

THE WORLD BANK

# Papua New Guinea High Frequency Phone Survey On COVID-19

RESULTS FROM ROUND 1





# Table of Contents

<b>Executive Summary</b> .....	4
<b>Background</b> .....	6
Objective.....	6
General Background on Papua New Guinea.....	6
COVID-19 Outbreak in Papua New Guinea .....	7
<b>Data Collection</b> .....	9
Description of Survey Objectives & Instrument .....	9
Methodology and Fieldwork.....	9
Wealth Index.....	10
Sampling and Re-weighting .....	11
<b>Knowledge of COVID-19</b> .....	13
Sources of Information on COVID-19.....	13
Precaution Steps against COVID-19 by Government and Local Authorities .....	13
<b>Employment and Income</b> .....	15
Baseline .....	15
Job and Income Losses.....	16
Non-Farm Business.....	18
Agriculture .....	20
Remittances.....	21
Financial Anxiety .....	21
<b>Coping Strategies</b> .....	23
<b>Food Security &amp; Food Access</b> .....	25
Access to Staple Crop/Protein/Vegetables .....	25
Food Security.....	25
<b>Health Care System Avoidance</b> .....	27
<b>Migration</b> .....	28
<b>Public Trust &amp; Security</b> .....	29
Background on Insecurity in Papua New Guinea.....	29
Household Security Issues .....	29
Community Security Issues .....	31
<b>Conclusions &amp; Policy Implications</b> .....	34
<b>Appendix 1: Technical Appendix</b> .....	36
Instrument Design.....	36
Sampling.....	36
Implementation .....	37
Wealth Index.....	37
Weighting .....	38
<b>Appendix 2: Econometric Analysis Results</b> .....	42
<b>Appendix 3: Tables</b> .....	52



# Acknowledgements



This report was written by Kristen Himelein, James Carroll Waldersee, and Bagus Arya Wirapati using the first round of the High Frequency Mobile Phone Survey to Assess the Socio-Economic Impacts of COVID-19 in Papua New Guinea.

The team gratefully acknowledges the contributions of Gwen Maru and Vladimir Aguiñada in processing the data and informing the analysis. The team also thanks Stephanie Eckman and Charles Lau of the Research Triangle Institute for their inputs to the questionnaire design and sample weight calculations; World Bank colleagues Aneesa Arur, Janice Ashwin, Da Woon Chung, Dung Doan, Matthew Dornan, Rochelle Se Yun Eng, Virginia Horscroft, Wayne Irava, Anna Robinson, Maude Ruest, and Ilyas Sarsenov, as well as the members of United Nations Regional Coordination Office's COVID-19 taskforce and members of the Statistics for Development Division of the Pacific Community, for their advice on the questionnaire; Raynard Conradie and Krishna Kumar Sharma at Digicel – PNG for their advice on implementation; and finally Andrew Cooper, Matthew Dornan, David Gould, Virginia Horscroft, Maria Ana Lugo, Rinku Murgai, Darian Naidoo, Allan Tobalbal Oliver, Tom Perry, Ilyas Sarsenov, and Hassan Zaman for their comments on earlier drafts.

The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They do not necessarily represent the views of the International Bank for Reconstruction and Development/World Bank and its affiliated organizations, or those of the Executive Directors of the World Bank or the governments they represent.

## Abbreviations



<b>CI</b>	Confidence Interval
<b>COVID-19</b>	Coronavirus Disease 2019
<b>DHS</b>	Demographic and Health Survey
<b>ECDC</b>	European Centre for Disease Prevention and Control
<b>FCS</b>	Fragile and Conflict Afflicted Situations
<b>GDP</b>	Gross Domestic Products
<b>HFPS</b>	High Frequency Phone Survey
<b>NGO</b>	Non-Governmental Organization
<b>PNG</b>	Papua New Guinea

# Executive Summary

**A strong evidence base is needed to understand the socioeconomic implications of the coronavirus pandemic for Papua New Guinea.** This report presents the findings of the first of five planned rounds of a mobile phone survey in PNG. Round 1 interviewed more than 3,000 respondents across the country in late June 2020 on topics including knowledge of COVID-19, employment and income, food security, coping strategies, access to health care, and public trust and security. While these findings are not without their caveats due to the lack of baseline data and constraints of the mobile phone survey methodology, they represent the best estimates to date and supplement other data on macroeconomic conditions, exports, firm-level information, etc. to develop an initial picture of the impacts of COVID-19 on the population.

**Nearly all respondents indicated having heard of COVID-19, with radio being the most common main source of information.** Only in rural areas of the Islands region did fewer than 90 percent of the population report knowledge of COVID-19. Respondents indicated receiving information through a wide range of sources, both formal and informal. The main formal channels were radio, cited as the main source of information by 28 percent of respondents, and newspapers, cited by 14 percent. Television, internet, and social media had limited reach, particularly outside of urban areas. Informal networks were also important in disseminating information, with 95 percent of respondent reporting receiving information from friends and family and 82 percent from community leaders. While the reach of these channels is not limited by technology, there is also a greater likelihood of inaccurate information spreading through informal networks, which may be mitigated by outreach and training for local community leaders.

**Employment has been negatively impacted since January, with female headed households and those in the middle quintile being most likely to have left work.** Approximately 25 percent of those working at the pre-crisis baseline were no longer working during the week prior to data collection, with female household heads and older respondents being more likely to have stopped working. Job losses were most acutely felt in the middle quintile where nearly 40 percent reported stopping working compared to the January 2020 baseline, compared with less than 20 percent in each the top and bottom 40 percent. Beyond the respondent's main job, around one-quarter of households reported operating non-farm businesses in 2020, of which nearly half have seen a decline in income in the month of June. Again, female headed households and those households in the middle quintile were most likely to experience losses. In the important agricultural sector, nearly half of agricultural households reported expecting a decline in agricultural income for the current growing season, with female headed households and those in the bottom 40 percent being most likely to expect losses.

**Job losses and lost income from farm and non-farm businesses point to deteriorating conditions for both poor and near-poor vulnerable populations.** The most recent poverty measure put 40 percent of the population living below the poverty line, and the mobile phone survey indicated that the nearly three-quarters of the bottom 40 percent reported working in agriculture. If the expected losses in this sector materialize, there are potentially serious consequences for these households, particularly if these losses are compounded with lost labor income and lower revenue from non-farm enterprises. In addition, the middle quintile represents vulnerable and near-poor households, those living just above the poverty line. As this group has been most impacted by job losses, they are vulnerable to falling into poverty. While these groups may have greater savings or assets to sustain them in the near term, a prolonged crisis can deplete these stores, making recovery more difficult and increasing the risk of becoming stuck in a poverty trap.

**More than 85 percent of households used economic coping strategies that could potentially be damaging to them in the long run.** While some mainly urban households were able to find additional ways of earning money (30 percent) and reducing non-food consumption (27 percent), most households reported using coping strategies with potentially negative consequences in both the near and extended term. There has been an increase in the risk of food insecurity as 28 percent report reducing food consumption and 36 percent of agricultural households have sold at least part of their harvest in advance, including food crops. The productive capacity of households was also falling as 30 percent of households spend from savings, 15 percent sell livestock, and 10 percent sell other assets. Household debt has increased as more than 16 percent of households have taken on additional debt since March, including those households which delayed making repayments, purchased items on credit, or took loans from moneylenders or financial institutions. If households, particularly those involved in retail and trading, consume their working capital during the crisis, it becomes difficult to restart activities when lockdown restrictions are lifted. Similarly, households that are overburdened with debt will face a steeper climb during the recovery.

**School attendance has been strongly impacted since March.** More than half of household heads with school age children indicated reducing the number of children attending school, which could have serious long-term repercussions on human capital development in PNG, including exacerbating the gender gap in education if girls were more likely to be kept home than boys.

**Access to safety nets was largely through informal domestic channels.** Of the 41 percent of households that were able to access assistance, most came from friends or family, with smaller shares coming from churches and community-based organizations. Less than five percent of households reported received government assistance and an even smaller share reported receiving remittances from abroad. While a strong informal system of safety nets can be more reactive in emergency situations, a protracted crisis can expose its weaknesses. Since the network depends on domestic sources, a nationwide economic slowdown could limit the amount of assistance available. In addition, informal systems may be unequal or poorly targeted to the poorest households as analysis from the mobile phone survey shows that households in the bottom 40 percent were less likely to receive assistance.

**Though there is little evidence from June 2020 of disruption in market access or the health sector, the data reveals inherent weaknesses that may be exacerbated in an escalating crisis.** Urban food markets and supply chains appear to be continuing to function as very few issues were reported with access, and rural areas were largely protected from availability issues due to high levels of home production. Despite these findings, there were high levels of food insecurity with nearly half of households reporting needing to reduce food consumption because of a lack of resources. Urban households in particular had higher frequencies of using food insecurity coping strategies. Similarly, there is little evidence that COVID-19 itself has led to avoidance of the health care, with a lack of financial resources being cited as the main reason household could not access needed health care and COVID-19 being cited by only a small fraction of respondents. These findings, however, may change with the recent increase in number of cases and death of a health care worker from COVID-19, newly introduced restrictions on public medical facilities, and any deterioration in household finances or mobility.

**Overall most respondents said that the situation with regard to public trust and safety within the community had remained the same, but there were still some causes for concern.** In both urban and rural areas, respondents indicated a deterioration regarding drug and alcohol abuse, a finding consistent with increased unemployment and financial anxiety. In rural areas, women were more likely to say that things had deteriorated with regard to theft, property damage, physical assault, alcohol and drug abuse, and domestic abuse. Given the high levels of gender-based violence that predated the crisis in PNG, continual monitoring and perhaps expanded outreach and services may be required.

# Background

## Objective

**Data is needed to inform the policy response to the coronavirus crisis.** The novel coronavirus COVID-19 pandemic is an unprecedented crisis globally. Under a slowdown in economic activity due to the protective measures enacted by governments around the world, global GDP is expected to contract by 5.2 percent, with per capita incomes in most emerging and developing countries forecast to shrink; potentially pushing many millions into poverty and deepening deprivation.<sup>1</sup> In Papua New Guinea, the socio-economic impacts of these measures are compounded by geographic dispersion and isolation, weak institutions and unequal access to services for vulnerable populations. To monitor and assess the socio-economic impacts of COVID-19 in Papua New Guinea, five rounds of High Frequency Phone Surveys (HFPS) have been planned and will be conducted quarterly. Data collection began in late June 2020. This report presents the findings from round one and concludes with a policy section to help inform an evidence-based response to COVID-19 in Papua New Guinea.

## General Background on Papua New Guinea

**Papua New Guinea (PNG) is the largest country in the Pacific region, and one of the most diverse countries in the world.** With a young and growing population of over 8 million people divided into more than 10,000 ethnic clans, the population is primarily rural (87 percent) and concentrated on the eastern half of the island of New Guinea, the country's largest landmass. Varied ecosystems and geographies range from small tropical atoll islands, to the urban National Capital District of Port Moresby, to coastal regions of the mainland, to the rugged highlands and low-lying valleys. PNG encompasses over 600 islands, including New Britain and the Autonomous Region of Bougainville. There are four administrative levels (national, provincial, district, and local) and twenty-two provinces<sup>2</sup> spread across four regions. The Highland region is the most populous, with roughly 40 percent of the population, followed by the Momase region with 26 percent, the Southern region, which has 19 percent of the population and includes the National Capital District, and finally the Islands region with 14 percent of the population. Politically, PNG is governed at the national level as a constitutional monarchy, the Prime Minister serves as the head of the executive. The two other tiers of government are the provincial and local.

**Transitioning the economy towards a more diversified economic base and improving access to essential services are key development challenges for PNG.** The key development challenge in this lower-middle income country is how to translate macroeconomic gains from the resource sector into better opportunities and services for PNG's largely poor and rural populations. The national economy is dominated by the resource sector, divided into renewable and non-renewable categories. The non-renewable extractive component accounts for most of PNG's export earnings (over 85 percent of total) and a quarter of GDP. Agriculture, forestry, and fishing activities comprise the renewable component of the resource sector and comprises another 17-18 percent of GDP and roughly 80 percent of the labor force. The rest of GDP is generated by services and non-resource construction. Agriculture is mostly informal with a large population of households engaged in subsistence-based farming to support their livelihoods. There are few opportunities to earn an income in the formal sector and access to essential services is poor, particularly in rural parts of PNG. Access to on-grid electricity is limited (13 percent nationally), with a further 25 percent relying on off-grid electricity sources. The COVID-19 pandemic has compounded issues

1 World Bank. 2020. *Global Economic Prospects*. June.

2 Including the National Capital District and the Autonomous Region of Bougainville.

for an already weakening economic situation. In 2020, the economy lost over 2,600 jobs at the Porgera Gold Mine before COVID-19, while in June, with oil prices crashing during the pandemic, the company Oil Search cut 550 jobs from its workforce and reduced its expected investment in PNG by AUD \$675 million, suspending non-essential activities. Due to PNG's dependence on commodities for exports and growth, and vulnerability to natural disasters, the economy is highly susceptible to external shocks, such as the sharp decline in global oil prices in 2014 and the current COVID-19 pandemic.

**Understanding the full extent and nature of poverty and hardship remains a challenge.** PNG is severely data deprived. The most recent census was in 2011, and the latest Household Income and Expenditure Survey was conducted in 2009/2010. According to the national poverty measure, basic needs poverty in PNG was 40 percent, while the Multidimensional Poverty Measure reported a much higher rate, at 85 percent.<sup>3</sup> In addition, the World Bank's Human Capital Index ranks PNG 136 out of 157 countries, falling slightly between 2012-2017, with the latest report highlighting persistent challenges for early childhood development and quality of learning in education. With social protection and labor market programs extremely limited, much of the population is highly vulnerable to shocks, possessing little capital or the financial tools required to recover. Groups such as women, coastal dwellers, youth, and certain ethnicities have experienced historic disadvantages and are thought to be particularly vulnerable in the current crisis. Classified by the World Bank as a Fragile and Conflict Afflicted Situation (FCS) state, PNG's ethnic and tribal divisions are another source of social risk; and the country is susceptible to internal episodes of civil unrest and conflict. PNG also faces a growing threat from two outbreaks of disease in the agriculture sector; the Fall Army Worm, which causes damage to major grains and other vegetable crops; and the African Swine Fever, which is a highly contagious and deadly disease for pigs, a key agricultural and cultural commodity in PNG – both could have a devastating impact on production and food security.

## COVID-19 Outbreak in Papua New Guinea

**The first case of COVID-19 was detected in PNG on March 21, 2020. On March 24, a COVID-19 State of Emergency was declared.**<sup>4</sup> The PNG Government authorized a series of health emergency lockdown measures, issued through *National Emergency Orders*, to stem the virus' spread. These measures included daily curfews, the shutting down of non-essential services, covering most government departments and small businesses, universities, and schools; restricting the movement of people between provinces; bans on the sale of liquor and betel nut; and bans on gatherings of 100 or more people. Access to essential goods and services were also potentially impacted as lockdown measures constrain the flow of goods and people between urban supply chains and rural markets.

**At the time of writing, (July 27, 2020), the total number of cases detected in PNG remains comparatively low by international standards at sixty-two but has doubled in late July.** Localized transmission was confirmed by July 22 with a surge in cases linked to an outbreak at the Port Moresby General Hospital where four COVID-19 lab technicians tested positive, and fifty-five of the reported cases were in the National Capital District including the country's only death to date. Testing and surveillance reporting rates remain low, and in turn, the full extent of the COVID-19 outbreak is unclear, prompting fears for an already low capacity health system that is vulnerable to overloading. Importation of infections across the border from the Indonesian province of West Papua, and through international travel, remain serious threats as well.

3 World Bank. 2020. *Poverty & Equity Brief: Papua New Guinea*. April.

4 On March 11, 2020 the coronavirus COVID-19 outbreak was characterized as a global pandemic by the World Health Organization. At the time of announcement, there were more than 180,000 confirmed cases in 114 countries globally and 4,291 people had lost their lives.

**Though restrictions were originally lifted in mid-June, the recent outbreak in late July has prompted strict new measures including a two-week lockdown in Port Moresby.** With no cases detected since April 23, the State of Emergency was lifted with the passage of the *National Pandemic Act 2020* on June 16. Successive *National Pandemic Measures* were issued by the Office of the Controller beginning June 17 to facilitate a reopening of the PNG economy while mitigating COVID-19 importation and localized transmission. These measures include lifting restrictions on domestic air travel and travel between provinces, maintaining a ban on gatherings over 100 people, the re-opening of licensed venues – restricted to certain days of operations, the re-opening of sporting events and team practices – though approvals and reporting requirements apply, and the re-opening of markets and religious gatherings in accordance with social distancing and hygienic practices. Restrictions on international travel were renewed, including quarantine protocols and increased monitoring, and the suspension of traditional border crossings. As of July 24, however, masks or face coverings were mandated in Port Moresby, including markets, any enclosed space within a commercial establishment, and all public transport and aircraft (anywhere in PNG). Businesses and government agencies must ensure that their employees have masks or face coverings.<sup>5</sup> As of July 27, the government imposed a 14 day lockdown in Port Moresby in response to a wave of new cases, enacting, among other measures, a 10 p.m. to 5 a.m. curfew, a limit to public gatherings to fifteen persons, a ban on domestic departures from Port Moresby, further restrictions on international travel and ports of departure (only from Brisbane and Cairns, Australia) and the closure of schools for fourteen days.

**Widespread concern over the impact of COVID-19 on the poor has prompted the mobile phone surveys.** Given their underlying vulnerabilities, it is expected that the bottom 40 percent of households may have been disproportionately affected by the impacts of COVID-19, with restricted access to basic goods and services and fewer opportunities to earn an income. From a macroeconomic perspective, the protracted slowdown in global economic activity due to COVID-19 has also weakened external demand and depressed commodity prices, impacting farmers and working in the extractive sector. A sharp contraction in growth during 2020 is expected both in the resource and non-resource economy, increasing unemployment and potentially poverty. Medium-term growth forecasts are more promising, however, with revised World Bank projections anticipating a rebound in real GDP growth from -1.3 percent to 3 percent between 2020 and 2021, supported by several large foreign investments in new resource projects.<sup>6</sup> To facilitate a sustainable and resilient recovery, and to capture the anticipated gains in medium-term growth, it is critical that both the short- and medium-term response efforts are well informed, and focus on poverty reduction and enhancing broad-base growth; through targeted public investments and support programs for the poor, newly poor and vulnerable, small businesses, and informal sector workers. It is also critical that any emerging breakdowns in frontline health or other critical public services are identified and addressed quickly.

5 Some exemptions apply, including, among others, children under 12, persons with underlying medical conditions that inhibit wearing a mask, persons participating in sporting activities and persons who are a minimum of 2 meters away from another person in a work area designated for them.

6 *Papua New Guinea Economic Update In the Time of COVID-19: From Relief to Recovery.* World Bank Group. July 2020. Note: Compared to previous forecasts made in January 2020 —real GDP growth for 2020 is expected to drop by 4.2 percentage points (to -1.3 percent).

# Data Collection

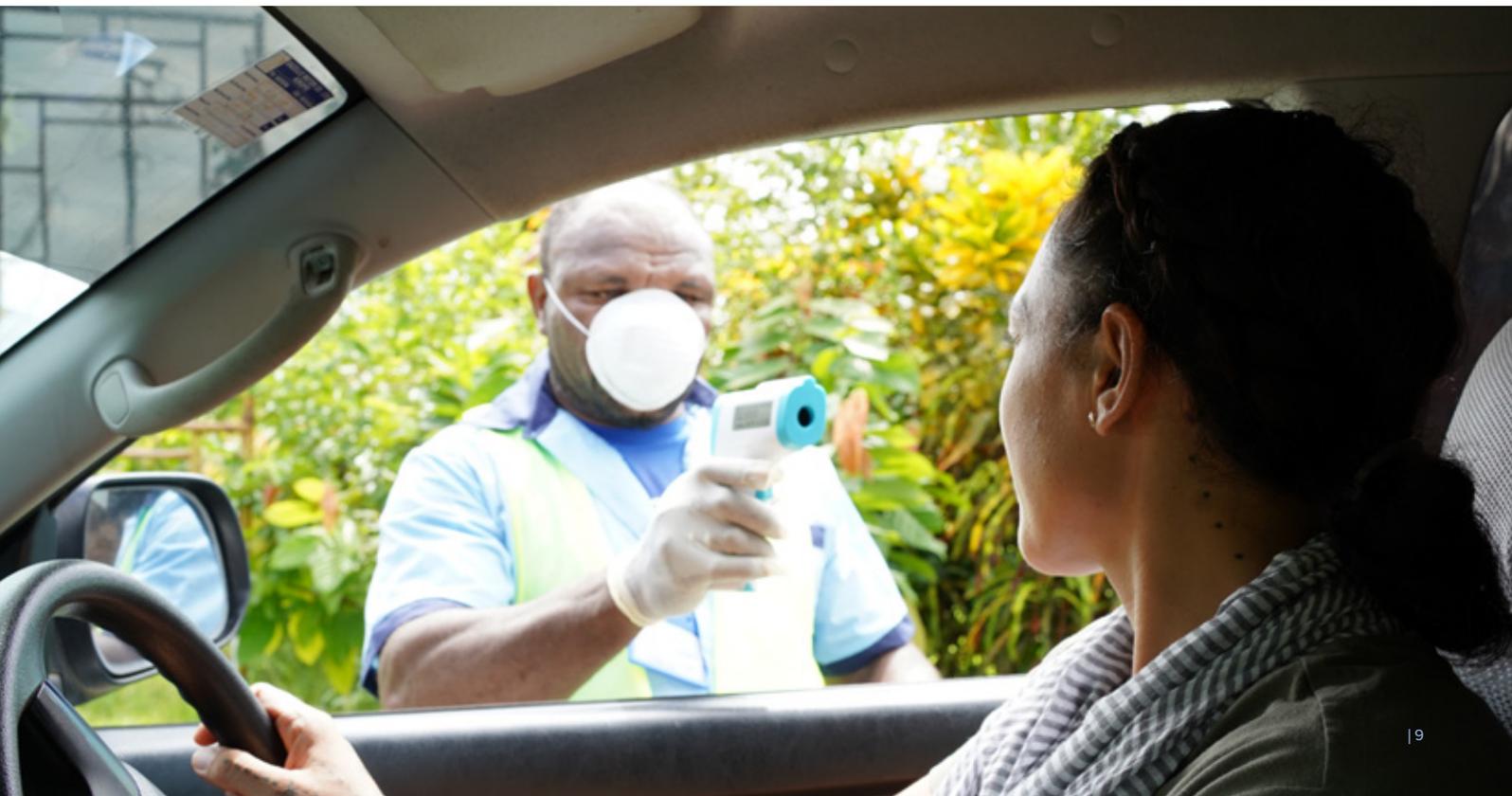
All survey instruments and procedures were designed in accordance with the best practices as laid out by the World Bank's COVID-19 methodology and measurement task force. In addition to the information below, further details are provided in the technical appendix.

## Description of Survey Objectives & Instrument

**The objective of the survey is to measure the socioeconomic impacts of COVID-19 in Papua New Guinea, including livelihoods, food security, and public safety and security through a high frequency mobile phone survey.** The length of the survey was limited to 15 minutes and the survey instrument for the first round consisted of the following modules: Basic Information, Knowledge of COVID-19, Employment and Income Loss, Food Access and Food Security, Coping Strategies, Access to Health Care, Public Trust and Security, and Assets and Wellbeing. For retrospective questions on employment and availability, the baseline is defined as “the start of this year 2020.” Four subsequent rounds are planned quarterly, with the next in September, and will target re-interviewing as many of the original respondents as possible. As this instrument is designed to be flexible though, the implementation calendar may be revised to respond to changing conditions on the ground.

## Methodology and Fieldwork

**Field work was conducted through a call center set up by Digicel – Papua New Guinea** with a staff of 22 interviewers and 3 supervisors. The dates of implementation were June 18 through July 3, 2020. The implementation method was Random Digit Dialing, which was administered through a computer system randomly dialing numbers from the Digicel subscriber logs and connecting to a live operator if a live respondent answered. To raise awareness and increase response rates, a text blast was sent to Digicel subscribers prior to the call notifying them that they could potentially be contacted to participate in a survey being conducted by the World Bank. Data was collected and managed using the Survey Solutions software package.



**Figure 1: Timeline of total and daily confirmed cases in PNG data collection period and government stringency index (as of July 27, 2020)**



Sources: European Centre for Disease Prevention and Control (ECDC), December 31, 2019 – July 27, 2020, <https://github.com/owid/covid-19-data/tree/master/public/data>; Hale, T et al. 2020. Oxford COVID-19 Government Response Tracker, Blavatnik School of Government, <https://www.bsg.ox.ac.uk/research/research-projects/oxford-covid-19-government-response-tracker>.

*Note on Stringency Index:* A higher score indicates a stricter government response (100 = strictest). The stringency index is calculated by OxCGRT using nine specific measures, including school and workplace closures, restrictions on public gatherings, transport restrictions and stay-at-home requirements.

## Wealth Index

**An important consideration in surveys administered with mobile phones is being able to place respondents and households in the national welfare distribution.** From an analytical perspective, it is important because COVID-19 will likely have differential impacts on different segments of the population, and job losses or reductions in income can have more dire consequences for households at the lower end of the distribution that have fewer resources to weather these shocks. From a methodological perspective, it is also important because mobile phone surveys tend to be biased towards wealthier segments of the population – those who can afford to have a mobile phone which is charged and on at the time of the call, and which live in areas with mobile phone coverage. Without information on the placement of households in the distribution, it would be possible to unknowingly under-cover the bottom decile or quintile – which would bias any resulting analysis and decrease the effectiveness of resulting policy recommendations.

