COVID-19 PANDEMIC IMPACTS ON ASIA AND THE PACIFIC

A regional review of socioeconomic, agrifood and nutrition impacts and policy responses
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<tr>
<td>ADB</td>
<td>Asia Development Bank</td>
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<td>ADBI</td>
<td>Asian Development Bank Institute</td>
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<tr>
<td>ALF</td>
<td>agricultural labour force</td>
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<td>AP</td>
<td>Asia Pacific</td>
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<td>ASEAN</td>
<td>Association of Southeast Asian Nations</td>
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<td>BMI</td>
<td>body mass index</td>
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<td>CRFS</td>
<td>City Regions Food Systems</td>
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<td>FAO</td>
<td>Food and Agriculture Organization of the United Nations</td>
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<td>FIES</td>
<td>Food Insecurity Experience Scale</td>
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<td>GDP</td>
<td>gross domestic product</td>
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<td>GHG</td>
<td>greenhouse gas</td>
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<td>gross national income</td>
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<td>Human Development Index</td>
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<td>HFPS</td>
<td>High-Frequency Phone Surveys</td>
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<td>HOME</td>
<td>Humanitarian Organisation for Migration Economics</td>
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<td>HOPE</td>
<td>Household Panel Economic</td>
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<td>ICT</td>
<td>information communication technology</td>
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<td>ICU</td>
<td>intensive care unit</td>
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<td>IFPRI</td>
<td>International Food Policy Research Institute</td>
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<td>ILO</td>
<td>International Labour Organization</td>
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<td>IMF</td>
<td>International Monetary Fund</td>
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<td>Intergovernmental Panel on Climate Change</td>
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<td>NGOs</td>
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<tr>
<td>OECD</td>
<td>Organization for Economic Co-operation and Development</td>
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<td>PHSM</td>
<td>public health and social measures</td>
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<td>PoU</td>
<td>prevalence of undernourishment</td>
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<td>PPE</td>
<td>personal protective equipment</td>
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<td>PPP</td>
<td>Purchasing Power Parity</td>
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<td>SDG</td>
<td>Sustainable Development Goal</td>
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<td>SIDS</td>
<td>Small Island Developing States</td>
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<td>SMEs</td>
<td>small and medium enterprises</td>
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<td>SP</td>
<td>social protection</td>
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EXECUTIVE SUMMARY

Main Findings and Key Messages for Policymakers

COVID-19 PANDEMIC: A GLOBAL CRISIS OF UNPRECEDENTED SCALE IN RECENT TIMES

Like much of the world, Asia and the Pacific is in the midst of the fifth wave of the COVID-19 pandemic, dominated by Omicron variant – few months following the Delta variant driven forth wave. As of 9 January 2022, about 65 951 296 people in the region had been infected (Figure 1) and more than 1 052 059 deaths had been recorded. The percentage of infections resulting in deaths was lower in the region (1.6 percent) compared to the global average of 2.2 percent. As of early January 2022, the level of vaccination rates have expanded significant for most countries, with ranges from 20 percent to over 80 percent (Figure 2). However, these rates will continue to move upward in all countries in the coming months.

The COVID-19 health crisis has turned into a global economic crisis, putting at risk the health, jobs and incomes of millions of people across the world. The pandemic is becoming persistent and seemingly slow to eradicate, with medium and long-term consequences affecting the trajectories of the SDG (Sustainable Development Goal) targets across the countries. Better understanding of the implications of COVID-19 containment these measures for food systems, food insecurity and malnutrition is vital to prevent this global health crisis from becoming a food crisis and to rebuilt resilient food systems.

Health care infrastructure and expenditures and COVID-19 fatality rates. As of 9 December 2021, around 44.8 percent of the total adult population was vaccinated, but only 6.3 percent of
those living in low-income countries have received at least one dose of vaccine (Figure 1.5). The health care capacity of a country prior to the pandemic emerged as one of the important factors for a successful pandemic-related health care policy. The overwhelming majority of governments in the AP Region spend less money on health per capita than the world average. Countries with the highest per capita health expenditure have fewer COVID-19 related deaths. Nearly all AP countries provide some form of health care coverage, but the majority of those services are financed by out of pocket spending.

The regional review presented in this report is broad-based but provisional since we are still dealing with an active pandemic having just moved past the fourth wave (dominated by Delta variant) and now facing a new variant, Omicron (whose real impact is still under review). As we approach 2022, the world is learning to live with COVID-19 and its variants for longer than initially believed. So the numbers related to COVID-19 infections and vaccination rates are only provisional and reflect the situation as of the time of writing.

MACROECONOMIC IMPACTS

UNEMPLOYMENT
The containment measures adopted by many countries – physical distancing, lockdown, travel restrictions and border closures – have led to sudden, widespread job losses and unemployment. Prior to the pandemic, the AP Region had slightly lower unemployment rates compared to World average (4.1 percent versus 5.4 percent between 2017 and 2018, globally (APESO n.d.). However, the pandemic worsened the unemployment landscape, with the Pacific SIDS being hit worse. They are particularly vulnerable to pandemic shocks with a small-scale economy and limited access to factors of production (land, labour etc.) and focused on services and tourism. The informal sector predominates in the AP and was also badly hit. Informal labour demand in Asia-Pacific is mainly concentrated on downstream end of agri-food, while in non-agriculture sectors, there are more women than men in informal jobs in most countries, except Mongolia, Kiribati and Brunei Darussalam.

HOUSEHOLD INCOME
Household income contraction due to the pandemic is widespread across the AP Region. As expected, the pandemic has exacerbated loss of income and livelihoods for vulnerable families and their children. The World Bank HFPS (High-Frequency Phone Surveys) provides evidence for declining income from farm, non-farm, wage and remittances since the start of the pandemic. Households in Cambodia, the Philippines, Solomon Islands, Myanmar, Indonesia, the Lao People’s Democratic Republic and Mongolia suffered income losses, including farm and non-farm losses, lower wages and remittances. In Cambodia, for example, about 75 percent of respondents to the World Bank HFPS at national level cited a reduction in consumption of goods during the
pandemic. In the Philippines, the survey by Zero Extreme Poverty Philippines 2030 and the UNDP (United Nations Development Programme) reveal the pandemic has increased the number of households in income poverty – with 83 percent of respondents experiencing a decline in household income and 34 percent reporting a complete loss of income. In the Solomon Islands, reduced food consumption is the main issue for around 60 percent of respondents, followed by income loss. Government assistance ranked highly, with 60 percent of respondents saying they received it. There was also a striking variation in impacts on income for rural and urban areas: higher income loss, inactivity and reduced consumption in urban areas with greater food insecurity in urban and rural areas. In Malaysia hours worked declined by 28 percent in the second quarter of 2020, in Thailand by 13 percent that reduced the normal flow of migrants from neighbouring Cambodia, the Lao People’s Democratic Republic, Myanmar and Viet Nam.

**POVERTY**

Poverty increases followed job, unemployment and household income losses due to the pandemic. While the pandemic is still raging in summer and autumn 2021, various poverty estimates are based on the estimated contraction of GDP (gross domestic product). There are 640 million multidimensionally poor people in the AP Region and the pandemic can potentially double this number, pushing an additional 636 million people into multidimensional poverty. In 2020, the region witnessed an increase in unemployment of 15 percent, and compared to 2019, a 7.1 percent reduction in labour income. The jobs and incomes lost across the region suggest that for people living on USD 1.90 per day, 89 million more will be pushed into extreme poverty while the 158 million more people living on USD 3.20 per day will come close or below the poverty line (of 1.90 USD /day) (United Nations ESCAP, 2020).

**MIGRATION**

Migrants emerged as one of the most vulnerable groups facing the impacts of the COVID-19 pandemic. One of those striking impacts is a reversal in the dominant pattern of rural-to-urban migration in the AP Region, aside from causing a general contraction in outmigration, a first in recent years. There were an estimated 87 million Asian-born migrants in 2019, comprising about 32 percent of all immigrants in the world (United Nations, 2020). For the first time in recent history, the number of international migrants was likely to decline in 2020, as new migration slowed and return migration increased. Migrant outflows also declined as channels contracted due to cross-border movement restrictions. In Pakistan, the number of emigrants was only 179 487 for January–September 2020 compared to 625 203 in 2019. In Bangladesh, the number of emigrants was only 181 218 for January–May 2020 compared to 700 159 in 2019 (ESCAP, 2020). Falling labour demand in host countries also resulted in a reduced migrant inflow.

The reverse migration from urban-to-rural created major challenges for several low and middle-income countries that faced mounting challenges vis-à-vis returning migrants including concerns that repatriation could trigger the further spread of the COVID-19 virus in addition to placing greater strain on local health services and limited community resources. Countries also faced financial pressures in robust repatriation plans as there are health care and quarantine costs for returnees as well as reintegration costs.
Remittance flows to the East Asia and Pacific Region are projected to have fallen by 11 percent in 2020 and in South Asia by around 4 percent with varying levels of decline across countries. Remittances remained resilient during the pandemic for most AP countries, although international migration decreased for the first time in decades (IOM, 2021). Remittances to Kiribati and the Marshall Islands were hit by the pandemic, whereas other top recipients of remittances such as India, Bangladesh, Sri Lanka, Pakistan, the Philippines have coped with the adverse effects of the pandemic. The Bangladesh Government took measures to ensure the flow of remittances during the pandemic are not impeded.

INFLATION AND PRICES

One of the key indicators to be closely observed is price changes and inflation levels as a result of COVID-19 lockdowns and supply chain disruptions following COVID-19 lockdowns. At the macro level, during the pandemic inflation increased slightly in A-P region. Data from the Food and Agriculture Organization of the United Nations (FAO) reveal that 2020 was a year of modest food inflation compared to 2019; with a few exceptions, most countries in the region experienced inflation in April 2020 compared to April 2019. Inflation was more pronounced with rising food prices in 2021, with the help of reviving economic growth induced by fiscal stimuli and declining contagion risk in Western economies.

TRADE

During the pandemic, some AP countries pursued trade policies combining both restrictive and trade facilitating measures for different products and for imports vs exports. Many governments lowered import barriers and imposed export restrictions limiting trade in medical products/supplies and agricultural/food products to maximize availability of these critical products needed to combat the pandemic (Evenett et al., 2020). There was a big jump in trade policy activism during the first quarter of 2020. Protectionist trade dominated global trade up to the end of May 2020, with more export restrictions than import facilitation measures in both food and medical product trade. Import promotion measures started to take hold after May 2020.

Food trade also followed a mixed response of restrictions and trade facilitation depending on each country’s net import or export status and many AP countries considered food trade part of post-COVID-19 recovery. During COVID-19 lockdown, cross-border trade either slowed or came to a halt. In the short term, trade flows for fresh produce, live animals, livestock products and fresh or dry fish were more volatile, all experiencing a drop in demand and cancelled exports. For the food trade, China and Viet Nam primarily supported imports. Malaysia and to a lesser extent Cambodia primarily engaged in export restrictions. Indonesia, India, Pakistan and Thailand engaged in both export restrictions and import facilitation. Pakistan banned the export of onions, wheat and flour at various dates from the end of April 2020 to mid-November 2020. South-eastern Asia along with Mongolia are among the key importers of grains such as wheat, contributing to the removal of restrictions on cereal imports while Indonesia relaxed import restrictions on onions and garlic. Many countries in the region engaged in temporary restrictions on rice exports quickly revered (FAO, 2020c). Viet Nam is expanding trade opportunities with digital innovations by improving food safety/quality standards and trade policies/infrastructure.
ASEAN (Association of Southeast Asian Nations) member states have established regional trade priorities to expand regional food trade during and after COVID-19. Generally, import facilitation measures were also more common in food trade than export restrictions. Many countries did not employ any new trade measures or policies.

**GOVERNMENT EXPENDITURES AND DEBT**

Fiscal policy has been one of the most important tools to mitigate the devastating effects of the pandemic on economies at macro and household levels. The pandemic has required greater capital health care expenditure to improve the capacity of such facilities. Remote education under lockdown was also a government priority using various fiscal instruments to cope with pandemic emergencies. Japan has taken the lead, providing equity, loans and guarantees through the usual financial channels, while New Zealand increased government spending and relinquished revenue as its main fiscal instrument. Indonesia opted for additional spending such as cash transfers to households. Thailand and Viet Nam targeted cash transfers to households during the pandemic to maintain economic activity and the flow of money. The fiscal stimulus packages and increased health care spending appear to be the greatest contributors to government expenditure. The AP Region as a whole had an average fiscal deficit of 5.7 percent as share of GDP in 2020, up from 0.56 percent in 2019. East Asia allocated relatively more resources for the crisis, with an average deficit increase of 7.9 percent, followed by the Pacific (6.3 percent), SIDS (5.9 percent), South-east Asia (4.2 percent) and South Asia (3.6 percent) (United Nations, 2020a). However, apart from advanced Asian countries, other states are either low-income or emerging countries with limited fiscal options.

Government debt increases as the pandemic continues to deepen. In most countries in South Asia and South-east Asia, strong growth before COVID-19 provided a cushion against fiscal pressure and the rising debt burden. In the SIDS, however, frequent natural disasters, low energy prices and instant evaporation of tourism hampered growth, exacerbating the public debt problem and the need for external financing. Accompanying these developments have been rising fiscal deficits as government spending rose to meet public health demands and support household incomes and businesses. Within domestic debt markets, recourse to donor support or some sort of debt relief is likely to increase if lockdown measures continue longer than expected.

There has been a rebound of the virus in the third quarter of 2021 with the risk of it continuing into the fourth quarter for the overwhelming majority of AP countries, extending restrictions and further deteriorating the fiscal balance (total government revenue minus total expenditure). The region witnessed an average increase in government debt of 7.9 percent. Twelve countries have the largest debt, including Maldives, India, Bhutan and Sri Lanka from South Asia; Malaysia, the Philippines and Thailand from South-east Asia; Japan from East Asia; Fiji and Papua New Guinea from SIDS; and Australia and New Zealand from the Pacific. In the countries of South Asia and South-east Asia, the strong growth that took place before COVID-19 provided a cushion against fiscal pressure and the rising debt burden. The SIDS with low energy prices are subject to natural disasters and the instant evaporation of tourism have seen their public debts worsen with greater need for external financing. Well-designed public finance mechanisms, such as revenue mobilization, financial and debt management and their effective implementation may provide some relief, especially for countries with small savings and thin domestic debt markets.
GROSS DOMESTIC PRODUCT

The entire AP Region, except China, experienced a contraction in GDP in 2020 as a result of massive unemployment and loss of working hours. The 4.1 percent average regional GDP contraction cancelled the 4 percent growth rate of 2019 (IMF, 2021a). GDP loss was uneven across countries with South Asia registering a 6 percent reduction, except Bangladesh which performed relatively better with low but positive growth in 2020. Maldives relies on tourism and suffered the most. South-east Asia witnessed on average a 2.9 percent reduction in GDP with some countries doing worse (the Philippines, Cambodia and Malaysia) than others (Viet Nam, Myanmar and Brunei). East Asia had a 2.2 percent reduction in GDP, but China achieved growth, albeit lower than 2019. Mongolia, with much lower COVID-19 infection rates, witnessed the greatest decline in GDP growth. The SIDS had a 4.7 percent reduction in GDP, its economies already vulnerable to external changes before the pandemic started, reflected by low growth rates in 2019. The Pacific Region’s GDP fell 2.7 percent, with a comparable decline in Australia and New Zealand. The real AP income per capita decline in 2020 averaged around USD 600, rising as high as USD 2 000 in some countries.

GENDER-DIFFERENTIATED IMPACTS

The negative impacts of the pandemic affected women disproportionately. Containment measures hit the retail, manufacturing, garment and agribusiness sectors hard, sectors which predominantly employ women. Between December 2019 and June 2020, Asia’s female labour participation rate declined by 1.3 percent compared to a 1 percent fall for males (IMF [International Monetary Fund], 2020). Since the start of the pandemic, 50 percent of women in formal employment had their paid work hours reduced compared to 35 percent for men. Within food and agriculture, an estimated 66 percent of women and 57 percent of men in the AP Region noted an income drop from farming and fishing. Informal remittances from Thailand to neighbouring countries (typically double the formal kind) hit women migrant workers disproportionately. Also, the pandemic affects women’s health more than men’s. Increases in unpaid care and domestic work, job and income loss and increased gender-based violence during the lockdown contributed to higher stress rates among women. Although the pandemic poses great socioeconomic risks for women, there have been very few gender-specific policy responses across the region.

FOOD SUPPLY CHAIN IMPACTS

The pandemic engendered disruptions across a range of food system components on the demand, supply and consumption sides. Food system disruptions arose from: shortages in agricultural labour; limited access to farm inputs due to transport disruptions; declining food processing capacity; disruptions to logistics and trade; and reduced food consumption due to
fewer face to face social and economic activities. Farm labour shortages at the beginning of the pandemic may have caused disruptions to critical field operations (such as harvesting, planting, irrigation). For example, in Bangladesh, transport disruptions coincided with a contraction in agricultural and aquaculture production due to a shortage of input supplies and limited access to finance, especially for perishable products such as milk and vegetables due to a drop in demand. However, the labour force participation in rural and agricultural areas was less affected than urban and non-agricultural economic activities as there were exceptions to restrictions for food and agriculture which governments considered essential. The next influx of migrants leaving urban jobs and host countries have dampened the net effect except for countries with a net loss of migrants to the home countries such as South Korea, Malaysia, Singapore and Thailand.

