World Food Programme

SAVING LIVES

CHANGING LIVES

WFP/Josh Estey

ver 2020.05.20

INDONESIA

COVID-19: Economic and Food Security Implications

Vulnerability Analysis and Mapping (VAM) Unit - Indonesia Country Office
Contact: Saidamon.Bodamaev@wfp.org and Alika.Tuwo@wfp.org

Preface

The COVID-19 virus is spurring dramatic changes to economic, healthcare, transportation, and education systems around the world. Impacts are also felt through international trade disruptions, restrictions in supply chains and an increase in cost of imports and exports. Equally important are the potential adverse effects of the pandemic on food security conditions and local food systems and their ability to provide affordable and nutritious food to meet existing demands.

It is apparent that the economic disruptions associated with the COVID-19 pandemic and its negative effects on food security are far more likely to impact the poor and vulnerable groups who have less resources to absorb and adapt. These groups are already facing food insecurity and malnutrition and are primarily low income urban households, and market dependant rural households.

To help monitor the developing impacts of the pandemic, this update provides a snapshot of the implications of the pandemic on the economy and food security in Indonesia and its impact on consumption and livelihoods. Vulnerability analysis has been conducted to identify the characteristics of the most vulnerable groups who remain particularly susceptible to economic slowdowns, owing to the absence of employment protection and reliable wages, and people below or near the poverty line who are most exposed to potential loss of income due to insecure jobs and are most vulnerable to higher market prices. A special focus is given to the "bottom 40% of the population" informal workers, and people employed in agriculture who undoubtedly, have been impacted by the shock, and may benefit from inclusion under social protection schemes and other supportive measures.

The analysis also covers the availability of strategic food commodities in the markets and respective price trends at the national and sub-national levels. Additionally, the price trends for main food items in DKI Jakarta markets are presented.

Attention has also been given to available data and information on extended Government financial support, as well as the provision of social protection programmes to vulnerable groups who are heavily impacted by the pandemic. Relevant measures and policies in response to the socio-economic impacts of COVID-19 have also been reviewed.

The analysis used data primarily from official government sources, with media updates to triangulate the analysis results.

For more information, please contact;
Saidamon Bodamaev *Saidamon.Bodamaev@wfp.org*
Alika Dibyanta Tuwo *Alika.Tuwo@wfp.org*

Contents

Key Messages & Recommendations

Key Messages

- In the first quarter of 2020, the Indonesian GDP grew by 2.97% year-on-year (YoY), the lowest increase since 2001.
- The economic sectors expected to be highly- to moderately-affected by the COVID-19 pandemic contributed 71% to the national GDP in 2019. The five highly impacted sectors (manufacturing, wholesale and retail trade, repairs, transportation and storage, accommodation and services), made up 41% of the Indonesian economy in 2019, employing 45% of the country's total workforce.
- Estimated 2.9 million to 5.2 million workers could lose their jobs during the pandemic and an additional 1 million formal workers had been told to stay at home, either unpaid or half-paid. The jobs of around 316,000 informal workers have been affected by the social distancing measures.
- Informal workers are among the economically most vulnerable groups who are often not covered by formal employment social security schemes and do not always have access to health insurance. This has likely pushed those in urban locations to return to their hometowns, increasing the risk of spreading the infection to rural areas. Upon return to the cities, they may spark a second wave of infection and further economic downturn.
- Rising unemployment among formal and informal workers is leading to declining purchasing power, subsequently increasing the risk of food insecurity and malnutrition in the medium- to long-term. The majority of the "bottom 40% population"[i] are employed in the informal sector and in sectors estimated to be highly- to moderately-impacted by the pandemic.
- There has been an indication of households reducing consumption due to COVID-19 social distancing measures, including restrictions on movements and business operations, which began in certain areas as early as mid-March 2020.
- In response to the pandemic, the Government of Indonesia (GoI) has expanded the coverage of existing social protection programmes as well as deployed new schemes specific to COVID-19: over IDR 405 trillion have been allocated for COVID-19 response measures, including IDR 110 trillion for social protection of the most vulnerable.
- Government financial and social assistance to those most vulnerable has been crucial to help mitigate the impact of the pandemic on the poor. Nonetheless, challenges have been reported in ensuring that the assistance reaches the most needy, which should include the "bottom 40% of the population" and those working in the informal sectors.
- Although at this point Indonesia's national food balance remains safe for most major commodities, it may undergo changes due to import dependency for certain commodities (wheat, sugar, garlic, beef, and soybean). Difficulties in securing beef imports increase the likelihood of beef prices rising as the Eid 'al Fitr holidays approach, however the lower than usual demand may help to dampen price spikes. In addition, the limited availability of red onions that is expected to continue in the coming months may require further attention.
- According to the Government, as of end April 2020, several provinces were estimated to have a deficit of food commodities, including rice, maize, sugar, chili, garlic, red onion (shallots), and eggs, as they are not (major) producers of these commodities. No cooking oil deficits have been reported at the provincial level.

---

[i] The "bottom 40%" corresponds to the poorest two quintiles of the wealth distribution in terms of household consumption expenditure (for more information, please see the methodology section on page 38)

Key Messages & Recommendations

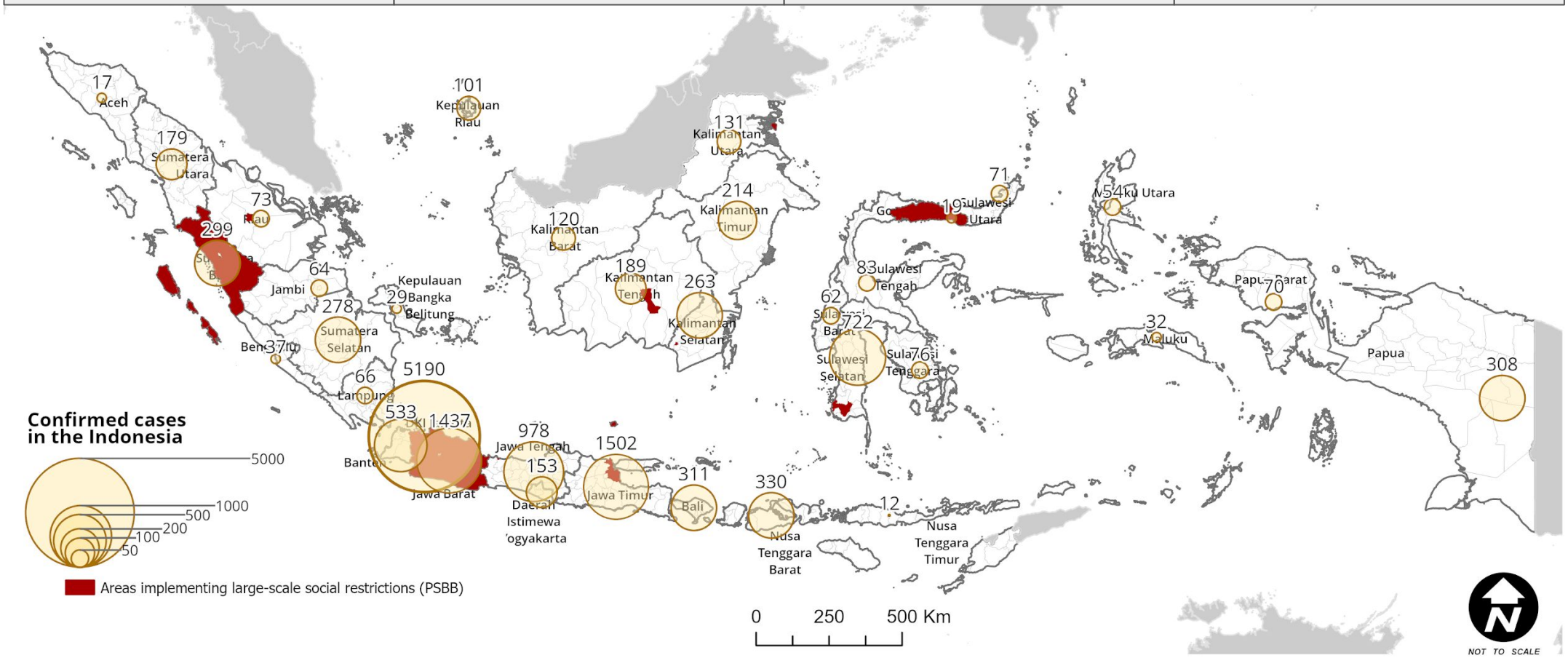
- Rice production, overall on a downward trend, in the first half of 2020 is estimated to be 13% lower than in the same period last year, but would still be sufficient to maintain a 6.4 million tons surplus by end of June 2020 .
- Prices for most major food commodities remained stable as of end of Apr 2020, thanks to increasing supplies from seasonal harvests and a possible reduction in demand due to social distancing measures, limited movements, and reduced purchasing power or cautious spending. Red onion prices, however, continued to escalate by the end of Apr 2020 due to a combination of factors, including delayed harvest, crop losses, and problems in distribution. Sugar and garlic prices have begun to stabilize due to imported stocks entering the domestic market, although sugar prices still remain high. Food prices overall remain highest in Maluku and Papua.
- Low farmgate prices for selected domestically produced food commodities may have mixed impact on farmers who may experience challenges to gain sufficient income from their produce and hence may not be able to obtain inputs needed for the next cultivation season.
- Social distancing and challenges in transportation have led to bottlenecks in the timely marketing of highly perishable commodities, i.e. fruits, vegetables, eggs, dairy products and fish.

Recommendations

- Rising unemployment is likely to result in a reduction of purchasing power, which in turn will put pressure on household food consumption quality and quantity. Therefore, providing access to unemployment benefits and social protection to those affected will be critical to cushion the impact of the pandemic on vulnerable groups, enhance purchasing capacities, and may significantly reduce the risk of food insecurity and malnutrition in the mid- to long-term.
- In addition to these immediate steps, in order to successfully address the pandemic (and perhaps future crises), the Government and other stakeholders may take advantage of the momentum to make progress towards a collectively financed, inclusive and comprehensive social protection system that is effective in targeting, and responsive and adaptive to future shocks.
- As an important step, timely delivery of commodities which the country imports from abroad and ensuring smooth distribution of domestically produced food from producing regions to consumer areas would help prevent local deficits and reduce regional variations in the development of food commodity prices.
- Special attention will need to be given to ensure that sufficient food commodities, especially rice stocks, are available towards the end of the year and in early next year to meet domestic demand - particularly due to the expected pronounced (drier) dry season in some parts of Indonesia in 2020.
- An appropriate redistribution of food items from surplus to deficit provinces is paramount to ensure stable and sufficient stocks across the country, and avoid price increases, which otherwise would further limit purchasing power and could lead to social unrest.
- Due to low farmgate prices for selected perishable food items produced domestically, as a result of social distancing measures, travel restrictions and reduced demand, targeted measures would be needed to support farmers in selling their produce in a timely manner, improving distributions of their products and securing inputs for on-farm production ahead of the upcoming cultivation season.
- Findings from the analysis make it apparent that as an important step, policymakers must be able to identify the most vulnerable populations and those most at risk of becoming vulnerable, and make decisions that aim to decrease the risk of economic harm of the COVID-19 pandemic period on them. Furthermore, sound policies on economic and social sectors and on food security are vital for the country to reduce the impacts of the pandemic in the mid- to long-term, and to be prepared for possible future pandemics to come.

Development of COVID-19 Cases in Indonesia (10 May 2020)

14,032	10,361	2,698	973
Confirmed cases	Hospitalized/self isolation	Recovered	Death



Source: WFP Indonesia COVID-19 Monitoring Dashboard | Data retrieved from: National Task Force for COVID-19

As of 10 May 2020, the number of confirmed cases in Indonesia reached 14,032 persons with 2,698 persons recovered, and the death toll at 973 people. Currently, COVID-19 positive cases have been confirmed in all 34 provinces with the highest number in DKI Jakarta (5,190 cases) and the lowest in East Nusa Tenggara (12 cases). The COVID-19 fatality per confirmed case is 6.9% as of 10 May 2020.

Macroeconomic Impacts: Growth, Inflation and Exchange Rate

Forecast GDP Growth 2020

ADB	EIU	IMF
Asian Development Bank	Economist Intelligence Unit	International Monetary Fund
2.5%	1.0%	0.5%

Annual Inflation

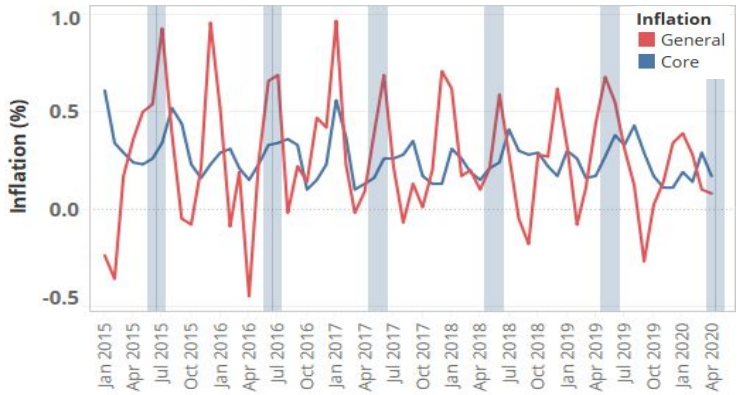
2.7%

in April 2020

Contribution to Annual Inflation

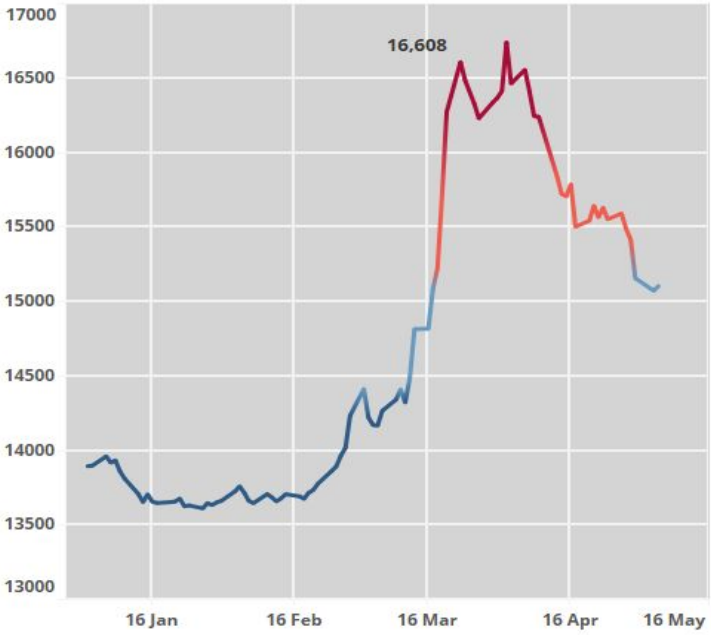
Food and Beverage	Personal Care
5.3%	6.5%

Monthly Inflation (%), Jan 2015 - Apr 2020



Note: Area shaded gray refers to Ramadan fasting month

IDR to USD Exchange Rate: Jan-May 2020



Source: Bank Indonesia, BPS, ADB, IMF, EIU

GDP Growth Rate 2020 Forecasts

According to the Asian Development Bank (ADB)[1], Indonesia's economy is expected to grow by 2.5% in 2020 amid the COVID-19 pandemic, down from 5.0% in 2019. The Economist Intelligence Unit (EIU) forecasted a 1.0% growth, and the International Monetary Fund (IMF) a 0.5% growth in 2020.

Inflation Rate

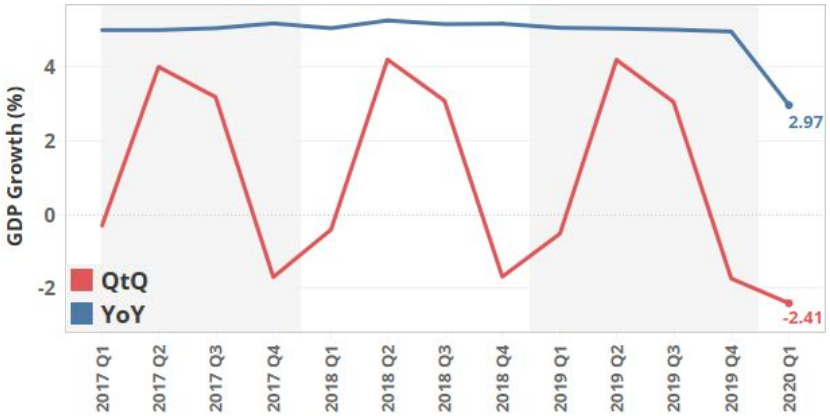
Statistics Indonesia (BPS) reported that the annual inflation of Indonesia in April 2020 stood at 2.7%, slightly lower than levels recorded in Apr 2019 (2.8%). Personal care contributed the largest share in the Apr 2020 annual inflation (6.5%), followed by food, beverages, and cigarettes (5.3%). Among food commodities, red onions (shallots) and sugar were the primary contributors to the Apr 2020 inflation. At slightly less than 0.1%, general monthly inflation in Apr 2020 (Ramadan started in the evening of 23rd Apr 2020) was much lower than typically observed leading to and during Ramadan. Core inflation, which measures the price movements of non-volatile goods and thus better tracks long-term trends, normally increases with the approach of Ramadan, but this year declined to 0.2% in Apr from the 0.3% recorded in Mar. Reduced consumption due to COVID-19 social distancing measures and weakening purchasing power have been suspected as the main driver [2,3].

Exchange Rate

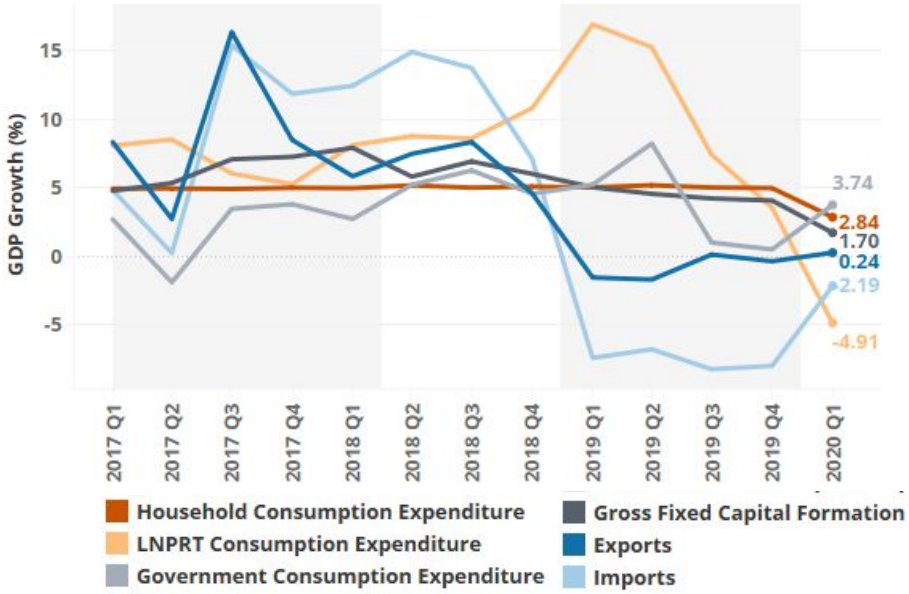
The depreciation of the IDR against the USD was observed in Q1 2020 with the hike starting in mid-Feb 2020 and becoming steeper in Mar. In mid-Mar, the exchange rate reached over IDR 16,000 per USD. An increase of 15.5% was recorded in Apr compared to Jan. Volatile exchange rates could adversely affect import prices including for food commodities. However, according to Bank Indonesia, the IDR started to get stronger in Apr due to the re-entry of foreign capital to Indonesia in large values[4]. Nonetheless, as of the first week of May, the exchange rate remained at levels higher than in the beginning of the year, at IDR 15,104.

Macroeconomic Impacts: Economic Growth

Quarterly GDP Growth (%)
Quarter-to-Quarter and *Year-on-Year*, 2017 Q1 - 2020 Q1



Y-o-Y Quarterly GDP Growth (%)
by Expenditure Category, 2017 Q1 - 2020 Q1



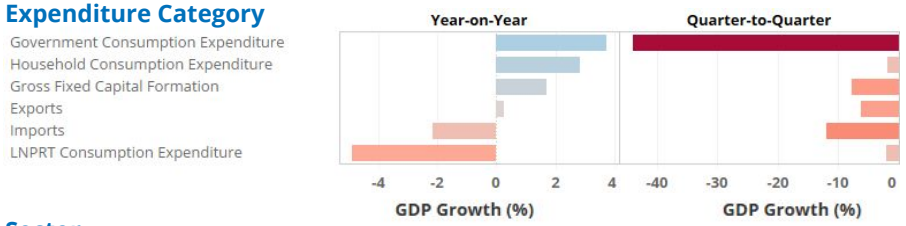
Note: LPNRT = Non-Profit Institutions Serving Households

Source: WFP calculation based on BPS data (2020)

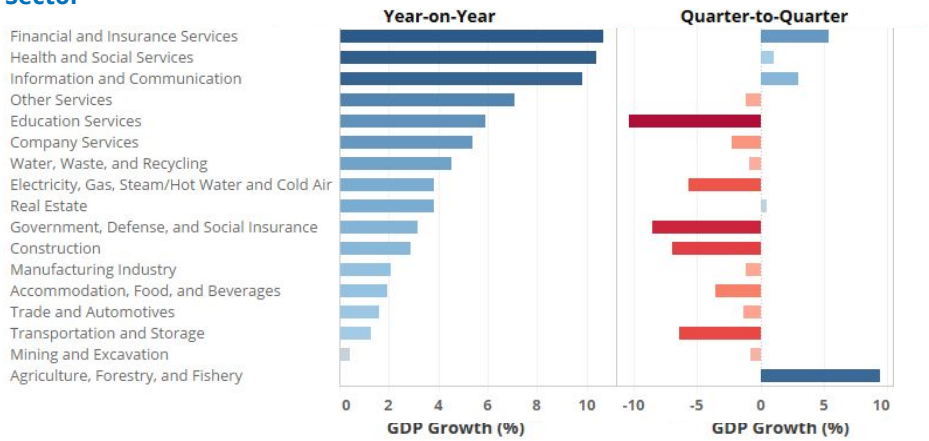
In 2020 Q1, the GDP grew by close to 3% year-on-year (YoY), the lowest since 2001, and fell by 2.4% in quarter-to-quarter (QtQ) terms. Household consumption expenditure, which contributed 58% to the GDP, grew by nearly 3% in YoY terms, but dropped from the 5% growth recorded in 2019 Q4. In QtQ terms, household consumption contracted by almost 2%. The dip in household consumption was primarily driven by reduced consumption expenses for clothing as well as transportation and communication as a likely side effect of COVID-19 social distancing measures, but may also reflect cautious spending in light of an anticipated or actual decline in purchasing power[5]. All GDP sectors reported positive YoY growth, albeit at mostly lower levels than in 2019 Q1. Financial and insurance services recorded the highest growth (11%), and agriculture the lowest (0.02%); the latter being due to shifts in the harvesting season with the harvesting peak for rice in 2020 occurring in April instead of usually March. In QtQ terms, the majority of sectors reported negative growth, with education services reporting the greatest contraction (-10%); agriculture had the highest positive growth (9.5%)[ii].