**To address this issue in the PNG mobile phone survey, the questionnaire included a module with questions from the recent 2016-18 Demographic and Health Survey (DHS).** The DHS dataset included a wealth index constructed from household asset information and housing characteristics, and this index was re-created in the mobile phone survey, allowing comparisons in the distribution between the two surveys. The full details of this construction are included in the technical appendix. This analysis relies on the assumption that the characteristics included in the wealth index are stable over time. If household steadily acquire more assets, they will appear higher in the distribution in the mobile phone survey than they would in the DHS. To mitigate this issue, the team uses quintiles of

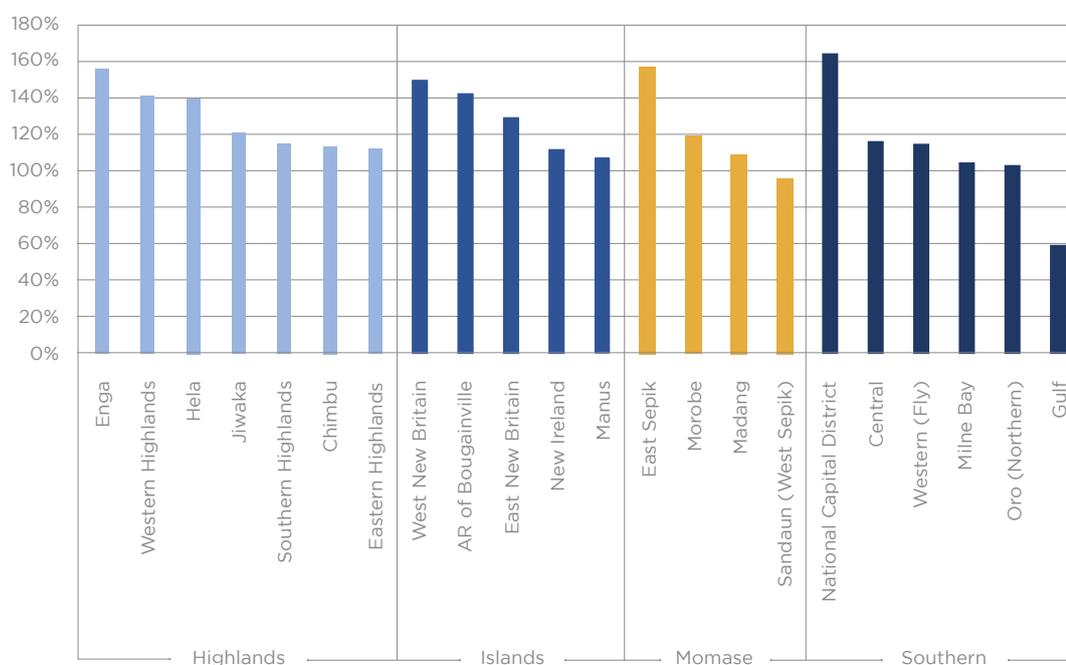
the population as the ranking should be preserved but some households on the thresholds may still be misclassified. The other potential issue is that data collection was done several months following the onset of the crisis and households may have sold assets in response to income losses. The survey team investigated this issue during pilot testing by asking if the assets were owned both pre-crisis and at the time of the survey. There was little evidence of a recent substantial decrease in asset ownership, and therefore the pre-crisis questions were dropped to reduce questionnaire length and the current ownership questions were retained for reweighting and analytical purposes.

## Sampling and Re-weighting

**Sampling was done using random digit dialing with a target sample size of 2,500 respondents.**

The targeted sample sizes by province are provided in Table 1 in the technical appendix. Overall, the achieved sample size was 3,115 because of the limited ability to target by geography with a random digit dial design. Figure 2 below shows the achieved sample size by province. Only Gulf province, which has a more limited number of subscribers relative to the population, had an achieved sample size below the target.

**Figure 2: Share of targeted sample size achieved by province**



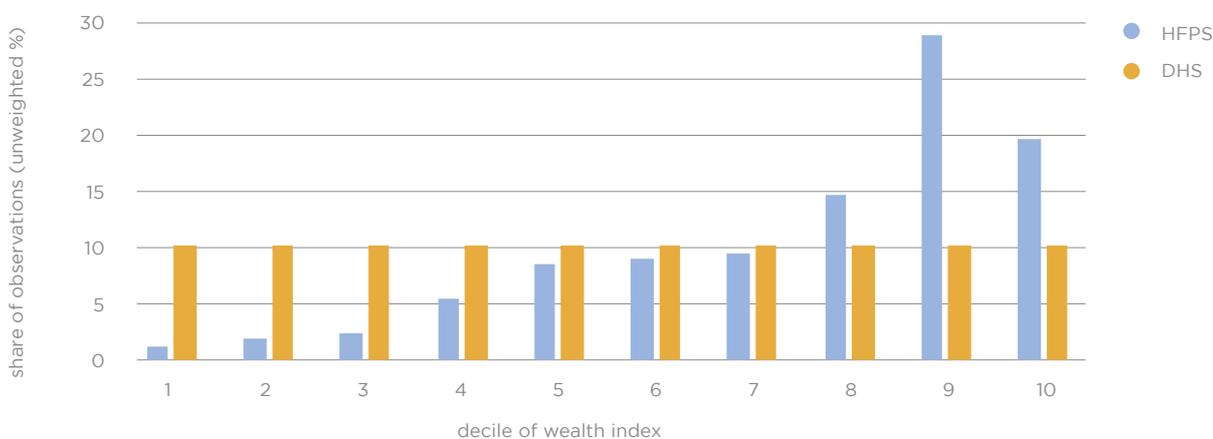
Source: Round one of the high frequency mobile phone survey.

**In addition to the geographic oversampling above, because the survey was administered by mobile phones, the respondents were a representative sample of mobile phone holders, not the population overall.** Previous literature has shown that mobile phone holders are more likely to be male, urban, wealthier, and more highly educated.<sup>7</sup> To make inferences at the level of the population instead of mobile phone holders, it was necessary to reweight the survey data. Details on this process are provided in the technical appendix including Figure 24 and Figures 26-28 which show the pre- and post- weighting distributions of the main demographic characteristics.

7 See Lau, C. Q., Cronberg, A., Marks, L., & Amaya, A. (2019, December). In Search of the Optimal Mode for Mobile Phone Surveys in Developing Countries. A Comparison of IVR, SMS, and CATI in Nigeria. In *Survey Research Methods* (Vol. 13, No. 3, pp. 305-318), among others.

**Though it is possible to reweight data to yield unbiased estimates, it is not possible to create additional observations for populations of interest.** Figure 3 below shows the distribution of unweighted observations across the deciles of the DHS wealth index. Definitionally, the DHS deciles each contain 10 percent of the sample. Using the maximum and minimum threshold values for the DHS deciles to map the HFPS results, it is clear there is a strong bias toward the upper deciles (wealthier) households in the distribution. While weighting can adjust for the bias, there are only 37 and 60 observations in the bottom two deciles of the distribution, respectively. These sample sizes are too small to yield estimates of adequate precision to report results. Therefore, the analysis is limited to the bottom four deciles (bottom 40 percent), and then the middle two deciles (middle quintile) and top four deciles (top 40 percent). The bottom 40 percent represents the best available measure of basic needs poverty, which was last measured as 40 percent measured against a national poverty line.

**Figure 3: Distribution of unweighted observations across deciles of DHS wealth index**



Source: Round one of the high frequency mobile phone survey and the 2016-18 DHS.

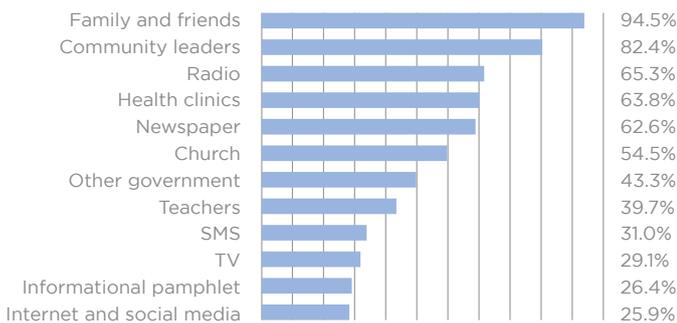


# Knowledge of COVID-19<sup>8</sup>

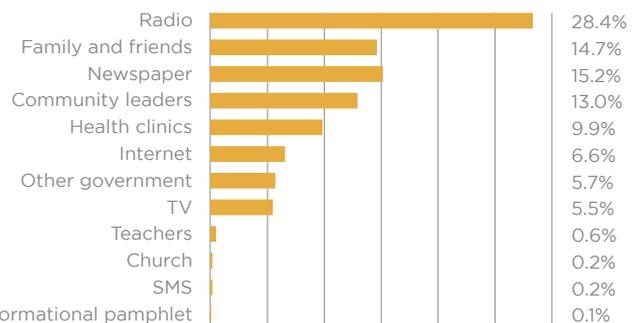
## Sources of Information on COVID-19

**The majority of respondents, with more than 95 percent, were aware of the COVID-19 or coronavirus pandemic.** This overwhelmingly high awareness was not exclusive to a certain group of respondents or region, where similar statistics were found across groups and locations across the country. The only location in which a notable segment of the population had not heard of COVID-19 was in rural areas of the Islands region, where only 82.5 percent indicates awareness of COVID-19.

**Figure 4: Sources of Information on COVID-19**



**Figure 5: Main Source of Information on COVID-19**



Source: Round one of the high frequency mobile phone survey.

**The most widely reported main source of information for COVID-19 was radio.** Radio was reported by 28.4 percent of respondents as their main source of information and a further 37.2 percent as another source. It was the main source of information in both urban and rural areas; unlike technology channels, such internet, social media, and television, which reached mainly urban respondents. Less than 30 percent of respondents in rural areas received information from television or internet. Newspapers also had a fairly wide scope, cited by 22.4 percent of urban residents and 14.1 percent of rural residents as their main source of information, but was more limited in reaching the bottom 40 percent, perhaps due to literacy issues. This finding highlights the importance of radio as a cost effective, fast, and equitable means of providing information to the public.

**Word of mouth – such as through family, friends, and community leaders – played a major role in disseminating information.** More than 90 percent of respondents across all groups and locations received information about COVID-19 from friends and family, and 82.4 percent reported receiving information from community leaders. These results demonstrate the importance of word of mouth in conveying messages from the government and authorities though informal channels may be more prone to spread misinformation than radio or newspapers as it is harder to control the quality of information. It may be possible for the government and health authorities to leverage these informal networks to supplement radio and newspaper messaging by disseminating information through church and other community leaders, capitalizing on their standing within the community.

## Precaution Steps against COVID-19 by Government and Local Authorities

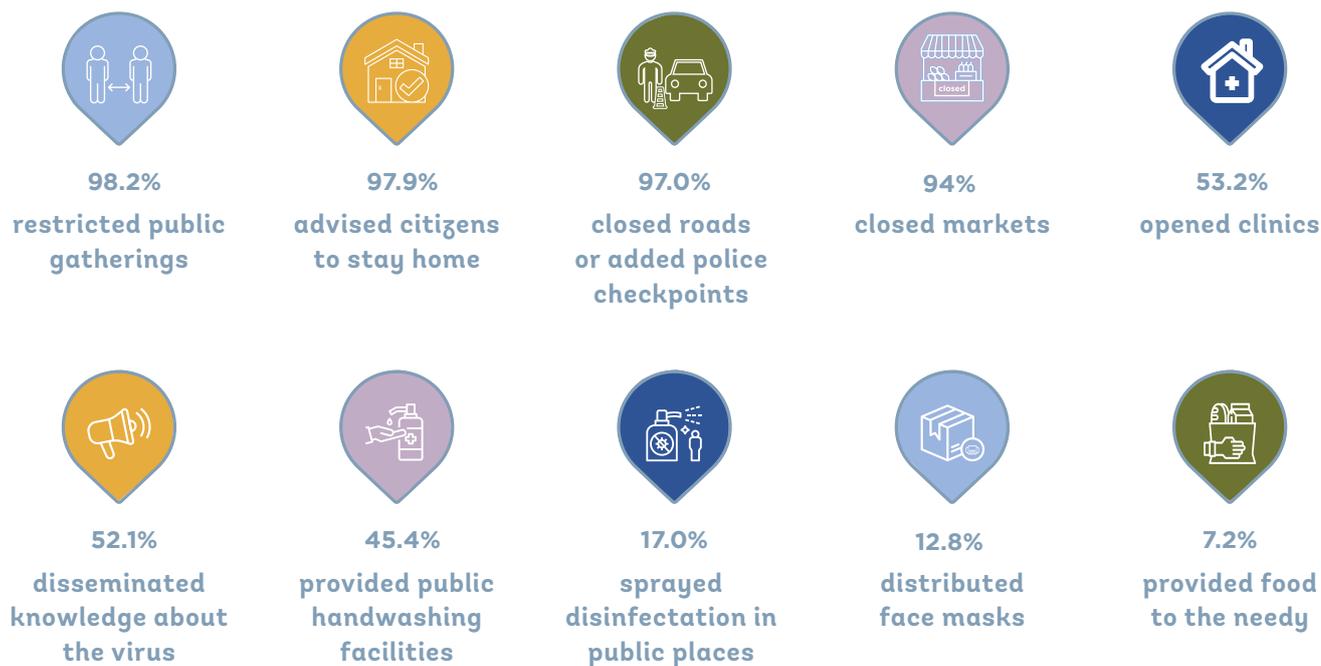
**Majority of the respondents received information regarding the precautionary steps taken by government and local authorities against COVID-19.** While respondents showed that they were well-informed regarding the restrictions mandated by National Emergency Order No. 16, only around 50 percent reported receiving information regarding the COVID-19 virus directly from national

<sup>8</sup> Respondents for the employment section include both main respondent and household head (if different) for overall statistics and disaggregation based on sex, sector, geography, and household wealth. The total sample size for this pooled group is 4,528. Education and age data are not available for the household head, and therefore that analysis is limited to the 3,115 respondents.

or local authorities. Less than 20 percent reported knowledge that the government was spraying disinfectant in public places or distributing face masks as precautionary steps. For the remaining 80 percent, it was unclear if respondents were unaware of public safety measures taken or if the government took no measures. The positive responses were not clustered geographically (either by region or by urban/rural location) so it is likely not the case that these measures were being taken only in certain part of the country.

**Figure 6**

Respondents' knowledge about precautionary steps taken by government and local authorities against COVID-19



Source: Round one of the high frequency mobile phone survey.



# Employment and Income

## Limited baseline information is available due to the lack of a recent national household survey.

Since there was no formal baseline, pre-crisis employment status was determined using retrospective questions in the high frequency mobile phone survey. At the start of 2020, 66.8 percent of individuals reported working, including 71.7 percent of men and 61.7 percent of women.

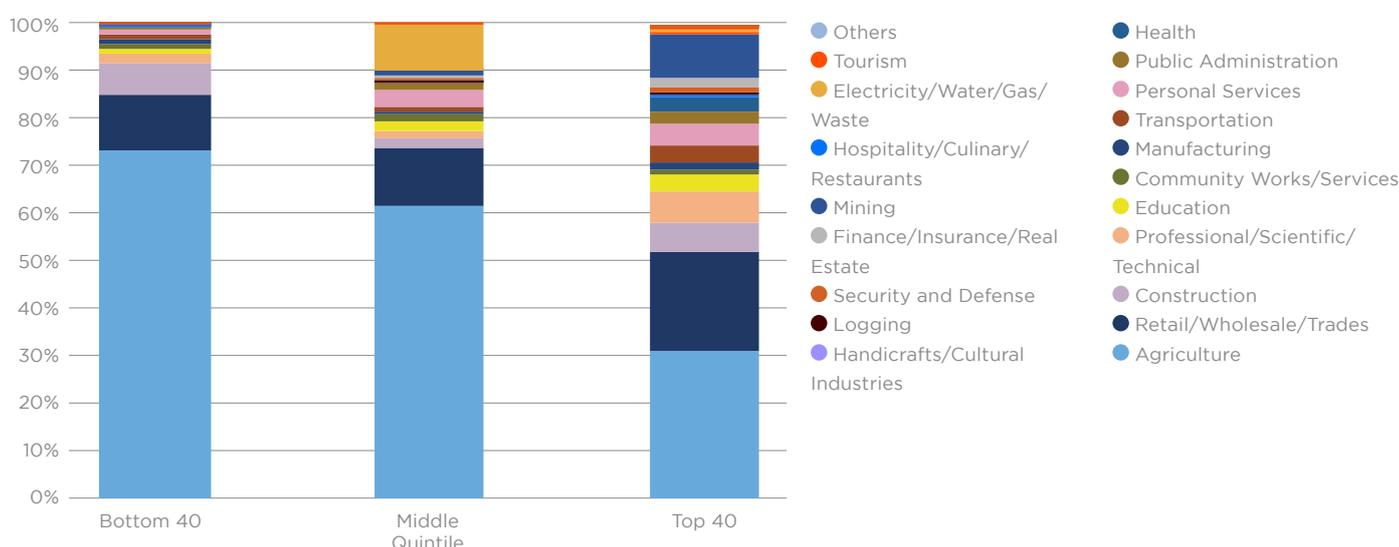
## Women’s employment was highly concentrated in agriculture and trading, while men showed some further diversification.

Women respondents reported working in agriculture (63.9 percent) and retail and trading (22.4 percent), with smaller shares working in construction (3.3 percent) and education (2.7 percent). Though main sectors for men were also agriculture (50.7 percent) and retail and trading (11.0 percent), they were less highly concentrated, with substantial numbers working in mining (6.4 percent), professional/scientific/technical activities (5.0 percent), construction (5.0 percent), electricity/water/gas/waste management activities (4.4 percent), personal services (3.8 percent), transportation (2.8 percent), public administration (2.2 percent), and education (2.0 percent). Across age categories, again agriculture followed by retail and trading were the most common sectors. Other common sectors were construction (4.8 percent) for those 18 – 25 years old; mining (6.0 percent) and education (5.2 percent) for those 26 – 35 years old, with men working in mining and women in education; mining (8.6 percent) and personal services (4.7 percent) for those 36 – 45 years old; and construction for those 46 – 65 years old (2.5 percent). For those age 66 and older that were still working at baseline, nearly all across both genders were working in agriculture (86.9 percent).

## Urban areas and those in the top 40 percent showed the most diversification,

though there is a strong correlation between the groups. In urban areas, 60.7 percent of individuals were working, with retail and trading being the most common sector (30.0 percent), followed by agriculture (19.4 percent). In rural areas, 67.6 percent of individuals were working at baseline, with the vast majority (61.4 percent) working in agriculture, followed by retail and commerce (14.5 percent). Employment in rural areas is highly concentrated in the two main sectors while urban areas were more diverse. There are also significant variations across the wealth groupings, as shown in Figure 7 below. The bottom 40 percent is highly concentrated in agriculture (75.6 percent), followed by retail and trading (11.3 percent) and construction (5.7 percent). In the middle quintile, agriculture is still the majority sector (66.4 percent), followed by retail and trading (12.6 percent) and those working in the electricity, water, gas, and waste management industries (6.8 percent). The upper 40 percent is the most diversified, with agriculture (31.9 percent), retail and trading (23.3 percent), and mining (9.4 percent) being the main sectors.

**Figure 7: Sector at baseline (if working)**

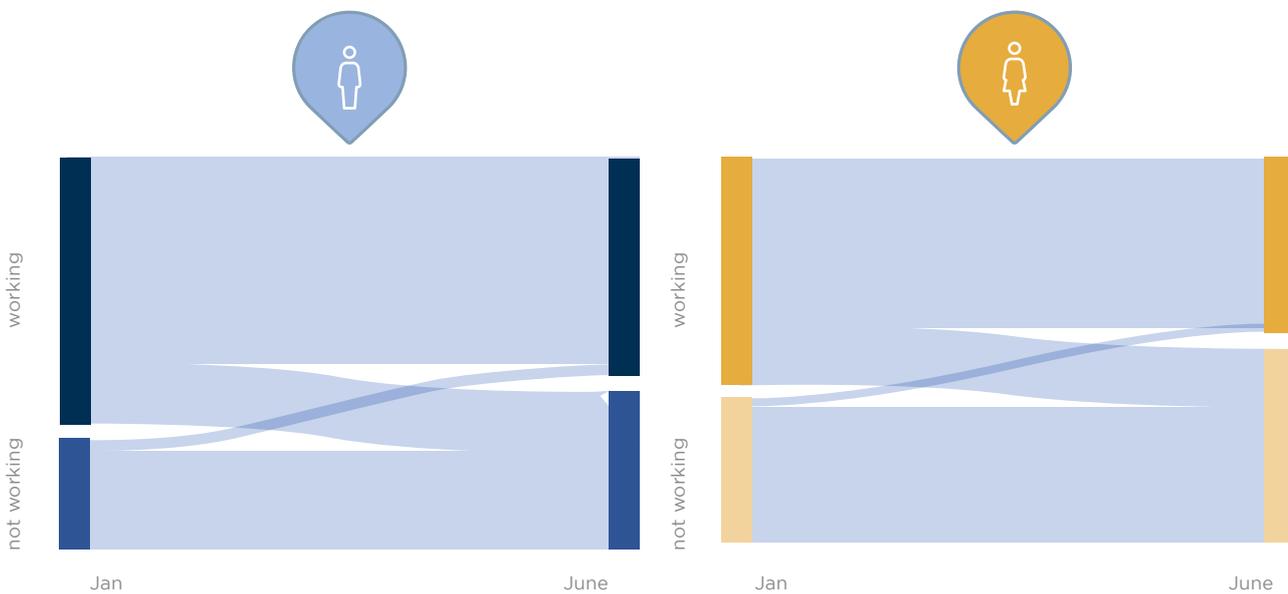


Source: Round one of the high frequency mobile phone survey.

## Job and Income Losses

**Approximately 25 percent of those working at the pre-crisis baseline were no longer working during the week prior to data collection.** Prior to the COVID-19 outbreak, 66.8 percent of respondents reported working in January 2020, compared to 53.5 percent in the week prior to the survey. Approximately half of respondents (50.7 percent) were working in both periods. Of those working at baseline, 24.1 percent were not working the week prior to data collection, and 8.5 percent of those that were not working at baseline had started working by the week prior to data collection. Of those that were working in both periods, there has been very little switching between jobs, with more than 96 percent of respondents reporting working in the same job as previously. Of those that did change jobs, more than two-thirds remained within their sector. Of the small number that switch sectors, the trend was towards agriculture and retail and trading. Similarly, of those that entered the labor market since the start of the crisis, most moved into either agriculture (59.7 percent) or retail and trading (35.6 percent).

**Figure 8: Changes in work status (by sex)**



Source: Round one of the high frequency mobile phone survey.

**Both descriptive statistics and econometric analysis have been used to examine relationships in the data.** To compare the results for different groups in the population, three sets of multivariate regressions were performed on the population that was working at the baseline. The groups analyzed with these regressions were those that are no longer working or working for no pay, those that are earning less money than at baseline, and those working for the same or higher pay than baseline. The variables included in the regression were sex, age, status as household head, geography (province and urban/rural location), sector of employment at baseline, wealth quintile (bottom 40 percent, middle 20 percent, upper 40 percent), and education (no formal education, some or completed primary, some or completed secondary, and post-secondary education). The full results are shown in Table 2 in Appendix 2.

**Female household heads and older respondents were more likely to have stopped working since the pre-crisis baseline.** Controlling for the other characteristics listed above, female household heads were nearly twice as likely to have stopped working since the baseline compared to male household heads, 38.0 percent compared to 22.4 percent, though household heads overall were less likely to have stopped working than other household members, likely out of economic necessity. The reason given by female household heads as the most common reason to have stopped working was that the business was closed, either because of COVID-19 (20.2 percent) or another unspecified reason (69.3 percent) which may or may not have been related to COVID-19.

Older respondents (age 66 and older) were also the most likely age group to stop working and the least likely to be working for the same or more money. It is difficult to attribute this impact to COVID-19 due to the lack of a baseline, but it is likely that concerns regarding the health impact on older populations and older workers being closer to retirement and more likely to stop working even in the absence of a crisis, contributed to these declines.

**Analysis showed little correlation of changes in employment status with education.** There were no significant differences in level of education for those that are no longer working or for those working for lower wages. Those with no education, however, are less likely to be working for the same or higher wages than those with at least some formal education, though there is no difference between levels of education.

