

PAPUA NEW GUINEA HIGH FREQUENCY PHONE SURVEY ON COVID-19

Data Collection: May – July 2021

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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, UNICEF and its affiliated organizations, nor those of the Executive Directors of the World Bank nor the governments they represent.

Cover photo: Daru, Western Province (Tom Perry/World Bank)

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Abbreviations

COVID-19	Coronavirus Disease 2019
CSSE	Center for Systems Science and Engineering at Johns Hopkins University
DHS	Demographic and Health Survey
ECDC	European Centre for Disease Prevention and Control
FCS	Fragile and Conflict Afflicted Situations
GDP	Gross Domestic Product
HFPS	High Frequency Phone Survey
HIES	Household Income and Expenditure Survey
NCD	National Capital District
NDoH	National Department of Health (Papua New Guinea)
NGO	Non-Governmental Organization
PNG	Papua New Guinea
UNICEF	United Nations Children's Fund
WHO	World Health Organization



Collecting water near Bialla, West New Britain (Ruth Moiam/World Bank)

Executive Summary

This joint report by the World Bank and UNICEF-PNG presents the findings from two mobile phone surveys conducted in May, June and July 2021 in Papua New Guinea.

The first survey, conducted in May and June, was the third in a series, with the first round being completed in June and July 2020 and the second round being conducted in December 2020. This survey interviewed a total of 2,533 respondents about the impact of COVID-19 on their economic activity and the results were weighted using information from the 2016–2018 Demographic and Health Survey (DHS) to reflect nationally representative estimates of the socioeconomic impacts of COVID-19. The second survey, conducted in June and July 2021, interviewed a total of 2,541 respondents (1880 of whom were from the first survey) about the impact of COVID-19 on a range of areas that broadly can be considered human development. These results were also weighted using information from the DHS to develop representative estimates.

The report uses data that predates the arrival of the Delta variant of COVID-19 in PNG and therefore should be considered a snapshot of changes in economic activity and human development from January to June 2021. The next round of data collection is currently planned to start in November 2021 and that

survey will shed light on the impact of the Delta variant of COVID-19 in PNG.

The surveys in this report show that in general there were similar levels of economic activity and human development in mid-2021 as the start of 2021, however the surveys do not demonstrate a recovery to pre-pandemic levels. There was stabilization across a range of indicators, including levels of employment, access to education and healthcare as well as public trust and security. However, there was some variation across regions and wealth quintiles. The lack of deterioration of conditions since the start of 2021 is notable given that over this period there was a rapid escalation of the COVID-19 crisis in March followed by a fall in COVID-19 cases throughout May.

Employment and income levels in mid-2021 were largely unchanged compared to those at the start of 2021, however poorer households were worse off. Just over half of household heads reported working at the start of 2021 and in mid-2021, split quite evenly between agriculture and service sectors (only a very small share reported working in the industrial sector). Despite a slight increase in employment levels (potentially due to seasonality in the agricultural sector), household heads in the bottom 40 percent were more likely to report a decline in income, particularly among those that worked part-time. Poorer households were also much more likely to report that the most common household coping strategy they used was to engage in further income

generating activities. Collectively, these findings are consistent with a pattern of poorer people having to work more to generate a similar or lower level of income to support their household.

Access to education and healthcare in mid-2021 appear to have largely returned to levels similar to those prior to the wave of COVID-19 infections that peaked in March.

During the height of the COVID-19 crisis schools were closed and the survey shows that most children did not continue their formal education from home. This was primarily because schools did not offer distance education options, with 94% of respondents reporting this as the reason their children stopped their learning. Almost all children promptly resumed their studies once schools reopened. Concerns about exposure to COVID-19 at health clinics only deterred a relatively small number of respondents from accessing urgent or preventive healthcare. Most respondents who wanted to access some form of healthcare were able to, however the survey did not capture information about the quality of healthcare received.

The incidence and severity of food insecurity, as well as access to stable starches, proteins, fruits and vegetables, varied across regions.

The severity of food insecurity was lowest in the Highlands region and highest in the Islands region. Coupled with the results on declining food affordability (particularly in regard to rice, which is a key staple starch in the Southern and Islands regions), this finding is further evidence of households having difficulty in purchasing and growing sufficient food. In the absence of a comparable baseline, it remains difficult to attribute these issues to the COVID-19 pandemic.

Water, sanitation, and hygiene services were also insufficient to meet household needs.

At a time when handwashing is an important preventive measure to slow the spread of the virus, around 40 percent of households did not have sufficient water for handwashing in the week prior to the survey, and the majority did not have sufficient soap. In addition, over one-third of households did not have sufficient drinking water, and this was most acute in the Islands region and least acute in the Highlands region.

The surveys did not show large declines in public trust and security issues since the start of the year, however experiences varied across regions.

Compared to the rest of the country, higher shares of respondents in the Southern region noted deterioration since January 2021 in situations related to theft, alcohol and drug abuse, and intimidation by police, as well as higher declines in overall community trust, which could be an indicator of rising tensions. In addition, there were potential warning signs of the impacts of the prolonged crisis on children, with more than one-third of adults in the 15 days prior to the survey having spanked, hit or slapped their child with their bare hand or foot – though again a lack of baseline data limits the ability to establish a causal link specifically with COVID-19.

Despite the limited change in conditions since the start of 2021, the survey shows there are significant medium-term challenges facing PNG in terms of economic activity and human development.

More than half of households reported relying on subsistence agriculture as a main source of employment and income and there is widespread food insecurity. There are low levels of participation in pre-primary education and some households

report being unable to access health care due to distance to facilities. Levels of crime, domestic violence, theft and police intimidation are alarmingly high. Collectively, the survey findings highlight many areas for policy makers to prioritize, even though they suggest that the impact of COVID-19 on economic activity and human development may not have led to a substantially greater deterioration in conditions throughout 2021. However, it is important to keep in mind that the surveys do not demonstrate a recovery to pre-pandemic levels and the findings pre-date the Delta variant of COVID-19 being detected in PNG.

I. Background

1.1. Data

The data collection for the analysis underlying this report was from two surveys: the third round of the high frequency mobile phone survey (HFMPs) conducted by the World Bank (the World Bank survey) and the second round of the Social Challenges and Hardship in PNG survey conducted by UNICEF-PNG (the UNICEF survey). As the surveys used overlapping samples, they were analyzed together, and the results are presented in this joint report. For the World Bank survey, as with the first and second rounds of data collection, all survey instruments and procedures were designed in accordance with the best practices laid out by the World Bank's COVID-19 methodology and measurement task force.ⁱ The UNICEF survey was based on UNICEF's COVID-19 Monitoring and Analysis Framework, Multiple Indicator Cluster Surveys (MICS) and MICS Plus modules. Further details about the data collection principles, approach to weighting, and data analysis methodology are provided in the round 1 and 2 reports.ⁱⁱ

The objective of the surveys was to measure the continued impacts of COVID-19 on economic activity and human development in PNG. The length of each survey was limited to 15 minutes. The survey instruments consisted of the following modules: Basic Information, Employment and Income Loss, Food Access and Food Security, Public Trust and Security, Assets and Wellbeing, Service Delivery, Roster of Children Living in the Household (including schooling status), Access to Health, Education, and Child Discipline. The recall period for current employment was in the previous week. In addition, retrospective questions were asked about "the start of 2020" as well as the situation at "the start of this year".

The dates of implementation for the World Bank survey were May 26 through June 6, 2021, and the UNICEF survey was collected between June 11 and July 13, 2021. Data were collected through a call center set up by Digicel – Papua New Guinea and managed using the Survey Solutions software package. As the original objective of the survey was to measure changes as the pandemic progresses, the third round of data collection sought to recontact all 2,820 households contacted in round 2, however only 387 households were able to be recontacted. This is partly because there is high turnover of phone numbers in PNG as most SIM cards are unregistered, and they expire within 6 months. As such, to reach the target number of respondents, 2,146 replacement households were added to the World Bank survey using Random Digit Dialing targeted based on geography and economic status (further details about the sampling methodology is in round 1 and 2 reports), for a total sample size of 2,533 households. Due to the very high rate of attrition between survey rounds, this report focuses on changes in conditions during the first half of 2021 as opposed to examining trends since the start of the pandemic.

There was substantial overlap between the World Bank and UNICEF surveys. In total, 1,880 respondents completed both surveys (all 2,533 respondents from the World Bank survey were attempted to be recontacted, however this was only successful 74.2% of the time). To reach the target number of respondents, 661 respondents were added to the UNICEF survey using Random Digit Dialing targeted based on geography and economic status for a total sample size of 2,541 respondents.

1.2. Update on COVID-19 outbreak in PNG

Since the start of 2021, the COVID-19 situation in PNG has rapidly deteriorated. The cumulative total of confirmed cases grew from 834 and 9 related deaths on 1st January to 17,775 confirmed cases and 192 COVID-19 related deaths by 2nd August 2021. Most of these cases were reported between the end of February and the start of June (see Figure 1). The actual case numbers are likely to have been much higher due to low overall testing, underreporting and limited contact tracing capacity.ⁱⁱⁱ

To assist in addressing the rising number of cases, PNG received its first shipment of COVID-19 vaccines through the COVAX Facility in April. Additional doses of the AstraZeneca vaccine were provided by the Australian Government and in May doses of the Sinopharm^{iv} vaccine that were provided by the Chinese government began to be administered (both vaccines require two doses). At the start of August, the Government of PNG received additional doses of the Johnson & Johnson vaccine via the COVAX facility. It is expected that this type of COVID-19 vaccine will be easier to distribute as only one dose is required.

The overall vaccination rate remains very low. Less than one percent of the population had received at least one dose of a COVID-19 vaccine as of August 2, 2021. Around 86,000 people had received at least one dose and 18,000 had been fully vaccinated. Priority was given to health and other essential workers, which is why around 61,000 of the people who had been vaccinated fell into one of these categories.

Figure 1 – COVID-19 cases and Vaccinations in PNG



The *National Pandemic Act 2020*, which was passed on June 16, 2020 to provide a legislative mechanism to coordinate the public health response, remains in effect.