GDP Growth by Expenditure Category and Sector (%), 2020 Q1

Expenditure Category



Sector

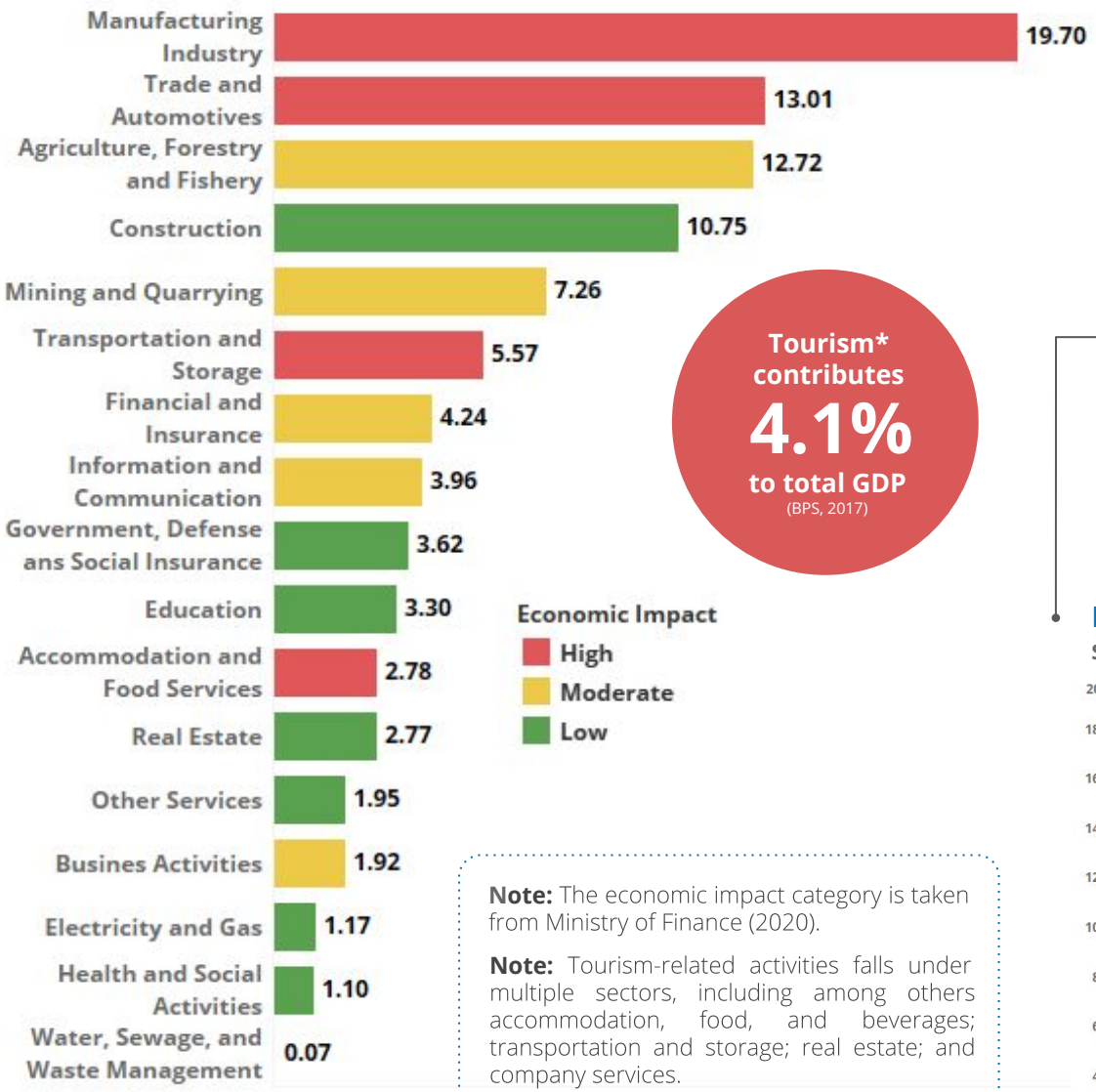


[ii] Agriculture showing the lowest YoY growth but highest QtQ growth could be explained by its seasonal nature. Output barely grew from 2019 Q1 (Jan-Mar 2019) possibly due to the delayed harvesting season. The peak rice harvest usually occurs in March, however this year it took place in April, i.e. 2020 Q2. Compared to 2019 Q4, output in 2020 Q1 was much higher as less harvest took place towards the end of the year.

Macroeconomic Impacts: Sectors Impacted

% 2019 GDP of Sectors Impacted by COVID-19

Source: Statistics Indonesia (BPS)



Tourism* contributes
4.1%
to total GDP
(BPS, 2017)

Note: The economic impact category is taken from Ministry of Finance (2020).

Note: Tourism-related activities falls under multiple sectors, including among others accommodation, food, and beverages; transportation and storage; real estate; and company services.

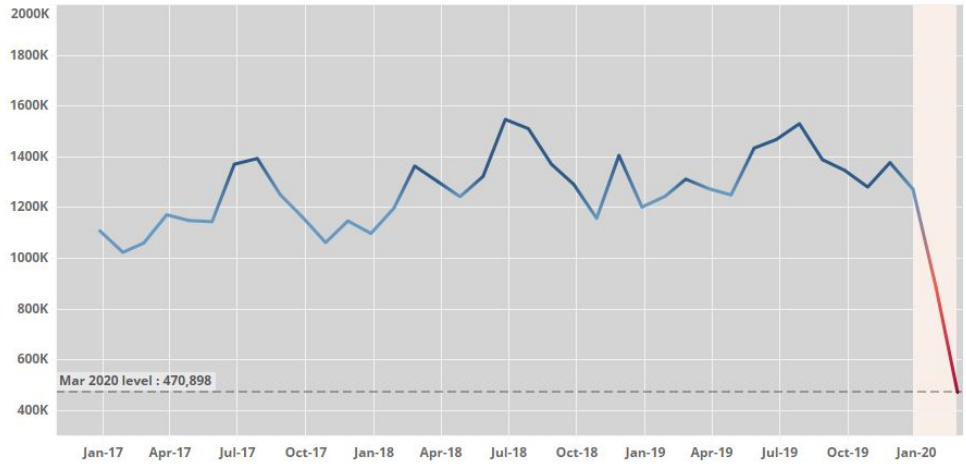
Sectors expected to be highly- to moderately-affected by the COVID-19 pandemic contributed 71% to the national GDP in 2019. The five sectors estimated by the Ministry of Finance to be the most badly hit, namely manufacturing, wholesale and retail trade, repairs of motor vehicles and motorcycles, transportation and storage, and accommodation and services, made up 41% of the Indonesian economy in 2019.

In addition, the Coordinating Ministry of Economic Affairs has also identified tourism as a sector significantly affected by the pandemic as social distancing measures and movement restrictions have led to a drop in the number of international tourists visiting the country. International tourist arrivals dropped by 63% in Mar 2020 compared to Jan level and by 29% in Quarter 1 (Jan-Mar '20) compared to the same quarter last year.

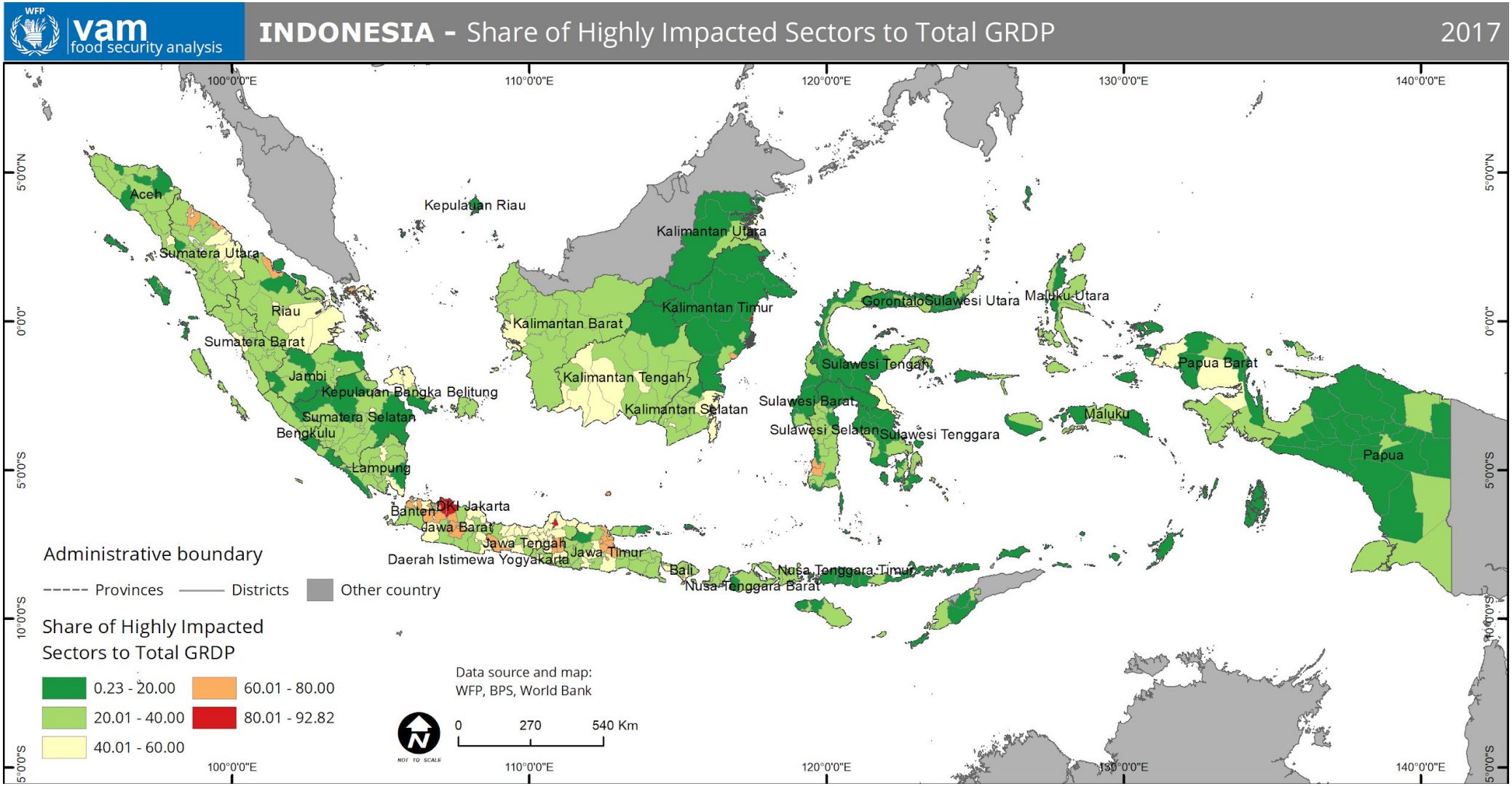
Workers employed in the impacted sectors are at higher risk of experiencing a reduction or loss of income.

International Tourist Arrivals to Indonesia (2017 - Mar 2020)

Source: Statistics Indonesia (BPS)



Macroeconomic Impacts: Sectors Impacted

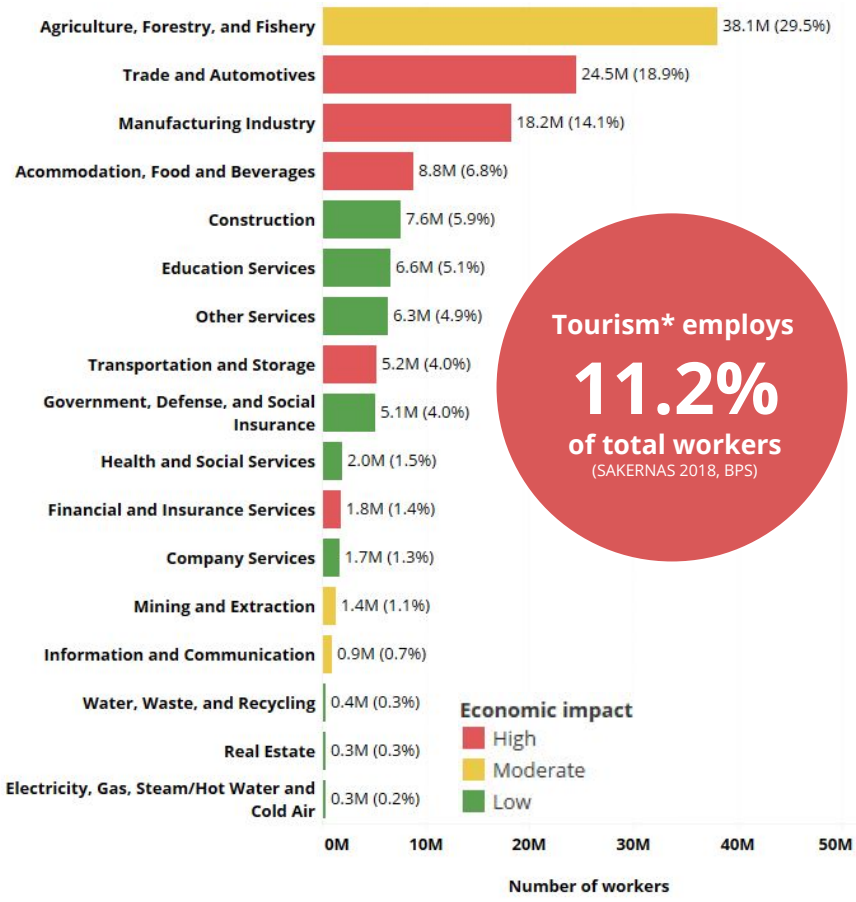


At the subnational level, the contribution of the five sectors estimated to be highly impacted by the pandemic to the district/municipality GRDP (gross regional domestic product) varies widely, with urban areas in Java generally having a higher proportion of their GRDP coming from these sectors. In 2017, Kota Kediri in East Java had the highest reliance on these five sectors (93% of GRDP), while Kab. Pegunungan Arfak in West Papua was the least reliant on these sectors (0.2%). However, as Java contributes to almost 60% of the national economy[6], disruptions in Java's economy are likely to have a rippling effect throughout the country .

Source: WFP calculations based on BPS data, as obtained from the World Bank INDO-DAPOER database.

Macroeconomic Impacts: Rising Unemployment

Breakdown of Indonesian workers by sector and estimated economic impact* due to COVID-19



Tourism* employs **11.2%** of total workers (SAKERNAS 2018, BPS)

Source: SAKERNAS 2019, BPS

Note: The economic impact category is taken from MoF (2020).

Note: Tourism-related activities falls under multiple sectors, including among others accommodation, food, and beverages; transportation and storage; real estate; and company services.

Impacted Workers (As of 12 May 2020)

1,032,960
Formal workers have been told to stay home
Notes: Unpaid or Half-Paid

375,165
Formal workers have been laid off (PHK)

316,000
Informal workers whose job is impacted
Source: Ministry of Manpower (2020)

In 2019, roughly 76% of Indonesian workers were employed in sectors which are estimated to be highly- to moderately-impacted by the COVID-19 pandemic. Those working in the five most impacted sectors comprised 45% of the country's workers in 2019. Tourism, another sector estimated by the Coordinating Ministry of Economic Affairs to be significantly affected, employed 11% of total workers in 2018[iii]. Based on Statistics Indonesia (BPS) data, in Feb 2020, tourist destination provinces reported slightly higher unemployment rates compared to Feb 2019[7]. This is likely to have increased as the pandemic further evolved.

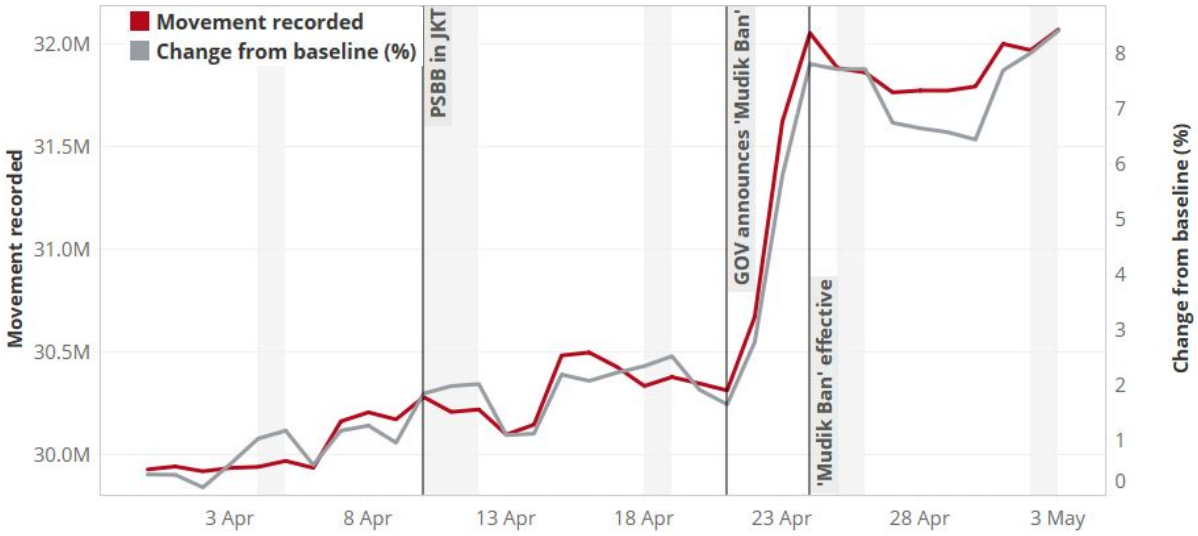
The Ministry of Finance estimated that between 2.9 million to 5.2 million workers could lose their jobs during the pandemic[8]. According to the Ministry of Manpower, about 375,165 formal workers were laid off (PHK/employment termination) as of 12 May 2020 and an additional 1,032,960 formal workers had been told to stay at home, either unpaid or half-paid. In addition, it was estimated that the jobs of around 316,000 informal workers[9] were affected by the social distancing measures. Informal workers are among the economically most vulnerable groups who are often not covered by formal employment social security schemes (e.g. BPJS Ketenagakerjaan) and do not always have access to health insurance.

A reduction or loss of income due to rising unemployment is likely to significantly reduce household purchasing power and push vulnerable households into poverty. It may have also encouraged urban daily workers to return to their hometowns or villages, potentially widening the spread of the COVID-19 pandemic and causing economic loss there as well.

[iii] In the formal Indonesia GDP classification, 'tourism' has not been classified as a separate category. Rather activities that correspond to tourism are scattered across the multiple categories including accommodation, food, and beverages, transportation, company services, communication, and other services.

Vulnerable Groups: Public Health Risks - Population Movement and Change

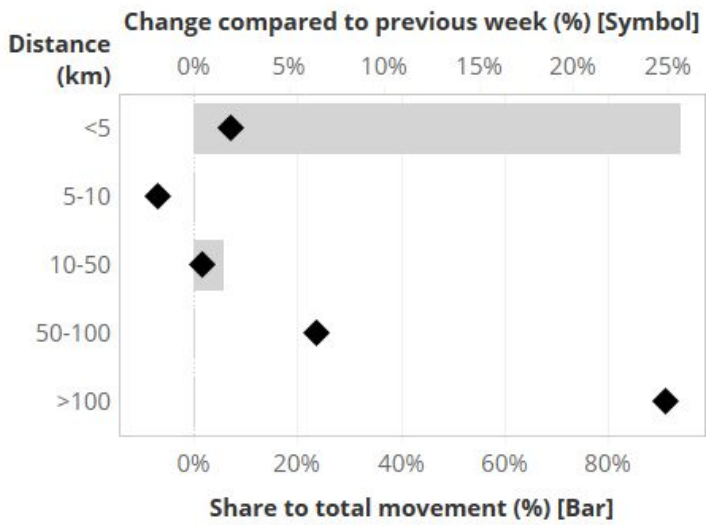
Cross-boundary movement of Facebook users in Indonesia
31 Mar - 3 May 2020



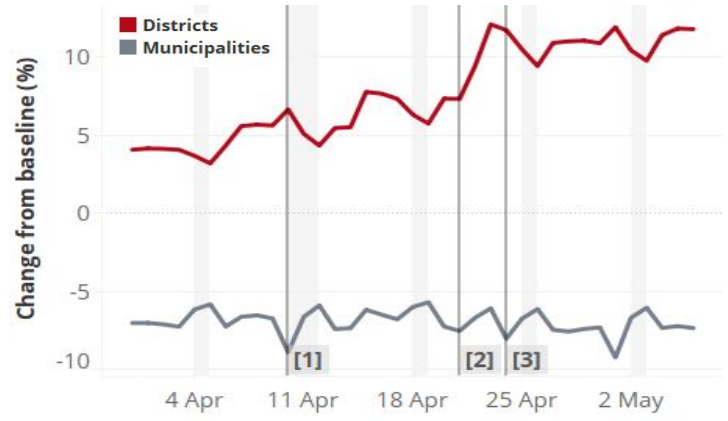
Note: Movement is recorded if a Facebook user enables location history setting and crosses administration level 4 boundaries during the period. Baseline figures refer to the three-week average of the same time point preceding 31 Mar 2020. Gray bands refer to weekends and public holidays.