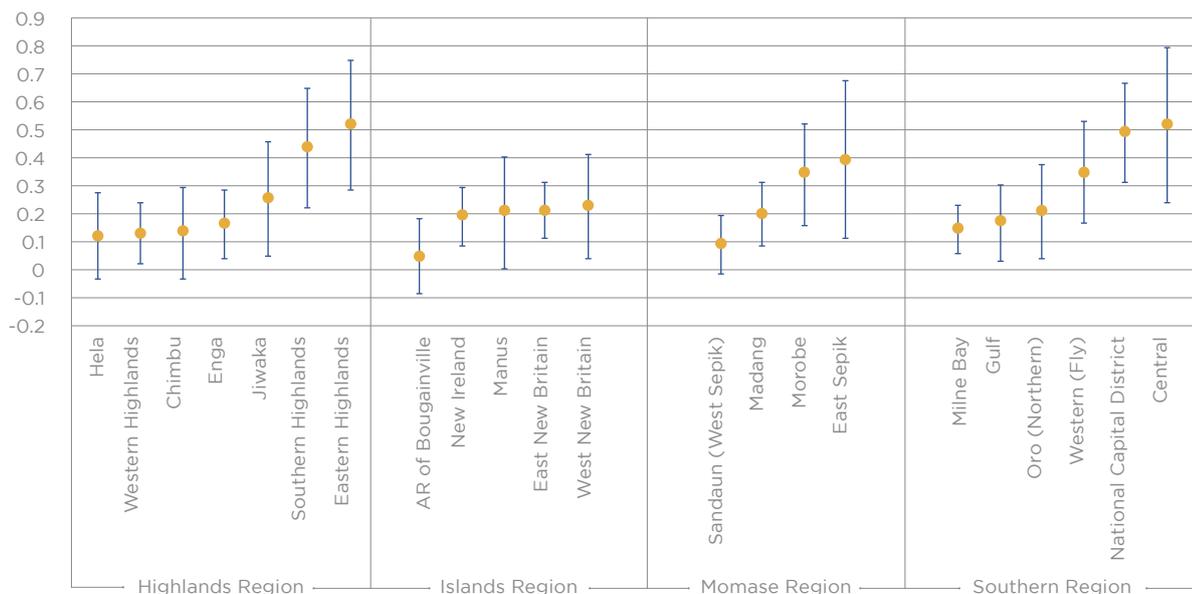
**Those working in certain sectors of employment had lower likelihoods of being impacted by the COVID-19 crisis.** Compared to agriculture, the largest sector of employment, those working in mining, manufacturing, construction, personal services, health services, public administration, tourism (including restaurants), community outreach, and security and defense (including the police, military, and private security) were less likely to have stopped working since the start of the crisis. Those working in public administration, health services, and community outreach, as well as manufacturing, transportation, and security and defense, were less likely to stop working and more likely to be working for the same or higher income. Finally, those working in logging and utilities such as electricity, water, gas, and waste management activities were more likely to have stopped working, but those that continued working were less likely to see reductions in their income.

**Job losses since January were most acutely felt in the middle quintile.** Nearly 40 percent of those in the middle quintile reported stopping working compared to the January 2020 baseline, compared with approximately 20 percent in each the top and bottom 40 percent. Other than being more likely to be in rural areas and to work in the utilities sector (electricity, water, gas, waste management), and less likely to live in the Southern region, the causes of the higher job losses were not immediately clear or directly attributable to COVID-19. Further research in this area will be undertaken in subsequent rounds. As the most recent poverty figure placed 40 percent of the population in poverty, the middle quintile would represent those living just above the line and therefore vulnerable to falling into poverty.

**Even without high job losses, those in the bottom 40 percent were most vulnerable to a deterioration in the economic conditions.** Econometric analysis showed those in bottom 40 percent were more likely to have left work since January when age and the level of education was considered along with sex and geography. In addition, those in the bottom 40 percent were less likely to be working for the same or higher wages. The disproportionate share of job losses that are impacting the bottom 40 percent is concerning from a welfare perspective because those in the bottom 40 percent are already in difficult circumstances and may be less able to maintain their level of consumption following a job loss and the associated reduction in income.

**Geographically, the picture of job losses was mixed.** Comparing job losses across regions, losses were the lowest in the Islands region (13.9 percent), followed by the Southern region (24.3 percent) and the Highland region (27.6 percent), and highest in the Momase region (31.8 percent). Using econometric analysis to control for other factors, however, only the Islands region had a significant difference compared to the reference category of the Southern region and that difference was opposite in magnitude (higher) compared to the descriptive statistics. Additionally, within regions, there was substantial variation in the expected job losses, controlling for other characteristics. Figure 9 below shows the expected losses by region controlling for sex, status as household head, urban/rural location, sector, and wealth quintile. Though the wide confidence intervals resulting from limited sample size preclude more definitive analysis, within the Highland region, the Southern and Eastern Highland provinces and the National Capital District and Central provinces in the Southern region were the most impacted.

**Figure 9: Expected job losses by region (controlling for other characteristics)**



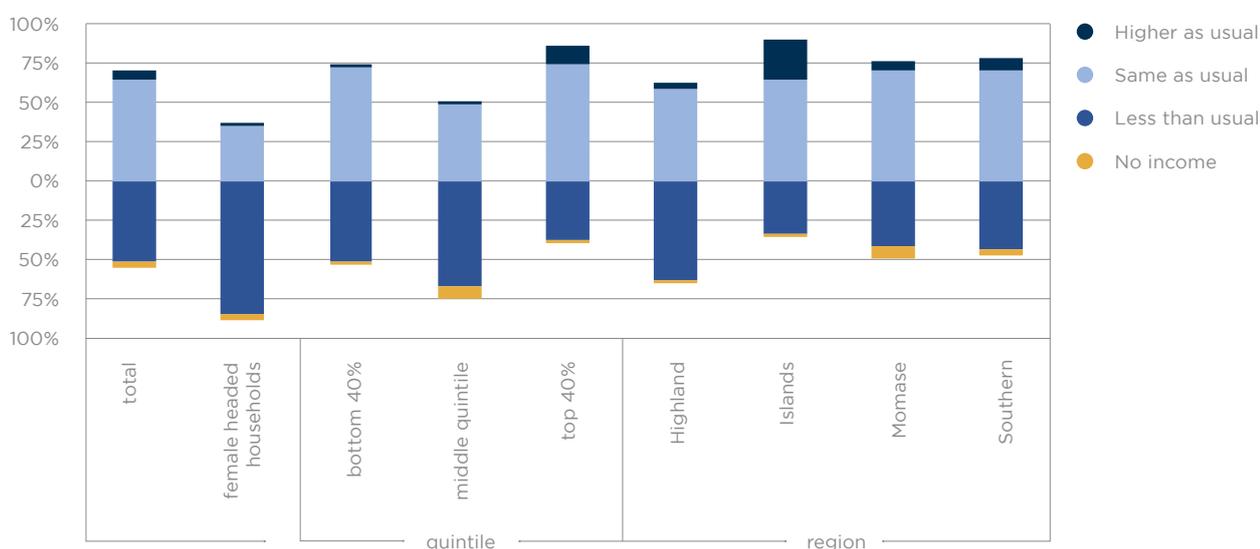
Source: Round one of the high frequency mobile phone survey.

## Non-Farm Business

### Nearly half of non-farm enterprises have seen a decline in income in the month prior to the survey.

Overall, 27.4 percent of households report operating a non-farm business in 2020, with a slightly higher prevalence in urban than rural areas, 33.7 percent compared to 26.7 percent, respectively. There was also some variation across the regions between the Momase (32.8 percent), Highland (29.5 percent), Southern (24.5 percent), and Islands (14.5 percent) regions, but no significant differences across the wealth quintiles. Of those operating a non-farm enterprise, the majority (50.6 percent) received roughly the same level of income in the month prior to data collection compared to usual. A small percentage, 5.5 percent, received higher incomes, and 41.2 percent received lower income. The remaining households, 2.8 percent of the total, received no income. Without solid baseline statistics, it is not possible to attribute the fall in income to COVID-19, but any losses sustained by poor or vulnerable households are likely to have implications for household well-being. Figure 10 below shows the change in income in the month prior to the survey and the start of 2020 for different groups within the population.

**Figure 10: Change in income from non-farm enterprise since start of 2020**



Source: Round one of the high frequency mobile phone survey.



**Female headed households and those households in the middle quintile of the distribution were most likely to experience a decline in non-farm business income since January 2020.** Descriptive statistics show that female headed households and the middle quintile of the distribution were the most likely to see declines in income compared to other groups, and that those living in the Highland region were most likely to see declines compared to other regions. Female headed households in particular had large expected declines, with 68.0 percent expecting to see a decline in income and a further 3.9 percent expecting no income. Econometric analysis indicates that the findings related to female headed households and those in the middle quintile were robust. The impact of living in urban or rural areas was not statistically significant. See full results in Table 3 in the appendix.

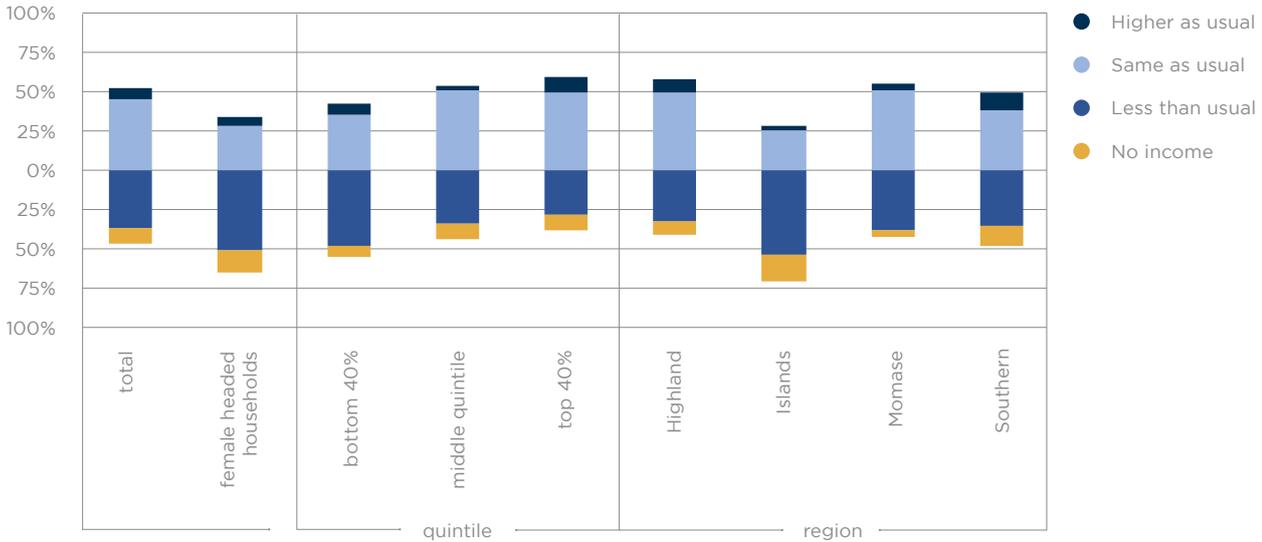
## Agriculture

**Agriculture is a key basis for livelihoods, particularly for rural households.** Agriculture was the main occupation for 56.8 percent of individuals, including 63.9 percent of working women at baseline. Nearly 70 percent of households have at least one member working in the sector or has some household production. Agriculture is particularly important in rural areas and for the bottom 40 percent where approximately three-quarters of households are involved in the sector. Across the regions, 81.2 percent of households in the Highlands region, 61.9 percent of households in the Islands region, 68.7 percent of households in the Momase region, and 51.3 percent of households in the Islands region.

**Though agricultural activities remain largely uninterrupted, nearly half of agricultural households expect a decline in agricultural income for the current growing season.** More than 95 percent of households report being able to perform agricultural activities normally since the start of the crisis, 46.6 percent of households expect to see lower or no income from their agricultural production in the current growing season compared to usual revenue, as shown below in Figure 11. Since respondents do not report their work on production being interrupted, expected losses would be the result of lower than expected prices (consistent with a fall in global demand) or sales volume, perhaps related to difficulties in transporting harvested crops to market. Subsequent rounds of data collection will measure if these expectations change and, if not, further explore the driving factors.

**The majority of female headed households and those in the bottom 40 percent expect losses.** Of those households in the bottom 40 percent of the wealth distribution, 56.1 percent expected lower income, compared to 44.0 percent in the middle quintile and 38.1 percent of the upper 40 percent. The impact on female headed households was even larger, with 51.1 percent reported expecting lower income and 13.9 percent expecting no income. There are also differential impacts across regions, with the highest expected declines coming in the Islands region (70.9 percent) compared to the Highland region (40.9 percent), Momase region (42.8 percent), and Southern region (48.9 percent). Econometric analysis indicates that households in the bottom 40 percent were more likely than other groups to expect declines in agricultural income, but that the geography of the household and the sex of the household head were not significant in determining which households were negatively impacted. See full results in Table 3 in the appendix. Overall any falls in agricultural income are extremely concerning given the outsized importance of agriculture to poor and vulnerable households.

**Figure 11: Expected agricultural earnings**



Source: Round one of the high frequency mobile phone survey.

## Remittances

**Nearly all remittances received in PNG were domestic in origin, two-thirds of which have stayed the same since the start of the crisis.** Twenty percent of households reported usually receiving remittance from family members or relatives who work in another city or country. More than 97 percent of these remittances, however, were from within PNG, with Australia and the United States being the main sources for the small number of international remittances. Households in the highest 40 percent of the wealth distribution were the most likely to receive remittances (25.9 percent) compared with the middle quintile (16.5 percent) and the bottom 40 percent (17.3 percent). This correlation is robust to the inclusion of geographic variables, region and urban/rural location, in econometric analysis, but there are no other statistically significant relationships. See full results in Table 3 in the appendix. Of households receiving remittances, 66.6 percent said that the amount has not changed from the usual pattern, while 2.0 percent they were receiving more than usual, 25.0 percent said they were receiving less than usual, and 6.4 percent said remittances had stopped entirely. Additional findings from econometric analysis are limited, with those in rural areas being less likely to see reductions than those living in urban areas and those living in the Momase region more likely for remittances to have decreased or stopped entirely.

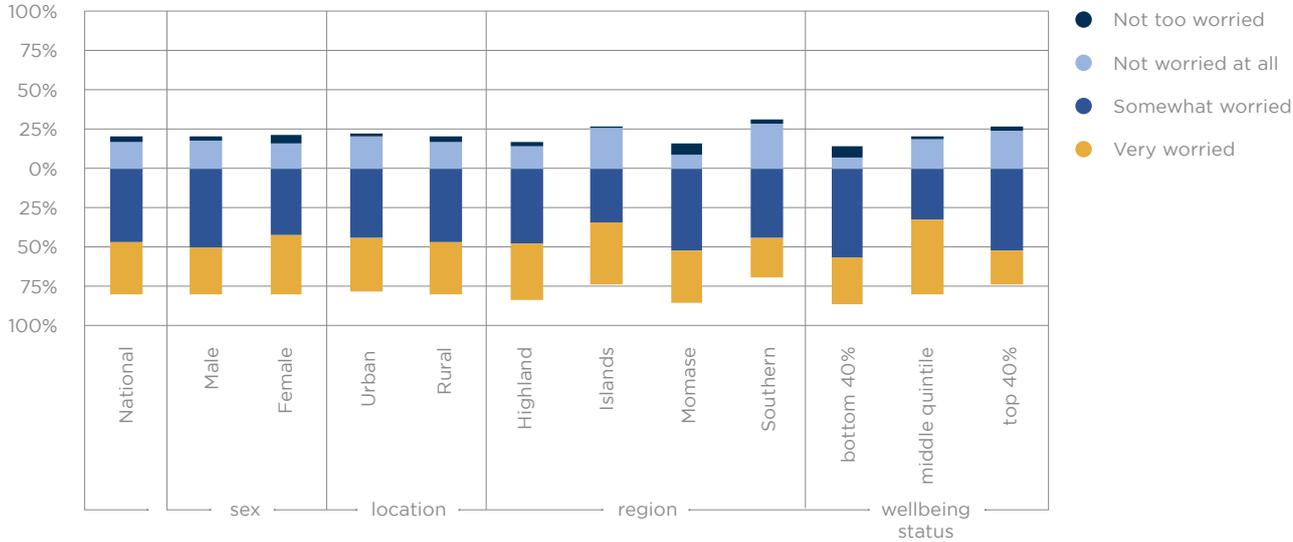
## Financial Anxiety

**More than three-quarters of the respondents were worried about their household's finances in the next month.** Anxiety about household finances was consistent across demographic and geographic categories, with no significant differences across sex and location (see Figure 12 below). Across regions, however, the Southern region recorded the lowest proportion of worried respondents with 69.0 percent, similar to the Islands region (72.8 percent), but statistically significantly lower than either the Momase or Highland regions. The Island region also had the highest proportion of respondents who felt very worried about their household finances, but this difference is not significant.

**The bottom 40 percent expressed the highest levels of worry regarding household finances in the next month.** More than 85 percent of those households in the bottom 40 percent said they were worried or very worried about the household's finances, significantly higher than the 73.3 percent of the top 40 percent group. The middle quintile, however, had the highest proportion of respondents expressing that they were very worried, at nearly 50 percent. Without baseline data, it is difficult to interpret the degree to which these results are related to COVID-19. For example, while the middle

quintile also experienced the highest levels of job losses, econometric analysis showed that even controlling for a job loss by the respondent, the middle quintile was still more likely to indicate being very worried.

**Figure 12: Financial anxiety (by sex, location, and well-being status)**



Source: Round one of the high frequency mobile phone survey.

**Around two-thirds of the respondents are optimistic regarding the state of economy next year.**

Across demographic, geographic categories, and well-being quintiles, there were no statistically significant differences in the percentage of respondents that reported being pessimistic about the economy, answering that the economy was likely to be somewhat or much worse next year. Similarly, the results were also relatively consistent across categories for respondents that report being optimistic, saying that the economy would be somewhat or much better, with only those in the bottom 40 percent being less optimistic than the higher quintiles. See Figure 13 below for further results.

**Figure 13: Expected state of economy in the next month**



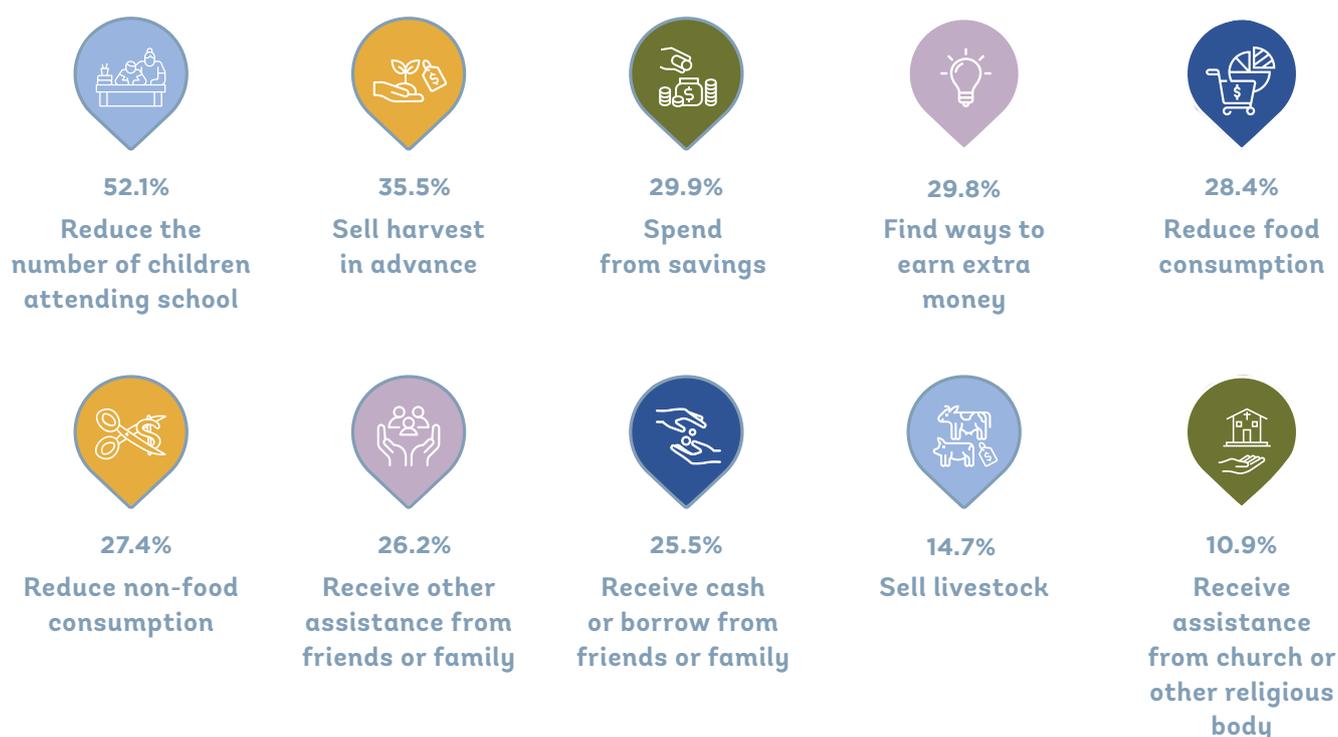
Source: Round one of the high frequency mobile phone survey.

# Coping Strategies

**More than 85 percent of household heads reported using at least one coping strategy<sup>9</sup> since March, but it is difficult to directly attribute these actions to COVID-19.** Sixty percent of household heads reported employing two or more coping strategies and nearly one-third reported using four or more strategies. Overall, the most common strategy was reducing the number of children going to school (52.1 percent), selling the harvest in advance (35.5 percent), and spending from savings (29.9 percent). Figure 14 below shows the prevalence of use of the ten most common strategies. Further, the most common strategies undertaken by household that took only one action were spending from savings (26.2 percent), reducing the number of children going to school (21.0 percent), and finding ways to earn extra money (19.5 percent), indicating that these strategies were likely the “first option” measures taken by the households facing constrained economic environment. The lack of pre-crisis baseline measures, however, makes it difficult to attribute the use of any of these strategies directly to the COVID-19 crisis.

**Figure 14**

Use of coping strategies (between March and June 2020)



Source: Round one of the high frequency mobile phone survey.

**Short-term options were limited, putting households at increased risk of food insecurity.** While some households were able to find additional ways of earning money (29.8 percent) and reducing non-food consumption (27.4 percent), these households were mainly concentrated in urban areas. There are concerning results regarding food security as 35.5 percent of agricultural households have sold at least part of their harvest in advance, which includes food crops, and 28.4 percent report reducing food consumption.

9 Full list of coping strategies included: Sell assets; Sell livestock; Find ways to earn extra money; Receive cash or borrow from friends or family; Receive other assistance from friends or family; Receive assistance from church or other religious body; Take a loan from a financial institution; Take a loan from an informal moneylender; Purchase items on credit; Delay making re-payments; Sell harvest in advance (agricultural households only); Reduce food consumption; Reduce non-food consumption; Spend from savings; Receive assistance from NGO; Receive assistance from a community based organization; Take an advance from an employer; Receive government assistance; Receive a payout from a superannuation fund, provident fund, or pension fund; Reduce the number of children attending school (households with school age children only).

Econometric analysis indicates that, conditional on other factors, households in the Highland region and rural households involved in retail and trading activities were more likely to undertake one or more of these actions, while female headed households, those households in the bottom 40 percent, and households in urban areas involved in retail and trading activities were less likely. Agricultural households were also less likely to decrease food consumption, likely due to the ability to home produce food products.

**Medium- and long-term vulnerability has increased.** Medium term vulnerability was increased by households spending from savings (29.9 percent), selling livestock (14.7 percent), and selling assets (9.7 percent), as well as in the longer term by taking an advance from an employer (1.5 percent) or receiving a payout from a superannuation fund, provident fund, or pension fund (1.3 percent). Households that were most likely to undertake one or more of these actions were those in the Highland and Momase regions and those households in the top 40 percent of the distribution, holding other factors constant. In particular those in the top 40 percent were able to spend from savings, likely not a feasible option for those households in the lower quintiles.

**School attendance has been strongly impacted since March.** More than half of heads (52.1 percent) with school age children in the household indicated reducing the number of children attending school, which could have serious long-term repercussions on human capital development in PNG, including exacerbating gender gaps in education if girls were more likely to be kept home than boys. The households that were identified by econometric analysis that were most likely to have reduced the number of children attending school were those with younger household heads (age 18 - 25) and those in the Islands region, while agricultural households and rural households involved in retail and trading activities were less likely. Without a baseline though it is again difficult to interpret these results as those groups may have had low levels of children in school in the pre-crisis period.

**Access to safety nets was largely through informal channels.** Of the 41.3 percent of households that were able to access assistance, most came from friends or family. More than a quarter of households (25.2 percent) reported receiving or borrowing cash from family or friends, 26.2 percent reported receiving other assistance from friends and family, 10.9 percent received assistance from a church or other religious body, 3.5 percent received assistance from a community based organization, and 0.9 percent received assistance from an NGO. Econometric analysis indicated informal safety nets were widely used across various segments of the population, with only those in the bottom 40 percent facing more limited access. The informal assistance statistics are compared to the 4.9 percent that received assistance from a government source, though government assistance in this context was also likely to be through informal channels as the only formal social protection scheme currently operating in PNG was an elderly and disability support benefit in the New Ireland province. Agricultural households were more likely to receive government assistance, as were those in the Southern region, while female headed households and those in the bottom quintile of the distribution were less likely.

**Household debt has also increased.** More than 16 percent of households have taken on additional debt since March, including those which delayed making re-payments (9.4 percent), purchased items on credit (9.4 percent), took a loan from a moneylender (5.8 percent), or took a loan from a financial institution (1.8 percent). Econometric analysis did not show any statistically significant relationships between household characteristics and taking on debt, with the exception that older household heads (those with heads aged 66 or older) were less likely to do so.

# Food Security & Food Access

## Access to Staple Crop/Protein/Vegetables<sup>10</sup>

**Urban markets and supply chains appear to be continuing to function.** Most urban households indicated having sufficient access to food in the week prior to the survey, and very few issues were reported. Of the 77.3 percent of households which attempted to buy the main staple starch, nearly all (98.9 percent) were able to do so. Similar results were found regarding the main protein, where 84.1 percent attempted to purchase, of which 95.9 percent were successful, and vegetables, where 79.2 percent attempted to purchase, of which 96.6 percent were successful. Though the questionnaire asked the reason why household were unable to purchase the desired goods, the sample sizes were too small to yield reliable estimates.

