

METHODOLOGY NOTE

PLATFORMING

PRECARITY:

Data narratives of
workers sustaining
urban platform services

2024

Methodology note

Quantitative surveys with app-based delivery and taxi workers in Delhi-NCR, Guwahati, Lucknow, and Mumbai

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Survey aims and design

Survey aims

In 2021-22, the labour research vertical at the Centre for Internet and Society conducted quantitative surveys with over 800 workers employed in the app-based taxi services and app-based delivery services sectors. Spanning surveys in 4 cities, the surveys aimed to gather systematic data and documentation on the conditions of work in the platform economy in India, within its two most dominant sectors.

The generation of city-level data aimed to support policymaking and advocacy towards achieving just outcomes for workers in the rapidly platformising Indian economy. Strategising this support included i) top-down approaches of regulatory, legislative, and judicial action through evidence-building and ii) bottom-up approaches of mobilisation and advocacy campaigns of workers' collectives.

The survey covered key labour indicators—(i) the conditions of work for workers, including recruitment, wages, incentive structures, and work-related cost burdens (ii) workforce management, including hours spent working for the platform, surveillance and control measures, and (iii) workers' coverage under income security, social security and social protections, including provident funds, health and accident insurance, and pensions.

Survey methodology

In terms of methodology, the survey focused on two under-explored aspects of quantitative research on platform work in India. First, it captured labour indicators across four Indian cities, with an even split across tier 1 and tier 2 cities. This allowed us to understand city-specific differences and similarities shaped by histories and newer developments of labour platforms operating in the city economy.

Second, the survey includes a longitudinal methodology for a subset of respondents in Delhi-NCR and Mumbai. This survey constitutes the second round of data collection, while the first round of surveys were conducted in 2019 by the International Labour Organization, Geneva office (ILO). The longitudinal approach re-surveyed respondents and tracked shifts in their labour outcomes between 2019 and 2022. In the process, it captured the impact of the COVID-19 pandemic, with several workers exiting platform work due to economic distress created by platform policies.

Survey research questions

Through a focus on key labour outcomes and methodological approaches, we sought to answer:

1. What is the nature and scale of platform operations in the app-based delivery services and taxi services sectors within various tier 1 and tier 2 cities in India?
2. What are the socio-economic contexts shaping workers' decisions around transitioning in and out of the platform workforce in the delivery and taxi sectors?
3. What are the tangible and intangible costs, and conditions of work that workers navigate to sustain their employment on delivery and taxi platforms?
4. How does the assemblage of informal and formal structures, actors, and systems of work management shape economic outcomes for workers on delivery and taxi platforms?

Survey themes and indicators

Table 1—Key survey themes and indicators

Themes	Indicators
Socio-demographic information	age, gender, religion, caste, migration status, health status, formal education, marital status, household size, financial dependents
Prior employment history	prior work; prior employment status; prior working conditions; reasons for stopping prior work
Reasons for exiting the platform workforce [if applicable]	reasons for stopping platform work; current non-platform work; current employment status; current working conditions

Table 1—Key survey themes and indicators (continued)

Themes	Indicators
Reasons for joining the platform workforce	key reasons for joining platform work; key reasons for working for a specific main platform
Types of platform work arrangements	years of experience in platform work; years of experience working for a specific main platform; single/multi platform employment; employment status; owner/non-owner work arrangements; breaks from platform work
Impact of platform design and policies	terms and conditions of employment; training by platforms; opacity/transparency around platform rules and policies; ratings and performance metrics systems; blocking and deactivations of workers' accounts
Platform work-related expenses	platform commission charges; other platform charges; externalised work-related expenses (joining, statutory, and operational expenses)
Earnings and income (in)security	wage and incentive structures; frequency of wage payments; net earnings; earnings distributions; impact of performance metrics on earnings; impact of platform policies on earnings; workers' economic dependency on platform work; (in)sufficiency of earnings
Workplace safety and grievance redressal	working hours; factors impacting workplace stress; factors impacting workplace safety; presence of platforms' grievance redressal systems; (in)effectiveness of platforms' grievance redressal systems; platforms' policies on working conditions and safety
Social security and social protection	sources of social security and social protection mechanisms; coverage of social security and social protection mechanisms
Collective action and worker solidarity	workers' awareness of and membership in formal unions; workers' awareness of and membership in informal worker groups
Impact of the COVID-19 pandemic	impact on employment status; breaks in platform employment; changes in working hours and type of work; pandemic-related workplace safety risks; pandemic-related support from platforms; pandemic-related support from government

Survey sampling framework

The proposed survey sampling framework included two tier 1 cities and two tier 2 cities—Delhi-NCR, Mumbai, Guwahati, and Lucknow. Delhi-NCR and Mumbai were covered by the ILO in the 2019 survey, and therefore, were included in the list of cities for this survey as well to enable longitudinal analysis. The other two cities—Guwahati and Lucknow—were identified to analyse differences and similarities in conditions of platform work between tier 1 and tier 2 urban centres, and to understand regional specificities across India.