Facebook data indicated increased population movements leading up to the Government-imposed ban on annual homewards travel for Eid 'al Fitr holidays, widely known as '*mudik*'. Although not representative of the total population, Facebook movement and population data has been used to provide insights on broad trends in population change and movements following a disaster or crisis [7]. On 21 Apr 2020, the Government of Indonesia announced a *mudik* ban to be in effect gradually starting from 24 Apr 2020 to prevent further spread of the COVID-19 pandemic. Between 21-24 Apr, daily recorded cross-boundary movements jumped from 30.3 million to 32.1 million. Movements recorded on 24 Apr 2020 were 7.8% higher than observed during the baseline period, namely the three weeks preceding 31 Mar 2020. The majority (93.8%) of these movements, were short-distance travel (<5 km), followed by travel between 10-50 km (6.0%). The number of recorded movements between 50-100 km and >100 km amounted to 255,873 and 122,395 cases, respectively, together only comprising 0.3% of all recorded movements during the period, but reflecting an increase compared to the previous week by 6.5% and 24.9%, respectively. The number of Facebook users in districts, as opposed to municipalities, had been on an increasing trend and experienced a further jump between 21-24 Apr. In comparison, according to the Ministry of Transportation, in 2019 approximately 18.3 million people undertook *mudik* nationally[10].

Breakdown of movements by distance
21 Apr - 24 Apr 2020



Change in Facebook user population (%) 31 Mar - 5 May 2020



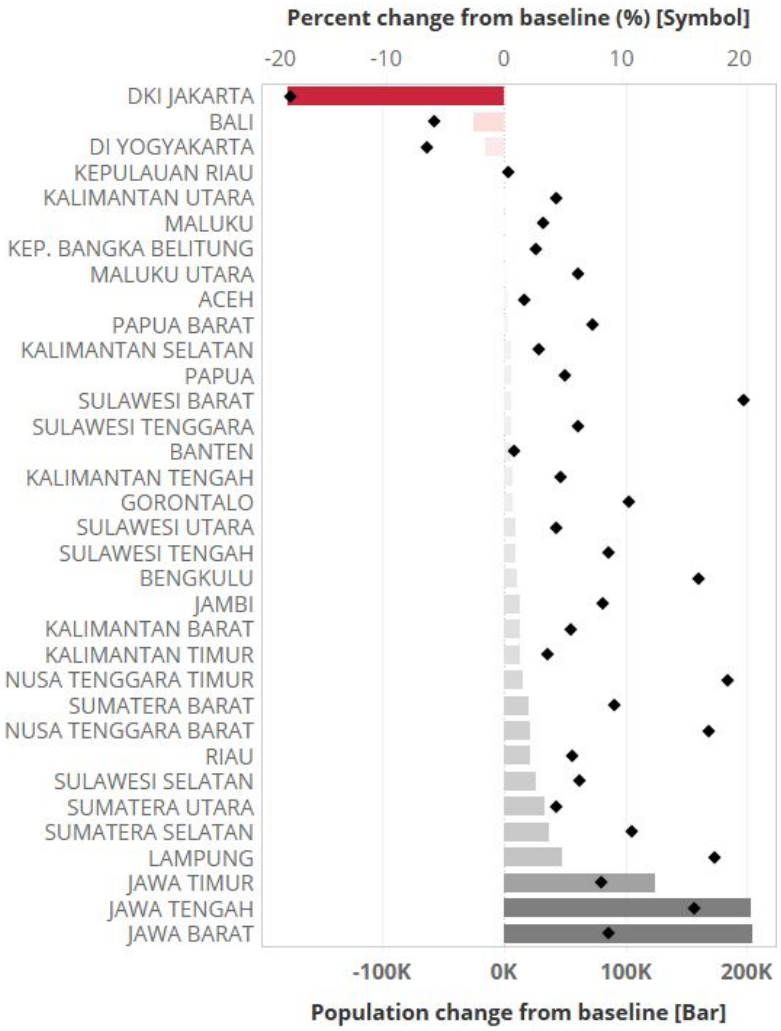
Note: [1] PSBB in DKI Jakarta; [2] Government of Indonesia announces 'Mudik Ban'; [3] 'Mudik Ban' made effective.

Source: WFP calculation based on Facebook Data for Good datasets.

Vulnerable Groups: Public Health Risks - Population Movement and Change

Change in Facebook users by province

As of 5 May 2020



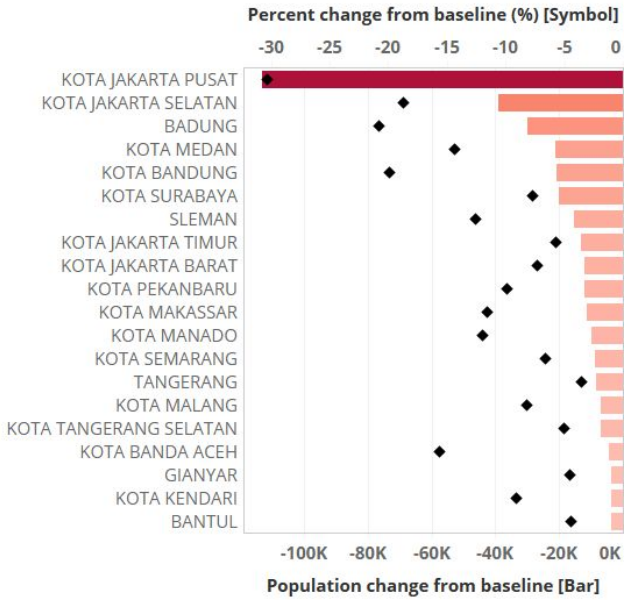
Note: Facebook population data records the number of Facebook users turning on location history within a particular area over time. Baseline figures refer to the three-week average of the same time point preceding 31 Mar 2020. See Methodology section in the Annex for more details.

Source: WFP calculation based on Facebook Data for Good datasets.

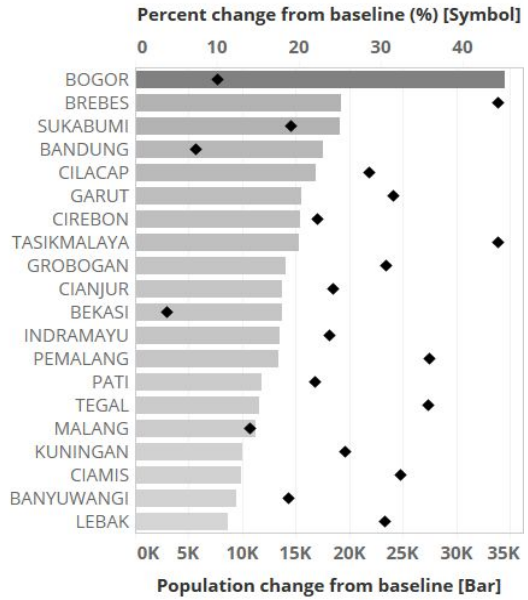
Large scale movements of people from the epicentres of the COVID-19 pandemic to more rural areas are likely to spread the infection to areas less able to cope with the associated health risks. The implementation of Large-Scale Social Distancing (PSBB) in several areas with high numbers of COVID-19 cases had been reported to lead to a loss of livelihoods, particularly among informal daily workers in urban areas, causing many to return to their hometowns in search of better coping prospects[11]. Facebook data indicated, that as of 5 May 2020, DKI Jakarta experienced the largest decrease in the number of Facebook users compared to the baseline, followed by Bali and DI Yogyakarta, while W. Java, C. Java, and E. Java observed the largest increases. For comparison, in 2019, the main *mudik* destinations of Jakarta Metropolitan Area (Jabodetabek) households had been C. Java (37.7%), W. Java (24.9%), and E. Java (11.1%)[12].

Note: These figures can only be treated as possibly indicative, as there might be other reasons that influence the change in the number of Facebook users recorded over a period of time aside from population movements, such as increase in new users or the number of users turning on location sharing. In addition, for this analysis, the coverage of Facebook clusters used to record the population has been mapped to the nearest official administrative boundary but may not align perfectly.

Top 20 districts with decrease in Facebook users, As of 5 May 2020



Top 20 districts with increase in Facebook users, As of 5 May 2020

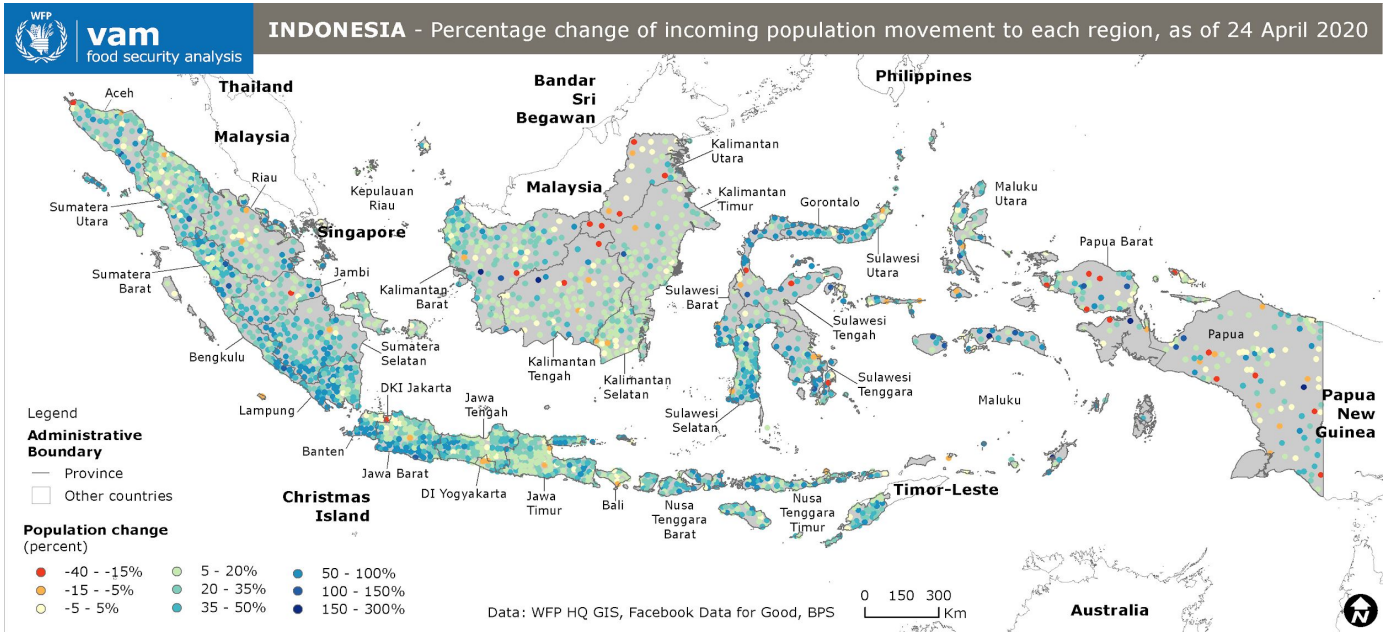


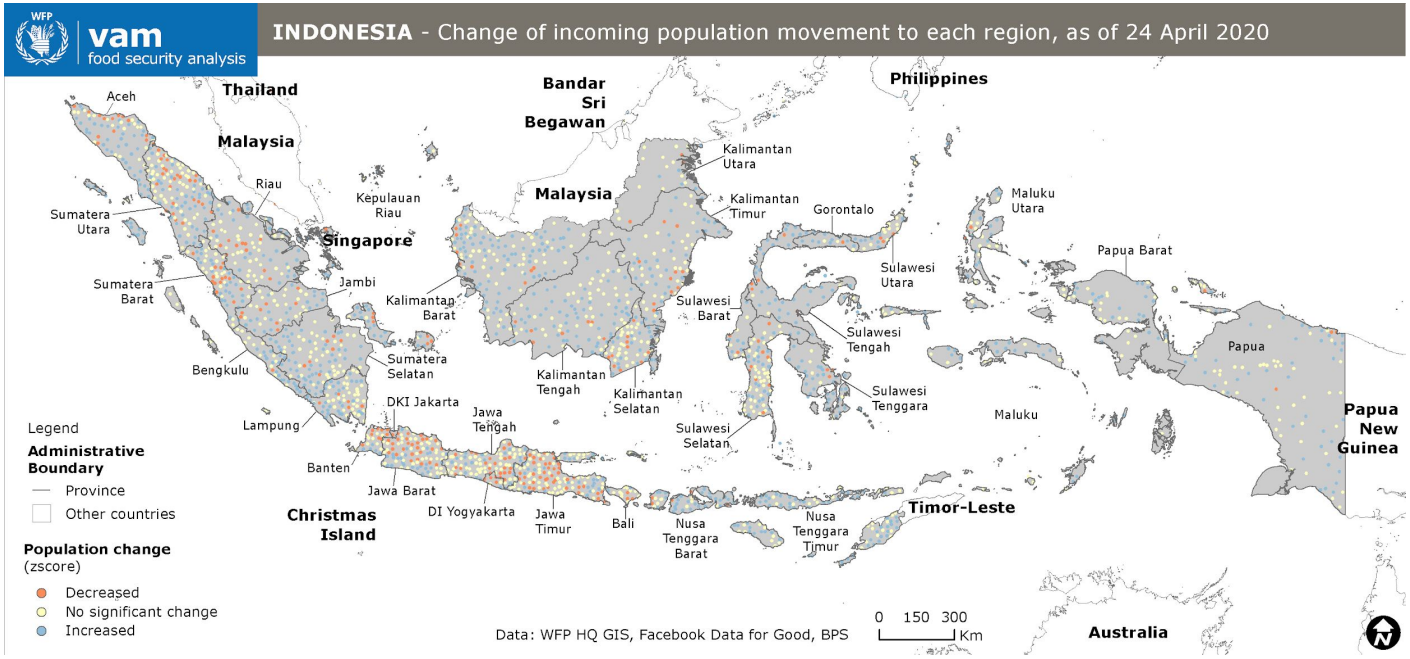
Vulnerable Groups: Public Health Risks - Population Movement

Population Movement

Based on Facebook movement data, on 24 Apr 2020 there had been lower incoming movements to major urban areas throughout the country than normally observed, coupled with increasing incoming movements to peri-urban and rural areas.

The top map displays the percentage change of population moving into each region compared to the baseline, while the bottom map displays the significance of the change. An increase or decrease of more than 2 standard deviations away from the baseline is considered significant.



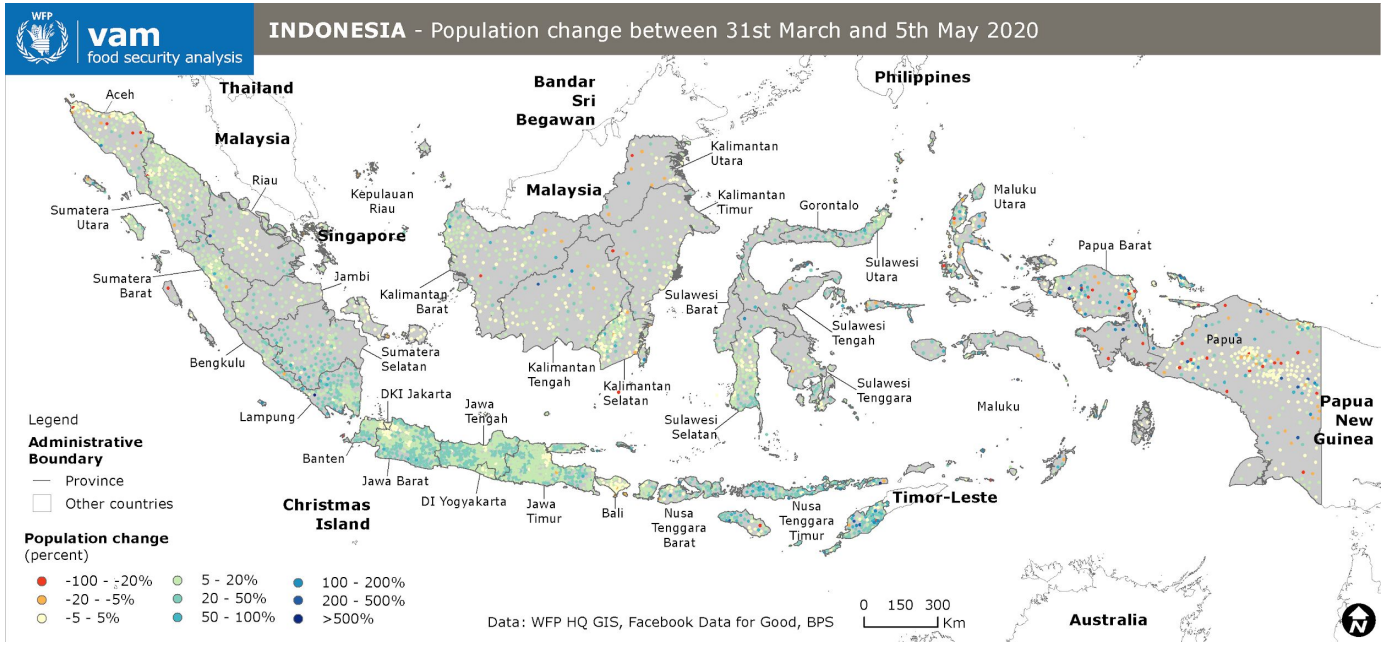


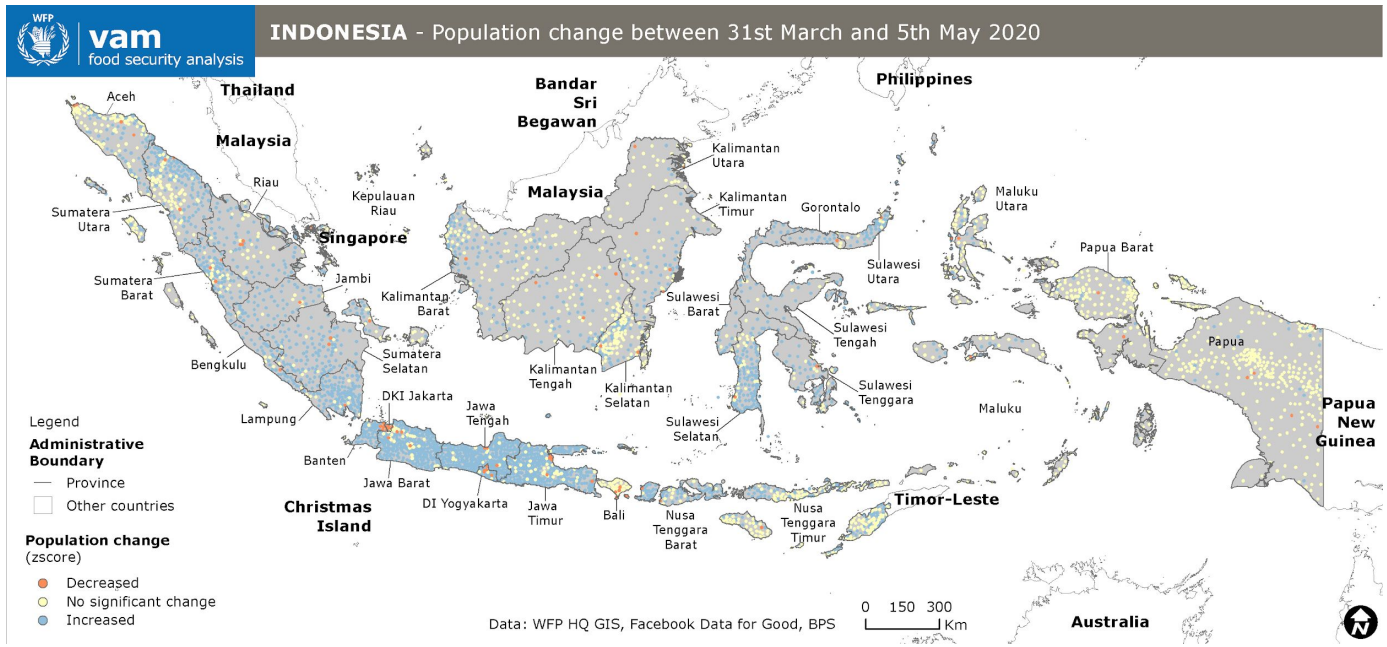
Vulnerable Groups: Public Health Risks - Population Change

Population Change

Based on Facebook population data, between 31 Mar 2020 and 5 May 2020, there were reductions in the population of Facebook users in major urban areas throughout the country. Concurrently, peri-urban and rural areas have observed increases in Facebook user population during the period.

The top map displays the percentage change of population in each region compared to the baseline, while the bottom map displays the significance of the change. An increase or decrease of more than 2 standard deviations away from the baseline is considered significant.





Vulnerable Groups: Socio-Economic Risks - Profile

Percentage of Population Living Below Poverty Line

9.2%

(BPS, Sept 2019)

1.1 to 3.8 million

additional people may fall into poverty during the pandemic

(MoF, 2020)

Percentage of Informal Workers

56.5%

of total workers

(SAKERNAS, Feb 2020)

40%

Bottom 40% Population

106.9 million

(SUSENAS, Mar 2019)

52.8%

Rural

47.2%

Urban

In addition to the public health risks, social distancing measures taken to minimize the spread of COVID-19, have led to the disruption of some economic activities, thereby reducing the income of selected groups. The International Labour Organization (ILO) estimated that those working in the informal sector and reliant on daily wages would be among the hardest hit during the pandemic[13]. Without any alternative income sources, relative poverty levels among informal workers and their families may increase up to 56 percentage points in lower-middle income and low-income countries. Statistics Indonesia (BPS) data indicates that in Feb 2020, over 56% of Indonesian workers were working for the informal economy. This corresponds to almost 74.1 million people[14].

Loss of income due to disrupted economic activities and unemployment may push vulnerable groups into poverty. While the Ministry of Finance estimated that between 1.1 million to 3.8 million additional people may fall into poverty due to the economic impacts of the pandemic the National Socio-economic Survey (SUSENAS) 2019 data indicates that the "bottom 40% of the population", namely the poor and those considered vulnerable to becoming poor during times of shocks, amounted to nearly 107 million people; 23.5% of them were already living below the poverty line and 64% were employed in the informal sector. These socio-economic risks need to be managed to avoid more people falling into poverty, among others by expanding social protection schemes to those vulnerable to becoming poor who are yet to have access.