**Far fewer rural residents reported attempting to buy food commodities due to home production, but those that did were largely successful.** Only 35.9 percent of households reported trying to purchase the staple starch, 52.7 percent trying to purchase the main protein, and 45.4 percent attempting to buy vegetables. As in urban areas, those households which attempted to purchase products were largely successful, with 99.8 percent being able to purchase the staple starch, 83.8 percent being able to purchase the main protein, and 91.8 percent being able to purchase vegetables. The main reason given for not being able to purchase the main protein was that the shops had run out of stock, and econometric analysis indicated that those living in rural areas of the Highland region and those in the bottom 40 percent had the most difficulty. The sample sizes were insufficient to do further analysis on the staple starch or vegetables.

## Food Security

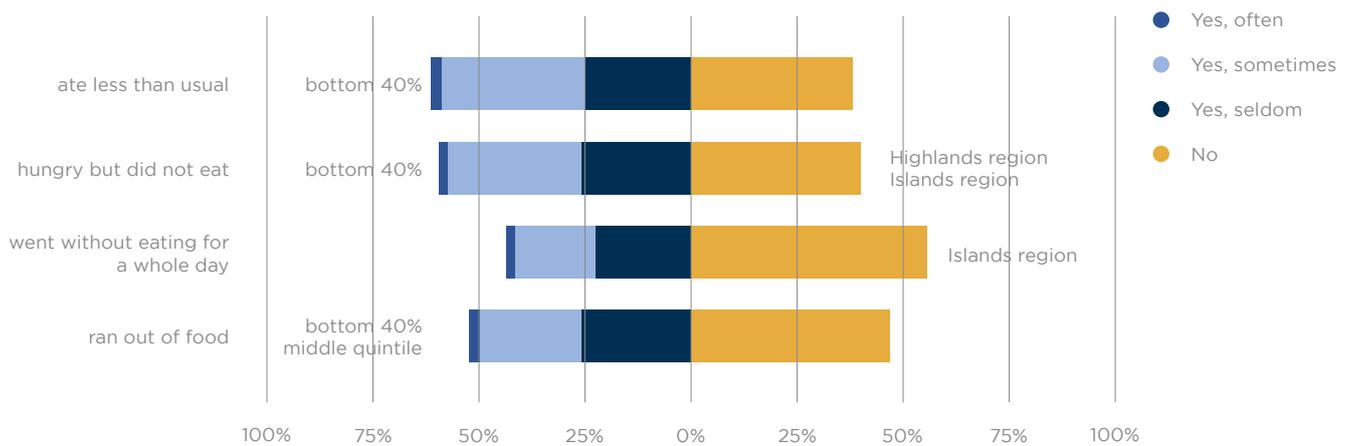
**Nearly half of households experienced recent food insecurity.** In the 30 days prior to the survey, 47.1 percent of households reported at least one adult household member reporting undertaking one of the following four food coping strategies: eating less than usual because of a lack of money or other resources, being hungry but not eating because there was not enough money or other resources for food, going without eating for an entire day because of a lack of money or other resources, or running out of food completely. These food insecure households practiced a variety of food coping measures with 55.5 percent of respondents indicating they had used a combination of all four strategies. Geographically food insecurity was most commonly reported in urban areas of the Highland and Islands regions, and in the rural areas of the Momase region. It is difficult, however, to know if these levels of food insecurity were higher than pre-crisis levels as no baseline data exists.

**Urban households indicated higher frequencies of using food insecurity coping strategies.** In urban areas, 66.2 percent of households indicated using one or more of the strategies in the previous 30 days, compared with 44.4 percent of rural households. Urban households were also more likely to say that they used strategies “sometimes” or “often,” compared to “seldom,” than rural areas. Figure 15 and 16 show the frequency of the four strategies in urban and rural areas, respectively, as well as summarizing the results from econometric analysis on the characteristics associated with using or not using a particular strategy.

<sup>10</sup> Given the high degree of regional and seasonal variation in diet in PNG, the questions regarding the availability of the staple starch first asked households to specify what the main staple starch was that the household consumed typically at that time of year and the questions proceeded to ask about that specific starch. A similar approach was used to identify the main protein.

**Figure 15**

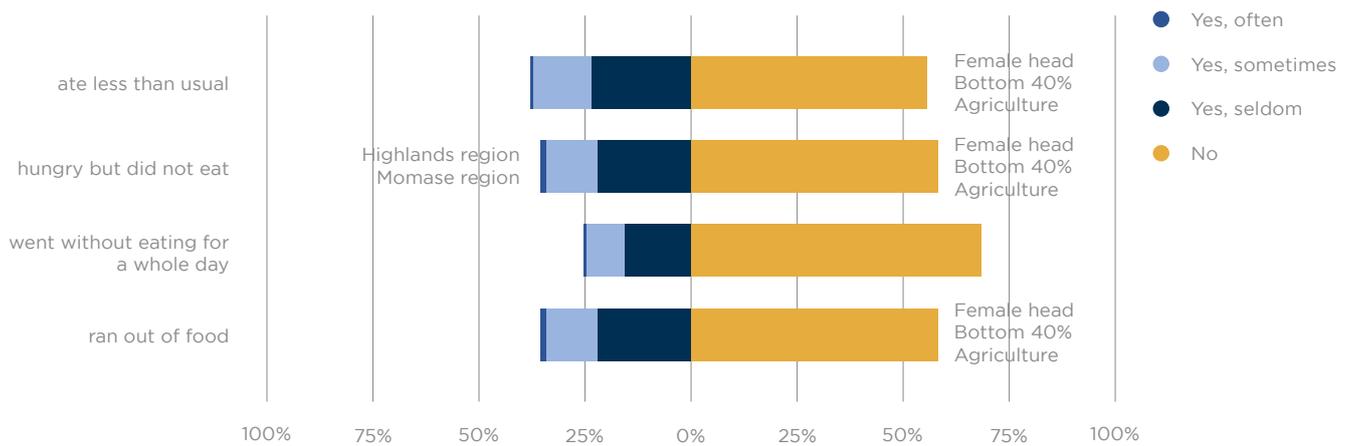
**Severity of and characteristics associated with food insecurity (urban)**



Source: Round one of the high frequency mobile phone survey.

**Figure 16**

**Severity of and characteristics associated with food insecurity (rural)**



Source: Round one of the high frequency mobile phone survey.

*Note:* Calculations based on the June 2020 round of the high frequency mobile phone survey. Results show weighted percentage of respondents indicating using food security coping strategies by strategy and frequency of usage. Characteristics listed on the “yes” side of the graph were statistically significantly associated with having used a strategy. Characteristics listed on the “no” side of the graph were statistically significantly associated with having said no to using the strategy in the previous 30 days.

**Female-headed households, those in the bottom 40 percent, and agricultural households were less likely to use food insecurity coping strategies in rural areas.** While agricultural households may be less likely to experience food insecurity due to their ability to home produce many items, it is less immediately clear why female-headed households or those in the bottom 40 percent would be less likely to use these strategies. Subsequent surveys will more closely investigate these findings.

# Health Care System Avoidance



**Almost 80 percent of respondents nationally could access health care facilities if needed, but there was substantial variation across groups and locations.** When asked if they or any member of their household required medical attention in the past month, approximately 40 percent of respondents said yes. This percentage was stable between urban and rural areas but varied significantly by region, with 46.1 percent of those in the Highland region, 45.3 percent of those in the Momase region, 30.0 percent of those in the Southern region, and 22.8 percent of those in the Island region indicating needing care. Of those households requiring medical care, 79.0 percent were able to obtain access, including nearly all those living in urban areas, 92.5 percent, compared with 77.4 percent of those living in rural areas. Using econometric analysis to further explore the relationships between geography and well-being in accessing care, there were no significant differences in access between wealth quintiles. Similarly, there were few differences in region and urban/rural location. The predicted ability to be able to access medical care ranged between 88.5 percent in rural Highlands region to 95.3 percent in urban Highlands, with the exception of rural Momase region which had a predicted ability to access of only 45 percent. This difference is significant despite the relatively small sample sizes.

**There was little evidence that COVID-19 has led to avoidance of the health care system in PNG.** The main reasons for not accessing health care were financial though a lack of medical personnel and the inability to travel were also cited. Overall, 46.6 percent of those that could not access required medical attention said the main reason was a lack of financial resources. This was the main reason given in both urban and rural areas, in the Momase region, and in the middle quintile of the wealth distribution. The second most common reason was no medical personnel present, which was cited by 23.1 percent overall, and was the main reason in all regions outside of Momase and for those in the top two quintiles of the wealth distribution. The inability to travel was cited by 28.6 percent overall and was the main reason for the bottom 40 percent and represented a substantial number of rural responses. Fear of contracting COVID-19 was cited by only a small fraction of respondents, mainly in urban areas of the Southern region. These findings, however, may have changed with the recent sharp increase in number of cases and death of a health care worker from COVID-19.

# Migration

**Migration since the start of the crisis has been limited, with the National Capital District and the Highlands region accounting for nearly 90 percent of movers.** In the three months prior to the survey, only 2.5 percent of respondents reported moving. Of those that moved, 20.0 percent left the National Capital District, heading mainly for other provinces in the Southern region, and to a lesser extent, the Momase region. The remaining migration was mainly in the Highland region where 25.7 percent left the Southern Highland province, 16.3 percent left the Chimbu province, 12.3 percent left the Western Highlands and 10.4 percent left the Eastern Highlands. The destination for most of these migrants were other areas within the Highland region. See Figure 17 below for a graphic depiction of out-migration patterns.

**Figure 17: Flow of migrants in three months prior to data collection**



Source: Round one of the high frequency mobile phone survey.

**In contrast to expectations, migration was not exclusively urban to rural.** Rural households were slightly more likely to lose members in the previous three months, though the difference is not statistically significant, while urban households were more likely to have received new members. Anecdotal evidence had suggested substantial departures from urban to rural areas in response to lockdown measures and other restrictions, but the data indicated no significant difference between the two locations, though sample sizes were limited. The median number of arriving members for those household which received members was higher in rural area, three, compared to a median of two in urban areas.

# Public Trust & Security

## Background on Insecurity in Papua New Guinea

**Though PNG has mostly avoided large-scale conflict, the country faces high rates of conflict and violence at the community and household levels.** Prevalent and diverse forms of conflict and violence; from family and gender-based violence, inter-personal violence, conflict between clans or tribes, to armed burglary and assault in urban areas; stem from a complex myriad of drivers. These include a combination of political, institutional, social and cultural, economic and security stresses, and a fragile institutional environment that lacks sufficient capacity to manage them.<sup>11</sup> For example, the dynamics of politics and competition, linked with deep-rooted social norms around conflict resolution along ethnic lines, are a key driver of fragility and a common source for localized episodes of violence, particularly in rural areas. A large, growing population of young people in urban areas with few opportunities, generates a different set of challenges, such as the misuse of drugs and alcohol (though prevalent in rural areas too) and crime, leaving vulnerable households and groups in urban areas more insecure. Across PNG, rates of gender-based violence and family and sexual violence are extremely high, and occur in various forms, with an estimated 56 percent of women (age 15-49) experiencing some degree of physical violence and 28 percent experiencing some degree of sexual violence since age 15.<sup>12</sup>

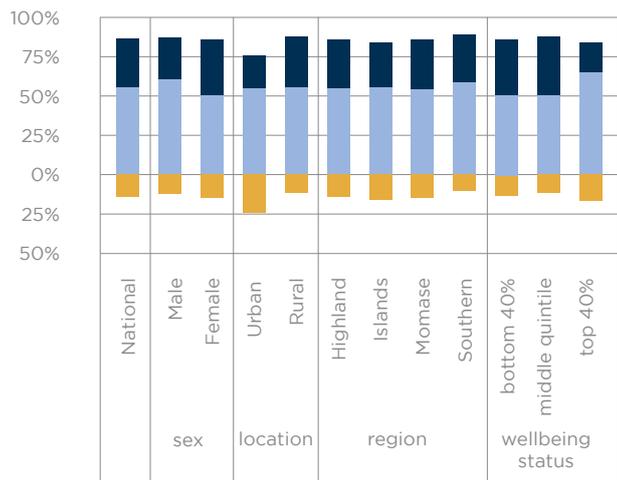
## Household Security Issues

**Respondents' opinions regarding changes in the security situation compared to the start of the year were asked along four dimensions: trust within the community, trust with outsiders, safety from physical violence, and safety of property.** Overall respondents gave relatively consistent responses across these questions and across demographic, location, and wealth quintiles (see Figures 18 - 21), but further econometric analysis was able to identify some important differences. One important caveat to the findings is that they apply only to the change in the situations as baseline levels are unknown, and therefore it is not possible to conclude the relative levels of satisfaction with different problems in different locations, only the changes since the pre-crisis period. For example, an area experiencing a high level of violence within the community may have seen a relative improvement since the crisis, but the overall levels could still be higher than a peaceful area that has seen a deterioration.

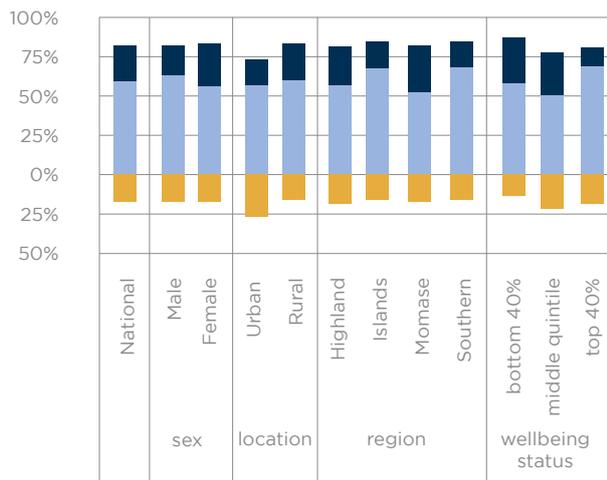
<sup>11</sup> Lakhani, S and Willman, A M. 2014. *Drivers of Crime and Violence in Papua New Guinea*. Social Development Department. The World Bank. Report No. 75058. May. World Bank Group. 2019. *FY19-23 Country Partnership Framework for Papua New Guinea*. May.

<sup>12</sup> National Statistics Office Papua New Guinea and ICF. 2019. *Papua New Guinea Demographic and Health Survey 2016-18*.

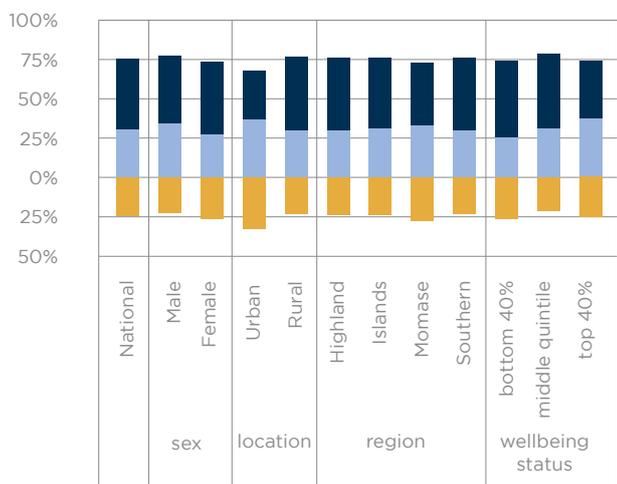
**Figure 18: Change in trust and social relations within the community**



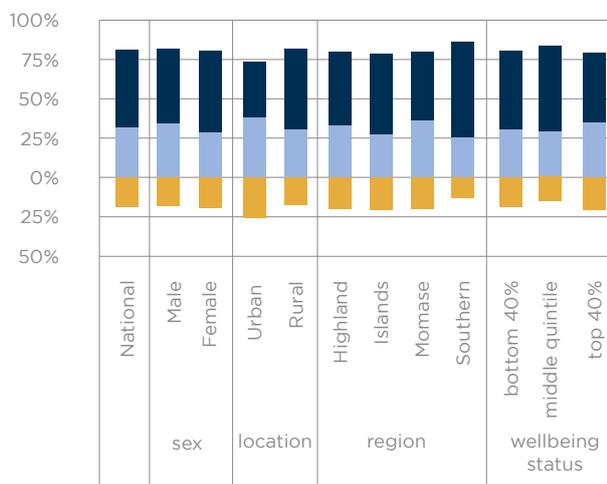
**Figure 19: Change in trust and social relations those from outside the community**



**Figure 20: Change with respect to physical violence in the community**



**Figure 21: Change in safety of property**



● Safer ● Stayed the same ● Deteriorated

Source: Round one of the high frequency mobile phone survey.

**While the majority of respondents said that social relations within the community stayed the same in the past three months, those living in the Highland region and in the bottom 40 percent of the wealth distribution being more likely to say things had deteriorated.** Overall 55.8 percent of respondents said that trust and social relations had remained the same since the start of the year, with 30.7 percent saying that they improved and 13.6 percent saying that they deteriorated. Those living in the Highlands region, however, were more likely to say that things had deteriorated with respect to trust and social relations. In urban areas, those in the bottom 40 percent of households were significantly less likely to say that things had improved and significantly more likely to say things had gotten worse. In rural areas, women and those in the bottom 40 percent and middle quintile were more likely to say that social relations within the community had improved, while those in the 66 and older age group were less likely to say things had improved. These findings are robust to the inclusion of two additional variables with the district-level average number of people that have left households and come into households in the previous three months. In urban areas, districts with higher numbers of household members that have left were significantly correlated with household being less likely to say things have improved.

**Most also believe social relations with those from outside the community have remained the same, however older respondents and those in the bottom 40 percent in urban areas and young people in rural areas were more likely to say things had deteriorated.** Overall, 60.0 percent of respondents said that trust and social relations with those living outside of the community had remained the same over the past three months, with 22.8 percent saying they had improved and 17.2 percent saying they had deteriorated. In urban areas, young people age 18 to 25 were less likely to say things had improved. Those in the 45 - 65 age group and those in the bottom 40 percent were more likely to say things had deteriorated, and those living in the Highland and Island regions were less likely to say things had gotten worse. In rural areas, women and those living in the bottom 40 percent were more likely to say that social relations with outsiders had improved, while those in the 66 and older age group were less likely to say that things had improved. In rural areas, young people age 18 to 25 were more likely to say that things had deteriorated. Similar to above, these findings are robust to the inclusion of the migration variables, and urban districts with higher numbers of household members that have left were significantly correlated with household being less likely to say things have improved.

**Results on physical violence were more mixed.** Overall there was less consensus on physical violence within the community, with 44.5 percent believing things had improved in the last three months, while 31.3 percent said that things had remained the same, and 24.2 percent saying things had deteriorated. The most substantial changes were seen in urban areas in the Highland region, where respondents were both more likely to say things improved and less likely to say things had gotten worse. The opposite was true for older respondents in urban areas, particularly those 46 to 65, who were less likely to see improvement and more likely to see things getting worse. Consistent with the other findings, in urban areas those in the bottom 40 percent and the middle quintile were more likely to see things has having deteriorated, while in rural areas the same groups were more likely to say things had improved. The same findings as above regarding the addition of the migration variables also apply here.

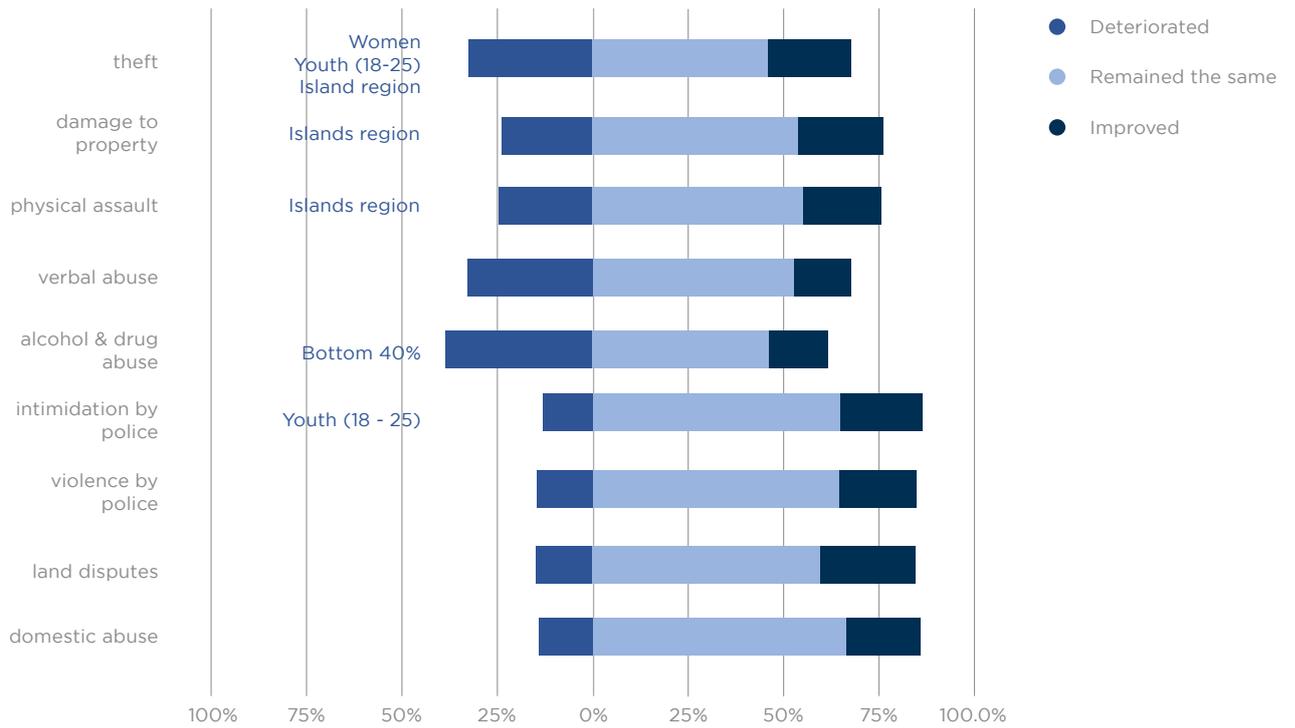
**Findings related to the safety of property were similar to those related to physical violence.** Nationally, nearly half of respondents (49.6 percent) said that compared to the start of the year, they felt safer with regard the goods owned by the household, with 32.1 percent saying they felt the same level of safety, and 18.3 percent feeling like household goods were less safe. Again, in urban areas in the Highland region, respondents were more likely to say that things had improved and less likely to say things had deteriorated. In urban areas in the Momase region, respondents were also more likely to say things had improved. Women in urban areas were more likely to say that things had gotten worse in the previous three months, with older urban respondents over age 66 less likely to say things had improved. In rural areas, those in the Highland and Momase regions were less likely to say that things had improved and more likely to say that things had deteriorated, but those in the bottom 40 percent and the middle quintile were more likely to say that things had improved and less likely to say they had gotten worse.

## Community Security Issues

**For issues related to sensitive topics, a series of questions about the change in levels within the community were asked.** The topics included in this section were theft, damage to property, physical assault, verbal abuse, alcohol and drug abuse, intimidation by police, violence by police, land disputes and domestic abuse. The survey methodology literature has shown that respondents are more likely to misrepresent the truth if asked sensitive questions directly, either out of embarrassment or fear of retaliation by an aggressor. Asking about the community as a whole is therefore a recommended method to obtain high quality information about the change in these indicators without potentially endangering respondents. The full results for these questions are presented in Figure 22 for urban areas and Figure 23 for rural areas. These graphs also include the respondent characteristics that were statistically significantly correlated with the situation improving or deteriorating.

**Figure 22**

Changes with the community (urban)

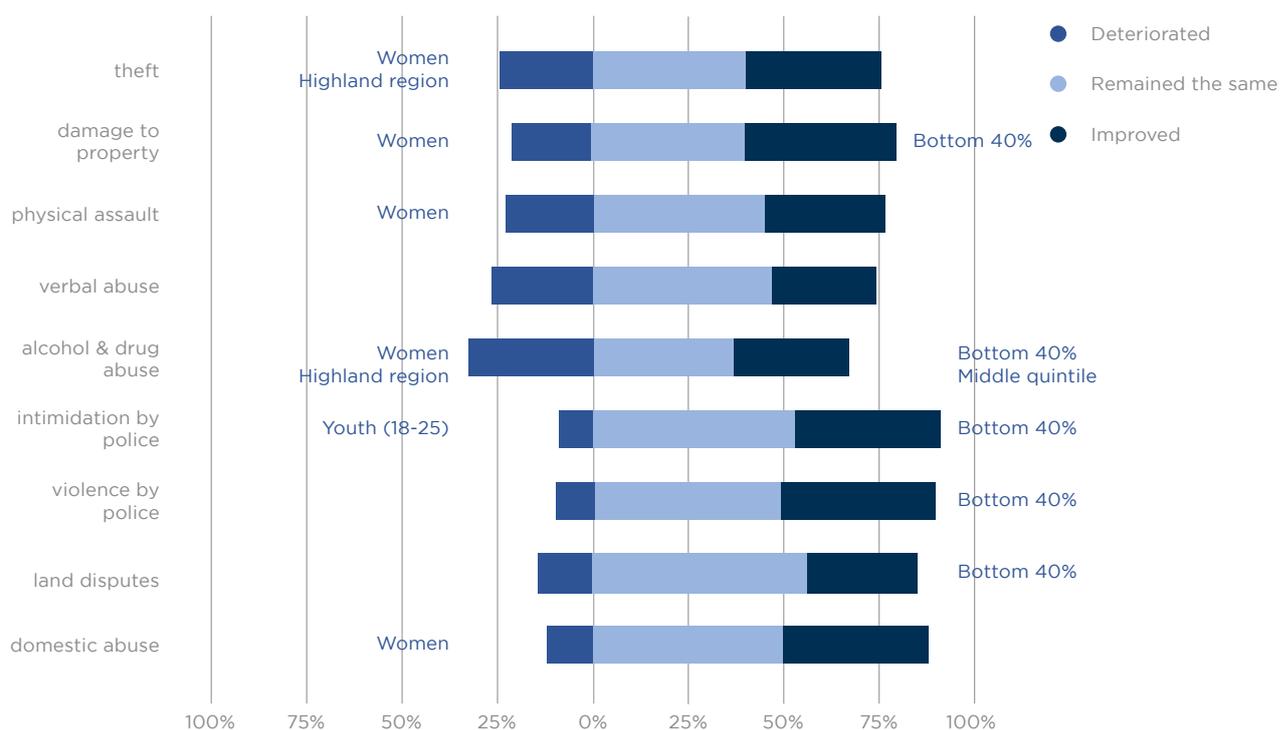


Source: Round one of the high frequency mobile phone survey.

