



World Food Programme



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INDONESIA

COVID-19: Economic and Food Security Implications (3d Edition)

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SAVING
LIVES

CHANGING
LIVES

Preface

The COVID-19 pandemic continues affecting the lives and livelihoods of millions of people globally. In addition to the health-related impact, the outbreak is also triggering an economic downturn affecting the world's poor and food insecure population.

Indonesia continues to be severely affected by COVID-19. The pandemic affects food security and nutrition, particularly for vulnerable groups with already scarce resources to cope with the pre-crisis situation, including those in the informal sector.

To support decision makers in designing relevant interventions to respond to the crisis, real-time monitoring of the developing impacts of the pandemic remains critical. This bulletin, as a continuation of the previous update¹, provides a snapshot of the implications of the pandemic on the economy and food security in Indonesia. Evidence from different sources and analyses in this update include the Government's support to vulnerable groups through different schemes to minimise the impacts of the shock, changes in macroeconomic indicators in the 2nd quarter of the year, and employment implications in the formal and informal sectors.

Analysis on food availability and access, along with challenges in food supply and agricultural production, are included in the bulletin. There is special focus on food security in two selected provinces, North Maluku and East Nusa Tenggara. The analysis also covers the availability of strategic food commodities in markets and price trends at national and sub-national levels.

The analysis team would like to thank Indonesia's Ministry of Trade, the Statistics Agency, Bappenas, Food Security Agency of the Ministry of Agriculture, the provincial offices for food security in North Maluku and East Nusa Tenggara and the Indonesian Markets Traders Association for providing additional data and information.

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1. Available at: <https://www.wfp.org/publications/indonesia-covid-19-economic-and-food-security-implications>

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Key Messages

- In the second quarter of 2020, the Indonesian GDP contracted by 5.32% year-on-year (Y-o-Y), the most significant decline since 1999. The GDP dropped by 4.19% compared to the first quarter of 2020.
- The government expects next year's budget deficit to amount to IDR 971.2 trillion, 5.5% of GDP, given the need to further boost the economy and provide social and healthcare assistance.
- Household consumption expenditure, contributing 58% of total GDP, decreased by 5.5% (Y-o-Y). Implementation of large-scale social distancing policies in multiple regions, business closures and movement restrictions are the primary cause of the contraction.
- The poverty rate in Indonesia increased in March 2020 to 9.78% from 9.41% in September 2019, primarily in urban areas. An additional 1.63 million people fell into poverty, returning the poverty rate close to the September 2018 level (9.82%). The Government predicts the poverty rate to reach around 10.6% in 2020 with an estimated additional 4 million people falling below the poverty line. The World Bank projected the poverty rate to increase to 10.7% (mild scenario) or increase to 11.6% (severe scenario).
- The annual inflation declined throughout the second quarter into the beginning of the third quarter of 2020, reaching 1.54% in July. This is the lowest annual inflation rate recorded since 2000, a result of the decrease in prices resulted by lower demand and less consumer spending due to the COVID-19 pandemic.
- An estimated 1.8 million formal and informal workers were directly impacted by the COVID-19 pandemic between April and May 2020, according to data validated by the Ministry of Manpower (MoM). The data of an additional 1.3 million workers are under review by the MoM.
- BAPPENAS projects the unemployment rate to reach between 8.1% to 9.2% in August 2020, the highest in a decade. According to BAPPENAS, it is estimated that an additional 4 to 5.5 million workers could become unemployed in 2020 as a result of the pandemic.
- Rising unemployment among formal and informal workers has led reduced purchasing power. A World Bank mobile survey in May 2020 reported that 38% of respondent households consumed less than previously due to lack of financial resources.
- In response to the pandemic, the Government of Indonesia (GoI) continued supporting the most vulnerable groups through social protection programs. The Government allocated IDR 695 trillion in stimulus spending in 2020 to support the economy and fund the pandemic response.
- The Ministry of Agriculture has been implementing its subsidized credit scheme program (KUR) to support the agricultural sector, with an amount of IDR 50 trillion.
- In comparison to the first semester of 2019, Indonesia's overall trade value shrank by 5.5% for exports and by 14% for imports. Despite the negative value, food trade grew in terms of exports and imports. Supplies for major food items are expected to meet domestic demand until end-September, although imports would be required for selected commodities.
- Rice production in January to August 2020 remains lower by 23% compared to the same period 2019. Domestic rice production is predicted to maintain a positive balance nationally and able to meet demands without imports until the end of 2020. The Ministry of Agriculture estimates rice harvests in the second semester of 2020 reaching over 13 million tons, with an end stock of over 6 million tons by end of 2020.
- The limited data availability on the prices and availability of nutritious food such as fruits and vegetables makes assessing population access to these items, both economically and physically challenging.

Recommendations

- Rising unemployment continues to exert pressure on the quality and quantity of household food consumption. Targeted social protection safety nets remain critical to address the needs of those unemployed and reduce the risk of food insecurity among vulnerable groups. This includes those who fell into poverty as a result of COVID-19 but have not yet been captured in the national social registry for inclusion in social protection schemes.
- In the context of high stunting rates in Indonesia, attention should be given to designing social safety net programs in a way that maintains quantity as well as quality of diet to prevent further deterioration in nutritional status. Food transfers with staples should include micronutrient-rich crops, while cash transfers or vouchers schemes should consider stimulation of household demand for fruits and vegetables, dairy, and other nutrient-rich foods.
- The increasing number of transactions using digital or online platforms necessitates an adjustment to strategies across the supply chains to help supply meet demand and to ensure food security.
- Priority should be given to facilitate local food production to ensure availability and improve access to inputs and finance to smallholders (over 90% of Indonesia's farmers are smallholders)
- Employment services should be provided to migrant workers who are unable to earn an income due to the outbreak. It is essential to restore the income streams of migrant workers considering that reduction and shocks to income is a primary cause of household food insecurity.
- Close monitoring of food prices for basic food commodities, particularly for nutrition-rich items such as fruits and vegetables. Availability of market information in addition to enhancing the Government's timely interventions in food markets can also guide farmers in production decisions.
- Improvement of cold chain infrastructure to store excess supply of poultry and fish helps to absorb production during periods of low demand as well as stabilizing prices for producers and consumers.
- Simplified import procedures to reduce lead time, taking into consideration domestic production cycles in order to ensure domestic price stability for producers and consumers.
- Strengthening management of Government food reserves, including at provincial and district levels, will support food availability during periods of demand, keeping prices stabilised.
- Attention should be given to developing long-term strategies for monitoring the pandemic and other possible crises in future, easing the economic impact through greater public program support and relevant policies.
- Improve the coverage, reliability, granularity and timeliness of agricultural, food, and nutrition data to assist decision-making on production, distribution, and trade.

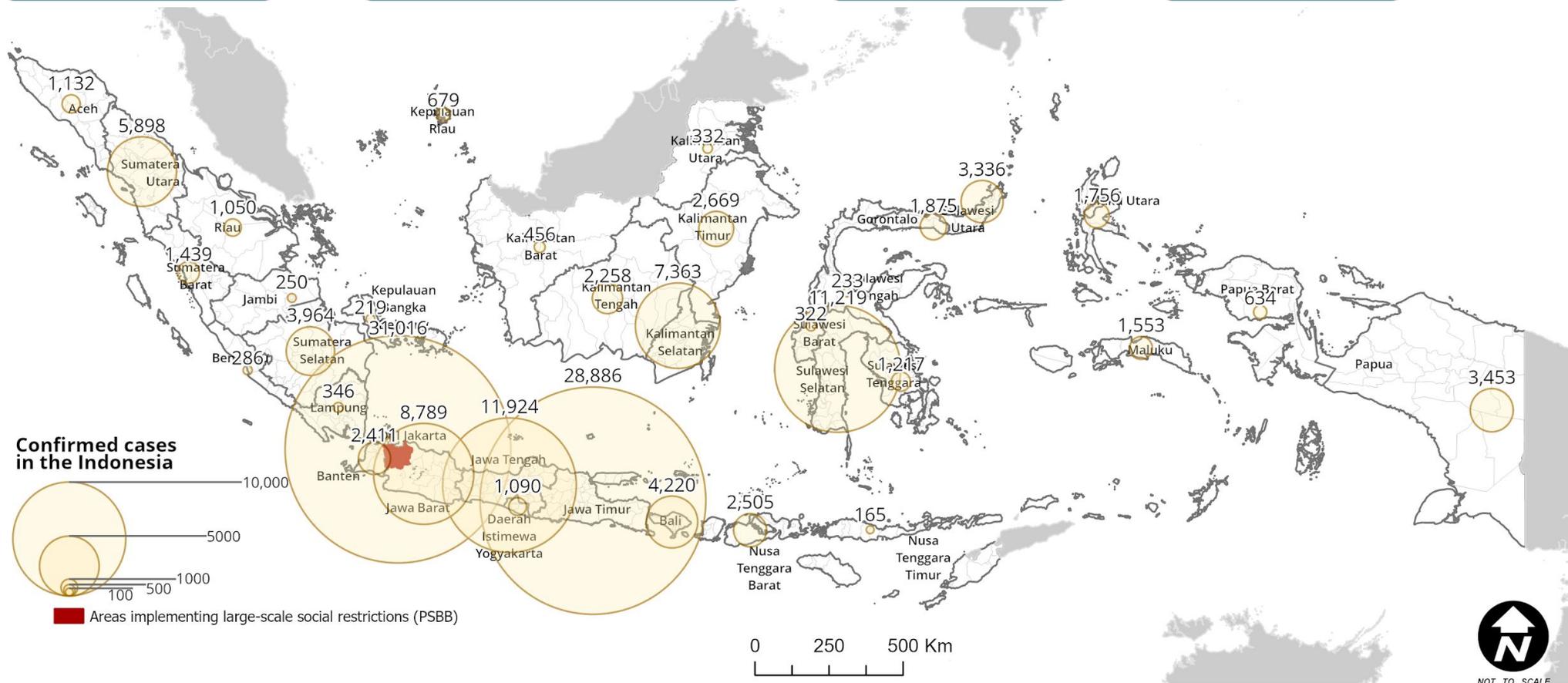
COVID-19 Cases in Indonesia - 19 August 2020

144,945
Confirmed cases

39,942
Hospitalized/self isolation

98,657
Recovered

6,346
Death Toll



Source: National Task Force for COVID-19

As of 19 August 2020, the number of confirmed COVID-19 cases in Indonesia reached 144,945 persons with the death toll at 6,346 people. The highest number registered in DKI Jakarta - 31,016 cases and the lowest in East Nusa Tenggara (NTT) - 165 cases. The COVID-19 fatality per confirmed case was 4.4%. Indonesia remains with the highest numbers of confirmed COVID-19 cases in South-East Asia, after Philippine, surpassing South Korea, Japan, and China*.

Updates on Government Response: Fiscal Stimulus for Economic Recovery and SSN

National Strategic Measures for Economic Recovery

Source: Ministry of Finance (July 2020)



Supply Side

Demand Side



Maintaining Purchasing Power

These measures are crucial in ensuring that the entire population, especially vulnerable groups, have economic access to nutritious food available in the market.

Social Safety Net (SSN)

Notes: Food Security-relevant Assistance

- Family Hope Program (PKH)
- SEMBAKO Card
- Cash Assistance for Non- Jabodetabek
- Sembako Assistance for Jabodetabek
- Village Direct Cash Assistance (BLT)

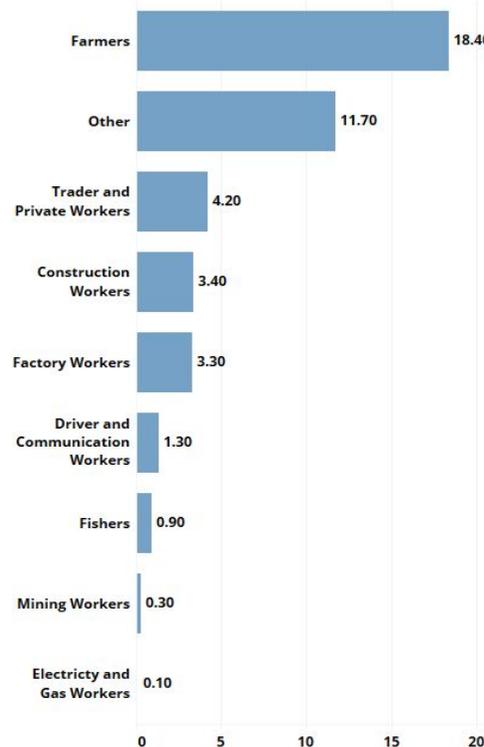
Updates on Social Safety Net (SSN) Schemes

Source: MoSA, Bappenas, MoF (July 2020)

Scheme	Beneficiaries	Frequency and Duration	Total Budget
PKH	10 million KPM	Monthly in 12 months	IDR 37.4 T
SEMBAKO Card	20 million KPM	Monthly in 12 months	IDR 43.6 T
Cash Assistance for Non- Jabodetabek	9 million KPM	9 months (Apr-Dec)	IDR 32.4 T
Cash Assistance for Jabodetabek	DKI : 1.3 million KPM Bodetabek : 600K KPM	9 months (Apr-Dec)	IDR 6.8 T
Village-level Direct Cash Transfer	11 million KPM	6 months (Apr-Sept)	IDR 31.8 T

SSN Beneficiary, by Occupation (%)

Source: MoSA - Integrated Social Welfare Data (DTKS)

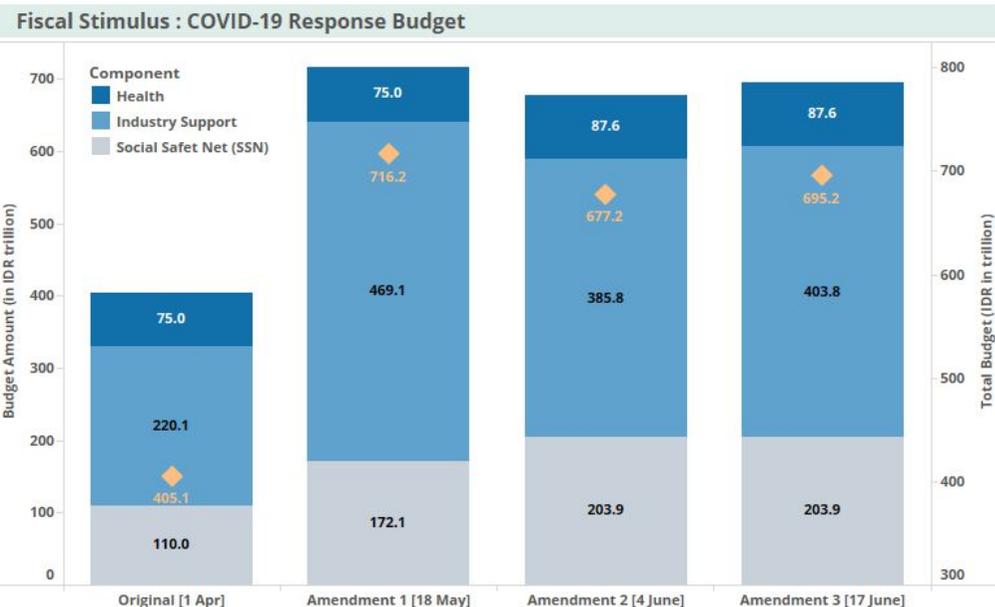


The Government of Indonesia (GoI) has rolled out a range of Social Safety Net (SSN) schemes to protect populations impacted by, and vulnerable to, the economic shocks arising from the COVID-19 pandemic that may threaten their ability to afford a nutritious diet. GoI has further expanded the coverage of the most vulnerable groups through social safety nets schemes. Based on MoSA, the SSN schemes mostly (18.40%) reach farmers (incl. livestock and plantation).

The current budget for each scheme is presented in the accompanying table. In addition, the Government has also launched a new SSN scheme for workers with monthly salaries below IDR 5 million: a monthly payment of IDR 600,000 assistance for 4 months. In order to implement the new scheme, the GoI has allocated IDR 31 trillion to cover 31 million eligible workers.^{1,2}

Note: Data in the table includes the Government's SSN schemes following the release of the previous update on COVID-19 economy and food security implications in end of May 2020.

Updates on Government Response: Fiscal Stimulus for Economic Recovery and SSN



Source: Ministry of Finance

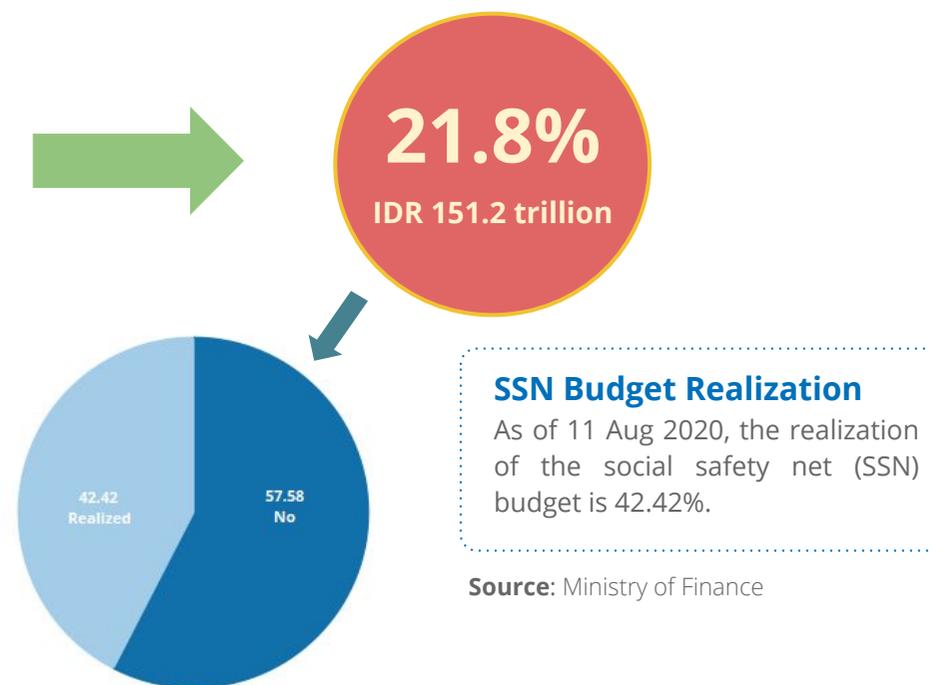
Food Producer-specific : Social Safety Net for Farmers

Indonesia's Ministry of Agriculture (MoA) has allocated IDR 2.65 trillion towards the COVID-19 response for the agriculture sector. About 45% of the budget (IDR 1.15 trillion) is allocated for the social safety net scheme and another 40% (IDR 1.46 trillion) is assigned to secure national food production and availability.^{3,4}

The social safety net for farmers targets agricultural producers impacted by the pandemic and is provided in the form of a Farmer's Direct Cash Transfer (BLT Petani) in the amount of IDR 600,000/farmer household. The support consisting of an IDR 300,000 cash transfer and in-kind assistance with seedlings, fertilizers and other agricultural inputs worth IDR 300,000. This scheme will be implemented for 3 months and the disbursement will be directly channeled from MoA to the Strategic Command for Agricultural Development (Kostratani). Kostratani will be in charge to distribute the BLT to the targeted farmers. In addition, the Government has also allocated IDR 50 trillion for the KUR subsidized credit scheme in the agriculture sector through the MoA⁵, as an effort to provide farmers access to low-interest finance (6% interest rate) to support on-farm production. As of end of June 2020, IDR 20 trillion have been disbursed⁶

Budget Realization Review

Figure as of 6 Aug 2020



Source: Ministry of Finance

COVID-19 Response Budget Realization

The GoI's COVID-19 response budget has increased from IDR 405 trillion in April to IDR 695.2 trillion in June 2020, corresponding to 6.34% of the national gross domestic product (GDP). The GoI has made several amendments to its COVID-19 response budget throughout Q2 2020, including to the social safety net (SSN) budget, which has increased twice: from IDR 220.1 trillion in Apr to IDR 172.1 trillion in May and then to IDR 203.9 trillion in June. The additional SSN budget aims to expand the coverage of the beneficiaries. However, budget realization still stands at 21.8%⁷ as of 6 Aug while SSN at 42% as of 11 Aug and social assistance disbursement needs to be accelerated to ensure all targeted beneficiaries received the support in a timely manner.