Under a declaration of a pandemic, the legislation establishes the Office of the Controller as the lead agency to combat COVID-19 and manager of the Joint Agency Task Force of the National Control Centre for COVID-19, granting the Controller the regulatory authority to impose health response measures and oversee their implementation. The health response is guided by the PNG National Department of Health (NDoH) *COVID-19 Emergency Response Plan*, which provides a framework for emergency health response interventions to be implemented from March 20, 2020 to end of February 2022 and will feed into the development of the forthcoming health sector plan, the *National Health Plan 2021–2030*. The *COVID-19 Emergency Response Plan* includes *COVID-19* response interventions around clinical management services, communications, surveillance, laboratory and operations, procurement and logistics, operational research, and development partner coordination.

The Government responded to the recent outbreaks by enacting several *Pandemic Measures and Directives in the first half of 2021*.

In March, the Government introduced strict control measures including the closure of schools and only essential travel permitted. The Government also requested – after several rounds of development partner meetings – that international Emergency Medical Teams deploy in PNG. All land and sea borders with Australia, the Torres Strait, Indonesia, and Solomon Islands would remain closed, including any traditional cross-border travel to West Papua. Flights between PNG and Cairns, Australia were halted and flights into

Brisbane, Australia were limited. Domestic air travel was restricted to medical evacuations, students travelling to and from their usual place of residence and educational institution, and any persons returning to their usual place of residence. To boost COVID-testing, positive results from antigen rapid diagnostic tests (Ag-RDT) no longer had to be confirmed by PCR testing. With the number of cases decreasing through May the National Control Centre again eased a number of the restrictions that were imposed through March–April.

Government authorities have responded to risks of the pandemic by approving a fiscal package of emergency health and economic relief measures.

In early April 2020, the government mobilized its resources and appealed to development partners and the private sector for additional support to protect the economy and livelihoods of vulnerable households and businesses. The ensuing package of health and economic support measures totaled roughly US\$525 million (2.2 percent of GDP) in 2020. Reflecting the government's limited fiscal space and anticipated revenue shortfalls, the health and economic support package was financed by external low-cost loans, foreign grants, and the use of employees' pension savings in superannuation funds in job-loss cases. Commercial banks agreed to provide loan repayment holidays to affected households and businesses for three months. The tax authority provided deferrals for tax filing and payment for two months and prioritized processing of goods and services tax refunds for medical supplies.

International development partners have also increased their support to the health sector response and to bolster the economy.

Several support packages have been provided

In November 2020, Australia approved a AUD\$140 million loan to provide additional budget support, which was used to repay Government debt owed to PNG businesses and inject cash into local markets. The Asian Development Bank, on November 26, approved a US\$250 million loan to support PNG's health services, budget and economy, the agriculture sector, food rations for vulnerable groups, and loans and subsidies for small businesses, in addition to increasing its budget support to the health sector from US\$100 million to US\$150 million in 2020. In June 2021, the World Bank approved a US\$100 million Crisis Response and Sustainable Recovery Development Policy Operation to support the Government of Papua New Guinea in: protecting lives and livelihoods of the population during the COVID-19 crisis; and laying foundations for a more sustainable recovery over the medium-term." PNG has also benefited from a time-bound suspension of its debt servicing due to Australia, Japan, and Germany under the Debt Service Suspension Initiative, committing the Government to devote its newly freed resources toward the health, economic, and social impacts of COVID-19.

As the situation in PNG continues to evolve, it is critical to continue monitoring the impacts of the COVID-19 pandemic on economic activity and human development.

A prolonged health crisis coupled with a struggling economy and limited fiscal space for Government intervention could exacerbate existing development challenges, particularly for the poor and near-poor, and frequent and reliable data are needed to inform Government and development partner responses going forward.

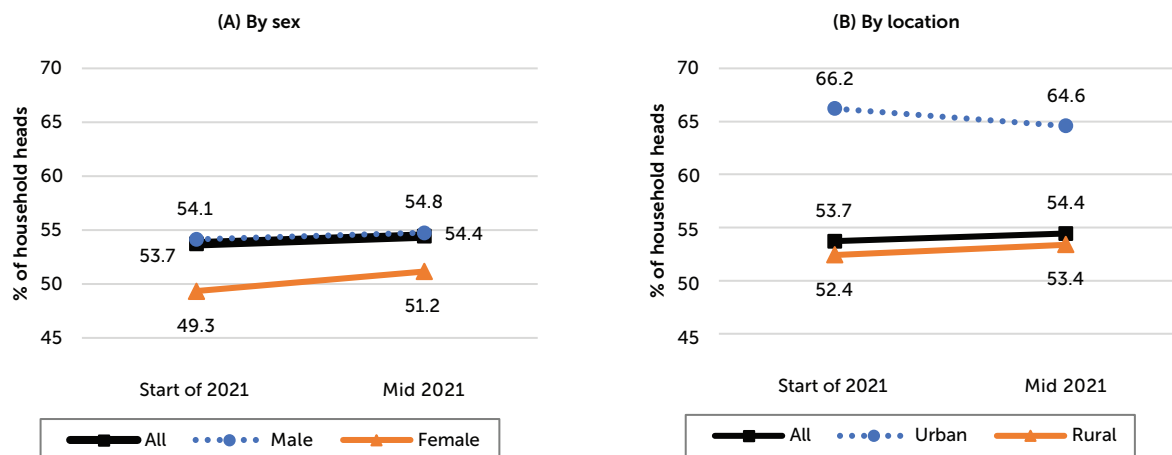
2. Impact of COVID-19 on Economic Activity

This section draws on the World Bank survey to report on levels of employment and income. For employment, it focuses on household heads' employment between the start of 2021 (based on retrospective questions) and mid-2021. Any kinds of work, such as wage, self-employment, and farm activities, is counted as employment in the questionnaire. For household-level income, including remittances, the comparison is made for the period from the start of 2020 to mid-2021.

2.1. Individual employment (household heads)

Employment levels of household heads were similar in mid-2021 as to what they were at the start of 2021.^v The proportion of working household heads remained at almost the same level: 53.7 percent at the start of 2021 and 54.4 percent in mid-2021 (Figure 2). There was a slightly faster increase in employment among female household heads compared to male household heads (Panel A). There was a small convergence in employment levels between urban and rural areas. The share of working household heads in rural areas was similar at the start of 2021 to mid-2021 whereas the share of working household heads in urban areas fell marginally during this period (Panel B). Similar to the case in previous survey rounds, the main reason people cited for moving in and out of the workforce in rural areas was seasonality of the agricultural calendar.

Figure 2 – Proportion of household heads that are working by sex and location (%)

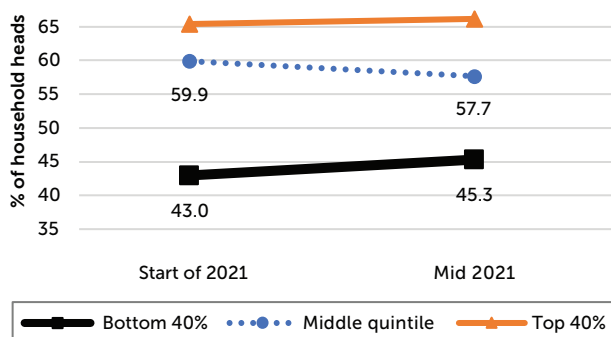


Source: Round three of the high frequency mobile phone survey.

Employment of those in the bottom 40 percent wealth group slightly increased since the beginning of 2021, though the proportion of working household heads in this group remains much lower than wealthier households. From the start of 2021 to mid-2021, the proportion of working household heads in the bottom 40 percent increased by around 2.3 percentage points (Figure 3). This is a faster pace than the top 40 percent (0.8 percentage

points) and in contrast to the decline in employment for the middle quintile (2.2 percentage points). This is probably due to agricultural seasonality, as the majority of poor households work in the agriculture sector. Nevertheless, only 45.3 percent of household heads were working in the bottom 40 group, compared to 66.2 percent among the top 40 households and 57.7 percent among the middle wealth quintile group.

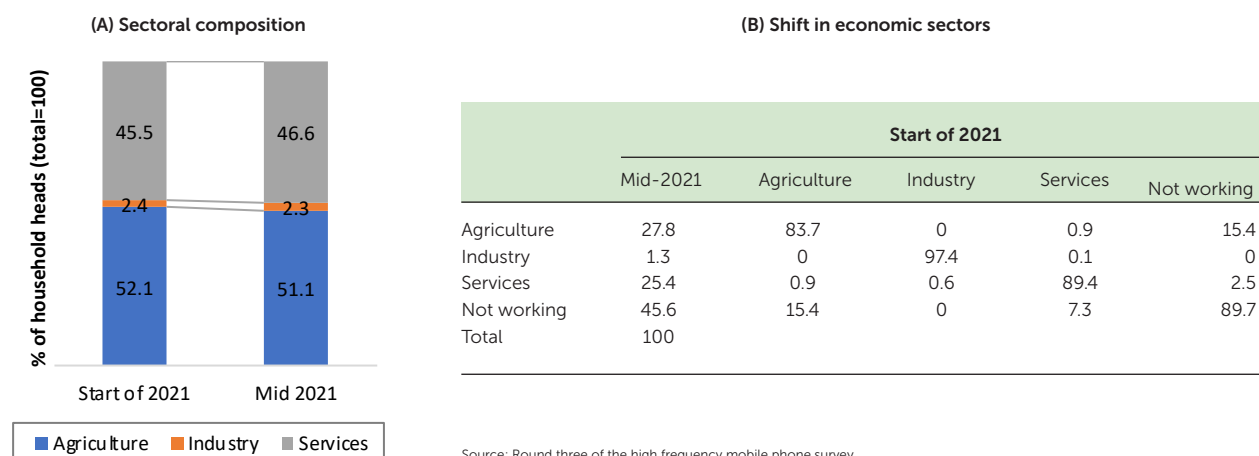
Figure 3 – Proportion of household heads that are working by wealth group (%)