The final city-wise target and achieved samples are detailed below. A substantial proportion of respondents in the longitudinal surveys in Delhi-NCR and Mumbai had exited platform work, largely due to the economic distress they faced during the COVID-19 pandemic. Table 3 describes the final achieved sample **including** both respondents who exited and those who continue in platform work. Table 4 describes the final achievement sample **excluding** the respondents who had exited platform work.

Table 2—Final target sample

City	App-based delivery services	App-based taxi services	Total
Delhi-NCR	202	80	282
Guwahati	70	85	155
Lucknow	70	85	155
Mumbai	155	80	235
Total	497	330	827

Table 3—Final achieved sample: all workers (including those who had exited platform work)

City	App-based delivery services	App-based taxi services	Total
Delhi-NCR	141	79	220
Guwahati	107	111	218
Lucknow	108	99	207
Mumbai	160	70	230
Total	516	359	875

Table 4—Final achieved sample: all workers (excluding those who had exited platform work)

City	App-based delivery services	App-based taxi services	Total
Delhi-NCR	106	53	159
Guwahati	107	111	218
Lucknow	108	99	207
Mumbai	160	35	195
Total	481	298	779

Survey implementation

After the CIS research team finalised the survey design and questionnaires, an external consultant was engaged to implement the surveys across the four cities. The consultant was responsible for developing a field plan, managing a team of surveyors (including enumerators, supervisors and managers), and conducting introductory and refresher training sessions with support from CIS. Introductory training sessions involved 3-4 days of training for each survey team across cities, followed by pilot surveys. A second round of training (1-2 days) was conducted after feedback and discussion based on field experiences during pilot surveys in each of the cities.

The surveys were implemented concurrently across cities, and in two phases (largely owing to disruptions caused by the third wave of the COVID-19 pandemic).

Table 5—City-wise survey implementation timelines

City	App-based delivery services	App-based taxi services
Delhi-NCR	13/12/2021 to 19/12/2021 and 12/04/2022 to 22/04/2022	12/12/2021 to 17/12/2021 and 17/03/2022 to 23/03/2022
Guwahati	18/12/2021 to 28/12/2021	22/12/2021 to 28/12/2021
Lucknow	08/12/2021 to 18/12/2021	04/12/2021 to 11/12/2021 and 17/01/2022 to 18/01/2022
Mumbai	21/12/2021 to 28/01/2022	17/12/2021 to 18/12/2021 and 11/03/2022 to 17/03/2022
Overall	04/12/2021 to 22/04/2022	

During the course of survey implementation, the external consultant was responsible for supervising data collection including field team management, operational and logistical support, and data monitoring and review.

Survey recruitment and data collection

In the absence of official or publicly-available statistics around the socio-demographic profiles of workers in the app-based delivery services and taxi services sectors, the survey sample was purposive and non-representative. Recruitment criteria required i) all respondents to be 18 years or older at the time of the survey, and ii) to have had at least 3 months of experience working for platforms (continuously or not) in the past year preceding the survey.

To ensure heterogeneity in the sample, survey respondents were recruited from different neighbourhoods within each city, at different times of the day (peak and non-peak working hours), and different days of the week (peak and non-peak working days).

The field teams were directed to actively recruit both men and women workers as part of the sample. However, it proved difficult to recruit women workers, owing to gendered occupational segregation prevalent in the app-based delivery and taxi sectors resulting in the extremely low percentages (as low as 0.5%) of women workers comprising the workforce in these sectors (according to public information shared by some major platforms such as Zomato, see here: <https://blog.zomato.com/more-inclusive-delivery-fleet>)

Recruitment and survey implementation was done in person in all cities with the exception of the resurveyed sample of respondents who were recontacted through telephonic surveys. For in-person surveys, respondents were recruited in target areas within the city that were more likely to include the presence of app-based delivery and taxi workers. These included office complexes, shopping and commercial complexes, and general waiting/parking areas in the case of taxi workers; and restaurants and waiting points for delivery workers.

As part of longitudinal surveys in Delhi-NCR and Mumbai, respondents were recontacted through telephonic surveys. In case of no response after 3 attempts to establish contact, the respondent was excluded from the final sample.