Source: WFP calculation based on SUSENAS 2019 | Statistics Indonesia (BPS)

Vulnerable Groups: Socio-Economic Risks - Bottom 40% Population

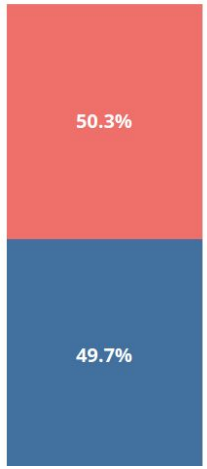
40% Bottom 40% Population

Source: WFP calculation based on 2019 SUSENAS data

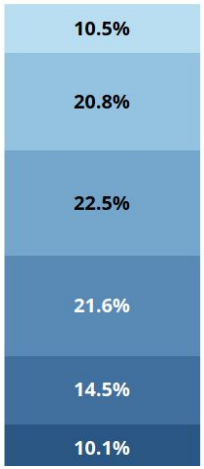
Number of Bottom 40% Population

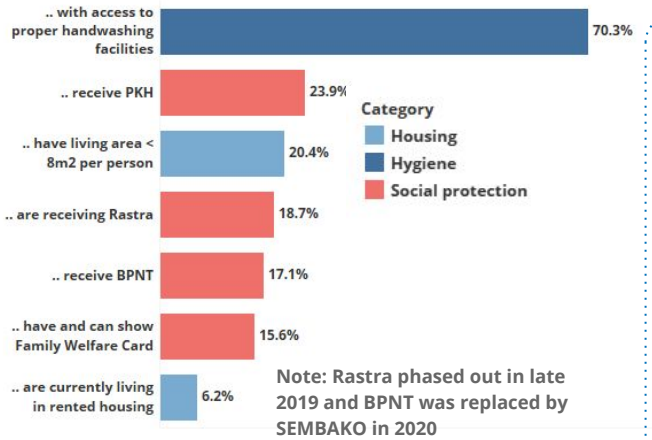
107 million (SUSENAS, Mar 2019)

By Sex



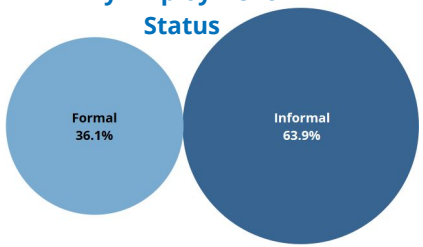
By Age Group



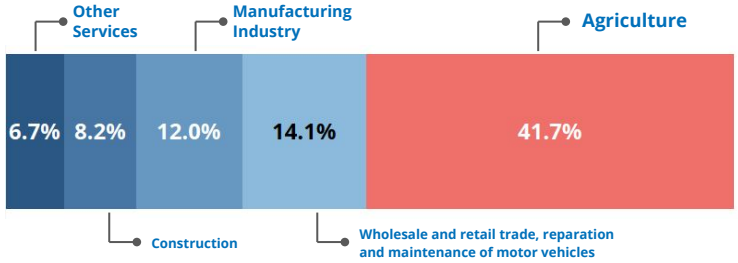


Note: Rastra phased out in late 2019 and BPNT was replaced by SEMBAKO in 2020

By Employment Status



Top 5 Employment Sectors



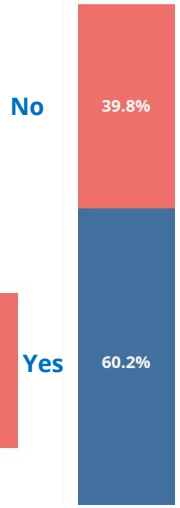
Modality to Deliver Social Assistance

Bank Account 22%

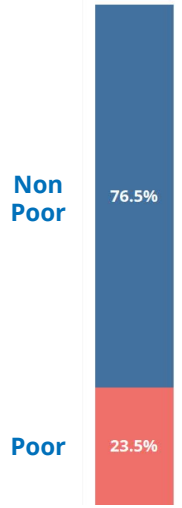
Internet 36%

Mobile Phone 71%

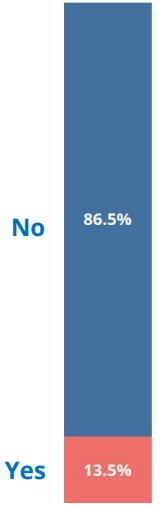
By Access to Health Insurance



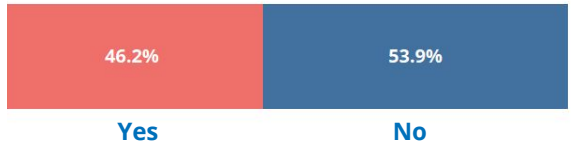
By Poverty Status



By Disability



By Living in Household with Food Expenditure > 65% of Total Expenditure



The majority of the 'bottom 40%' population work in the informal sector and in sectors estimated to be highly to moderately impacted by the pandemic. In 2019, about 64% of this group were informal workers and mostly employed in agriculture (42%), followed by trade and automotive (14%), and manufacturing (12%). Roughly 24% were poor and nearly 40% had no health insurance. Most of them (70%) had access to proper hand-washing facilities, while 20% had a living space less than 8m^2 per person. Reduced income may cause those living in rented housing (6%) to lose their shelter. With regards to social protection, about 24% lived in households receiving PKH (conditional cash transfer programme for health and education), while nearly 19% received Rastra[iv] (rice in-kind, phased out in late 2019) and 17% received BPNT (e-voucher food assistance programme, now called SEMBAKO). In targeting and delivering social assistance, the following needs to be taken into account: around 71% of those aged 15 years or older had access to mobile phones, 36% had access to internet and 22% owned a bank account. In terms of food security, 46% lived in households with food expenditures accounting for > 65% of total expenditure: these are the households who would be at increased risk of reducing the quality or quantity of consumption under income shocks. This is particularly concerning as around 11% of the 'bottom 40%' are children < 5 years. Reduction in quantity and quality of consumption increases their risk of developing malnutrition.

[iv] Rastra was phased out in Sep 2019 to be replaced by BPNT, however, in Dec 2019 and early 2020 there have been suggestions to revive the programme, including by the President, to improve BULOG rice absorption. However this has yet to be actioned by MoSA. In addition, BPNT will be replaced by the SEMBAKO programme in 2020.

Vulnerable Groups: Socio-Economic Risks - Informal Workers

Informal Workers

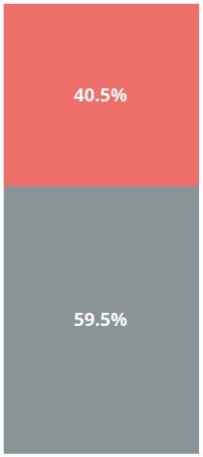
Source: WFP calculation based on 2019 SUSENAS data

Number of Informal Workers

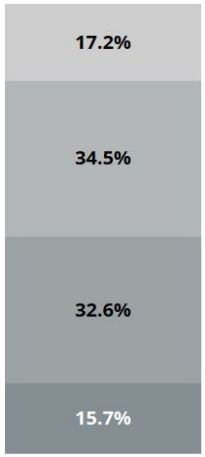
67 million (SUSENAS, Mar 2019)

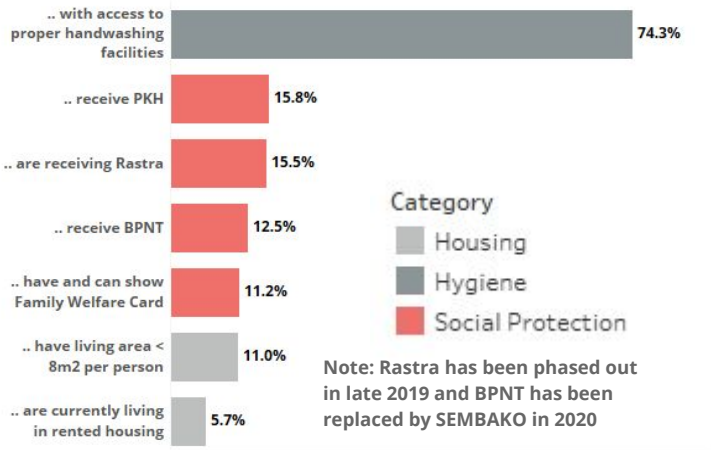
74 million (SAKERNAS, 2020)

By Sex



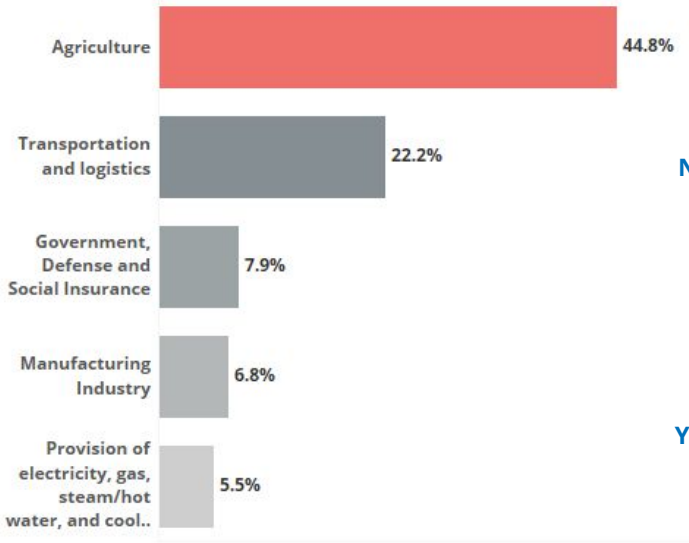
By Age Group



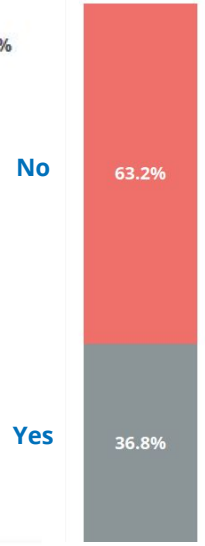


Note: Rastra has been phased out in late 2019 and BPNT has been replaced by SEMBAKO in 2020

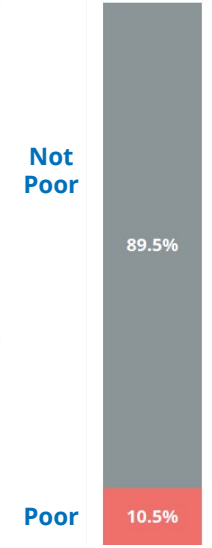
Top 5 Sectors of Informal Workers



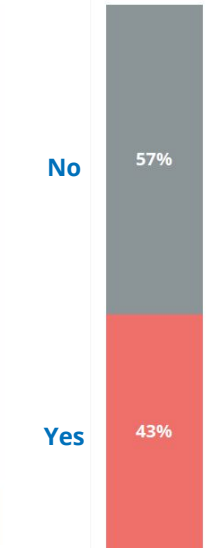
By Access to Health Insurance



By Poverty Status



By Bottom 40



Modality to Deliver Social Assistance

Internet Access **33%**

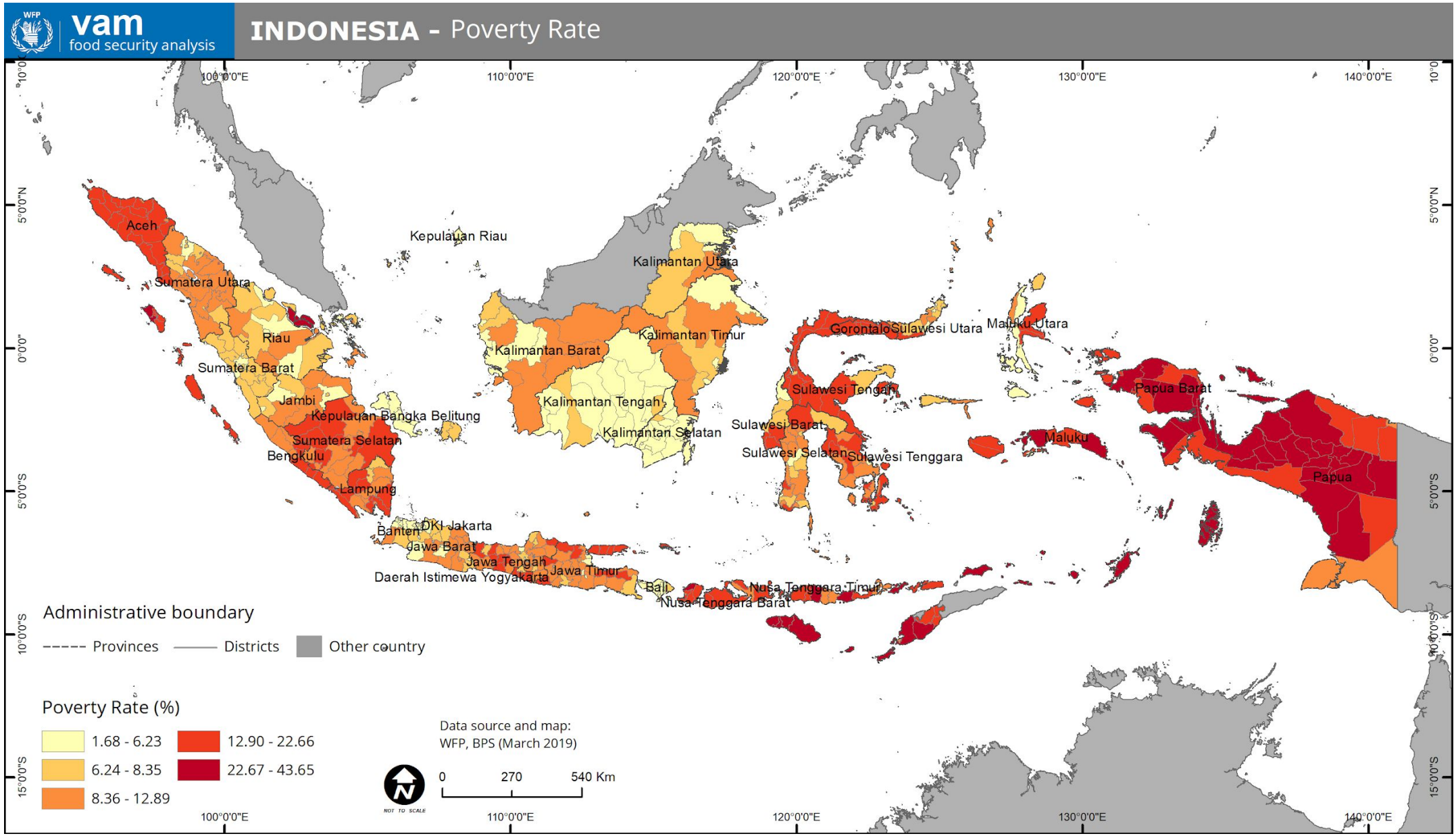
Bank Account **31%**

Mobile Phone **75%**

By Living in Household with Food Expenditure > 65% of Total Expenditure

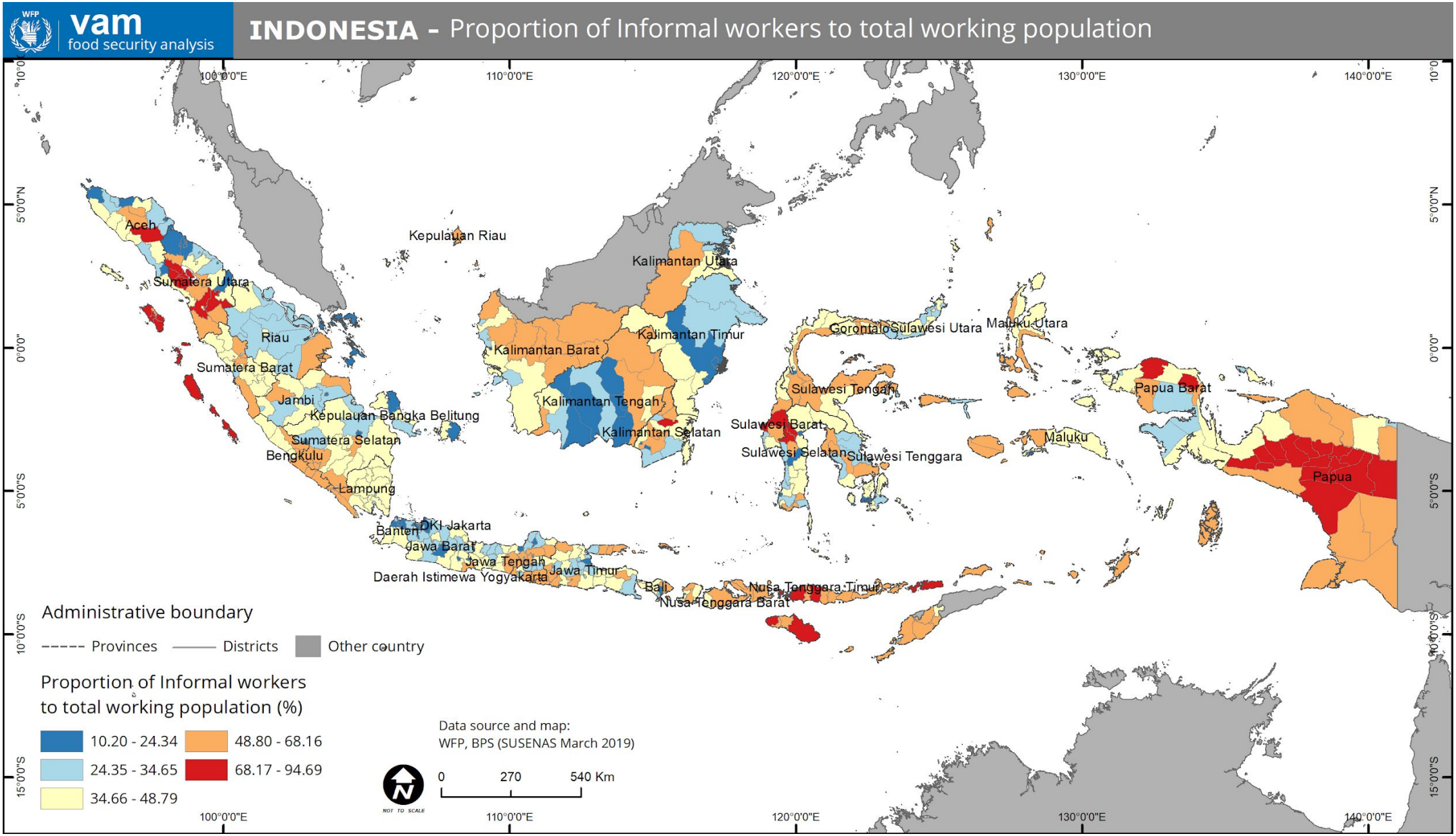
In 2019, the majority of informal workers were employed in sectors now estimated to be highly and moderately affected by the pandemic, placing their livelihoods and income at risk. By gender and age group, the informal workers were predominantly male (60%) and were between 30-44 years old. The majority were employed in agriculture (45%), followed by transportation and logistics (22%). About 43% were in the bottom 40% population, and another 10%, poor. Roughly a third lived in households with a share of food expenditure of total expenditure >65%. In terms of social protection, 16% of the informal workers received PKH conditional cash transfers and some received Rastra (another 16%) in-kind food assistance (phased out in late 2019) and the BPNT (now SEMBAKO) e-voucher transfers for food purchases (13%). The majority had no access to health insurance (63%). Related to modality to target and deliver social assistance, around 75% of the group had access to a mobile phone with only 33% and 31%, respectively, having access to the internet and a bank account. **Covering the informal workers, especially prioritizing those among the 'bottom 40%' population and those without health insurance, under social protection programmes would be critical to better protect them from the risk of falling into poverty and facing food insecurity.**

Vulnerable Groups: Socio-Economic Risks (Maps)



Source: Statistics Indonesia (BPS)

Vulnerable Groups: Socio-Economic Risks (Maps)



Source: WFP calculation based on SUSENAS Mar 2019 data

Implications on Food Security: Global Trends

While global food supplies and cereal stocks are widely considered at safe levels[15,16,17], and global food prices are generally on a declining trend, the challenge posed by the ongoing COVID-19 pandemic lies in ensuring that these food items can be accessed by and remain affordable to local consumers, as supply chains are disrupted, countries implement trade restrictions, and there is reduction of purchasing power due to rising unemployment and poverty.

Key Trends

Global food and cereal supply still safe. Global cereal markets are expected to remain well supplied throughout the 2019/20 season as production is likely to exceed that of the 2018/19 season by 2.4%. The global cereals stocks-to-use ratio is estimated to stand at a comfortable level of 30.7% by the end of the 2019/20 season[17].

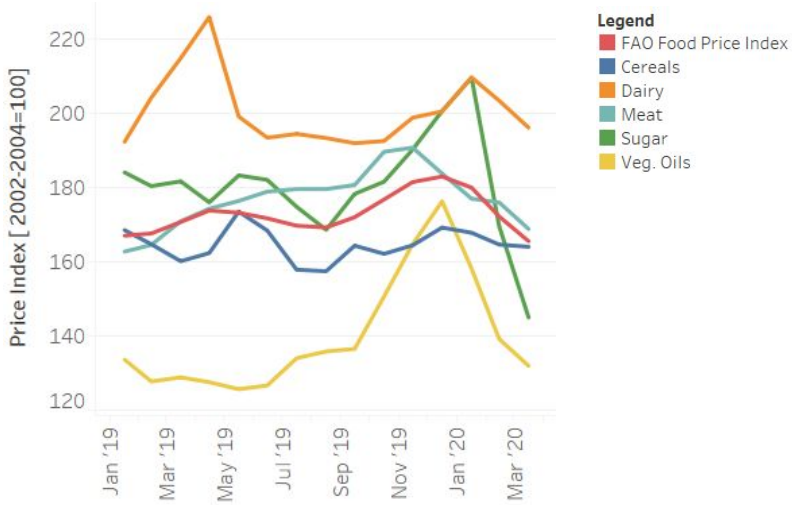
Global fod prices currently low and unlikely to rise significantly in the short-term. Between Feb - Mar 2020, world food prices dropped by 4.3%, spurred mostly by demand reductions due to the pandemic and the drop in global oil prices. Rice prices, however, have been on the rise due to stockpiling behaviour and concerns regarding continuity of supply as major producers introduced export bans[18].