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

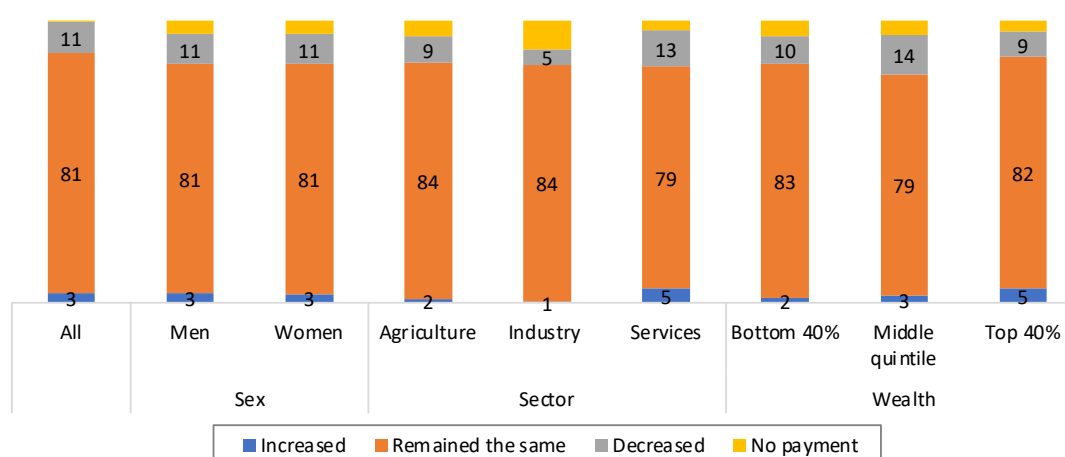


Groups carry their goods up the beach at the East Cape Point, Milne Bay, East New Britain. (Conor Ashleigh/World Bank)

Figure 4 – Proportion of working household heads by economic sector (%)

The sectoral composition of employment has been stable, almost equally split between the agriculture and service sectors. As of mid-2021, 51.1 percent of working household heads engaged with agricultural jobs, while 46.6 percent of working household heads were employed in the service sector (Panel A in Figure 4). The share of the industry sector was only 2.3 percent. A similar sectoral composition existed at the start of 2021. Among the household heads not currently working, 89.7 percent did not work at the start of 2021 (Panel B).

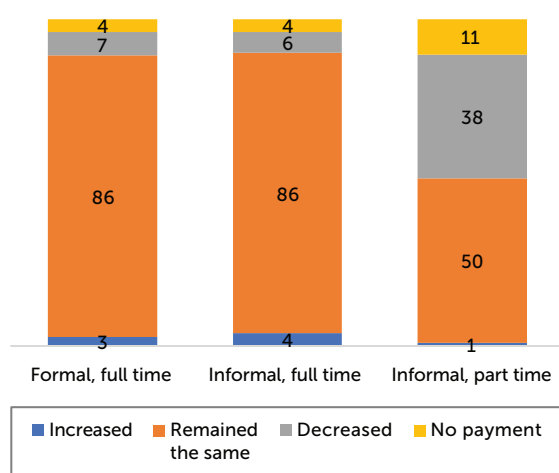
Employment income remained stable for those who were employed in mid-2021 across all groups and categories. Nationally, the majority of household heads who were still employed reported receiving the same income from any kind of work as usual – compared to the level at the beginning of 2021 – in the past week (Figure 5). The shares receiving decreased income and no income were only 11 percent and 1 percent, respectively. There were no substantive differences between men and women, between the agriculture, industry, or service sectors, or between wealth groups.

Figure 5 – Changes in income from household heads' employment compared to start of 2021

Part-time informal sector workers, which mainly consisted of workers in the bottom 40 percent and the middle quintile, were most likely to see reductions in pay if working. Among the household heads in full-time formal employment (accounting for a third of working heads), 86 percent were working for

full time in the informal sector (accounting for 54 percent of working heads). In contrast, among those working part-time in the informal sector (accounting for 13 percent of the working heads) about half of them were working for the same wages, while 38 percent had seen a decrease and 11 percent received no payment.

Figure 6 – Changes in household heads' employment income by full time and formality status



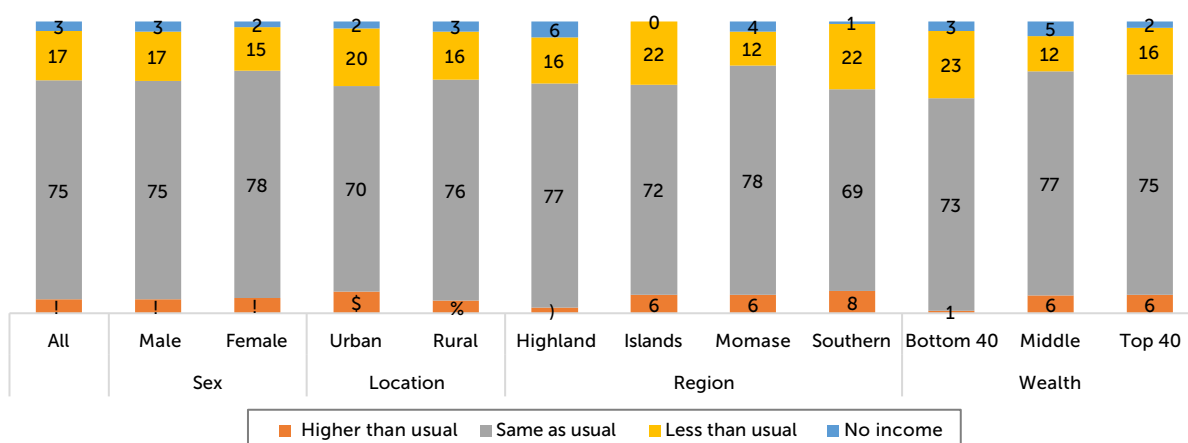
Source: Round three of the high frequency mobile phone survey.

the same payment and 3 percent had seen an increase in payments, compared with 7 percent that had seen a decrease and 4 percent that received no payment (Figure 6). A similar pattern is observed for household heads that worked

2.2. Household-level farm and Non-Farm Business

While income from non-farm enterprises remained the same as usual for most households for the first six months of 2021, a larger proportion of households in bottom 40 percent still report lower than usual or no income. In mid-2021, 75 percent of those operating a non-farm enterprise received the same level of income as compared to the start of 2021, while 5 percent reported higher income, 17 percent reported lower income, and 3 percent reported no income (Figure 7). There was no significant difference across household demographics and regions. It is worth highlighting that households in the bottom 40 percent wealth group are more likely to report lower than usual or no income (26 percent) than those in the top 40 group (18 percent).

Figure 7 – Change in income from non-farm enterprises in past month compared to start of 2021

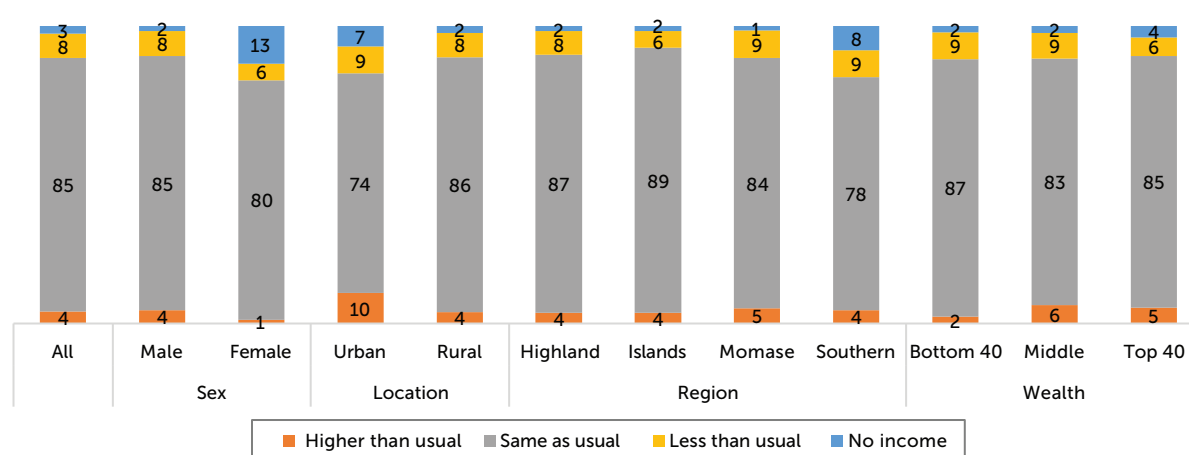


Source: Round three of the high frequency mobile phone survey.

Most households expected the same income from agricultural activities in the current growing season compared to previous years, but female-headed households disproportionately expected lower or no income from agriculture. Overall, 85 percent of households expected to see the same income from their agricultural production in the current growing season compared to the last growing season, while 4 percent expected higher income

(Figure 8). Households with female heads were much more likely to expect no income compared to those with male heads, at 13 percent and 2 percent, respectively. Households in urban areas were more likely to expect higher income from agricultural activities, at 10 percent, as compared to rural households, at 4 percent. There was limited variation between different wealth groups and regions.