Survey data analysis and visualisation

Data verification

During survey implementation, the external consultant detailed and continuous monitoring and review to ensure data quality, accuracy, and completeness. These checks included built-in checks, real-time automated checks, enumerator-level checks, high-frequency checks, spot checks, and back checks. In addition to this, CIS followed a rigorous process of data checking and verification when the first pilot data files were shared for Lucknow and Guwahati. The team reviewed all observations for inconsistencies and extensive feedback was shared with the external consultant.

Several of these checks were coded into automated checks on Stata for a comprehensive data verification process through frequency tables, cross-tabulations and summaries of key variables to spot inconsistencies, and methods to detect outliers and missing values. These checks were run by the CIS team regularly on the raw datasets that were received from the field team. For observations that did not pass data verification checks due to inconsistent values, respondents were recontacted by the field team and relevant values were verified. For observations that did not pass critical checks or did not pass eligibility checks, the observations were dropped and re-surveys were conducted by the field team.

Data analysis and visualisation

Once the data verification process was completed, raw datasets were prepared for analysis on Stata involving labelling, renaming, deleting, and calculating variables as required. Variables for quantitative analysis included both numeric and categorical variables. In addition, the datasets included open-ended responses for qualitative analysis and worker narratives. An external consultant was engaged to develop data visualisations and narratives to describe key findings from the data on the conditions of work within app-based delivery services and taxi services sectors. Along with the data visualisation consultant, the CIS team developed thematic analysis questions along 8 key themes on working conditions and outcomes:

- 1.** socio-demographic profiles of workers; major platforms employing workers in the city
- 2.** prior employment history of workers and transition to platform work
- 3.** key push and pull factors for workers to join platform work
- 4.** joining, statutory, and operational costs burdens externalised to workers
- 5a.** earnings distributions for platform workers
- 5b.** comparison of earnings against statutory minimum wage and extrapolated living wage standards
- 6.** factors impacting income (in)security and precarity for workers
- 7a.** working hours, working conditions, and workplace safety risks
- 7b.** experiences with platform grievance redressal systems
- 8.** workers' coverage of social security and social protection mechanisms

A cluster of relevant quantitative variables were then analysed for each theme. In addition, micro stories were drawn from open-ended responses providing in-depth qualitative data on workers' experiences that reflected the larger themes.

Calculated variables: Estimated joining, statutory, and operational expenses for workers

Workers in both app-based delivery services and taxi services sectors face substantial cost burdens offloaded by platforms. They faced these costs both to join platform work and to continue working for platforms thereafter. The survey involved several questions to understand joining, statutory, and operational cost burdens that workers faced. The sub-categories for each of these cost categories are detailed below:

Table 6—Sub-categories for joining, statutory, and operational expenses incurred by workers

Cost categories	Cost sub-categories
Joining expenses	registration and vehicle down payment and costs
Statutory expenses	permits, licences, vehicle insurance, fitness fees, and road tax
Operational (routine) expenses	fuel, vehicle maintenance, vehicle repairs, and phone bills
Operational (monthly/periodic) expenses	rental payments (for vehicle rentees), EMI payments (for vehicle owner-workers)

Calculated variables: State-wise statutory minimum wages and extrapolated living wages

Workers' earnings on platforms were compared against state-wise statutory minimum wages and state-wise extrapolated living wages. Workers' earnings were standardised to earnings for standard weekly working hours (48 hours a week), and compared with respective minimum wage and living wage levels.

State-wise minimum wage levels used for analysis

Data on state-wise statutory minimum wages were collected from wage notifications issued on websites of state labour departments or relevant state government authorities. Where information was not available on government websites, secondary sources were used through websites that regularly update state-wise minimum wage and labour notifications. Data from state-wise minimum notifications corresponded to survey implementation timelines for the specific state/city. The minimum wage level used for analysis corresponded to the monthly minimum wage for median-skilled occupations as notified by the relevant state governments.