Note: Calculations based on the June 2020 round of the high frequency mobile phone survey. Results show weighted percentage of respondents who indicated the situation within the community had gotten better, remained the same, or gotten worse. Characteristics listed on the “deteriorated” side of the graph were statistically significantly associated with indicating things had gotten worse. Characteristics listed on the “improved” side of the graph were statistically significantly associated with indicating things had gotten better (in this chart, there are none).



**Figure 23**  
Changes with the community (rural)



Source: Round one of the high frequency mobile phone survey.

Note: Calculations based on the June 2020 round of the high frequency mobile phone survey. Results show weighted percentage of respondents indicated the situation within the community had gotten better, remained the same, or gotten worse. Characteristics listed on the “deteriorated” side of the graph were statistically significantly associated with indicating things had gotten worse. Characteristics listed on the “improved” side of the graph were statistically significantly associated with indicating things had gotten better.



# Conclusions & Policy Implications

**COVID-19 presents substantial present and future challenges, and the careful targeting of limited resources will be key to successful policies to lessen the immediate economic impact and strengthen the subsequent recovery.** Even prior to the crisis, PNG was heavily dependent on commodities and was having difficulties translating national economic growth into improvements in the living standards of the population. COVID-19 simultaneously created greater needs for a population facing a potential health and economic crisis while the government's ability to respond is constrained by falling oil and gas prices and mine closures. Within these constraints, the Government of PNG requires a solid evidence base on which to target resources and understand the impact of their policies. The findings reported in this report are not without their caveats due to the lack of baseline data and the constraints of mobile phone surveys but represent the best estimates to date of the potential impacts of COVID-19 on the population. Further research, including subsequent rounds of the mobile phone survey and cross-referencing findings with other evidence, will help to better illuminate the issues raised here during both the crisis and recovery periods.

**Managing information around COVID-19 can be challenging given the high prevalence of informal information sharing.** While person-to-person information sharing is inexpensive and not encumbered by technological limits, it can also be prone to inaccuracies and propagating potentially dangerous misinformation. These potential risks, however, can be mitigated through government outreach and training to selected partners with high levels of trust and respect within the community, such as church and other community leaders. The formal channels with the widest reach were radio and newspapers. Leveraging these resources, which have already been demonstrated to be effective in disseminating information regarding government policies, will be important to reinforcing the spread of accurate information.

**The impact on jobs has been felt across geographies, demographics, and sectors, with female household heads, older respondents, and those in the bottom 40 percent and middle quintiles of the distribution being most impacted.** The cross-cutting nature of the job losses, rather than being focused only in the limited areas with active transmission, indicates that a broad-based national strategy will be required to mitigate the short-term impacts and speed recovery. The current reach of government assistance has been limited and did not sufficiently reach poorer households that have been most impacted. Informal networks were also under stress, with one-third of households that typically receive remittances experiencing declines. Since nearly all remittances are domestic in origin, a longer crisis will likely lead to further declines. With nearly half of agricultural households indicating lower than expected farm income this growing season, and with agriculture serving as the main source of livelihood for the bottom 40 percent, particularly in rural areas, providing short-term assistance to this sector may mitigate some of the early impacts without the need for complex project targeting. In addition to agricultural households and bottom 40 percent, further attention should be placed on those in the middle quintile as these households have disproportionately been impacted by job losses and reductions in household income. While these households likely have more of a cushion to weather short-term losses, if the crisis becomes protracted, these resources may be exhausted. These previously vulnerable households may find themselves as a class of "new poor," and given that many of these households will have sold assets or productive capital to weather the crisis, it may be difficult for them to recover. Widening inequality between the portion of the population that continues to work and earn income as before and those poor and newly poor as a result of the crisis takes on greater significance in this potentially volatile FCS context.

**Households' use of economic coping strategies could potentially be damaging to them in the long run.** Households that report pulling children from schools, selling productive assets, or taking on substantial debt in response to the current crisis. All these strategies may reduce their long-term wellbeing. Households, particularly those involved in retail and trading, may consume their working capital during the crisis, making it difficult to restart activities when lockdown restrictions are lifted. Similarly, households that are overburdened with debt will face a steeper climb during the recovery and declines in schooling will have implications for national development in the long term. Monitoring the situation with these households as the crisis unfolds will be important to understanding how to best tailor the policy response during the recovery.

**Though there was limited indication of disruption to supply chains, food insecurity was high, particularly in urban areas.** Though rural areas were on the whole poorer than urban areas, the high incidence of agriculture and home production to some extent insulated many of these households from food insecurity. Urban households, which must earn enough to buy food, were more likely to resort to food security coping strategies and to do so more often presumably due to inadequate incomes. The lack of a baseline makes it difficult to determine the extent to which food insecurity has increased due to COVID-19, but any continued economic slowdown will further limit the purchasing power of urban households, potentially stressing pre-existing volatile situations. Limited economic opportunity coupled with greater food hardship in urban areas may increase the thus far low levels of urban-to-rural migration, which may in turn increase rural instability. Targeting food aid to urban areas may be a cost-effective solution to relieve some short-term pressure, particularly given the comparatively lower cost and more straight forward logistics of the task.

**The crisis has important gender implications.** The evidence on jobs and employment show that female household heads were more likely to leave employment since the crisis began and female headed households expected larger declines in revenue from agriculture and non-farm enterprises. Removing children from school as a financial coping mechanism, coupled with the potential increased care responsibilities should household members fall ill, can increase household pressures on women, further limiting their ability to work outside the home. In addition, women in rural areas were more likely to see conditions in their community deteriorating, particularly with regard to physical assault and drug and alcohol abuse, which is concerning given the already high prevalence of domestic violence in PNG.

**Strengthening the evidence base, including the regular production of household and economic statistics, is vital to understanding the impacts of future crises.** Understanding the impact of COVID-19 is hampered by the lack of solid baseline data. As it has been more than a decade since the last Household Income and Expenditure Survey, there is no recent information on household wellbeing, consumption, or spending. Retrospective questions can assist in determining basic indicators, such as percentage of jobs lost, but cannot adjust for seasonality in employment or understand impacts on income. While the COVID-19 global crisis is hopefully an exceptional event, PNG is regularly impacted by natural disasters and other shocks, which can have similar localized impacts. Timely and high-quality data are required to tailor responses to shocks better, as well as to perform standard development planning and monitoring.

# Appendix 1 Technical Appendix

## Instrument Design

The survey instrument was designed by the project team based on the advice of the World Bank's COVID-19 questionnaire working group, which consists of experts in questionnaire design in the World Bank's Development Data Group and the Poverty and Equity Global Practice, with the support from Education, Social Protection and Jobs unit, Agriculture, and Health, Nutrition and Population Global Practices. The team also consulted with staff in the Sydney and Port Moresby country offices, in particular the Governance and Macroeconomics, Trade & Investment Global Practices, and other sector colleagues. In addition, external review and comments were received from international phone survey experts from the Research Triangle Institute's Washington DC and North Carolina offices and from the International Food Policy Research Institute.

The length of the survey was limited to 15 minutes and the survey instrument consisted of 127 questions across the following modules: Basic Information, Knowledge of COVID-19, Employment and Income Loss, Food Access and Food Security, Coping Strategies, Access to Health Care, Public Trust and Security, and Assets and Wellbeing. All respondents answered the Basic Information, Employment and Income Loss, Food Access and Food Security, Access to Health Care, and Assets and Wellbeing sections, with the Employment and Income Loss section including additional questions asking about the head of the household if he/she were different from the respondent. The Coping Strategy module was answered only by household heads, and the Knowledge of COVID-19 and Public Trust and Security sections were randomized, with the respondent answering one or the other.

## Sampling

The total targeted sample size was 2,500 households. This figure was determined based on budget constraints and the need to be able to disaggregate the results at the regional level. Since limited auxiliary information was available for sample design, the high frequency phone survey targeted households in the same proportion as the 2016-18 Demographic and Health Survey. Table 1 below summarized the division of the sample over the regions and provinces. Because of the automated approach to the initial contact, many geographies ended up with higher numbers of calls than the initial targets, with only Gulf province being significantly lower than the targeted sample size.

**Table 1: Targeted and achieved sample size (by province)**

Region	Province	Targeted	Delivered	Completion rate
Highlands Region	Enga	149	232	156%
	Western Highlands	125	176	141%
	Hela	86	120	140%
	Jiwaka	118	143	121%
	Southern Highlands	176	203	115%
	Chimbu	130	148	114%
	Eastern Highlands	200	223	112%
Islands Region	West New Britain	91	136	149%
	AR of Bougainville	86	122	142%
	East New Britain	113	145	128%
	Manus	17	19	112%
	New Ireland	67	72	107%
Momase Region	East Sepik	155	243	157%
	Morobe	232	276	119%
	Madang	170	185	109%
	Sandaun (West Sepik)	85	82	96%
Southern Region	National Capital District	125	205	164%
	Central	93	109	117%
	Western (Fly)	69	79	114%
	Milne Bay	95	99	104%
	Oro (Northern)	64	66	103%
	Gulf	54	32	59%

Source: Round one of the high frequency mobile phone survey.

## Implementation

Implementation was led by Digicel from their local call center with a staff of 22 interviewers and 3 supervisors. The dates of implementation were June 18 through July 3, 2020. The implementation method was Random Digit Dialing, which was administered through a computer system randomly dialing numbers from the Digicel subscriber logs with geographic targeting based on the GPS location of the tower last used by the subscriber. The call was connected to a live operator if a live respondent answered. In total 45,747 unique calls were made, including callbacks to the same respondents, to achieve the final sample size of 3,115 complete interviews. The acceptance rate was very high for connected calls, with 33 respondents being under the minimum of 18 years of age and 6 respondents refusing to participate. To raise awareness and increase response rates, a text blast was sent to Digicel subscribers prior to the call notifying them that they could potentially be contacted to participate in a survey being conducted by the World Bank. Data was collected and managed using the Survey Solutions software package.

## Wealth Index

The DHS wealth index<sup>13</sup> is the basis for the comparison in wellbeing between households. It is calculated using principle components analysis and was recreated here using those published coefficients. Due to the limited survey length, some variable used in the construction of the full DHS wealth index were not included in the mobile phone survey. When index is recalculated using the subset of included phone survey variables, however, there is a greater than 98 percent correlation between the original and recalculated measure. To ensure that the measures are calculated identically for the two datasets, the data are pooled and calculated using a single set of codes. The components of the wealth index include household characteristics, including main

13 Further information on construction of the wealth index available here: <https://dhsprogram.com/topics/wealth-index/Wealth-Index-Construction.cfm> and PNG report available here: <https://dhsprogram.com/what-we-do/survey/survey-display-499.cfm>

water source for drinking water, the type of toilet used by the household, whether the household was connected to the grid, the main type of lighting used by the household, the roof material, floor material, wall material, the ratio of household members to rooms designated for sleeping, whether anyone in the household had a bank account, and the following assets: watch, radio, television set, mobile phone, landline phone, computer or laptop, refrigerator, bicycle, moped or motorcycle, animal cart, car or truck, boat with an engine.

## Weighting

The sampling weights were developed for round one of the PNG high frequency phone survey in a series of steps. The weights began with weights provided from the survey firm that represented the total number of subscribers in a given province divided by the number of completed calls in that province. While a good starting point, this strategy does not address the main shortcoming of using random digit dialing, which is that the resulting data is representative of the population of mobile phone owners who were able to respond to a call. Since the most recent data available<sup>14</sup> for mobile phone penetration estimates usage as 32 percent of the population. Coverage is concentrated in population centers and better off households and individuals are more likely to have a mobile phone which is charged and turned on. Therefore, the pool of respondents is very different than a representative sample of the PNG population. Figure 24 below compares the frequency of key characteristics between the 2016-18 Demographic and Health Survey (DHS) and the High Frequency Phone Survey. The respondents to the mobile phone survey skew younger, more male, and more educated than the population overall. In addition, Figure 3 in section 2.4 clearly demonstrates that mobile phone respondents are financially better off than a representative sample of the population.

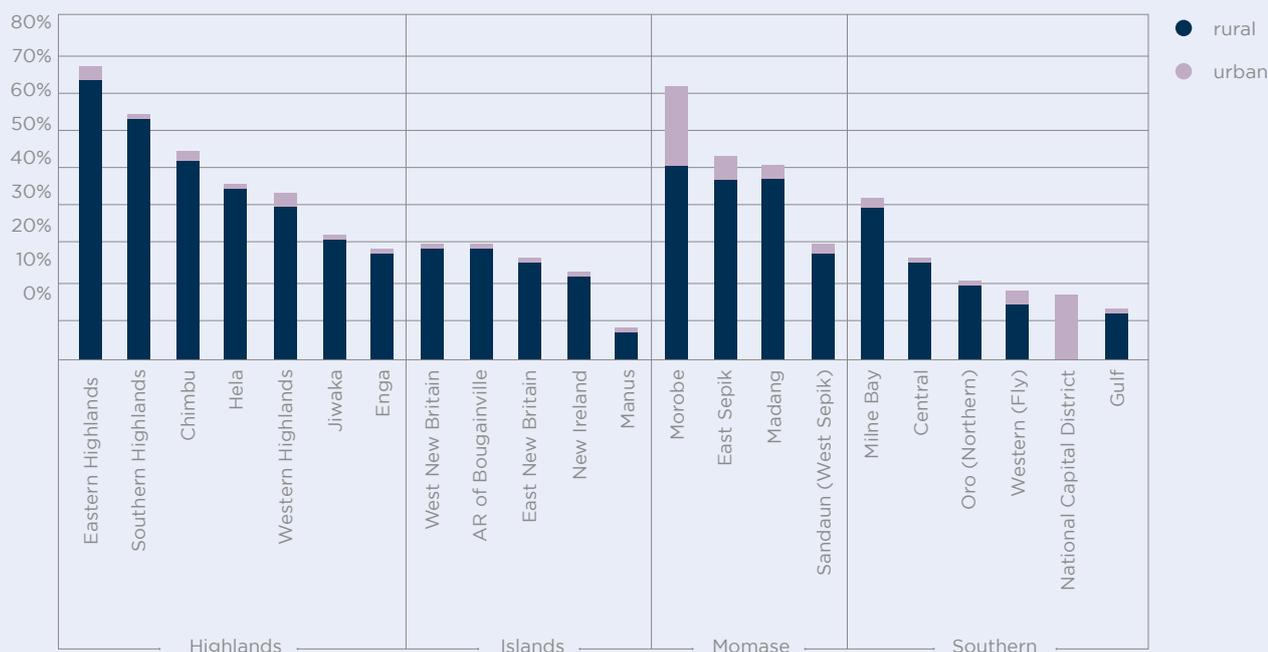
**Figure 24: Comparison between DHS and HFPS on key demographic variables**



14 Digital 2020 report: <https://datareportal.com/reports/digital-2020-papua-new-guinea#:~:text=The%20number%20of%20mobile%20connections,32%25%20of%20the%20total%20population.>

Auxiliary data to serve as inputs to the weights is severely limited as there are few recent nationally representative sources. The last census was conducted in 2011 and that last Household Income and Expenditure Survey was from 2009/2010. The most recent nationally representative dataset including a measure of welfare was the 2016-18 DHS<sup>15</sup> and therefore this survey is used as the base for the re-weighting. Figure 25 below shows the distribution of the sample from the 2016-18 DHS by province and urban/rural location. The mobile phone survey weights were designed to follow this distribution as there has not been a recent census and therefore these data represent the best recent information on distribution and yields a sample that is 90.5 percent rural. As a second step in the weight calculations, the weights are calibrated to the DHS distribution. This step addresses issues with oversampling related to the number of calls but does not adjust for differences in the distribution of the wealth index or for differences in demographic variables.

**Figure 25: Distribution of sample by province and urban/rural in 2016-18 DHS**



To adjust for the differences in the distribution of the wealth index, the DHS and mobile phone survey data are appended, and a logit model is run with the mobile phone survey equal to one and the DHS equal to zero. The dependent variables are the wealth index, square of the wealth index, and the cube of the wealth index. The inverse of the prediction is then taken and collapsed into deciles, and these deciles are multiplied with the calibrated weights.<sup>16</sup> These weights are then winsorized at the top 0.5 percentile to address any outliers, adjusted to account for households with multiple mobile phones (and therefore higher probabilities of selection), and calibrated again using the region and urban/rural location. This step further adjusts the weights for differences in the distributions between the two surveys, but only adjusts for differences in the demographics to the extent that they are correlated with wealth.

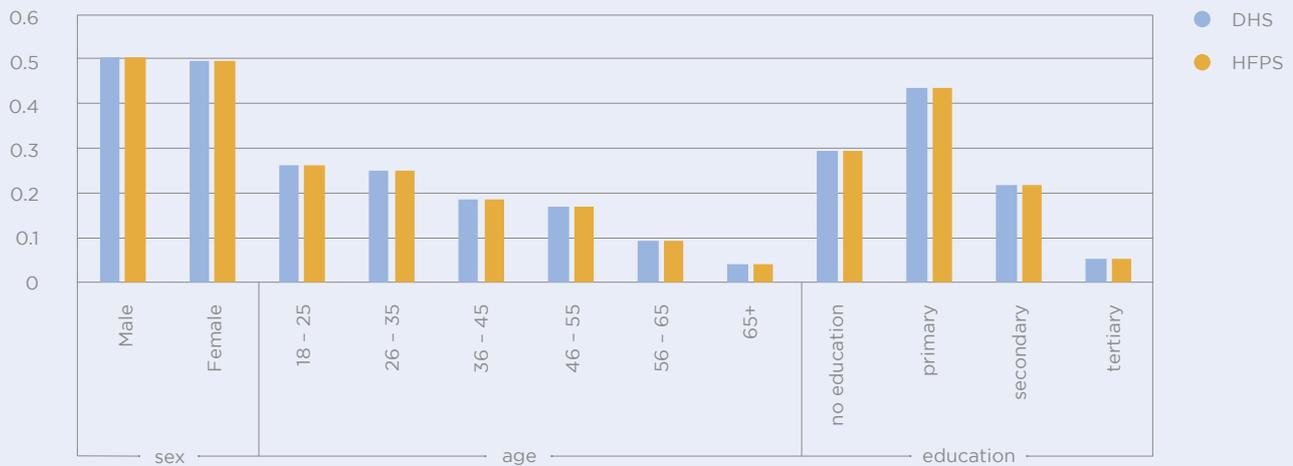
As a final step, the weights are raked to match the mean values from the DHS on the following characteristics: gender of the respondent, age group of the respondent, education of the respondent, household size, province, and urban/rural location. The resulting weights are used as the household weights for the survey. For the individual level analysis that uses information from the household head and the respondent, an additional set of weights have been created to align the available individual characteristics (sex, gender, geography). These weights are used only for certain individual level employment analysis in section 4.

15 Further information is available here: <https://dhsprogram.com/publications/publication-fr364-dhs-final-reports.cfm>  
 16 This approach follows literature on reweighting by propensity score. See Himelein, K., 2014. Weight Calculations for Panel Surveys with Subsampling and Split-off Tracking. *Statistics and Public Policy*, 1(1), pp.40-45, for further details.

All analysis done at the level of the respondent or the household use the household weights.

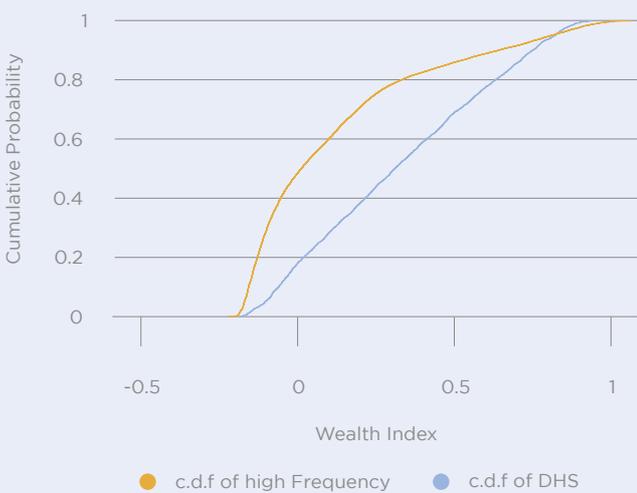
Figure 26 shows the comparison between the main demographic variables between the DHS and the reweighted mobile phone survey and demonstrates they are now closely aligned. The mean of the wealth index prior to weighting was 0.330 (CI: 0.319, 0.340) compared to the weighted mean in the DHS of 0.0799 (CI: 0.698, 0.090). Following reweighting the mean is now 0.0761 (CI: 0.0515, 0.101) for the mobile phone survey. In addition, the distributions are more closely aligned. Figure 27 and Figure 28 compare the cumulative distribution function of the wealth index between the unweighted and re-weighted data and show that the re-weighted data follow much more closely the distribution from the DHS.

**Figure 26: Comparison between DHS and HFPS on key demographic variables following re-weighting**

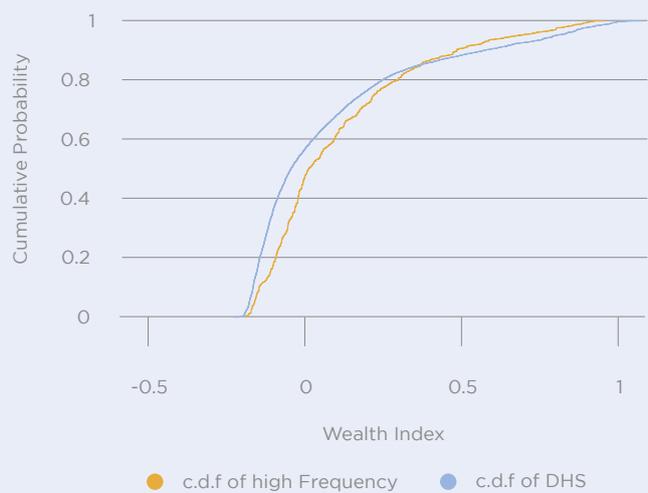


Source: Authors calculations based on round one of the high frequency mobile phone survey and 2016-2018 Demographic and Health Survey.

**Figure 27: Comparison of the cumulative distribution function (unweighted)**



**Figure 28: Comparison of the cumulative distribution function (re-weighted)**



Source: Authors calculations based on round one of the high frequency mobile phone survey and 2016-2018 Demographic and Health Survey.

The main caveat to these weights is that the realignment was achieved by increasing the weights on rare population groups, including those in the lower deciles of the distribution in the phone surveys. Increasing the weights, however, do not increase the sample size. There are still only 37 observations in decile 1, 60 observations in decile 2, 74 observations in decile 3, and 165 in decile 4. Figure 3 in the main text shows the full comparison. There are not sufficient numbers of observations to do representative analysis at the level of the decile, and therefore the bottom four deciles are combined into a single category of “bottom 40 percent,” which has 336 observations. The confidence intervals on many of these statistics though are still wide.