In many AP countries, agricultural and farm work was considered essential and exempted from movement restrictions, so that farmers in most AP countries were much less hampered in their work than other sectors. In line with global trends restrictions are more geographically targeted and economy-wide restrictions affect only about 50 percent of agricultural and farm workers. However, COVID-19 did have an impact on seasonal workers. Australia and New Zealand faced shortages especially among vegetable and fruit producers, garden nurseries and horticulture farms that depend heavily on seasonal workers from Pacific Island countries. In Thailand, work disruptions affected many migrant fish workers, who also had poor access to public health facilities. Phased border closures in March 2020 triggered a rapid exodus of migrant workers and it was reported between 60,000 and 200,000 such workers from Myanmar, the Lao People’s Democratic Republic and Cambodia left Thailand that month when border closures were announced for the following week. However, as fishing resumed, there were severe labour shortages following the departure of so many migrant fish workers.

COVID-19 restrictions also affected food distribution and logistics from local buying to wholesaling and from cross-region logistics to city consumption. With supply side shocks there was reduced market demand for agricultural products due to the closure of restaurants, caterers and public canteens, resulting in large amounts of seasonal fruits and vegetables left unsold or even unpicked. Disruptions in downstream supply chains also caused surplus food stocks putting a strain on storage and increasing losses of highly perishable foods. The pandemic particularly affected the livestock sector and related industries owing to restrictions on animal movements, health risk perceptions, closure of processing plants and shortage of production inputs. The fall in demand meant fresh produce traders were unable to sell to urban or international markets and switched to selling locally at lower prices.

Fish value chains were also severely restricted in several markets of the region. In Bangladesh COVID-19 restrictions prevented fish farmers from harvesting their fish and therefore could not start a new production cycle, causing a significant decrease in fish supplies during the first half of 2020. The fishery sector in Malaysia is highly dependent on international trade and COVID-19 trade disruptions significantly affected the sector. Government estimates put the decline in fishers’ income at 50 percent due to fear of contracting the virus, adding to the lower demand from Malaysians who preferred to spend time at home during this phase. There were additional disruptions to traded perishable products, especially when there was a lack of harmonised sanitation protocols in ports or when COVID-19 infections occurred on board ships. The absence of regulations on unloading perishable goods may lead vessels to opt for an open port.
COVID-19 IMPACTS ON FOOD INSECURITY AND MALNUTRITION

MALNUTRITION

The COVID-19 pandemic worsened the state of food insecurity and malnutrition in AP. In 2020, the number of undernourished increased by 17 percent from 322 million to 376 million, similar to the global increase of 18 percent (FAO, UNICEF, WFP, WHO, 2021). The prevalence of undernourishment (PoU) in AP was 8.7 percent in 2020, up from 7.5 percent in 2019 but substantially down from 14.3 percent in 2000, reflecting two decades of progress that has slowed down in recent years, even before COVID-19. In 2020, prevalence was highest in Oceania excluding Australia and New Zealand, followed by Southern Asia (15.8 percent), South-eastern Asia (7.3 percent) and Eastern Asia (less than 2.5 percent). The number of undernourished in AP reached 375.8 million in 2020, up from 325 million in 2019 (pre-COVID) but down 127.9 million, or 25.4 percent, compared with 2000. The largest increase in undernourishment in 2020 in the wake of COVID-19 was in Southern Asia, which accounted for an additional 50.5 million people out of an increase of 53.9 million at the regional level.

UNDER/MALNUTRITION IN CHILDREN

Children are particularly prone to increased malnutrition during the COVID-19 pandemic. Reduced family income, school closures and isolation had directly negative impacts on children’s nutritional status and their physical and mental health. One study estimated a 14.3 percent increase in moderate or severe wasting among children under five years due to COVID-19. Osenrdarp et al. (2020) projected an increase in the number of stunted children by an additional 0.3 million in 2020 as compared to 2019. Disruptions to immunization supply chains during the pandemic may have also caused or contributed to an increase in child mortality. Countries already struggling with rising obesity saw the problem worsen under COVID-19. In Sri Lanka 15 percent of children were wasted and 30 percent of women obese pre-COVID-19, while the pandemic is estimated to have increased child wasting and overweight and female obesity by 60 percent. In Republic of Korea, 23.9 percent of children were obese or overweight before COVID-19, a rate that increased to 31.4 percent after six months of school closures (Kang, et al., 2021).

IMPACTS ON DIETARY DIVERSITY

Food price inflation and income losses cut into the ability of poor households to access food and maintain dietary diversity. Price increases forced poor households in Afghanistan to cut food consumption by almost 30 percent while Pakistan consumers faced doubled prices for wheat flour. In early 2020, 30 percent of respondents in the Lao People’s Democratic Republic and 63.7 percent in Malaysia confirmed reduced consumption of nutritious food while trade disruptions increased rice imports by almost 30 percent in Papua New Guinea. In Malaysia,
unemployment forced many households to turn to cheaper calorie-rich food. Similarly, in Cambodia, households responded to reduced food access by changing to cheaper food with more than half of households cutting the size of meals and reducing intake of food rich in protein, vitamin A and iron. In a survey in Bangladesh, 75 percent of respondents indicated they did not have sufficient access to food at home, while 91 percent said they did not have enough money to buy food (Termeer et al., 2020). In India, a survey reported 62 percent of respondents faced reduced diet diversity due to COVID-19 (Harris et al., 2020).

SIDS faced acute food insecurity challenges from COVID-19 owing to their limited food production and diversification capacity and overreliance on trade which was disrupted during the pandemic. SIDS that are too dependent on imported rice and wheat were forced to shift to fruits and vegetables when COVID-19 disrupted trade. However, most consumers in Fiji (64 percent) and to a lesser extent Tonga (43 percent) experienced difficulties purchasing fresh fruits and vegetables. In Fiji, many households reliant on seafood for food security took up home gardening to produce root crops, vegetables and fruits. But the diet diversity of households declined as households could consume only 3-4 food groups per day in comparison to 4-5 food groups in pre-COVID-19 times. In the Solomon Islands, HFPS data show that about 62 percent of respondents reported insufficient food due to a shortage of money (World Bank, 2020). In Papua New Guinea urban poor and non-poor households suffered a decline in calorie consumption of 19.8 percent and 15.8 respectively, while for rural households total calorie consumption declined by 5.5 for the rural poor and 3.7 percent for the rural non-poor, despite the price-induced switch from sweet potato to other roots and tubers (taro, sago, cassava). In Samoa, by contrast, the pandemic appears to have had little adverse impact on consumers, who highlighted an increased supply of vegetables from home gardens.

**FOOD INSECURITY**

Globally, there was nearly one in three people in the world that did not have access to adequate food in 2020 – an increase of 320 million people in just one year (FAO, IFAD, UNICEF, WFP and WHO, 2021). In A-P, the prevalence of moderate or severe food insecurity increased in 2020 to 25.7 percent, up from 18.7 percent in 2014. There was a 3.3 percentage point increase from 2019 to 2020 when COVID-19 emerged. The increase was particularly large in Southern Asia: from 37.6 percent in 2019 to 43.8 percent in 2020. While food insecurity in AP is on the whole lower than the global average of 30.4 percent, it remains particularly high in South Asia at 43.8 percent in 2020, compared to 18.8 percent in South-eastern Asia, 12 percent in Oceania and 7.8 percent in Eastern Asia. In AP overall, an estimated 1.1 billion people experienced moderate or severe food insecurity in 2020, an increase of 341.9 million, or 44.4 percent, compared with 2014. An increase of 148.9 million occurred from 2019 to 2020 alone, when COVID-19 caused major socioeconomic disruptions with negative impacts on food security. For the severe food insecurity indicator an estimated 443.8 million people in AP experienced severe food insecurity in 2020, an increase of 127.3 million, or 40.2 percent compared with 2014.

In developing countries of Asia, food insecurity was tracked in periodic surveys including those using the Food Insecurity Experience Scale (FIES). In Sri Lanka, a study using FIES found that nearly half the food-secure households from pre-COVID-19 times had moved into the food insecurity category. In Cambodia, FIES surveys show that moderate or severe food insecurity...
among poor households increased from 34 to 55 percent between December 2020 and March 2021. In the Philippines, the national hunger rate increased from 8.8 percent in 2019 to 21.1 percent in 2020. In Bangladesh, the food security situation was tracked through the pandemic stages using FIES. Three weeks into lockdown around 90 percent of households experienced a negative income shock, affecting daily casual labourers most of all. The proportion of food secure and mildly insecure households declined by 10 percentage points and the number of severely insecure households increased drastically by 30 percentage points. Food insecurity increased during the pandemic in 2020, more during wave 1 (with 67 percent of survey participants were moderately food insecure) then wave 2 (56 percent of participants were food insecure).

Access to food for many vulnerable urban residents was also compromised during the pandemic lockdown. High urban population density subjected to movement restrictions, physical distancing and closure of many market outlets, made accessing food particularly difficult during the pandemic. The poor and slum dwellers were unable to stockpile food and the closure of street markets during quarantine further exacerbated the food insecurity status of the urban poor. In Bangladesh, the pandemic caused huge job losses among the urban poor and those that remained working earned less than they did before, leading to reverse migration from urban to rural areas. Income loss and rising prices for essential foods reduced people’s access to food, resulting in lower consumption of nutritious foods such as vegetables, fish, eggs and broiler meat. This loss of income and insufficient safety net programmes for low-income urban households in cities meant increased food insecurity during lockdown.

In developed countries of Asia there was a marked increase in reliance on online food and food delivery services but also a notable shift towards processed and unbalanced diets. Urban households have reportedly resorted to overeating and consumption of low nutrition high energy comfort food to manage stress. In New Zealand one-third of respondents increased their intake of salty snacks and overall half the respondents increased their frequency of snacking. Intake of alcohol and sugary drinks also increased substantially. While some households did start cooking more quality food at home, overall regarding food security, dietary patterns changed more towards non-healthy food.

**GOVERNMENT RESPONSES TO THE PANDEMIC: POLICIES AND MEASURES**

**STIMULUS AND SOCIAL PROTECTION RESPONSES**

Most governments responded to COVID-19 emergencies with fiscal measures and stimulus programmes but at different levels and modalities. Of 44 countries in the AP Region, expenditure ranged up to 20 percent of GDP. Except for SIDS, in most countries in South Asia and South-east Asia, strong growth before COVID-19 provided a cushion against the fiscal pressure and rising debt burden. East Asia led with the largest allocations, followed by the Pacific, South-east Asia and the SIDS (see Figure 4.1). There were targeted cash and in kind food transfers across the region. Many countries combined cash transfers with in kind food assistance to support
the poor and most vulnerable during the pandemic. Many of these expenditures fall under social protection schemes, but as these payments are time bound during an emergency they are treated under stimulus programs. Examples include Pakistan’s Ehsaas Emergency Cash programme and India’s mobilized digital payment platforms that rolled out cash payments to millions of beneficiaries. Nepal’s combined in kind food transfers with food for work or cash for work modalities for informal workers. Sri Lanka distributed weekly food stamps for essential food items and Cambodia provided free health care to about 506 000 poor households (15 percent of the population). Malaysia implemented cash transfer programmes, the Philippines covered 69 percent of the population and Thailand offered cash handouts targeted at low-income households. Viet Nam introduced a cash transfer package for poor households, while Indonesia set up a fiscal stimulus package for low-income households including food aid, conditional cash transfers and electricity subsidies, expanding unemployment benefits for informal workers. For Indonesia, these programmes managed to limit the increase in poverty under COVID-19 to 1 percentage point instead of the 2.3 percentage point rise that would have occurred without them.¹

For many countries the government priority was to support the health sector. Indonesia, for example, dedicated around one-fifth of its stimulus package to it. Thailand granted access to health coverage for emergency patients with COVID-19 and Mongolia increased child benefit for 90 percent of children aged up to 18. Several countries provided employment retention support to curb job losses including India, Indonesia and Malaysia.

COVID-19 provided a strong impetus to expand social protection (SP) across the board in AP, a region where 60 percent of the population has no access to SP and 40 percent has no health care. The most common SP measures included conditional cash transfers, one-off cash, in kind support, social security contribution waivers, utility, housing or financial support, public works programmes and employment retention support. Examples include Fiji’s one-off lockdown cash transfer to informal workers holding a street trader or hawker licence and in Tonga a one off payment to informal workers. India provided a one off benefit of Rupees 1 000 (USD 13) to 480 000 daily wagers such as street vendors or rickshaw pullers as well as cash transfers of Rupees 500 (USD 6.50) for three months (April-June 2020) to 200 million women registered to its PMJDY financial inclusion account. Thailand implemented a fiscal package to support 3 million workers outside the social security system, informal workers, farmers and entrepreneurs affected by COVID-19.

In terms of coverage of these measures, established SP systems and emergency financial support did not cover all of the most vulnerable or those in need. The share of the population covered by at least one type of social security payment (shown in blue in stacked bars) diminishes as the GDP of the corresponding economy declines, as shown in Figure 4.4. Countries in South Asia (Afghanistan, Pakistan, India, Bhutan and Nepal) have smaller population SP coverage compared to the regional median (around 27 percent). Among those excluded from SP or hard to reach are rural communities, urban slum dwellers, those in the informal economy, women, and children and smallholder farmers. In Viet Nam the SP support package omits or fails to serve: families of young workers, especially those with children, single mothers, families with members suffering

¹ <https://openknowledge.worldbank.org/bitstream/handle/10986/35762/160410.pdf?sequence=1&isAllowed=y>
from serious illnesses, informal workers in urban areas, rural households engaged in agricultural and non-agricultural activities. All AP countries, including low and middle-income ones have responded to the COVID-19 crisis by either expanding SP schemes or introducing new ones. However so far the size of these fiscal responses, ranging between 0.02 to 0.8 per cent of GDP (UNDP, 2020), is still too small to amount to effective economic stimulus packages. Moreover, they tend to miss unregistered employees, inhabitants without proper registration, refugees and some migrants.

**SOCIAL PROGRAMS TARGETING CHILDREN – HIGHLY VULNERABLE GROUP TO COVID-19**

Several social protection programs targeted children considered the most vulnerable groups under COVID-19... Nepal expanded its social support child grant programme from 13 to 25 districts. Republic of Korea’s expanded childcare assistance covering elementary schoolage children and Japan supported young parents and new parents with a supplementary child allowance of YEN 10 000 per child on top of a regular monthly allowance of YEN 10 000 per child. Mongolia increased its child money monthly allowance from MNT 20 000 (USD 7) per month to MNT 100 000 (USD 35). Several organisations are developing digital platforms to promote nutritional programmes in the midst of COVID-19. HarvestPlus and CIP have used them to raise awareness among farmers about the benefits, availability and sources of biofortified seeds and to deliver them.

**SUPPORT TO FARMING AND FOOD PRODUCTION**

Many countries enacted and prioritized a variety of measures to help farmers access critical inputs, seeds, finance and to make exceptions to movement restrictions (green channels) for agriculture, or to intervene directly in product procurement to support smooth functioning of the supply chain. Sri Lanka supported farmers by buying the paddy harvest through cooperatives, the early purchase of fish, procurement of vegetables and fruit as well as other foods at guaranteed prices. Price ceilings prevented price hikes in essential food items (broiler chicken, maize, red lentils, onions, vegetables, rice etc). Myanmar focused on supporting farmers with farm machinery and funds for agricultural inputs. It also removed rice export quotas, temporarily imposed during COVID-19, to encourage farmers to continue planting. Pakistan’s agriculture relief package included subsidies for certified seed and fertilizers and pesticides for cotton. The government also procured wheat to support farmers, imposing food price controls to prevent hoarding.

**TRADE POLICY RESPONSES**

In trade policy, most countries refrained from export bans, except in some cases on a temporary basis. Viet Nam introduced then removed rice export bans to maintain food availability for its citizens, implementing preferential import and export tariffs for agriculture, forestry and fishery processing businesses. Pakistan applied tariff and customs duty reductions on food and a relief package for food supplies. Nepal extended loans for food imports and distribution while Mongolia exempted food products from import taxes and duties.
SUPPORT TO LOCAL, URBAN FOOD AND SHORT VALUE CHAINS

The COVID-19 pandemic offered stronger impetus to invest in short value chains and local food sourcing, including urban agriculture. Malaysia set up a food security fund (RM 1 billion) to encourage local food production, development of food storage and logistics, a crop integration programme and agrifood projects. Fiji, Vanuatu, Tonga, Tuvalu and the Solomon Islands all encouraged local food production, distributing seedlings and planting materials. The Fiji government purchased food directly from producers to ensure a supply of fresh produce in local markets and to vendors in lockdown areas. Vanuatu gave producers logistics support (food collection and distribution) to guarantee supplies of local produce to urban households. In the Solomon Islands financial support went to urban municipalities to rehabilitate markets for root crops and vegetables and establish satellite food markets.

COVID-19 opened new marketing and distribution trends and gave a strong impetus to online marketing and e-commerce. In China, the online share of total retail sales reached 24.6 percent between January and August 2020, up from 19.4 percent in August 2019. In Thailand, online shopping grew steadily before the pandemic but 2020 saw a massive increase in people ordering everything online from groceries to clothing to household supplies. In Fiji and the Solomon Islands, social media companies using their platforms as markets and bartering systems are gaining popularity. In Fiji, the Barter for Better Fiji group established in April 2020 reached over 180,000 members. In the Solomon Islands, some produce usually sold to hotels and not typically eaten by local communities, like herbs, were now on sale on social media platforms.

POLICIES TO PROMOTE DIGITALIZATION OF AGRIFOOD SYSTEMS

During the pandemic, digital technologies partially compensated for losses from limited face-to-face interactions, enabling people to access food, finance, health and SP services. Applying digital technologies along the agrifood value chains, such as mobile payments and e-commerce platforms, digital ID systems, e-contracts and e-extension services, will help ease some pandemic disruptions. But the digital divide in AP is substantial with more than half the region’s population unconnected and in developing countries of Asia, the rural-urban digital divide remains wide. In Bhutan only 29 percent of rural households had access to the internet in 2016, compared with more than 70 percent of urban households. By contrast, the rural-urban digital divide in Japan is only 83 and 88 percent, respectively. The gender digital divide is also significant in AP as only 41 percent of women used the internet in 2019 compared with 48 percent of men. The pandemic has heightened the urgency to expand and accelerate investments in digitalization. For Viet Nam, the pandemic accelerated the digital transformation, already a priority in 2019 with the National Digital Transformation Roadmap 2025. Malaysia has a special tax relief on the purchase of ICT (information communication technology) tools and Samoa provides funds to upgrade rural hospitals. Malaysia and the Philippines were the only countries that specifically targeted ICT use as a response and recovery strategy.