Several countries imposing restrictions on food exports. *IFPRI's Food Export Restriction Tracker*[19] indicated there were 12 countries with active export bans on selected food commodities, including for staples such as wheat and rice, as of 15 May 2020. Trade restrictions may threaten the food security of food-deficit countries.

Supply chain disruptions, especially for nutrient-rich, perishable products. COVID-19-related containment measures have made moving food from 'farm to fork' more challenging. Movement restrictions, border and business closures, increased health and safety protocols in ports, and manpower shortages have led to bottlenecks in harvesting, processing, distribution, and consumption, particularly for highly perishable commodities, such as fruits, vegetables, eggs, and dairy products. Farmers face difficulties in marketing their produce on time leading to more food waste, while some retailers are struggling to secure supplies.[15,19,20,21]

Reductions in purchasing power likely to increase food insecurity and malnutrition among vulnerable populations. The COVID-19 pandemic may push 200 million people into unemployment and 140 million people into extreme poverty globally[22]. Lower purchasing power has been found to be associated with a reduction in household dietary quality and caloric intake, which in turn compromises child growth and development, increases the risk of micronutrient deficiencies for all household members, as well as increases the risk of infant and maternal mortality[23].

FAO Global Food Price Index
Jan 2019 - Apr 2020



IGC Grain and Oilseeds Index
1 Jan 2019 - 5 May 2020

Implications on Food Security: Indonesia - Overview

How was the state of food security and nutrition in Indonesia before the COVID-19 pandemic hit?

Prevalence of Undernourishment

7.7%

In 2019 (SUSENAS, Mar 2019)

Prevalence of Moderate and Severe Food Insecurity

5.4%

In 2019, based on the Food Insecurity Experience Scale (FIES) - (SUSENAS, Mar 2019)

Percentage of Household with Food Expenditure > 65%

27.1%

In 2019 (SUSENAS, Mar 2019). Note: % share of food expenditure of total HH expenditures

U5 Children Nutritional Status

		SSGBI 2019	RISKESDAS 2018
Stunting	:	27.7%	30.8%
Underweight	:	16.3%	17.7%
Wasting	:	7.4%	10.2%

Food Security and Vulnerability Atlas 2019

(Agency for Food Security - MoA, 2019)

5 municipalities

are vulnerable to food insecurity

71 districts

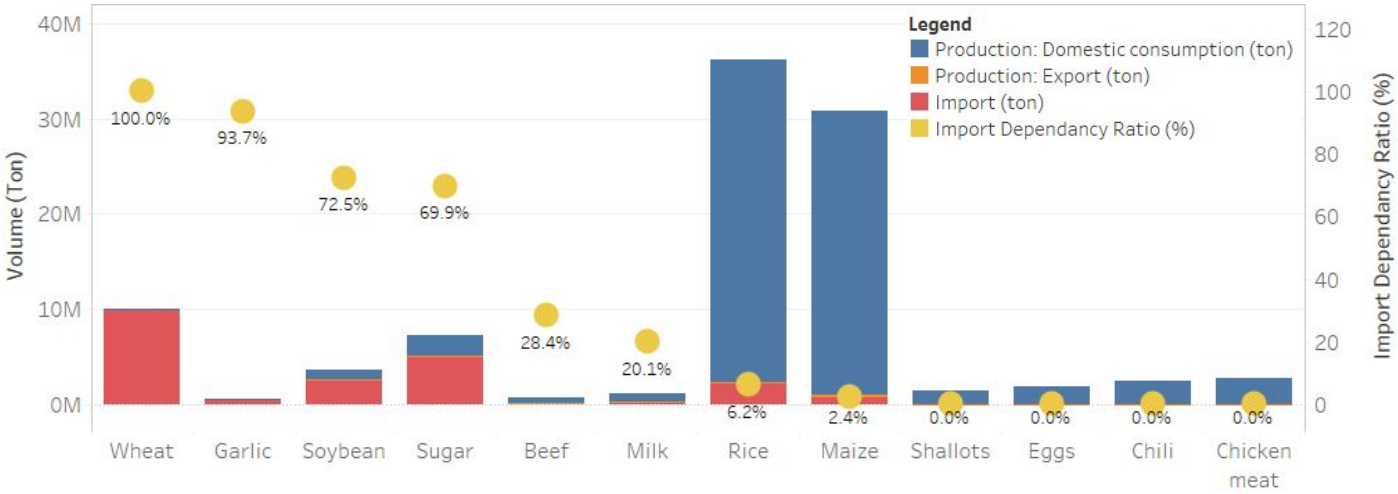
are vulnerable to food insecurity

There is no single tool that can capture all the dimensions of food security and nutrition; hence a combination of measures should be used to assess the food security and nutrition status of a country[24]. In 2019, 7.7% of Indonesians did not have enough caloric intake to meet their daily requirement, 5.4% of households were moderately or severely food insecure and 27.1% of households had a share of food expenditure of total expenditure >65%. According to the *2019 Food Security and Vulnerability Atlas (FSVA)* prepared by the Food Security Agency (BKP), 5 municipalities and 71 districts were vulnerable to food insecurity[25]. In terms of dietary quality, 95% of Indonesians did not consume sufficient amounts of fruits and vegetables (RISKESDAS 2018). In terms of nutritional status, 27.7% of under-five children were reported to suffer from stunted growth in 2019, while 16.3% were underweight and 7.4% experienced wasting[v]. Further, according to RISKESDAS, 48.9% of pregnant women suffered from anaemia in 2018. **Reduced household income/purchasing power due to the economic impact of the pandemic, coupled with supply chain disruptions for nutrient-rich items, may push households to sacrifice the quality and quantity of their food consumption, increasing food insecurity and malnutrition levels.**

[v] 2019 figures taken from SSGBI 2019. Figures from RISKESDAS 2018 provided in the above diagram for comparison.

Implications on Food Security: Indonesia's Food Imports

Import Dependency Ratio (IDR) of Various Commodities, 2018



Source: WFP calculations based on BPS and MoA data

Note: Beef refers to both meat from cattle and buffalo. The figures for beef and chicken meat exclude live animals and processed products. The figures for wheat exclude other meslins and wheat flour. The figures for chili only include fresh chili. The import dependency ratio is calculated by the following formula: Import/(Production + Import - Exports) * 100. 2018 figures are used as it represents the most recent production data for most commodities. The IDR for rice in 2019 is lower at 1.4%.

Largest Import Source of Various Commodities, 2018 & 2019

Year	Wheat	Garlic	Soybean	Sugar	Beef	Milk	Rice	Maize
2018	Australia & Ukraine (24.0% each)	China (99.6%)	USA (97.5%)	Thailand (80.3%)	Australia (48.5%)	New Zealand (29.1%)	Thailand (35.3%)	Argentina (44.3%)
2019	Ukraine (22.8%)	China (100.0%)	USA (94.1%)	Thailand (86.5%)	Australia (46.8%)	New Zealand (27.1%)	Pakistan (41.1%)	Argentina (76.5%)

Source: WFP calculations based on BPS data

Note: The figures for beef exclude live animals and processed products. The figures for wheat exclude other meslins and wheat flour.

Indonesia relies on imports to meet the domestic demand of several commodities, particularly wheat (IDR=100%), garlic (IDR=93.7%), soybean (IDR=72.5%), and sugar (IDR=69.9%). In addition, for three of these four commodities, the imports are derived primarily from a single country. In 2019, China supplied 100% of Indonesia's garlic imports, while the USA and Thailand supplied 94.1% of soybean and 86.5% of sugar imports respectively.

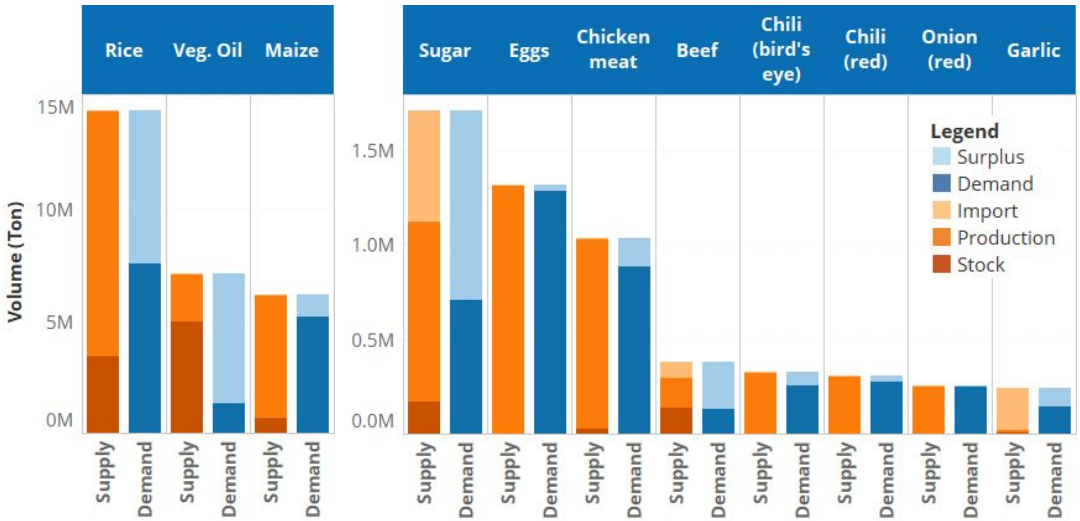
Due to the COVID-19 pandemic, several countries have imposed limitations on food exports to ensure domestic supplies. Ukraine, the largest wheat exporter to Indonesia in 2019 (3.0 million tons), announced that it would limit wheat exports in the 2019/20 season to 20.2 million tons[26] and might consider imposing a complete ban if deemed necessary[27]. Vietnam, which supplied 34.0% of Indonesia's rice imports in 2018 and 7.5% in 2019, had previously implemented a rice export ban on 24 Mar 2020, but then began to alleviate the restriction by allowing the export of 400.000 tons of rice in April[28]. Thailand and Pakistan, Indonesia's largest rice import sources in 2018 and 2019, respectively, have not placed any restriction policy on rice exports[19].

On a separate note, Thailand, the source of 86.5% of Indonesia's sugar imports in 2019, reported the lowest sugarcane harvest in the past 10 years due to prolonged drought in 2019[29].

Implications on Food Security: Indonesia's Food Balance

Estimated national balance for selected food commodities

Period Apr - Jun 2020



Note: Beef refers to both meat from cattle and buffalo. Figures are MoA estimates.

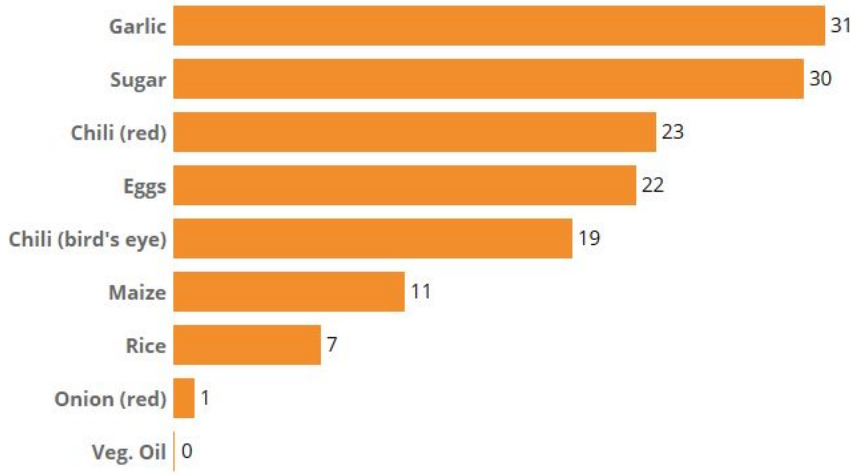
Source: WFP visualization based on MoA data as of 14 May 2020.

Although some provinces have been reported to be in deficit for selected food items, the national food balance for major commodities is expected to be in surplus until end of Jun 2020 – however, sufficient imports would be needed for certain commodities, including garlic, sugar, and beef. As Indonesia enters the main harvesting season for most major commodities, national production and remaining stock are expected to be sufficient to meet domestic demand until Jun 2020 and record a surplus for chicken meat, eggs, maize, rice, and red onions. Some provinces have been reported to be in deficit for certain items[30], as not all provinces are (major) producers of these food commodities, thus effective and timely distribution from surplus to deficit areas would be needed to ensure prices remain stable across the country.

Despite expected to maintain a positive balance by end of Jun, the surplus of red onions would only be around 3,600 tons, while average monthly consumption typically amounts to 83,200 tons. The Ministry of Agriculture indicated that although expected to be in surplus by end of Jun, red onions might fall into deficit in July [31]. The Government, however, maintains that national production would be sufficient to meet domestic demand, and thus have not planned for any imports[32].

Number of provinces deficit for selected commodities

As of 28 April 2020



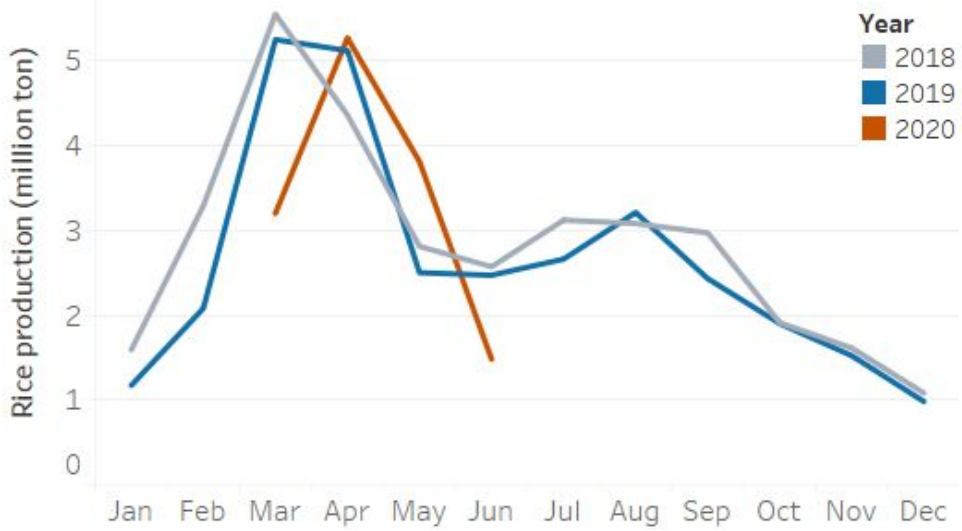
Source: WFP visualization based on MoA data as cited in CNBC[30]

As for sugar, the Government has planned to import 585,800 tons of sugar to meet potential supply gaps in Apr and May, ahead of the domestic harvesting season in Jun[33]. As of 20 Apr 2020, 283,200 tons of raw sugar had been imported[34], while 22,000 tons of imported white crystalline sugar had entered the country as of 7 May 2020[35]. Local garlic production during the period is expected to reach almost 21,000 tons, or 14% of estimated demand of 145,000 tons. Imports had been planned for 224,100 tons, and as of 16 May 2020, 91,000 tons of garlic have been imported[36].

Despite some earlier concerns regarding the sufficiency of beef supplies ahead of the Ramadan and Eid 'al Fitr holidays[37], domestic production and remaining stocks for beef during the period (292,000 tons) is expected to exceed domestic demand of 128,100 tons. There had been plans to import 85,500 tons of beef. As of 22 Apr 2020, the Ministry of Trade have issued permits for the import of 170,000 tons of buffalo meat and 20,000 tons of cattle meat[38]. However, the National Logistics Agency (BULOG) had faced difficulties in importing buffalo meat from India due to the implementation of lockdown policies in India until 3 May 2020 [39]. Delays in import may increase the risk of beef prices rising, particularly as the Eid 'al Fitr holidays approach, although the lower than usual demand may help to dampen price spikes[40].

Implications on Food Security: Rice Production

Indonesia's monthly rice production (2018-2019)
in million tons



Source: WFP calculation based on BPS data. For 2020 figures, BPS figures quoted in media [41,42,43,44] had been used.

Note: Jan 2020 and Feb 2020 production not released individually. Total rice production in Jan-Feb 2020 is 2.4 million tons. 2020 figures are BPS estimated figures.

Rice production in the first half of 2020 is estimated to be 13.2% lower than during the same period last year, but it should still exceed domestic demand by 6.4 million tons by the end of June 2020 [45]. The lower rice harvest in the main 2020 harvest season sustains the declining trend observed since 2018. It has also been indicated to be an effect of the prolonged drought in 2019, which delayed planting and shifted the peak harvest period from Mar to Apr [42], as well as the result of crop damage due to floods [46, 47].

Despite an expected surplus in Semester I 2020, there are concerns regarding the sufficiency of domestic rice supply towards the end of the year and early next year, as dry season harvests typically only contribute 35% to annual production [42]. If rice production during Semester II decreases compared to 2019 by the same proportion as during Semester I (-13.2%), and assuming a monthly consumption of 2.5 million tons, the rice surplus by the end of Dec 2020 would stand at 3.5 million tons. Another estimate by the Coordinating Ministry of Economic Affairs suggests end-of-year rice stocks to reach 4.7 million tons [48]. These estimated levels would only cover an additional month of consumption. Hence the Government may need to be ready to cover any potential deficit with timely imports.

Annual harvested area
in million hectares

2018:	2019:
11.4	10.7

-6.2%

Annual rice production
in million tons

2018:	2019:
33.9	31.3

-7.8%

Rice production in Semester I (Jan - Jun)
in million tons

2018:	2019:	2020*:
20.2	18.6	16.1

-7.8% -13.2%

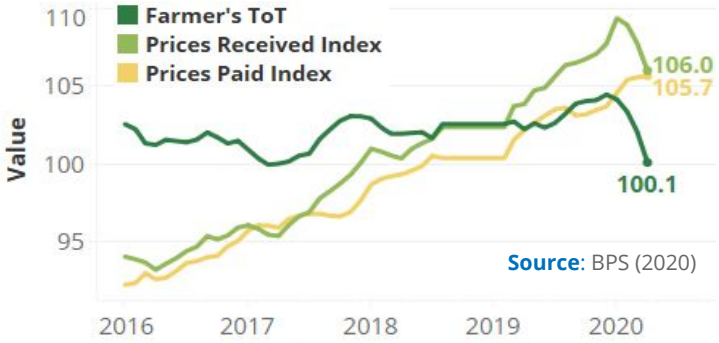
Source: WFP calculation based on BPS data

Estimated rice balance
Period Apr - Jun 2020

Source: WFP visualization based on MoA data as cited by ANTARA[45]

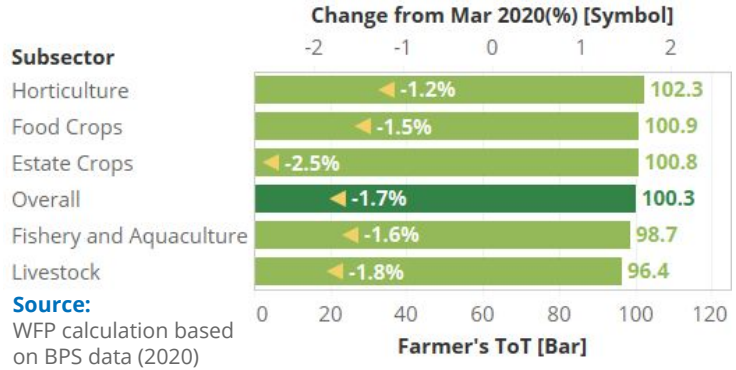
Implications on Food Security: Food Producers

Monthly Farmers Terms-of-Trade (ToT) and Price Indices (2018=100), 2016-2020



Source: BPS (2020)

Change in farmers' Terms-of-Trade (%), Apr 2020

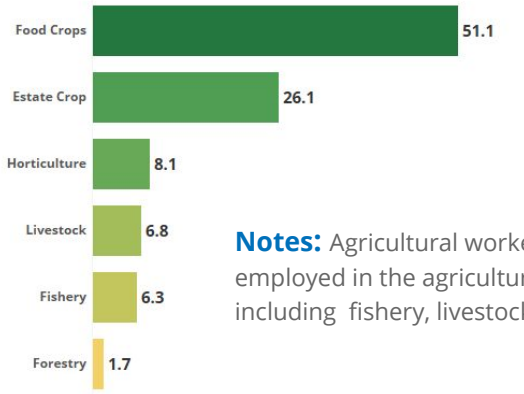


Source:
WFP calculation based on BPS data (2020)

Characteristic of Agricultural Workers

Source: WFP calculation based on SUSENAS, Mar 2019

Agricultural Workers by Sub-Sectors (%)

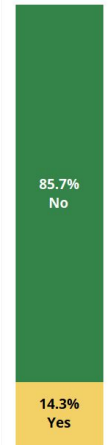


Notes: Agricultural workers are people employed in the agriculture sector including fishery, livestock and forestry

By Access to Credit

By Access to Health Insurance

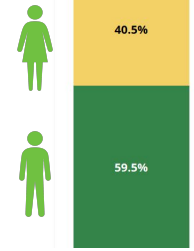
By Poverty Status



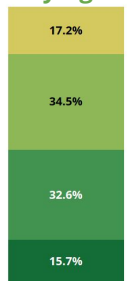
By Bottom 40% Population

By HH Food Expend > 65%

By Sex



By Age



To ensure that food production activities would not be disrupted, measures should be put in place to protect farmers from the economic and health risks arising from the pandemic. Farmer's term-of-trade (ToT/NTP), typically used to measure farmers' welfare, dropped by nearly 2% to 100 in Apr 2020, driven by the declining Price Received Index which fell to 106. The lower farmgate prices have been caused by a combination of factors, including declining demand due to the COVID-19 pandemic, which has coincided with periods of high supply due to the peak harvesting season, coupled by movement restrictions in several areas that have disrupted shipment of goods from producing regions, causing commodities to pile-up at the farmgate [49,50,51]. The highest ToT decline from Mar level was observed for estate crops (-2.5%), an impact of the weakening global demand for crude palm oil (CPO) followed by livestock (-2%), particularly the poultry industry which has suffered from contracting demand and oversupply.