Updates on Macro-Economic Impacts: Growth Projections, Inflation and Exchange Rate

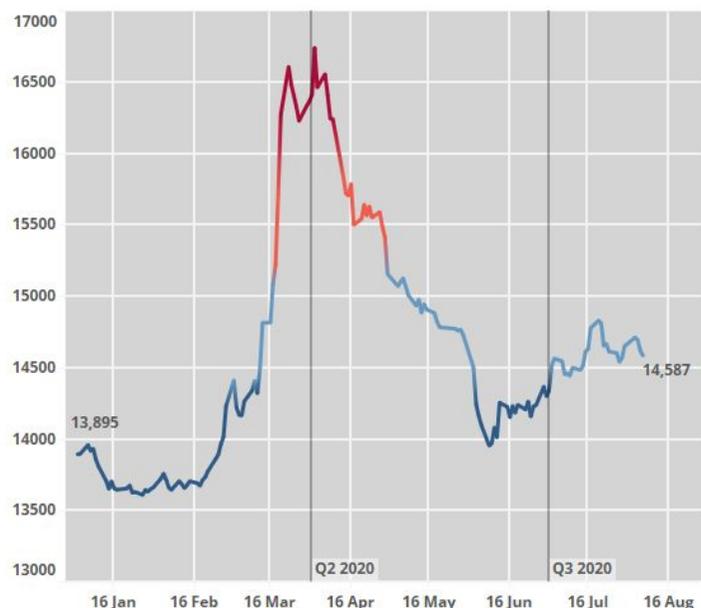
2020 GDP Growth Forecast [updated]



GDP Growth Forecast

The Ministry of Finance, as well as the World Bank and IMF have revised their projection for Indonesia's GDP growth in 2020. MoF estimated that annual 2020 growth would be in the range of -0.4% to 1%. IMF revised its projection to -0.3% from 0.5% previously, while the World Bank projected no growth (0.0%) between 2019 and 2020.

IDR-USD Exchange Rate: Data as of 6 Aug 2020



Annual Inflation Rate : Long-term Trend

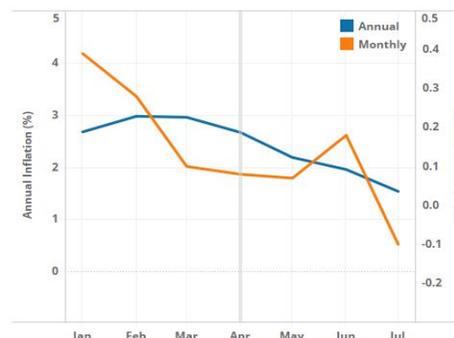


July Annual Inflation

1.54%

the lowest since 2000

2020 Annual and Monthly Inflation Rate



Monthly Inflation Rate by Inflation Type



Inflation Rate Development

Indonesia witnessed declining annual inflation throughout Q2 2020, which continued in early 2020 Q3, reaching 1.54% in July 2020 - the lowest annual inflation rate recorded since 2000. According to Statistics Indonesia (BPS), the declining inflation rate was a result of weakening purchasing power and consumer spending due to the COVID-19 pandemic⁸. Monthly inflation increased slightly in June 2020, but a deflation was recorded in July 2020 - primarily driven by declining food, beverage and tobacco prices (-0.8%), which contributed -0.2% to the deflation. Major contributing commodities to the July 2020 deflation had been shallot and chicken, whose prices have declined following soaring prices in the preceding months.^{9,10}

IDR to USD Exchange Rate

After experiencing a sharp drop in late Q1, the Indonesian Rupiah (IDR) had begun to appreciate against the US Dollar at the beginning of Q2, reaching the strongest point on 8 June 2020 at IDR 13,956, before again depreciating to IDR 14,587 on 6 August 2020. Exchange rate volatility may adversely impact trade - including food commodity import, if needed to stabilize domestic prices.

Updates on Macro-Economic Impacts: Q2-2020 Economic Growth

Quarterly GDP Growth (%)

Quarter-to-Quarter and Year-on-Year, 2017 Q1 - 2020 Q1



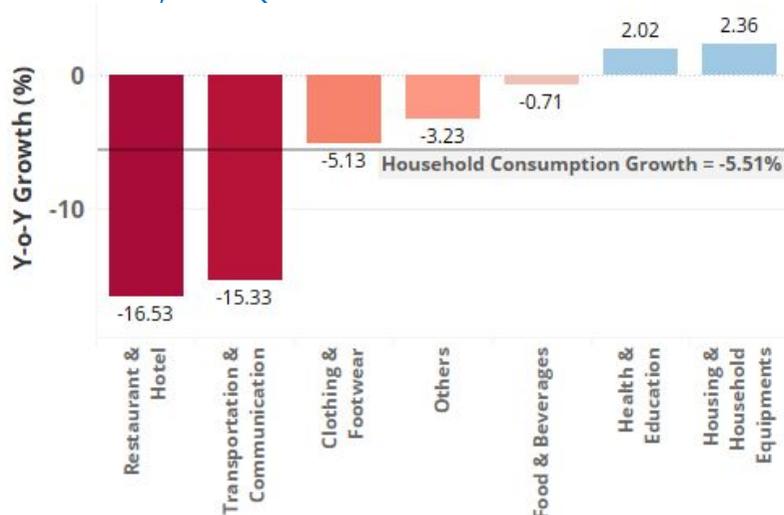
In 2020 Q2, Indonesian GDP contracted by 5.32% year-on-year (Y-o-Y), the lowest since the aftermath of the Asian Financial Crisis in 1999, and fell by 4.19% compared to Q1 2020.

Household consumption expenditure contributed 58% of total GDP and contracted by 5.5% (Y-o-Y), driven primarily by the drop in spending for restaurants and hotels (-17%) and transportation and communication (-15%), likely as an effect of COVID-19 social distancing measures in multiple regions; these measures included business closures, movement restrictions, and a shift to home-prepared meals. Household spending for food and beverages declined by nearly 1%, indicating lower expenses on food items. Household expenditure on health and education (2%), as well as housing and household equipments (2.4%) recorded a yearly positive growth, suggesting families withholding spending for less essential needs.

In sectoral terms, 10 out of 17 sectors reported negative Y-o-Y growth, with the transportation and storage (-31%) and accommodation, food, and beverages (-22%) reporting the greatest contraction. The information and communication sectors experienced the highest positive growth (119%), likely an effect of work-from-home and distance learning policies, increasing the usage of online platforms. Agriculture, forestry and fishery recorded 2.2% Y-o-Y and 16% Q-t-Q growth, partially spurred by the shift in peak harvesting season from Q1 to Q2 in 2020.

Household Consumption Expenditure Growth (%)

Year-on-Year, 2020 Q2



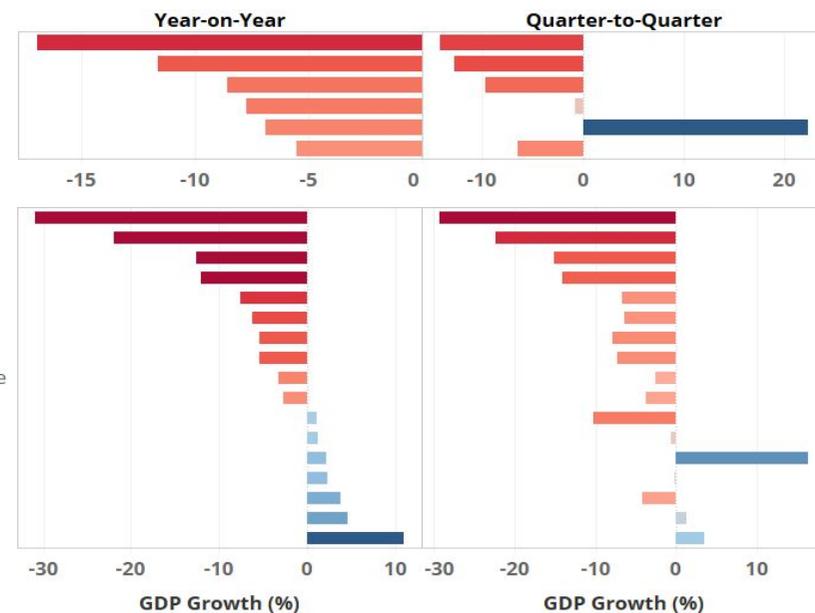
GDP Growth by Expenditure Category and Sector (%), 2020 Q2

Expenditure Category

- Imports
- Exports
- Gross Fixed Capital Formation
- LNPRT Consumption Expenditure
- Government Consumption Expenditure
- Household Consumption Expenditure

Sector

- Transportation and Storage
- Accommodation, Food, and Beverages
- Other Services
- Company Services
- Trade and Automotives
- Manufacturing Industry
- Electricity and Gas
- Construction
- Government, Defense, and Social Insurance
- Mining and Excavation
- Financial and Insurance Services
- Education Services
- Agriculture, Forestry, and Fishery
- Real Estate
- Health and Social Services
- Water, Waste, and Recycling
- Information and Communication



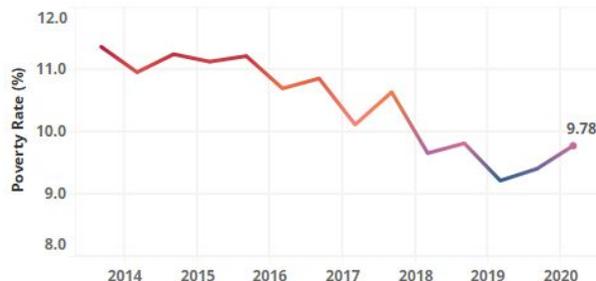
Source: WFP visualization based on Statistics Indonesia (BPS) data (2020)

Note: LNPRT = Non-Profit Institutions Serving Households

Economic Food Access: Increasing Poverty Rates

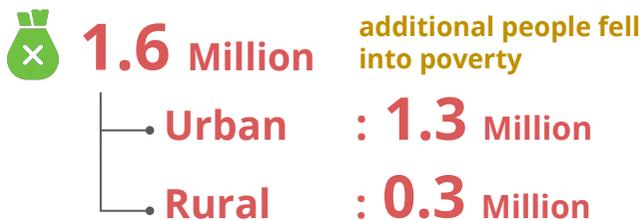
National Poverty Rate (%)

Mar 2014 - Mar 2020



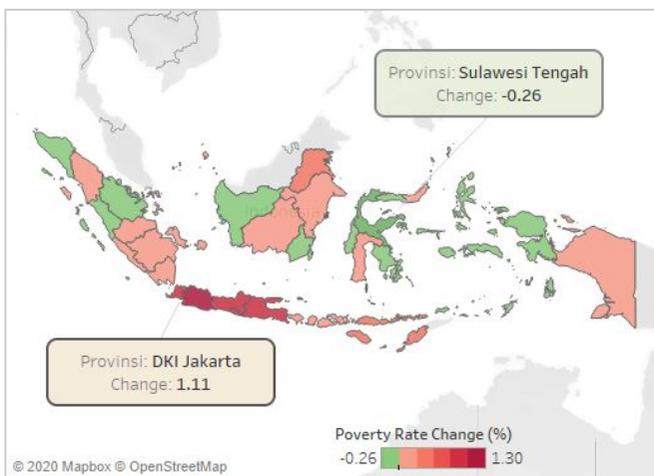
Number of additional poor

Sep 2019 - Mar 2020



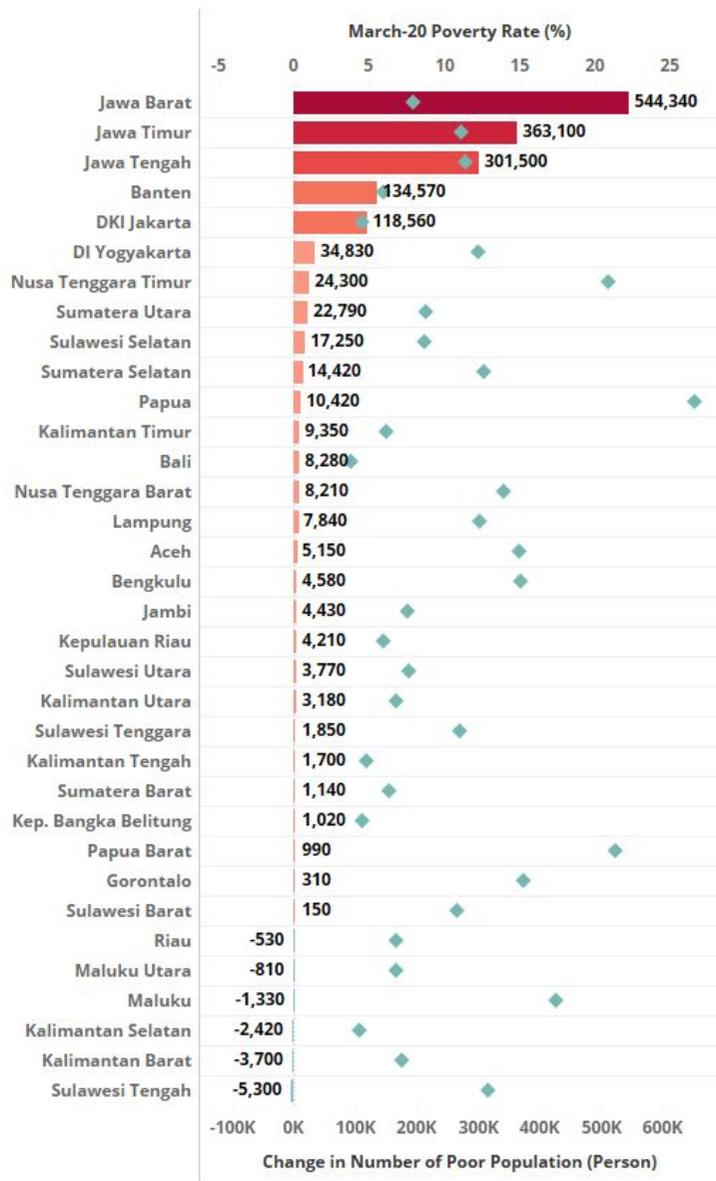
Change in Poverty Rate (percentage points)

Sep 2019 - Mar 2020



Change in Number of Poor Population

Sep 2019 - Mar 2020



Statistics Indonesia (BPS) recorded an increase in poverty rate to 9.78% in Mar 2020 from 9.41% in Sept 2019, which coincided with the early stages of the COVID-19 pandemic in Indonesia. SUSENAS Mar 2020 results indicate that 1.63 million additional people fell into poverty between Sep 2019 and Mar 2020 - returning the poverty rate nearly to the Sep 2018 level (9.82%).

Increases in poverty levels had been primarily observed in urban areas and on Java. Nearly 80% (1.3 million people) of the newly poor in Mar 2020 reside in urban areas, nearly four times the number of additional poor in rural areas (0.3 million). At the provincial level, West Java reported the greatest increase in the number of poor (544,000 people), followed by East Java (363,000 people) and Central Java (300,000). Conversely, several provinces also reported on declining numbers of the poor population: Central Sulawesi (-5,300), West Kalimantan (-3,700), South Kalimantan (-2,400), Maluku (-1,300), North Maluku (-810) and Riau (-530). DKI Jakarta recorded the highest poverty rate increase in percentage point terms (+1.1), whereas Central Sulawesi reported the largest decrease (-0.26 percentage points).

The depth and severity of poverty also increased between Sep 2019 and Mar 2020. The poverty depth index increased from 1.50 to 1.61, while the poverty severity index from 0.36 to 0.38. The depth and severity is worse in rural than urban areas. Inequality increased slightly from a Gini coefficient of 0.380 to 0.381 during the period.

The Government estimates that an additional 4 million people may fall below the poverty line in 2020, making the total 28 million people, around 10.6% of the population¹¹, while the World Bank projected the poverty rate to increase to 10.7% under a mild scenario, or to 11.6% under severe shocks.

Source: Statistics Indonesia (BPS)

Updates on Macro-Economic Impacts: Unemployment and Migrant Workers

Number of workers affected by the COVID-19 pandemic

Data as of 27 May 2020



Formal workers:

- 380,221 laid-off
- 1,058,284 furloughed



Informal workers:

- 318,959 livelihoods impacted



Pending verification:

- 1,274,459 workers

Source: Ministry of Manpower

Open unemployment rate (%)

Historical (1997 - Feb 2020) and projected (Aug 2020 - 2021)



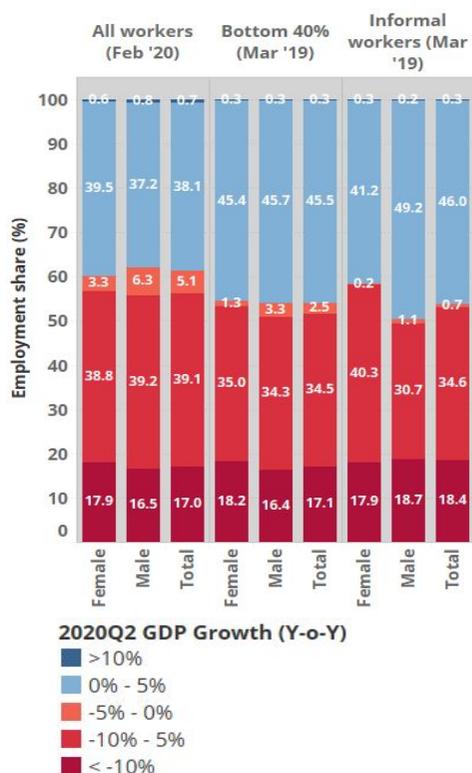
Source: WFP visualization based on Statistics Indonesia (BPS) data and Bappenas projection

Unemployment. Between 1 Apr and 27 May 2020, close to 1.8 million formal and informal workers were affected by the pandemic, according to data validated by the Ministry of Manpower (MoM). Among formal workers, 380,000 have been laid-off, while 1.1 million have been furloughed. The livelihoods of 319,000 informal workers have also been impacted. Of these, 500,000 have received social assistance. **In addition, the MoM is currently reviewing data of 1.3 million additional workers reported to have also been affected by COVID-19.** As a comparison, the estimations of the Indonesian Chamber of Commerce and Industry (KADIN) indicate that by Jun 2020, 6.4 million workers were either laid-off or furloughed due to the pandemic¹²--including 2.1 million workers in the textile, 1.4 million workers in the land transportation sectors, 500.000 workers each in the electronics sector and footwear industry, and 430.000 workers in the hotel industry¹³. Bappenas estimates that an additional 4 to 5.5 million workers will become unemployed in 2020, bringing the total unemployed to between 10.7 to 12.7 million people. According to the Bappenas projection, the unemployment rate may reach 8.1% to 9.2% in August 2020 and 7.7% to 9.1% in 2021, the highest in a decade. The sectors shedding the most workers will likely be **trade, manufacturing, construction, company services, as well as accommodation and F&B**¹⁴. According to Statistics Indonesia, the unemployment rate in Feb 2020 was 4.9%, corresponding to 6.9 million people¹⁵.