POLICIES AND PROGRAMMES FOR GREEN RECOVERY

Considerable scope exists for the AP Region to integrate green growth and climate change considerations into COVID-19 recovery plans. The UN (United Nations) “Building back better” aspiration requires a mix of social, economic and environmental policies to facilitate this
transition. Such policies include clean energy, climate-smart agriculture, nature-based solutions to biodiversity and ecosystem services. Some countries are implementing green growth strategies, but others have yet to integrate them into their immediate pandemic response measures or national development plans. Positive examples include Fiji Disaster Rehabilitation and Containment Facility which supported affected businesses. Bangladesh prioritized green recovery even as it faces multiple emergencies including COVID-19, floods and droughts, often concurrently. Pakistan’s Green Stimulus package aims to create innovative financial tools, such as the Ecosystem Restoration Fund, to create green jobs. Maldives initiated a green plan to promote renewable energy and create job opportunities, especially for women and youth. Overall, pursuing a path that neglects the environmental consequences of economic growth is not feasible. With devastating health and economic effects, COVID-19 offers a unique opportunity to shift to a green growth paradigm. The 2030 Agenda provides a framework for guiding, monitoring and evaluating progress towards the SDG targets on green development.

THE WAY FORWARD

As of December 2021, the pandemic continues unabated with peaks and lows (waves) the most recent development is the emergence of new variant, Omicron so far known to be more rapidly transmissible but so far less lethal and with milder symptoms among the early infected. This means COVID-19 will be with us longer than hoped and there is recognition now to move into “living with COVID” under accelerated and more generalized vaccination and continued safeguard measures.

The way forward involves a twin track approach: continue to face the emergency with counter measures and accelerate vaccination on the global scale and putting in place COVID-19 response and recovery programs under the “building back better and leaving no one behind principals. The lessons learned from this analysis point to the following set of recommendations:

- Support COVID-19-related response and recovery programmes in the member countries under the principle of building back better (inclusive recovery), green agrifood transformation (sustainable and resilient recovery) and contributing to the achievement of SDG targets.
- Mainstream COVID-19 responses under resilient and inclusive agrifood transformation that leads to healthy, diverse and affordable diets, and to green, climate-smart and nature-based agriculture production systems.
- Link COVID-19 response and recovery to rural revitalization that creates employment and livelihood options to youth, women and rural communities, and strengthens urban–rural agrifood market linkages, through e-commerce and digital innovations.
- Accelerate investments in digital innovations and technologies to fuel agrifood transformation, enhance digital trade and e-commerce, promote efficient food supply chains and urban food systems, and broadens the deployment, use and access of digital services and innovations to rural communities, rural villages and the rural economy.
- Strengthen social protection and safety net policies and programmes targeting the poor, especially vulnerable groups to achieve socio-economic resiliency, reduce food insecurity and malnutrition, and tackle poverty and hunger in line with the SDG goals and targets.
INTRODUCTION

The COVID-19 health crisis has turned into a global economic crisis, putting at risk the health, jobs and incomes of millions of people across the world. Losses from COVID-19 are taking place on multiple fronts. On the human front, deaths and infections from the virus disrupted the livelihoods of millions of people, resulting in a deterioration of human capital and the productive capacity of society. As of 9 December, 2021, the Asia and the Pacific region recorded 62,641,796 cases of COVID-19 infections and over 1,023,354 recorded deaths or 1.63 deaths per 100 infections (WHO, 2021a). Moreover, the recent emergence of the latest variant, omicron may still prolong the COVID-19 longer and while the world is preparing to move into “living with COVID” uneven vaccination rates across the world will continue to challenge global efforts to bring the pandemic under control.

AP is home to 60 percent of the world’s population. Prior to the onset of the COVID-19 pandemic, the region experienced a vigorous and dynamic economic transformation fuelled by leaps in technological advances and was in a strong financial position. This was despite serious challenges on resource overuse, persistent poverty, increased inequality and frequent exposure and vulnerability to climate shocks and disasters. The region has also experienced its share of pandemics such as the Avian flu pandemic.

AP, like much of the world is in the midst of a deep COVID-19 pandemic, the fourth wave dominated by the more transmissible Delta variant virus. Containment measures adopted by many countries – physical distancing, lockdown, travel restrictions and border closures – hinder most social and economic activities, including the food and agriculture sectors. These COVID-19 measures immediately affected food supply, demand and value chains and led to short-term disruptions to international trade. The pandemic has had a direct impact on urban and rural food security, malnutrition, including double malnutrition, triple malnutrition and hidden hunger. As the pandemic is persistent and seemingly slow to eradicate, both medium and long-term consequences are expected to affect the trajectory of AP countries in reaching SDG targets on nutrition, hunger and poverty. There are indications of increased supply chain disruptions reflected by the recent food prices increases. Better understanding of the implications of these measures for food systems, food insecurity and malnutrition is vital to prevent this global health crisis turning into a food crisis.

This report offers a broad-based regional review and analysis of the COVID-19 pandemic impacts on key social and economic indicators at macro and sectoral levels with specific focus on the food and agriculture sectors. The report draws heavily on a large body of literature both peer reviewed and grey literature and several data and statistics sources with a focus on studies

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2 Wasting, stunting, overweight of children along with overweight, obesity and underweight of women in the same households
3 Undernutrition, micronutrient deficiencies and overweight
4 In this situation households meet their consumption requirements by switching to cheap food but these are deficient in essential vitamins and micronutrients.
published in 2020 and 2021. The regional review is broad-based but provisional since at the time of writing we are still in the middle of the fourth wave with infections rising and lockdowns and movement restrictions common in many countries. The COVID-19 situation has worsened for South Asia after a particularly damaging second wave in India from March to May 2021.

The report is evidence-supported and policy oriented and distinguishes between impacts and policy responses. Impacts can be short term, long lasting, transitory and reversible. The reviewed literature varies in scope and coverage, often referring to a specific stage of the pandemic from when it started in February 2020. The regional coverage is all of Asia and the Pacific. The scope includes macroeconomic indicators and sectoral in-depth analysis of agrifood systems. The report draws on recent, qualitative and quantitative evidence to present an overview of government responses in terms of programmes, measures and policy changes in the context of evolving pandemic where new variants are countering the efforts to expand vaccination of the populations to bring the pandemic under control.

The report has four main sections.

Section 1 delves into the macroeconomic impacts of the pandemic in AP, starting with an overview of the pandemic trends in terms of infections and deaths and reviews the health costs, both human and financial. Section 1 then tackles the macro impacts of unemployment and job losses, the implications for household incomes and poverty among vulnerable groups and the impacts of migration (and reverse migration) and its economic consequences in terms of shocks to remittances and revenue flows to households and the economy. Section 1 then reviews the economic impacts on inflation and prices due to supply and demand disruptions across many sectors of the economy including trade. It addresses the implications for expenditure, revenues and rising debt for governments coping with the economic contraction and the increasing demands of the health crisis and financial needs. A broad review of the aggregate impacts of countries’ GDP in 2020 and 2021 under COVID-19 follows. Section 1 concludes with a special review of the differentiated socioeconomic impacts of the pandemic on women who are believed to shoulder a disproportionate share of that burden.

Section 2 turns to the agrifood systems’ impacts of the COVID-19 pandemic starting with a general review of agriculture production and input supply shocks, with selected evidence from a range of AP countries. It analyses the impacts on agricultural labour regarding shortages, unavailability, or excess labour (due to returned migrants). The section also assess specific impacts on livestock, fisheries and perishable (fresh produce) value chains. Section 2 then addresses the specific impacts of urban food ecosystems under COVID-19 which gained heightened interest under lockdown and supply chain disruptions.

Section 3 analyses the food insecurity and malnutrition implications of the COVID-19 pandemic. It reports the best available evidence of malnutrition, undernutrition and obesity indicators generally and for children in particular, comparing the most recent estimates with recent trends to detect possible links to the pandemic. This section also reports on food insecurity trends in specific countries and among specific cohorts, such as women and children, drawing on World Bank and FAO surveys of food insecurity using the FIES. The section synthesizes available studies and reports on food consumption, dietary diversity patterns and nutrition as reported
since 2020 for various AP countries. This section concludes with a special discussion on the impact on food availability, access and food security from the effects of multiple crises (locust invasions, drought, cyclones) during the pandemic and related movement restrictions.

Section 4 presents country-level policy responses, programmes and measures by the countries of the region in the wake of the pandemic. It elaborates on responses and recovery programmes focused on poverty targeting, social protection, trade, investment in agricultural digitalization and rural development, green growth in the rural economy and local food production and food supply. The section starts with a discussion on emergency fiscal measures to counter the effects of pandemic shocks, including stimulus packages, cash transfers, SP expansion and other safety nets. The section then assesses food specific policy responses to COVID-19 starting with a discussion on policies and measures to support farming, food production, input provision, credit, followed by a review of supports to food supply distribution, marketing and logistics. A special discussion examines the significant rise in online marketing and e-commerce, triggered by the pandemic and movement restrictions. The section then discusses examples of policies and measures targeting food use, nutrition programmes and dietary diversification to counter the negative impacts of COVID-19 on food consumption and dietary shifts. It tackles policies to promote digitalization of agrifood systems, a huge opportunity to rebuild resilience in food security and protect against future pandemic shocks. This is followed by a short discussion on the links between policy responses and green recovery, viewed as critical to rebuild pandemic and climate resilient agrifood systems.

The report then presents key conclusions and recommendations concerning fiscal space and government debt, effective governance, availability of financial resources, gender-based initiatives, green and climate compatible activities, new policies addressing vulnerabilities and investment in innovations and digital technologies to make progress towards the SDGs.
SECTION 1

MACRO AND SOCIOECONOMIC IMPACTS OF THE COVID-19 PANDEMIC IN THE ASIA-PACIFIC REGION
1.1 HEALTH: HUMAN AND FINANCIAL COST OF COVID-19 PANDEMIC

1.1.1 Onset and scope of the pandemic in Asia Pacific (to date)

It has been one and a half years since the declaration of the pandemic by WHO (World Health Organization). As of 9 January 2022, about 65,951,296 people in the region had been infected (Figure 1) and more than 1,052,059 deaths had been recorded. Figure 1.1 show the evolution of COVID-19 daily infection in Asia and Pacific, South Asia and South Asia from the start of the pandemic up to January 9, 2022. The percentage of infections resulting in deaths was lower in AP (1.63 percent) compared to the 2.2 percent global average. However, South Asia registered higher death rates (2.22 percent) compared to the other sub-regions with the lowest rates in the SIDS (1.01 percent) and East Asia (1.20 percent). Figure shows the Delta variant 4th wave hit South Asia first, especially India before expanding to South East and East Asia. After few months respite, a new variant. Omicron emerged with faster rates of transmission but with less severe health impacts as a result death rates have not risen as a result of Omicron . However, as of this writing Omicron is spreading fast across the global and it is not yet clear when the peak and retreat will commence.

As of 9 January 2022, around 55.3 percent of the world’s population had received at least one dose of the vaccination, but only 6.3 percent of the population living in low-income countries had received at least one dose. As of early January 2022, the level of vaccination rates have expanded significant for most countries, with ranges from 20 percent to over 80 percent (Figure 1.2).

Figure 1.1: Daily COVID-19 cases in Asia and the Pacific (as of January 9, 2022)


The report benefited from valuable research support, literature reviews and careful references cross checking from Camilla Hellen de Lima and Andrea Costa.
1.1.2 Health impacts

The COVID-19 pandemic has revealed a new type of inequality. Vaccine inequity, which exacerbates the pandemic and sets back recovery, has added to the uncertainty about when the pandemic can be brought under control. As of 15 October 2021, around 47 percent of the world’s population has been administered at least one dose of the vaccination, but only 2.7 percent of the population living in low-income countries has received at least one dose of a COVID-19 vaccine. In light of these vaccination rates, access to health care services is more important than ever.

According to WHO, the pandemic can only be eradicated if everybody receives two doses of vaccine as well providing infected people with effective treatment from quarantine to comprehensive treatment to prevent contagion, through a universal health care system. The health care service capacity of a country (including skills and knowledge of workers) prior to the pandemic may be a strength or a weakness and has emerged as one of the important factors in a successful pandemic policy.

One of the performance criteria of a successful health care system is per capita health expenditure which is positively correlated with life expectancy. Figure 1.3 presents AP region per capita AP health expenditure.

The top five countries in terms of health care expenditure are the developed economies of the AP Region with the highest GDP. Figure 1.3 also reveals that the overwhelming majority of AP

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Figure 1.2. Vaccination rates in Asia and the Pacific (as of 1-8 January, 2022)

Source: Our World in Data (https://ourworldindata.org/covid-vaccinations?country=OWID_WRL)

Source: Coronavirus (COVID-19) Vaccinations - Statistics and Research - Our World in Data. (n.d.)

COVID-19 Strategic Preparedness and Response Plan (SPRP 2021) p.39
The top five countries in terms of health care expenditure are the developed economies of the AP Region with the highest GDP. Figure 1.3 also reveals that the overwhelming majority of AP governments spend less money per capita on health than the world average. Another correlation observed is that countries with the highest per capita health expenditure have smaller COVID-19 related deaths. The top five countries with highest health care spending are among the top ten with the smallest number of per capita deaths.

Health care capacity is one of the key determinants of effective public health policies. Almost all AP countries have some form of health care coverage, yet the majority of those services are financed by out of pocket spending. As seen in Figure 1.4, low-income and lower-middle-income countries finance their health care services through out of pocket spending, escalating inequality in accessing those services. Moreover, it worsens the situation of the vulnerable during the pandemic as they lack proper treatment due to a substantial loss of income triggered by a sharp increase in unemployment.

Despite ability by some patients to pay for health care services, access becomes quickly limiting when critical infrastructure is limited such as ICU (intensive care unit) bed capacity which average 5 ICU beds per unit for AP as whole and only 1 ICU bed per unit in middle and low-income countries (Pakistan, Nepal, Bangladesh, Myanmar etc.). Secondly, there are limited health care staff and AP has a low number of physicians and nurses per 1 000 patients (WHO, n.d.). These factors are common across most of the low and middle income countries in the AP region.

1.2 UNEMPLOYMENT

One of the first and immediate impacts of the COVID-19 pandemic and the lockdowns implemented was large, sudden job losses and unemployment. During the early stages of the pandemic, all countries in the AP Region faced an increase in the number of unemployed
Despite ability by some patients to pay for health care services, access becomes quickly limiting when critical infrastructure is limited such as ICU (intensive care unit) which average 5 ICU beds per unit for AP as whole and only 1 ICU bed per unit in middle and low-income countries (Pakistan, Nepal, Bangladesh, Myanmar etc.). Secondly, there are limited health care staff and AP has a low number of physicians and nurses per 1,000 patients (WHO, n.d.). These factors are common across most of the low- and middle-income countries in the AP region.

1.2 Unemployment

One of the first and immediate impacts of the COVID-19 pandemic and the lockdowns implemented was large, sudden job losses and unemployment. During the early stages of the pandemic, all countries in the AP Region faced an increase in the number of unemployed compared to 2019, with some of the Pacific countries occupying the top of the list. The SIDS (Small Island Developing States) were also severely hit by rising unemployment, Figure 1.5 (Gu et al., 2021). Being remote and having a small-scale economy with limited access to production factors (land, labour etc.) the SIDS are particularly vulnerable to pandemic shocks. Furthermore, with limited land, these countries’ economies focused on services, specifically tourism, a sector with the highest decline in Asia affecting 80 percent of AP tourist arrivals from January–October 2020 (UNWTO, 2020).
Prior to the pandemic, the AP Region had the lowest unemployment rates globally (APESO, n.d.). However, the pandemic worsened the unemployment landscape. Urban and rural employment have different characteristics and the impact of the pandemic varies with urban economic activities being more affected with higher job losses and more poverty than the rural economy (Narula, 2020). A survey in Mongolia, for example, found that 14 percent of urban respondents reported having lost their job, compared to only 9 percent of rural households (World Bank, 2020). A survey in Thailand revealed that 21.12 percent of non-farm respondents reported having lost their job, compared to only 11.59 percent of farm respondents (Attavanich, 2020).

Workers who are not employed with job contracts, who are self-employed, an unpaid family worker or working informally are defined as having vulnerable employment, typically the case with internal or external migrants. Vulnerable employment is widespread in AP due to the dominance of small-scale, self-employed enterprises (Narula, 2020). Seventy percent of employed people

Figure 1.5: Unemployment rate, total, 2019-20


Figure 1.6: Vulnerable employment, percentage of total employment, 2019-20

Source: Data from World Bank, 2021 and 2020 predictions based on authors’ own calculation, accessed 10 June 2021.

Note on calculation method: Okun’s law is employed to predict change in the numbers of unemployment, as it can deliver meaningful results for the short run predictions. Accordingly, the law states that once the economy contracted 2 percent, unemployment rate will roughly increase 1 percent, ceteris paribus. By employing rate of contraction in each country’s GDP in 2020, it is possible to obtain an approximate rate of rise in unemployment, ceteris paribus (i.e. multiplier effect etc are held constant).
work as informal labourers in Asia as a whole, rising to 90 percent for South-east Asia and Southern Asia (Sawada and Sumulong, 2021). Figure 1.6 shows predicted levels of vulnerable employment to rise in South and South-eastern Asia during the pandemic compared to the past three years. This suggest that programs tied to formal employment may exclude a sizable share of the population from social protection and public health care as well as from additional safety nets and businesses with informal employment may find it more difficult to access government rescue packages.