# Appendix 2 Econometric Analysis Results

**Table 2: Employment outcomes (if working at baseline)**

	Job lost / Working for No Income		Working for Reduced Pay		Working for the Same or Higher Income	
	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
household head	-0.111* (0.066)	-0.148* (0.079)	0.145** (0.071)	0.112 (0.095)	-0.039 (0.074)	0.035 (0.097)
female	-0.068 (0.076)	-0.084 (0.079)	0.122 (0.083)	0.134 (0.091)	-0.056 (0.081)	-0.050 (0.090)
household head * female	0.224** (0.106)	0.318** (0.126)	-0.309*** (0.110)	-0.370*** (0.129)	0.089 (0.124)	0.052 (0.141)
<b>Reference: 36 - 45 years old</b>						
18 - 25 years old		0.039 (0.062)		-0.060 (0.076)		0.021 (0.087)
26 - 35 years old		0.034 (0.080)		-0.046 (0.092)		0.012 (0.102)
46 - 65 years old		0.020 (0.075)		0.109 (0.096)		-0.129 (0.088)
66 years old and older		0.395*** (0.128)		0.031 (0.178)		-0.426*** (0.142)
<b>Reference: Agriculture</b>						
Mining	-0.140** (0.067)	-0.106 (0.091)	0.121 (0.157)	0.225 (0.180)	0.018 (0.135)	-0.119 (0.159)
Logging	0.545*** (0.168)	0.545*** (0.211)	-0.406*** (0.090)	-0.358*** (0.105)	-0.141 (0.170)	-0.186 (0.196)
Manufacturing	-0.210*** (0.065)	-0.227*** (0.072)	-0.130 (0.116)	-0.069 (0.126)	0.343*** (0.122)	0.297** (0.139)
Professional/Scientific/Technical Activities	0.022 (0.073)	0.079 (0.101)	-0.154** (0.077)	-0.055 (0.114)	0.116 (0.084)	-0.025 (0.115)
Electricity/Water/Gas/Waste Management Activities	0.548*** (0.113)	0.162 (0.166)	-0.376*** (0.129)	-0.184 (0.131)	-0.178** (0.072)	0.022 (0.147)
Construction	-0.165** (0.072)	-0.111 (0.100)	0.195* (0.117)	0.222 (0.179)	-0.029 (0.092)	-0.111 (0.142)
Transportation	-0.022 (0.118)	-0.168** (0.080)	-0.096 (0.127)	-0.109 (0.108)	0.118 (0.157)	0.277** (0.128)
Retail and Trading	-0.080 (0.053)	-0.045 (0.057)	0.085 (0.067)	0.041 (0.068)	-0.007 (0.064)	0.004 (0.068)
Financial/Insurance/Real Estate Services	-0.109 (0.103)	-0.215** (0.103)	-0.057 (0.071)	-0.004 (0.090)	0.164 (0.101)	0.219** (0.111)
Personal Services	-0.157* (0.081)	-0.124 (0.106)	-0.051 (0.132)	0.180 (0.173)	0.195** (0.095)	-0.056 (0.118)
Education	0.106 (0.136)	0.194 (0.168)	-0.130 (0.111)	-0.075 (0.132)	0.024 (0.092)	-0.119 (0.122)
Health	-0.116* (0.066)	-0.178** (0.088)	-0.219* (0.118)	-0.041 (0.154)	0.327*** (0.098)	0.219 (0.141)
Public Administration	-0.262*** (0.077)	-0.085 (0.106)	-0.058 (0.124)	-0.237*** (0.080)	0.321*** (0.110)	0.322*** (0.113)
Tourism	-0.328*** (0.112)	-0.279* (0.150)	0.135 (0.215)	0.278 (0.196)	0.193 (0.253)	0.001 (0.256)
Handicrafts/Cultural Industries	-0.103 (0.114)	-0.006 (0.132)	-0.126 (0.215)	-0.142 (0.161)	0.230 (0.197)	0.148 (0.180)
Culinary/Restaurant/Hospitality	0.197	0.304	0.076	0.070	-0.271**	-0.374***

	(0.233)	(0.217)	(0.261)	(0.235)	(0.135)	(0.105)
Community Works/Services	-0.413***	-0.348***	0.017	0.221	0.398**	0.127
	(0.073)	(0.108)	(0.211)	(0.219)	(0.188)	(0.184)
Security and Defense	-0.142*	-0.095	-0.213**	-0.218**	0.355***	0.313**
	(0.077)	(0.096)	(0.101)	(0.091)	(0.109)	(0.130)
Other	0.204	0.380**	-0.197*	-0.196*	-0.005	-0.185
	(0.172)	(0.176)	(0.117)	(0.114)	(0.147)	(0.151)
<b>Reference: Top 40 percent</b>						
Bottom 40 percent	0.045	0.109*	0.082	0.050	-0.130	-0.159*
	(0.051)	(0.060)	(0.078)	(0.081)	(0.083)	(0.083)
Middle 20 percent	0.133**	0.099*	-0.040	-0.088	-0.091	-0.010
	(0.052)	(0.058)	(0.069)	(0.072)	(0.066)	(0.072)
<b>Reference: No education</b>						
Some or completed primary		-0.052		-0.112		0.164**
		(0.078)		(0.079)		(0.078)
Some or completed secondary		-0.060		-0.080		0.139*
		(0.080)		(0.084)		(0.082)
Post-secondary education		-0.137		-0.078		0.216**
		(0.088)		(0.097)		(0.089)
urban	0.016	0.059	-0.072	-0.039	0.053	-0.021
	(0.047)	(0.055)	(0.053)	(0.059)	(0.057)	(0.060)
<b>Reference: National Capital District</b>						
Chimbu Province	-0.407***	-0.458***	-0.072	0.169	0.481***	0.290*
	(0.134)	(0.136)	(0.144)	(0.135)	(0.178)	(0.153)
Eastern Highlands Province	0.052	-0.031	-0.123	-0.005	0.069	0.036
	(0.146)	(0.152)	(0.120)	(0.127)	(0.123)	(0.135)
Enga Province	-0.329***	-0.296**	-0.105	0.003	0.437***	0.294*
	(0.121)	(0.132)	(0.134)	(0.145)	(0.135)	(0.152)
Southern Highlands Province	-0.021	0.004	-0.046	0.018	0.062	-0.021
	(0.159)	(0.145)	(0.139)	(0.140)	(0.106)	(0.110)
Western Highlands Province	-0.386***	-0.347***	0.073	0.174	0.315***	0.173
	(0.117)	(0.130)	(0.143)	(0.155)	(0.122)	(0.150)
Hela Province	-0.394***	-0.453***	0.186	0.202	0.209	0.251*
	(0.137)	(0.153)	(0.165)	(0.178)	(0.132)	(0.138)
Jiwaka Province	-0.279*	-0.197	-0.219	-0.085	0.500***	0.282
	(0.144)	(0.168)	(0.148)	(0.140)	(0.169)	(0.176)
East New Britain Province	-0.307***	-0.294***	0.092	0.313*	0.217*	-0.018
	(0.111)	(0.114)	(0.149)	(0.177)	(0.131)	(0.173)
Manus Province	-0.290*	-0.266**	0.024	-0.024	0.267	0.290
	(0.150)	(0.133)	(0.214)	(0.259)	(0.206)	(0.254)
New Ireland Province	-0.282***	-0.227**	0.087	0.182	0.197	0.045
	(0.106)	(0.116)	(0.192)	(0.208)	(0.167)	(0.193)
West New Britain Province	-0.284**	-0.283**	-0.021	0.180	0.308***	0.103
	(0.126)	(0.125)	(0.142)	(0.153)	(0.116)	(0.140)
Autonomous Region of Bougainville	-0.457***	-0.419***	-0.293**	-0.304**	0.751***	0.723***
	(0.137)	(0.139)	(0.120)	(0.135)	(0.148)	(0.160)
East Sepik Province	-0.173	-0.179	0.018	0.136	0.146	0.043
	(0.157)	(0.165)	(0.162)	(0.149)	(0.101)	(0.112)
Madang Province	-0.334***	-0.293**	0.032	0.121	0.302**	0.173
	(0.114)	(0.125)	(0.124)	(0.118)	(0.119)	(0.130)
Morobe Province	-0.161	-0.076	0.045	0.074	0.116	0.001
	(0.110)	(0.110)	(0.111)	(0.101)	(0.078)	(0.092)
Sandaun Province	-0.422***	-0.398***	0.338**	0.445***	0.086	-0.047
	(0.113)	(0.124)	(0.137)	(0.145)	(0.115)	(0.132)
Central Province	0.030	0.147	-0.185	-0.156	0.156	0.009
	(0.170)	(0.156)	(0.130)	(0.118)	(0.123)	(0.135)
Gulf Province	-0.294**	-0.226	-0.280***	-0.202*	0.578***	0.429***
	(0.127)	(0.144)	(0.108)	(0.119)	(0.116)	(0.142)
Milne Bay Province	-0.376***	-0.267**	0.029	0.161	0.350***	0.106

	(0.108)	(0.115)	(0.140)	(0.148)	(0.132)	(0.154)
Oro Province	-0.301**	-0.261*	0.182	0.334**	0.121	-0.073
	(0.128)	(0.140)	(0.146)	(0.153)	(0.110)	(0.135)
Western Province	-0.129	-0.164	-0.011	0.156	0.142	0.008
	(0.134)	(0.143)	(0.155)	(0.150)	(0.121)	(0.146)
Constant	0.532***	0.550***	0.257**	0.208	0.215**	0.242
	(0.113)	(0.164)	(0.111)	(0.156)	(0.103)	(0.159)
n	3,362	2,277	3,362	2,277	3,362	2,277
Adjusted R2	0.281	0.257	0.164	0.18	0.177	0.208

Source: Round one of the high frequency mobile phone survey.

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 3: Econometric results for household level variables**

	Lower income from non-farm enterprise	Lower income from agricultural activities	Receive remittances	Remittances have decreased	Remittances have stopped	Unable to access needed health care
	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
female headed household	0.395***	-0.010	-0.020	-0.135	0.047	0.010
	(0.114)	(0.120)	(0.074)	(0.097)	(0.056)	(0.108)
rural	-0.196	-0.034	0.005	-0.436*	0.011	-0.046
	(0.184)	(0.140)	(0.143)	(0.244)	(0.037)	(0.078)
<b>Reference: Southern Region</b>						
Highlands	-0.030	-0.224	-0.009	-0.362	0.055	-0.065
	(0.181)	(0.167)	(0.137)	(0.236)	(0.042)	(0.090)
Islands	-0.062	-0.112	-0.118	-0.098	0.033	0.006
	(0.145)	(0.135)	(0.131)	(0.249)	(0.048)	(0.069)
Momase	-0.222	-0.047	-0.064	-0.081	0.105*	-0.006
	(0.137)	(0.154)	(0.130)	(0.236)	(0.057)	(0.059)
<b>Interaction Terms</b>						
rural * Highlands	0.106	-0.014	0.047	0.341	-0.070	0.124
	(0.244)	(0.196)	(0.157)	(0.262)	(0.053)	(0.099)
rural * Islands	0.012	0.230	0.040	0.185	-0.030	0.005
	(0.231)	(0.206)	(0.155)	(0.293)	(0.061)	(0.090)
rural * Momase	0.234	-0.157	0.032	0.296	-0.054	0.505***
	(0.247)	(0.201)	(0.155)	(0.294)	(0.085)	(0.158)
<b>Reference: Top 40 percent</b>						
Bottom 40 percent	0.066	0.243***	-0.116*	-0.060	-0.017	-0.010
	(0.134)	(0.085)	(0.068)	(0.115)	(0.032)	(0.114)
Middle 20 percent	0.172*	0.095	-0.109*	0.067	0.075	0.069
	(0.101)	(0.089)	(0.057)	(0.104)	(0.053)	(0.127)
Constant	0.412***	0.420***	0.280**	0.683***	0.021	0.072
	(0.103)	(0.105)	(0.125)	(0.215)	(0.019)	(0.055)
n	1,110	1,823	764	764	764	1,258
Adjusted R2	0.188	0.073	0.023	0.123	0.400	0.256

Source: Round one of the high frequency mobile phone survey.

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 4: Household security issues (urban)**

	Situation has improved with respect to:				Situation has deteriorated with respect to:			
	trust within the community	trust with outsiders	safety from physical violence	safety of property	trust within the community	trust with outsiders	safety from physical violence	safety of property
	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
female	-0.061 (0.057)	-0.037 (0.051)	-0.104 (0.065)	-0.092 (0.070)	0.024 (0.061)	0.029 (0.062)	0.055 (0.064)	0.115* (0.059)
<b>Reference: 36 - 45 years old</b>								
18 - 25 years old	-0.223** (0.105)	-0.227** (0.098)	-0.101 (0.115)	-0.073 (0.114)	0.086 (0.085)	0.135 (0.093)	0.144 (0.106)	0.137 (0.093)
26 - 35 years old	-0.181* (0.106)	-0.126 (0.101)	-0.023 (0.118)	0.032 (0.119)	0.056 (0.090)	0.078 (0.092)	-0.041 (0.095)	0.050 (0.086)
46 - 65 years old	-0.215* (0.126)	-0.158 (0.124)	-0.236** (0.111)	-0.099 (0.132)	0.260** (0.123)	0.287** (0.119)	0.221* (0.124)	0.158 (0.127)
66 years old and older	-0.152 (0.176)	-0.189 (0.131)	-0.309 (0.202)	-0.408** (0.147)	0.354 (0.229)	0.196 (0.202)	0.334 (0.243)	0.169 (0.197)
<b>Reference: Southern Region</b>								
Highlands	0.046 (0.078)	-0.018 (0.075)	0.367*** (0.105)	0.301*** (0.110)	-0.146* (0.084)	-0.207** (0.087)	-0.333*** (0.091)	-0.227** (0.099)
Islands	0.049 (0.078)	0.051 (0.077)	0.124 (0.094)	0.010 (0.099)	-0.139 (0.085)	-0.160* (0.089)	-0.144 (0.101)	-0.029 (0.106)
Momase	0.061 (0.073)	0.030 (0.061)	0.161** (0.074)	0.155* (0.083)	0.009 (0.081)	-0.011 (0.083)	-0.055 (0.086)	-0.117 (0.087)
<b>Reference: Top 40 percent</b>								
Bottom 40 percent	-0.141** (0.066)	-0.064 (0.065)	-0.132 (0.114)	-0.134 (0.121)	0.326*** (0.123)	0.321*** (0.123)	0.298** (0.129)	0.157 (0.131)
Middle 20 percent	0.029 (0.102)	0.146 (0.104)	-0.059 (0.106)	-0.033 (0.121)	0.078 (0.120)	0.144 (0.122)	0.236* (0.122)	0.199 (0.134)
Constant	0.390*** (0.084)	0.301*** (0.078)	0.389*** (0.085)	0.395*** (0.089)	0.092 (0.082)	0.091 (0.083)	0.178** (0.088)	0.105 (0.082)
n	751	751	751	751	751	751	751	751
Adjusted R2	0.064	0.087	0.094	0.061	0.124	0.126	0.133	0.071

Source: Round one of the high frequency mobile phone survey.

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 5: Household security issues (rural)**

	Situation has improved with respect to:				Situation has deteriorated with respect to:			
	trust within the community	trust with outsiders	safety from physical violence	safety of property	trust within the community	trust with outsiders	safety from physical violence	safety of property
	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
female	0.147** (0.070)	0.129* (0.068)	0.077 (0.074)	0.079 (0.070)	0.010 (0.037)	-0.003 (0.045)	0.022 (0.061)	-0.002 (0.053)
<b>Reference: 36 - 45 years old</b>								
18 - 25 years old	-0.071 (0.094)	-0.140 (0.095)	-0.126 (0.099)	-0.074 (0.091)	0.067 (0.052)	0.107* (0.058)	0.063 (0.093)	-0.007 (0.080)
26 - 35 years old	0.075 (0.095)	0.031 (0.093)	-0.013 (0.094)	0.007 (0.088)	-0.010 (0.037)	0.042 (0.075)	0.062 (0.087)	0.022 (0.081)
46 - 65 years old	0.068 (0.111)	0.049 (0.116)	0.064 (0.108)	0.176* (0.099)	-0.006 (0.051)	0.013 (0.055)	-0.034 (0.091)	-0.087 (0.078)
66 years old and older	-0.220*** (0.076)	-0.199*** (0.071)	-0.253 (0.177)	-0.135 (0.193)	0.108 (0.183)	0.071 (0.193)	0.153 (0.190)	0.047 (0.186)
<b>Reference: Southern Region</b>								
Highlands	-0.081 (0.120)	0.043 (0.092)	-0.110 (0.120)	-0.269*** (0.090)	0.089* (0.049)	0.078 (0.080)	0.040 (0.110)	0.116** (0.056)
Islands	0.001 (0.120)	0.015 (0.088)	-0.051 (0.121)	-0.127 (0.098)	0.094 (0.065)	0.029 (0.084)	0.040 (0.098)	0.092 (0.069)
Momase	-0.028 (0.128)	0.148 (0.108)	-0.150 (0.131)	-0.286** (0.111)	0.044 (0.047)	0.003 (0.082)	0.052 (0.108)	0.108* (0.060)
<b>Reference: Top 40 percent</b>								
Bottom 40 percent	0.241*** (0.087)	0.174** (0.075)	0.153* (0.092)	0.139* (0.079)	-0.064 (0.047)	-0.090* (0.052)	-0.014 (0.083)	-0.042 (0.057)
Middle 20 percent	0.274*** (0.077)	0.159** (0.067)	0.154* (0.080)	0.189*** (0.071)	-0.054 (0.049)	0.021 (0.069)	-0.068 (0.067)	-0.088* (0.051)
Constant	0.107 (0.115)	0.033 (0.118)	0.436*** (0.120)	0.541*** (0.109)	0.075 (0.060)	0.102 (0.071)	0.186** (0.094)	0.151* (0.085)
n	828	828	828	828	828	828	828	828
adjusted R2	0.088	0.094	0.052	0.099	0.027	0.035	0.019	0.031

Source: Round one of the high frequency mobile phone survey.

note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 6: Likelihood to say situation related to [...] improved (urban)**

	theft	property damage	physical assault	verbal abuse	alcohol & drug abuse	police intimidation	violence by police	land disputes	domestic abuse
	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
female	-0.072 (0.058)	-0.031 (0.057)	-0.042 (0.060)	-0.048 (0.045)	-0.070 (0.049)	-0.008 (0.059)	-0.075 (0.059)	-0.123** (0.058)	-0.110* (0.059)
<b>Reference: 36 - 45 years old</b>									
18 - 25 years old	-0.269** (0.105)	-0.311*** (0.101)	-0.213** (0.105)	-0.242*** (0.086)	-0.185** (0.089)	-0.214** (0.101)	-0.198* (0.102)	-0.123 (0.097)	0.064 (0.077)
26 - 35 years old	-0.032 (0.119)	-0.056 (0.116)	-0.158 (0.105)	-0.202** (0.087)	-0.126 (0.092)	-0.124 (0.105)	-0.082 (0.110)	-0.106 (0.104)	0.095 (0.082)
46 - 65 years old	-0.202* (0.114)	-0.211* (0.112)	-0.207** (0.100)	-0.155* (0.092)	-0.106 (0.094)	-0.256** (0.104)	-0.182* (0.110)	-0.009 (0.112)	-0.051 (0.071)
66 years old and older	-0.366*** (0.126)	-0.368*** (0.125)	-0.329*** (0.121)	-0.336*** (0.113)	-0.264** (0.114)	-0.291** (0.121)	-0.279** (0.123)	-0.160 (0.137)	-0.039 (0.137)
<b>Reference: Southern Region</b>									
Highlands	0.107 (0.077)	0.149** (0.076)	0.082 (0.080)	0.113* (0.066)	0.090 (0.061)	0.005 (0.076)	0.121* (0.067)	-0.058 (0.078)	-0.007 (0.078)
Islands	0.009 (0.082)	0.119 (0.084)	0.024 (0.070)	-0.059 (0.053)	0.063 (0.070)	0.051 (0.076)	0.133* (0.076)	0.023 (0.115)	0.074 (0.077)
Momase	0.058 (0.057)	0.093 (0.057)	0.035 (0.060)	-0.046 (0.052)	-0.007 (0.052)	0.080 (0.062)	0.168*** (0.064)	0.017 (0.072)	0.011 (0.060)
<b>Reference: Top 40 percent</b>									
Bottom 40 percent	-0.122 (0.098)	-0.111 (0.096)	-0.113 (0.106)	-0.159*** (0.043)	-0.192*** (0.047)	-0.054 (0.097)	-0.078 (0.108)	0.062 (0.149)	-0.099 (0.109)
Middle 20 percent	0.010 (0.095)	0.002 (0.095)	-0.082 (0.105)	-0.115** (0.058)	-0.110* (0.057)	0.148 (0.116)	0.013 (0.101)	-0.058 (0.085)	0.131 (0.105)
Constant	0.400*** (0.087)	0.369*** (0.085)	0.393*** (0.100)	0.399*** (0.087)	0.344*** (0.091)	0.326*** (0.089)	0.294*** (0.080)	0.383*** (0.097)	0.200*** (0.071)
n	751	751	751	751	751	751	751	751	751
adjusted R2	0.096	0.116	0.050	0.103	0.075	0.093	0.083	0.053	0.053

Source: Round one of the high frequency mobile phone survey.

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 7: Likelihood to say situation related to [...] improved (rural)**

	theft	property damage	physical assault	verbal abuse	alcohol & drug abuse	police intimidation	violence by police	land disputes	domestic abuse
	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
female	0.037 (0.073)	0.052 (0.070)	-0.003 (0.072)	0.051 (0.073)	0.046 (0.074)	0.003 (0.071)	0.060 (0.069)	0.007 (0.067)	0.057 (0.065)
<b>Reference: 36 - 45 years old</b>									
18 - 25 years old	-0.080 (0.099)	-0.064 (0.089)	-0.157* (0.095)	-0.153* (0.091)	-0.055 (0.093)	-0.055 (0.087)	-0.110 (0.088)	-0.177* (0.095)	-0.204** (0.092)
26 - 35 years old	-0.108 (0.087)	-0.100 (0.085)	-0.017 (0.096)	-0.007 (0.092)	-0.018 (0.090)	-0.111 (0.086)	-0.106 (0.089)	-0.080 (0.089)	-0.223*** (0.082)
46 - 65 years old	0.070 (0.114)	0.070 (0.108)	0.106 (0.118)	0.090 (0.114)	0.091 (0.114)	-0.019 (0.111)	0.085 (0.110)	0.010 (0.110)	0.102 (0.106)
66 years old and older	-0.156 (0.175)	-0.202 (0.127)	-0.309*** (0.075)	-0.239*** (0.070)	-0.232*** (0.077)	-0.314*** (0.091)	-0.282*** (0.086)	-0.157 (0.138)	-0.264** (0.127)
<b>Reference: Southern Region</b>									
Highlands	-0.052 (0.125)	-0.196* (0.110)	-0.074 (0.115)	-0.126 (0.116)	-0.164 (0.129)	-0.233** (0.110)	-0.211* (0.116)	0.098 (0.092)	-0.107 (0.116)
Islands	-0.032 (0.130)	-0.011 (0.126)	-0.087 (0.124)	-0.095 (0.124)	-0.095 (0.131)	-0.163 (0.121)	-0.050 (0.132)	0.038 (0.094)	-0.138 (0.121)
Momase	-0.110 (0.130)	-0.161 (0.116)	-0.086 (0.126)	-0.184 (0.124)	-0.254* (0.134)	-0.364*** (0.109)	-0.149 (0.125)	0.031 (0.099)	-0.019 (0.119)
<b>Reference: Top 40 percent</b>									
Bottom 40 percent	0.137 (0.094)	0.242*** (0.085)	0.129 (0.086)	0.137 (0.087)	0.199** (0.094)	0.193** (0.087)	0.239*** (0.087)	0.165** (0.080)	0.118 (0.087)
Middle 20 percent	0.068 (0.080)	0.094 (0.080)	0.103 (0.081)	0.102 (0.078)	0.141* (0.079)	0.102 (0.078)	0.129 (0.085)	-0.021 (0.061)	0.032 (0.074)
Constant	0.332*** (0.125)	0.384*** (0.117)	0.324** (0.128)	0.294** (0.126)	0.297** (0.126)	0.509*** (0.120)	0.403*** (0.119)	0.226** (0.115)	0.446*** (0.114)
n	828	828	828	828	828	828	828	828	828
adjusted R2	0.042	0.079	0.071	0.078	0.074	0.089	0.090	0.081	0.106

Source: Round one of the high frequency mobile phone survey.

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 8: Likelihood to say situation related to [...] deteriorated (urban)**

	theft	property damage	physical assault	verbal abuse	alcohol & drug abuse	police intimidation	violence by police	land disputes	domestic abuse
	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
female	0.139** (0.061)	0.066 (0.059)	0.063 (0.058)	0.055 (0.061)	0.087 (0.065)	-0.005 (0.038)	-0.028 (0.041)	0.074 (0.057)	0.059 (0.046)
<b>Reference: 36 - 45 years old</b>									
18 - 25 years old	0.197* (0.105)	0.069 (0.084)	0.088 (0.079)	0.091 (0.083)	0.040 (0.107)	0.094* (0.048)	0.081 (0.052)	-0.031 (0.083)	-0.111* (0.066)
26 - 35 years old	-0.021 (0.103)	-0.090 (0.078)	-0.073 (0.071)	0.003 (0.078)	-0.049 (0.102)	0.046 (0.043)	0.050 (0.050)	-0.003 (0.086)	-0.062 (0.072)
46 - 65 years old	0.047 (0.132)	0.046 (0.140)	0.140 (0.134)	0.242* (0.124)	0.149 (0.131)	0.085 (0.060)	0.089 (0.067)	0.113 (0.128)	0.128 (0.132)
66 years old and older	0.336 (0.220)	0.244 (0.206)	0.138 (0.168)	0.151 (0.187)	0.262 (0.224)	0.137 (0.165)	-0.071 (0.048)	0.103 (0.174)	0.039 (0.171)
<b>Reference: Southern Region</b>									
Highlands	-0.070 (0.103)	0.014 (0.086)	0.011 (0.087)	-0.162* (0.091)	-0.100 (0.103)	-0.087 (0.071)	-0.107 (0.070)	0.010 (0.069)	-0.024 (0.079)
Islands	0.308*** (0.110)	0.267** (0.112)	0.232** (0.113)	0.066 (0.095)	0.100 (0.098)	-0.023 (0.082)	-0.002 (0.090)	0.047 (0.071)	0.018 (0.082)
Momase	0.085 (0.081)	0.112 (0.081)	0.062 (0.081)	0.011 (0.079)	0.031 (0.086)	-0.072 (0.060)	-0.089 (0.061)	0.097 (0.063)	-0.028 (0.067)
<b>Reference: Top 40 percent</b>									
Bottom 40 percent	-0.007 (0.095)	0.002 (0.108)	-0.006 (0.115)	0.377*** (0.111)	0.363*** (0.114)	0.047 (0.117)	0.013 (0.116)	0.062 (0.112)	0.106 (0.115)
Middle 20 percent	0.184 (0.130)	-0.014 (0.143)	-0.027 (0.135)	-0.012 (0.120)	0.059 (0.129)	-0.058 (0.045)	-0.050 (0.049)	0.160 (0.127)	0.111 (0.120)
Constant	0.057 (0.085)	0.091 (0.086)	0.098 (0.079)	0.154* (0.080)	0.215** (0.093)	0.110*** (0.037)	0.157*** (0.048)	0.004 (0.081)	0.110 (0.076)
n	751	751	751	751	751	751	751	751	751
adjusted R2	0.129	0.060	0.060	0.121	0.085	0.035	0.038	0.095	0.098

Source: Round one of the high frequency mobile phone survey.