Migrant workers. Livelihoods of Indonesians working overseas have been significantly impacted by the pandemic. Remittances from 3.7 million migrants in 2019 amounted to USD 11.4 million¹⁶, corresponding to 1% of the country's GDP¹⁷. However, according to joint Statistics Indonesia and World Bank estimates, the number of Indonesian migrants working outside the country might have reached 9 million¹⁸. The BP2MI reports that approx. 160.000 migrants working overseas have returned home since the beginning of the pandemic. These returning workers have been reported to face difficulties in finding work in their respective hometowns. Additionally they do not fall under the traditional criteria of social protection beneficiaries, leading to additional vulnerability. Looming recession in several major Indonesian migrant worker-employing countries, such as Singapore, Hong Kong, and Saudi Arabia--which together provide over 47% of remittance inflows to Indonesia in 2019--are likely to further restrict remittance flows.

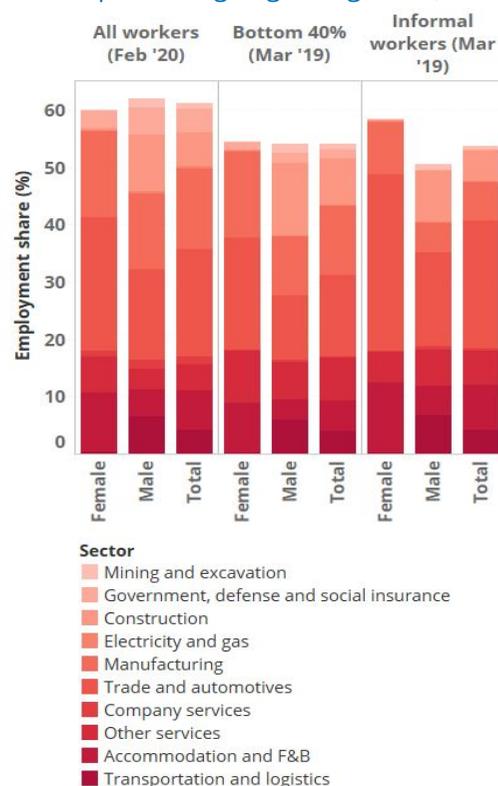
The World Bank predicts that global remittances drop by the largest margin in history this year, with remittances to the East Asia and Pacific region estimated to fall by 13% compared to 2019¹⁹. In Jul 2020, however, the GoI announced it would reopen recruitment and placements for migrant workers which had been suspended since Mar 2020²⁰.

Share of employment by gender and sector growth



Source: Feb 2020 employment figures obtained from Statistics Indonesia (BPS). Mar 2019 figures derived from WFP calculations based on SUSENAS data. The GDP growth data obtained from Statistics Indonesia.

Share of employment by gender and sector (For sectors experiencing negative growth)



Approximately 60% of female workers and 62% of male workers (Feb 2020 data), or 61.2% of all workers combined, were employed in sectors experiencing contractions in Q2 2020. In March 2019, the share of workers employed in these sectors among the bottom 40% population was slightly lower at 54%, compared to the overall population, suggesting that the impact of the COVID-19 pandemic goes beyond the most vulnerable groups. Among the informal sector workers, a greater proportion of female workers were employed in sectors experiencing negative GDP growth in Q2 2020 (58.5%) compared to their male counterparts (50.5%).

Differences were also observed in the sectoral pattern of male and female employment in sectors with negative growth: among female informal sector workers, most work in trade and automotive repairs (31%), accommodations and F&B services (12%), and manufacturing (9%). Most male workers were employed in trade and automotive repairs (16.5%), construction (9%), and transportation and logistics (7%).

An analysis by McKinsey & Co indicates female employment to be 1.8 times more vulnerable to the economic impacts of COVID-19 compared to their male counterparts: women contribute 39% of global employment while experiencing 54% of overall job losses, primarily due to women being disproportionately employed in sectors worst hit by the pandemic^{21,22}. According to ILO, when employment opportunities are limited, women are often denied job opportunities available to men²³.

According to a survey by the Indonesian National Commission for the Protection of Women (NCPW), the burden of domestic work during COVID-19 is generally borne by women. Among 2,285 survey respondents, 70% of women reported an increase in domestic workload compared to 49% of men. This finding exacerbates pre-pandemic trends, where 85% of working women were reported to also be engaged in domestic work, compared to 42% of working men (SUSENAS Mar 2019).

According to ILO, globally, women carry the burden of 76% of all unpaid care work, or up to 80% in Asia²⁴, potentially increasing during the pandemic due to school and childcare closures and caring for sick or elderly relatives²⁵, although some studies also noted increased men's participation in childcare and domestic work during the lockdown period^{26,27}. The survey by NCPW also highlights an increase in domestic violence towards women (8%), particularly among those with income less than IDR 5 million per month. This is in line with UN Women findings of a global increase in domestic violence towards women since the start of the COVID-19 pandemic²⁸.



Global cereal production in 2020 is expected to reach record-high levels. According to FAO forecasts, global cereal production in 2020 is expected to reach a record-breaking 2,790 million tons, corresponding to a 3% increase compared to 2019 levels²⁹. Rice production is expected to increase 1.7% compared to 2019 output, while coarse grains are forecasted to be up by 5%. Wheat production is estimated to remain at comparable levels. The highest growth in cereal production is expected to occur in Oceania (+46%) and North America (+13%). Global cereal trade, utilization, and stocks are also estimated to increase, by 2%, 1.6%, and 6%, respectively, leading to a twenty-year high stock-to-use ratio of 33%.



Global food prices have begun to rebound after experiencing downward pressures over the past few months. The FAO Food Price Index increased 1.2% between Jun and Jul 2020, marking the second M-o-M increase in 2020, after undergoing a continuous decline from Jan to May 2020. The increase is spurred by upticks in the prices of sugar, vegetable oil, and dairy products due to recovering demand and rebounding crude oil prices. The meat price index continued the decline observed since Jan 2020. By end of Jul 2020, prices for most major cereals were on the rise, while rice prices starting to rebound after months of decline, according to the IGC Grain and Oilseeds Index.

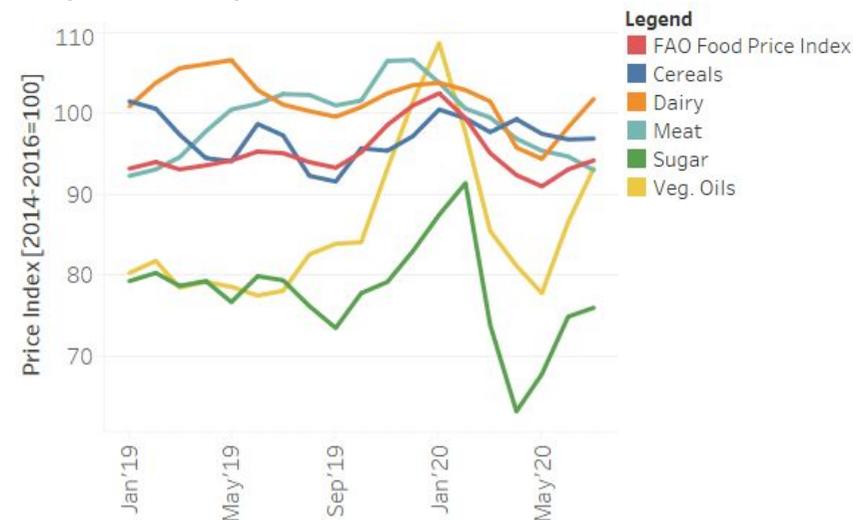


Most countries have lifted restrictions on food exports. As of 13 Aug 2020, *IFPRI's Food Export Restriction Tracker*³⁰ indicated there were only two countries with active export bans, namely Turkey for lemons (7.5% global market share) and Kyrgyzstan for a number of commodities including wheat, flour, vegetable oil, sugar, chicken eggs, rice and pasta (<0.1% global market share). According to the World Bank, food trade has remained more resilient than overall trade³¹. However, global and domestic supply chain disruptions may give rise to delays in distribution, leading to price volatility and inflation which would negatively affect consumers, particularly those in import-dependent countries.



Income and distribution shocks due to the COVID-19 pandemic is expected to increase the number of the world's food insecure. Income decline, rather than food shortages, is expected to be the main driver of food insecurity³². In 2019, more than 820 million people were already chronically food insecure. An additional 83 to 132 million people will become undernourished this year, according to FAO, amidst an already increasing trend since 2017³³. WFP estimated the number of people experiencing acute food insecurity to double globally, reaching 265 million people from 135 million in 2019³⁴. The effects of the pandemic on food security is exacerbated by ongoing conflicts, humanitarian emergencies, climate shocks, and pest attacks--including this year's extreme desert locust infestation which has affected 23 countries from Tanzania to Pakistan³⁵--destroying crops and risking pushing millions into hunger³⁶. Falling income, particularly among the extreme poor, is expected to negatively affect the consumption of nutrition-rich foods, such as fruits, vegetables, and animal-source products³⁷.

FAO Global Food Price Index Jan 2019 - Jul 2020



IGC Grain and Oilseeds Index 1 Jan 2019 - 24 Jul 2020



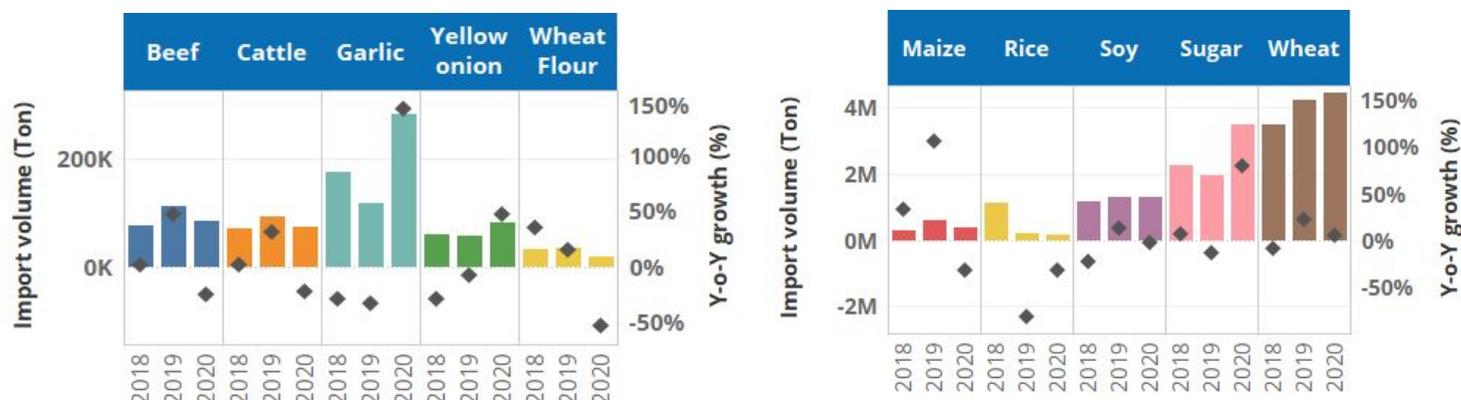
Trend in Indonesia food trade

Semester I, 2018 - 2020



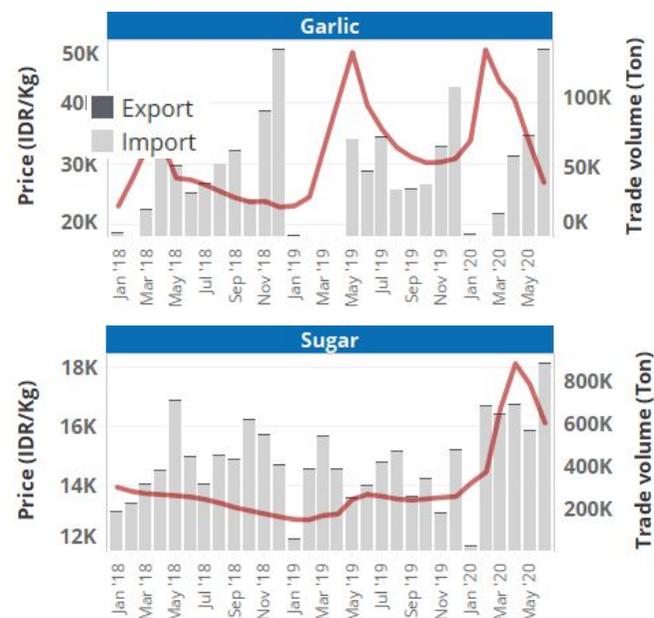
Import trends of selected food and agricultural commodities

Semester I, 2018 - 2020



Import volume and domestic prices: Garlic & Sugar, Jan 2018 - Jun 2020

Garlic & Sugar, Jan 2018 - Jun 2020



In the first semester of 2020, Indonesia's food trade continued to grow despite the country's overall trade indicating a negative growth. Compared to the same period last year, Indonesia's overall trade value shrank by 5.5% for exports and by 14% for imports—however, the country's food exports rose by 9.5%, while imports grew by 4%. The food trade balance increased by 15%, from USD 6.3 billion to USD 7.3 billion. This observation is in line with the World Bank's global observation that food trade has proved to remain more resilient than overall trade³⁸. Animal and vegetable fats contributed 60% of Indonesia's total food exports during this period, followed by fish and crustaceans (11%), and coffee, tea, and spices (55%). The categories experiencing the largest growth in exports were milling (34%) and dairy products (30%). The Ministry of Industry reported the greatest contributions in exports in the manufacturing sector made by food and beverage (F&B) industries. Since the F&B industry is dominated by small- and medium-scale enterprises, the sector could serve as the "backbone for the country's economy"³⁹.

In terms of import value, the main contributors were cereals (22%), sugars (18%), and oilseeds (10%), while the highest growth was experienced by edible vegetables (86%), sugars (71%), and dairy products (16%). Earlier in the year, prices of garlic, yellow onion, and sugar soared due to low domestic availability, leading the government to accelerate the imports of these items, including through the relaxation of horticultural imports by the Ministry of Trade, as an effort to stabilize prices. The import volumes for these commodities in first half of 2020 increased significantly compared to the same period last year: by 141% for garlic, 80% for sugar, and 47% for yellow onion. Prices for both garlic and sugar have gradually declined following the increased imports. The import volume for other commonly-imported food commodities declined, compared to first semester of 2019: wheat flour (-60%), maize (-32%), rice (-32%), beef (-25%), live cattle (-23%), and soybeans (-3%). Wheat imports, however, rose by nearly 6%.

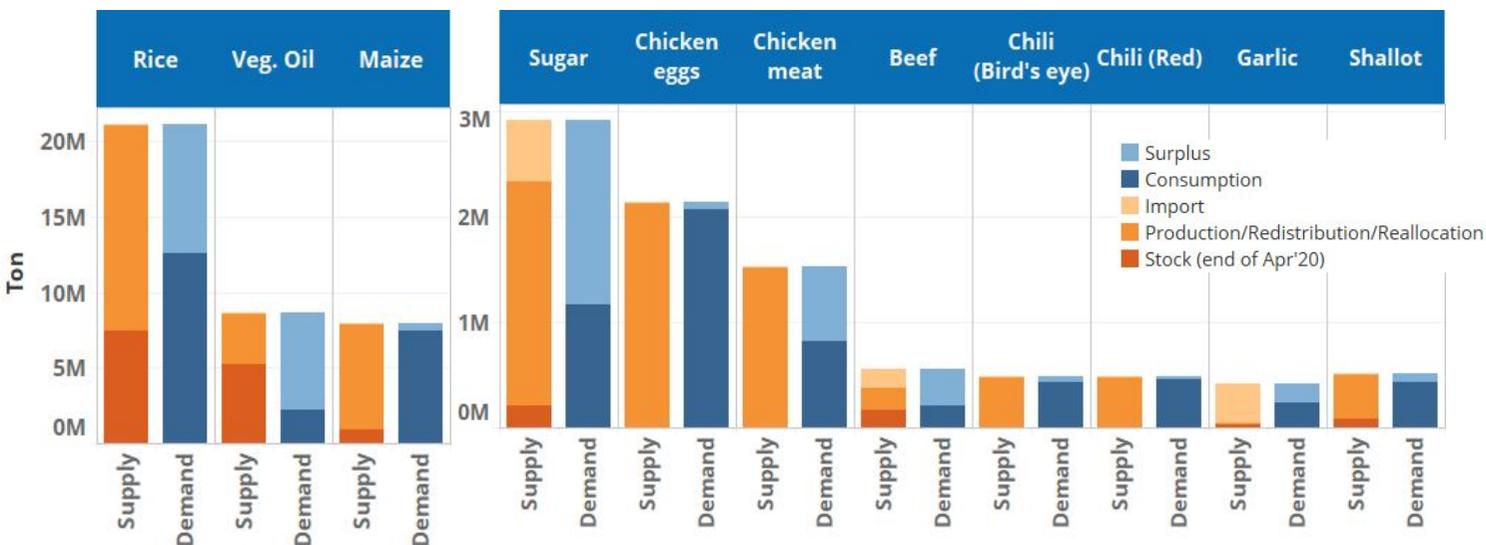
Prices for both garlic and sugar have gradually declined following the increased imports. The import volume for other commonly-imported food commodities declined, compared to first semester of 2019: wheat flour (-60%), maize (-32%), rice (-32%), beef (-25%), live cattle (-23%), and soybeans (-3%). Wheat imports, however, rose by nearly 6%.

Source: WFP calculation based on Statistics Indonesia (BPS) and PIHPS data.