The informal sector is very prevalent in AP. Informal workers have less access to social protection and additional safety nets and a considerable proportion are migrants (Social Science in Humanitarian Action, 2020). During the pandemic, migrant workers face isolation, poor working conditions and lower earnings. It is not easy for them to follow social isolation rules because of poor living conditions and limited sanitary facilities, including access to clean water to prevent contagion spreading.

Informal labour demand in AP is mainly concentrated in agriculture where the percentage of females and males working informally is almost equal (ILO Data Explorer (n.d.). However, for non-agriculture sectors, women surpass men in informal jobs in most countries, except Mongolia, Kiribati and Brunei Darussalam. In urban centres, the informal female labour force works predominantly in services and manufacturing – both severely hit by the pandemic as they are not suitable for remote working.

Wage reductions are also an issue during the pandemic due to loss of work hours. People may have kept their jobs but face a drop in wages. Figure 1.7 shows the relationship between the number of COVID-19 cases and loss of work hours in the AP Region. A significant correlation is observed between the COVID-19 infections and working hour loss, implying that one percent increase in the number of infections is associated with an average 0.8 percent loss of working hours.

**Figure 1.7: Correlation between working hour loss and the number of COVID-19 cases**
1.3 HOUSEHOLD INCOME AND POVERTY

Household income contraction due to the pandemic is widespread across the AP Region. According to a study from the Australian national University’s World Vision Program, a rapid assessment carried out over 14 thousands households in 9 countries (Bangladesh, Cambodia, India, Indonesia, Mongolia, Myanmar, Nepal, the Philippines, and Sri Lanka) found that the pandemic has exacerbated the impact of income and livelihood loss on vulnerable families and their children (Wong et al., 2020). Over two-thirds of respondents said their livelihoods were fully or severely affected. Close to one-quarter did not have any food to hand, with one-third having only one week’s supply. Common coping mechanisms included borrowing from friends or neighbours (39 percent), reducing the quantity and quality of meals (30 percent) and using cash savings (32 percent).

The World Bank conducted various HFPS (high frequency phone surveys) covering households’ coping strategy, food insecurity, employment, income and safety nets (see Appendix Figure A1.1 presents authors’ compilation of the data from the World Bank for selected countries)8. The surveys provide early evidence for the deterioration of household welfare. Together, declining food consumption, incomes and insufficient social assistance are highly likely to lead to rising poverty in coming years. The World Bank’s HFPS also provides evidence of declining income from farm and non-farm work, wages and remittances since the start of the pandemic. In Indonesia, an income-based ranking of households shows that more wage workers among the top 60 households stopped working compared to the rate associated with the bottom 40 households. In Papua New Guinea, households in the bottom 40 income bracket reported fewer job losses than the top 60. By contrast, in Cambodia the bottom 40 suffered more job losses associated with COVID-19 than the top 60 households. Surveys from Indonesia and Papua New Guinea indicate that households in the middle and the high end of distribution may face similar or even higher rates of job loss than those at the bottom. This may be because the latter tend to be involved in agriculture, self-employment, or essential service occupations and keep working, whereas those in the middle of the distribution may work in transport, hospitality and retail services more affected by job closures as a result of the pandemic. The data from these surveys suggest that since the start of the pandemic, households in Cambodia, the Philippines, the Solomon Islands, Myanmar, Indonesia, the Lao People’s Democratic Republic and Mongolia suffered income losses, including farm and non-farm income losses and loss of wages and remittances. The percentage of households which incurred such losses was smaller in Mongolia and larger in Cambodia than reported in other countries.

The survey by Zero Extreme Poverty Philippines 2030 and the UNDP reveals that the pandemic increased the number of households in income poverty — with 83 percent of respondents experiencing a decline in household income and 34 percent a complete loss of income. Informal workers, those who rely on unreliable income sources, suffered the worst: 42 percent of informal or temporary workers lost their source of income compared to 35 percent of permanent employees. Among a particularly vulnerable group, the Overseas Filipino Workers, approximately 85 000 returned to the Philippines and another 300 000 lost their jobs. This resulted in a large loss of remittance income to recipient households (Awad & Konn, 2020).

Evidence from surveys as well as model-based estimates reveals that the pandemic has led to declining employment and incomes, and thereby rising poverty in Thailand. A rapid survey conducted in June 2020 estimates that 70 percent of the national workforce saw their monthly income fall by an average of 47 percent, with informal sector workers reporting an average of 67 percent. Workers at the lower end of the income distribution were hit the hardest. Model-based simulations demonstrate that in the absence of government relief measures, the headcount poverty rate would have increased from 6.2 percent in 2019 to 7 percent in 2021. Poverty in rural centres would increase by 1.6 percent and in urban centres by 1 percent, with the largest increase in north-eastern Thailand, which had the country’s highest regional poverty rate in 2019. The pandemic-driven economic shock has also adversely affected employment. The unemployment rate remained elevated and total employment fell in the first quarter of 2021. The official unemployment rate remained at 2 percent in the first quarter of 2021, up from 1 percent in the first quarter of 2020. In particular, employment in agriculture declined by 10.9 percent, but in all other sectors it increased by 2.5 percent, in line with the recovery in global demand for goods exports (World Bank, 2021c).

From a survey of 384 Thai informal sector workers, Komin et al., (2021) found about 95 percent had a reduction in monthly income. To compensate for the loss, these workers drew on savings and/or increased their debt. The main sources of income contraction include fewer customers (57 percent), being laid off (12 percent), or working fewer hours or days (7 percent). Many of the workers also reported lack of money to buy food and necessities (39 percent) and insufficient income to care for family members (33 percent), make motorcycle or car loan repayments (19 percent) or mortgages or rent (13 percent). As reported by Marschke et al., (2021), the pandemic has disrupted seafood supply chains, whereby many already marginalized migrant fish workers in Thailand lost their jobs and incomes.

While the pandemic was still raging in summer 2021, various poverty estimates were made based on estimated GDP contraction. To date, there are 640 million multi-dimensionally poor people in the AP Region and the pandemic could potentially double this number by pushing an additional 636 million people into multidimensional poverty. In 2020, the region witnessed an increase in unemployment of 15 million and compared to 2019, a 7.1 percent loss of labour income. A loss of 555 million jobs, the sum of the quarterly loss of full-time jobs, was estimated for 2020, with significant variations across the sub-regions. South Asia leads with 315 million jobs lost, followed by East Asia with 137 million, Southeast Asia with 94 million, and the Pacific with negligible jobs lost (United Nations, 2021b). The jobs and incomes lost across the region suggest that for people living on USD 1.90 per day, 89 million more will be pushed into extreme poverty while the 158 million more people living on USD 3.20 per day will
come close or below the poverty line (of 1.90 USD /day) (United Nations, 2021b). Based on the sub-regional coverage by United Nations (2021c), South/South-west Asia are estimated to have 29.2 percent multidimensional poverty and 18.4 percent vulnerability to multidimensional poverty\(^9\); South-east Asia, 8.1 percent and 7.7 percent; East and North-east Asia, 3.9 percent and 17.4 percent; and AP developing countries, 16.4 percent and 16.2 percent, all respectively.

As illustrated in Appendix Figure A1.1, in Cambodia, about 75 percent of respondents to the World Bank HFPS declared a reduction in consumption of goods during the pandemic. About 25 percent indicated that during the last 30 days they ate less than they thought they should due to lack of money and some did not even eat anything for a whole day. About 75 percent indicated a decrease in income, including wage income and remittances since the beginning of the pandemic and some 15 percent stopped working at the start of the pandemic. Safety nets in any form remained low. About 10 percent of respondents declared they were in receipt of assistance after losing their job or since the start of the pandemic.

As illustrated in Appendix Figure A1.1, in the Philippines, about 75 percent of HFPS respondents declared reduced consumption of goods; 42 percent faced insufficient food consumption and 10 percent were not able to have food for a day due to lack of money; 30 percent became inactive and 60 percent lost income. However, increasing assistance by the government and NGOs should protect the vulnerable from falling into poverty. The rural-urban comparison indicates higher income loss, inactivity and reduced consumption in urban areas and higher food insecurity and social assistance in rural areas. In Myanmar, around 55 percent and 60 percent of respondents declared reduced consumption/inactivity and income loss, respectively. Around 25 percent declared receipt of social assistance from different sources and the rural-urban divide appears not so pronounced. In the Solomon Islands, reduced food consumption seems to be the main issue for 60 percent of respondents, followed by income loss. Government assistance ranked highly, 60 percent declaring they were in receipt of it.

Evidence further shows rising national poverty below the poverty line. In Indonesia, COVID-19 pushed 2.8 million into poverty in September 2020, one percentage point higher than in September 2019. The new poor live mainly in more affected regions (Java, Bali-Nusa Tenggara, Sumatera), with a high concentration in Java. Urban dwellers accounted for 80 percent of the new poor. With an ambitious COVID-19 social assistance package, the government mitigated a potentially larger negative impact on poverty. This partial effectiveness was likely due to a combination of factors including targeting and adequacy of benefits (World Bank, 2021d). There are similar results observed in the Indonesia HFPS. The forestry and agricultural sector has the highest poverty rate, followed by the livestock, horticulture, plantation and fisheries sectors (Halimatussadiah et al., 2020).

Assuming 10 percent GDP contraction in Pakistan, Rasheed et al., (2021) estimate a 33.7 percent increase in poverty from the baseline value of 23.4 percent, while a 44.2 percent and 58.6 percent elevation is estimated in the case of medium and high economic recession

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\(^9\) Multi-dimensional poverty refers to the multiple deprivations faced by the poor simultaneously beyond the lack of money, including poor health, malnutrition, poor sanitation and inadequate education
scenarios. Thai informal workers reported they made only 27 percent of their pre-pandemic average monthly income, placing them near the extreme poverty level of USD 1.9 per day (Komin et al., 2021). Zhao and Rasoulinezhad (2021) find that the poverty impacts of the pandemic are smaller for developed economies in Asia than less developed economies and that the patterns and policies of poverty reduction in lower, middle and low-income Asian countries are not similar to those in upper, middle and high-income economies. They found that inflation and income per capita did not have a significant impact on poverty in most upper, middle, and high-income Asian economies such as Japan and Republic of Korea.

The pandemic has exacerbated inequalities in terms of material and opportunities in society by increasing the vulnerability of disadvantaged groups such as women, youth and migrants as report for South Asia (Stone, 2020). More broadly in the A-P region, youth poverty is higher than adult poverty overall in all countries. The working poor living on less than USD 1.9 (purchasing power parity or PPP) on a daily basis for the adult population is roughly 7 percent on average for AP as a whole for the 2017-19 period compared to 10 percent for youth poor living on less than USD 1.9 (PPP) daily for the same period. The percentage of young people Not in Employment, Education or Training (NEET) rate has been persistent and globally reaches 30 per cent for young women and 13 per cent for young men (ILO, 2020c).

1.4 MIGRATION AND REMITTANCES

1.4.1 Migration

The pandemic reversed the dominant rural-to-urban migration in the AP Region. Due to lockdowns people who lost their jobs in urban areas sought to move back to rural family homes. India has an estimated 100 million internal migrants, accounting for 17 to 29 percent of the total workforce. The lockdowns abruptly directed this huge migration flow towards rural areas, putting an extra strain on local health services and limited community resources. In Cambodia, the government encouraged internal migrants who had lost their job in the cities to return to their rural homes, but many had little or no land to which to return (Boccuzzi et al., 2020). In some countries, lockdowns led to a collapse in distribution systems, making seasonal labourers scarce and resulting in the loss of farm production and incomes (UN-Habitat, 2020).

There were an estimated 87 million Asian-born migrants in 2019, comprising 32 percent of all migrants in the world. For the first time in recent history, the net international migration declined in 2020, as new migration slowed and return migration increased. Large-scale repatriation calls for detailed logistics work, as well as planning for returnees to be reintegrated into their communities (ADBI, OECD, and ILO, 2021). The dominant pattern of international migration in South-east Asia is migration from Cambodia, the Lao People’s Democratic Republic, Myanmar, Thailand and Viet Nam to Thailand. Migrants from Myanmar to Thailand alone account for 27 percent of all intraregional migration in South-east Asia. More than 800 000 informal migrants
from neighbouring countries work in Thailand. From late March until November 2020, Thailand’s international borders were closed due to the lockdown. Those who decided to return to their home countries found themselves unable to do so, with some migrants remaining stranded at the borders (Boccuzzi et al., 2020). Outflow from Thailand declined to 0.279 per 1 000 population in 2020, a 0.36 percent decline from 2019 (United Nations, 2019 apud Macrotrends, 2021). The majority of migrants interviewed from South-east Asia stated they were no longer sending money back home, despite this being one of the primary reasons for migration (Nguyen et al., 2020).

Migrant outflows also declined as migration channels closed due to cross-border movement restrictions. In Pakistan, the number of emigrants was only 179 487 for January-September 2020 compared to 625 203 in 2019. In Bangladesh, the number of emigrants was only 181 218 for January-May 2020 compared to 700 159 in 2019 with similar declining outflows in Sri Lanka, Nepal and Viet Nam (ILO, 2020). Falling labour demand in host countries also resulted in reduced inflow of migrants. A rapid assessment survey of returning migrant workers in Myanmar found 50 percent of men and 42 percent of women reported having lost their jobs due to COVID-19. Deployment (allowing migrants entry into the country) was largely halted across countries in Asia, with a 60 percent reduction in the Philippines, 38 percent in Indonesia and 1.6 percent in India (ADBI, OECD and ILO, 2021).

A rapid assessment survey of ASEAN (Association of Southeast Asian Nations) migrant workers reveals 97 percent of unemployed respondents at their destination had not received any social assistance and 33 percent of employed respondents were not given PPE (personal protective equipment) by their employers. In Thailand, 57 percent of migrants did not have basic PPE. In countries of destination, 32 percent of employed respondents said they faced COVID-19-related employment difficulties. In the short term about 52 percent of returnee migrant workers to Cambodia, Indonesia, Myanmar, the Philippines and Viet Nam primarily want to stay home and about 20 percent want to find a job at home. Access to social security has been a problem for migrant workers. A survey by HOME (Humanitarian Organization for Migration Economics) in Singapore showed that not only is it a problem, but so too is access to knowledge about available supports. Only 37 percent of those surveyed by HOME had some awareness of the government’s COVID-19 related support payments for migrant workers (HOME, 2020).

AP accounts for almost half of the world’s migration (IOM World Migration Report, 2020) with India, China, the Philippines the frontrunners in skilled international migration. Afghanistan, Bangladesh and Myanmar are another major source of migrant workers within and from AP. Pacific SIDS are the source of international migrant workers, as a result of being adversely affected by climate change.

Withers et al., (2021) examined country readiness for receiving returning migrant workers in Nepal, India and Sri Lanka. Several low and middle-income countries faced mounting challenges vis-à-vis returning migrants including concerns that repatriation could trigger the further spread of the COVID-19 virus. Countries also faced financial constraints in implementing a robust repatriation plan as there are health care and quarantine costs for returnees as well as reintegration costs (ILO, 2021a). In response, both the IMF (International Monetary Fund) and the World Bank provided emergency financial assistance to low-income and lower-middle income countries with a significant international migrant population such as Nepal (Bhattacharai and Subedi, 2021).
1.4.2. Remittances

At the macro level, migrant remittances contribute positively to the economy (Cazachevici et al., 2020; Sutradhar, 2020), while at the micro level migrant remittances from countries like Bangladesh, Sri Lanka or Pakistan contribute significantly to alleviating poverty through maintaining stable household consumption (Sutradhar, 2020). Nonetheless, migrants are one of the most vulnerable groups facing the impacts of the COVID-19 pandemic.

With 18 million people living outside the country, India has the largest transnational community in the world. In the AP Region and in absolute terms, China and the Philippines are the region’s top remittance recipients; as a share of GDP, the top recipients are Tonga and Samoa. Five of the 20 countries with the largest number of international migrants living abroad were from Central and Southern Asia and four from Eastern and South-eastern Asia. Many of the countries with the largest transnational communities were among the main recipients of remittances globally (UNDESA, 2020). Remittance flows to the East Asia and Pacific Region are projected to fall by 11 percent and to South Asia by around 4 percent in 2020.10

Remittances constitute an important share of the region’s GDP and most of the time their contribution to GDP exceeds that of international aid (Remittances data (n.d.)). Figure 1.8 presents the percentage change in remittances11 for the last two years. Patterns of change frequently match and this suggests remittances have been resilient during the pandemic for most AP countries, although international migration decreased for the first time in decades (International Migration, n.d.).

Remittance growth has been uneven across countries. From Figure 1.8, several countries from Viet Nam to Nepal showed either a slight decline in the growth rate of remittances or no growth. Remittances to the LAO PDR, malaysia, Cambodia, Indonesia and even Australia were down during the pandemic, whereas other top destinations of remittances such as India, Bangladesh, Sri Lanka, Pakistan, the Philippines have been able to cope with the adverse effects of the pandemic. This could be a result of destination country bias, since most of the workers from South Asia and the Philippines work in Gulf States (Takenaka et al., 2020) where the impact of the pandemic has been less substantial. Bangladesh government also mounted diplomatic campaign over the host countries (mostly in the Gulf region) managed to moderate the outflow of migration back to Bangladesh hence reducing the impact on remittance decline during the pandemic (Chowdhury and Chakraborty, 2021). The Lao People’s Democratic Republic and Cambodia have experienced a decrease in foreign exchange levels through channels of remittances and interrupted tourism during the pandemic. Apart from contractions in foreign exchange there is also a greater risk of increasing unemployment when migrant workers need to return to their home country.