Figure 8 – Expected Agricultural Earnings



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



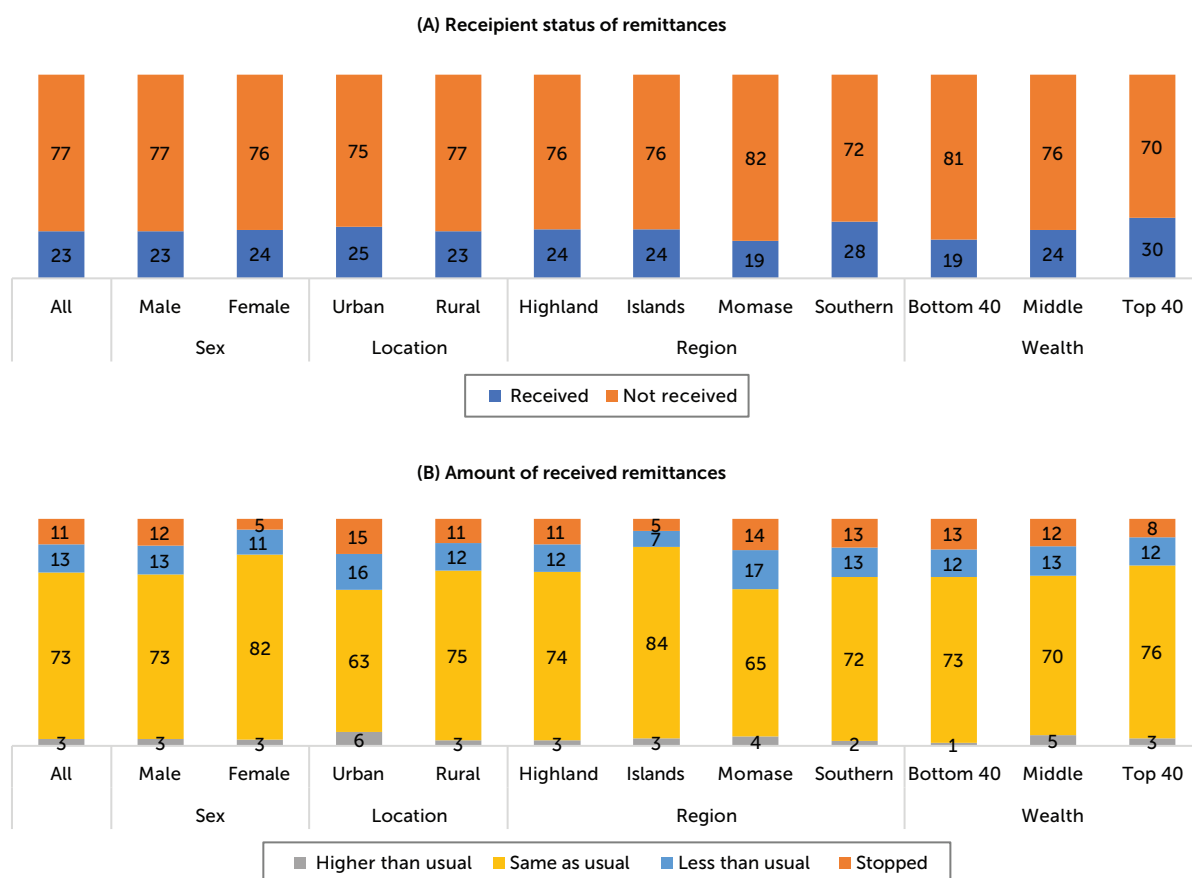
Handwashing hygiene stations in Kokopo, East New Britain (World Bank/Kalo Fainu)

2.3. Remittances

Roughly one-quarter of households usually receive remittances, primarily domestic remittances. Nationally, 23 percent of households reported usually receiving remittances in round 3 (Panel A in Figure 9). Virtually all the remittances were domestic in origin, with small numbers also coming from Australia and New Zealand. Households in the highest 40 percent of the wealth distribution continued to be the most likely to usually receive remittances (30 percent) compared with the middle quintile (24 percent) and the bottom 40 percent (19 percent). There were no substantial differences between households with female and male heads and between regions.

Three-quarters of households that usually receive remittances received the same amount as usual, but certain groups were more likely to have seen payments decrease or stop. Households in urban areas were more likely to indicate that they received lower or no payment, at 31 percent as compared to 23 percent among households in rural areas (Panel B in Figure 9). Female-headed households were more likely to report receiving the usual amount compared to male-headed households, at 82 percent and 73 percent, respectively.

Figure 9 – Change in remittances compared to start of 2020

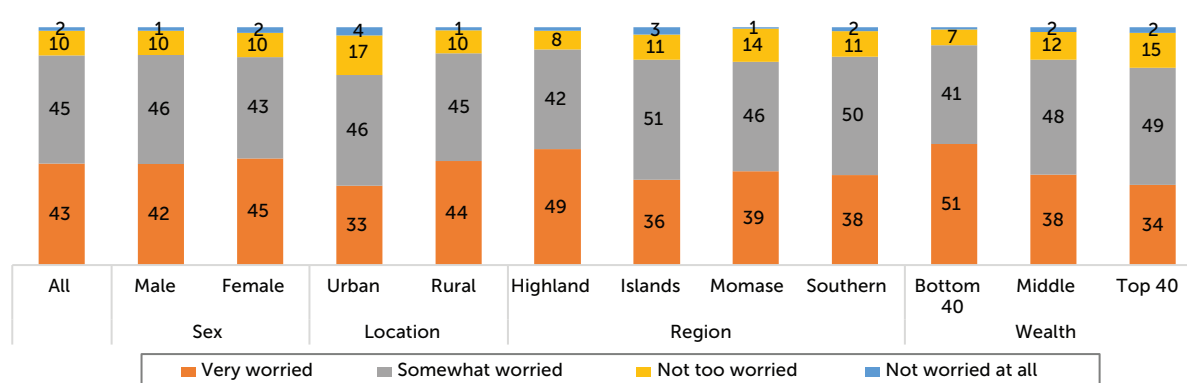


Source: Round three of the high frequency mobile phone survey.

The vast majority of respondents were somewhat or very worried about their households' finances in the next month, with some groups expressing more financial anxiety than others. A total of 88 percent of respondents reported that they were very worried or somewhat worried about household finances in the next month (Figure 10). Households in rural areas were substantially more likely to

express financial anxiety than those in urban areas, at 89 percent and 79 percent, respectively. Significant differences were also evident between wealth groups, with 92 percent of households in the bottom 40 percent expressing financial anxiety, compared to those in the middle quintile (86 percent) and the top 40 percent (83 percent).

Figure 10 – Financial anxiety



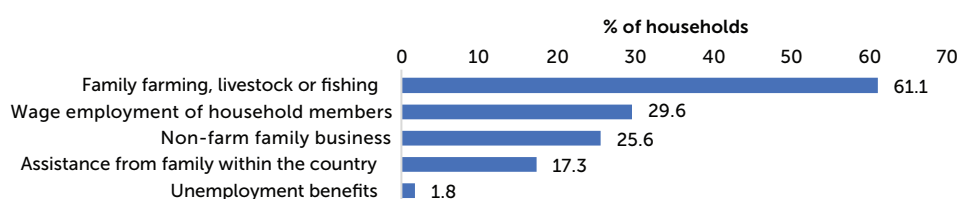
Source: Round three of the high frequency mobile phone survey.

2.5 Income sources

Since the start of 2020, more than half of households had received income from agricultural activities, including farming, raising livestock or fishing, and more than a quarter had income from either non-farm business or wage employment. In total, 61 percent of households reported that farming had been a source of income for their household since 2020 (Figure 11). This is followed by wage employment (30 percent), non-farm business

(26 percent), and assistance from within the country (17 percent). There was no significant difference between male-headed households or female-headed households in terms of their income sources. Households in the top 40 percent were more likely than other groups to have wage employment (45 percent) and non-farm businesses (34 percent) as their income sources, while households in the bottom 40 percent and the middle quintile were more likely to have income from farm related activities.

Figure 11 – Top 5 sources of income since the start of 2020 (% of all households)

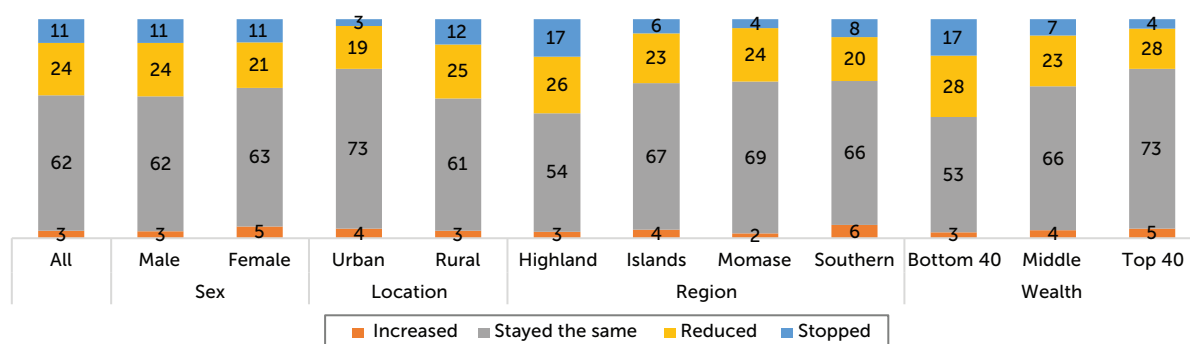


Source: Round three of the high frequency mobile phone survey.

Most households reported that their income from all sources had stayed the same since the start of 2020, but one-third reported their income had either reduced or stopped entirely, with uneven distribution across regions and wealth groups. Nationally, 62 percent of households reported that their income had stayed the same and 35 percent of households reported reduced or no income since the start of 2020 (Figure 12). Only 3 percent of households reported an increase in income. Households in rural areas (37 percent) were significantly more likely than households in urban areas (23 percent) to experience a decline or a stop in their income. Geographically, households that experienced lower or no income were concentrated in the Highlands

region, at 43 percent. The proportion was significantly lower in the Islands region, the Momase region, and the Southern region (less than 30 percent). Slightly more than half of households in the bottom 40 percent reported the same level of income, while 45 percent reported that their income had either reduced or stopped entirely. This contrasts with households in the middle quintile and top 40 percent, where only 30 percent and 22 percent of households, respectively, reported lower or no income. These results paint a worrying picture of the uneven impacts of COVID-19 since the start of 2020. Households with more vulnerable situations were more likely to report a reduction or a cessation in income from all sources.

Figure 12 – Household income compared to the start of 2020 (% of all households)



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

2.6 Coping Strategies

The most common strategies were finding ways to earn extra money (71 percent), spending from personal savings (52 percent), and receiving non-cash assistance from friends or family (47 percent) (see Figure 13). Approximately 93 percent of households in PNG had used at least one coping strategy since the start of 2021. Nearly 40 percent reported that their household had employed five or more coping strategies. While there was little difference geographically for households using at least one coping strategy, just 31 percent of households in the Southern

region reported employing at least five strategies, compared with 43 percent of households in the Highlands region. However, these strategies are difficult to attribute to COVID-19 as there are no pre-pandemic baseline measures to compare against.

Most households that employed coping strategies were poor. Nearly 70 percent of households who reported they found ways to earn extra money were in the bottom 40 percent of the wealth distribution. In contrast, just 9 percent were in the middle quintile, and 21 percent were in the top 40 percent. Similarly, for the second most common

strategy, 70 percent of survey respondents who spent from their savings were from the bottom 40 percent of households compared with 23 percent who were from the top 40 percent of households. There was not a single strategy that, when employed, was employed by wealthier households more than poorer households.

