provided in the CPHS, the analysis explored the differential impact of the COVID-19 crisis on employment. In the first wave (Jan-April 2020), the fall of daily wage or casual labour in Kerala has been the highest (64 per cent) compared to other types of employment and the other states. However, employment of daily wage workers in Kerala during May-Aug 2020 increased 122.9 per cent, which is higher than the base period. The low-income states during this period witnessed a significant fall in employment (68.55 per cent), while high-income states showed a marginal decline (77.3 per cent). In the second wave (May-Aug 2021), the employment of daily wage labour fell from 115.9 per cent to 102 per cent, while that of all India declined from 99.4 per cent to 94.6 per cent, indicating a much higher impact of the second wave in Kerala (Table 12, Panel A).

Table 12: Employment impact by type of employment

Wave	Kerala	Low-Income States	High-Income States	All India
Panel A: Daily wage/Casual labour				
Sep-Dec 2019	100	100	100	100
Jan-April 2020	64.07	86.57	78.39	83
May-Aug 2020	122.9	68.55	77.82	73.45
Sep-Dec 2020	107.9	93.09	93.91	94.26
Jan-April 2021	115.92	99.98	97.82	99.44
May-Aug 2021	102.02	93.3	95.14	94.69
Panel B: Salaried-Permanent				
Sep-Dec 2019	100	100	100	100
Jan-April 2020	92.32	92.95	97.02	96.82
May-Aug 2020	64.61	70.54	75.06	75.43
Sep-Dec 2020	72.66	70.57	90.62	81.18
Jan-April 2021	77.26	81.77	101.78	92.83
May-Aug 2021	74.6	84.16	100.5	93.74
Panel C: Salaried-Temporary				
Sep-Dec 2019	100	100	100	100
Jan-April 2020	92.31	97.58	92.07	94.87
May-Aug 2020	77.49	81.21	82.92	82.34
Sep-Dec 2020	96.43	90.3	80.23	85.55
Jan-April 2021	102.65	97.13	90.24	94.92
May-Aug 2021	105.97	90.3	83.37	87.63
Panel D: Self-employed				
Sep-Dec 2019	100	100	100	100
Jan-April 2020	82.78	100.45	98.14	99.78
May-Aug 2020	84.57	109.65	103.21	106.77
Sep-Dec 2020	92.15	108.48	100.61	105.02
Jan-April 2021	84.65	104.4	96.14	100.72
May-Aug 2021	82.69	106.94	97.21	103.08

Source: Author's calculations based on CMIE-CPHS

The employment of permanent salaried workers in Kerala declined significantly in the first wave. It fell to 92.32 per cent in Jan-April 2020 and further to 64 per cent in May-Aug 2020, followed by an

increase after that (Table 12, Panel B). Although with less intensity than Kerala, both low-income and high-income countries show the same trend during this period. But there has been an almost 93 per cent recovery in the employment of permanent salaried workers at all India levels, and high-income states showed 100 per cent recovery by May-Aug 2021. Kerala's recovery in the same is only about 74.6 per cent indicating poor employment recovery (Table 12, Panel B). One limitation of the CPHS data is that it does not allow provide data on permanent employment in the government sector and private sector. GIFT study shows that while government employees hardly lost any employment, private sector employees lost jobs. Hence, the loss of permanent jobs in Kerala could be attributed to loss of regular jobs in the private sector.

The employment trends of temporary salaried workers in Kerala and other states are the same as those in Jan-April 2020 and May-August 2020. However, the intensity of employment loss is lower in temporary salaried workers (Table 12, Panel C). However, the employment recovered in the subsequent quarters, and the work of temporary salaried workers in May-Aug 2021 is higher than the pre-pandemic base period. The recovery for all India during this period is 87 per cent. Poor recovery in permanent salaried workers and increases in the employment of daily wage and temporary workers depict the nature of changes in the labour market during the pandemic. Not only informalisation is increasing, but people

who lost jobs are also joining temporary contractual jobs, increasing the job insecurities in the labour market.

Similarly, self-employed in Kerala have been hit hard compared to the national average and low-income and high-income states. At the national level, the employment of self-employed hardly showed any decline in the pandemic. Low-income states also offer a very similar trend. The employment of self-employed declined to 82.7 per cent in Jan-April 2020 though it showed a marginal in the subsequent periods (Table 12, Panel D). In May-Aug 2021, employment recovery of self-employed is 82 per cent which is much below high-income states and the national average.

4.8 Employment impact by type of occupation

The COVID-19 induced lockdowns in India affected different occupations differently. People working in the formal services sector who could continue to work from home have been least affected, while people working in the factory production lanes have been severely affected. Using the nature of occupation in CPHS data, broadly, five occupation groups have arrived. They are white-collar, blue-collar, self-employed, and people engaged in farming and related activities.