In 2019, most of the people working in agriculture were male (60%) and were between 30-44 years old (34%). Although more than 85% were non-poor, more than half were among the 'bottom 40%' population, and 42% of them were living in households with a share of food expenditure of total expenditure > 65%, implying that shocks to their income may potentially push them to reduce the quality or even quantity of food consumption as global research indicates that even among smallholder farmers, most are net food buyers [47]. Only 23% of those employed in agriculture sectors lived in households with access to credit, implying that, if their income is reduced, the farmers among them may face difficulties in securing enough funds to purchase inputs needed for the next cropping season. In addition, 63% of agriculture-employed people had no health insurance, therefore, should they fall ill, they must pay for health expenses out-of-pocket.

Implications on Food Security: Food Access and Food Choices

The COVID-19 pandemic has led to changes in the way the population accesses and chooses food. Key trends are identified below.

Rising concerns regarding purchasing power

As mentioned in previous sections, the rise in unemployment and pay-cuts are expected to reduce purchasing power. According to a survey by McKinsey, 55% of consumers worry regarding the impact of COVID-19 on household income and 40% plan to reduce their discretionary spending[52]. In annual terms, the sales of non-essential items such as clothing and entertainment has witnessed a steep decline, by 40.4% and 16.8%, respectively, while sales for food, beverages, and tobacco increased mildly (3.2%)[53].

Reduced operations of traditional markets

Most Indonesians prefer to purchase groceries from traditional markets, with the proportion increasing in lower income groups. In 2019, traditional markets supplied 70% of groceries in Indonesia, followed by mini-markets (23%) and supermarkets (5%)[53]. Social distancing measures have led to reduced operating times for traditional markets[54,55] and closure of markets which had been found to be hotspots of the COVID-19 spread[56,57]. Many traditional markets suffer from losses in revenues due to a decline in the number of customers [58,59,60].

Shift to modern trade

During the pandemic, some members of the upper- and middle-income groups have shifted to supermarkets and hypermarkets, particularly those in DKI Jakarta[61]. Based on various reports during the pandemic, over 45% of consumers shop more frequently in convenience stores than before[52]. There has been limited information regarding the implications of the pandemic on the ability of lower economic groups to access and choose their food.

Increased use of online platforms

Traditional market management bodies in several regions, such as DKI Jakarta, Purbalingga, Palembang, Pontianak, Balikpapan, and Denpasar have utilized social media to arrange home delivery of food items in cooperation with online transportation services[60]. Over 30% of consumers plan to shop for groceries online more often[61]. Online markets, however, still access only a small share of the market, less than 5%[53].

Shift to home-made meals and fresh produce

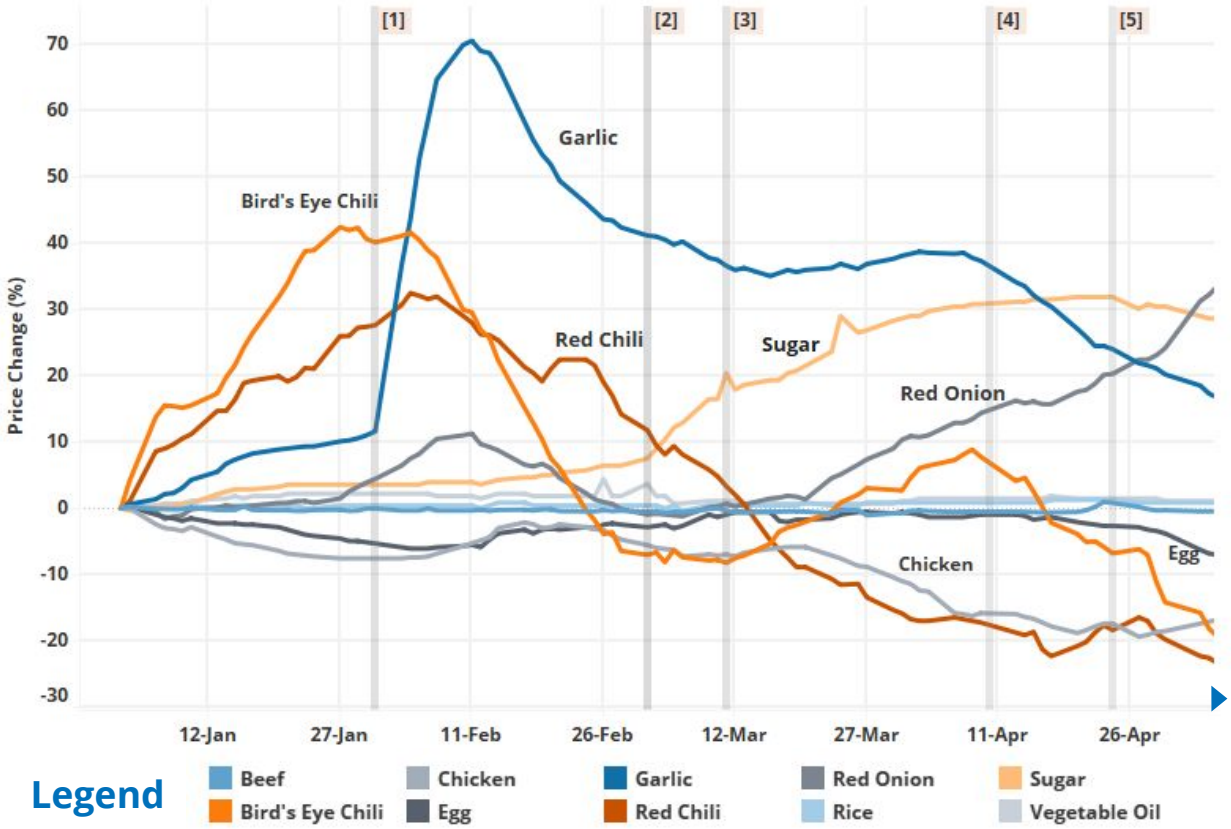
As most restaurants are closed due to social distancing measures, there has also been a shift from eating out to take-away, food delivery, and home-made meals[53]. Correspondingly, the sales of staples and fresh produce have increased compared to pre-pandemic levels[61].

Other trends

In addition to the above trends, there has been a heightened consumer awareness regarding food safety and hygiene[52], a shortening of supply chains due to the increased involvements of online platforms[62], as well as calls for increasing the consumption of locally produced foods as supply chain disruptions are expected to hamper trade and the distribution of major commodities[63,64,65,66].

Food Price Developments: National Prices - Daily and Monthly

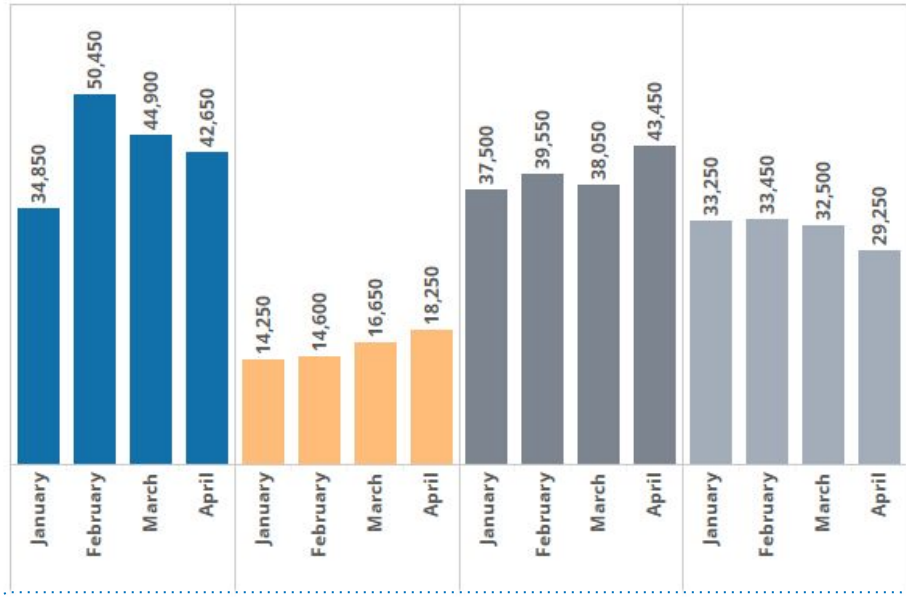
Daily Price Trend [Baseline: Price on 1 Jan 2020]



Legend

Beef, Bird's Eye Chili, Chicken, Egg, Garlic, Red Chili, Red Onion, Rice, Sugar, Vegetable Oil

Monthly Average Trend: Jan - Apr 2020



Timeline

[1] WHO declared the Global Health Emergency (31/1)

[2] The first COVID-19 case in Indonesia announced (2/3)

[3] WHO declared the pandemic (11/3)

[4] First day of social restrictions in Jakarta (10/4)

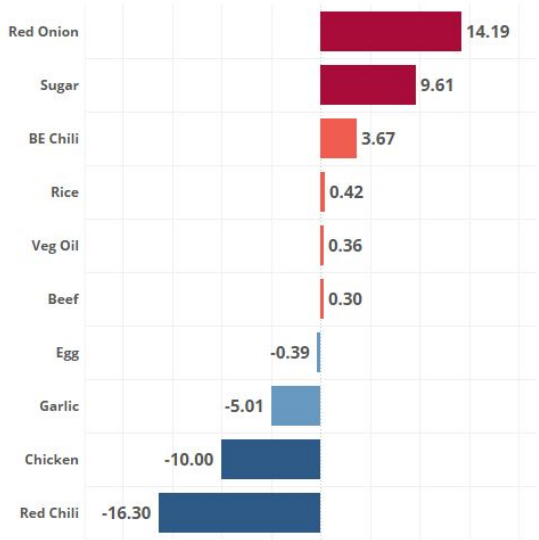
[5] First day of Ramadan 2020 (24/4)

In Q1 2020 and early Q2, nationally, the prices of several commodities seemed to rapidly increase at different times: red chili and bird's eye chili in mid-Jan, garlic in mid-Feb and sugar which slowly increased from Jan until Feb were steeply rising in Mar. The price of bird's eye chili and red chili started to decline in mid- Feb. Compared to other food commodities, garlic prices rapidly increased, reaching a peak with 70.6% above the baseline level on 11 Feb 2020 and declining afterwards. Sugar prices were recorded reaching an increase of 28.7% at the end of Mar. In addition, red onion prices started to increase at the end of Mar and still continued to increase by the end of Apr.

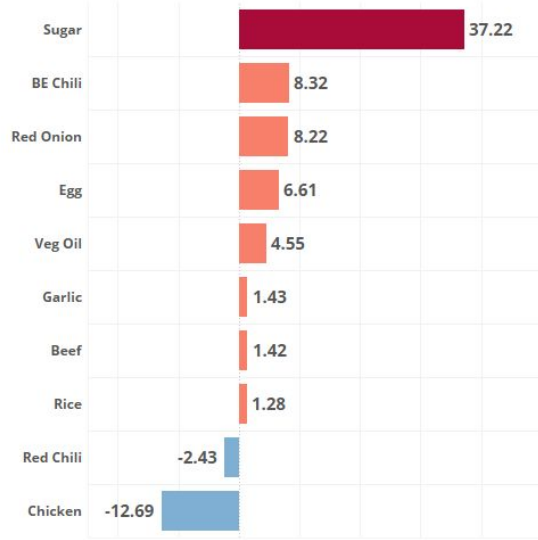
On a monthly average, the highest price of garlic was recorded in Feb at IDR 50,450/kg and then dropped to IDR 44,900/kg in Mar. For sugar, prices seemed to increase constantly and reached the highest point in Mar at IDR 16,650/kg with prices continuing to increase in Apr. The sugar price in Mar was recorded at 33.2% higher than the ceiling price set by the Government (HET = IDR 12,500/kg). Despite the price increase of sugar being below the price rise for garlic, this increase was high considering the long-term average. In Apr 2020, the sugar price seemed more stable, however it remained high until the end of the month at IDR 18,250/kg - the highest level recorded. The red onion price fluctuated in the first 3 months of 2020, and increased by 14.2% in Apr compared to Mar. On the other hand, the chicken price seemed to decrease constantly over the last four months and recorded the lowest price (IDR 29,250/kg) in Apr 2020.

Food Price Developments: National Prices

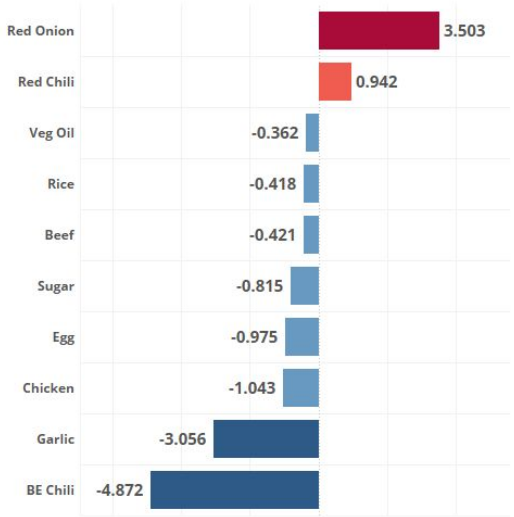
% April Month-on-Month Change



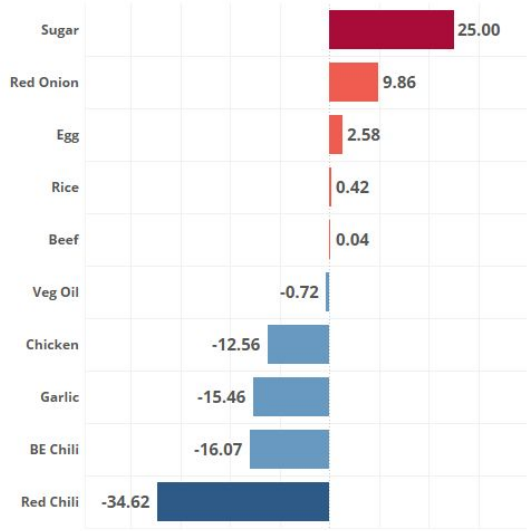
% April Year-on-Year Change



% Change from Apr Week I to IV



% Monthly Change Feb to Apr 2020



Overview

Compared to the previous month (MoM), red onions had the highest increase (14.2%), followed by sugar (9.6%). However, if compared to the same month last year (YoY), the price increase of sugar was the highest with 37.2%. Sugar and red onion prices were also highest compared to Jan and Feb levels. Conversely, the prices of red chili and chicken decreased relative to all the baselines.

Red onions

The price of red onions has increased primarily due to a combination of delayed harvest caused by a delay in planting as a result of the prolonged drought in 2019[67], reduced planting area by up to 30% due to high seedling prices during the planting season, as well as stock damage and crop failures due to the heavy rain and floods in early 2020[68,69,70]. Production in the major red onion producing region, Kab. Brebes, is expected to decrease by 10% this season[68]. In addition, distribution from the producing regions has also been hindered in certain areas due to the implementation of social distancing measures and travel constraints[68,71].

Sugar

Sugar prices have been increasing nationally since early 2020 due to importing delays[72], coupled by a delay in domestic sugarcane harvest due to the 2019 drought[73,74]. Price level have however stabilized since the beginning of Apr.

Chicken

The reduction in chicken prices has been indicated to be caused by an oversupply by the poultry industry since 2019. This has been worsened by the reduced demand due to the implementation of social distancing measures which has caused restaurants to close or reduce operations and reduced demand for catering services for social events[75,76].

Red and bird's eye chili

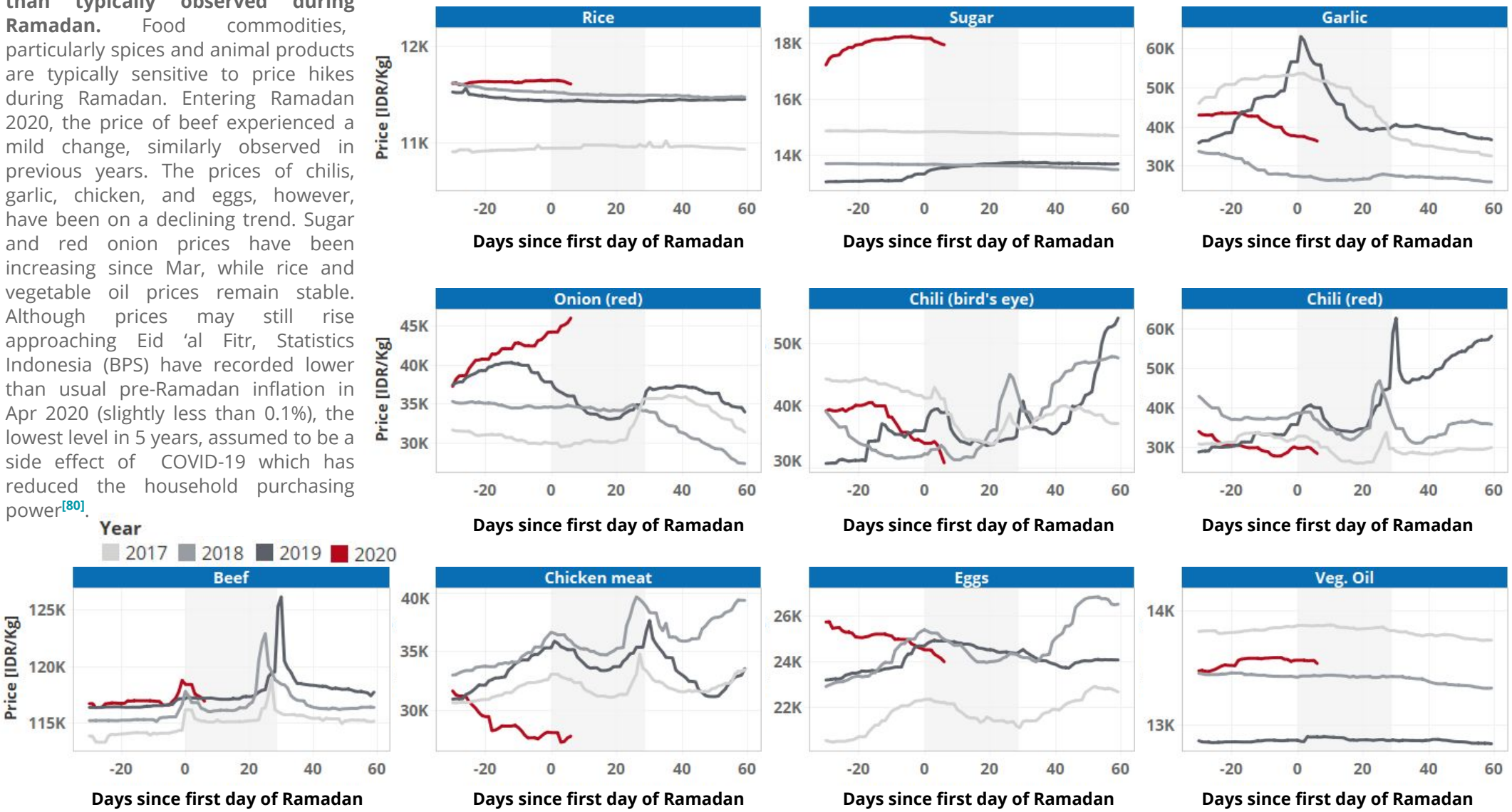
Chili prices have been decreasing as Indonesia enters chili harvesting season leading to increased supply, combined with lower than usual demand in the Ramadan fasting period, potentially an effect of the generally lower demand for various commodities amidst the pandemic [77,78,79].

Source: WFP calculation based on Center for Information of Strategic Food Prices (PIHPS)

Food Price Developments: National Prices - Ramadan Trend

Prices for most food items are lower than typically observed during Ramadan. Food commodities, particularly spices and animal products are typically sensitive to price hikes during Ramadan. Entering Ramadan 2020, the price of beef experienced a mild change, similarly observed in previous years. The prices of chilis, garlic, chicken, and eggs, however, have been on a declining trend. Sugar and red onion prices have been increasing since Mar, while rice and vegetable oil prices remain stable. Although prices may still rise approaching Eid 'al Fitr, Statistics Indonesia (BPS) have recorded lower than usual pre-Ramadan inflation in Apr 2020 (slightly less than 0.1%), the lowest level in 5 years, assumed to be a side effect of COVID-19 which has reduced the household purchasing power[80].

Food price developments during Ramadan, 2017 - 2020

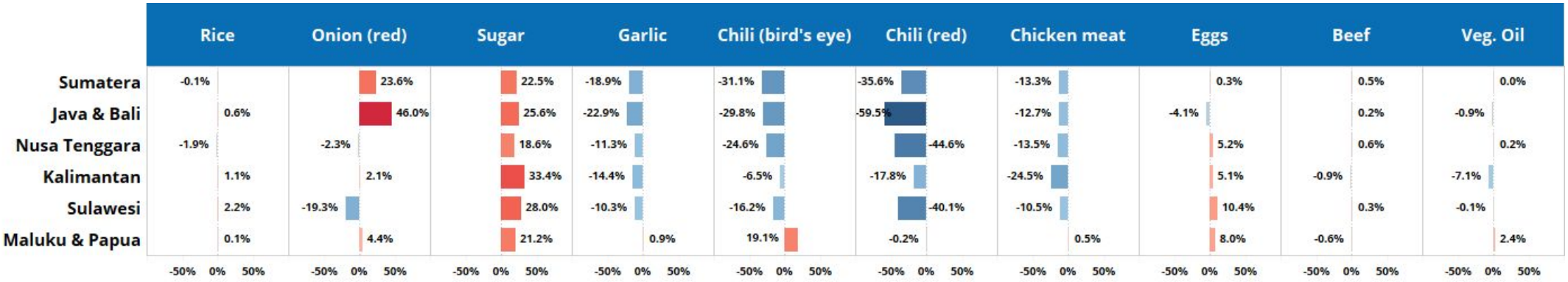


Note: The gray band represents the Ramadan fasting months between 2017-2020: 26 May - 24 Jun 2017, 16 May - 14 Jun 2018, 5 May - 4 Jun 2019, 24 Apr - 23 May 2020.

Source: WFP calculations based on Center for Information of Strategic Food Prices (PIHPS) data

Food Price Developments: Regional Trends

Price change by commodity (%): Monthly prices, Feb 2020 to Apr 2020



Regional variations exist in the development of food commodity prices between Feb to Apr 2020 — only sugar prices increased consistently in all regions. During this period, sugar prices increased between 18.6% in Nusa Tenggara and 33.4% in Kalimantan, but have started to stabilize in Apr as the Government began importing sugar in Mar. Apr prices ranged from IDR 13,648/kg in Kota Batam, Riau Islands to IDR 21,813/kg in Kab. Manokwari, W. Papua.