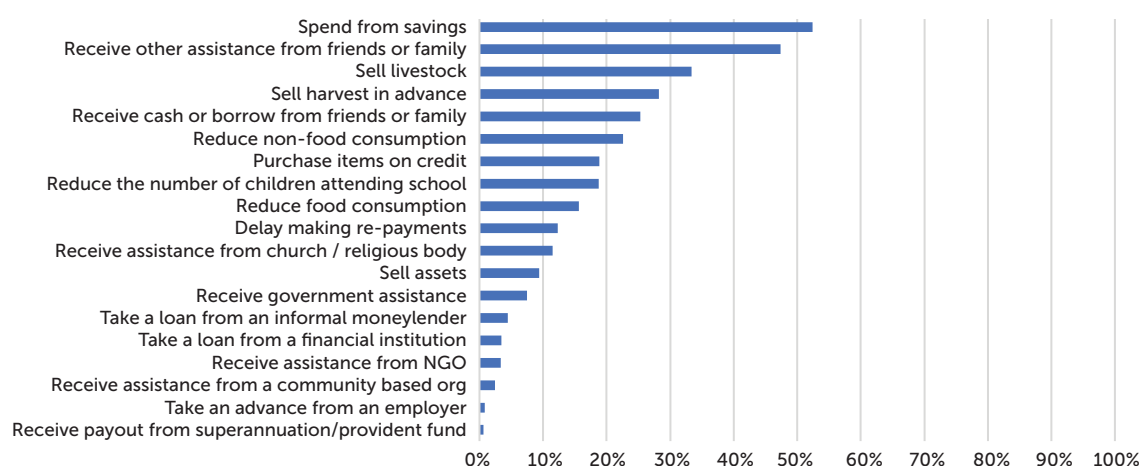
Households with young children were more likely to change spending patterns or seek additional sources of income than to decrease consumption. While 8 percent of households with children under 5 years of age indicated they had reduced food consumption, 17 percent of households without children under 5 had done the same. Likewise, just 7 percent of households with young children reduced non-food consumption while 25 percent of households without young children did the same. In contrast, households with children under 5 years were more likely to look for ways to earn extra money, to spend their savings, and to receive either cash or assistance from friends and family.

Households continued to employ coping strategies that both depleted assets and savings as well as increased debt. Outside of

spending from personal savings, which was reported by more than half of households (52 percent), households also sold livestock (33 percent), sold harvests in advance (28 percent), and purchased items on credit (19 percent), all of which will impede future recovery efforts and increase the risk of food insecurity within the household. Of the top ten coping strategies, two led directly to increased household debt: purchasing items on credit and borrowing from friends or family. Delaying making repayments – though not in the top ten – was also commonly employed, with 12 percent of households reporting they had done this.

Access to safety nets was primarily through informal channels. Approximately half of households received assistance from friends or family, while one-quarter received cash from friends or family. It was also somewhat common for households to receive assistance from churches or religious bodies (12 percent), from the government (7 percent), or – less commonly – from an NGO (3 percent) or community-based organization (2 percent). Less than 5 percent of households took loans from either informal moneylenders or financial institutions.

Figure 13 – Coping strategies employed by households since January 2021



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

3. Impact of COVID-19 on Human Development

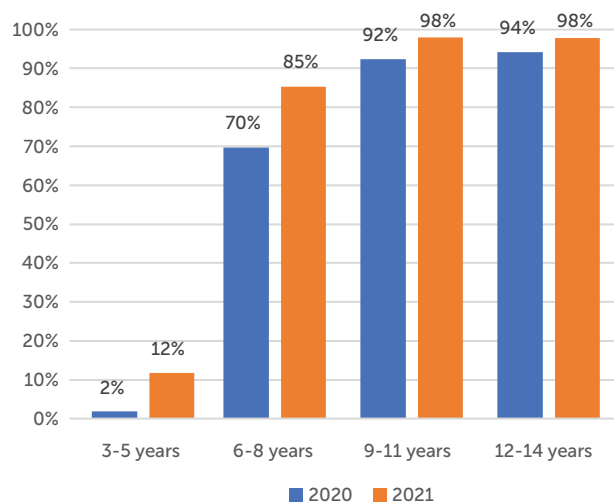
This section draws on the UNICEF survey to report on levels of education, healthcare, water and sanitation, food security and public trust, community security, and intra-household conflict (including child discipline).

3.1. Education and Schooling

There was a modest increase in attendance rates between the start of the 2020 school year and the start of the 2021 school year. At the start of the 2020 school year (before schools closed as part of the first COVID-19 State of Emergency containment measures), 60 percent of children aged 3–14 were enrolled in school, compared with 69 percent of children at the start of the 2021 school year. Attendance rates for children 6–8 years of age increased from 70 percent to 85 percent (partly because many children in this age cohort met the official age that children are supposed to enter school in 2021) and from 92 percent to 98 percent for children 9–11 years of age. At the time of the survey, 68 percent of children aged 3–14 and 94 percent of children 6–14 were currently attending school (Figure 14). This includes 85 percent of those aged 6–8, 97 percent of those aged 9–11, and almost every student aged 12–14 (98 percent). Only 10 percent of children aged 3–5 were attending school at the time of the survey, considerably lowering the overall average.

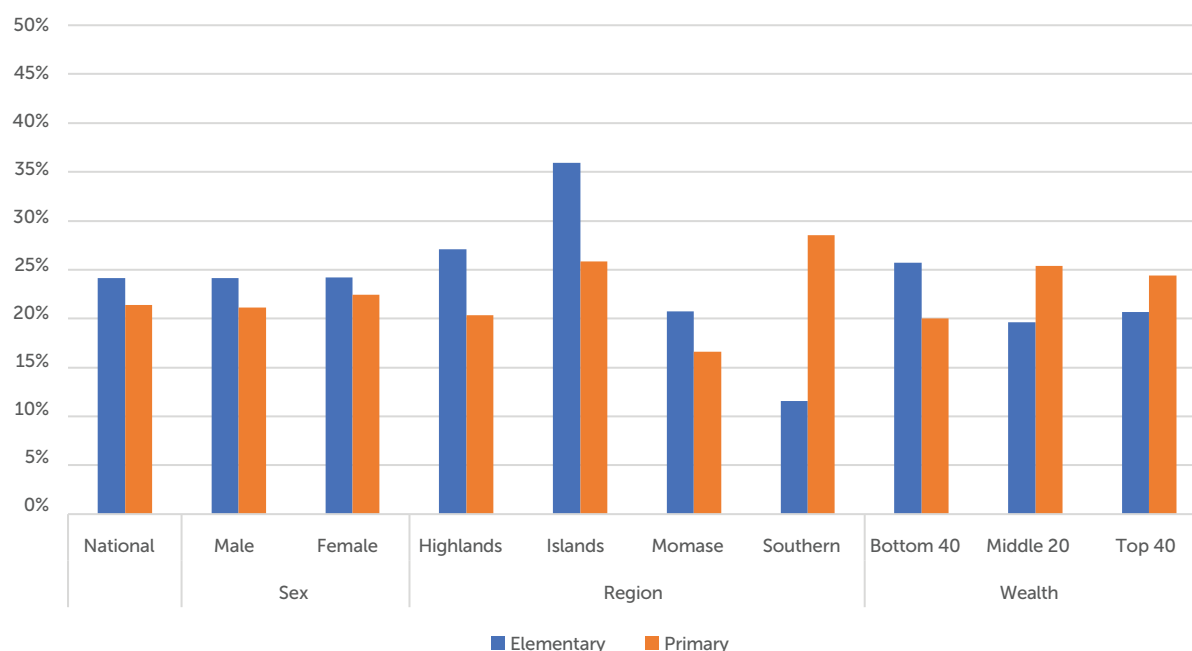
Participation in distance learning while schools were closed in March and April 2021 was quite low. At the national level, 24 percent of elementary school students and 21 percent of primary school students reported partici-

Figure 14 – Attendance rates at the start of the 2020 and 2021 school years



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

pating in distance learning during this time (Figure 15). There was a considerable degree of geographical influence on distance learning at the elementary school^{vi} level, as less than 12 percent of students in the Southern region participated in distance learning, compared with 36 percent in the Islands region. Participation in distance learning at the primary school level was somewhat more uniform across regions. A smaller proportion of elementary students in the top three quintiles participated in distance learning than those in the bottom two quintiles. In contrast, primary school students in the middle 20 and top 40 were more likely to participate in distance learning (25 percent and 24 percent, respectively) than the lowest 40 (20 percent). Of those who participated in distance learning, 90 percent used printed study materials. Less than 2 percent reported using softcopy study materials (to be completed online or on any device) and less than one percent reported using two-way video communications (such as Zoom, Skype, or WhatsApp).

Figure 15 – Participation of elementary and primary students in distance learning

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

The vast majority of households did not participate in distance learning simply because it was not provided by the school. Of the six options respondents were given when indicating that children in their household had not participated in distance learning, 94 percent of respondents indicated this as a reason. Following this, the need for a computer/smartphone (28 percent), the need for a TV/radio (23 percent), the inability of a parent/caregiver to support children in accessing distance learning (19 percent), and a lack of internet connection (11 percent) were the most common reasons.

Nearly all children resumed in-person classes once schools reopened following the March–April 2021 closure and only a small portion delayed their return. Almost every school that had closed was open again at the time of the survey, with just one percent opening but then closing again, and one percent remaining closed. Of those respondents whose

school had reopened, 93 percent of students returned immediately, and 6 percent returned but with some delay. Only one percent of students did not return. The most common reasons for not returning were a lack of money for school fees (26 percent), no interest in returning (25 percent), the child needs to help support the family financially (21 percent), or that the child had missed out on learning during the closure (16 percent).