Table 13: Employment impact by type of occupation

Wave	Kerala	The Low-Income States	High-Income States	All India
Panel A: White-collar workers				
Sep-Dec 2019	100	100	100	100
Jan-April 2020	88.76	95.21	98.46	98.33
May-Aug 2020	68.79	80.31	80.24	82.48
Sep-Dec 2020	79.18	81.54	89.78	86.02
Jan-April 2021	89.86	89.92	95.92	93.23
May-Aug 2021	82.37	92.89	96.01	95.29
Panel B: Blue Collar workers				
Sep-Dec 2019	100	100	100	100
Jan-April 2020	68.76	88.77	81.77	85.54
May-Aug 2020	119.52	70.62	78.79	75.56
Sep-Dec 2020	107.48	90.37	90.96	91.56
Jan-April 2021	112.91	96.39	97.38	97.65
May-Aug 2021	102.5	88.8	93.07	91.55
Panel C: Self-employed				
Sep-Dec 2019	100	100	100	100
Jan-April 2020	79.64	97.33	97.26	96.64
May-Aug 2020	78.16	102.64	94.76	97.99
Sep-Dec 2020	88.47	107.41	103.21	104.53
Jan-April 2021	82.37	102.93	91.38	96.64
May-Aug 2021	81.01	100.78	91.14	95.37
Panel D: Farming				
Sep-Dec 2019	100	100	100	100
Jan-April 2020	114.72	102.39	102.49	102.29
May-Aug 2020	114.72	102.39	102.49	102.29
Sep-Dec 2020	153.25	110.13	97.55	104.89
Jan-April 2021	112.79	107.39	98.68	104.41
May-Aug 2021	124.2	113.59	102.22	110.12

Source: Author's calculations based on CMIE-CPHS

Consistent with the aggregate trends, Kerala suffered greater employment loss in almost all occupational categories in the first wave. In the first pandemic wave, the highest employment loss was observed in blue-collar workers and self-employed types while farming remained insulated from the effects of the COVID-19

crisis. The employment loss of blue-collar workers in Kerala during Jan-April 2020 was almost 31 per cent (15% for all India), followed by 20 per cent (4% for all India) loss in self-employed and 18 per cent in white-collar workers (2% for all India). During May-Aug 2020, white-collar workers have lost more jobs in Kerala and high-income states. The employment loss of white-collar workers in Kerala during May-Aug 2020 was 32 per cent and 20 per cent in both low and high-income states. It increased after that in the subsequent months. Still, the employment recovery of white-collar workers in Kerala is slower (82%) as compared to low-income states (92%), high-income states (96%) and all of India (95%) (Table 13, Panel A).

After a drastic fall in employment of blue-collar workers in Kerala during Jan-April 2020, there was more than 100 per cent recovery in the subsequent months. On the contrary, employment of blue-collar workers further declined by 25 per cent in all India, 30 per cent in low-income states and 22 per cent in high-income states in May-Aug 2020. It appears that low-income states suffered greater employment loss during the first wave of the COVID-19 crisis, and the recovery is slower than in high-income and all India (Table 13 Panel B).

Self-employed in Kerala suffered a higher loss than low-income and high-income states and the national average. The employment loss was close to 21 per cent and 22 per cent in Kerala during Jan-April 2020 and May-Aug 2020 compared to 4 and 3 per cent in all

India. The low-income states show a higher number of people in the self-employed category from May-Aug 2020 as compared to the pre-pandemic levels. By May-Aug 2021, the recovery of employment among the self-employed in Kerala was 81 per cent compared to 95 per cent at all India levels and 91 per cent in high-income states.

5. Conclusion and policy suggestions

The analysis of the employment impact of COVID-19 in Kerala in a comparative perspective shows that the state has witnessed the highest employment decline in the first and second waves of COVID-19 and lagging behind other states in terms of employment recovery. One out of eight people who lost jobs during the pandemic is Kerala. The magnitude of the crisis is highly uneven across different sections of the society, with the impact being higher for vulnerable areas of the community.

Much of the employment loss during the pandemic was found in urban Kerala, while rural Kerala showed a better resilience than all India and other states. The highest loss of employment in Kerala during the COVID-19 first wave could be attributed to the massive loss of jobs in construction and manufacturing. Almost 50 per cent of jobs were lost in the construction sector in the first wave though it recovered in the second half of 2020. Similarly, Kerala lost three times more jobs in manufacturing than all of India, and the recovery of manufacturing jobs has been the lowest.

The loss of employment is significantly higher for people with a primary level of education. In contrast, people with secondary and higher secondary education recovered the lost jobs during the pandemic suggesting that people at the bottom suffered more, and the magnitude is higher in Kerala. The study also shows an increase in the informalisation in the labour market in Kerala as more people joined the workforce as daily wage workers and casual labourers after the initial loss of employment during the lockdown period. Similarly, the pandemic has also led to the changing nature of employment contracts, with more temporary jobs created than permanent ones.

However, Kerala showed some unique trends, in contrast with the trends observed at the national level.

First, studies have shown that the employment impact of the pandemic is high among females and youth. On the contrary, the number of females employed in Kerala during the pandemic increased compared to the pre-pandemic period. This unique trend in Kerala could be partially attributed to the active role of women-led SHGs and the greater female participation in NREGA. Similarly, the impact on youth employment in Kerala is significantly lower than the national average, though Kerala suffered a drastic decline in the first wave of COVID-19. Further, their employment recovery is better in Kerala. Less impact on youth in Kerala during the pandemic could be attributed to a massive increase in the gig economy. However, the international

evidence on the gig economy during the pandemic is alarming. The quality of employment and working conditions are precarious.

Second, the SC-STs suffered the highest decline in employment, followed by the OBCs and general category during the pandemic. The employment recovery of SC-STs is slower than others. However, SC-ST employment in Kerala showed better healing than other groups.

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