Food Availability: Food Balance

Estimated national balance for selected food commodities

May - Sep 2020

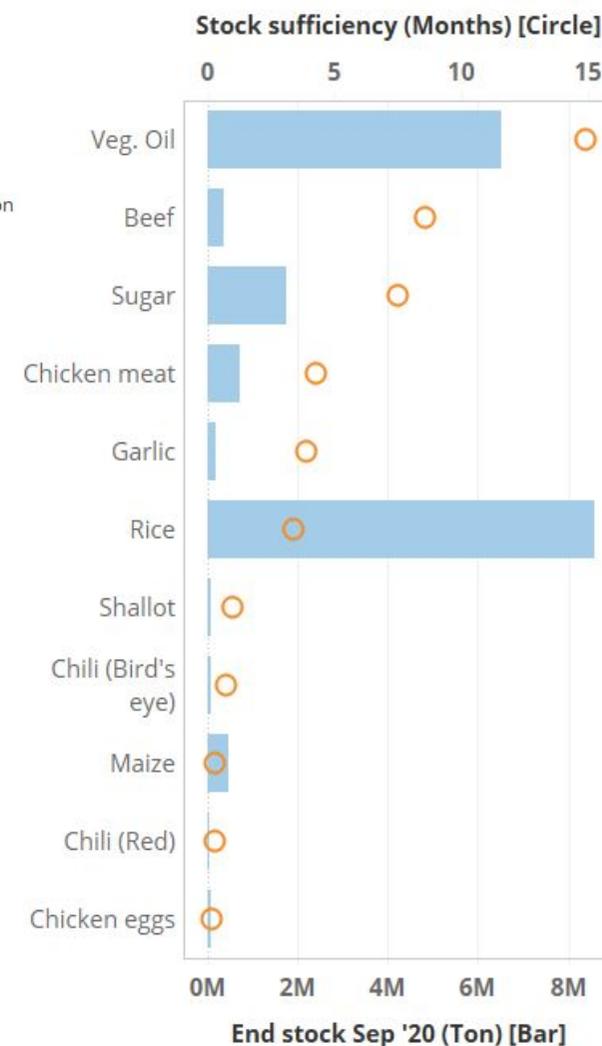


Between May to Sep 2020, supplies for major food items are expected to meet domestic demand, although imports would be needed for selected commodities. Existing stocks and domestic production are foreseen to fulfill domestic consumption during the period for the majority of main food items, except for sugar, beef, and garlic for which imports would be required. Planned imports between May to Sep 2020 amount to 595,600 tons for sugar (in white crystalline sugar equivalent), 181,000 tons for beef, and 380,000 tons for garlic.

Statistics Indonesia data indicates imports of 1.4 million tons of sugar in May - Jun 2020 alone, raising concerns of declining producer prices with the imports coinciding with the peak sugarcane harvesting and milling season in Jun-Jul 2020⁴⁰.

The level of surplus by end of Sep 2020 varies depending on type of commodity, particularly with respect to monthly consumption levels. The end stocks for vegetable oil by end of Sep 2020 should be sufficient to last an additional 15 months worth of consumption, while beef and sugar stocks are enough to cover 8.6 and 7.5 months of consumption, respectively. End stocks for shallots, chilis, maize, and chicken eggs, however, would only be sufficient for less than a month.

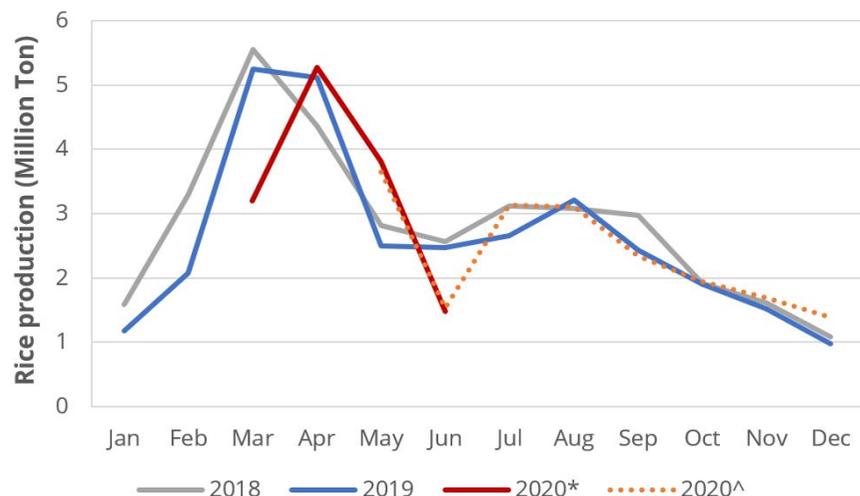
Estimated stock sufficiency for consumption, End stock Sep 2020



Source: WFP calculation based on MoA National Food Availability Prognosis (May-Sep 2020)

Food Availability: Rice production

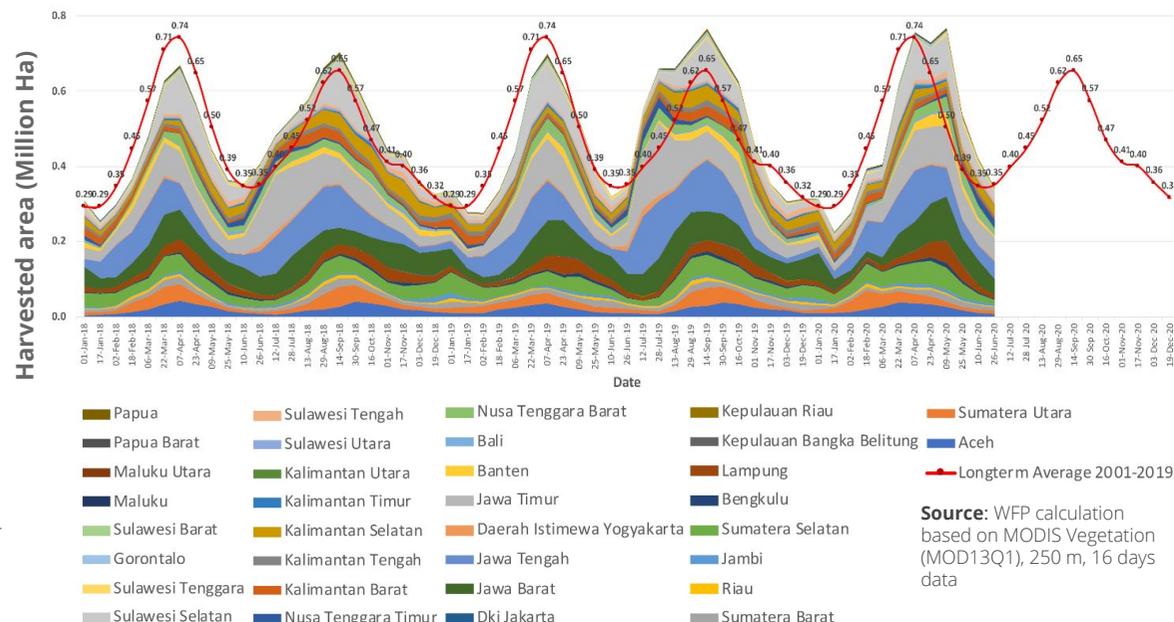
Indonesia monthly rice production (2018-2020) in million tons



Source: WFP calculation based on Statistics Indonesia (BPS) (2018-2020) and MoA (2020) data. For 2020* figures, Statistics Indonesia figures quoted in media [41,42,43,44,45] have been used. For 2020^ figures, MoA estimates had been used.

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

Rice harvest progress and long-term average (Jan 2018-Dec 2020) in million hectares



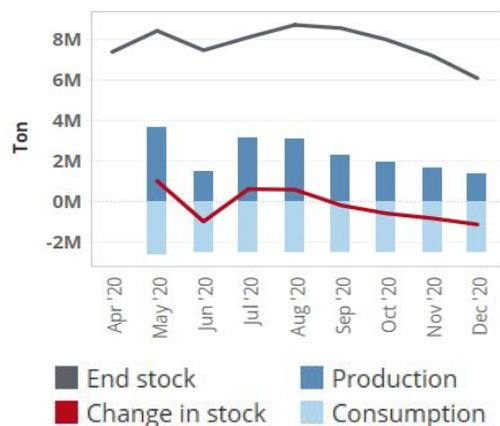
Source: WFP calculation based on MODIS Vegetation (MOD13Q1), 250 m, 16 days data

Rice production Jan - Aug in million tons



Source: WFP calculation based on Statistics Indonesia (BPS) data

National rice balance May - Dec 2020



Although Jan to Aug rice production in 2020 is expected to be lower by 23% compared to the same period last year, domestic rice production is predicted to still maintain a positive national balance of 6.1 million tons by the end of the year. Despite concerns regarding the sufficiency of domestic rice production, partially due to the delayed harvests in the beginning of the year and expected drier dry seasons in some areas in the country, according to Ministry of Agriculture (MoA) estimates, remaining stocks and production should still be able to meet demands, even without imports.

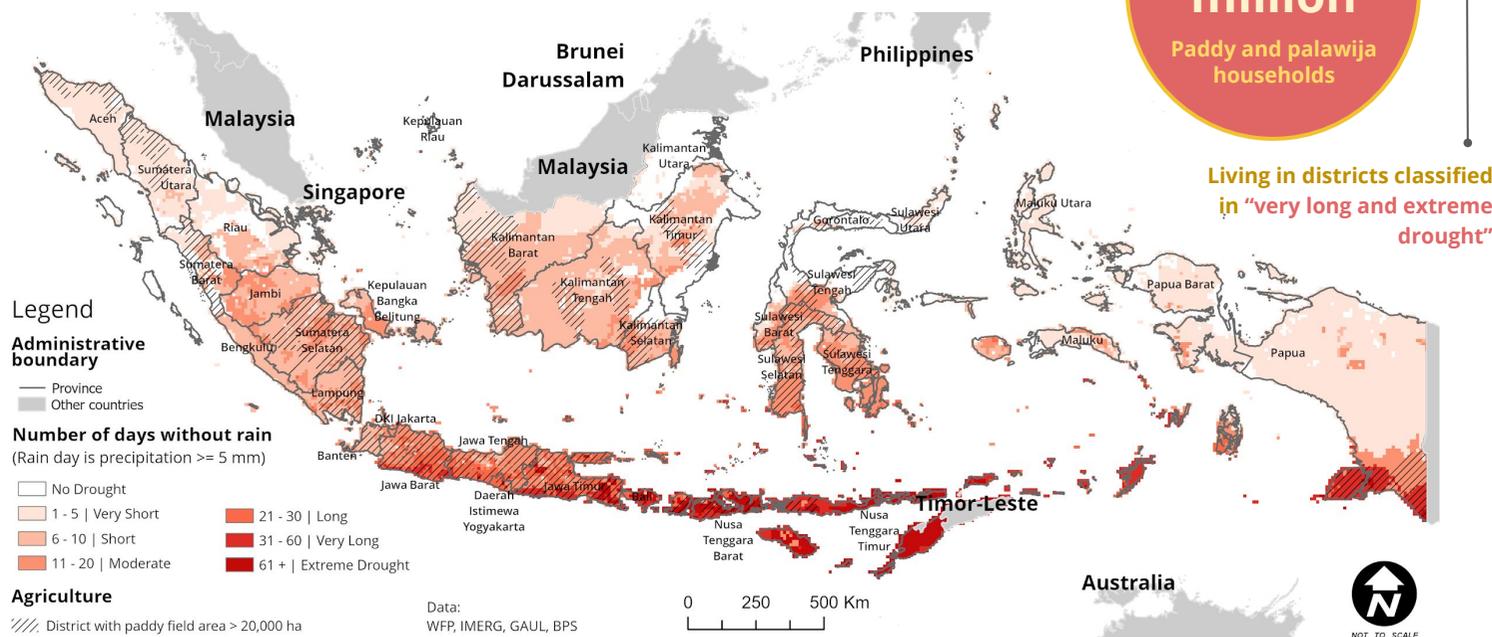
The Ministry of Agriculture reports on successful attempts in boosting rice production, leading to optimisation of the use of agricultural lands for rice cultivation to an area of 5.6 million ha nationwide and an acceleration of rice planting in the second planting season ahead of the dry season.

The estimates of the Ministry indicate that rice harvests in the second semester of 2020 will reach 13.6 million tons, leading to an end stock of over 6 million tons by end of Dec 2020 and sufficient to last an additional 2.4 months.

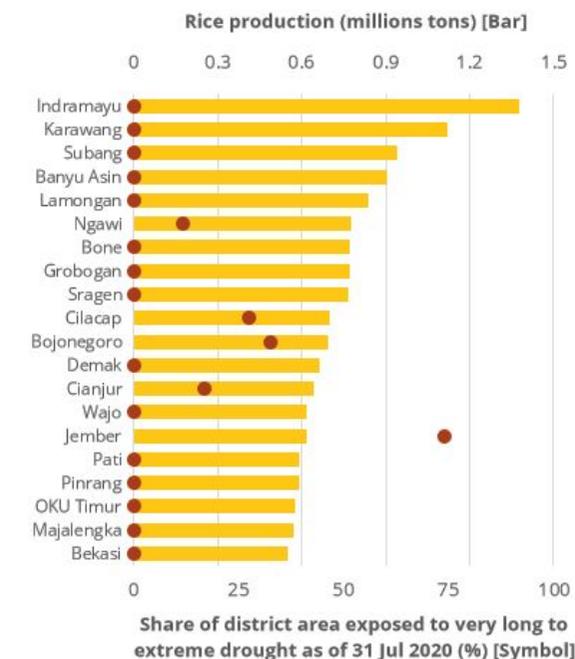
Food Availability : Climatic Factors Affecting Rice Production

Number of Consecutive Dry Days as of 31 July 2020

Number of Consecutive Days Without Rain (Rain day is defined as day with precipitation ≥ 5 mm) from the Date of Observation



Rice production vs. Exposure to drought Top 20 rice-producing districts in 2019



At least 1.3 million (14%) households deriving income mainly from paddy and palawija agriculture reside in the districts experiencing “very long drought” (31-60 days without rain), including some rice-producing districts.

During the period entering the dry season, some areas had already been experiencing a meteorological drought (rain day ≥ 5 mm) and were classified at “very long - extreme” levels. Most locations experiencing very long days with no rainfall were located in the southern part of Indonesia: parts of Jawa Barat, D.I. Yogyakarta, Jawa Timur, Bali, Nusa Tenggara Timur, Nusa Tenggara Barat, and Merauke Districts. Although in Apr-Jun the rainfall anomalies in these areas were classified as “normal-above average”, the rainfall accumulation in this period was still low.

In 2019, the top 20 rice-producing districts contributed to nearly 28% of national rice production. As of 31 Jul 2020, the majority of these districts did not experience very long or extreme droughts. Nonetheless, very long or extreme drought conditions affected the total areas in Kab. Ngawi (12%) and Kab. Jember (74%).¹

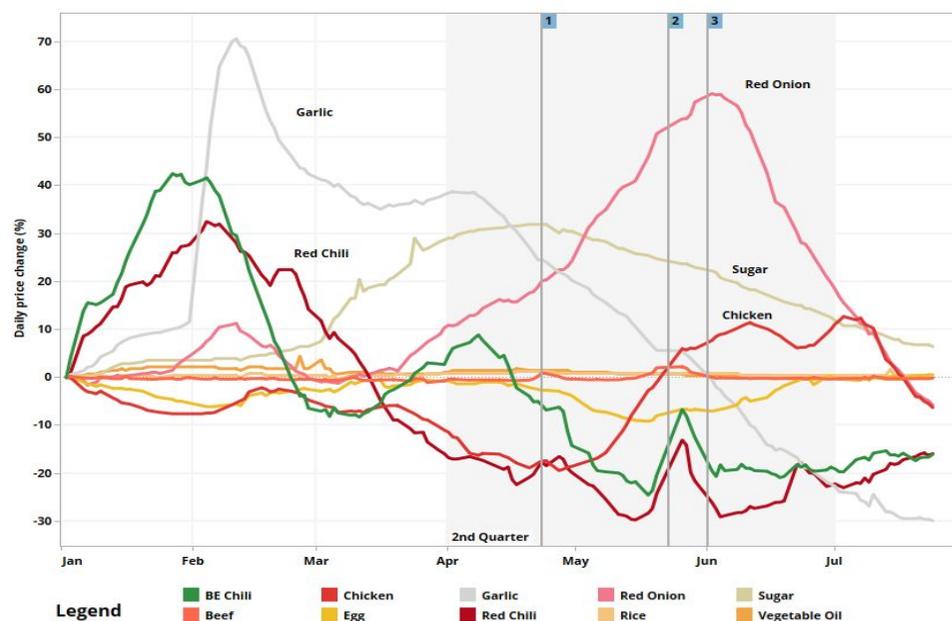
Drought mitigation measures may need to be undertaken for these locations, as well as other areas experiencing very long to extreme drought, as the availability of water remains crucial for rice cultivation. This will become more important as the conditions are expected to deteriorate due to low precipitation foreseen until the end of Sep 2020.

Note: If the horticulture and plantation are taken into account, there will be approximately 1.6 million households residing in “very long - extreme drought” areas.