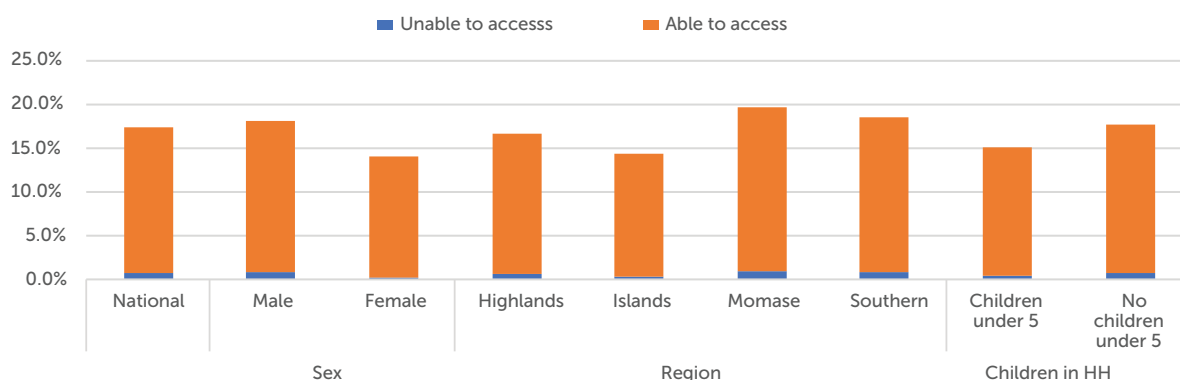
Kokopo Market, East New Britain (World Bank/Kalo Fainu)

3.2 Access to Health Care

Access to urgent medical care, when needed, was generally unobstructed, but occasionally impacted by COVID-19. Nationally, 17 percent of respondents reported that a household member had required urgent medical care (that is, for an acute illness or broken bone) in the previous month (Figure 16). Of those requiring care, 96 percent had been able to access it. There was little variation by gender of respondent or geographical area in the need for such care or in the ability to access it. Slightly fewer households with children under

Similarly, it was rare for COVID-19 to inhibit access to routine or preventive medical care. Overall, less than five percent of households reported requiring routine or preventive medical care (such as access to family planning services, childhood vaccines or tuberculosis care). Unlike urgent medical care, there were considerable regional differences for this indicator, as less than 3 percent of households in the Islands and Momase regions required routine or preventive medical care compared with 10 percent of households in the Southern region. However, of those requiring routine or preventive care, almost all were

Figure 16 – Rate of access to urgent medical care and the rate of those needing but unable to access urgent medical care



Note: This is based on the total percentage of households.
Source: Round 3 of the high frequency mobile phone survey.

5 reported requiring urgent care than those without (17 percent and 19 percent, respectively); however, those with young children who required urgent care were almost always able to access it (98 percent), while those without had slightly more trouble (95 percent). Households across the wealth index (poor, middle income, and wealthy) each needed and accessed urgent medical care at remarkably similar rates. Amongst all respondents, the main reasons for not being able to obtain urgent medical care were the inability to travel and fear of visiting the facility due to COVID-19.

able to access the care they needed (98 percent nationally). Every household with children under 5 was able to access routine or preventive medical care if they needed it. While more than 98 percent of both the bottom 40 percent and top 40 percent of households were able to access routine or preventive care when needed, just 88 percent of the middle quintile was able to do so. The most common deterrent to access was again the inability to travel to the health facility (39 percent), though lack of medical personnel (34 percent) and fear of visiting facilities due to COVID-19 (25 percent) were also common.

3.3 Water and Sanitation

Nearly 40 percent of households reported insufficient access to both drinking water and water for handwashing in the 7 days prior to the survey (Figure 17). Barriers to access for both types of water were most acute in the Islands region and least acute in the Highlands region. The largest geographical discrepancy was observed for drinking water, as nearly 70 percent of households in the Highlands had sufficient access to drinking water compared to just 54 percent of households in the Islands region. Very minor differences were present regarding drinking water in households with young children (under 5 years of age) and those without young children. In the absence of baseline data, it is not possible to know what proportion of these difficulties was related to COVID-19 or deteriorating economic conditions as opposed to systemic or seasonal constraints.

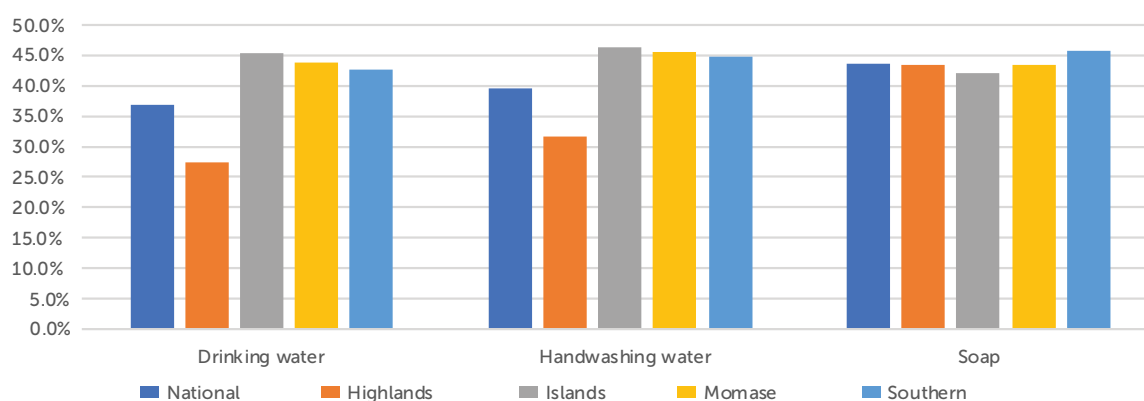
Just over half of households with children (under 14 years) had sufficient access to soap to wash hands with when needed. At the national level, 56 percent of survey respondents in households with children reported that their household had sufficient access to soap (Figure 17). Geographic disparities were less apparent for soap than for water sources, with

the highest proportion of sufficient access to soap reported by households in the Islands region (58 percent) and the lowest in the Southern region (54 percent). More than 60 percent of the top 40 percent of households had sufficient access to soap for handwashing, compared to just 51 percent of the bottom 40 percent of households.

3.4 Access to Staple Starch, Proteins, Fruits and Vegetables

Markets and supply chains appear to be functioning and accessible, though when obstructed, affordability remains the most common barrier. Nationally, two-thirds of households attempted to buy their preferred, main staple starch in the week prior to the survey and the majority were able to access it (77 percent). Nearly 90 percent of households attempted to purchase their staple protein and 85 percent were successful in doing so. Purchases of fruits and vegetables were less common, with less than 60 percent attempting to purchase fruits and vegetables (83 percent of whom were successful). Of those households who attempted to purchase a staple food but were unable to do so, cost was the greatest constraint to purchasing each of the three staple food types.

Figure 17 – Proportion of households unable to access sufficient water and soap

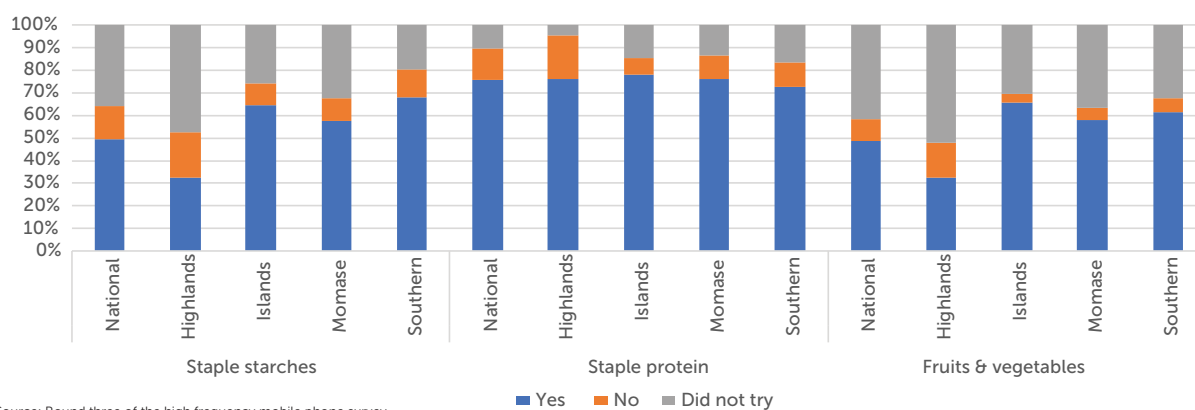


Source: Round three of the high frequency mobile phone survey.

Four out of every five households purchasing rice in the past week had noticed a small to moderate price increase since the same time last year. Rice is a popular starch in PNG, with approximately one-quarter of households – especially in the Southern and Islands regions – consuming it as their main starch, and 86 percent of all other households purchasing at least some quantity in the past week. Among households who had purchased rice in the past week, 78 percent reported an increase in price since the same time last year. This

Access to staple foods – particularly starches, fruits and vegetables – was lowest in the Highlands region and highest in the Southern region. Though the proportion of households attempting to purchase both staple starches and fruits and vegetables in the past week was also lowest in the Highlands region to begin with (Figure 18), the proportion who tried and successfully accessed their staple starch or fruits and vegetables in the past week was also the lowest. Just over half (53 percent) of households in the Highlands region attempted

Figure 18 – Proportion of households attempting and able to purchase essential food items



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

increase was noted as “small” by the majority of respondents (70 percent), though 24 percent reported it as a “moderate increase”, and 6 percent as a “large increase”.

Poor households had the most difficulty accessing all essential food groups. While 90 percent of the top 40 percent of households were able to access their main staple starch in the past week, just 71 percent of the bottom 40 percent were able to do so. Similarly, while 91 percent of the top 40 percent of households were able to access their main staple protein, only 82 percent of the bottom 40 percent of households were able to do the same. Finally, only 80 percent of the bottom 40 percent of households were able to access fruits and vegetables compared with more than 91 percent of wealthy households.

to purchase their main staple starch, compared with 68 percent of households in the Momase region, 74 percent of households in the Islands region, and more than 80 percent of households in the Southern region. Of those who attempted to purchase their staple starch, just 62 percent of households in the Highlands region were able to access it, compared with more than 85 percent of households in each of the other three regions. Similarly, less than half of households in the Highlands region attempted to purchase fruits and vegetables, compared with approximately 70 percent of households in the Islands and Southern regions. Just 67 percent of those in the Highlands region who attempted to purchase fruits and vegetables were able to do so, compared with more than 91 percent of households in the Islands, Momase, and Southern regions.