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 9: Likelihood to say situation related to [...] deteriorated (rural)**

	theft	property damage	physical assault	verbal abuse	alcohol & drug abuse	police intimidation	violence by police	land disputes	domestic abuse
	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
female	0.133** (0.060)	0.094* (0.050)	0.147*** (0.057)	0.098 (0.061)	0.144** (0.066)	-0.007 (0.037)	0.032 (0.043)	0.003 (0.042)	0.084** (0.042)
<b>Reference: 36 - 45 years old</b>									
18 - 25 years old	0.024 (0.081)	-0.009 (0.069)	0.092 (0.090)	0.124 (0.090)	0.053 (0.082)	0.073* (0.043)	0.027 (0.058)	-0.037 (0.061)	-0.015 (0.060)
26 - 35 years old	-0.037 (0.073)	-0.008 (0.074)	-0.009 (0.076)	0.011 (0.077)	0.002 (0.074)	0.029 (0.043)	-0.019 (0.060)	0.021 (0.082)	-0.046 (0.058)
46 - 65 years old	-0.048 (0.088)	-0.059 (0.079)	-0.123* (0.072)	-0.059 (0.086)	-0.009 (0.095)	0.005 (0.036)	-0.050 (0.054)	-0.095* (0.056)	-0.095* (0.053)
66 years old and older	0.196 (0.202)	0.179 (0.207)	0.227 (0.196)	0.194 (0.200)	0.235 (0.178)	0.292 (0.190)	0.101 (0.197)	0.195 (0.195)	0.221 (0.203)
<b>Reference: Southern Region</b>									
Highlands	0.136* (0.076)	0.077 (0.066)	0.042 (0.106)	0.036 (0.109)	0.181** (0.085)	-0.014 (0.055)	0.022 (0.057)	-0.009 (0.076)	0.064 (0.051)
Islands	0.116 (0.085)	0.077 (0.077)	0.057 (0.091)	0.019 (0.095)	0.029 (0.092)	-0.042 (0.066)	-0.066 (0.064)	-0.062 (0.079)	0.016 (0.062)
Momase	0.155 (0.097)	0.142 (0.092)	0.028 (0.102)	0.073 (0.126)	0.237** (0.107)	-0.036 (0.057)	-0.023 (0.056)	-0.029 (0.082)	0.038 (0.054)
<b>Reference: Top 40 percent</b>									
Bottom 40 percent	-0.060 (0.064)	-0.093* (0.055)	0.041 (0.077)	-0.024 (0.079)	-0.155** (0.074)	-0.061 (0.044)	-0.109** (0.047)	-0.080 (0.049)	-0.087* (0.045)
Middle 20 percent	0.078 (0.075)	0.090 (0.075)	0.037 (0.060)	0.048 (0.078)	-0.042 (0.077)	-0.019 (0.057)	-0.033 (0.061)	-0.007 (0.064)	0.046 (0.056)
Constant	0.084 (0.096)	0.121 (0.082)	0.097 (0.092)	0.151 (0.098)	0.180* (0.108)	0.105* (0.059)	0.148** (0.061)	0.228*** (0.080)	0.100 (0.064)
n	828	828	828	828	828	828	828	828	828
adjusted R2	0.055	0.059	0.087	0.050	0.067	0.043	0.041	0.039	0.068

Source: Round one of the high frequency mobile phone survey.

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1



# Appendix 3 Tables

**Table 10: Knowledge of COVID-19**

Indicators	National	Sex		Location		Region				Wellbeing Status			
		Male	Female	Urban	Rural	High-lands Region	Islands Region	Momase Region	Southern Region	Bottom 40	Middle Quintile	Top 40	
<b>Have you heard about the Covid-19 pandemic or the coronavirus?</b>													
1	Percentage saying yes	95.6%	93.3%	97.8%	99.5%	95.0%	95.1%	83.7%	99.8%	100.0%	95.3%	92.1%	99.5%
		0.21	0.25	0.15	0.07	0.22	0.22	0.37	0.05	0.02	0.21	0.27	0.07
<b>Have you received information on COVID-19 from the following sources?</b>													
1	Radio	65.3%	69.7%	61.1%	71.9%	64.4%	58.7%	74.7%	70.9%	63.6%	58.7%	60.0%	76.1%
		0.48	0.46	0.49	0.45	0.48	0.49	0.44	0.45	0.48	0.49	0.49	0.43
2	Internet including Facebook and other social media	25.9%	26.9%	25.0%	49.8%	22.3%	17.6%	28.1%	29.4%	35.6%	14.4%	19.6%	41.5%
		0.44	0.44	0.43	0.50	0.42	0.38	0.45	0.46	0.48	0.35	0.40	0.49
3	SMS	31.0%	35.0%	27.1%	47.1%	28.6%	18.7%	40.6%	32.5%	47.0%	15.3%	25.3%	48.2%
		0.46	0.48	0.45	0.50	0.45	0.39	0.49	0.47	0.50	0.36	0.44	0.50
4	Newspaper	62.6%	71.1%	54.1%	85.5%	59.1%	42.1%	54.6%	85.6%	74.5%	47.6%	57.6%	79.3%
		0.48	0.45	0.50	0.35	0.49	0.49	0.50	0.35	0.44	0.50	0.50	0.41
5	TV	29.1%	34.3%	24.0%	58.8%	24.6%	27.6%	30.3%	22.2%	41.9%	24.0%	17.3%	43.9%
		0.45	0.48	0.43	0.49	0.43	0.45	0.46	0.42	0.49	0.43	0.38	0.50
6	Health clinics	63.8%	68.2%	59.5%	56.2%	64.9%	54.3%	89.2%	65.4%	63.0%	51.3%	71.1%	69.1%
		0.48	0.47	0.49	0.50	0.48	0.50	0.31	0.48	0.48	0.50	0.45	0.46
7	Teachers	39.7%	36.5%	42.7%	47.6%	38.5%	35.2%	23.3%	54.9%	36.9%	31.3%	38.0%	46.5%
		0.49	0.48	0.50	0.50	0.49	0.48	0.42	0.50	0.48	0.47	0.49	0.50
8	Other government	45.3%	55.7%	35.2%	55.8%	43.8%	38.1%	36.2%	48.4%	62.1%	38.5%	37.1%	57.9%
		0.50	0.50	0.48	0.50	0.50	0.49	0.48	0.50	0.49	0.49	0.48	0.49
9	Informational pamphlet	26.4%	26.9%	25.9%	35.0%	25.1%	16.8%	27.9%	33.1%	34.0%	9.8%	31.2%	33.0%
		0.44	0.44	0.44	0.48	0.43	0.37	0.45	0.47	0.47	0.30	0.46	0.47
10	Church	54.5%	51.4%	57.6%	49.3%	55.2%	44.3%	61.2%	56.9%	68.1%	42.3%	58.8%	60.9%
		0.50	0.50	0.49	0.50	0.50	0.50	0.49	0.50	0.47	0.50	0.49	0.49
11	Community leaders	82.4%	79.8%	84.9%	72.1%	83.8%	87.4%	77.4%	78.6%	81.4%	84.2%	84.5%	78.5%
		0.38	0.40	0.36	0.45	0.37	0.33	0.42	0.41	0.39	0.37	0.36	0.41
12	Family and friends	94.5%	91.9%	97.0%	93.0%	94.6%	93.0%	97.6%	95.9%	93.1%	92.9%	95.7%	94.5%
		0.23	0.27	0.17	0.25	0.23	0.26	0.15	0.20	0.25	0.26	0.20	0.23
<b>What steps has the government and local authorities taken as precautions against the coronavirus in your area?</b>													
1	Advised citizens to stay home	97.9%	97.6%	98.3%	98.9%	97.8%	97.5%	99.8%	99.0%	95.8%	100.0%	97.2%	96.9%
		0.14	0.15	0.13	0.11	0.15	0.16	0.04	0.10	0.20	0.00	0.17	0.17
2	Closed roads or added police checkpoints	97.0%	95.2%	98.8%	97.3%	97.0%	96.7%	99.7%	99.5%	91.8%	99.3%	97.1%	94.9%
		0.17	0.21	0.11	0.16	0.17	0.18	0.06	0.07	0.27	0.08	0.17	0.22
3	Closed markets	94.0%	94.2%	93.9%	96.2%	93.7%	91.1%	98.8%	94.3%	96.5%	89.6%	94.8%	97.0%
		0.24	0.23	0.24	0.19	0.24	0.28	0.11	0.23	0.18	0.31	0.22	0.17
4	Provided food to needy	7.2%	7.8%	6.6%	13.1%	6.3%	4.1%	7.9%	3.8%	21.0%	4.0%	4.7%	12.3%
		0.26	0.27	0.25	0.34	0.24	0.20	0.27	0.19	0.41	0.20	0.21	0.33
5	Opened clinics	53.2%	64.6%	42.3%	70.0%	50.8%	41.8%	77.6%	40.9%	83.7%	43.3%	42.1%	71.9%
		0.50	0.48	0.49	0.46	0.50	0.49	0.42	0.49	0.37	0.50	0.49	0.45
6	Distributed face masks	12.8%	15.7%	10.0%	29.2%	10.4%	11.5%	13.1%	10.6%	20.0%	7.6%	8.3%	20.6%
		0.33	0.36	0.30	0.46	0.31	0.32	0.34	0.31	0.40	0.27	0.28	0.40

7	Disseminated knowledge about the virus	52.1%	54.0%	50.2%	68.3%	49.8%	39.6%	60.0%	57.4%	65.4%	41.0%	53.7%	58.8%
		0.50	0.50	0.50	0.47	0.50	0.49	0.49	0.50	0.48	0.49	0.50	0.49
8	Sprayed disinfectant in public places	17.0%	14.2%	19.6%	42.2%	13.3%	12.3%	19.2%	16.2%	28.3%	12.0%	15.9%	21.4%
		0.38	0.35	0.40	0.49	0.34	0.33	0.39	0.37	0.45	0.33	0.37	0.41
9	Provided public handwashing facilities	45.4%	37.6%	52.8%	69.9%	41.9%	50.5%	37.4%	39.0%	51.4%	46.3%	39.3%	50.1%
		0.50	0.48	0.50	0.46	0.49	0.50	0.49	0.49	0.50	0.50	0.49	0.50
10	Restricted public gatherings	98.2%	97.1%	99.3%	97.7%	98.3%	96.7%	100.0%	98.7%	99.4%	99.2%	96.5%	99.0%
		0.13	0.17	0.08	0.15	0.13	0.18	0.00	0.12	0.08	0.09	0.18	0.10
<b>What is your main source of information on steps taken by government and local authorities to curb spread of COVID-19?</b>													
1	Radio	27.4%	28.3%	26.5%	24.7%	27.8%	21.4%	30.9%	40.4%	17.3%	26.3%	27.4%	28.1%
		0.45	0.45	0.44	0.43	0.45	0.41	0.46	0.49	0.38	0.44	0.45	0.45
2	Internet including Facebook and other social media	4.5%	3.9%	5.0%	9.7%	3.7%	2.7%	1.6%	8.3%	4.2%	2.3%	4.7%	6.1%
		0.21	0.19	0.22	0.30	0.19	0.16	0.13	0.28	0.20	0.15	0.21	0.24
3	SMS	0.2%	0.3%	0.0%	0.1%	0.2%	0.0%	0.0%	0.3%	0.3%	0.0%	0.1%	0.3%
		0.04	0.06	0.00	0.03	0.04	0.01	0.00	0.06	0.06	0.02	0.03	0.06
4	Newspaper	14.5%	22.2%	6.8%	23.4%	13.2%	11.2%	4.9%	14.7%	28.1%	9.2%	15.3%	18.3%
		0.35	0.42	0.25	0.42	0.34	0.32	0.22	0.35	0.45	0.29	0.36	0.39
5	TV	4.8%	2.5%	7.2%	8.3%	4.3%	7.0%	1.2%	2.1%	7.2%	8.6%	0.6%	6.0%
		0.21	0.16	0.26	0.28	0.20	0.26	0.11	0.14	0.26	0.28	0.08	0.24
6	Health clinics	11.9%	13.9%	9.8%	6.8%	12.6%	7.1%	27.4%	11.7%	11.2%	12.2%	14.0%	9.6%
		0.32	0.35	0.30	0.25	0.33	0.26	0.45	0.32	0.32	0.33	0.35	0.29
7	Teachers	0.4%	0.5%	0.3%	0.5%	0.3%	0.5%	0.2%	0.4%	0.1%	0.5%	0.1%	0.5%
		0.06	0.07	0.05	0.07	0.06	0.07	0.04	0.06	0.03	0.07	0.03	0.07
8	Other government	9.9%	10.2%	9.6%	10.8%	9.8%	6.4%	8.6%	13.0%	13.7%	10.6%	5.0%	13.8%
		0.30	0.30	0.30	0.31	0.30	0.24	0.28	0.34	0.34	0.31	0.22	0.34
9	Informational pamphlet	0.1%	0.2%	0.1%	0.1%	0.1%	0.0%	0.2%	0.2%	0.1%	0.0%	0.2%	0.2%
		0.03	0.04	0.02	0.03	0.03	0.00	0.05	0.05	0.03	0.00	0.04	0.04
10	Church	0.2%	0.4%	0.1%	0.2%	0.2%	0.2%	0.0%	0.3%	0.3%	0.0%	0.2%	0.5%
		0.05	0.06	0.03	0.05	0.05	0.05	0.01	0.06	0.05	0.01	0.04	0.07
11	Community leaders	14.6%	9.5%	19.6%	2.1%	16.3%	26.6%	6.3%	5.1%	9.5%	14.8%	19.0%	10.1%
		0.35	0.29	0.40	0.14	0.37	0.44	0.24	0.22	0.29	0.36	0.39	0.30
12	Family and friends	11.6%	8.1%	15.0%	13.2%	11.4%	16.9%	18.6%	3.4%	8.1%	15.4%	13.4%	6.6%
		0.32	0.27	0.36	0.34	0.32	0.37	0.39	0.18	0.27	0.36	0.34	0.25

Source: Round one of the high frequency mobile phone survey.

**Table 11: Employment & Income**

Indicators		National	Sex		Location		Region				Wellbeing Status		
			Male	Female	Urban	Rural	Highlands Region	Islands Region	Momase Region	Southern Region	Bottom 40	Middle Quintile	Top 40
<b>Working at pre-crisis baseline (January 2020)</b> 0.47		67.5%	71.5%	61.0%	61.9%	68.3%	73.9%	54.7%	69.9%	60.6%	66.8%	60.3%	76.0%
		0.45	0.49	0.49	0.47	0.44	0.50	0.46	0.49	0.47	0.49	0.43	
<b>Working as of June 2020</b> 0.50		54.0%	58.4%	46.9%	50.6%	54.6%	60.4%	53.3%	51.0%	47.0%	56.9%	40.8%	66.0%
		0.49	0.50	0.50	0.50	0.49	0.50	0.50	0.50	0.50	0.49	0.47	
<b>Switched jobs since baseline</b> 0.18		3.3%	4.5%	0.9%	4.0%	3.2%	2.9%	8.4%	1.7%	2.9%	2.7%	0.5%	4.9%
		0.21	0.10	0.20	0.18	0.17	0.28	0.13	0.17	0.16	0.07	0.22	
<b>Able to work as usual last week</b> 0.27		91.9%	91.3%	93.1%	93.0%	91.8%	89.0%	86.0%	97.0%	95.6%	89.8%	96.0%	90.7%
		0.28	0.25	0.25	0.28	0.31	0.35	0.17	0.21	0.30	0.20	0.29	
<b>Change of Income</b>													
1	Increased	3.5%	2.7%	5.1%	6.5%	3.1%	2.3%	3.7%	4.0%	5.5%	0.8%	3.9%	5.5%
		0.18	0.16	0.22	0.25	0.17	0.15	0.19	0.20	0.23	0.09	0.19	0.23
2	Remained the same	46.6%	50.5%	38.9%	48.5%	46.4%	48.5%	55.5%	35.2%	53.0%	37.7%	52.4%	49.9%
		0.50	0.50	0.49	0.50	0.50	0.50	0.50	0.48	0.50	0.49	0.50	0.50
3	Reduced	46.3%	44.2%	50.3%	40.0%	47.2%	43.9%	35.2%	59.7%	39.7%	56.3%	41.3%	41.4%
		0.50	0.50	0.50	0.49	0.50	0.50	0.48	0.49	0.49	0.50	0.49	0.49
4	Received no payment	3.6%	2.6%	5.6%	5.0%	3.4%	5.2%	5.6%	1.1%	1.9%	5.2%	2.4%	3.3%
		0.19	0.16	0.23	0.22	0.18	0.22	0.23	0.11	0.14	0.22	0.15	0.18
<b>Operating a non-farm business at baseline</b> 0.45		27.4%	27.1%	27.6%	33.7%	26.5%	29.5%	14.5%	32.8%	24.5%	24.7%	26.6%	29.9%
		0.44	0.45	0.47	0.44	0.46	0.35	0.47	0.43	0.43	0.44	0.46	
<b>Change in income from non-farm business</b>													
1	Increased	5.4%	9.1%	1.7%	11.1%	4.5%	3.1%	21.5%	4.8%	5.7%	1.0%	1.6%	8.7%
		0.23	0.29	0.13	0.31	0.21	0.17	0.41	0.21	0.23	0.10	0.12	0.28
2	Remained the same	50.6%	55.5%	45.5%	49.0%	50.8%	45.4%	50.3%	54.9%	56.2%	56.4%	38.6%	59.4%
		0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.49	0.49
3	Reduced	41.2%	31.8%	50.8%	38.6%	41.7%	51.3%	27.4%	33.3%	35.7%	41.8%	54.3%	30.1%
		0.49	0.47	0.50	0.49	0.49	0.50	0.45	0.47	0.48	0.50	0.50	0.46
4	No income	2.8%	3.5%	2.0%	1.3%	3.0%	0.2%	0.8%	7.0%	2.4%	0.7%	5.5%	1.9%
		0.16	0.18	0.14	0.11	0.17	0.04	0.09	0.26	0.15	0.09	0.23	0.13
<b>Household engaged in agriculture?</b> 0.50		54.3%	60.1%	48.2%	34.7%	56.9%	59.1%	49.2%	53.7%	48.2%	61.9%	55.5%	45.0%
		0.49	0.50	0.48	0.50	0.49	0.50	0.50	0.50	0.49	0.50	0.50	
<b>Able to engage in farming, livestock or fishing</b> 0.20		95.9%	98.7%	92.3%	97.4%	95.7%	97.6%	99.4%	89.0%	99.5%	91.3%	98.3%	98.6%
		0.11	0.27	0.16	0.20	0.15	0.08	0.31	0.07	0.28	0.13	0.12	
<b>Change in income from agriculture</b>													
1	Increased	7.0%	7.0%	7.0%	12.4%	6.5%	8.1%	2.4%	4.4%	11.7%	7.2%	3.0%	10.5%
		0.25	0.25	0.26	0.33	0.25	0.27	0.15	0.20	0.32	0.26	0.17	0.31
2	Remained the same	46.5%	44.1%	49.6%	44.8%	46.6%	51.0%	26.7%	52.9%	39.4%	36.7%	53.0%	51.5%
		0.50	0.50	0.50	0.50	0.50	0.50	0.44	0.50	0.49	0.48	0.50	0.50
3	Reduced	37.4%	40.1%	33.9%	38.6%	37.3%	32.7%	54.0%	38.9%	34.7%	48.8%	33.3%	28.1%
		0.48	0.49	0.47	0.49	0.48	0.47	0.50	0.49	0.48	0.50	0.47	0.45
4	No income	9.2%	8.9%	9.6%	4.2%	9.6%	8.2%	17.0%	3.9%	14.2%	7.3%	10.6%	10.0%
		0.29	0.28	0.29	0.20	0.29	0.27	0.38	0.19	0.35	0.26	0.31	0.30
<b>Household receives remittances?</b> 0.40		20.0%	23.6%	16.4%	22.7%	19.7%	22.5%	14.3%	16.3%	24.4%	17.3%	16.5%	25.9%
		0.42	0.37	0.42	0.40	0.42	0.35	0.37	0.43	0.38	0.37	0.44	
<b>Compared to usual, remittances in the last month are...</b>													
1	Higher than usual	2.0%	0.8%	3.8%	1.4%	2.1%	1.7%	8.6%	1.1%	0.5%	0.0%	3.7%	2.1%
		0.14	0.09	0.19	0.12	0.14	0.13	0.28	0.10	0.07	0.02	0.19	0.14
2	Same as usual	66.6%	68.3%	64.0%	35.5%	71.5%	76.3%	58.0%	52.8%	63.8%	82.6%	62.1%	61.1%
		0.47	0.47	0.48	0.48	0.45	0.43	0.50	0.50	0.48	0.38	0.49	0.49

3	Less than usual	25.0%	26.2%	23.2%	56.1%	20.1%	17.2%	28.0%	33.7%	31.3%	15.0%	22.5%	31.1%
		0.43	0.44	0.42	0.50	0.40	0.38	0.45	0.47	0.47	0.36	0.42	0.46
4	Remittances have stopped	6.4%	4.8%	9.0%	7.0%	6.4%	4.9%	5.3%	12.5%	4.4%	2.4%	11.6%	5.7%
		0.25	0.21	0.29	0.26	0.24	0.22	0.22	0.33	0.21	0.15	0.32	0.23
<b>Concern about household finances in the next month</b>													
1	Very worried	33.1%	29.5%	36.8%	33.9%	32.9%	35.2%	38.5%	32.2%	25.1%	29.3%	47.4%	21.7%
		0.47	0.46	0.48	0.47	0.47	0.48	0.49	0.47	0.43	0.46	0.50	0.41
2	Somewhat worried	46.3%	50.2%	42.2%	44.0%	46.6%	47.7%	34.3%	52.1%	43.9%	56.3%	32.4%	51.6%
		0.50	0.50	0.49	0.50	0.50	0.50	0.48	0.50	0.50	0.50	0.47	0.50
3	Not too worried	17.2%	18.1%	16.2%	20.3%	16.8%	14.5%	26.1%	9.0%	28.1%	7.5%	19.1%	23.9%
		0.38	0.39	0.37	0.40	0.37	0.35	0.44	0.29	0.45	0.26	0.39	0.43
4	Not worried at all	3.5%	2.3%	4.8%	1.8%	3.7%	2.6%	1.1%	6.7%	2.9%	6.9%	1.1%	2.8%
		0.18	0.15	0.21	0.13	0.19	0.16	0.10	0.25	0.17	0.25	0.10	0.17
<b>Expected state of the economy one year from now</b>													
1	Much better	2.7%	2.1%	3.3%	6.7%	2.2%	1.6%	1.0%	4.6%	3.5%	1.9%	1.9%	4.3%
		0.16	0.15	0.18	0.25	0.15	0.13	0.10	0.21	0.18	0.14	0.14	0.20
2	Somewhat better	13.1%	13.8%	12.3%	15.6%	12.7%	11.3%	13.8%	18.8%	8.2%	7.1%	16.9%	14.9%
		0.34	0.35	0.33	0.36	0.33	0.32	0.35	0.39	0.27	0.26	0.38	0.36
3	About the same	47.5%	44.4%	50.8%	34.8%	49.2%	54.7%	35.2%	37.7%	54.1%	49.0%	52.9%	40.8%
		0.50	0.50	0.50	0.48	0.50	0.50	0.48	0.49	0.50	0.50	0.50	0.49
4	Somewhat worse	31.5%	32.6%	30.2%	34.0%	31.1%	26.4%	41.1%	36.0%	29.3%	36.8%	24.1%	33.5%
		0.46	0.47	0.46	0.47	0.46	0.44	0.49	0.48	0.46	0.48	0.43	0.47
5	Much worse	5.3%	7.0%	3.4%	8.9%	4.8%	5.9%	8.8%	2.8%	4.9%	5.2%	4.2%	6.5%
		0.22	0.26	0.18	0.28	0.21	0.24	0.28	0.17	0.22	0.22	0.20	0.25
<b>Main working activity</b>													
1	Agriculture	53.7%	49.5%	61.6%	18.1%	58.6%	66.2%	58.3%	46.5%	33.7%	73.6%	61.5%	30.9%
		0.50	0.50	0.49	0.38	0.49	0.47	0.49	0.50	0.47	0.44	0.49	0.46
2	Mining	3.6%	5.3%	0.4%	2.6%	3.7%	1.5%	11.7%	1.1%	7.7%	0.0%	0.9%	8.9%
		0.19	0.22	0.06	0.16	0.19	0.12	0.32	0.11	0.27	0.01	0.09	0.28
3	Logging	0.5%	0.5%	0.5%	0.3%	0.5%	0.4%	0.4%	0.9%	0.1%	0.1%	0.5%	0.8%
		0.07	0.07	0.07	0.05	0.07	0.06	0.06	0.09	0.04	0.03	0.07	0.09
4	Manufacturing	1.0%	1.1%	0.9%	3.3%	0.7%	0.5%	2.7%	1.5%	0.6%	1.0%	0.4%	1.6%
		0.10	0.11	0.09	0.18	0.09	0.07	0.16	0.12	0.08	0.10	0.06	0.13
5	Professional/Scientific/Technical	3.6%	5.2%	0.7%	7.4%	3.1%	3.4%	5.4%	1.7%	6.2%	1.8%	1.6%	6.8%
		0.19	0.22	0.08	0.26	0.17	0.18	0.23	0.13	0.24	0.13	0.13	0.25
6	Electricity/Water/Gas/Waste	3.4%	5.1%	0.1%	1.4%	3.7%	0.2%	0.4%	10.6%	0.6%	0.0%	9.5%	0.8%
		0.18	0.22	0.03	0.12	0.19	0.04	0.07	0.31	0.08	0.00	0.29	0.09
7	Construction	4.8%	5.0%	4.5%	6.5%	4.6%	3.6%	4.0%	7.7%	3.3%	6.7%	2.1%	5.7%
		0.21	0.22	0.21	0.25	0.21	0.19	0.20	0.27	0.18	0.25	0.14	0.23
8	Transportation	2.0%	2.8%	0.3%	6.4%	1.3%	1.4%	0.9%	3.5%	1.3%	1.0%	1.1%	3.5%
		0.14	0.17	0.05	0.24	0.12	0.12	0.09	0.18	0.11	0.10	0.10	0.19
9	Retail/Wholesale/Trades	15.5%	11.8%	22.7%	27.6%	13.9%	11.1%	9.4%	17.8%	25.8%	11.4%	12.3%	21.2%
		0.36	0.32	0.42	0.45	0.35	0.31	0.29	0.38	0.44	0.32	0.33	0.41
10	Finance/Insurance/Real Estate	1.0%	0.8%	1.2%	3.6%	0.6%	0.5%	1.1%	0.7%	2.6%	0.0%	0.4%	2.3%
		0.10	0.09	0.11	0.19	0.08	0.07	0.10	0.08	0.16	0.01	0.06	0.15
11	Personal Services	3.0%	3.9%	1.2%	7.7%	2.3%	3.7%	1.7%	2.4%	3.1%	0.8%	3.4%	4.4%
		0.17	0.19	0.11	0.27	0.15	0.19	0.13	0.15	0.17	0.09	0.18	0.20
12	Education	2.4%	2.1%	3.0%	3.1%	2.3%	3.2%	0.8%	2.8%	0.9%	1.2%	2.1%	3.6%
		0.15	0.14	0.17	0.17	0.15	0.18	0.09	0.16	0.09	0.11	0.14	0.19
13	Health	1.3%	1.6%	0.8%	2.3%	1.2%	0.4%	0.5%	0.5%	5.3%	0.3%	0.3%	3.0%
		0.11	0.12	0.09	0.15	0.11	0.06	0.07	0.07	0.22	0.06	0.05	0.17
14	Public Administration	1.7%	2.3%	0.7%	3.4%	1.5%	1.6%	1.5%	1.0%	3.3%	0.6%	1.5%	2.8%
		0.13	0.15	0.08	0.18	0.12	0.13	0.12	0.10	0.18	0.08	0.12	0.17
15	Tourism	0.2%	0.1%	0.3%	0.7%	0.1%	0.0%	0.0%	0.2%	0.7%	0.0%	0.0%	0.5%
		0.04	0.04	0.06	0.08	0.04	0.02	0.01	0.05	0.08	0.00	0.02	0.07
15	Tourism	0.2%	0.1%	0.3%	0.7%	0.1%	0.0%	0.0%	0.2%	0.7%	0.0%	0.0%	0.5%
		0.04	0.04	0.06	0.08	0.04	0.02	0.01	0.05	0.08	0.00	0.02	0.07