1. More information is available in “Seasonal Climate and Vegetation Monitoring Outlook - Jul-Sep 2020 at: <https://www.wfp.org/publications/seasonal-climate-and-vegetation-monitoring-outlook-july-september-2020>

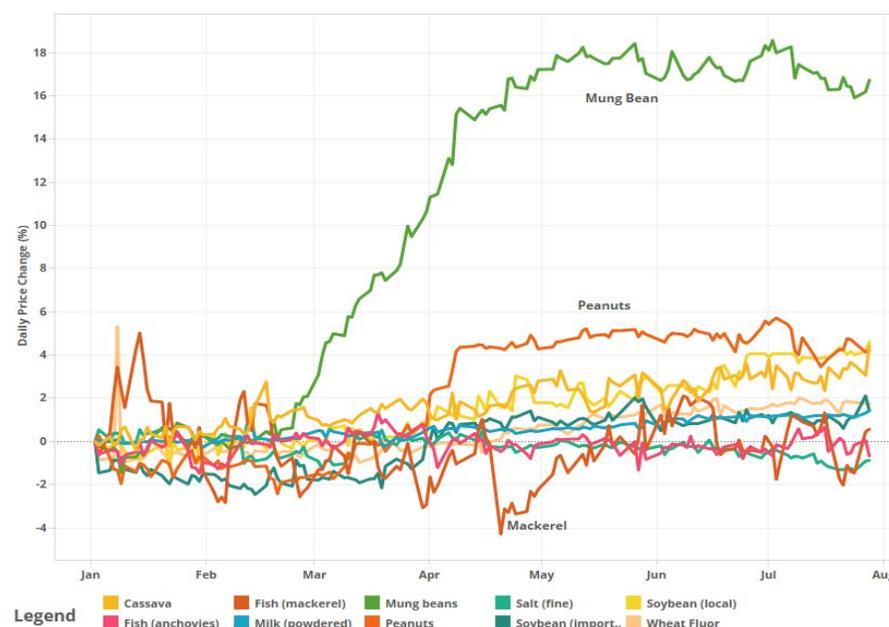
National Strategic Food Prices Development (Daily)

Baseline: Price on 1 January 2020



Other Food Commodities Prices Development (Daily)

Baseline: Price on 1 January 2020



Milestone: [1] Start of Ramadan Season [2] Eid Al Fitr [3] Reopening economic activities

Notes: HET (Harga Eceran Tertinggi) : Ceiling price regulated by the Government

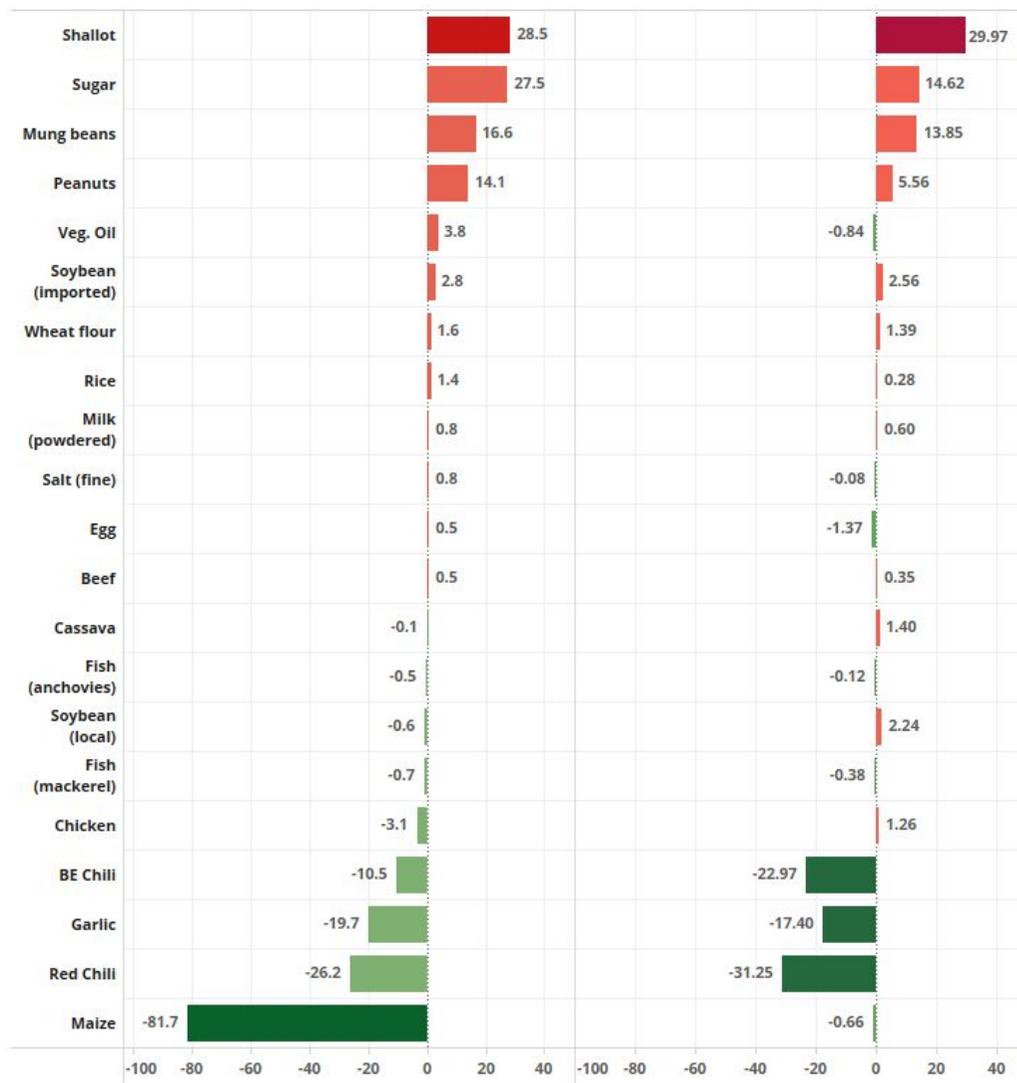
By end of Q2 2020 and early Q3 2020, the prices of strategic commodities that significantly increased earlier in the year--namely garlic, sugar, and shallots--have declined due to improved availability. Arriving imports have stabilised garlic and sugar prices, with Jun garlic prices already dropping lower than Jan 2020 levels, and sugar prices in steady decline, albeit still higher by 18% (IDR 14,800/kg) than the retail ceiling price (HET) of IDR 12,500/kg by 30 Jul 2020. National shallot prices peaked at IDR 59,150/kg on 4 Jun 2020, at nearly twice the HET of IDR 32,000/kg due to low supplies, and began to fall following arrival of the harvest season⁴⁶.

The price of chicken remain at the same levels in the first half of Q2 due to oversupply coupled by low demand, forcing some producers to suspend operations. Declining production caused prices to rise since the Ramadhan fasting month^{47,48} until the beginning of Jul 2020, where it again declined due to still lower than usual demand. Rice prices remained stable throughout Q2, as well as beef prices, which only experienced a minor uptick around the Eid 'al Fitr holidays. Egg prices experienced a dip during Ramadhan, but recovered following the approach of Eid 'al Fitr in May and the reopening of the economy.

Beyond the strategic commodities, a number of plant-based proteins have also experienced varying levels of price increases in Q2 2020. Mung bean and peanut prices increased by 17% and 4%, respectively, as of 28 Jul 2020, compared to the levels at the beginning of the year. Similarly, soybean prices (both local and imported) also underwent a mild increase in Q2. The price of mackerel dropped by 5% in late Apr 2020, before recovering during the Ramadhan fasting month.

Source: Left - WFP calculation based on Center for Information of Strategic Food Prices (PIHPS) | Right - WFP calculation based on Ministry of Trade data

Quarterly Change from Last Year (Q2 YoY) Quarterly Change (2020 Q1 - 2020 Q2)



Compared to the previous quarter (Q1 2020) and the same quarter last year (Q2 2019 Q2), shallot and sugar remained at the top of the table with the highest increase in quarterly average prices. Compared to the preceding quarter, shallot and sugar prices in Q2 2020 rose about 30% and 15%, respectively. Similarly, the prices of those commodities increased nearly 30% compared to the same quarter last year (Year-on-Year/YoY). Even compared to the baseline (long-term average), shallot and sugar prices could be considered as abnormal in the second quarter of this year (see Annex). In addition, the prices of bean commodities - mung bean and peanut - also rose compared to Q1-2020, Q2-2020 and the baseline.

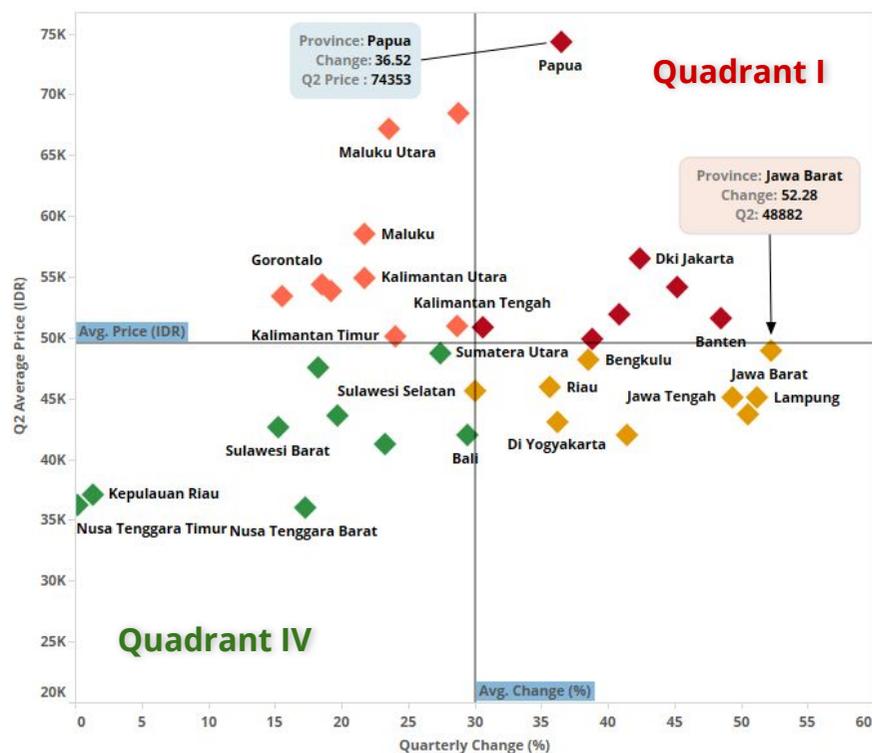
Conversely, several commodities indicated a negative trend. In terms of YoY change, the price of maize recorded the deepest decline (-82%) in Q2 but if compared to the preceding quarter it showed a relatively moderate decline (-0.66%). The declining price of maize can be attributed to the decrease in demand from the feed industry (more details in the poultry section). In comparison with the baseline, maize price in Q2 kept the high change.

Following the declining maize price, some perishable and staple food commodities also reported a drop in prices, including garlic, red chili, and bird's eye chili. As reported in the previous bulletin, garlic prices significantly increased in Q1 due to the import restrictions from China while the domestic stocks remaining low. However, following Government intervention the price declined in Q2, even lower than early 2020, recording a negative change of about 17% compared to Q1 and of 19% YoY.

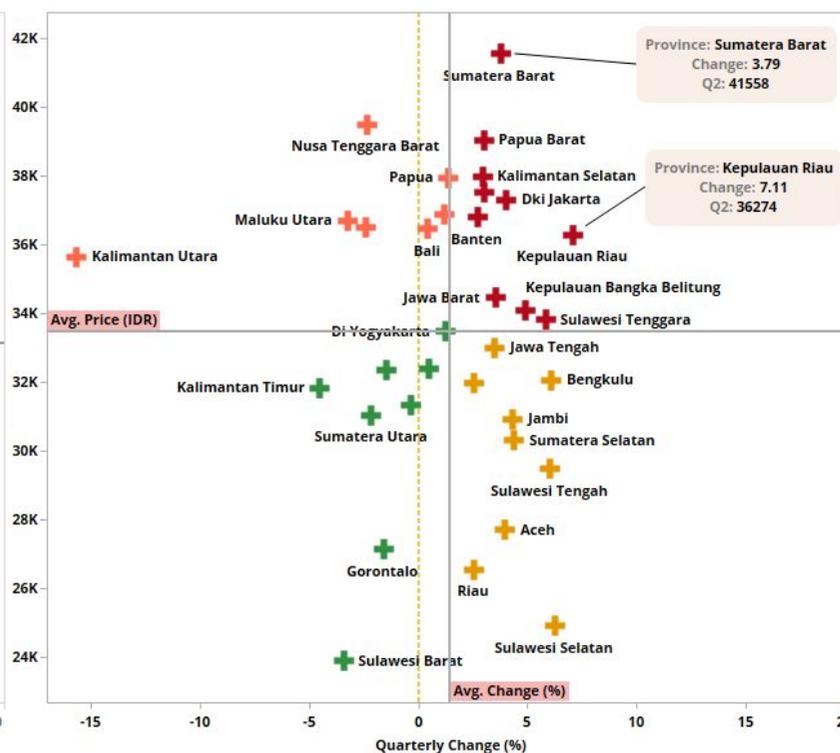
Other commodity prices, including poultry products such as chicken and egg as well as seafood (mackerel and anchovies), observed a low change (< 5%) in all indices. Both imported and locally-produced soybean prices also recorded a moderate increase in comparison with the previous quarter, but if compared to Q2 2019, locally-produced soybeans recorded a negative change.

Source: WFP calculation based on data from Bank Indonesia (PIHPS) and Ministry of Trade

Shallot: Spatial Variation - Price Level and Change



Chicken: Spatial Variation - Level and Change



- Quadrant Colour**
- Quadrant I (Higher Change + Higher Price)
 - Quadrant II (Lower Change + Higher Price)
 - Quadrant III (Higher Change + Lower Price)
 - Quadrant IV (Lower Change + Lower Price)

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

Notes: "Quarterly Change" refers to quarterly change from previous quarter (Q1-2020)

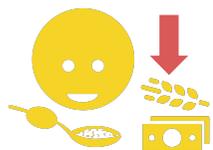
Nationally, shallot and chicken prices were among the most volatile in 2Q 2020 --subnationally, all provinces recorded an increase in shallot prices, whereas a number of provinces experienced a drop in prices for chicken. The above scatter plots present provincial-level price variation and is divided into four quadrants.

Provinces located in Quadrant I are highlighted because they recorded price levels higher than the national average as well as a higher price increase in percentage terms. Conversely, provinces in the Quadrant IV reported both lower price levels as well as a greater price decrease in percentage terms. For shallots, there are 7 provinces located in Quadrant I while chicken is found in 10 provinces.

In Q2, Papua recorded the highest quarterly average price of shallots (IDR 74,353/kg) but also experienced a higher than national average price change. Two other Eastern Indonesia provinces, West Papua (IDR 68,400/kg) and North Maluku (IDR 67,100/kg) recorded the second and third highest prices. These areas are not major producers of shallots and are highly reliant on the production of other islands to meet their local needs. Trade and transportation costs make up a large portion of the retail price. The proportion of shallots sourced from other islands is 40.6% for Papua, 94.7% for West Papua, and 94% for North Maluku⁴⁹. However, West Java recorded the highest quarterly price increase (52.28%).

For chicken prices, West Sumatera reported the highest price level (IDR 41,558), and experienced a higher price change compared to the national average. In contrast to shallots, where all provinces reported a price increase, the direction of the price change for chicken is not uniform across all provinces. About 30% of the provinces experienced a drop in price of chicken, with North Kalimantan recording the deepest drop (-16%) while the Riau Islands reporting the greatest price increase (7%).

Economic Food Access : Findings from Various Surveys in Indonesia



Percentage of household **eating less than recommended** due to lack of resources

38%

World Bank Indonesia (2020)
High Frequency Monitoring

77%

JPAL Southeast Asia (2020)
Economic Impact of COVID 19

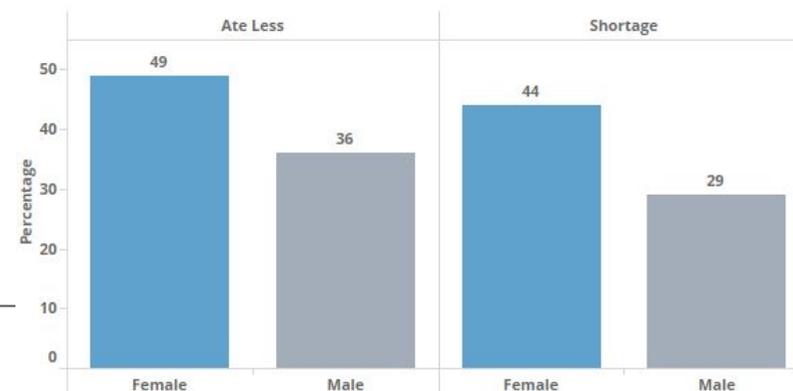
30-50%

Households experiencing income shocks also face food insecurity (i.e. food shortages)

Food Insecurity prevalence is higher among female-headed households

Food Insecurity by Household Head's Sex

Source: Visualization by WFP based on WB hi-frequency monitoring results



Survey from Save The Children (STC) Indonesia

Rapid Need Assessment of COVID-19 Impact



7 out of 10 parents said they need food assistance



24 Million toddlers are at higher risk of malnutrition during a pandemic

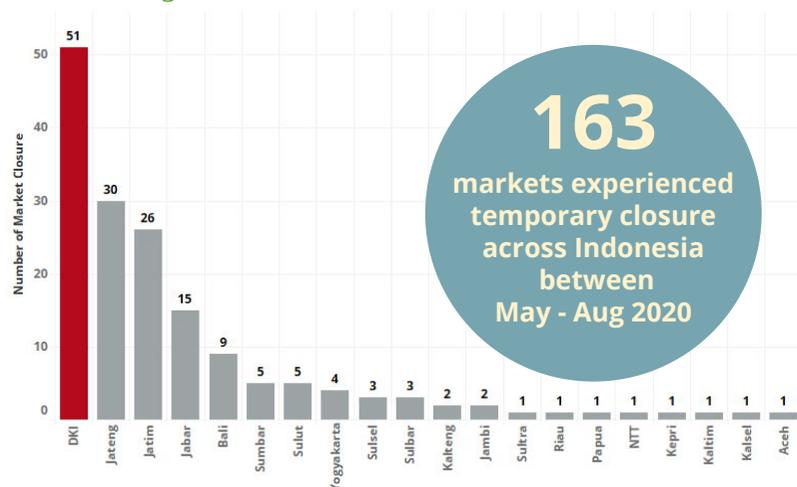
Income shocks arising from the economic effects of the COVID-19 pandemic may diminish the ability of vulnerable households to access nutritious food. As Indonesia is estimated to secure sufficient food through domestic agricultural production and trade, a potential source of food insecurity in the country is linked to the decline in purchasing power of those facing unemployment or income losses. According to a Statistics Indonesia web survey conducted in early Apr 2020, over 70% of low-income households (monthly income \leq IDR 1.8 million) have reported experiencing loss of income, compared to 30.3% of high income households (monthly income $>$ IDR 7.2 million), suggesting that low income populations are more vulnerable to income loss. This may impact the quality and quantity of their consumption.

According to the Indonesia High-Frequency Monitoring of COVID-19 Impacts (Round 1) in May 2020, most surveyed households were still able to access rice and other staple foods (97%); meat, fish, and eggs (88%); and fruit and vegetables (98%), indicating sufficient food availability in markets. However, 31% of households experienced 'some shortage of food' and 38% admitted to 'eating less than they should over the previous week due to lack of money'. Poorer households reported a higher prevalence and severity of food insecurity, along with households experiencing loss of income. A six-week online survey from JPAL Southeast Asia (SEA) found a higher proportion of households reporting that they consume less than they should: 77%. As a comparison, according to SUSENAS 2019, 3% of households reported food shortages and 5% consuming less, while the World Bank's 2019 Rural Poverty Survey found that 19% of rural households did have enough food to eat in the preceding year. A survey conducted by Save the Children (STC) Indonesia found that 70% of parent respondents were in need of food assistance and around 24 million toddlers are at a higher risk of malnutrition during the pandemic.

Physical Food Access - Market Closure: COVID-19 Impact on Traditional Markets

Distribution of Market Closure Events by Province

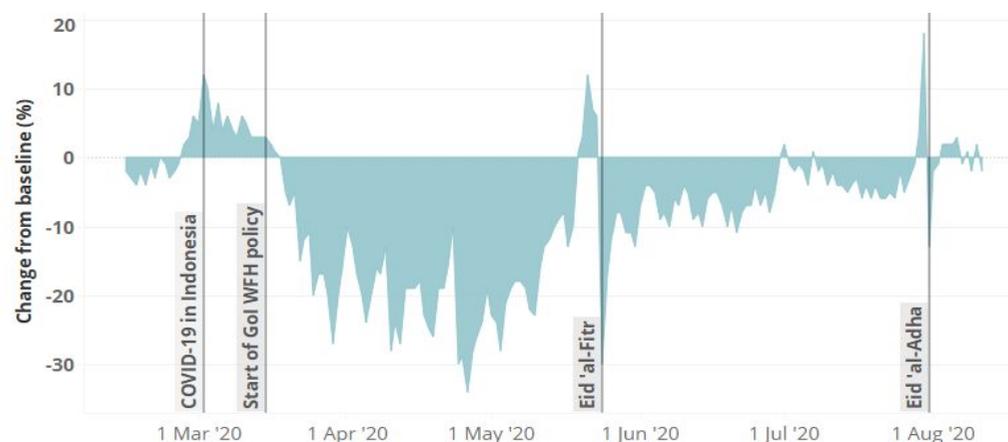
As of 3 Aug 2020



Note: The figures are cumulative numbers on temporary closed markets in May to Aug 2020. The duration of closure varies by markets and regions.