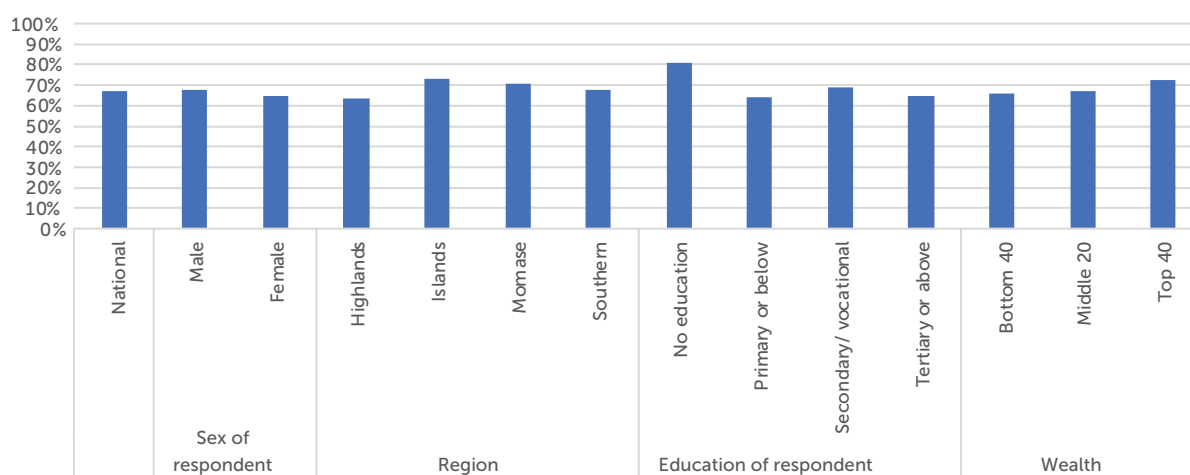
More than two-thirds of households surveyed reported at least one episode of food insecurity (Conor Ashleigh/World Bank)

3.5 Food Insecurity

More than two-thirds of households reported at least one episode of food insecurity in the previous 30 days. This indicator is defined as experiencing any of the full set of eight indicators derived from questions recommended by the Food and Agriculture Organization (FAO) to measure food insecurity.^{vii} Some regional variation was apparent, with just 63 percent of households in the Highlands region reporting at least one episode of food insecurity in the past 30 days, compared with 67 percent of households in the Southern

region, 70 percent of households in the Momase region and 73 percent of households in the Islands region (Figure 19). Sex of the respondent had very little impact on whether the household had experienced at least one episode (68 percent for male respondents versus 65 percent for female respondents). In contrast, there were vast differences when considering the education level of the respondent. More than 80 percent of respondents with no education reported experiencing at least one episode of food insecurity in the past 30 days, compared to just 65 percent of those with tertiary or higher education.

Figure 19 – Households experiencing at least one episode of food insecurity



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

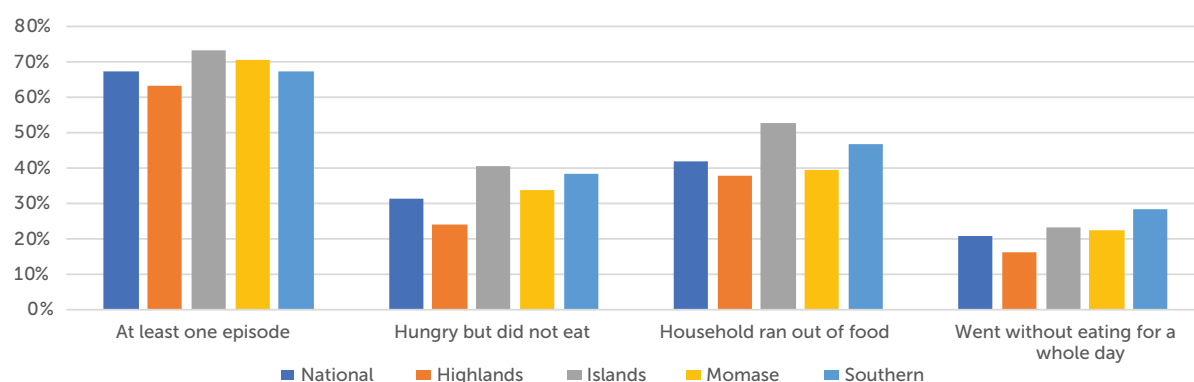
Food insecurity in Papua New Guinea remains pervasive though fairly intermittent.

Nationally, 31 percent of households reported that there had been a time in the past 30 days they had been hungry but had not eaten because there was not enough money or other

Households with children under five experienced similar levels of food security to other households.

A larger proportion of households with children under 5 reported at least one episode of food insecurity. However, 23 percent of households with children under

Figure 20 – Proportion of households experiencing food insecurity, by region

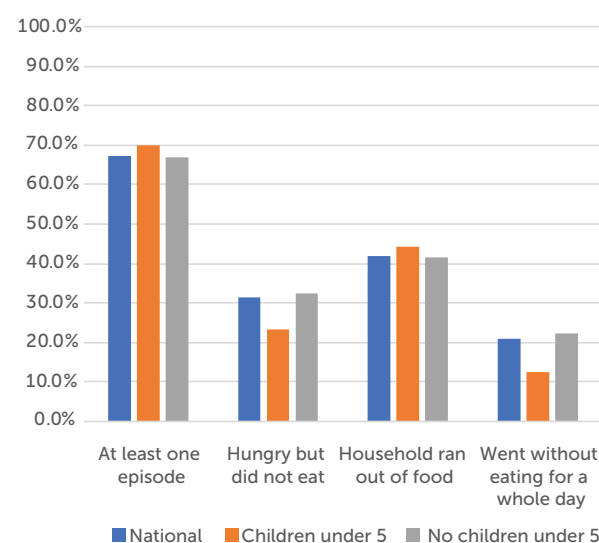


Source: Round three of the high frequency mobile phone survey.

resources for food (Figure 20). Just over 42 percent of households reported that there had been a time in the last 30 days that their household had run out of food because of a lack of money or other resources. The most severe level of food insecurity – going without eating for a whole day because of a lack of money or other resources – was reported by 21 percent of all households. Wealth had a small but notable impact on the proportion of households experiencing this indicator, with 25 percent of the top 40 reporting going a whole day without eating compared to 20 percent of both the bottom 40 and middle quintile. The lowest proportion of households experiencing each of these three food security issues was consistently reported by the Highlands region. However, the frequency of each episode is remarkably low; less than 3 percent of households reported that the event occurred often, while the vast majority (97 percent or higher) reported that it occurred only sometimes.

5 had an adult or other family member report being hungry but not eating, while 32 percent of households without young children reported the same (Figure 21).

Figure 21 – Proportion of households experiencing food insecurity by presence of children in household



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

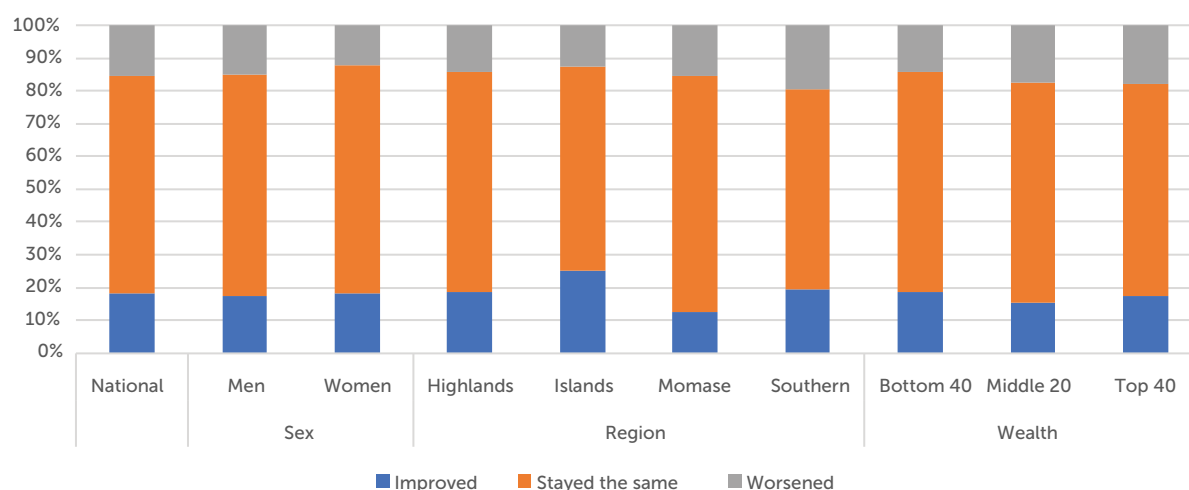
Perceptions of community relations and trust appear stable and largely unchanged since the beginning of 2021, with moderate improvements reported in the Islands region.

Most respondents (66 percent) indicated that trust and community relations had remained unchanged since January 2021, while an additional 15 percent believed they had improved (Figure 22). Geographically,

More respondents believed that both property crimes and theft had become worse since the start of the year than believed they had improved.

Though the majority indicated the situations in regard to both property crimes and theft had remained unchanged (61 percent and 60 percent, respectively), twice as many respondents indicated a deterioration in the situation regarding theft in their community

Figure 22 – Change in community trust and relations since January 2021 (% of households)



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

improvements appeared most noticeable in the Islands region, where 25 percent of respondents indicated that community relations had improved since the beginning of the year, compared to 20 percent of respondents in the Southern region, 19 percent of respondents in the Highlands region, and 13 percent of respondents in the Islands region. Household wealth had little impact on perceptions of community relations, with the largest difference observed in the proportion of wealthy believing there had been some deterioration (18 percent) compared to the proportion of poor that believed there had been deterioration (14 percent).

(27 percent) rather than an improvement (13 percent), while 23 percent of respondents indicated a deterioration in property crimes and only 16 percent indicated an improvement. There was little variation when considering the gender of the respondent. The greatest proportions of displeased respondents were in the Southern region, where 33 percent of respondents indicated the theft situation had been deteriorating since the start of the year and 31 percent indicated the property damage situation had been deteriorating. Notably, wealthy households were more likely to believe the situation regarding property crimes had deteriorated (29 percent) than poorer households (20 percent), and poor households were more likely to believe it had improved (19 percent) than wealthy households (12 percent).

