



Methodological Note

COVID-19 Pandemic Impact, Response, and Recovery Study

About the Study

The COVID-19 Pandemic Impact, Response, and Recovery study analyzes the social, economic, and personal security impacts of the COVID-19 pandemic, as well as the reach and impact of government response programs. More specifically, Fraym designed this study to better understand some of the gendered impacts of the pandemic from the perspectives of those directly affected.

We conducted large, georeferenced, nationally representative surveys in India, Kenya, and South Africa. All of these countries have been hard struck by the pandemic, particularly India and South Africa. All data collection was conducted in April 2021 via a combination of online, mobile phone, and face-to-face interviews. These three surveys included nearly 50,000 respondents overall, making this one of the largest gender-disaggregated and spatially-enabled studies of COVID-19 pandemic impacts on developing economies. This methodology notes details of the data collection process.

Data Collection

SOUTH AFRICA

Fraym partnered with a global market research firm to conduct a survey of 8,024 South African respondents via a demographically and geographically-targeted online panel. Data was collected between April 9 to 23, 2021. The average survey completion time was 21 minutes.

The respondents identified the following gender identities: 4,578 females (57%), 3,457 males (43%), and 43 (0.5%) respondents who identified as transgender female, transgender male, other/non-binary, or preferred not to answer. South Africa's nine provinces were represented as follows: Eastern Cape,

716 (9%), Free State, 377 (5%), Gauteng, 2,548 (32%), KwaZulu-Natal, 1,537 (19%), Limpopo, 668 (8%), Mpumalanga, 537 (7%), North West, 361 (4%), Northern Cape, 119 (1%), and Western Cape, 1,215 (15%).

INDIA

Fraym partnered with a global market research firm to conduct a survey of 27,354 Indian respondents via a demographically and geographically-targeted online panel. Data was collected between April 9 to 29, 2021. The average survey completion time was 18 minutes.

The respondents identified the following gender identities: 11,846 females (43%), 15,079 males (55%), and 429 (2%) respondents who identified as transgender woman, transgender man, other (3rd gender/non-binary), or preferred not to answer.

India's 36 states and union territories were represented as follows: Andaman and Nicobar Islands, 15 (0.05%), Andhra Pradesh, 894 (3.27%), Arunachal Pradesh, 30 (0.11%), Assam, 467 (1.71%), Bihar, 1,175 (4.30%), Chandigarh, 297 (1.09%), Chhattisgarh, 273 (1.00%), Dadra and Nagar Haveli, 11 (0.04%), Daman and Diu, 11 (0.04%), Delhi, 1,781 (6.51%), Goa, 95 (0.35%), Gujarat, 1,200 (4.39%), Haryana, 649 (2.37%), Himachal Pradesh, 250 (0.91%), Jammu and Kashmir, 165 (0.60%), Jharkhand, 362 (1.32%), Karnataka, 2,141 (7.83%), Kerala, 978 (3.58%), Lakshadweep, 3 (0.01%), Madhya Pradesh, 1,355 (4.95%), Maharashtra, 3,586 (13.11%), Manipur, 36 (0.13%), Meghalaya, 36 (0.13%), Mizoram, 86 (0.31%), Nagaland, 56 (0.20%), Odisha, 561 (2.05%), Puducherry, 31 (0.11%), Punjab, 557 (2.04%), Rajasthan, 1,223 (4.47%), Sikkim, 14 (0.05%), Tamil Nadu, 1,909 (6.98%), Telangana, 1,111 (4.06%), Tripura, 144 (0.53%), Uttar Pradesh, 2,467 (9.02%), Uttarakhand, 445 (1.63%), West Bengal, 2,940 (10.75%).

KENYA

Fraym partnered with a regional survey firm to conduct a survey of 8,132 Kenyan respondents via a demographically and geographically-targeted survey using a combination of random digit dialing, targeted telephonic interviews, and face-to-face methods. 1,111 (14%) surveys were face-to-face, and 7,021 (86%) surveys were conducted by telephone. Data was collected between April 14 to 29, 2021. The average survey completion time was 28 minutes.

The respondents identified 4,066 females (50%) and 4,066 males (50%). Kenya's 8 former provinces were represented as follows: Central, 945 (12%), Coast, 760 (9%), Eastern, 1,161 (14%), Nairobi, 736 (9%), Northeastern, 421 (5%), Nyanza, 1,069 (13%), Rift Valley, 2,183 (27%), and Western, 857 (11%).

Quality Control

In India and South Africa, the market research firm's panel includes over 15 million and 1.5 million potential respondents, respectively, who have been pre-screened to facilitate reliable and representative samples across regional, gender, age, and socioeconomic status parameters. These panel respondents are regularly recruited through both online and offline means to ensure coverage of difficult to reach demographics. Particularly close attention was given to ensuring coverage of poorer and more marginalized demographic groups in both countries.

For survey execution, the firm utilizes a number of industry best-practices to quality check responses. These include: (i) regularly testing/validating on a rolling basis to ensure participants and their responses are real/accurate; (ii) comparing answers from respondents to pre-collected information on the same respondents for consistency, such as same age, gender, socio-economic status, and geography; (iii) recontacting a percentage of respondents for quality assurance and oversight purposes.; (iv) check for straight lining (e.g. answering "C" for all questions); and (v) checking speed of completion rates, (e.g. flagging anyone who spends 1/3 or less of the median time to complete the questionnaire). Responses that fail any one of these tests were automatically removed from the data.

In Kenya, the firm trained interviewers on April 10 on the survey's purpose, questionnaire, and interviewing best-practices. Telephonic interviews were conducted at the company's

facilities in Nairobi to facilitate supervision and quality checking procedures. Half of the telephonic interviews started with randomly generated telephone numbers from an online service. The other half were drawn from the firm's past respondents from a face-to-face survey and who had opted into being called for future research. About 20% of the completed interviews were back-checked by a supervisor telephonically from Nairobi to confirm the accuracy of responses. In lower population and less connected counties, face-to-face interviews were conducted for better reach and representation. To boost response rates, a USD\$3 incentive was given to respondents contacted by telephone starting on April 23. Face-to-face respondents did not receive a paid incentive.

In RDD data collection, the person answering the phone was automatically designated as the selected respondent if they were 18 years or older. For face-to-face interviews, respondent selection took place using a Kish Grid. For telephone surveys, a respondent's geolocation was determined using a hierarchy of administrative units and the proximity of the respondent's primary dwelling to points of interest. Geo-locations were verified using Google Earth. Face-to-face surveys collected actual GPS coordinates with an accuracy of under 3 meters.

Sample Weighting

All three surveys were designed to be nationally representative. Modest divergence was found between sample characteristics and the population parameters according to available data from each country's national statistics office. Post-hoc weights were created to correct for these differences. An iterative proportional fitting process was used to simultaneously balance the distributions of the following parameters: gender, age, urban status, and the population in each first-level administrative division.

Localized Maps

Localized maps produced for South Africa were produced using the proprietary software FUSEfraym™. This software uses artificial intelligence and machine learning (AI/ML) to weave together survey data with satellite imagery and geostatistical datasets.