National Mobility Change in Grocery & Pharmacy Areas (%)

Change compared to baseline (3 Jan - 6 Feb 2020)



Note: Mobility trends for places like grocery markets, food warehouses, farmers markets, specialty food shops, drug stores, and pharmacies.

Source: WFP visualization based on Google Mobility data as of 11 Aug 2020.

Social distancing measures have led to reduced operating times in traditional markets while risk of COVID-19 outbreaks have resulted in the temporary closure of a number of traditional markets by the Government. Most Indonesians prefer to purchase groceries from traditional markets, followed by supermarkets, with the proportion using traditional markets increasing among lower income groups. Based on data from the Indonesian Market Traders Association (IKAPPI), as of 25 Jul 2020, 1,251 vendors in 211 traditional markets across 27 provinces were infected by the pandemic virus⁵⁰, leading to the temporary closure of 163 markets, roughly 1% of the country's total 15,657 traditional markets, between May and Aug 2020⁵¹. The duration of the closure varied, between 2-3 days to a week.

DKI Jakarta recorded the highest number of market closures (51 markets), followed by Central Java (30 markets) and East Java (26 markets). DKI Jakarta also contributed to a quarter of the positive cases among the market vendors. The high contact rate between sellers and buyers coupled with poor hygiene, sanitation and noncompliance of physical distancing requirements were cited as the main reasons of the high rates of infections⁵². Local governments have also attempted to curb transmission of the virus through limiting market operational hours, implementing odd-even policies to keep markets at 50% capacity and through implementation of strict health protocols.

These measures in addition to movement restrictions have resulted in traditional markets suffering revenue losses due to a significant decline in the number of customers. According to the the Ministry of Trade vendor revenues dropped by 40% during the pandemic. The number of vendors also reportedly decreased by 29%⁵³.

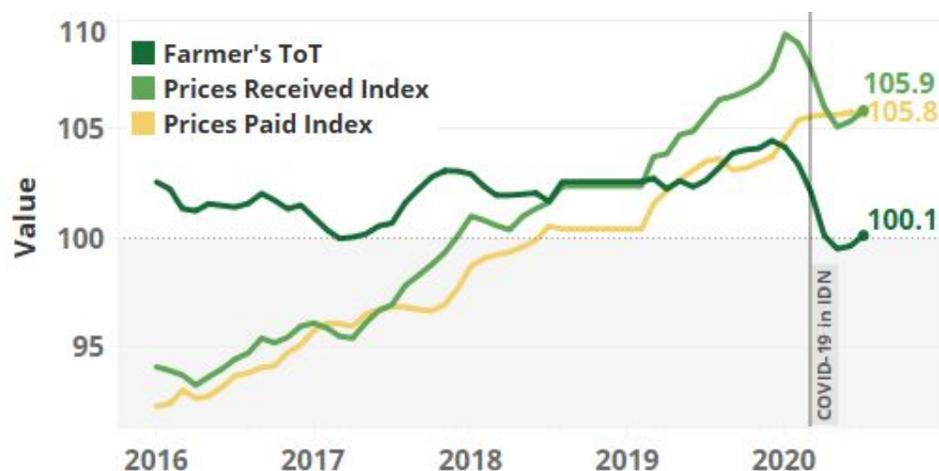
At the same time, Google Mobility data indicates that, nationally, community mobility in groceries and pharmacies is slowly returning to pre-pandemic levels. On 11 Aug 2020, community mobility in these areas was only 2% lower than pre-pandemic levels. As a comparison, in the midst of the large-scale social distancing (PSBB) period, mobility in these areas was lower by 36% (on 26 Apr 2020) compared to the baseline (Jan-Feb). As the number of visits returns to pre-pandemic levels, it is important to ensure enforcement of necessary health protocols to prevent COVID-19 transmission in both traditional and modern markets.

The IKAPPI reports that 12.5 million vendors work in traditional markets across Indonesia. The Statistics Indonesia survey in 2019 indicated that 88% of 390 surveyed traditional markets had substandard hygiene conditions.

Food Producers

Farmer's Terms-of-Trade (ToT) and Price Indices (2018=100)

Jan 2016 - Jul 2020



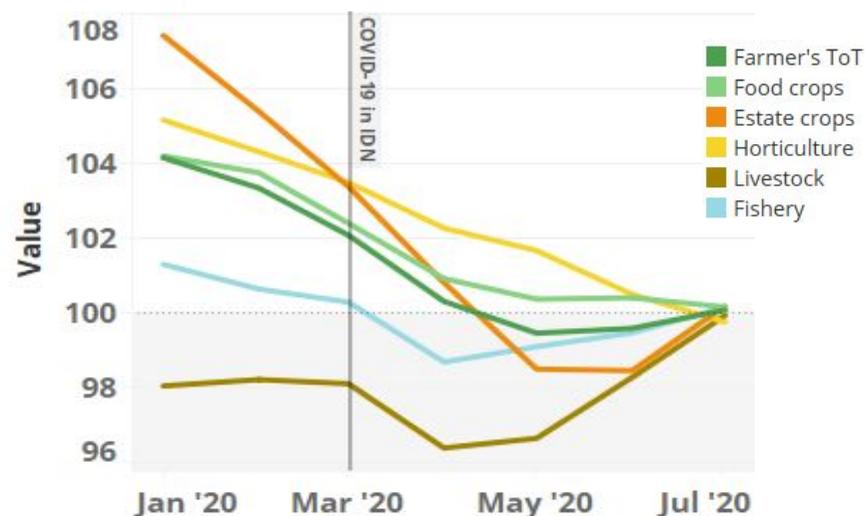
After months of decline, the farmer's terms-of-trade (ToT) experienced an increase for the second consecutive month in Jul 2020. The farmer's ToT grew by a modest 0.5% to 100.1 in Jul 2020, as overall, prices received by farmers for their produce increased at a higher rate (+0.5%) compared to input prices (+0.2%) and living costs (-0.1%) during the month, implying increased purchasing power for farmers.

The decline in the value of the prices paid index is largely attributed to the fall in the prices of food, beverages, and tobacco consumed by rural households (-0.3%). In terms of sub-sectoral breakdowns, the greatest gains were recorded by the estate crops and livestock sectors, which both grew by 1.7%, driven primarily by improved palm oil prices due to recovering global demand⁵⁴, as well as rising large and small livestock prices ahead of Eid 'al-Adha^{55,56}.

The horticulture sector experienced the largest decline (0.7%), spurred primarily by falling shallot and cabbage prices⁵⁷. Two sub-sectors, livestock and horticulture, still recorded ToT values below 100.

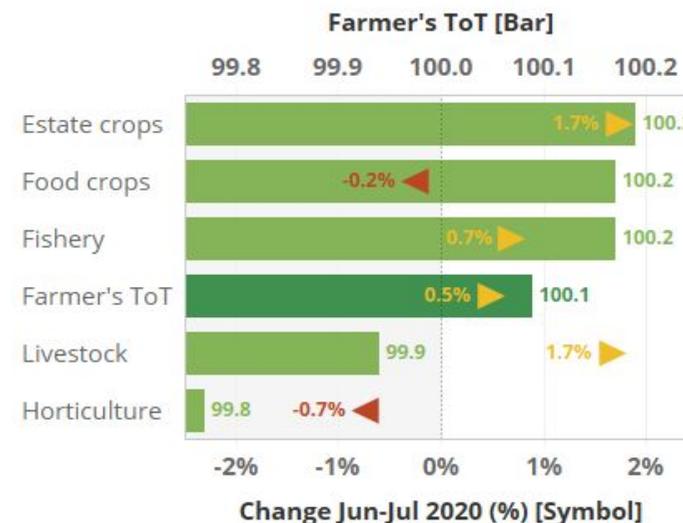
Farmer's Terms-of-Trade (ToT)

by Sub-sector, Jan - Jul 2020



Change in Farmer's ToT (%)

by Sub-sector, Jun - Jul 2020



Source: WFP calculation based on Statistics Indonesia (BPS) data.

Poultry and Maize Industry

During the early stages of the COVID-19 outbreak in Indonesia, reduced poultry demand depressed prices. Demand from hotels, restaurants, and catering services (HoReCa) dropped by 40%, driven partially by the implementation of large-scale social distancing measures, which included movement restrictions, limitations on social events, and business closures⁵⁸, putting pressure on already low farmgate prices due to oversupply. In some cases prices were down to IDR 5,000/kg--far below the production cost of Rp 18,000/kg⁵⁹.

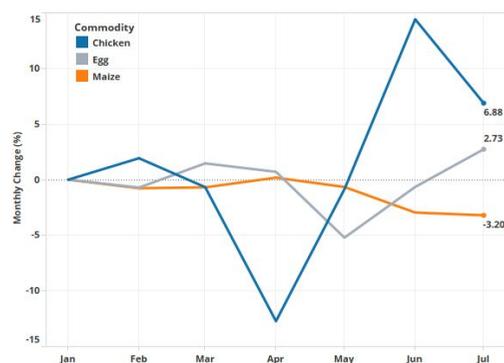
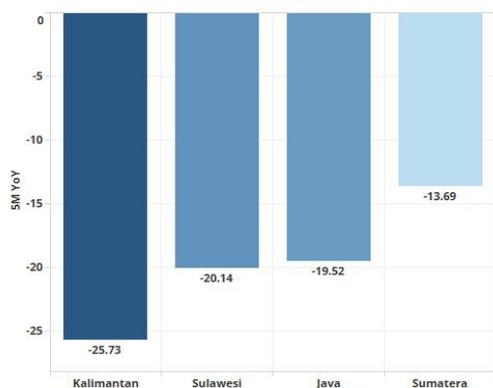
Low poultry prices up to Apr 2020, coupled by manpower shortages due to Eid holidays, led to a number of producers suspending operations resulting in soaring live poultry prices in May-Jun 2020. Live poultry prices in June 2020 rose to Rp24,700/kg, 8.3% above the government established retail ceiling price (HET)⁶⁰. Prices for poultry again declined in Jul due to poultry harvest season⁶¹.

Decreased demand for poultry products in turn reduced demand for feed, which may have contributed to lower maize prices. Falling demand from the poultry industry, exacerbated by road closures in some areas⁶², caused many feed mills to reduce their maize purchases by an average of 11%, nationally⁶³. The largest reduction in maize purchase by the animal feed industry was observed in Kalimantan (26%), followed by Sulawesi (20%), Java (19%), and Sumatra (14%). To cope with the excess supply, maize farmers were reported to slash farmgate prices from Rp3,800/kg to Rp2,800/kg⁶⁴ or to keep the remaining produce⁶⁵. Data from the Ministry of Trade (MoT) indicates that maize prices have been on a slight declining trend since May 2020. Prices in Jul 2020 were 3% lower than in Jan 2020.

Change in Maize Purchased by the Animal Feed Industries (Jan-May 2020 YoY) Monthly Price Change (%) - Maize, Egg, and Chicken

Source: Ministry of Agriculture

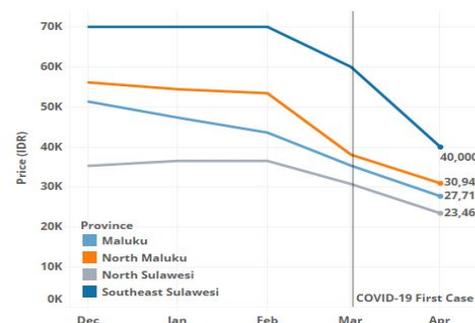
Source: Ministry of Trade | Notes: Baseline = Monthly Average Price in Jan 2020



Fishery Industry

Trend of Big Tuna Price in 4 Provinces

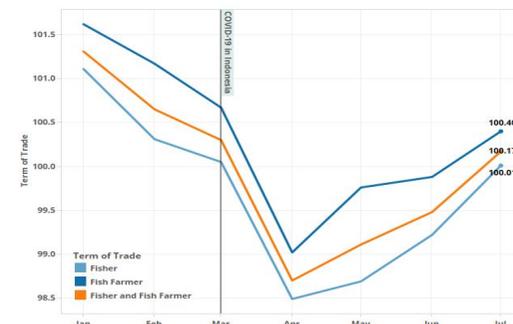
Source: WFP visualization based on MDPI survey results



Note: Big tuna refers to yellowfin tuna > 10kg per head

Farmers' Term of Trade - Livestock and Fishery

Source: WFP visualization based on Statistics Indonesia (BPS) data



Less demand from restaurants and hotels, closure of ports or seafood markets and loss of access to cold storage led to reductions in fishery between Mar to May 2020. More than 7,000 fishers in West Sumatera reported that they had to reduce their activity from five to three times a week, causing their daily income to drop by approximately 25%⁶⁶. Similar observations were reported in Java, NTT, Sulawesi, and Maluku.

Declining demand coupled with a drop in prices resulted in reduced income for workers in the fisheries sector--coupled with rising costs, fishers experienced a decline in purchasing power.

During the implementation of large-scale social distancing, the price of seafood products plummeted by up to 50%⁶⁷, exacerbated by the collapse of the export market due to movement restrictions, while the cost of vessel fuel remained constant. According to the Coordinating Ministry of Maritime affairs, fishers' average monthly income dropped to a range of IDR 1 to 1.5 million, from IDR 3 to 5 million. Production and prices were also estimated to drop by 8%⁶⁸. A rapid assessment by Masyarakat dan Perikanan Indonesia (MDPI) to capture the impact of the ongoing pandemic on fisheries livelihoods indicated that the price of big tuna caught in one-day fishing operations had been declining in the four provinces sampled: Maluku (-33%), North Maluku (-37%), North Sulawesi (-25%), and Southeast Sulawesi (-29%). According to Mardie et al (2020), 93% of fishers surveyed in West Nusa Tenggara reported a drop in market demand for fish and 98% mentioned a decline in fish prices. Almost all (93%) consequently reported a reduction in income, while more than half (64%) reported an increase in expenditure.

Nationally, the fishers and fish farmers' terms-of-trade (TOT) fell below 100 between Apr to Jun 2020, implicating deteriorating purchasing power. This is primarily due to a sharply declining price index, particularly in Apr, induced by the declining price of seafood commodities. In Jul 2020, the fishers and fish farmers' TOT climbed to slightly above 100, following the easing of movement restrictions as the country entered the 'new normal' period.

Challenges towards food supply and agriculture production: Sugar Industry

Despite imports, the retail price of sugar in Jul 2020 remained higher than the government established price ceiling. In an effort to stabilize high sugar prices recorded earlier in the year, the Ministry of Trade (MoT) issued import permits for 988,800 tons of raw sugar⁶⁹ and 150,000 tons of white plantation sugar⁷⁰. In addition, additional permits enabled the import of raw sugar to be processed into refined sugar for the F&B industry, amounting to 1.5 million tons for semester I of 2020 and expected to reach a total 3 million tons by end 2020⁷¹.

According to Statistics Indonesia (BPS) data, in the first semester of 2020, sugar imports reached 3.5 million tons. Nearly half of the imports (49%) were imported from Thailand. Domestic sugar prices began to decline in May 2020; however, despite imports and the reallocation of raw sugar for industry to be converted into consumption sugar, retail prices in Jul 2020 remained higher (IDR 15,100/kg) than the retail ceiling price (IDR 12,500/kg). Distribution challenges within the country due to movement restrictions have led to delays for imported sugar to reach markets⁷², a potential reason for the high prices, in addition to suspected stockpiling by sugar cartels^{73,74,75}.

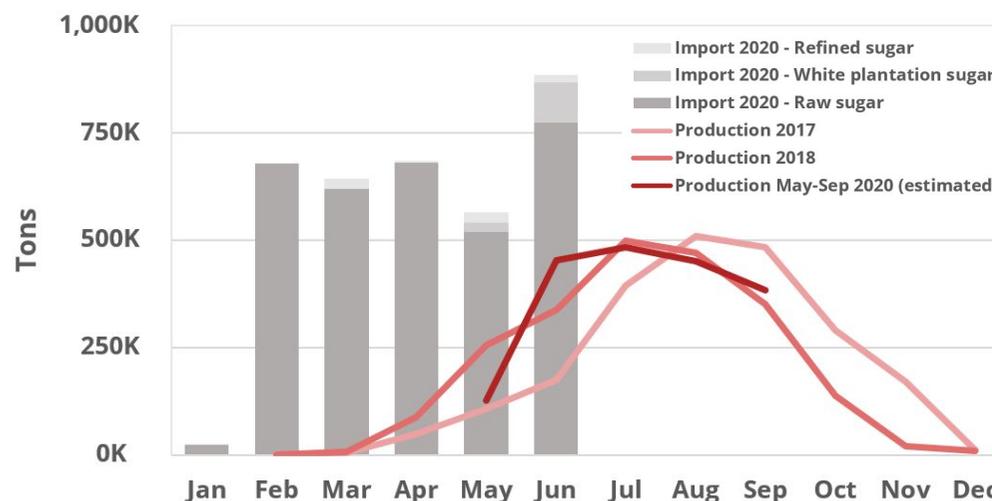
The arrival of imported sugar in the midst of the domestic sugarcane harvesting season reportedly depressed local producers prices. The greatest monthly import was recorded in Jun 2020 at around 884,000 tons, the highest quantity recorded so far, amidst the estimated peak of domestic sugarcane harvest season in Jun-Jul 2020⁷⁶. The implementation of lockdown policies in some of the exporting countries was cited as a reason for the delays in import arrivals⁷⁷. National producers' prices also declined in parallel, reaching IDR 11,700/kg, although still above the government-set floor price for producers (IDR 9,100/kg⁷⁸), but below the estimated unit production costs for 2020 (IDR 12,770/kg⁷⁹) implying a loss for farmers.

In an effort to support producer prices, the GoI assigned 12 sugar importing companies to absorb farmer production with a minimum price of IDR 11,200/kg⁸⁰. Sugar production in Indonesia is considered to be inefficient, with a sugar extraction rate of 7% (compared to Thailand's 14%⁸¹) and domestic prices far above world prices for raw sugar (IDR 3,736/kg or USD 0.27/kg). In 2018, sugarcane smallholders contributed to nearly 60% of the country's domestic sugar production⁸².