Table 7—State-wise statutory minimum wage notifications used for analysis

State and city	Medium-skill minimum wage	Data source/s
Assam (Guwahati)	INR 10,744	w.e.f. December 2021; monthly minimum wage for semi-skilled / medium-skilled workers https://web.archive.org/web/20220806065442/https://labourcommissioner.assam.gov.in/sites/default/files/swf_utility_folder/departments/coi_labour_uneecopscloud_com_oid_14/menu/right_menu/right_menu/revised_vda_for_98_scheduled_employment_w.e.f.1.12.21.pdf

Table 7—State-wise statutory minimum wage notifications used for analysis (continued)

State and city	Medium-skill minimum wage	Data source/s
Delhi (Delhi-NCR)	INR 18,187	<p>w.e.f. April 2022; monthly minimum wage for semi-skilled / medium-skilled workers https://labour.delhi.gov.in/sites/default/files/generic_multiple_files/latest_minimum_wages_2022_0.pdf</p>
Maharashtra (Mumbai)	INR 12,650	<p>w.e.f. January 2022; monthly minimum wage for semi-skilled / medium-skilled workers https://blog.sgcservices.com/maharashtra-special-allowance-minimum-wages-sgc-services/ https://maharashtra.gov.in/Upload/PDF/Dukane%20and%20Ashtapana.pdf (basic wages); https://blog.sgcservices.com/wp-content/uploads/2022/02/Maharashtra-Special-Allowance-wef-01-01-2022-to-30-06-2022-NEW.pdf (special allowance)</p>
Uttar Pradesh (Lucknow)	INR 10,102	<p>w.e.f October 2021; monthly minimum wage for semi-skilled / medium-skilled workers https://comply4hr.com/mw/UP2021UP2021OCT.pdf</p>

State-wise extrapolated living wage levels used for analysis

Living wages are generally defined as the minimum earnings for a worker for standard weekly work hours that fulfil the worker's and their dependents' basic needs and support a decent standard of living for themselves and their dependents.

In the absence of statutory or government-mandated living wage standards in India, state-wise living wages for analysis have been estimated through extrapolation.

The method used for extrapolated was primarily borrowed from methods presented by two sources:

- 2019 report of the expert committee on determining the methodology for fixing the national minimum wage in India. The report updated the methodology for fixing minimum wages, and recommended region-specific national minimum wages. In addition, it recommended an additional house rent allowance (HRA) of ~INR 1,430 per month (in addition to the national minimum wage) for workers in urban centres.

(see **Ministry of Labour and Employment 2019** here: https://labour.gov.in/sites/default/files/committee_on_determination_of_methodology.pdf)

- 2021 working paper by Fairtrade International on “Extrapolated provisional living wage benchmarks for locations in India“. As one of the methods for extrapolating living wages, the paper described components of living wages based on the expert committee recommendations (detailed above). Using region-wise definitions, region-wise minimum wage recommendations, and house rent allowance recommendations from the expert committee report, the extrapolation method in the Fairtrade paper adjusted recommended region-wise minimum wages for inflation, included recommended house rent allowance, included mandatory social security deductions, and included savings(5%) to arrive at region-wise extrapolated living wages

(see **Fairtrade International 2021** here: https://files.fairtrade.net/standards/2021_02_23_Living-wage-benchmark-Extrapolation-study-final.pdf)

Table 8—Method towards calculating region-wise factors for extrapolated living wages based on National Minimum Wage Expert Committee recommendations (Fairtrade International 2021; Ministry of Labour and Employment 2019)

#	Steps towards calculating region-wise factors for estimated living wages	Region 1	Region 3	Region 4
A	Committee recommended minimum wages per day	INR 342.00	INR 414.00	INR 447.00
B	Committee recommended minimum wages per month (July 2018)	INR 8892.00	INR 10764.00	INR 11622.00
C	Inflation (Consumer Price Index - Urban (CPI-U) (July 2018 to April 2022) [= 0.217 * B]	INR 1927.24	INR 2332.97	INR 2518.93
D	Committee recommended HRA urban	INR 1430.00	INR 1430.00	INR 1430.00
E	Sub total [= B + C + D]	INR 12249.24	INR 14526.97	INR 15570.93
F	Savings (5%) [= E * 1.05]	INR 12861.70	INR 15253.32	INR 16349.48
G	Social security deductions (12% + 0.75%) [= 0.1275 * H]	INR 1879.50	INR 2228.99	INR 2389.18
H	Total [= F / 0.8725]	INR 14741.20	INR 17482.31	INR 18738.66
I	Committee recommended minimum wages per month (inflation adjusted for April 2022) [= B + C]	INR 10819.24	INR 13096.97	INR 14140.93
J	Factor [= H / I]	1.362	1.335	1.325

Table 9—State-wise statutory minimum wages and extrapolated living wages used for analysis

State and City	Region	Factor	Medium-skill minimum wage	Extrapolated medium-skill living wage
Assam (Guwahati)	1	1.362	INR 10,744	INR 14,639
Delhi (Delhi-NCR)	4	1.325	INR 18,187	INR 24,100
Maharashtra (Mumbai)	3	1.335	INR 12,650	INR 16,886
Uttar Pradesh (Lucknow)	1	1.362	INR 10,102	INR 13,764

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