11 Original unit of measure is USD in current terms.
1.5 FOOD INFLATION AND PRICES

One of the first indicators to watch closely was the monitoring of price changes and inflation levels as a result of COVID-19 lockdowns and supply chain disruptions. During the pandemic in the AP Region inflationary and deflationary effects emerged simultaneously, although 2020 was a year of severe economic contractions when deflationary effects were dominant. From 2021 onwards, with the help of reviving economic growth induced by fiscal stimuli, decelerating contagion risk and increasing food prices, inflationary effects are expected to dominate.

Consumer food inflation is ultimately a result of imbalances between demand and supply. During the pandemic, food supply has not been able to meet demand due to restrictions on the supply chains. Although these measures have been short-lived, they have raised concerns about food security during the pandemic and caused food prices to rise. Food supply was also impacted at the production stage due to labour shortages and curfews that affected planting and harvesting. International trade disruptions hampered access to inputs for agricultural production such as fertilizers, and hence may have impacted food supply. FAO data reveal that 2020 was a year of food inflation which increased significantly compared to 2019, as shown in Figure 1.9 and Figure 1.10. Each stack in a bar reflects the percentage change in food prices for the corresponding month. Decelerated food prices were observed for several months of 2019 for Brunei, Japan, Maldives, Sri Lanka and Republic of Korea whereas in December 2020 only China experienced negative food price inflation.

The upward trend of food prices is not recent, which is first manifested in 2018. During the pandemic food producer prices either increased or decreased depending on the local context and the net impact on supply and demand. The period between January and April 2020 (the earliest food price shock at the beginning of the pandemic) had higher food price inflation for...
the main AP Region. Afghanistan, Bangladesh, Pakistan and Nepal have had persistently high food price inflation even prior to the pandemic, as seen in the inflation diagram for 2019 (Figure 1.11). When the pandemic began Bhutan, India, Indonesia and Viet Nam experienced extensive food price inflation in 2020.

Figure 1.10 presents a more precise picture of inflation. The pandemic impacts on prices were more visibly felt from April 2020, three months after the pandemic onset. Apart from a few exceptions, most countries in the region experienced an inflationary epoch in April 2020 compared to the same month of 2019 but food price increases slowed in April 2021 compared to April 2020. Once again, Pakistan and Bhutan emerged as vulnerable countries, a similar finding addressed by Figure 1.12.

Figure 1.10: Food price inflation, April 2020 vs April 2021

![Figure 1.10: Food price inflation, April 2020 vs April 2021](source: FAOStat, Consumer Price Indices, Food Price Inflation (accessed 17 July 2021))

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Figure 1.11: Share of food in consumers’ budget, 2016

Figure 1.11 presents the share of spending devoted to food from household budgets in 2016. India, Indonesia, Viet Nam, and Pakistan are ranked at the top of the graph with the highest shares of food spend from household budgets. These countries also suffered higher food price increases than other countries during the pandemic (Imai et al., 2020). It is known that the poor spend a larger share of their income on food so Figure 1.11 supports the idea the pandemic will hit the poor and delay achieving nutritional targets. This figure is calculated on the basis of 2016 income and food prices. The pandemic caused a significant fall in household income and food prices started to rise in 2018, so budget shares devoted to food may be even greater than shown in this graph. Inflation, particularly food price inflation, is expected to have regressive effects on distribution with negative impacts on AP food security. Rising food inflation in the AP Region would continue to deepen inequalities by hitting the poor who spend the largest share of their income on food (Sim et al., 2021).

1.6 TRADE

Trade policy is one instrument employed to respond to COVID-19. Many governments have lowered import barriers to facilitate trade in medical products/supplies and agricultural/food products and imposed export restrictions to impede outgoing trade, to maximize availability of the critical products needed to combat the pandemic.12 During the first nine months of the

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12 Import facilitating policy instruments include import internal taxation, import licensing, import quotas, import tariffs, import tariff quotas, import-related and non-tariff measures. Export restricting policy instruments include export bans, export licensing requirements, export quotas, export-related and non-tariff measures.
pandemic, clear trade policy patterns emerged (Evenett et al., 2020). First, there is a big jump in trade policy activism during the first quarter of 2020. Protectionist trade tendency was dominant in global trade until the end of May 2020, with more export restrictions than import facilitation measures in both food and medical product trade. Import facilitation measures started to take hold after May 2020. Second, East Asia and the Pacific show a trade pattern like the global pattern (see Appendix Figure A1.2). Medical product import liberalization started to increase in early March 2020, with steadily declining export restrictions. Import facilitation measures were also higher in food trade than export restrictions. The policy pattern in South Asia is different from that in East Asia and the Pacific. Medical product trade restrictions dominated (on export side) but trade facilitation was implemented on import side. Food trade restrictions dominated through June and from there on facilitation measures sharply increased, while restrictions increased only slightly. This implies that South Asia was challenged by food supply reductions. In the food sector South Asia appears the most active region in implementing both restrictive and liberalizing trade policies (Evenett et al., 2020).

Some countries adopted both restrictive and facilitative policies, others followed one or other and many did not adopt any such policies. Some major net food exporters adopted a mix of import facilitation and export restrictions. Indonesia did so on an open-ended basis. For food trade, China and Viet Nam primarily engaged in import facilitation; Malaysia and to a lesser extent Cambodia primarily used export restrictions; Indonesia, India, Pakistan and Thailand embraced both export restrictions and import facilitation. For the medical product trade, Cambodia introduced export restrictions for a short period; New Zealand primarily engaged in import facilitation; Malaysia, India, Indonesia, Thailand, China and Pakistan engaged in both facilitative and restrictive policies for a long period. Viet Nam also engaged in both policy measures, with import facilitation lasting longer than export restrictions.13

Policy responses adopted in the AP Region so far have aimed to revitalize SMEs (small and medium enterprises), including trade-related, with fiscal stimulus packages, including credit facilities for affected exporters in Australia and increased tax rebates on exports in China, an increased import substitution and export finance facility for cheap export credits in Fiji, export income tax exemption in Myanmar, tax refunds to the export industry in Pakistan, financial support for exporters in the Republic of Korea and suspension of debt repayment in Thailand. One COVID-19 policy response in Bangladesh allocated resources from the export development fund to the country’s export-oriented garment industries.14 Most other countries in the region have not outlined specific policies on trade liberalization.

Following the on-set of the COVID-19 pandemic several agriculture trade restrictions and liberalizations were implemented quickly in the AP Region. Cambodia, Myanmar and Viet Nam banned rice exports to protect their staple food supply while Thailand banned poultry egg exports, among other staple foods consumed by households. According to the IFPRI (International Food Policy Research Institute) Export Restriction Tracker, Pakistan banned exports of onions, wheat and flour at various dates from the end of April 2020 to mid-November 2020. Along with

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13 See Figure 6 in Evenett et al., (2020).
14 See page 178 in Evenett et al., (2020) and <https://COVID19policy.adb.org/policy-measures/> for trade policy measures implemented by other countries in the region.
bans on staple foods and food-grade ingredients of hygiene products (e.g. alcohol), import duties were also lowered on products deemed critical during the pandemic. FAOStat shows that South-eastern Asia along with Mongolia are among the largest importers of grains like wheat, contributing to the removal of import restrictions on cereals. Another example is Indonesia which relaxed import restrictions on onions and garlic.

Under COVID-19 lockdown cross-border trade either slowed or came to a halt, disrupting the flow of critical goods, staple foods, agricultural inputs and equipment needed for domestic food production, processing and consumption. In the short term, trade flows were more volatile for fresh produce, live animals, livestock products and fresh or dry fish, all of which experienced a drop in demand and cancelled exports (FAO, 2020d). Countries in the AP Region consider food trade as part of post-COVID-19 recovery with Cambodia, for instance, developing its e-agricultural strategy. Viet Nam is expanding trade opportunities with support from digital innovations by improving food safety/quality standards and trade policies/infrastructure. ASEAN member states have committed post-COVID-19 regional trade priorities to expand intra-regional food trade during and after the pandemic. With strong cross-border trade linkages, India, Nepal and Bhutan would benefit from harmonization of food safety protocols. Being highly vulnerable to trade disruptions from COVID-19, Samoa strengthens its private sector by import duty exemptions on most commonly bought food items and agricultural and fishing materials (ADB, 2021e).

1.7 GOVERNMENT EXPENDITURE, REVENUES, DEBT

Fiscal instruments: increasing expenditure to respond to the pandemic impacts

COVID-19 created an urgent need for new resources to address the emergencies. Fiscal policy has been one of the most important instruments to mitigate the devastating effects of the pandemic on economies at macro and household levels. From the very beginning of the pandemic, various types of fiscal policy tools have been employed to help preserve jobs and prevent aggregate demand from falling further. Fiscal policy at the macro level aims, among other goals, to stabilize or increase aggregate demand, yet during the pandemic, when there was a global lockdown, it has been used to maintain money flow in the economy. Therefore, transfers are an important tool for the functioning of fiscal policy. Another dimension of fiscal policy is providing and financing public services such as health care and education. The pandemic has required an increase in capital health care expenditure to improve the capacity of facilities. Remote education gained a lot of traction during the pandemic and requires governments to plan and transform national education services for the pandemic and post-pandemic period. Fiscal policy, in this regard, will be one of the income-generating tools to finance health care and education transformations, post-pandemic.

Figure 1.12 shows the types and size of the fiscal outlays countries (as per the available data) in the AP Region, as of April 2021. Japan has taken the lead, providing equity, loans and guarantees through the usual financial channels, while New Zealand adopted increasing
government spending, forgoing some revenue as its main fiscal instrument. Indonesia opted for additional spending such as cash transfers to households during the pandemic (Rhee et al., 2021) Excluding Japan and Republic of Korea, other AP countries adopted a similar approach. As explained in Bui et al. (2021), Thailand and Viet Nam implemented targeted cash transfers to households to maintain economic activity and the flow of money. Households that received income subsidies anticipated economic expansion with a lower level of inflation and unemployment. Those households increased expenditure, were more likely to consume durables and thus supported the flow of money throughout the economy.

**Figure 1.12: Fiscal measures, % of GDP, as of April 2021**

Revenues and taxes

In principle, taxes form the largest part of government revenue. However, middle and low-income countries have limited tax capacity due to the prevalence of the informal economy and a tax structure biased in favour if indirect taxes from consumption. Given that household demand fell during lockdown, tax capacity has further deteriorated, especially for low-income countries with limited tax capacity. With stagnant revenues but sharply increasing expenditures, government deficits rose. Figure 1.13 points out the importance of strong public finances when fighting the pandemic. Leaving aside Japan, Republic of Korea, New Zealand and Australia, other countries are either low-income or emerging with limited fiscal space. Fiscal space is built on four pillars: finance balance, sustainability of government debt, private sector balance and credibility of the country in foreign markets measured by credit default risks. Countries with prior limited fiscal space were challenged by its economic outcomes to a greater extent during the pandemic as the fiscal multipliers cannot generate the desired effects on aggregate demand. This is because they tend to be smaller due to limited capability to use financial instruments. Some selected parameters regarding the fiscal space prior to and during the pandemic are presented below.
During the pandemic, fiscal balance (total government revenue minus total government expenditure) has severely deteriorated for the overwhelming majority of AP countries, excluding Samoa, Tonga and Tuvalu – Pacific Island States – where the number of COVID-19 cases has been low from the beginning of the pandemic (see Figure 1.13). However, there are some striking examples such as Singapore, Mongolia, Vanuatu, Cambodia and Republic of Korea where fiscal surplus was observed prior to the pandemic but experience fiscal deficit in 2020. Other countries with a fiscal deficit prior to the pandemic have been challenged by soaring fiscal deficits.

The AP Region entered the crisis with unfavourable fiscal space and national debt levels. The region had an average 5.7 percent fiscal deficit in 2020, up from 0.56 percent in 2019, due to resources needed for response and recovery measures. East Asia allocated relatively more resources for the crisis, with an average deficit increase of 7.9 percent, followed by the Pacific (6.3 percent), SIDS (5.9 percent), South-east Asia (4.2 percent) and South Asia (3.6 percent) (see Figure 1.14).²⁴ Twenty-eight countries, illustrated with downward directed arrows in Figure

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Figures 1.13: Fiscal balance, percentage of GDP, 2018-20

Source: Data from IMF (2021a), accessed 11 July 2021

²⁴ Note that downward and upward directed arrows in Figures 1.14, 1.15, 1.16 and 1.17 represent a decline and an increase in the variable concerned.
1.14 had varying degrees of fiscal deficit. Among those with large deficits in 2020 are Maldives, India and Sri Lanka from South Asia; Brunei and Singapore from South-east Asia; Mongolia, Japan and China from East Asia; Fiji, and Palau from the SIDS and Australia from the Pacific.

Government debt represents the second source of resources, the region having an average 7.9 percent increase in government debt. With 15.3 percent, South Asia experienced the largest increase in government debt, followed by the Pacific (12.4 percent), East Asia (9.1 percent), South-east Asia (4.6 percent) and the SIDS (1.8 percent). Twelve countries have the largest debt stocks, including Maldives, India, Bhutan and Sri Lanka from South Asia; Malaysia, the Philippines and Thailand from South-east Asia; Japan from East Asia; Fiji and Papua New Guinea from the SIDS; and Australia from the Pacific. Since the pandemic took a heavy toll on tourism and commodity exports, they all have to cope with rising debt stocks beyond their capacity to manage. Although its debt stock did not increase in 2020, in terms of current debt stock, Nauru is top of the list within the SIDS (see Figure 1.15). As shown in Figure 1.16 most countries in the region concurrently faced increasing fiscal deficits and government debt.

In most countries of South Asia and South-east Asia, strong growth before COVID-19 provides a cushion against fiscal pressure and rising debt burden. In the SIDS, however, frequent natural disasters, low energy prices and the disappearance of tourism exacerbated the public debt problem and the need for external financing. Accompanying these developments has been rising fiscal deficits as government spending rose to meet public health demands and support household incomes and businesses. With thin domestic debt markets, recourse to donor support or some sort of debt relief is likely to increase if lockdown measures continue longer than expected. Well-designed public finance mechanisms, such as revenue mobilization, financial and debt management and their effective implementation may provide some relief, especially for countries with small savings and thin domestic debt markets.

1.8 GROSS DOMESTIC PRODUCT (GDP)

Macroeconomic aggregates in the AP Region were hit hard. In the short run, however, strict containment measures resulted in a sudden contraction in GDP due to labour shortages. Evidence shows that the entire region experienced a contraction in GDP (see Figure 1.17). In terms of growth, 2020 is a lost year for the region with an average 4.1 percent GDP contraction which nullifies a growth rate of 4 percent for the year before. At the sub-regional level, South Asia experienced 6 percent reduction in GDP, with Bangladesh standing alone as an economy performing relatively better with lower but positive growth in 2020. South-east Asia had a 2.9 percent reduction in GDP. The Philippines, Cambodia and Malaysia experienced large dents in their growth performance, while Viet Nam, Myanmar and Brunei had positive growth, albeit lower than 2019. East Asia had a 2.2 percent reduction in GDP. China, with its successful disease control, achieved positive growth, albeit lower than 2019 (Figure 1.17). Mongolia witnessed the largest loss in GDP growth. The SIDS had a 4.7 percent reduction in
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GDP, its economies already vulnerable to external changes before the pandemic, reflected by low growth rates in 2019. Few economies in the SIDS had an exceptionally large contraction. Fiji started with low growth in 2019 which plummeted further in 2020. A similar pattern arose in Palau and Vanuatu due to the tourism recession. Maldives suffered an exceptionally large reduction in GDP since the pandemic took a heavy toll on tourism. Only Nauru and Tuvalu managed to achieve positive growth, albeit lower than 2019. The Pacific Region had a 2.7 percent reduction in GDP, with a comparable decline in both Australia and New Zealand.

Much of the loss in GDP was due to reduced working hours (see Figure 1.18). Because of lockdowns and travel restrictions, medium and large firms and SMEs switched to slow work mode, with under-utilization of labour and capital. Differences between the sub-regions reflect structural differences in labour markets (formal versus informal) across the economies. The AP Region suffered an average 7 percent loss in labour use. South Asia has the largest loss (11.5 percent), followed by South-east Asia (7.3 percent), East Asia (4 percent), the SIDS (5.5 percent) and the Pacific (2.8 percent). In South Asia, Nepal and India had the largest losses; in Southeast Asia, it was the Philippines, Myanmar and Malaysia; in East Asia, Japan; in the SIDS, Guam and China and Tonga. In the Pacific, Australia was hit by a 4.7 percent loss, whereas New Zealand successfully escaped any loss in labour use.\footnote{Results from cross-country regression analysis, not presented here, suggest that countries with minimal loss in working hours exhibit small contraction in real GDP growth rate.}
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Figure 1.18: Working hours lost in the Asia-Pacific Region

Results from cross-country regression analysis, not presented here, suggest that countries with minimal loss in working hours exhibit small contraction in real GDP growth rate.

Figure 1.19 shows the size of remittances per country in AP. India, China and the Philippines are the top remittances earners in the region. The significance of remittances in dampening GDP contraction under the pandemic is also nicely illustrated in the case of the Indian economy. As of mid-June, India has been one of the country’s most severely affected by the pandemic in terms of number of infections and deaths. However, the economic contraction is relatively small if the GNP figure is taken into account, with growth of 2 percent if GNI (gross national income) is considered. A smaller contraction in GDP appears to be a result of diversified composition of GDP, whereas a positive GNI figure reflects the importance of remittances for the Indian economy.
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**Figure 1.19: Remittances, USD billion at current prices, 2019-20**

Figure 1.20 shows the GNI per capita for 2020 compared to the previous three years and the impact at the country was quite contracted with Vietnam, China and Cambodia showing positive boost to GNI in 2020. China showed a positive GDP growth while Vietnam was largely spared COVID-19 infection in much of the 2020 reflecting a resilient GNI indexes. Countries like India, Sri Lanka, the Philippines and Pakistan exhibited a decline of GNI index. Iran (I.R.) showed by far the worst decline of its GNI. Iran was one of the countries that suffered relatively high levels of COVID-19 infections and mortality rates very early on after the pandemic hit and for much of 2020. India’s 4.2% decline of GNI reflect the severe GDP contraction of the country only partially compensated by strong remittances.