Better anticipation and simplified importing procedures for sugar may help improve the timeliness of future sugar imports, to ensure domestic prices remain stable. Importing procedures differ between sugar for consumption and industry⁸³. According to CIPS, the length and complexity of the procedures may lead to missed opportunities in securing imports during periods of low world prices and may lead to import delays, leading to missed opportunities to keep domestic prices stable. Improved accuracy of production, stock, and consumption data would also assist in better estimating the timing and volume of imports needed^{84,85}.

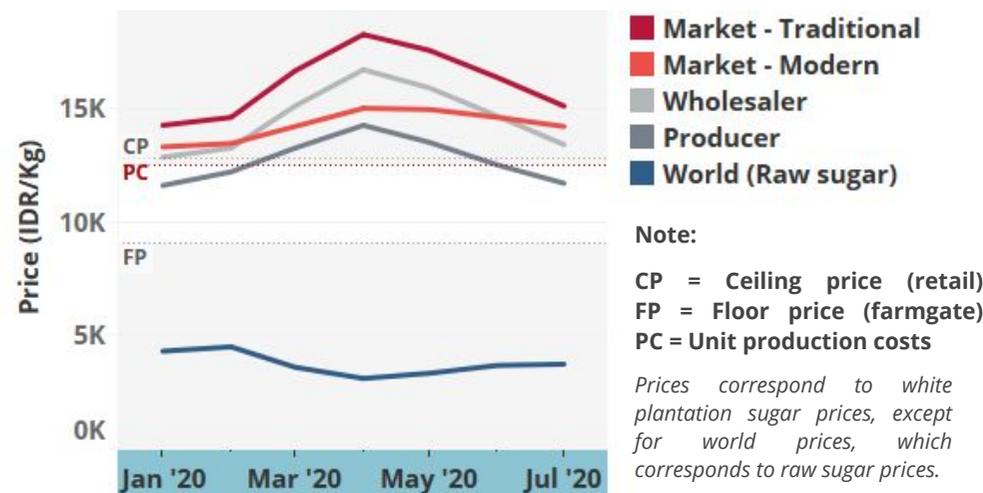
Source: WFP calculation based on Statistics Indonesia (BPS) trade and production data, MoA production estimates data, and PIHPS and World Bank price data.

Volume of monthly domestic production (2017 - 2020) and imports of sugar



Note: 2020 production estimates based on MoA food availability prognosis for May-Sep 2020

Development of world and domestic sugar prices, 2020



Transport restriction – restrictions for sea, freight, and land transports created a bottleneck for the food supply chain and other manufacturing sectors. As Indonesia depends on imports for certain essential commodities from the global or inter-islands trade, the movement restrictions caused delays and a reduction in the quality of the products due to longer storage time.

Closure of road access and checkpoints procedures for long-haul trucks had caused congestion in distributing commodities, particularly to areas indicated as 'Red Zones' or high-risk⁸⁶. Although transportation of food was exempted from the mobility restrictions, adhering to some internal protocols, including compliance with the 14-day self-isolation procedures by the truck drivers resulted in reduced number of trucks and delays in transportation of planned quantities, including fresh-produce, horticulture, and other commodities⁸⁷.

E-Commerce amidst COVID-19: Indonesia's digital economy remains a growing market. Several Government initiatives have encouraged producers to shift business activities online during the pandemic, accelerating usage of e-commerce platforms as an alternative option by many food and service providers. The Indonesian Central Bank reports a sharp increase in the number of e-commerce transactions during the outbreak. E-Commerce purchases increased by 18% to 98.3 million transactions with a total transaction value by 10% (US\$1.4 billion)⁸⁸. An estimated 12 million new e-commerce users have so far been reported during the pandemic⁸⁹.

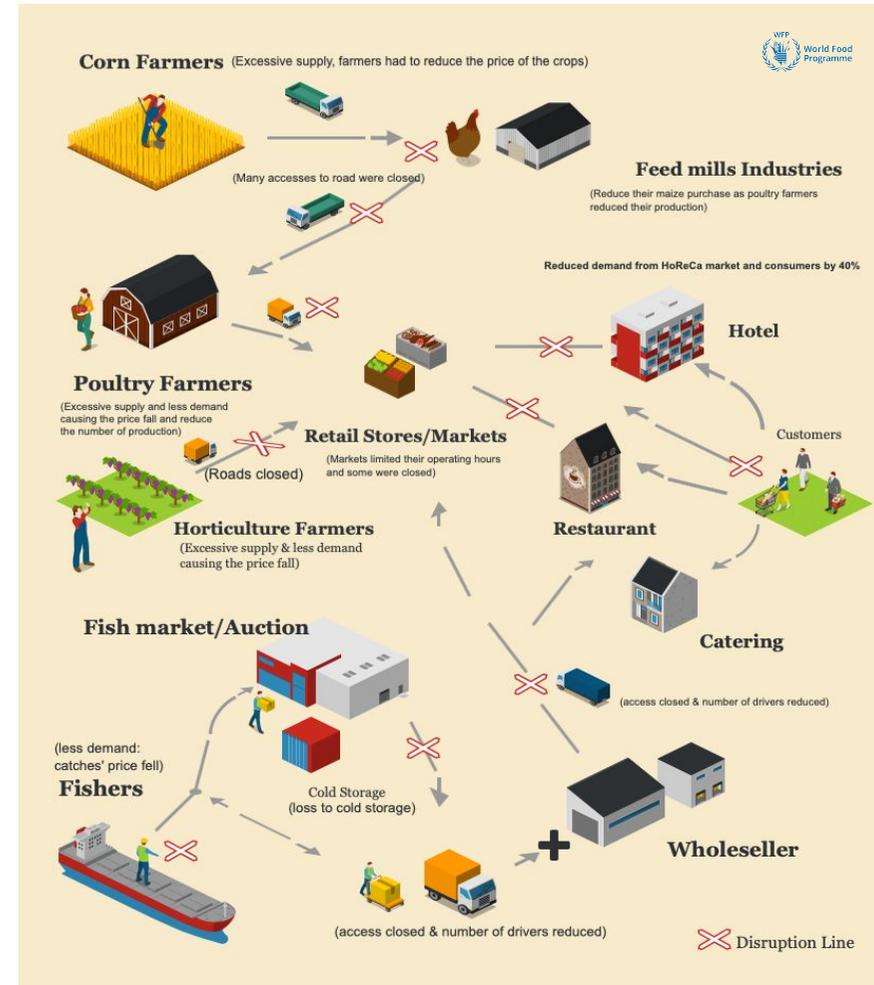
Due to the pandemic, customers have been relying heavily on e-commerce to supply their basic needs, including food. In March the demand increased by 59% for food as compared to previous months with a significant reduction in demand for tertiary needs (smartphones, clothing, cars, etc.)⁹⁰.

Physical distancing measures and restrictions on restaurants have strengthened online food delivery platforms. One such company experienced an increase in the number of transactions by 7.4% during the partial lockdown period⁹¹. Another reported a rise of 10% in their number of transactions⁹².

People have been engaging in e-commerce as a safer alternative. Before the pandemic hit, the projection for Indonesia's e-commerce market size in 2020 was estimated to grow by 54%. The pandemic is expected to boost this growth by up to 91% instead.

Disruption in food supply chain during pandemic

Source: WFP based on various secondary data review



Case study: Regional Food Security during COVID-19

Case Study 1: North Maluku

Despite price volatility for selected food commodities and supply chain challenges, in general the food security situation in North Maluku during the COVID-19 pandemic remains stable.

Socioeconomic context

The poverty rate in North Maluku is lower (6.78%) than the national level (9.78%), although it has been on a rising trend for past few years. In Mar 2020, unlike the majority of provinces in Indonesia, the province recorded a decline in poverty rate to 6.78% from 6.91% in Sep 2019. The stunting rate remains at 29% (27.67% nationally). The Food Security and Vulnerability Atlas (FSVA) indicates 67 sub-districts (58%) identified as vulnerable to food insecurity in 2019.

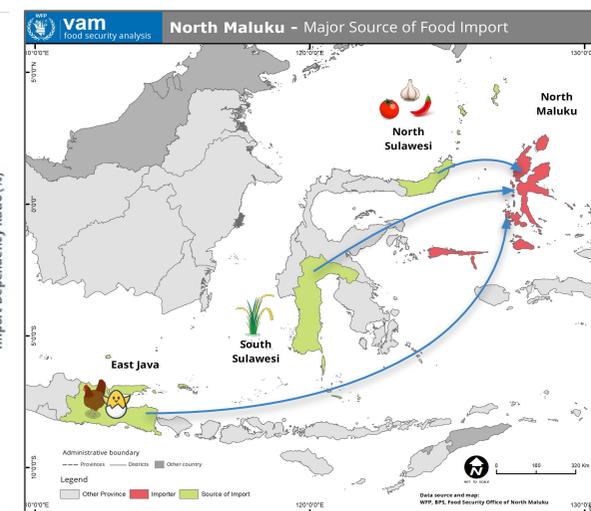
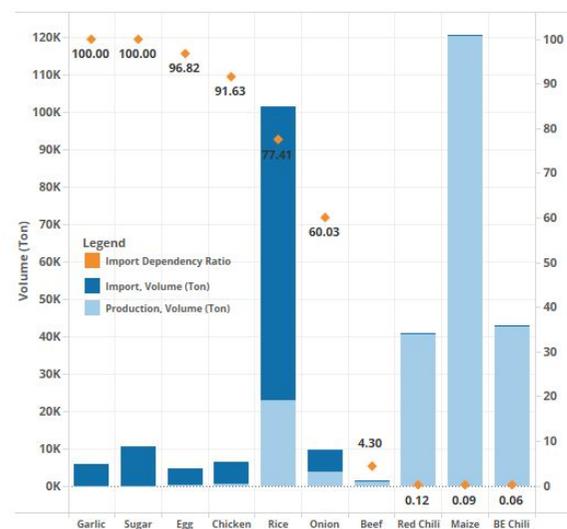
Between Mar and Jul 2020, the farmer's terms-of-trade in North Maluku fell by 2.8%, indicating a decline in farmers purchasing power, driven primarily by decreasing price received by farmers.

Food Production and Availability

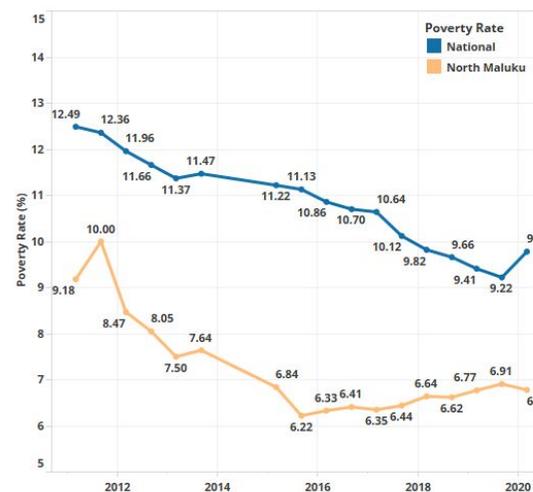
According to the Food Security Office (DKP) of North Maluku, the pandemic had a limited impact on food production. The impact of the pandemic has been largely felt by sectors and industries in urban areas, while most agricultural production took place in rural areas. Nonetheless, the outbreak impacted the fishery sector, putting pressure on fishers to reduce activities due to a fall in demand for their products, supply chain disruption and local cold storage facilities reaching maximum capacities.

North Maluku is dependent on imports for a number of food commodities supplied from other regions, including garlic (100%), sugar (100%), eggs (96%), rice (73%), and shallots (60%). Rice is largely supplied from South Sulawesi, while chilies, garlic, shallot and tomatoes are delivered from North Sulawesi. Meanwhile, animal products such as poultry and eggs are sourced from East Java. As these commodities are not produced locally, and given the archipelagic nature of the province, timely delivery of these commodities and distribution within North Maluku is required to prevent shortages and price fluctuations. Overall, food availability in North Maluku has been well maintained, although scarcity of sugar and shallot have occasionally been reported.

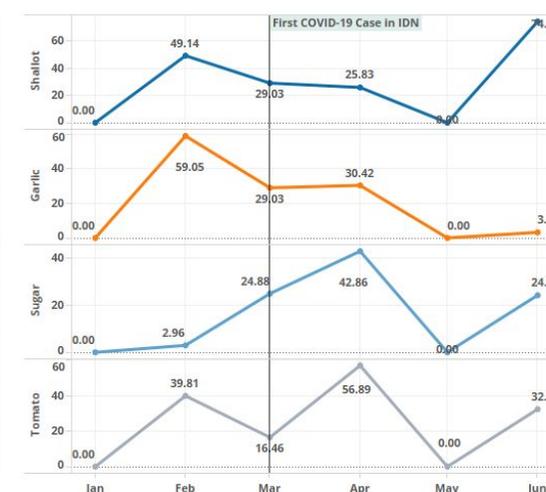
North Maluku Dependency on regional Food Production



North Maluku Poverty Rate Development (2011-Mar 2020)



Monthly Price Development of Four Most Volatile Commodities in North Maluku



Source: WFP visualization based on Statistics Indonesia (BPS) data

Source: WFP calculation based on Food Security Office (DKP) of North Maluku Province data, 2019

Case study: Regional Food Security during COVID-19

Food Access

Four commodities were identified as volatile to price increased in North Maluku during the pandemic: shallot, garlic, sugar and tomato. The price of shallot and garlic rose in Feb 2020 by 50% and 59%, respectively, compared to the baseline price in Jan 2020. However, while garlic prices have stabilized since May as imported garlic entered markets across Indonesia, shallot prices again climbed by 74% above Jan prices, as shallots became scarce throughout the country during this period. Meanwhile, sugar and tomato prices peaked in Apr at 43% and 57% higher than Jan prices, respectively. As confirmed by DKP North Maluku, the heightened price of sugar in Apr was caused by the commodity scarcity, which also occurred in many regions, exacerbated by disruptions in distribution.

The price of sugar was reported to significantly rise from IDR 14,000-16,000/kg to IDR 22,000/kg. This situation lasted for a month until the central government intervened to control prices. The rise in tomato prices was caused by a rise in prices in the producing region - North Sulawesi. All these price spikes affected commodities which North Maluku imports from other regions, highlighting the province's vulnerability to price spikes due to disruptions in food distribution that could eventually impact the population's economic access to food.

Government Interventions

Movement and timely availability of food items during the pandemic is ensured by the central and provincial Governments. Although airports and ports are temporarily closed for non-essential travel to curb COVID-19 transmission, these restrictions do not apply to food items, fuel, and medical supplies. The central Government also subsidizes the distribution costs of major commodities, such as shallots, from the surplus to the deficit regions, including North Maluku, as an effort to reduce inter-regional disparity in supply and prevention of rise in food prices.

An additional initiatives has been established by the central and the provincial Governments to improve the resilience of the local food systems. To reduce reliance on other regions, the provincial government is promoting the consumption of local staples, such as sago, instead of rice, of which the province heavily depends on imports from other regions. Prior to the COVID-19 outbreak, the central and provincial Governments initiated a family food security and home-gardening (KRPL) program, using the Food Security and Nutrition Early-Warning System to assess the outcomes. Recognizing the food trade interdependencies of the regions, the provincial Governments of North Maluku, South Sulawesi, North Sulawesi, Gorontalo, and East Java are currently in the process of building a cooperation, aimed at ensuring the sufficiency and timeliness of food supplies in each province.

Case Study 2: Nusa Tenggara Timur (NTT)

Socioeconomic context

With a poverty rate of 20.9% (9.78% nationally) and a stunting level of 43.8% (27.67% nationally) in 2019, the Nusa Tenggara Timur (NTT) province remains one of the most poor and vulnerable provinces in Indonesia. The Food Security and Vulnerability Atlas (FSVA) 2019 identified the Southeast Sumba and Sabu Raijua as the most vulnerable districts. The return of significant numbers of migrants from abroad and inside the country may further increase the number of poor and food insecure households; with agriculture being the leading sector in the province, it is argued that the sector could provide sufficient employment opportunities to returned job-seekers.

Food Production and Availability

The erratic rainfall and pest attacks in NTT since Jan 2020 have had detrimental impact on crop production. Furthermore, due to persistent dry weather, water levels have critically declined, making crop cultivation more challenging. A survey conducted by *Perkumpulan Pikul* covering 156 farmers in Apr to May 2020, indicates that over 60% of respondents had experienced production losses by 50% due to weather conditions. More than 70% of sorghum, maize, and vegetable farmers claimed that they had not had extra produce to sell and had decided to use the stocks for own consumption.

A number of districts have experienced a surplus in production during the pandemic, but were unable to distribute the crops due to the implementation of movement restrictions and markets closure. This meant that outside transporters were constrained in accessing village markets, causing shortages of non-locally produced commodities such as sugar, animal proteins, and cooking oil. In the fishery sector, mobility restrictions combined with the absence of supporting warehouse systems hampered fish distribution to non-coastal/farming areas, indicating potential scarcity of animal protein in farming locations and vegetables in coastal areas.