Garlic prices soared in Feb 2020 due to importing delays, but declined by Apr, following incoming imports in Mar, and dropped below Feb levels for most regions, except for the Maluku and Papua region. Kota Jayapura in Papua recorded the highest prices in Apr at IDR 64,338/kg, more than double the lowest price of IDR 29,400/kg in Kab. Jember, East Java.

Trends for other commodities are more region specific. The price of red onions during the period increased by 46.0% in Java, but decreased by 19.3% in Sulawesi. The highest price in Apr, however, was again recorded in Kota Jayapura at IDR 78,262/kg, almost triple the lowest price observed in Kab. Bulukumba, S. Sulawesi, at IDR 26,848.

Bird's eye chili prices have decreased for most of the country, except for the Maluku and Papua region, which observed a 19.1% increase in prices. Red chili prices had also been climbing in the Maluku and Papua region since Mar, but were still comparable to Feb prices. Kota Sorong recorded the highest prices in Apr for both chilis: IDR 82,833/kg for bird's eye chili and IDR 82,917/kg for red chili: more than six times of the prices in Kota Pematang Siantar, N. Sumatera (IDR 13,383/kg) for bird's eye chili and Kab. Bulukumba, S. Sulawesi for red chili (IDR 12,210/kg).

The price of chicken has dropped in almost all regions, except Maluku and Papua, where prices had been relatively stable throughout the period. Prices ranged from IDR 16,414/kg in Kota Palopo, S. Sulawesi, to IDR 41,133/kg in Kota Bukittinggi, W. Sumatera. Egg prices in Apr 2020 were generally higher than in Feb, except in Java where they decreased by 4.1%. The highest price was reported in Kab. Merauke at IDR 40,000/kg, i.e. twice as high as the lowest reported price in Kab. Bungo, Jambi, at IDR 20,188/kg.

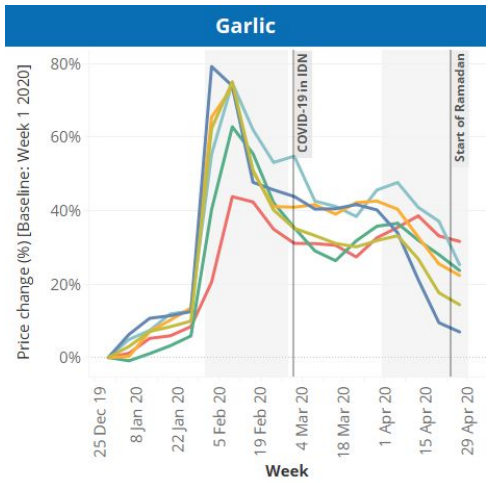
The price of vegetable oil remained relatively stable throughout the country but increased by 2.5% in Maluku and Papua and dropped by 7.1% in Kalimantan, the main producing region of palm oil in the country, likely an effect of weakening exports due to the COVID-19 pandemic and low global oil prices. The lowest price was reported in Kab. Banyuwangi, E. Java (IDR 12,165/kg), and the highest in Kota Sorong, W. Papua (IDR 16,350/kg). Rice and beef prices remained relatively stable over the period, albeit there were mild increases in rice prices in Sulawesi (2.2%) and Kalimantan (1.1%) and a slight decrease in Nusa Tenggara (1.9%). The price of rice ranged from IDR 9,275/kg (Kab. Bone, S. Sulawesi) to IDR 14,215/kg (Kota Palangkaraya, C. Kalimantan). Beef prices ranged from IDR 85,700/kg (Kota Batam, Riau Islands) to IDR 139,167/kg (Kota Banda Aceh, Aceh).

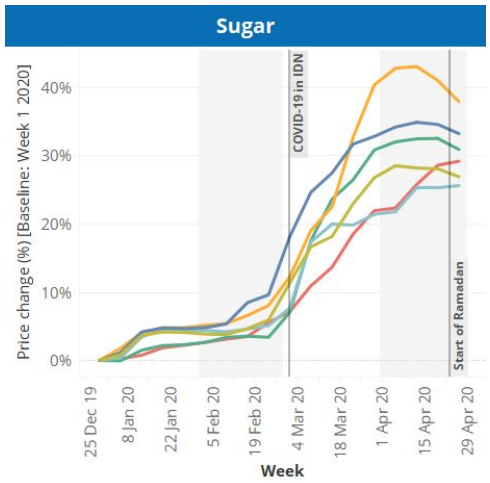
Source: WFP calculation based on Center for Information of Strategic Food Prices (PIHPS) data

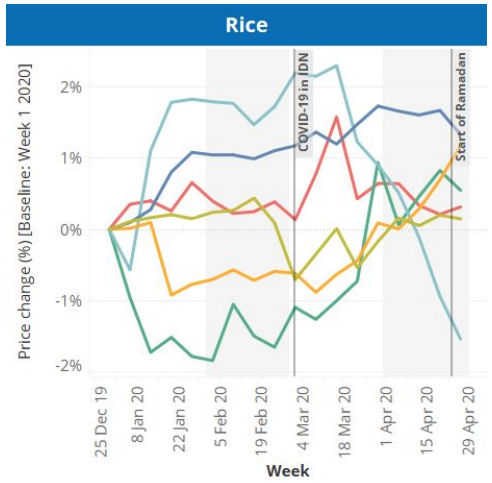
Food Price Developments: Regional Trends

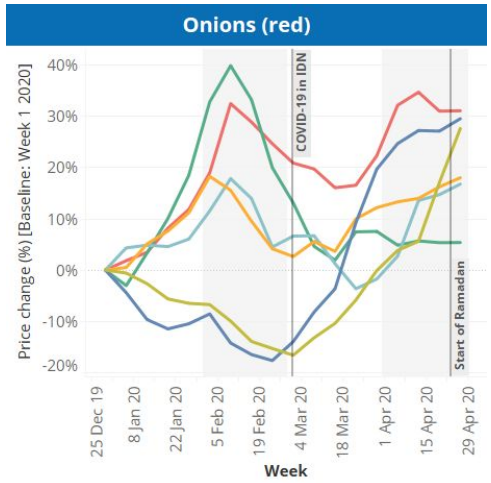
Price change from baseline (%)

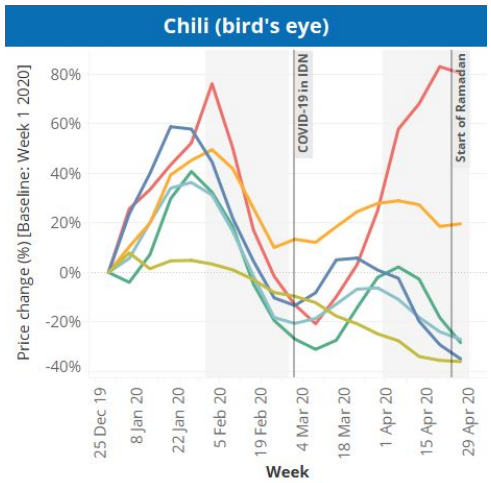
Weekly prices, baseline: Week 1 2020 (graphs continued on next slide)

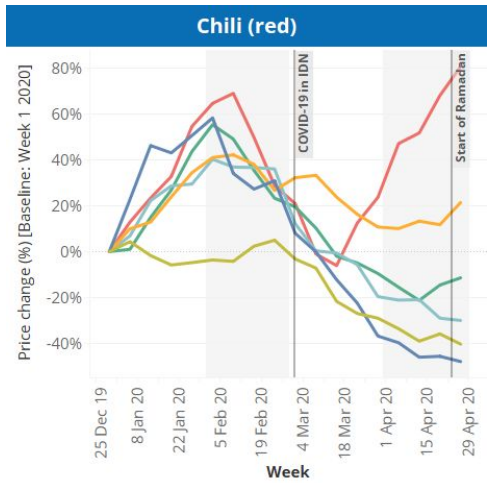


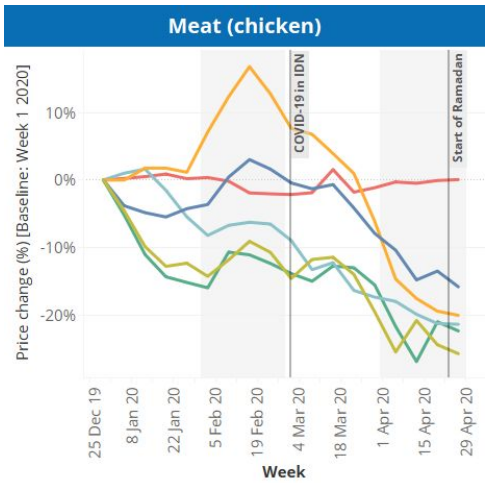


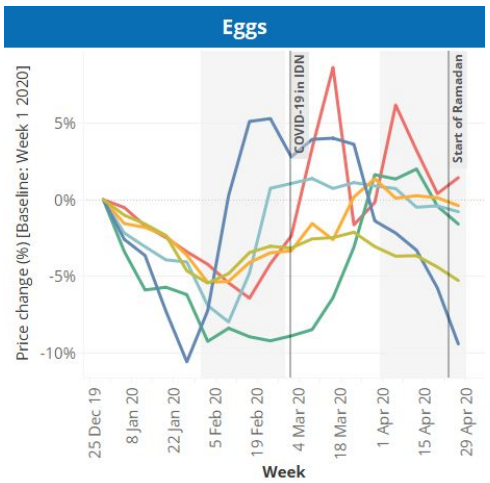












Region

Sumatera
Kalimantan
Sulawesi
Java & Bali
Nusa Tenggara
Maluku & Papua

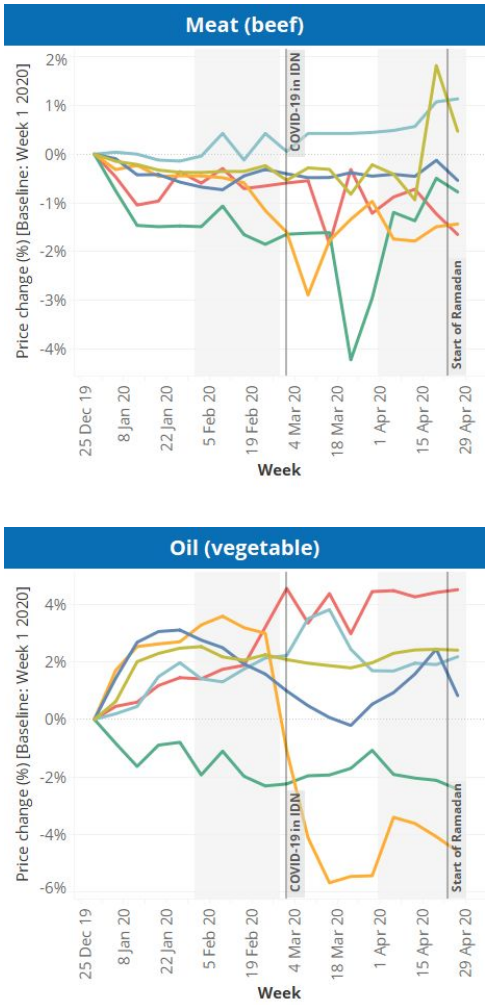
Source: WFP calculation based on Jakarta Food Information System (Infopangan Jakarta)

Food Price Developments: Regional Trends

Price change from baseline (%)

Weekly prices, baseline: Week 1 2020

(graphs continued from previous slide)

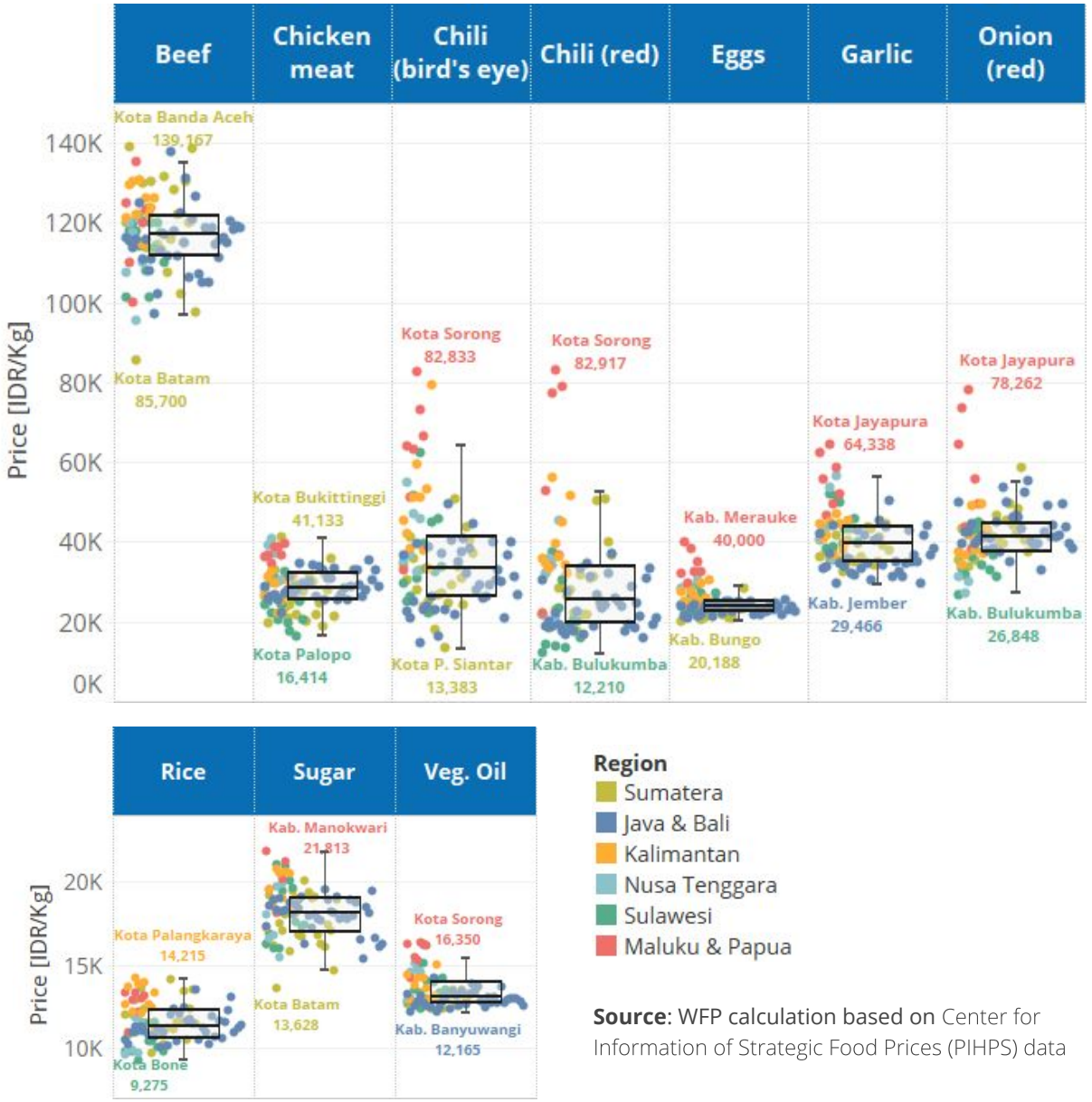


Region

Sumatera
Java & Bali
Kalimantan
Nusa Tenggara
Sulawesi
Maluku & Papua

Price levels of various commodities (IDR/Kg)

Monthly average price in Apr 2020



Region

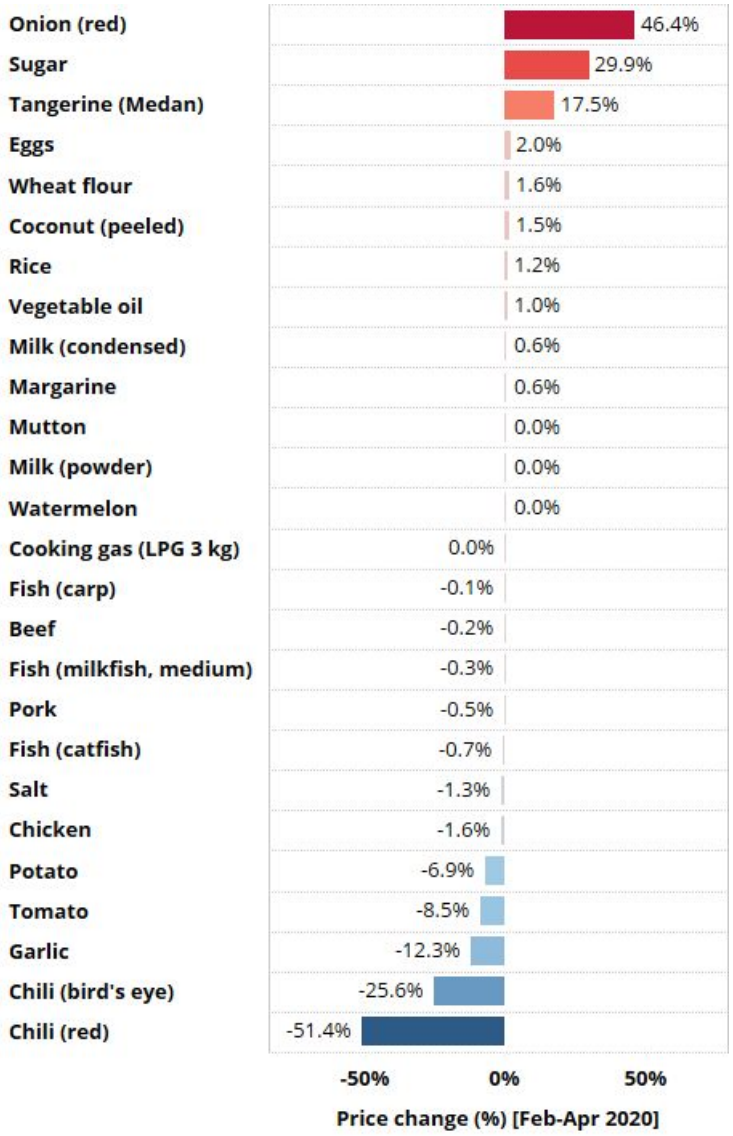
Sumatera
Java & Bali
Kalimantan
Nusa Tenggara
Sulawesi
Maluku & Papua

Source: WFP calculation based on Center for Information of Strategic Food Prices (PIHPS) data

Food Price Developments: DKI Jakarta

Price changes by food commodity (%)

Monthly prices, Feb 2020 to Apr 2020

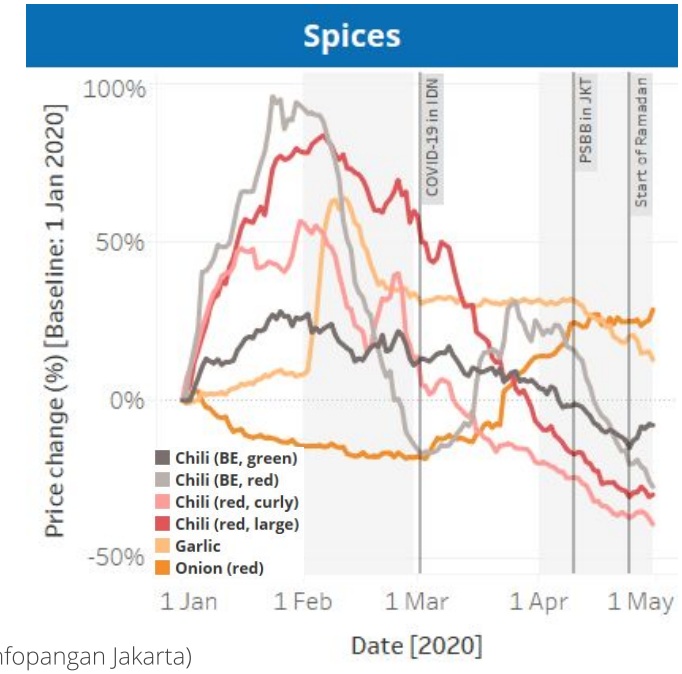


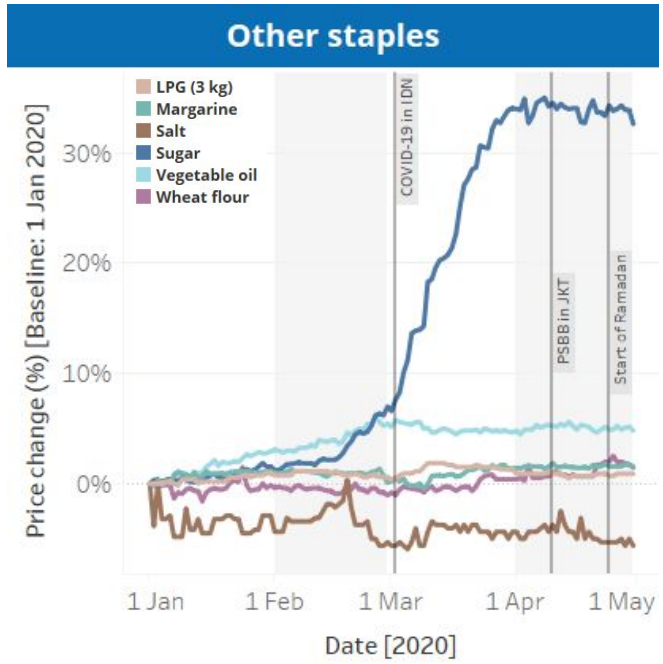
Between Feb and Apr 2020, red onions, sugar, and local tangerines (*jeruk medan*) were the three commodities experiencing the largest price increase in DKI Jakarta at 46.4%, 29.9% and 17.5%, respectively. On the other hand, the greatest price decrease was observed for red chili (51.4%), bird's eye chili (25.6%), and garlic (12.3%). The prices of tomatoes and potatoes also experienced a moderate dip by **8.5%** and **6.9%** respectively. The monthly average prices of other commodities including rice were relatively more stable during the period with the magnitude of the change ranging between **+2.0%** for eggs to **-1.6%** for chicken meat.