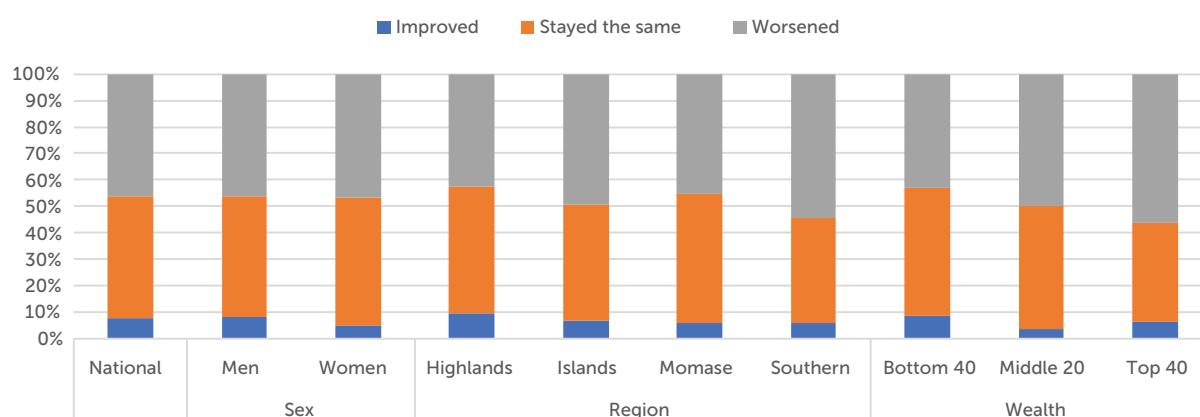
Overall, 15 percent of respondents indicated there had been an increase in police intimidation since January 2021. Just 7.5 percent believed the situation had improved with regard to police intimidation, with similar sentiments from both men and women. There were considerable geographic variations regarding police intimidation, as increases were most apparent in the Southern region (25 percent of respondents cited increases in intimidation), and least apparent in the Islands region, where less than 12 percent of respondents cited increases. However the source of this reported increase in police intimidation requires further research. Household wealth had very minimal impact on respondent perceptions of police intimidation in communities.

Alcohol and drug abuse in communities has considerably worsened since the start of the year. Nearly half of all respondents (46 percent) reported that the situation regarding alcohol and drug abuse in their community had deteriorated since January 2021, with an additional 46 percent reporting that it had remained unchanged and only 7 percent of respondents – driven by men and those in the Highlands region – reporting an improvement (Figure 23). As was seen in property damage,

theft, and police intimidation, deterioration in the alcohol and drug abuse situation again appears most evident in the Southern region. In this region, 55 percent of respondents indicated the situation regarding alcohol and drug abuse had worsened, compared to 50 percent of respondents in the Islands region, 45 percent of respondents in the Momase region and 43 percent of respondents in the Highlands region. A much larger proportion of wealthy households believed alcohol and drug abuse had deteriorated since the start of the year than poorer households. While 43 percent of the bottom 40 believed the situation had deteriorated, 56 percent of the top 40 believed the same.

Despite nearly three-quarters of respondents indicating that the situation related to domestic violence remained unchanged, a substantial number also indicated it had worsened. Nationally, 74 percent of respondents indicated that the domestic violence situation in their community had remained the same since the start of the year, while 9 percent indicated it had improved and 17 percent indicated it had deteriorated. Both men and women shared remarkably similar impressions of the situation. Unlike other aspects of public trust and safety, there was minimal variation across regions or

Figure 23 – Change in situation with alcohol and drug abuse since January 2021 (% of respondents)



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

household wealth levels, with respondents in each of the four regions and three wealth brackets reporting similar concerns over the increase in domestic violence.

3.7 Child Discipline

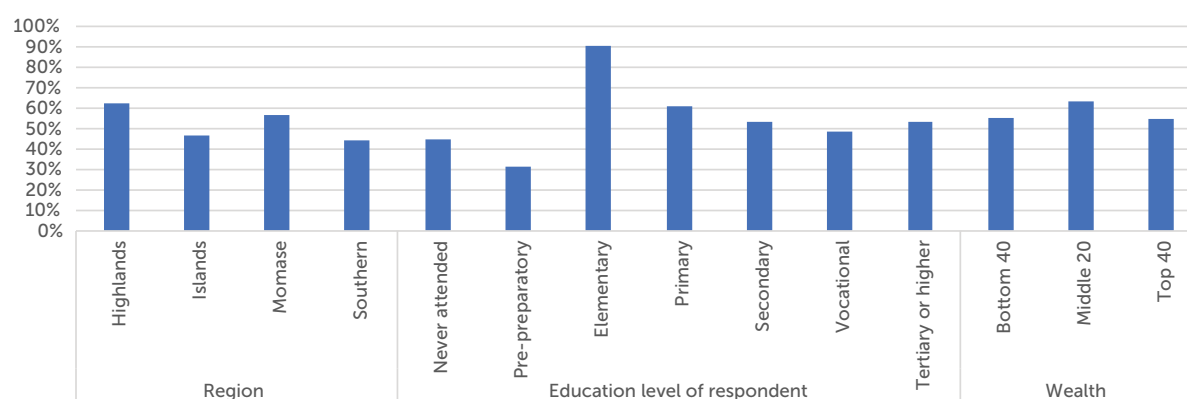
Most adults and caregivers believed that discipline is necessary in order to raise or educate children properly. More than 86 percent of adults and caregivers surveyed believed that to raise or educate a child properly, a child sometimes needed to be disciplined. This was a consistent belief across all four regions of the country. Though not substantial, a larger proportion of poorer households believed discipline was necessary than wealthier households (88 percent of the bottom 40 believed discipline was necessary compared with 83 percent of the top 40).

Physical discipline, though less common, was still believed by 56 percent of respondents to be necessary for raising or educating a child properly. Unlike other measures of discipline, there were considerable disparities in support for physical punishment by both geographical area and education level of respondent (Figure 24). The most widespread support for physical discipline of children was in the Highlands region, where 62 percent of respondents believed physical punishment

was necessary, while the lowest was in the Southern region (44 percent). The wealthiest and poorest households were equally least likely to believe physical punishment was necessary (55 percent), while 63 percent of the middle wealth quintile believed physical punishment was necessary.

Physical discipline and suspension of privileges were the most commonly cited methods used by adults to teach children what they consider to be proper behavior. The survey randomly selected one child aged 3 or older in the household and covered five ways^{viii} that children could be disciplined to teach what adults considered to be proper behavior or to address a child's behavioral problem. More than one-third (37 percent) of adults in the 15 days prior to the survey had spanked, hit or slapped their child with their bare hand or foot, while 34 percent had revoked the child's privileges or forbade something the child liked. Also common were physical discipline with an object (27 percent) and calling the child dumb, lazy, or another name (21 percent). Less than 10 percent of adults reported that the child had been shaken.

Figure 24 – Respondents believing physical punishment is necessary, by region and education



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



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Conclusions & Policy Implications

The surveys show that in general there were similar levels of economic activity and human development in mid-2021 as was the case at the start of 2021. This stabilization is notable given that over this period there was a rapid escalation of the COVID-19 crisis in March followed by a fall in cases throughout May. However, also does not demonstrate a recovery to pre-pandemic levels. It is important to note that all data in this report was collected prior to the arrival of the Delta variant of COVID-19 in PNG and future survey rounds will analyze its impact on economic activity and human development.

The surveys in this report identify several areas worthy of immediate attention from policy makers. These are listed below, with suggestions for actions that could be taken:

- Expanding the coverage of formal safety nets – Poorer households were more likely to report having to implement coping strategies that may increase their economic vulnerability, including depleting assets and savings as well as increasing household debt. Only 7 percent of households reported receiving any assistance from governments. Expanding the coverage of formal safety nets would greatly assist the households

most in need as there are worrying signs they may have exhausted all, or at least most, of the coping strategies available to them.

- Continuing to prepare distance learning options– More than three-quarters of students did not participate in any distance learning activities during the school closures in March and April, primarily because this was not offered by schools. Given future COVID-19 outbreaks may result in school closures, the continued preparation to ensure more schools can offer distance learning options is critical for learning continuity.
- Increasing access to soap and water for handwashing – Around half of households reported having inadequate access to soap and water for handwashing. Full implementation of the National WASH Strategy is a critical policy lever to increase WASH access across the country, especially as PNG is likely to have COVID-19 and other communicable diseases circulating in the community well into the future.
- Improving the affordability of staple starches – Rice is a key staple starch for households, particularly in the Southern and Islands regions, and over three-quarters of households reported price rises over the past year. This warrants investigation into whether supply chains are causing this and if there are actions governments can take to ensure rice is affordable.

- Addressing rising alcohol and drug use – Almost half of households indicated a rise in alcohol and drug abuse in their communities since the start of 2021. Such an alarming increase is worthy of immediate action by governments and non-government community groups as this may be symptomatic of deeper social unrest that may come to the surface in the future.

The surveys also reveal there are significant medium-term challenges facing PNG. More than half of households reported relying on subsistence agriculture as their main source of employment. There are high levels of food insecurity, low levels of participation in pre-primary education, and many households

report being unable to access health care due to distance to facilities. Reports of crime, domestic violence, theft and police intimidation are alarmingly high. Collectively, the findings illustrate many areas for policy makers to focus on in the medium term, even though thus far the impact of COVID-19 does not appear to have resulted in a substantially greater deterioration in conditions throughout 2021.

References

- i The five-volume best practice methodological guidelines are available at <https://documents.worldbank.org/en/publication/documents-reports/documentlist?repnb=148213>.
- ii The round 1 and 2 reports are available through the World Bank's Open Knowledge Repository at <http://hdl.handle.net/10986/34907> and <https://openknowledge.worldbank.org/handle/10986/35585>.
- iii PNG National Department of Health, World Health Organization. Papua New Guinea: Coronavirus Disease 2019 (COVID-19) Health Situation Report #84. 02 August 2021. Period of Report: 26 July – 01 August 2021.
- iv Of which 21,000 would be taken up by the Chinese citizens while the rest would be available for PNG citizens and other residents on a voluntary basis.
- v Employment data for the start of 2021 is recall data collected at the time of the Round three survey
- vi Elementary school covers the first three grades of primary education.
- vii http://www.fao.org/fileadmin/templates/ess/voh/FIES_Technical_Paper_v1.1.pdf
- viii These include: taking away privileges; forbade something the child liked, or did not allow them to leave the house for a period of time; called the child dumb, lazy or another similar term; shook the child; spanked, hit or slapped the child with bare hand (or foot); or spanked or hit the child with an object.