Figure 1.20: Change in GNI (2020 compared to previous 3 years)

Source: WB (2021e), World Development Indicators (accessed October 11, 2021)

1.9 SOCIAL DIMENSION TO MACROECONOMIC IMPACTS: GENDER-DIFFERENTIATED IMPACTS

The pandemic is not gender-neutral and poverty, like employment, is gender-biased in AP. South and South-eastern Asia are ranked at the bottom of the gender inequality index, compiled by measuring equity in labour markets, access to health care and empowerment through education. Compared to men, women are more at risk of losing their job and relatively more women are losing income through unemployment as the sectors that tend to hire women, namely services, retail, accommodation and food services etc., have been hit hard by the pandemic. See Figure 1.21.
Figure 1.21: Sectoral distribution of female employment, 2019

Containment measures hit the retail, manufacturing, garment and agribusiness sectors hard, the ones where women mainly work. In AP tourism more women lost their jobs than men. In South-east Asia, women are overrepresented in retail, accounting for 20-25 percent of all women employed. Although globally the manufacturing industry is generally male-dominated, in South-east Asia, there are higher levels of women’s employment. In the Mekong region, including Cambodia, Viet Nam, Myanmar, the Lao People’s Democratic Republic and Thailand, about 80 percent of garment workers are women (Nguyen et al., 2020). Due to high levels of male migration outside Cambodia, the agribusiness sector employs 75 percent of the women in the country (Awad and Konn, 2020).

Gender differentiated employment effects from the pandemic are significant. Female employment is more likely to be disrupted while the burden of women’s unpaid work is expected to rise during the pandemic. Women have experienced higher growth in unemployment than men in the countries hit hardest by COVID-19 (UNCTAD, 2020).\textsuperscript{17} Between December 2019 and June 2020, Asia’s female labour participation rate declined by 1.3 percentage points compared to a 1 percentage point fall for males (IMF, 2020). Since the start of the pandemic, 50 percent of women in formal employment have seen their work hours reduced compared to 35 percent for men. In most countries, women overall experience the largest drop in income from paid jobs, regardless of whether in formal or informal employment. While only 19 percent of employed men across the region earned less prior to the crisis, 53 percent of employed women did, with the gaps expected to widen as a result of the economic downturn.\textsuperscript{18}

\begin{figure}
\centering
\includegraphics[width=\textwidth]{sectoral_distribution_female_employment_2019.png}
\caption{Sectoral distribution of female employment, 2019}
\end{figure}

\textsuperscript{17} See Figure 1.15 on page 22 in UNCTAD (2020).
\textsuperscript{18} See Figure 12 in UN Women (2020).
data from Rapid Gender Assessment Surveys, Seck et al., (2021) present evidence from eleven AP countries, indicating the pandemic disproportionately increases women’s burden of domestic work due to lockdown and they are losing their livelihoods faster than men.

Within food and agriculture, an estimated 66 percent of women and 57 percent of men in the AP Region noted an income drop from farming and fishing. In Afghanistan, Bangladesh, Maldives, Nepal, the Philippines and Thailand more women than men are finding it difficult to access the necessary products (UN Women, 2020). Respondents in Thailand pointed out the differential pay levels for men and women in the seafood processing industry. Informal remittance flows from Thailand to Cambodia, the Lao People’s Democratic Republic, Myanmar and Viet Nam are potentially double the size of formal flows, with women migrant workers remitting a larger proportion of their income. In the AP Region, a growing digital-gender divide limits women’s access to employment opportunities in sectors such as e-commerce and lower access to information and digital services (Nguyen et al., 2020).

Women’s health is also disproportionally impacted by the pandemic. Increases in unpaid care and domestic work, job and income loss and the effects of gender-based violence during lockdown contribute to higher rates of stress among women. Women in most countries, including Afghanistan, Bangladesh, Cambodia, Indonesia, Maldives, Nepal, Pakistan, the Philippines, Samoa and Thailand are more likely than men to have experienced physical illness since the start of the pandemic (UN Women, 2020). In the Lao People’s Democratic Republic the mental health impacts of the pandemic are expected to rise. Several key informants expressed concerns that the crisis would lead to an increase in unwanted pregnancies due to disruptions in supply chains of reproductive health and medical supplies (Nguyen et al., 2020).
SECTION 2

IMPACTS OF COVID-19 PANDEMIC ON AP AGRIFOOD SYSTEMS
Food systems are defined thus: “the entire range of actors and their interlinked value-adding activities involved in the production, aggregation, processing, distribution, consumption, and disposal (loss or waste) of food products that originate from agriculture (including livestock), forestry, fisheries, and food industries, and the broader economic, societal, and natural environments in which they are embedded…” (Von Braun et al., 2021). Food systems also include the enabling policy environments and cultural norms around food (Vos et al., 2020). Further, resilience of food systems has been considered in terms of their capacity to eradicate weaknesses and deal with future uncertainty, including disruptive shocks, taking a holistic perspective of the complexity of such systems (Tendall et al., 2015).

The pandemic caused disruptions to food system components on both the demand, supply and trade dimensions; only components of food systems could be examined, monitored or quantified. Food system components most directly impact on shortages in agricultural labour; limited access to farm inputs due to transport disruptions; declining capacity use of food processing facilities; disruptions in logistics and trade; and lower food consumption due to fewer face to face social and economic activities. Most of the above factors were at play in tandem along the food supply system since the onset of the pandemic. While labour shortages and disrupted access to inputs led to a decline in agricultural production and household incomes, falling incomes led to lower food consumption, which in turn put downward pressure on agricultural prices and production. The declining production leads to a contraction in agricultural exports, which are hit by disruptions in trade channels. Many of these effects are evident in the AP Region, either fully or partially.
2.1 COVID-19 IMPACTS ON AGRICULTURE (CROP) PRODUCTION AND INPUTS IN AP

Agriculture production and agricultural labour remain significant to both GDP and total employment for many developing Asian countries (See Appendix Figure A2.1 and Figure A2.2). Despite the reported temporary labor shortages in specific regions for critical field operations (such as planting, irrigation and harvesting), the overall impact of COVID-19 on aggregate agriculture value added as measured was not negative in most country situations. According to the World Bank World Development Indicators most country experienced an increase of aggregate agriculture, forestry and fisheries value added (measured in constant local currency) as summarised in table 2.1 below. The majority of countries in Asia and the Pacific experienced a positive increase in agriculture value added compared to the year before or the previous three years. Countries that showed negative agriculture value added include Republic of South

<table>
<thead>
<tr>
<th>Country</th>
<th>Percent change in 2020 vs 2019</th>
<th>Percent change in 2020 vs 3 years prior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afghanistan</td>
<td>5.3</td>
<td>15.2</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>3.0</td>
<td>7.1</td>
</tr>
<tr>
<td>China</td>
<td>3.0</td>
<td>6.3</td>
</tr>
<tr>
<td>Fiji</td>
<td>4.0</td>
<td>8.3</td>
</tr>
<tr>
<td>Indonesia</td>
<td>1.8</td>
<td>5.5</td>
</tr>
<tr>
<td>India</td>
<td>3.0</td>
<td>6.8</td>
</tr>
<tr>
<td>Iran, Islamic Republic of</td>
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<td>9.6</td>
</tr>
<tr>
<td>Cambodia</td>
<td>0.4</td>
<td>0.4</td>
</tr>
<tr>
<td>Korea, Republic of</td>
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<td>-1.9</td>
</tr>
<tr>
<td>the Lao PDR</td>
<td>3.2</td>
<td>4.4</td>
</tr>
<tr>
<td>St. Lucia</td>
<td>1.9</td>
<td>1.9</td>
</tr>
<tr>
<td>Sri Lanka</td>
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</tr>
<tr>
<td>Maldives</td>
<td>6.4</td>
<td>11.6</td>
</tr>
<tr>
<td>Myanmar</td>
<td>-7.4</td>
<td>-6.2</td>
</tr>
<tr>
<td>Mongolia</td>
<td>6.2</td>
<td>13.5</td>
</tr>
<tr>
<td>Malaysia</td>
<td>-2.2</td>
<td>-0.9</td>
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<tr>
<td>Nepal</td>
<td>2.2</td>
<td>6.6</td>
</tr>
<tr>
<td>Pakistan</td>
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<td>4.4</td>
</tr>
<tr>
<td>the Philippines</td>
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<tr>
<td>Singapore</td>
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<td>Thailand</td>
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<tr>
<td>Vietnam</td>
<td>2.7</td>
<td>5.3</td>
</tr>
<tr>
<td>Samoa</td>
<td>-1.4</td>
<td>-8.1</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations from the WB (2021f), World Development Indicators Database (link: https://data.worldbank.org)
Korea, Malaysia, Singapore and Thailand. One common trait these countries may share is the net outflow of migrants who returned to their home countries leaving critical labor shortages in host countries. Many countries of Asia were not much affected by the COVID-19 movement restrictions, especially in early phases and may have benefited from an influx of labor back into rural areas as the result of reverse migration urban-to-rural to the shutdown of urban based services activities.

By June 2021, the ILO (International Labour Organization) estimated the number of working hours lost in 2020 (relative to the fourth quarter of 2019) around 255 million full-time jobs, approximately four times greater than during the 2009 global financial crisis. Bochtis et al. (2020) found that only 50 percent of the agricultural workforce and 54 percent of corresponding salaries were at moderate to high risk, indicating that labour force participation in rural and agricultural areas is less affected than urban and non-agricultural economic activities.

Many countries experienced temporary shortages of labour, inputs and materials during the height of COVID-19 lockdowns. In Bangladesh, transport disruptions coincided with a contraction in agricultural and aquaculture production due to a shortage of good quality inputs and limits to accessing finance (Termeer et al., 2020; Vickers et al., 2020). These disruptions were particularly noticeable for perishable products (milk and vegetables) due to a drop in demand. Similar disruptions to food production were also reported for Thailand whose farmers suffered shortage of inputs (fertilizer, seeds and herbicides) as well as constraints on the movements of migrant workers and transport personnel. Brunei and the Lao People’s Democratic Republic also faced challenges in logistics and distribution of agrifood products (ASEAN, 2021) while Bangladesh suffered trade disruption preventing imports of chemical fertilizer, among other items (Vickers et al., 2020). Farmers in Tonga, Fiji and Samoa reported reduced farm access, difficulties in sourcing inputs (i.e farm chemicals, seed and planting material and farm equipment), hired farm labour costs had increased and there was less labour available (Underhill et al., 2020). This led to an increase in postharvest losses and reduced income by nearly 96.8 percent for market vendors from lower customer footfall for purchases of fruits and vegetables in these small island countries.

Outside farming, food distribution was also compromised due to COVID restrictions from local buying to wholesaling and from cross-region logistics to city consumption. These supply side shocks were matched by reduced market demand for agricultural products due to the closure of restaurants, caterers and public canteens, which resulted in large amounts of unsold seasonal vegetables and fruits backlogged or even unpicked on farms (FAO, 2020a). Disruptions in downstream supply chains also resulted in surplus food that farmers couldn’t sell, putting a strain on storage facilities and increasing food losses for highly perishable items.

In 2019 across AP, there were 1.9 billion people employed, 1.3 billion outside the formal labor market and 87 million unemployed persons (ILO, 2020a). A total of 716 million workers (37.6 percent of total employment) worked in sectors most exposed to the collapse of productive activities due to COVID-19. Agriculture is assessed as a medium or low-risk sector for employment reduction and was not included among the top four high-risk sectors: accommodation and food services, manufacturing, wholesale and retail trade and real estate and business activities. However, given the significant total share of agricultural labour in many developing Asian countries, the impact of COVID-19 on the agricultural labour force is considerable in absolute numbers.
In many AP countries, agricultural and farm work was considered essential and exempted from movement restrictions. Farmers in most AP countries were much less hampered in carrying out their work than other sectors. In line with the global trend the restrictive measures have become more geographically targeted and only about 50 percent of agricultural and farm workers are affected by economy-wide restrictions. However, COVID-19 did have an impact on seasonal workers. Emergency travel bans considerably decreased the agricultural and farm workforce, especially vegetable and fruit producers, garden nurseries and horticulture farms in Australia and New Zealand which depend heavily on seasonal workers from Pacific Island countries.

2.2 IMPACT OF COVID-19 ON LIVESTOCK VALUE CHAINS IN AP

The livestock sector and related industries were particularly impacted by the COVID pandemic owing to restrictions on animal movements, perceptions of health risks, frequent closure of processing plants and shortage of production inputs. Meat production in Asia was already expected to decline in 2020, even prior to COVID-19, due to animal diseases (particularly in China’s swine herd) and the lingering effects of drought, all adding to COVID-19-related market disruptions. By contrast, poultry meat production in AP was increasing before COVID but dampened since then due to supply chain disruptions and shortages of animal feed including through trade. Besides the sharp decline in the volume of livestock supply, the sharp decline in demand following the closure of restaurants and food services resulted in meat stock accumulation.

Box 2.1: Country focus: COVID 19 and livestock trade in Australia

Australia is a major producer and exporter of agricultural and animal products to the region and globally. COVID-19 has had significant impacts on livestock markets and Australian livestock exports. In 2020 Australian sheep exports were 17 percent down on 2019. Australia’s largest cattle export market, Indonesia, has been hit by a significant decline in beef demand and imports. For the year to June, live exports to Indonesia were 254,000 head or 16 percent lower compared to the previous year. Shipments to Viet Nam, Australia’s second largest cattle export market, for the year to June were up 39 percent on previous year levels, totalling 166,500 head. For Malaysia, demand for imports of live goats from Australia were also curtailed due to COVID-19 restrictions. Australian beef exports are also down 3 percent for the year to June.
2.3 IMPACT OF COVID-19 ON FISHERIES AND AQUACULTURE SUPPLY CHAINS IN AP

Asia and the Pacific is the world’s largest regional hub for fish production. By weight, more than 50 percent of the world’s catch of marine and river fish, 89 percent of global aquaculture and 93 percent of aquaculture employees are from AP (FAO, 2021b). See Figure 2.2 for the volume of fisheries production by country for 2016-19. The vast majority, about 90 percent, of fishers and fish farmers in the region are small scale, highlighting the impact of the sector at the local scale.

Figure 2.3: Average total fisheries production with over 50 000 metric tonnes in AP countries

Source: FAO, 2021b

2020. Mutton and lamb exports have also declined 19 percent and 12 percent respectively in the year to date on the back of tighter supply. The rapidly evolving nature of COVID-19 and its impact created many problems for the livestock and meat industries in Australia. Limitations on animal exports, logistics restrictions and the closure of slaughterhouses, restaurants and food services adversely affected all stages of the meat supply chain. The farming and livestock industry was unable to fulfil most of the crucial production and processing needs, including finding suitable markets to sell products and live animals. Meat processing capacity also decreased significantly due to the closure of processing plants (MLA, 2020).
The COVID-19 pandemic has severely impacted on the region’s fish production, both marine capture and aquaculture. Fishing operations at sea encountered disruptions due to frequent and longer periods of lockdown, prohibitive air freight costs and flight cancellations. Trade in fish products was also greatly reduced due to the drop in demand and closure of major global markets. The regional economic contraction has impacted on most of the sub-region’s fish and fishery products traded in local and international markets (Kaewnuratchadasorn et al., 2020). Myanmar Fisheries Products Processors and Exporters estimated the sector experienced its greatest loss in its history. In Thailand, work disruptions affected many migrant fish workers, who also had poor access to public health facilities (Marschke et al., 2021). In Bangladesh, COVID-19 restrictions prevented fish farmers from harvesting their fish and therefore they could not start a new production cycle, causing a significant decrease in fish supply during the first half of 2020. As expected fish prices fell, (by more than 50 percent for some products) during the first weeks of April 2020 in line with reduced demand, despite fish being the most consumed animal source food in Bangladesh (Rosen, 2020). At the start of the COVID crisis, millions of workers migrated back to their hometowns also contributing to further demand drop both in Dhaka and beyond.

In Malaysia, where the fishery sector is highly dependent on international trade, COVID-related trade disruptions significantly affected the sector. Government estimates put the decline in fishers’ income at 50 percent due to fear of contracting the virus, adding to the low demand by Malaysians who preferred to spend more time at home during this phase (Menhat et al., 2021). Massive hotel cancellations at the start of the pandemic caused substantial financial losses to the fishing industry. In Thailand, the industry depends heavily on migrant workers from neighbouring countries. During the first months of the pandemic, phased border closures in March 2020 triggered a rapid exodus of migrant workers and it was reported between 60 000 and 200 000 migrant workers from Myanmar, the Lao People’s Democratic Republic and Cambodia left Thailand that month when border closures were announced for the following week. As fishing resumed, there was a severe shortage of labour in some ports since many migrant fish workers left when Thailand’s borders closed (Marschke et al., 2021). Indonesia is another large fish producer where much of the industry is dominated by SSF (small-scale fishers). Under COVID-19 the disruption severely affected SSF during the first lockdown from March to May 2020 with disruptions to the domestic transport of seafood products. This had impacts throughout the seafood supply chain, estimates showing a 70 percent decline in fish supply to hotels, restaurants and cafés and a 40 percent reduction in household fish consumption.

