

## COVID-19 research to assess the impact of PMGKY on low-income households: Methodology and analysis approach

The Government of India (GoI) and state governments responded swiftly to secure the poor and vulnerable population of the country against COVID-19 and the consequent lockdown. The center introduced a new government-to-person (G2P) program, Pradhan Mantri Garib Kalyan Yojana (PMGKY). This relief package included advance payments under existing G2P programs, in-kind assistance, and the expansion of healthcare services, among various other measures.



To gauge the effectiveness of PMGKY and other measures announced by Indian states, MSC (MicroSave Consulting) conducted two rounds of demand-side research. The objective of the study was to help the central and state governments improve the implementation of COVID-19-specific measures to cushion the poor and vulnerable against economic shocks. It also served as a feedback mechanism to improve the overall Direct Benefit Transfer (DBT) architecture in India.

MSC adopted a mixed-method approach to design the studies. The research was designed as a panel<sup>1</sup> study, with respondents selected using a multi-stage sampling approach from the database of the population below the poverty line (BPL).<sup>2</sup>

The study is nationally representative and provides national- as well as state-level estimates for key indicators. We estimated a sample size of 270 households for each state with a 95% confidence level and a 6% margin of error. The study solely included states with more than 50 COVID-19 positive cases in April, 2020.

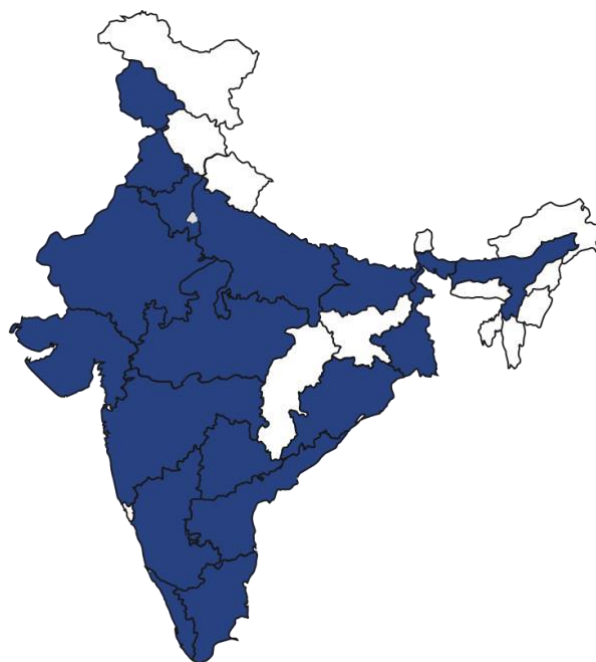


Figure 1: States covered under MSC's COVID-19 study

It covered a total sample of 5,081 respondents across 18 states and union territories in both rounds 1 and 2. 4,082 of these respondents were common to both rounds (the "panel"). In both rounds of the study, we maintained a ratio of 70:30 for male and female respondents as well as for samples across urban and rural geographies. A total of 999 respondents from round 1 pulled out, mostly due to lack of free time to grant us interviews or our inability to reach them on the phone numbers provided initially. We replaced this missing sample with 999 new respondents with similar profiles to maintain the required sample size to provide state- as well as national-level point estimates.

MSC collected quantitative data using a Computer-Aided Telephonic Interview (CATI) system while the staff conducted qualitative research over the telephone. Our in-house research team conducted 603 qualitative interviews cumulatively in both rounds of the study.

MSC selected beneficiaries who received cash from at least one cash transfer program as well as ration through the Public Distribution System<sup>3</sup> (PDS) under PMGKY since PDS covers the largest base of beneficiaries. To make

<sup>1</sup> The panel was developed by the survey agency from its previous surveys conducted in different parts of India. All respondents consented to contact over the telephone for new surveys.

<sup>2</sup> The last official estimate of poverty in 2011-12 was at 21.92%, which was estimated using the Tendulkar Committee approach.

<sup>3</sup> The Public Distribution System (PDS) is a system of management of scarcity through distribution of food grains at affordable prices.

this study more comprehensive, we also conducted 88 telephonic interviews with middle-mile service providers, which include fair price shop dealers, liquefied petroleum gas dealers, and business correspondents.

## Limitations

1. We used the respondent panel available with our partner survey agency as the sampling frame for this study. As we employed the CATI method, the sample excluded those without access to mobile phones—a common limitation that all telephonic surveys face.
2. Since this was a telephonic survey, we could not validate beneficiary data through the physical verification of documents.
3. The study is nationally representative and provides point estimates for key indicators of interest with high precision. However, point estimates at the state level are comparatively less precise, with a 6% margin of error. The study is not designed to provide district-level point estimates.

## Analysis approach

We conducted a weighted analysis<sup>4</sup> to provide generalizable results at the national level. While calculating weights, we considered parameters, such as the **state population, number of districts, and sampled population**.

We conducted both descriptive<sup>5</sup> and association<sup>6</sup> analyses of the data. In the descriptive analysis, we calculated point estimates of key indicators at the national level (weighted) and state level (unweighted). We also conducted cross-tabulations to arrive at the difference across socio-demographic and other related variables. We



further conducted parametric tests to understand whether the differences in key indicators across socio-demographic variables were statistically significant. The association analysis (adjusted and unadjusted regression analysis) was conducted to identify determinants of key indicators. It helped us understand the socio-demographic profile of the respondents who are more likely to receive different government benefits.

We have come up with a series of publications from MSC’s study on “Evaluation of the Indian government’s response to COVID-19.” Through the following publications we bring forward the demand side perspective of receiving and using financial assistance received under PMGKY.

1. India’s gender responsive policies during COVID-19
2. A review of the effectiveness of India’s Direct Benefit Transfer (DBT) system during COVID-19: Lessons for India and the world
3. Efficacy of India’s food security response during COVID-19
4. Beyond the barriers of affordability: An analysis of India’s cooking fuel support program under the COVID-19 assistance package
5. Efficacy of MGNREGA in mitigating the loss in income and unemployment caused by the COVID-19 pandemic

<sup>4</sup> For a given sample survey, a weight—also called an estimation weight—is attached to each unit of the selected sample. This is used to obtain estimates of population parameters of interest, such as the average income of a certain population.

<sup>5</sup> A descriptive analysis describes, shows, or summarizes data meaningfully so that insights can be drawn from the data.

<sup>6</sup> An association analysis unpacks the association that exists among variables and helps identify determinants of key outcome variables.