16	Handicrafts/ Cultural Industries	0.2%	0.3%	0.2%	0.3%	0.2%	0.3%	0.4%	0.1%	0.2%	0.2%	0.1%	0.3%
		0.05	0.05	0.04	0.06	0.05	0.05	0.06	0.03	0.04	0.05	0.04	0.04
17	Culinary/ Restaurants/ Hospitality	0.3%	0.1%	0.5%	1.5%	0.1%	0.2%	0.0%	0.4%	0.4%	0.0%	0.2%	0.6%
		0.05	0.04	0.07	0.12	0.03	0.05	0.02	0.06	0.07	0.01	0.04	0.07
18	Community Works/ Services	1.1%	1.6%	0.3%	1.1%	1.1%	1.7%	0.0%	0.2%	2.2%	1.1%	1.5%	0.9%
		0.11	0.13	0.05	0.10	0.11	0.13	0.02	0.04	0.15	0.10	0.12	0.09
19	Security and Defense	0.5%	0.8%	0.1%	1.9%	0.4%	0.2%	0.8%	0.3%	1.6%	0.0%	0.6%	0.9%
		0.07	0.09	0.03	0.14	0.06	0.04	0.09	0.06	0.13	0.01	0.08	0.09
20	Others	0.1%	0.1%	0.1%	0.9%	0.0%	0.0%	0.1%	0.1%	0.4%	0.0%	0.0%	0.3%
		0.03	0.03	0.04	0.10	0.01	0.02	0.02	0.02	0.07	0.00	0.00	0.06

**Table 12: Knowledge of COVID-19**

Indicators		National	Sex		Location		Region				Wellbeing Status		
			Male	Female	Urban	Rural	High-lands Region	Islands Region	Momase Region	Southern Region	Bottom 40	Middle Quintile	Top 40
<b>Has household been able to buy main staple starch?</b>													
1	Yes	40.8%	43.5%	37.9%	76.5%	35.9%	32.0%	25.4%	50.7%	58.1%	31.4%	24.9%	66.9%
		0.49	0.50	0.49	0.42	0.48	0.47	0.44	0.50	0.49	0.46	0.43	0.47
2	No	6.5%	8.2%	4.6%	2.5%	7.0%	10.1%	3.8%	5.0%	2.4%	11.4%	6.1%	2.1%
		0.25	0.27	0.21	0.16	0.26	0.30	0.19	0.22	0.15	0.32	0.24	0.14
3	Not Tried	52.8%	48.3%	57.4%	21.0%	57.1%	57.9%	70.8%	44.3%	39.4%	57.2%	69.0%	31.0%
		0.50	0.50	0.49	0.41	0.50	0.49	0.46	0.50	0.49	0.50	0.46	0.46
<b>Has household been able to buy main protein?</b>													
1	Yes	48.5%	50.8%	46.2%	80.7%	44.2%	39.9%	36.8%	57.1%	64.5%	36.2%	37.9%	72.1%
		0.50	0.50	0.50	0.40	0.50	0.49	0.48	0.50	0.48	0.48	0.49	0.45
2	No	10.3%	12.5%	8.0%	3.8%	11.1%	19.5%	1.6%	5.1%	3.8%	18.9%	6.9%	5.6%
		0.30	0.33	0.27	0.19	0.31	0.40	0.13	0.22	0.19	0.39	0.25	0.23
3	Not Tried	41.2%	36.7%	45.8%	15.5%	44.7%	40.7%	61.5%	37.8%	31.7%	44.9%	55.2%	22.3%
		0.49	0.48	0.50	0.36	0.50	0.49	0.49	0.49	0.47	0.50	0.50	0.42
<b>Has household been able to buy vegetables?</b>													
1	Yes	45.9%	52.1%	39.5%	76.5%	41.7%	37.3%	29.7%	55.4%	64.0%	38.3%	33.5%	66.0%
		0.50	0.50	0.49	0.42	0.49	0.48	0.46	0.50	0.48	0.49	0.47	0.47
2	No	6.0%	5.8%	6.2%	3.0%	6.4%	7.3%	1.1%	5.0%	8.2%	9.8%	1.3%	7.3%
		0.24	0.23	0.24	0.17	0.24	0.26	0.11	0.22	0.27	0.30	0.11	0.26
3	Not Tried	48.1%	42.1%	54.3%	20.5%	51.9%	55.4%	69.2%	39.7%	27.8%	51.9%	65.2%	26.7%
		0.50	0.49	0.50	0.40	0.50	0.50	0.46	0.49	0.45	0.50	0.48	0.44
<b>Has any adult in the household ate less than usual in the last 30 days?</b>													
1	Yes, often	1.2%	1.6%	0.7%	2.4%	1.0%	1.3%	0.6%	1.2%	1.4%	1.3%	1.1%	1.2%
		0.11	0.13	0.08	0.15	0.10	0.11	0.08	0.11	0.12	0.11	0.11	0.11
2	Yes, sometimes	17.0%	18.6%	15.3%	34.1%	14.7%	14.2%	16.8%	13.6%	28.0%	11.4%	10.7%	29.0%
		0.38	0.39	0.36	0.47	0.35	0.35	0.37	0.34	0.45	0.32	0.31	0.45
3	Yes seldom	25.1%	20.5%	29.8%	24.9%	25.1%	23.4%	18.4%	36.4%	17.6%	21.0%	32.7%	21.0%
		0.43	0.40	0.46	0.43	0.43	0.42	0.39	0.48	0.38	0.41	0.47	0.41
4	No	56.8%	59.3%	54.2%	38.6%	59.2%	61.1%	64.3%	48.7%	53.1%	66.3%	55.5%	48.9%
		0.50	0.49	0.50	0.49	0.49	0.49	0.48	0.50	0.50	0.47	0.50	0.50
<b>Was any adult hungry but did not eat in the last 30 days?</b>													
1	Yes, often	1.1%	1.6%	0.6%	2.2%	1.0%	1.2%	0.6%	1.2%	1.3%	1.2%	1.1%	1.1%
		0.11	0.13	0.08	0.15	0.10	0.11	0.08	0.11	0.11	0.11	0.11	0.10
2	Yes, sometimes	15.2%	17.6%	12.8%	31.5%	13.1%	13.5%	16.0%	12.6%	22.3%	9.2%	9.9%	26.7%
		0.36	0.38	0.33	0.46	0.34	0.34	0.37	0.33	0.42	0.29	0.30	0.44
3	Yes seldom	24.1%	20.0%	28.2%	25.9%	23.8%	21.7%	18.3%	36.1%	16.3%	19.4%	31.3%	20.8%
		0.43	0.40	0.45	0.44	0.43	0.41	0.39	0.48	0.37	0.40	0.46	0.41

4	No	59.6%	60.8%	58.4%	40.5%	62.1%	63.6%	65.1%	50.1%	60.1%	70.1%	57.7%	51.4%
		0.49	0.49	0.49	0.49	0.49	0.48	0.48	0.50	0.49	0.46	0.49	0.50
<b>Has any adult gone the whole day without eating in the last 30 days?</b>													
1	Yes, often	0.9%	1.2%	0.5%	1.9%	0.8%	0.3%	0.4%	1.9%	1.1%	1.0%	0.8%	0.9%
		0.09	0.11	0.07	0.14	0.09	0.06	0.06	0.14	0.10	0.10	0.09	0.09
2	Yes, sometimes	10.4%	12.4%	8.4%	19.4%	9.2%	10.4%	6.6%	8.3%	16.8%	6.8%	5.6%	19.1%
		0.31	0.33	0.28	0.40	0.29	0.30	0.25	0.28	0.37	0.25	0.23	0.39
3	Yes seldom	17.6%	13.6%	21.7%	22.4%	16.9%	16.8%	15.7%	24.2%	11.4%	19.2%	19.6%	14.0%
		0.38	0.34	0.41	0.42	0.38	0.37	0.36	0.43	0.32	0.39	0.40	0.35
4	No	71.1%	72.7%	69.4%	56.2%	73.1%	72.6%	77.4%	65.6%	70.8%	73.0%	74.0%	66.1%
		0.45	0.45	0.46	0.50	0.44	0.45	0.42	0.48	0.46	0.44	0.44	0.47
<b>Was there a time in the last 30 days in which the household ran out of food?</b>													
1	Yes, often	1.0%	1.5%	0.5%	2.6%	0.8%	0.4%	0.5%	2.1%	1.3%	1.1%	0.8%	1.1%
		0.10	0.12	0.07	0.16	0.09	0.06	0.07	0.14	0.11	0.11	0.09	0.10
2	Yes, sometimes	14.7%	17.3%	12.1%	24.2%	13.5%	15.0%	16.7%	11.6%	17.1%	11.1%	9.3%	23.9%
		0.35	0.38	0.33	0.43	0.34	0.36	0.37	0.32	0.38	0.31	0.29	0.43
3	Yes seldom	23.7%	20.5%	26.9%	25.9%	23.4%	21.2%	16.1%	33.5%	20.9%	17.2%	32.6%	20.4%
		0.43	0.40	0.44	0.44	0.42	0.41	0.37	0.47	0.41	0.38	0.47	0.40
4	No	60.6%	60.7%	60.4%	47.3%	62.3%	63.4%	66.8%	52.8%	60.7%	70.6%	57.2%	54.5%
		0.49	0.49	0.49	0.50	0.48	0.48	0.47	0.50	0.49	0.46	0.50	0.50
<b>Worried about having enough to eat in the next week?</b>													
1	Very worried	7.9%	8.7%	7.0%	18.9%	6.4%	6.6%	8.9%	6.9%	11.3%	7.9%	6.8%	9.0%
		0.27	0.28	0.26	0.39	0.24	0.25	0.28	0.25	0.32	0.27	0.25	0.29
2	Somewhat worried	15.3%	18.7%	11.8%	23.9%	14.1%	14.3%	10.9%	17.4%	17.6%	10.5%	9.2%	26.3%
		0.36	0.39	0.32	0.43	0.35	0.35	0.31	0.38	0.38	0.31	0.29	0.44
3	Not too worried	40.3%	35.7%	44.9%	35.8%	40.8%	34.2%	45.8%	45.6%	41.8%	33.3%	49.5%	37.1%
		0.49	0.48	0.50	0.48	0.49	0.47	0.50	0.50	0.49	0.47	0.50	0.48
4	Not worried at all	36.6%	37.0%	36.3%	21.5%	38.7%	44.9%	34.3%	30.2%	29.2%	48.3%	34.5%	27.6%
		0.48	0.48	0.48	0.41	0.49	0.50	0.48	0.46	0.46	0.50	0.48	0.45

Source: Round one of the high frequency mobile phone survey.

**Table 13: Knowledge of COVID-19**

Indicators	National	Sex		Location		Region				Wellbeing Status			
		Male	Female	Urban	Rural	Highlands Region	Islands Region	Momase Region	Southern Region	Bottom 40	Middle Quintile	Top 40	
<b>Has the household undertaken any of the following coping strategies:</b>													
1	Sell assets?	9.7%	9.4%	10.7%	7.7%	9.9%	13.6%	2.9%	7.0%	7.7%	10.3%	9.7%	9.0%
		0.30	0.29	0.31	0.27	0.30	0.34	0.17	0.25	0.27	0.30	0.30	0.29
2	Sell livestock?	14.7%	18.6%	2.8%	7.8%	15.4%	17.5%	13.6%	15.5%	5.4%	15.2%	13.2%	15.7%
		0.35	0.39	0.17	0.27	0.36	0.38	0.34	0.36	0.23	0.36	0.34	0.36
3	Find ways to earn extra money?	29.8%	33.7%	18.0%	43.7%	28.5%	20.3%	25.5%	55.0%	30.8%	24.2%	23.9%	41.7%
		0.46	0.47	0.39	0.50	0.45	0.40	0.44	0.50	0.46	0.43	0.43	0.49
4	Receive cash or borrow from friends or family?	25.5%	23.4%	31.6%	27.8%	25.2%	22.9%	31.9%	29.6%	21.1%	10.3%	34.7%	32.8%
		0.44	0.42	0.47	0.45	0.43	0.42	0.47	0.46	0.41	0.30	0.48	0.47
5	Receive other assistance from friends or family?	26.2%	29.0%	17.7%	39.3%	24.9%	16.2%	29.4%	36.7%	41.4%	13.4%	25.3%	40.7%
		0.44	0.45	0.38	0.49	0.43	0.37	0.46	0.48	0.49	0.34	0.44	0.49
6	Receive assistance from church or other religious body?	10.9%	11.4%	9.3%	9.8%	11.0%	8.4%	10.3%	19.3%	8.1%	2.8%	14.9%	15.8%
		0.31	0.32	0.29	0.30	0.31	0.28	0.30	0.39	0.27	0.16	0.36	0.36
7	Take a loan from a financial institution?	1.8%	2.1%	0.9%	7.0%	1.3%	1.1%	1.8%	2.4%	3.3%	0.2%	0.6%	4.7%
		0.13	0.14	0.10	0.26	0.11	0.11	0.13	0.15	0.18	0.05	0.08	0.21
8	Take a loan from an informal moneylender?	5.8%	5.5%	6.7%	9.6%	5.5%	2.6%	8.4%	10.8%	6.9%	4.7%	5.2%	7.6%
		0.23	0.23	0.25	0.29	0.23	0.16	0.28	0.31	0.25	0.21	0.22	0.27
9	Purchase items on credit?	7.9%	9.0%	4.5%	16.0%	7.1%	5.1%	7.7%	13.2%	9.8%	4.2%	7.7%	12.0%
		0.27	0.29	0.21	0.37	0.26	0.22	0.27	0.34	0.30	0.20	0.27	0.33
10	Delay making re-payments?	9.4%	5.9%	20.0%	10.5%	9.3%	10.2%	3.4%	12.3%	8.7%	10.3%	6.8%	10.8%
		0.29	0.24	0.40	0.31	0.29	0.30	0.18	0.33	0.28	0.30	0.25	0.31
11	Sell harvest in advance?	35.5%	36.9%	25.4%	42.5%	35.0%	43.1%	26.5%	40.5%	13.4%	32.2%	37.7%	37.2%
		0.48	0.48	0.44	0.49	0.48	0.50	0.44	0.49	0.34	0.47	0.49	0.48
12	Reduce food consumption?	28.4%	32.0%	17.5%	55.3%	25.8%	22.4%	26.5%	37.0%	38.6%	24.4%	20.1%	40.8%
		0.45	0.47	0.38	0.50	0.44	0.42	0.44	0.48	0.49	0.43	0.40	0.49
13	Reduce non-food consumption?	27.4%	27.8%	26.0%	51.0%	25.0%	26.1%	24.4%	32.6%	27.4%	24.9%	17.8%	39.3%
		0.45	0.45	0.44	0.50	0.43	0.44	0.43	0.47	0.45	0.43	0.38	0.49
14	Spend from savings?	29.9%	31.3%	25.8%	46.2%	28.3%	22.4%	32.9%	41.3%	35.9%	27.0%	13.9%	48.5%
		0.46	0.46	0.44	0.50	0.45	0.42	0.47	0.49	0.48	0.45	0.35	0.50
15	Receive assistance from NGO?	0.9%	0.9%	0.7%	1.1%	0.9%	0.3%	0.2%	0.4%	4.2%	0.0%	1.1%	1.6%
		0.09	0.10	0.08	0.10	0.09	0.06	0.04	0.06	0.20	0.02	0.10	0.12
16	Receive assistance from a community based organization?	3.5%	2.3%	7.2%	3.9%	3.5%	0.9%	0.6%	10.1%	6.3%	0.7%	2.5%	7.6%
		0.18	0.15	0.26	0.19	0.18	0.09	0.07	0.30	0.24	0.08	0.16	0.27
17	Take an advance from an employer?	1.5%	1.7%	0.7%	3.5%	1.3%	1.9%	0.5%	1.1%	1.5%	0.0%	0.1%	4.3%
		0.12	0.13	0.09	0.18	0.11	0.14	0.07	0.11	0.12	0.01	0.03	0.20
18	Receive government assistance?	4.9%	6.3%	0.8%	4.7%	5.0%	3.0%	3.9%	1.5%	17.4%	0.0%	5.7%	9.5%
		0.22	0.24	0.09	0.21	0.22	0.17	0.19	0.12	0.38	0.00	0.23	0.29
19	Receive a payout from a superannuation fund, provident fund, or pension fund?	1.3%	0.6%	3.3%	1.7%	1.2%	0.1%	0.0%	4.4%	2.1%	0.4%	0.0%	3.5%
		0.11	0.08	0.18	0.13	0.11	0.03	0.01	0.21	0.14	0.06	0.00	0.18
20	Reduce the number of children attending school?	52.1%	56.8%	48.0%	54.6%	51.8%	53.8%	70.1%	46.6%	45.5%	53.4%	53.5%	49.2%
		0.50	0.50	0.50	0.50	0.50	0.50	0.46	0.50	0.50	0.50	0.50	0.50

Source: Round one of the high frequency mobile phone survey.

**Table 14: Health Care System Avoidance**

Indicators		National	Sex		Location		Region				Wellbeing Status		
			Male	Female	Urban	Rural	Highlands Region	Islands Region	Momase Region	Southern Region	Bottom 40	Middle Quintile	Top 40
<b>Has any member needed medical treatment?</b> 0.49		39.6%	33.4%	46.0%	35.4%	40.1%	46.1%	22.7%	45.3%	30.0%	41.9%	44.4%	32.2%
		0.47	0.50	0.48	0.49	0.50	0.42	0.50	0.46	0.49	0.50	0.47	
<b>If yes, were they able to access treatment?</b> 0.41		79.0%	87.1%	72.9%	92.5%	77.4%	88.7%	95.4%	52.2%	94.5%	80.2%	71.5%	88.3%
		0.34	0.45	0.26	0.42	0.32	0.21	0.50	0.23	0.40	0.45	0.32	
<b>Why not?</b>													
1	Lack of money	46.6%	24.7%	54.3%	43.2%	46.7%	32.7%	12.7%	54.5%	10.0%	11.1%	77.5%	11.5%
		0.50	0.43	0.50	0.50	0.50	0.47	0.34	0.50	0.31	0.32	0.42	0.32
2	No medical personnel	23.1%	39.6%	17.3%	21.7%	23.2%	36.9%	79.8%	14.6%	59.3%	21.5%	8.5%	78.8%
		0.42	0.49	0.38	0.42	0.42	0.49	0.41	0.36	0.50	0.42	0.28	0.41
3	Facility was full	0.6%	1.8%	0.1%	5.8%	0.4%	0.6%	0.0%	0.2%	7.8%	0.0%	0.3%	2.8%
		0.07	0.14	0.03	0.24	0.06	0.08	0.02	0.04	0.28	0.00	0.05	0.17
4	Unable to travel	28.6%	29.8%	28.2%	2.2%	29.7%	29.6%	6.6%	30.3%	2.2%	67.4%	12.3%	4.6%
		0.45	0.46	0.45	0.15	0.46	0.46	0.26	0.47	0.15	0.48	0.33	0.21
5	Afraid of COVID-19	1.1%	4.0%	0.1%	27.0%	0.1%	0.1%	0.9%	0.4%	20.7%	0.1%	1.4%	2.3%
		0.11	0.20	0.03	0.45	0.03	0.03	0.10	0.07	0.42	0.03	0.12	0.15

Source: Round one of the high frequency mobile phone survey.

**Table 15: Community Trust & Security**

Indicators		National	Sex		Location		Region				Wellbeing Status		
			Male	Female	Urban	Rural	Highlands Region	Islands Region	Momase Region	Southern Region	Bottom 40	Middle Quintile	Top 40
<b>Compared to the start of this year, how do you think trust and social relations have changed with people that live within in your community?</b>													
1	Safer	30.7%	26.1%	35.1%	20.5%	32.1%	30.9%	28.5%	31.5%	30.2%	36.0%	37.8%	18.3%
		0.46	0.44	0.48	0.40	0.47	0.46	0.45	0.47	0.46	0.48	0.49	0.39
2	Stayed the same	55.8%	61.1%	50.5%	55.3%	55.8%	55.0%	55.5%	54.2%	59.1%	51.6%	50.4%	65.4%
		0.50	0.49	0.50	0.50	0.50	0.50	0.50	0.50	0.49	0.50	0.50	0.48
3	Deteriorated	13.6%	12.8%	14.3%	24.2%	12.1%	14.1%	16.0%	14.3%	10.7%	12.5%	11.8%	16.3%
		0.34	0.33	0.35	0.43	0.33	0.35	0.37	0.35	0.31	0.33	0.32	0.37
<b>Compared to the start of this year, how do you think trust and social relations have changed with people that live outside in your community?</b>													
1	Safer	22.8%	19.3%	26.3%	16.5%	23.7%	24.5%	16.7%	29.6%	15.8%	28.2%	27.0%	12.7%
		0.42	0.39	0.44	0.37	0.43	0.43	0.37	0.46	0.37	0.45	0.44	0.33
2	Stayed the same	60.0%	63.5%	56.6%	56.9%	60.4%	57.3%	67.6%	53.3%	68.5%	58.7%	51.0%	68.9%
		0.49	0.48	0.50	0.50	0.49	0.50	0.47	0.50	0.47	0.49	0.50	0.46
3	Deteriorated	17.2%	17.2%	17.1%	26.5%	15.9%	18.2%	15.6%	17.2%	15.7%	13.1%	21.9%	18.4%
		0.38	0.38	0.38	0.44	0.37	0.39	0.36	0.38	0.36	0.34	0.41	0.39
<b>Compared to the start of this year, how safe do you or other members of your household feel with respect to physical violence in your community?</b>													
1	Safer	44.5%	42.6%	46.4%	30.9%	46.4%	46.0%	44.8%	39.0%	46.5%	48.6%	47.6%	36.9%
		0.50	0.49	0.50	0.46	0.50	0.50	0.50	0.49	0.50	0.50	0.50	0.48
2	Stayed the same	31.3%	35.0%	27.6%	36.9%	30.5%	30.5%	31.4%	33.9%	30.2%	25.8%	31.5%	37.9%
		0.46	0.48	0.45	0.48	0.46	0.46	0.47	0.47	0.46	0.44	0.47	0.49
3	Deteriorated	24.2%	22.4%	26.0%	32.2%	23.1%	23.6%	23.8%	27.0%	23.2%	25.6%	21.0%	25.2%
		0.43	0.42	0.44	0.47	0.42	0.42	0.43	0.44	0.42	0.44	0.41	0.43

Source: Round one of the high frequency mobile phone survey.