For Australia, the impact of early lockdowns on seafood production and markets was mixed for much of 2020. Between January and June 2020 overall domestic production initially fell but then rebounded from April 2020 onwards. The decline in prices and volume had a very negative impact on live and fresh export products. Other subsectors benefited, especially those supplying domestic retail and takeaway food services which normally compete with fresh international imports. These sectors experienced a rise in demand and in some cases, a price rise. As a result, the value of these types of domestically sold products generally remained relatively stable with any decline in production volumes offset by rising domestic prices.
2.4 IMPACTS ON FRESH AND PERISHABLE VALUE CHAINS IN AP

Fresh produce (fruits, vegetables, fish, milk) were top of the list of food supply chains most directly impacted by the pandemic and the demand and supply disruptions it created. In Bangladesh it severely disrupted fruit and vegetable supply chains, as fresh producer traders were unable to sell to urban or international markets and forced to sell locally at lower prices, arising from declining demand for vegetables due to job losses (Mingzhe Pu and Yu Zhong 2020). The lack of storage facilities in Bangladesh compounded the impacts of supply and transport disruptions to perishable products (dairy, vegetables, fruits) resulting in food loss and sales below cost or at significant loss. In the Lao People’s Democratic Republic sales of horticultural and cash crops dropped as movements of traders, intermediaries and farmers were restricted (Awad and Konn, 2020). On the production end, large scale picking and packing of fruit has been a major challenge, with each region and product affected differently in terms of supply. Sorting and packing requires workers but due to quarantine measures imposed by government many workers have not been able to return to work from their home region.

Traded perishable products also exhibited additional disruptions, especially with a lack of harmonised sanitation protocols in ports or when COVID-19 infections were detected on board a ship. The absence of rules on how to unload perishable goods may lead vessels to search for an open port. Traders and operators faced higher costs (additional insurance and “risk bonus” for workers, increased logistics costs due to the limited flow of non-essential goods, etc.). The fruit trade within the Asia region has also been significantly impacted, not least as China is a major supplier of temperate fruits such as apples, pears and grapes to neighbouring South-east Asian countries and a major importer of tropical fruits from the region. An example of short-term disruption is that of Thailand’s red-flesh dragon fruit, which has a short shelf-life and is completely dependent on the Chinese market, where wholesale prices dropped by almost 85 per cent after exports to China stopped.

2.5 COVID-19 IMPACTS ON URBAN FOOD ECOSYSTEMS IN THE AP

The unprecedented disruptions and shocks to food supply chains unleashed by the COVID pandemic drew renewed attention to urban food systems and specific ways to strengthen supply chain flows from short value chains, promoting local and urban food production (gardening) to promotion of online marketing and direct producer-consumer linkages, bringing peri-urban and urban food production closer to the urban consumer who is vulnerable to global
value chain disruptions. High urban population density subjected to movement restrictions, physical distancing and closure of many market outlets, were particularly challenged to access food during the pandemic. For the poor and slum dwellers, the inability to stock food and the closure of street markets during quarantine further exacerbated the food insecurity status of the urban poor.

The pandemic hit urban centres more than rural areas since closures of businesses, services, including informal enterprises had a disproportionate impact on urban centres and specifically the poor, the marginalised, informal workers and migrants. In Bangladesh, the pandemic caused huge job losses among the urban poor while those who kept working earned less than before. Reverse migration from urban to rural followed. Income loss and rising prices reduced people’s access to essential food, resulting in decreased consumption of nutritious foods such as vegetables, fish, eggs and broiler meat. The loss of income and the lack of or insufficient safety nets for low-income households in cities meant rising food insecurity during the lockdown (Termeer et al., 2020).
SECTION 3

COVID-19 IMPACTS ON FOOD (IN)SECURITY AND (MAL)NUTRITION IN ASIA-PACIFIC
3.1 REGIONAL TRENDS IN MALNUTRITION IN AP

The COVID-19 pandemic and its economic repercussions were expected to worsen the indicators of food insecurity and malnutrition in AP, especially among the poor and the most economically affected. In 2020 the number of undernourished increased from 322 to 376 million, a rise of 17 percent (similar to the global increase of 18 percent) (Figure 3.1). This substantial increase reversed a broadly declining trend over the past 20 years, although progress had stopped in recent years.

![Figure 3.1: Prevalence of undernourishment in the world and Asia and the Pacific and number of undernourished in Asia and the Pacific](source)

The PoU (prevalence of undernourishment) in AP was 8.7 percent in 2020, up from 7.5 percent in 2019 but substantially down from 14.3 percent in 2000, reflecting two decades of progress that have slowed down in recent years, even before COVID-19 (Figure 3.2). In 2020, the prevalence was highest in Oceania excluding Australia and New Zealand, followed by Southern Asia (15.8 percent), South-eastern Asia (7.3 percent) and Eastern Asia (less than 2.5 percent). The PoU exceeds 20 percent in several countries: Afghanistan, Democratic People’s Republic of Korea, Papua New Guinea and Timor-Leste. The largest PoU increase in 2020 was in Southern Asia, where it rose 2.5 percentage points, from 13.3 percent in 2019 to 15.8 percent in 2020.
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The number of undernourished in AP reached 375.8 million in 2020, up from 325 million in 2019 (pre-COVID-19) but down 127.9 million, or 25.4 percent compared with 2020. The region accounted for 48.9 percent of the global total of 768 million in 2020. Southern Asia had 305.7 million undernourished people, the bulk of the increase from 2019-20, followed by South-eastern Asia (48.8 million) and Oceania (2.7 million). The largest increase in undernourishment in 2020 in the wake of COVID-19 was in Southern Asia, which accounted for an additional 50.5 million undernourished out of an increase of 53.9 million at the regional level.

3.2 Linkages between COVID-19 disruptions, dietary diversity and undernourishment

One of the drivers of food and nutritional insecurity is food inflation. As food prices rise, poor households change their purchases to cheaper, high caloric and less nutrient dense food (Singh et al., 2020; Patterson et al., 2020; Maharjan and Chaudhary, 2020). Poor households in Afghanistan cut food consumption by almost 30 percent due to price increases while Pakistan consumers faced double prices for wheat flour (Rasul et al., 2021). In early 2020, 30 percent of respondents in Lao People’s Democratic Republic and 63.7 percent in Malaysia confirmed reduced consumption of nutritious food due to rising prices and reduced incomes (Qurani and Choiruzzad, 2021). In Fiji the costs of the most frequently consumed vegetables increased between 11-36 percent and in some cases it went up by 75 percentage points (Reddy et al., 2021). As a result of trade disruptions, the price of rice imports increased by almost 30 percent in Papua New Guinea (Diao et al., 2021) while demand-supply imbalances had negative effects on consumption of animal sourced protein foods (Diao et al., 2021).
The number of undernourished in AP reached 375.8 million in 2020, up from 325 million in 2019 (pre-COVID-19) but down 127.9 million, or 25.4 percent compared with 2020. The region accounted for 48.9 percent of the global total of 768 million in 2020. Southern Asia had 305.7 million undernourished people, the bulk of the increase from 2019-20, followed by South-eastern Asia (48.8 million) and Oceania (2.7 million). The largest increase in undernourishment in 2020 in the wake of COVID-19 was in Southern Asia, which accounted for an additional 50.5 million undernourished out of an increase of 53.9 million at the regional level.

3.2 LINKAGES BETWEEN COVID-19 DISRUPTIONS, DIETARY DIVERSITY AND UNDERNOURISHMENT

One of the drivers of food and nutritional insecurity is food inflation. As food prices rise, poor households change their purchases to cheaper, high caloric and less nutrient dense food (Singh et. al., 2020; Patterson et. al., 2020; Maharjan and Chaudhary, 2020). Poor households in Afghanistan cut food consumption by almost 30 percent due to price increases while Pakistan consumers faced double prices for wheat flour (Rasul et. al., 2021). In early 2020, 30 percent of respondents in the Lao People’s Democratic Republic and 63.7 percent in Malaysia confirmed reduced consumption of nutritious food due to rising prices and reduced incomes (Qurani and Choiruzzad, 2021). In Fiji the costs of the most frequently consumed vegetables increased between 11-36 percent and in some cases it went up by 75 percentage points (Reddy et. al., 2021). As a result of trade disruptions, the price of rice imports increased by almost 30 percent in Papua New Guinea (Diao et. al., 2021) while demand-supply imbalances had negative effects on consumption of animal sourced protein foods (Diao et. al., 2021).

Diet diversity (a proxy for good nutrition) was also observed for behavioural changes in the wake of the pandemic to help understand how household dietary patterns changed due to decreased incomes. Several studies have analysed how income changes in COVID-19 times impacted on dietary and nutrition change (Laborde et. al., 2021; Kundu et. al., 2020). Malaysia was already experiencing a malnutrition deterioration prior to COVID-19 with stunting increased from 17.7 percent in 2015 to 21.8 percent in 2019. COVID-19 made matters worse by pushing many households towards cheaper calorie-rich food as a result of the rise in unemployment (UNICEF, 2020b). Several small Pacific economies, too dependent on imported rice and wheat, were forced to shift to fruits and vegetables when COVID-19 disrupted trade. In Australia, a study found changes in consumption patterns, with increased alcohol consumption in adults and overall reduced energy intake from protein without overall energy intake change (Curtis et. al., 2021). Almost 94 percent of farmers in Tongo, 10 percent in Fiji and only 3 percent in Samoa indicated reduced consumption of fresh fruits and vegetables and increased consumption of breads, rice or pasta, tinned meat and eggs (Underhill et. al., 2020). In Fiji, more households took up home gardening and farming as a response to COVID-19 and grew more root crops, vegetables and fruits. Many had relied on seafood for food security (USP, CTA, IFAD et. al., 2020).
Several socio-economic impact assessments also tracked food access changes among target populations. An assessment in Cambodia indicates that households responded to reduced food access by shifting to cheaper type food with more than half of them cutting the size of meals and reducing intake of food rich in protein, vitamin A and iron. As of August 2020 almost 30 percent of women’s diets failed to reach minimum diversity (WHO, 2021). In India about 62 percent of respondents faced reduced diet diversity due to COVID-19 (Harris et al., 2020). Another survey in India showed that households responded to income loss by reducing intake of expensive items like fruits, vegetables and meat, relying more on the staple grain-based food provided by the government food support programme – the public distribution system. As dairy and other high value commodity consumption declines, pregnant women and children may face the effects of anemia, micronutrient deficiencies and acute malnutrition (Acharya, 2020).

### 3.3 COVID-19 IMPACTS ON UNDER/MALNUTRITION IN CHILDREN

Children are particularly sensitive to increased malnutrition during the COVID-19 pandemic. In the latest pre-COVID-19 estimate Asia has 10.5 million children under five suffering from wasting, with 78 million stunted children and 17 million overweight (UNICEF, 2020a). Reduced family income, school closure and isolation had directly negative impacts on children’s nutritional status and their physical and mental health. According to a UN report, less than 40 percent of children in the region are able to meet the minimum dietary diversity requirement (FAO, IFAD, UNICEF, WFP and WHO, 2020). While child mortality rates have decreased over recent years, incidences of stunting (Figure 3.4), wasting (Figure 3.5) and micronutrient deficiency have not improved among young children in the East Asia and Pacific Region (Blankenship et al., 2020). One study covering 118 LMICs estimated a 14.3 percent increase in moderate or severe wasting among children under five years due to COVID-19 (Headey et al., 2020b). This translates into an estimated additional 38.5 million children suffering wasting in 2020 compared with earlier projected numbers for South Asia. It is also believed the immunization supply chain being disrupted during the pandemic may have caused or contributed to an increase in child mortality19 (Kusumaningrum et al., 2021).

A number of studies attempted to correlate the economic impacts of the pandemic on various child malnutrition indicators. In Mongolia, Janmohamed et al. (2020), found a direct association between poverty, dietary quality and child overweight with the primary determinant being limited diet diversity rather than insufficient caloric intake. In Cambodia, 30% percent of children under 5-year face child nutrition issue (either stunting or wasting) because of deprived dietary intake and other factors like poor sanitation, water quality and housing (Laillou et al., 2020), a situation

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19 Deaths of newborns and those under five years of age who have died from COVID-19
likely aggravated by the pandemic where some children had less access to nutritious food. In Afghanistan, UN nutrition surveys estimated more than 7 million children are expected to face hunger and nutritional insecurity due to the rise in prices caused by the pandemic (Afghanistan Nutrition Cluster, 2021). Due to lockdown restrictions, the vitamin A supplement programme was suspended, slowing the deficiency recovery of children aged 6-59 months. In Myanmar, Headey et al. (2020a) projected that an 8.6 percentage point reduction in economic growth could lead to an increase in wasting of 1.93 percentage points. Headey and Ruel (2020) also examined the impact of economic growth on children’s diets. They found that a 10 percent decline in national income could lead to a 20 percent decline in the consumption of adequate food in children. According to this correlation, India would see 4 million more children become wasted as a direct impact of COVID-19. Focusing on South Asia, Osendarp et al. (2020) projected that in comparison to 2019 there will be an additional 9.3 million children under five with wasting (under a moderate scenario) from 2020 to 2022 and two-thirds of these will be in South Asia (6.2 million). An estimated 2.6 million additional children may be stunted in 2022 with almost 790,000 in South Asia compared to 2019, due to a decline in household poverty status and disruptions to nutrition services.

Child obesity is a global epidemic and a growing trend in AP as well. Countries that already struggle with rising obesity saw the problem worsen under COVID-19 (Figure 3.6). In pre-COVID-19 times, Sri Lanka had 15 percent children wasted and 30 percent women obese, while the pandemic was estimated to have increased child wasting and overweight and female obesity by 60 percent (Jayatissa et al., 2021). In Malaysia Louis and Tyug (2021), found that adolescents were overeating out of stress leading to overweight. Kang (2021) investigated the effect of physical distancing and school closure on child obesity in the Republic of Korea and found that for children aged 4-14 years the BMI (body mass index) z-scores increased by 0.219 six months into the lockdown. In the Republic of Korea 23.9 percent of children were obese or overweight pre-COVID-19, a rate that increased to 31.4 percent after six months of school closures. Also, the longer schools remain closed, the higher the risk of increased obesity in children. Many studies have shown that child obesity tends to continue into adulthood creating greater morbidity risks (Storz, 2020). Of the three obesity determinants, genetic, behavioural, and environmental, the pandemic has direct impacts on the latter two (Cuschieri and Grech, 2020). Through the imposition of lockdowns, school closures and limited access to recreation facilities, parks and playgrounds, COVID-19 has severely reduced physical activities for both adults and children; increased screen time raises stress. When coupled with job loss, reduced income and a shift towards less nutritious food then obesity and weight gain generally followed (Acharya, 2020; Omoni et al., 2020; Ruel and Brouwer, 2021; Jayatissa et al., 2021; Rundle et al., 2020; Borkowski et al., 2021; Storz, 2020; Kang, 2021; Curtis et al., 2021).

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20 These estimates were made before the United States of America troop withdrawal and recapture of the country by the Taliban in August 2021.
21 NOTE: All references to Afghanistan were made before the United States of America and allies’ departure from the country and the return of the Taliban as the governing entity.
Figure 3.4: Stunting prevalence 2017-20

Notes: Consecutive low population coverage; interpret with caution. The estimates for 2020 do not account for the full impact of COVID-19. Household survey data on child height, weight and age were not collected in 2020 due to physical distancing policies. One of the covariates used in the country model takes the impact of COVID-19 partially into account.

Figure 3.5: Wasting prevalence 2020

Notes: Consecutive low population coverage; interpret with caution. Eastern Asia excluding Japan; Eastern and South-Eastern Asia excluding Japan. The estimates for 2020 do not account for the impact of COVID-19. Household survey data on child height and age were not collected in 2020 due to physical distancing policies. Wasting (moderate and severe): percentage/number of children aged 0–59 months who are below minus two standard deviations from median weight-for-height of the WHO Child Growth Standards. Wasting (severe): percentage/number of children aged 0–59 months who are below minus three standard deviations from median weight-for-height of the WHO Child Growth Standards.
3.4 COVID-19 EFFECTS ON FOOD INSECURITY

According to FAO, a person is food insecure when they lack regular access to enough safe and nutritious food for normal growth and development and an active and healthy life. This may be due to unavailability of food and/or lack of resources to obtain food. Food insecurity has direct implications for the nutrition status of the population and adversely impacts on vulnerable people, children and women, more so in developing and less developed countries. FAO and its UN partners track annual indicators of food insecurity and malnutrition in its SOFI reports. The latest report covers 2020, the first year of the COVID-19 pandemic.

The prevalence of moderate or severe food insecurity in AP was 25.7 percent in 2020, up from 18.7 percent in 2014. Much of the increase came in 2020, when COVID-19 and its economic repercussions led to an increase of 3.3 percentage points from the previous year. The increase due to COVID-19 was particularly large in Southern Asia, where the prevalence increased from 37.6 percent in 2019 to 43.8 percent in 2020. Figure 3.7 shows that food insecurity for the AP Region is lower than the global average of 30.4 percent. Across the four subregions, Southern Asia had the highest prevalence (43.8 percent) in 2020, compared to 18.8 percent in South-eastern Asia, 12 percent in Oceania and 7.8 percent in Eastern Asia. Several countries had a prevalence above 30 percent: Afghanistan, Bangladesh, Cambodia, Iran, Kiribati, Nepal and the Philippines.
The prevalence of severe food insecurity in the AP Region in 2020 was 10.3 percent, up from 7.7 percent in 2014. The subregional pattern was similar to that for severe or moderate food insecurity. Southern Asia had the highest prevalence (19.9 percent), followed by 3.3 percent in South-eastern Asia, 2.6 percent in Oceania and 2 percent in Eastern Asia.

An estimated 1.1 billion people in AP experienced moderate or severe food insecurity in 2020, an increase of 341.9 million or 44.4 percent, compared with 2014. Of that large increase, 148.9 million occurred from 2019 to 2020, when COVID-19 led to major socioeconomic disruptions that negatively affected food security. The region accounted for 46.9 percent of the 2020 global total of 2.4 billion food insecure (moderate or severe), similar to its share in the number of undernourished. Most of those people reside in Southern Asia, which had 849.8 million moderately or severely food insecure people, compared with 130.8 million in Eastern Asia, 125.5 million in South-eastern Asia and 5.1 million in Oceania.