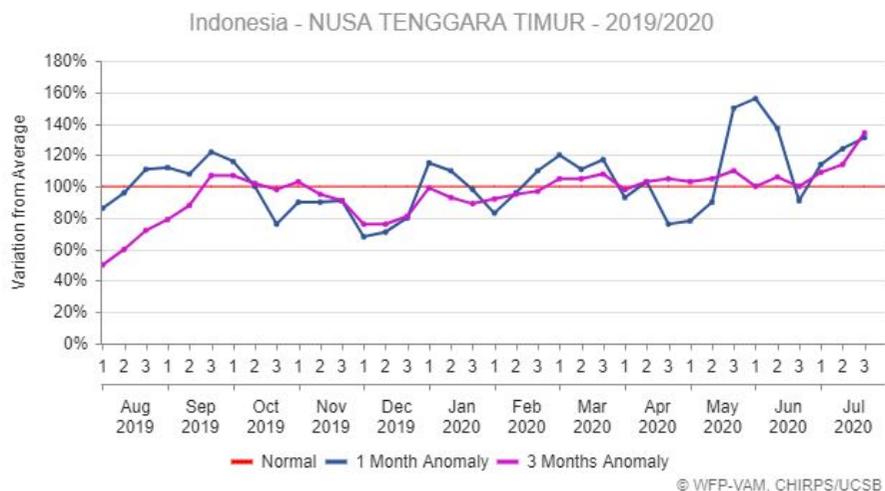
Food Access

Dropping commodity prices due to low demand and marketing difficulties as the result of supply chain disruptions have reduced income and decreasing purchasing power. The price of vegetables has fallen by 50% due to demand-side contractions and market closures, leading to excess supplies. Due to falling demand, the HoReCa sector, the largest procurers of vegetables, significantly decreased purchases, as hotel occupancy rates plummeted from 39% in Jan 2020 to 19.7% in Jun 2020 and the lowest point occurring in May at 11.6%. (cont'd)

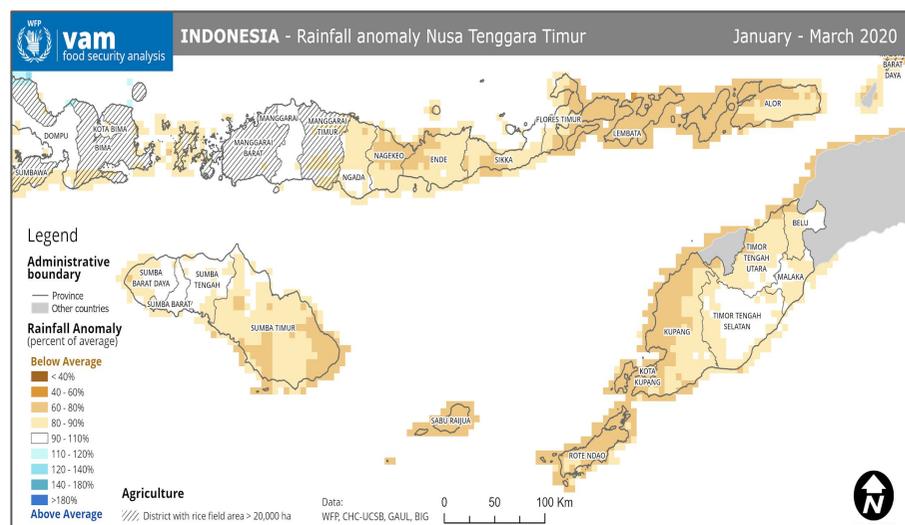
Case study: Regional Food Security during COVID-19

Precipitation Anomaly in East Nusa Tenggara (NTT)

Aug 2019-Aug 2020 | Source: WFP-VAM CHIRPS/UCSB



Note: The erratic rainfall that occurred since Dec 2019 impacted farmers' harvest production from Mar to May 2020. The movement restrictions have exacerbated the situation with transportation to and distribution of crops in the markets



Food Access (cont'd)

The diminishing demand from coffee retail outlets in Java along with disruptions in distribution channels due to the pandemic had the effect of eroding incomes of cocoa and coffee farmers, leaving them vulnerable to food insecurity; unlike their sorghum and maize farmer counterparts who are able to consume their harvest for daily consumption. Meanwhile, in the fishery sector, an interview by *Perkumpulan Pikul* of 120 fishers and fish sellers in ten districts from six coastal islands revealed that their income had dropped by 25-50%. The price of their fishery products fell at the market, whereas the cost of vessel fuel remained stable, forcing them to reduce their daily fishing activities, reducing their catches by 50%. Since the first case of positive COVID19 was announced, farmers' term of trade in NTT fell to below 100, implying that farmers' income decreased significantly, reducing their purchasing power. With the existing supply and demand imbalance, other market actors such as middlemen and sellers were also reported to have lost their earning by half.

Farmer's Term of Trade (ToT) in East Nusa Tenggara (NTT)



Source: WFP calculation based on Statistics Indonesia (BPS) NTT Province.
Note: 2018=100 (base year)

Government Interventions and Private Sector Innovations

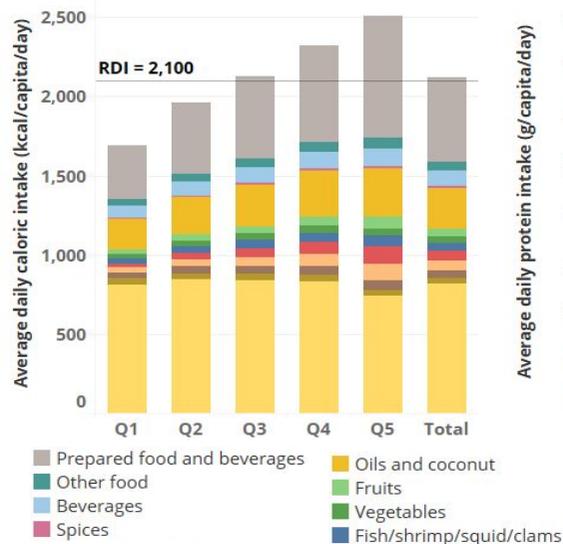
Responding to the distribution challenges that arose during the pandemic, the local Government encouraged both urban and rural households to start growing vegetables at home as part of its home gardening program to anticipate the food insecurity⁹³

During the large-scale social distancing period, digital marketing strategy has been recognized by local businessmen and supply chain actors as an opportunity to connect farmers and buyers, recognising that movement restriction had made it challenging for rural farmers to bring their produce in and out of their locations. Nonetheless, there is not a clear strategy to depict whether the use of online marketing platforms is a short-term trend or it would be an opportunity that would stay post the movement restriction period.

Food Consumption

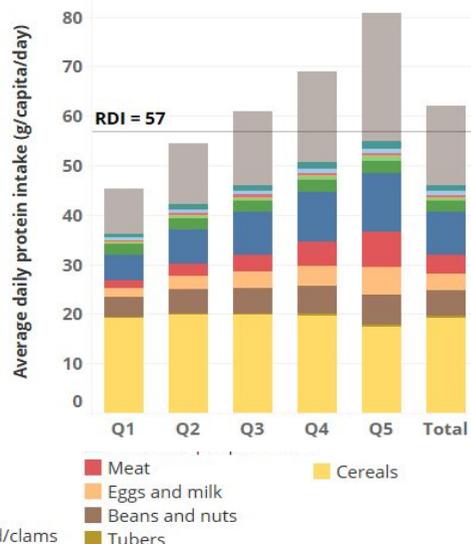
Average daily caloric intake Mar 2019

By expenditure quintile



Average daily protein intake Mar 2019

By expenditure quintile



Prior to the COVID-19 pandemic, the average Indonesian consumed sufficient calories and protein on a daily basis--however, the bottom two quintiles did not. On average, Indonesians consumed 2,121 kcal in energy and 62 g of protein daily, higher than the recommended dietary intake by the Ministry of Health of 2,100 kcal/capita/day for energy and 57g/capita/day for protein. However, the bottom two quintiles--also referred as the bottom 40%--consumed less: Quintile 1 consumed 1,691 kcal/capita/day in calories and 45 g/capita/day of protein and Quintile 2, 1,961 kcal/capita/day in calories and 55 g/capita/day of protein, respectively. The average consumption made up only 1,550 kcal/capita/day for poor and 2,180 kcal/capita/day for non-poor. Income shocks spurred by the COVID-19 pandemic may potentially reduce the food consumption of these vulnerable groups further.

Cereals were the dominant source of calories and proteins for all except the wealthiest quintile, who depend more on ready-made foods. Overall, cereals were the main source (38%) of the population's energy intake, followed by ready-made foods (25%) and oils and coconuts (12%). Cereals (31%) and ready-made food (26%) also constitute the bulk of the average Indonesian's protein intake, followed by fish (14%). For the wealthiest quintile, ready-made food make up 31% of daily energy intake and 32% of daily protein intake, compared to the 29% of energy intake and 22% protein intake from cereals.

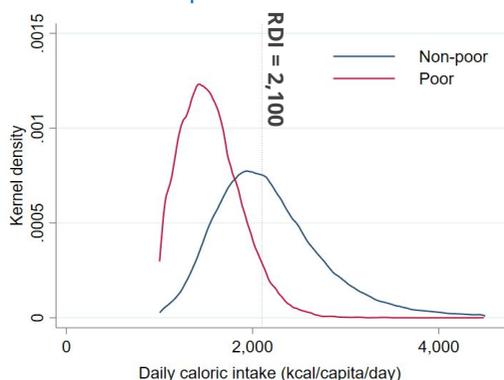
The contribution of ready-made foods to both energy and protein consumption increases with wealth. Pandemic-associated movement restrictions were reported to reduce household spending on restaurants and increase home-prepared meals consumption, although several reports also suggest that food deliveries have been rising. Pulses, meat, and animal products contributed to 8.3%, 6.2%, and 5.5% of protein intake, respectively.

The contribution of fruits and vegetables to daily energy and protein intake also increased by wealth, but only contributed to 4% of overall energy consumption and 4.6% of overall protein intake. According to RISKESDAS, 95% of Indonesians did not consume sufficient fruits and vegetables in 2018. And in 2016, the average Indonesian only consumed 122g of vegetables per day from the recommended 300-400g and 92g of fruits per day from the recommended 100-150g⁹⁴. In per calorie terms, fruits and vegetables are among the most expensive food groups. **Care must be taken to ensure that during times of crises, households do not substitute fruits and vegetables, which are rich in micronutrients, for cheaper yet less nutritious food items.**

Source: WFP calculation based on Statistics Indonesia (BPS) data and RDI (Recommended Dietary Intake) from MoH (2018)

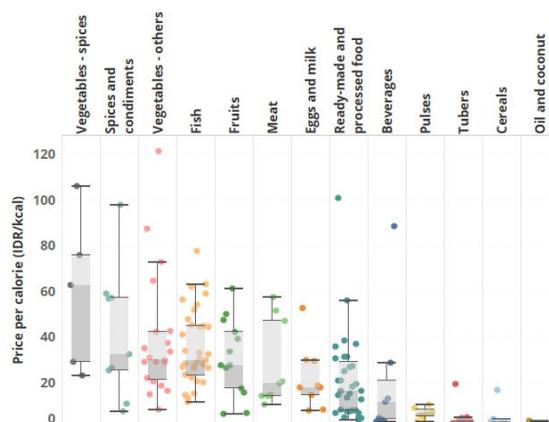
Average daily caloric intake distribution, Mar 2019

Poor vs. Non-poor



Price per calorie (IDR/kcal), Mar 2019

By food group



Source: WFP calculation based on SUSENAS Mar 2019 data

Food Assistance during the COVID-19 Pandemic in Indonesia

Example food-related schemes rolled out by the central and subnational governments in Indonesia during the COVID-19 pandemic

East Java SEMBAKO Programme¹¹⁴

- SEMBAKO Programme from Central Government (IDR 200,000):
 - 10 kg of rice
 - 0.5 kg of meat
 - 0.5 kg of potato
 - 1 kg of manisa fruit
 - 2 pkg of corn
 - 0.25 kg of mung beans
 - 1 watermelon
- SEMBAKO programme supplement from E. Javal Government (IDR 100,000) - Stage 1:
 - 5 kg of rice
 - 25 pcs of chicken eggs

Presidential Food Package (Apr - Dec 2020)¹¹⁵

- 14 pkg of instant noodles
- 10 kg of rice
- 2 L of cooking oil
- 2 cans of sardines
- 2 cans of corned beef
- 3 bars of soap
- 1 box of tea
- 1 bottle of chili sauce
- 1 bottle of soy sauce
- 1 L of UHT milk (some reported to receive condensed milk instead)

Note: Contents might differ depending on region.

West Java Food Package (Stage 1)¹¹⁶

- 10 kg of rice
- 1 kg of wheat flour
- Vitamin C
- 2-4 cans of canned food
- 1 kg of sugar
- 16 pkg of instant noodle
- 2 L of cooking oil
- 2 kg of eggs

Kab. Bandung Barat Food Package (Stage 1)¹¹⁷

- 10 kg of rice
- 1 kg of tomato
- 1 kg of pears
- 0.5 kg of eggs
- 12 pkg of instant noodles
- 1 kg chicken

DKI Jakarta Joint Provincial Government & Central Government Food Package as per Indonesia's Economic Recovery Plan^{118,119}

Stage 1 (13-24 Apr '20)	Stage 2 (14-22 May '20)	Stage 3 (3-14 Jun '20)	Stage 4 (24 Jun - 7 Jul '20)	Stage 5 (22 Jul-6 Aug '20)
5 kg of rice 2 cans of sardines 2 pkg of biscuits 0.9 L of cooking oil 2 bars of soap 2 pcs of face masks	10 kg of rice 1 can of biscuits 1.8 L of cooking oil 520 ml of soy sauce 1 kg of wheat flour 620 g of rice vermicelli 1 bar of soap	25 kg of rice	10 kg of rice 2 or 4 cans of sardines 1 can of biscuits 1.8 L of cooking oil 520 ml soy sauce 1 kg of wheat flour 620 g of rice vermicelli 1 bar of soap	10 kg of rice 2 or 4 cans of sardines 1 can of biscuits 1.8 L of cooking oil 520 ml soy sauce 1 kg of wheat flour 620 g of rice vermicelli 1 bar of soap

During the COVID-19 pandemic in Indonesia, the GoI expanded the coverage of the existing SEMBAKO programme in addition to distributing food packages to vulnerable households, with support from subnational governments. The GoI allocated IDR 43.6 trillion for the SEMBAKO programme, which will target 20 million beneficiary households for 12 months. Through the SEMBAKO programme (previously known as BPNT, Non-Cash Food Assistance), beneficiaries receive IDR 200,000 per month through a SEMBAKO card, for the purchase of nutritious food items of their choice from designated *e-warongs* (official shops designed to serve social assistance beneficiaries). In some provinces, such as East Java, the provincial government provided a supplement on top of the amount given by the Central Government. In addition to the SEMBAKO programme, both the central and a number of sub-national Governments, including DKI Jakarta, West Java and Bandung Barat Governments, have been distributing food packages varying in terms of frequency, content, and monetary value depending on the region.

Supply chain challenges, coupled with food safety concerns, made durable food items with long shelf-lives the preferred choice for food packages--however, they are not always the most nutritious. Most government food packages contained food items with long shelf-lives. Some sub-national governments have made efforts to distribute fresh produce, but faced difficulties in ensuring these items reach beneficiaries in prime conditions, resulting in some commodities being replaced with those more durable. Due to reports of damage/spoilage, the Bandung Barat District Government will replace chicken with eggs^{95,96}, while the West Java Provincial Government will replace eggs with UHT milk^{97,98}. Foods with long shelf-lives are easier to handle and store, however, with different nutritive value. The inclusion of instant noodles and condensed milk, which are of low nutritive value, had been questioned by parliament⁹⁹. Overlaps between beneficiaries of the different food assistance schemes¹⁰⁰, targeting (exclusion and inclusion errors)¹⁰¹ and distribution issues¹⁰² had also been reported.

Alternatives to food package distribution could be explored to resolve logistics and nutrition issues. Pulses, legumes and nuts (eg. mung beans, peanuts) and grains might offer a better alternative to processed food in terms of nutrition, items delivery and storage. However, the use of cash transfers or cash vouchers such as SEMBAKO would also be preferred; this provides households with greater flexibility in choosing items from local shops, also supporting the local economy^{103,104,105}. The SEMBAKO programme generally provides a wider selection of nutritious food and restricts the purchase of processed goods, along with sugar and cooking oil¹⁰⁶. However, some challenges remain, as the pre-pandemic experience suggests that beneficiaries do not always have the flexibility to choose the items for purchase, as *e-warongs* often have a limited option for the selection or sell items in packages to ensure no left-overs due to limited storage capacity. Beneficiaries also reported on rarely higher prices in *e-warong* than in the markets^{107,108,109,110} and sub-standard qualities^{111,112,113}.

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):

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

Food Import Dependency Ratio. Import dependency ratio (IDR) is defined as:

$$\text{IDR} = \frac{\text{imports} \times 100}{(\text{production} + \text{imports} - \text{exports})}$$

The complement of this ratio to 100 would represent that part of the domestic food supply that has been produced in the country itself.

Reference: FAO <http://www.fao.org/3/i2493e/i2493e06.pdf>

Consecutive dry days map. The map is based on satellite data which is then processed and used to create various indicators related to climate.

Meteorological drought happens when the actual rainfall in an area is significantly less than the climatological mean for that area. Meteorological drought can be monitored using indicators including the number of consecutive dry days. Number of consecutive dry days is calculated as the count of the most recent days since a day had more/less than 1mm of rain. GPM IMERG data is then processed to determine the number of days since the last rainfall (where a day with rainfall is noted as one where more than 1 mm of precipitation is observed). Using a standard classification, drought level is then determined.

Caseload calculation of number of paddy and palawija household living in area classified in “very long and extreme drought.” The calculation is conducted using the National Socio-economic Survey (SUSENAS) March 2019. Number of households deriving income from paddy and palawija was calculated at district (*kabupaten/kota*) level. The total number was calculated using number of household in selected districts which more than 50% of its total sub-districts (*kecamatan*) classified in “very long and extreme drought”. Calculation is conducted at district level because the relative standard error (RSE) of SUSENAS data at sub-district level are too high.

Food trade. The calculation of food trade figures includes the following 2-digit Harmonized System (HS codes) for the following categories: Live animals (01), Meat (02), Fish and crustaceans (03), Dairy products (04), Edible vegetables (07), Edible fruits, nuts (08), Coffee, tea, spices (09), Cereals (10), Milling products (11), Oilseeds (12), Lac, gums, resins (13), Fats, animal and vegetable (15), Meat and fish preparations (16), Sugars (17), Cocoa (18), Cereal, flour, starch (19), Vegetable and fruit preparations (20), Misc. edible preparations (21), Beverages (22).

Food consumption and price per calorie of various food items. The daily per capita caloric (or protein) consumption is obtained by dividing the weekly household caloric (or protein) consumption by the number of household members, and further dividing it by 7 to obtain a daily figure. The average of this figure is then taken at the national level and various disaggregation (eg. by poverty status) to obtain the average daily per capita caloric (or protein consumption). The price per calorie of various food items was calculated by taking the weekly expenditure of each food item, and dividing it by the weekly caloric consumption for the corresponding item. The median price for each food item was then calculated at the national level. The consumption data was taken from the March 2019 Susenas Consumption Module

Google Mobility Data. The Community Mobility Report aims to provide an analysis of what changes have occurred as a result of implementing policies to fight COVID-19. The report maps movement trends over time by geography, across categories of places such as retail and recreation, grocery stores and pharmacies, parks, public transport hubs, workplaces, and residential areas.

The data show how visits and length of stay at different places change compared to a baseline. These changes were calculated using the same kind of aggregated and anonymized data used to show popular times for places in Google Maps.

Changes for each day are compared to a baseline value for that day of the week:

- The baseline is the median value, for the corresponding day of the week, during the 5-week period Jan 3–Feb 6, 2020.
- The reports show trends over several weeks with the most recent data representing approximately 2-3 days ago—this is how long it takes to produce the reports.

These insights were calculated based on data from users who have opted-in to Location History for their Google Account, so the data represents a sample of the users. As with all samples, this may or may not represent the exact behavior of a wider population.

Reference: <https://www.google.com/covid19/mobility/>

Farmers’ Term of Trade (ToT). ToT is a comparison between the price index received by farmers (It) with the price index paid by farmers (Ib) which is expressed as a percentage. In concept, NTP states the level of exchangeability of goods (products) produced by farmers in rural areas for goods services needed for household consumption and for purposes in the agricultural production process. ToT also expresses farmer’s welfare. ToT > 100 means that the farmer has a surplus. Farmers’ income increases greater than their expenditures, thus the level of farmer welfare is better than the previous level. **Reference:** <https://sirusa.bps.go.id/sirusa/>

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).

Reference: <https://sirusa.bps.go.id/sirusa/index.php/indikator/196>

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Food Trade

- Export and Import, Statistics Indonesia (BPS)
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- JPAL SEA, Online Survey on Economic Impact of COVID 19 in Indonesia
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