Spices and sugar. Red onion prices have been increasing since early March, following the announcement of the first COVID-19 cases in the country, but have begun to stabilize since early April following the implementation of large-scale social distancing in Jakarta, after which garlic prices have started to decrease, although not yet reaching original levels observed in Jan. Red bird's eye chili prices had also been increasing in March, but have been on a declining trend since early April. Sugar prices are still high but have stabilized since the first week of April. Prices of green bird's eye chili and red onions increased mildly following the start of Ramadan.

Price change from baseline: 1 Jan 2020 (%)

Daily prices, 1 Jan 2020 to 30 Apr 2020 (graphs continued on next slide)





Source: WFP calculation based on Jakarta Food Information System (Infopangan Jakarta)

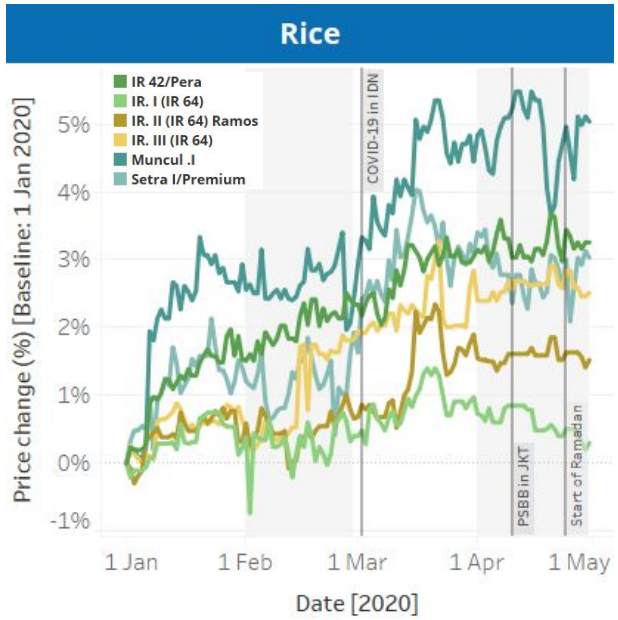
Food Price Developments: DKI Jakarta

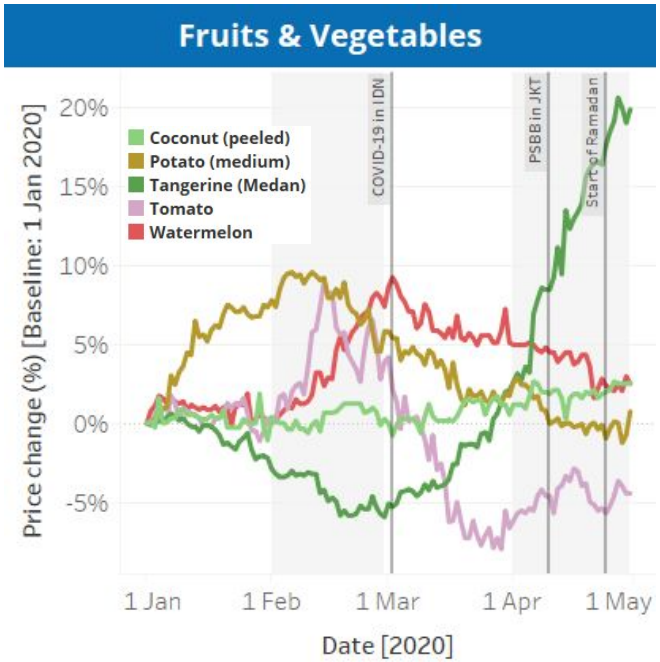
Rice. Rice prices in DKI Jakarta had been mildly increasing since the beginning of the year but have begun to stabilize since early April following the implementation of large-scale social distancing and as the country entered peak rice harvesting season.

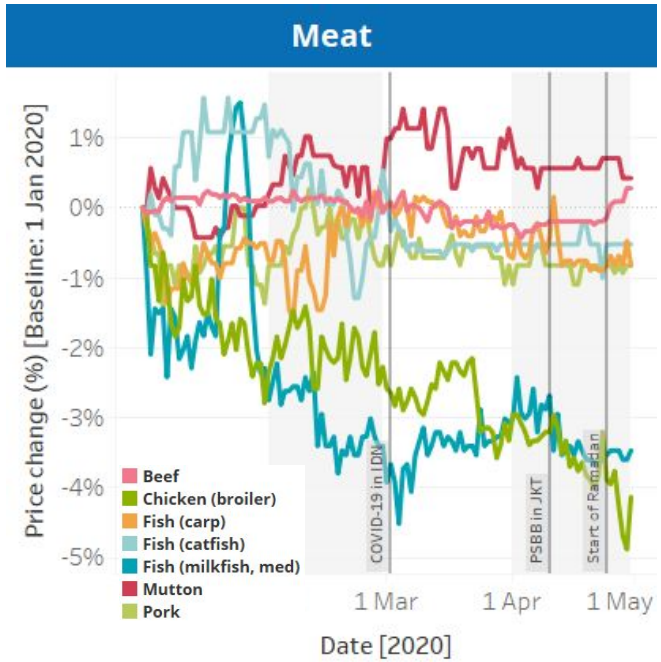
Fruits. The prices of local tangerines have shot up in DKI Jakarta since early March, following the announcement of the first COVID-19 cases in Indonesia. Prices on 27 April were recorded at IDR 29,789/kg, or 20.6% higher than prices on 1 Jan 2020 (IDR 24,692/kg). Price increases for local tangerines have been reported in other regions as well, indicating an association with an increase in demand for local fruits due to reduced supplies of imported fruits, primarily from China.[81,82,83]

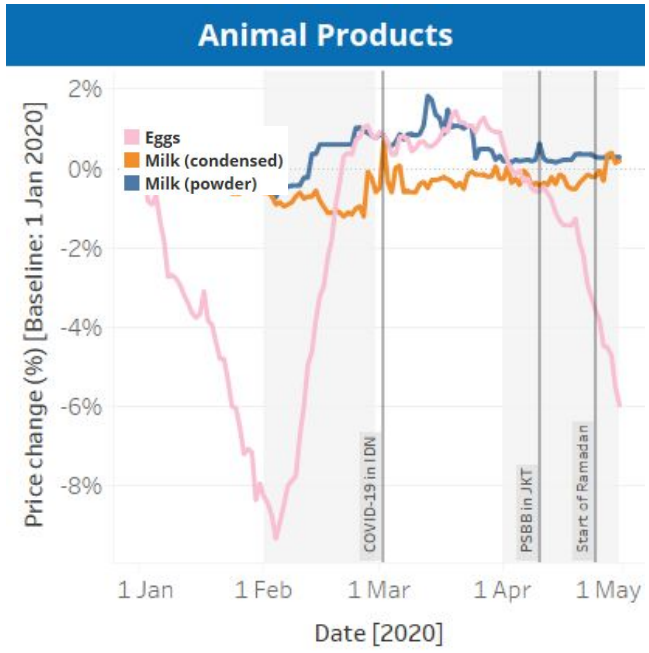
Meat and eggs. The price of chicken meat had already been on the decline since the beginning of the year, while beef prices experienced a mild increase following the beginning of Ramadan. The price of milkfish had been declining earlier in the year but has remained relatively stable since mid-March. Egg prices have been declining since the beginning of April, after also experiencing a dip earlier in the year. Declining egg prices have been suspected to be caused by demand-side contractions, due to the implementation of social distancing measures.

Source: WFP calculation based on Jakarta Food Information System (Infopangan Jakarta)







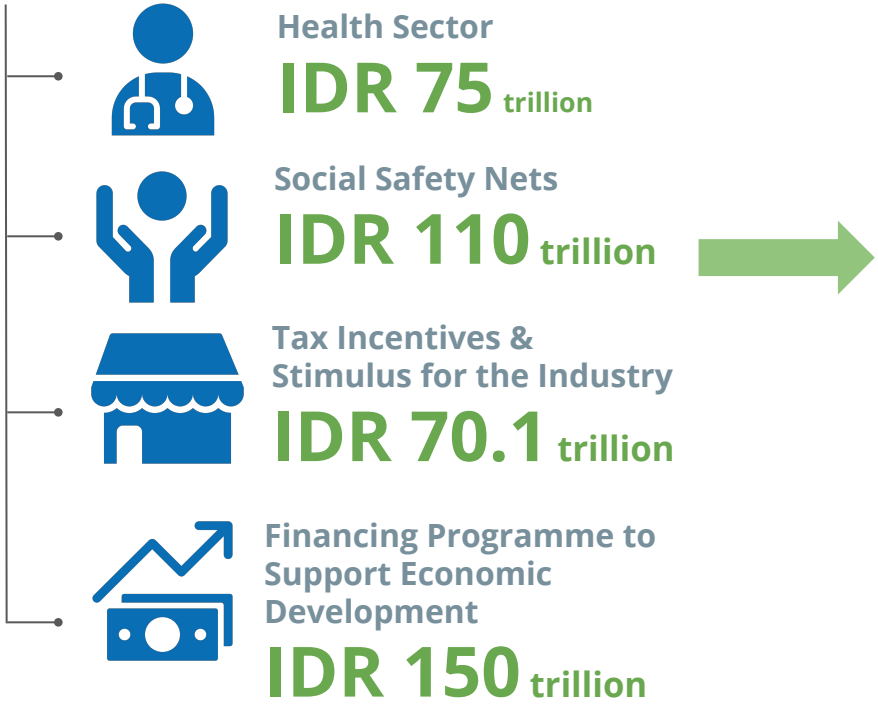


Government Policies and Response

Fiscal and Social Safety Nets Measures

IDR 405.1 Trillion

Total National Budget for COVID-19 Intervention



Source: Ministry of Finance (MoF)

Social Safety Nets Programmes for COVID-19 Response

(Central Government schemes only)

- **Family Hope Program (PKH)**
  a. Targeted beneficiaries: Citizens registered in the integrated MoSA database. Increased from 9.2 million to 10 million families.
  b. Duration: 9 months (April-December 2020)
  c. Amount: Max IDR 10,000,000/year and min IDR 900,000/ year.
- **Sembako Card**
  a. Targeted beneficiaries: Citizens registered in the integrated MoSA database. Increased from 15.2 million to 20 million families.
  b. Duration: 9 months (April-December 2020)
  c. Amount: Increased from IDR 150,000/month to IDR 200,000/month (non-cash transfer)
- **Pre-Employment Card**
  a. Targeted beneficiaries: 5.6 million workers affected by layoffs, unpaid leave, and informal workers impacted.
  b. Duration: 4 months.
  c. Amount: IDR 3.850.000 total as cash transfer
- **Village-level Direct Cash Assistance (BLT)**
  a. Targeted beneficiaries: 5.8 million poor people in villages who do not receive PKH, Sembako, and pre-employment cards.
  b. Duration: 3 months (April-June 2020).
  c. Amount: IDR 600,000/month
- **President's Social Assistance (Bansos Presiden)**
  a. Targeted beneficiaries: 4.1 million poor people in Jabodetabek who do not receive PKH, Sembako, pre-employment cards, and BLT desa.
  b. Duration: 3 months (April-June 2020).
  c. Amount: Food assistance worth of IDR 600,000 or IDR 200,000/month

The Government of Indonesia (GoI) has allocated IDR 405.1 trillion for COVID-19 response measures, including IDR 110 trillion for social protection of the most vulnerable. In response to the pandemic, the Government expanded the coverage of existing social protection programmes (eg. PKH and SEMBAKO) by including additional households and increasing the amount and frequency of disbursements, as well as developing additional schemes in light of the pandemic (eg. BLT and Bansos Presiden). In addition to the measures taken by the Central Government, some Subnational Governments have also allocated budgets for social assistance, such as the Provincial Governments of DKI Jakarta and West Java. The Ministry of Finance estimated that, combined, the social assistance schemes would cover 60% of the Indonesian population[84]. However, media reports have noted several issues regarding the targeting and distribution of social assistance, including, among others, the use of inconsistent or outdated information to target beneficiaries[85,86], overlaps between the beneficiaries of Central and Subnational Governments schemes[87], barriers in accessing social assistance due to lack of access to internet or bank accounts[88,89], delays in disbursements[90], inconsistent guidelines and regulations[91], as well as coordination issues between different Government ministries and levels[91,92].

Government Policies and Response

Trade-related, Agricultural and Logistical Measures

Trade and Logistics

Relaxation on Horticulture (inc. Onion & Garlic) Import Permission

Based on the Regulation of Ministry of Trade Number 27/2020

Arrangement and Simplification of Import Licensing

Based on the Presidential Regulation (Perpres) Number 58/2020

Sugar and garlic import to stabilize the soaring domestic prices

Garlic and sugar import value as of Mar: USD 18.8 M and USD 480.6 M[93]

Agricultural and Food Availability

Ministry of Agriculture Measures to Respond to COVID19

- **Conducting careful and detailed analyses on the current food security situation**
- **Interventions to guarantee the supply of staple food for the community**

Embracing Private Sector

Embracing e-commerce company and signing MoU with big food companies to ensure domestic stock and distribution

Relaxation on agricultural credit and expansion of agricultural insurance

Strengthening on-farm production by accelerating the realization of agricultural inputs

Fair price guarantee incentives for agricultural products and compensation for harvest/market failure

In addition to financial and social safety net measures, the Government has implemented several policies and interventions related to trade (import and exports), logistics and agriculture. It is worth noting that the above list does not reflect all policies and measures that have been taken by the Government, but only selected ones. In trade and logistics, the Ministry of Trade issued the Regulation of Ministry of Trade Number 27/2020 on the relaxation of imports for horticulture commodities such as garlic and onion which experienced soaring domestic prices between Feb and Mar 2020. Additionally, the President issued the Presidential Regulation 58/2020 to simplify import licensing during the pandemic. Import measures have also been taken for sugar and garlic to guard supply and stabilize domestic food prices. In the agricultural context, the Ministry of Agriculture has formulated several key measures in response to the COVID-19 pandemic to ensure sufficient food supplies across the country. In order to monitor the short-term food security situation, the Ministry of Agriculture has developed several monitoring tools such as the monthly food security index (IKP). Other measures by the Ministry of Agriculture include farmer-related interventions to maintain food production: relaxation of agricultural credit and strengthening on-farm production capacity.

Methodology

Determination of the Poor, Bottom 40%, and Informal Worker Populations

Poor population. The poor population is determined by comparing the per capita expenditure to the poverty line of a given location. Individuals whose per capita expenditure falls below the poverty line are defined as poor. The calculations in this report used the provincial urban and rural poverty lines from Statistics Indonesia (BPS).

Bottom 40% population. The bottom 40% corresponds to the poorest two quintiles of the wealth distribution, using an expenditure-based approach. To take into account the differences in the prices of goods and services between regions in Indonesia, the per capita expenditure was adjusted using the differences in the values of urban-rural provincial poverty lines, which represents the cost of a minimum basket of goods needed to fulfill basic needs in each province. In this report, the DKI Jakarta poverty line was taken as the reference point. The relative per capita expenditure was calculated as follows:

Relative per capita expenditure = DKI Jakarta Poverty Line / Provincial Poverty Line x Per Capita Expenditure

The population was then divided into five quintiles based on the relative per capita expenditure. The poorest two quintiles correspond to the bottom 40% population.

Informal workers. Informal workers are defined as people 15+ years old that are employed with the following employment statuses:

1. Self-employed
2. Conducting business with unpaid/temporary labour
3. Casual labour
4. Unpaid family labour

The proportion of informal workers is calculated by dividing the number of informal workers by the number of employed people (15+ years old).

Analyses of price indices. The percentage changes of these quarterly price indices indicate the extent to which recent price changes can be considered normal or abnormal as compared to the relevant reference period (i.e. the previous quarter, the preceding year, or the baseline period) (World Food Programme, 2014):

“Monthly change from previous month” or “Month-on-Month change” is calculated as a percentage change of the latest available monthly nominal price from the previous month. “Monthly change from last year” or “Year-on-Year change” is calculated as a percentage change of the latest available monthly nominal price of the quarter from the same month in the previous year.

“Week-on-Week change” is calculated as a percentage change of the latest available weekly nominal price from the previous week.

Facebook Disaster Maps. Facebook Disaster Maps are comprised of several datasets. For the analysis in this bulletin, only Population and Movement Maps were used to analyse the influence of the COVID-19 pandemic situation in Indonesia on population movements and distribution.

Population Maps. The population maps show a smoothened representation of how many people with location services enabled were using the Facebook app in each administrative region or map grid for each time period. The counts include people with location services enabled on their mobile device. If the same person appeared at multiple locations in a time interval we only count their most frequent location, choosing the latest of their most frequent locations in the event of a tie.

Movement Maps. It contains information on the number of people moving between tile pairs over a given time period. This is measured during the baseline (movement between tile pairs averaged across the three weeks prior to the disaster) as well, so it can be understood how many more or fewer people are moving during the disaster period compared to usual. This helps us distinguish disaster-related movements from people’s normal migration patterns.

Baseline Computation. As mentioned, the population and movement maps use a shared procedure for computing a baseline that can be compared to observations during and after a crisis (or a particular event). A baseline is computed for each location in a map (which can be a tile, an administrative polygon, or, pairs of tiles or polygons). Only data from the same time-of-day and day-of-the-week in the period preceding the crisis is used. Therefore, for a given location and time interval, the baseline dataset is composed of a set of counts from the same location over the same time interval on the same day-of-the-week for multiple weeks preceding the crisis.

Once the baseline datasets have been collected, extreme value elimination was done using winsorization. This is done by computing the mean (**μ** baseline) and standard deviation (**σ** baseline) of the pre-winsorization distribution, identifying the 2.5th and 97.5th percentiles of a Gaussian with that mean and standard deviation. Finally, the comparison between the crisis and the baseline are done using two methods: 1) Percent difference between crisis and baseline; and 2) Z-score comparison.

Reference:

Maas et al. 2019. Facebook Disaster Maps. Proceedings of the 16th ISCRAM Conference

Data and References

Facebook

- **Facebook Disaster Maps:**
  - Population movement. Aggregated information showing movement between two points from people using Facebook on their mobile phones with Location History enabled.
  - Population size and density. Aggregated information indicating the size and density of the population in each tile from people using Facebook on their mobile phones with Location History enabled.

  Data retrieved from WFP HQ GIS Team.
- **Population density and demographic estimates.** It provides estimates of human population distribution at a resolution of 1 arc-second (approximately 30m). The population estimates are based on recent census data and high-resolution (0.5m) satellite imagery from DigitalGlobe. Download link: https://data.humdata.org/dataset/indonesia-high-resolution-population-density-maps-demographic-estimates

Facebook Data for Good reference: https://dataforgood.fb.com

Macroeconomic Data

- GDP, Inflation and Labor, Statistics Indonesia (BPS) https://www.bps.go.id/
- GRDP, Statistics Indonesia (BPS), obtained from INDO-DAPOER, World Bank https://databank.worldbank.org/source/indonesia-database-for-policy-and-economic-research
- IDR-USD Exchange Rate 2020, Bank Indonesia (BI) https://www.bi.go.id/id/Default.aspx

Socioeconomic Data

- Indonesia National Household Socioeconomic Survey (SUSENAS), Mar 2019, Statistics Indonesia (BPS) https://silastik.bps.go.id/v3/index.php/site/login/
- Urban-Rural Provincial Poverty Line, Mar 2019, Statistics Indonesia (BPS) https://www.bps.go.id/dynamictable/2016/01/18/1120/garis-kemiskinan-menurut-provinsi-2013---2019.html
- District/Municipality Poverty Rate, Mar 2019, Statistics Indonesia (BPS) https://www.bps.go.id/dynamictable/2017/08/03/1261/persentase-penduduk-miskin-menurut-kabupaten-kota-2015---2019.html

Food Trade

- Export and Import, Statistics Indonesia (BPS) https://www.bps.go.id/exim
- Food Export Policy Tracker, International Food Policy Research Institute (IFPRI) https://public.tableau.com/profile/laborde6680#!/vizhome/ExportRestrictionsTracker/FoodExportRestrictionsTracker?publish=yes

Food Production

- Rice Production, Statistics Indonesia (BPS) https://www.bps.go.id/pressrelease/download.html?nrbvfeve=MTc1Mg%3D%3D&sdfs=ldjfdifsdjkfahi&twoadfnoarfeauf=MjAyMC0wNS0yMCAxNjoyODoyOQ%3D%3D
- Agricultural Production, Ministry of Agriculture (MoA) https://www.pertanian.go.id/home/?show=page&act=view&id=61

Farmer's Term-of-Trade (ToT)

- Farmer's ToT, Statistics Indonesia (BPS) https://www.bps.go.id/subject/22/nilai-tukar-petani.html#subjekViewTab3

Food Prices

- Global Food Price Index, Food and Agriculture Organization (FAO) http://www.fao.org/faostat/en/
- IGC Grains and Oilseeds Index, International Grains Council (IGC) https://www.igc.int/en/markets/marketinfo-goi.aspx
- Center for Information of Strategic Food Prices (PIHPS), Bank Indonesia (BI) https://hargapangan.id/
- Jakarta Food Information System (Infopangan Jakarta) https://infopangan.jakarta.go.id/

Food Security and Nutrition Status Data

- 2019 National Food Security and Vulnerability Atlas (FSVA Nasional 2019), Agency for Food Security (BKP) http://bkp.pertanian.go.id/storage/app/media/Bahan%202020/FSVA%202019%20FINAL.pdf
- FIES and PoU, Statistics Indonesia (BPS) https://www.bps.go.id/indikator/indikator/view_data/0000/data/1333/sdgs_2/1
- 2018 Maternal Anaemia, Stunting Prevalence, and U5 Nutrition Status, RISKESDAS 2018 https://www.bps.go.id/indikator/indikator/view_data/0000/data/1333/sdgs_2/1
- 2019 Stunting Prevalence and U5 Nutrition Status, SSBGI 2019 https://www.bps.go.id/indikator/indikator/view_data/0000/data/1333/sdgs_2/1

Government Policies and Response

- Ministry of Finance (MoF) https://www.kemenkeu.go.id/covid19
- Ministry of Agriculture (MoA) https://drive.google.com/open?id=1sGCrTMkVKS-oqQykk1RR2R1V8ua2Fjee