FIES is a survey instrument that asks people directly about their food insecurity. It produces indicators that are measures of people’s access to food. The FIES is a metric of severity of food insecurity at the household or individual level that relies on people’s direct yes/no responses to eight brief questions regarding their access to adequate food.
Figure 3.8: Number of moderately or severely food insecure people in Asia and the Pacific by subregion

![Chart showing number of moderately or severely food insecure people by subregion from 2014 to 2020.]

Source: FAO, 2021c

For the severe food insecurity indicator an estimated 443.8 million people in AP experienced severe food insecurity in 2020, an increase of 127.3 million or 40.2 percent compared with 2014. Much of the increase came in 2020 in the wake of COVID-19, although the number was increasing before that. The region accounted for 47.8 percent of the global total of 927.6 million severely insecure people in 2020. Southern Asia had 386.8 million severely food insecure people, compared with 33.8 million in Eastern Asia, 22.1 million in South-eastern Asia and 1.1 million in Oceania.

3.5 FOOD CONSUMPTION PATTERNS AND FOOD INSECURITY: MONITORING COUNTRY TRENDS IN THE MIDST OF THE PANDEMIC

Several surveys have been deployed to monitor the food security and nutrition situation in countries since the onset of the pandemic. In tracking food consumption patterns, studies show that because of widespread loss of jobs in the formal and informal sectors, rising food prices...
and declining purchasing power, poor households had reduced access to food or shifted to cheaper, less nutritious foods (Srivastava and Sivaramane, 2020). In a survey by the Bangladesh National Nutrition Council, 75 percent of respondents indicated they did not have sufficient access to food at home, while 91 percent reported they lacked enough money to buy food (Termeer et al., 2020). The consumption of protein food items has declined for both low income and middle-income households surveyed in Bangladesh. Ninety-four percent of respondents in low-income groups have reduced their spending on protein foods. For middle-income groups with guaranteed incomes, no major changes in food consumption were reported.

In SIDS most consumers in Fiji (64 percent) and to a lesser extent Tonga (43 percent) experienced difficulties purchasing fresh fruits and vegetables. In Samoa, by contrast, the pandemic appears to have had little adverse impact on consumers, who highlighted an increased supply of vegetables from home gardens. Almost a quarter of market vendors in Tonga (22.9 percent) indicated they had reduced their consumption of fruits and vegetables due to the pandemic (Underhill et al., 2020). In the Solomon Islands, HFPS data show that about 62 percent of respondents reported insufficient food consumption due to lack of money. In Papua New Guinea urban poor households and non-poor households suffered a decline in calorie consumption of 19.8 percent and 15.8 respectively, while for rural households total calorie consumption declined by 5.5 and 3.7 percent for the rural poor and non-poor, respectively, despite price-induced substitution from sweet potato to other roots and tubers (taro, sago, cassava) (Diao et al., 2021).

The HFPS surveys tracked food consumption changes in 2020. The surveys show reduced food consumption in several countries in the AP region (see Figure A1.1). In the Solomon Islands, about 62 percent of respondents reported insufficient food consumption due to lack of money, followed by 42 percent in the Philippines, 25 percent in Cambodia, 17 percent in Mongolia, and 15 percent in Myanmar. After localized disruptions in food supplies in Myanmar, prices increased by nearly 20 percent. Furthermore, switching to remote education is highly likely to affect the children of millions of low-income families. In Myanmar 24 percent of urban residents and 44 percent of pregnant mothers had limited access to healthy food and in Viet Nam 34.5 percent were facing poor food quality. In the Lao People’s Democratic Republic respondents did not declare any reduction in food consumption. In Malaysia, the World Food Programme forecasts the number of adults and children experiencing food insecurity (4.9 million adults and 4 million children) was likely to double as a result of the pandemic if no additional actions are taken. In Indonesia 36 percent of surveyed households were found to be food insecure during COVID-19 (Qurani and Choiruzzad 2021). In the Philippines, the national hunger rate increased from 8.8 percent in 2019 to 21.1 percent in 2020.

Several studies used the FIES (Food Insecurity Experience Scale) to assess food insecurity during the pandemic (Jayatissa et al., 2021; Rahman et al., 2021; Ahmed et al., 2020; Karamba et al., 2021). In Sri Lanka Jayatissa et al. (2021) found nearly half of food-secure households from pre-COVID times had moved into food insecurity. The pandemic has affected all income groups, impacting on the purchasing power of a household and worsening food insecurity. In Cambodia, moderate or severe food insecurity among poor households increased from 34 percent to 55 percent between December 2020 and March 2021 (Karamba et al., 2021; Co et al., 2021) studies four rounds of Low Income Household Panel Economic (HOPE) surveys carried out between December 2019 and August 2020 in the Philippines. The households’ distress
increased due to loss of incomes with reduced consumption of food and non-food items. Many households continued to face food insecurity between June-August 2020. In April 2020 about 56 percent of households reported eating fewer meals each day. Over time the households experiencing food insecurity declined, but they were still of serious concern as the quality of food has declined significantly.

In Bangladesh Ahmed et al., (2020) completed a survey when Bangladesh was three weeks into lockdown and observed that around 90 percent of households were experiencing a negative income shock with daily casual labourers most effected. Food insecurity increased significantly across most disadvantaged households and spread rapidly into groups that were formerly food secure. The proportion of food secure and mildly insecure households declined by 10 percentage points and the number of severely insecure households drastically increased by 30 percentage points. Only 1.5 percent of households that were food insecure in wave 1 experienced an improvement in their food security status. About 85 percent of households (of 2 402 households) did not experience any change in their food security status. Rahman et al. (2021) focusing on women in Bangladesh found there was deterioration in food security status during the pandemic and this led to increased stress levels. Food insecurity was assessed in wave 1 and 2 surveys which found that during wave 1, 67 percent of the surveyed participants were moderately food insecure while during wave 2 the figure was 56 percent. Overall, 35 percent participants reported worsening of their food security status during the pandemic.

From the SIDS, Fiji households saw an increased involvement in home gardening and farming during COVID-19, growing more root crops, vegetables and fruits (Wairiu et al., 2020). Though production increased and so did consumption of local foods, the diet diversity of households declined as they were consuming only 3-4 food groups per day in comparison to 4-5 food groups in pre-COVID-19 times. Also, 17 percent of households faced severe food insecurity (no food on one day or more) mainly in peri-urban communities, which may worsen as lockdown persists. It emerged 40 percent of all households experienced mild food insecurity, indicating uncertainty regarding ability to obtain food and 32 percent experienced moderate food insecurity (compromising on food quality and variety) since lockdown (Wairiu et al., 2020).

The food security situation of developed countries of Asia presented a different pattern of pandemic impacts, typically characterized by more unbalanced nutritional diets than outright food insecurity. In developed Asia, there was a marked increase in reliance on online food and food delivery services. In the Republic of Korea, online food delivery services jumped 66 percent (Lim et al., 2020) while urban households reportedly resorted to overeating and consumption of low nutrition high-energy comfort food to manage stress. In New Zealand, intake of salty snacks increased for one-third of respondents with overall increased frequency of snacking in almost half of respondents (Gerritsen et al., 2021). Alcohol and sugary drink intake also increased substantially. While some households began cooking more at home and cooked quality food, overall from a utilization point of food security the dietary patterns changed more towards non-healthy food (Lim et al., 2020; Gerritsen et al., 2021; Fore et al., 2020). City states like Singapore that rank extremely highly on the global food security index have almost 90 percent dependency on imports. It became a challenge to meet domestic food availability requirements during COVID-19 and thus they had to diversify with food imports from 170 countries to meet domestic demand (Teng, 2020; Qurani and Choiruzzad, 2021).
In 2020 the locust crisis overlapped with the COVID-19 pandemic in some countries in Asia and Africa, creating a crisis within a crisis. The severity was highlighted by the World Bank report which noted the desert locust (Schistocerca gregaria) found in various parts of Africa, Asia and the Middle East, is considered the most destructive migratory pest in the world. They are highly mobile and can form swarms containing millions of locusts, devastating crops, pasture and fodder. The World Bank fact sheet further elaborated that a small swarm (1 km²) can comprise 80 million locusts and consume the same amount of food in one day as 35 000 people, while a large swarm can eat up to 1.8 million metric tonnes of green vegetation, equivalent to food for 81 million people.

The COVID-19 pandemic affected, among other things, the supply chains for pesticides, other equipment and the labour necessary to control the spread of locusts. Addressing the locust crisis effectively required significant and sustained efforts. Border closures and delays posed by quarantine measures created particular difficulties for battling locusts in the absence of exceptions to the restrictions on movement of personnel and equipment to aid in the locust response. Even in those countries where the government is making locust response an essential activity and allowed pest controlling teams to move around, special care and precautions were required to reduce the threats of infection for aid workers and prevent the spread the COVID-19 to remote and rural locations and communities which needed locust control operations.

The locust invasions hit particularly parts of India, Pakistan, Afghanistan and Iran. In Pakistan, 38 percent of the country offers breeding grounds for the desert locust and at one point in 2020 the whole country was under threat of invasion if the desert locust was not contained within its breeding regions (FAO, 2020a). In India, the desert locust hit the western provinces covering more than a dozen districts and 50 000 hectares of desert areas from Rajasthan, Madhya Pradesh and Gujarat. FAO has been in the front line helping governments in the fight against locusts. Parallel to supporting countries’ response to the COVID-19 pandemic, FAO has been providing technical and operational support to countries to help them prepare for and control the locust threat and to preserve food security in the midst of the pandemic. Tackling both COVID-19 and locust invasion was a lesson on how to confront multiple crises likely to emerge concurrently in the future, including drought, floods, typhoons and similar disasters that are all too common in Asia and the Pacific (Xu et al., 2021).

The COVID-19 pandemic negatively affected the speed of response to the humanitarian crisis in Fiji, the Solomon Islands, Tonga and Vanuatu after Cyclone Harold in April 2020. The pandemic has hit Bangladesh at a time when the country faces the cyclone and monsoon seasons that extend from April to September, with flooding and landslides expected, further exacerbating the impact on vulnerable groups. Of 64 administrative districts, 25 are considered to be most...
affected by the pandemic, of which 8 are prone to cyclones, 10 are susceptible to monsoons and flooding, and 3 are prone to landslides (Termeer et al., 2020). The country additionally faces the challenges of addressing the plight of the Rohingya people and recovery from Cyclone Amphan in the Bay of Bengal. Pakistan has also experienced locust invasions and the international community extended financial support to assist about 120,000 vulnerable rural people affected by the pandemic (Vickers et al., 2020).
SECTION 4

MACROECONOMIC, SECTORWIDE AND FOOD POLICY RESPONSES TO COVID-19 PANDEMIC
4.1 FINANCIAL SUPPORT: STIMULUS PACKAGES, SOCIAL PROTECTION AND SAFETY NET ASSISTANCE

Stimulus programmes

Faced with an unprecedented, fast expanding global pandemic, from March 2020 governments responded swiftly with expenditure programmes to counter the immediate impacts of the COVID-19 pandemic. Of 44 countries in the AP Region, expenditure ranged from less than 10 to over 20 percent of GDP. East Asia led with the largest allocations, followed by the Pacific, South-east Asia and the SIDS (see Figure 4.1). Targeted cash and in kind food transfers were used across the region. Many countries combined cash transfers with in kind food assistance to support the poor and most vulnerable during the pandemic.

Figure 4.1: Resources allocated to respond to COVID-19, as percentage of GDP

From South Asia, Pakistan’s Ehsaas Emergency Cash programme was launched to deliver one-time emergency cash assistance to 16.9 million families at risk of extreme poverty. The programme covered 49 percent of the population with 7 percent adequacy (defined as benefit as a percentage of household income, monthly) (IPC-IG, 2021). India expanded cash benefits using digital payment platforms. Nepal combined in kind food transfers (IMF, 2020) and implemented

23 See Nishtar (2020) for a detailed assessment of the programme.
the food for work or cash for work modalities for daily wagers in the informal sector (ADB, 2021a). Sri Lanka applied the Samurdhi programme to distribute food stamps for essential food items on a weekly basis (ADB, 2021g).

From South-east Asia, Cambodia provided free access to health care under the Health Equity Fund, targeting about 506,000 poor households (15 percent of the population) with financial assistance via the Cash Transfer Programme for Poor Pregnant Women and Children (ADB, 2020b). Cambodia also responded to COVID-19 through social protection, targeting poor groups through the Cash Transfer Programme for Poor and Vulnerable Households using digital cash transfers starting in June 2020 and extending through June 2021 (IPC-IG, 2021; ADB, 2021i). Cash transfer programmes were implemented in Malaysia (Bantuan Sara Hidup and Bantuan Prihatin National programmes), the Philippines (Social Amelioration Programme to reach 18 million low and middle-income households) and Thailand (cash handouts). In Malaysia, the first programme covered 76 percent of the population with 1 percent adequacy (defined as benefit as a percentage of household income, monthly). The second programme covered 33 percent of the population with 35 percent adequacy. Malaysia also applied its Food Basket Programme (ADB, 2021h) to cover essential food items for eligible households. The Philippines covered 69 percent of the population with 30 percent adequacy. In Thailand, a cash aid programme targeted low-income households; social protection covered displaced, overseas, migrant, and other vulnerable workers; and credit guarantees were made available to small businesses and the agricultural sector (Awad and Konn, 2020). Viet Nam implemented a cash transfer package for the poor and near poor households, recipients of social protection programmes and workers who temporarily lost employment contracts and were not eligible for unemployment insurance (ADB, 2021j).

Indonesia, South-east Asia's most populous country implemented a fiscal stimulus package for low-income households and expanded social assistance schemes, such as food aid, conditional cash transfers and electricity subsidies, expanding unemployment benefits to workers in the informal sector (ADB, 2021k). The benefits of the regular conditional cash transfer (Programme Keluarga Harapan – Family Hope Programme) increased 25 percent for the poorest 20 percent of the population; the existing food assistance programme (Sembako) was expanded to 20 million families; a social cash assistance programme supported 9 million families; and 1.9 million affected families received food assistance. Unconditional cash transfers from the Village Fund (BLT Dana Desa) were given to 10-12 million families during December 2020 (IPC-IG, 2021). Social assistance in 2020, tripling overall spending compared to 2019, mitigated poverty. Ex-ante simulations showed that in the absence of such a package, poverty could have increased by 2.3 percentage points as opposed to the observed increase of 1 percentage point. The simulations also show that if the 2020 assistance is maintained in 2021, the poverty rate can potentially drop from 10.2 in 2020 to 9.5 percent (ADB, 2021k).

Timor-Leste implemented a stimulus package, including cash transfers with a monthly basic income to over 214,000 households, lasting for three months, as well as purchasing a three month emergency supply of rice (ADB, 2021b). Fiji expanded its unemployment assistance in June 2020 and as of September 2020 widened the number of Fijians qualifying for social welfare assistance after the effects of COVID-19 (ADB, 2021i).
Social protection programmes

In the AP Region, about 60 percent of the population has no access to SP and 40 percent has no access to health care (UN, 2020). The pandemic has urgently heightened the need to expand these social safety protections. However, the pandemic is not neutral in its effects owing to differences in economic activities (formal versus informal employment), differences in spatial features (urban versus rural) and embedded gender inequalities. People in each category are exposed to different risks and were hit by the pandemic at different levels. This requires custom designed social protection measures for maximum effectiveness as one size does not fit all. Among the examples of targeted SP measures, India handed out cash transfers of RUPEES 500 (USD 6.5) for 3 months (April-June 2020) to 200M women with a Pradhan Mantri Jan Dhan Yojana (financial inclusion) account. In the Lao People’s Democratic Republic women working in garment factories (85 percent of the total workforce) received two months emergency income support worth LAK 900 000 (approximately USD 100). Malaysia extended the safety net to student learning in May 2020 to help households buy smart devices to aid online learning and a one off cash transfer of RM 200 to third level students with total support of RM 270 million. The Republic of Korea’s expanded childcare assistance covering elementary schoolage children and Japan supported young parents and new parents with a supplementary child allowance of YEN 10 000 per child on top of a regular monthly allowance of YEN 10 000 per child. In Myanmar, women with children who benefit from the maternal and child cash transfer programme received a one off additional MMK 30 000 cash payment on top of the existing monthly payment of MMK 15 000 with a total budget outlay of USD 12 million. In Mongolia children’s monthly allowance was increased from MNT 20 000 per month to MNT 100 000 (USD 35) as part of government fiscal measures to respond to the COVID-19 pandemic.

Available evidence indicates that, to respond to COVID-19, a large spectrum of SP programmes has been implemented across countries in the AP Region. The most commonly adopted, inter alia, include cash transfers, one off cash, in kind support, social security contribution waiver, utility-housing-financial support, public works programmes and employment retention support. In Fiji, a one off cash transfer went to informal workers in lockdown areas who held a street trader or hawker licence, and to those who tested positive for COVID-19. In Tonga, a one off payment to informal workers adversely affected by COVID-19 was based on a recommendation from local officials. In India, when people started returning to their homes in rural areas after a countrywide lockdown was relaxed, more than 40 million households sought work under the National Rural Employment Guarantee Scheme (Sengupta, 2020). The Government of India also provided a one off benefit of Rupees 1 000 to 480 000 daily wagers (street vendors, rickshaw pullers, etc) (ILo, 2020b). Employment retention support was provided in Indonesia and Malaysia to curb job losses. Indonesia increased the number of subsidized vouchers for unemployed workers to help with skilling and reskilling. An estimated 5.6 million informal workers and small and micro enterprises affected by COVID-19 will have access to these vouchers. In Malaysia, subsidies for short courses in digital skills were introduced (Arahan et al., 2020).

In Viet Nam, the protection support to those affected by COVID-19 reached a limited number of formal and informal sector workers. A one off benefit was given to workers in predefined...
categories of informal employment who lost their jobs (ILO, 2020b). The existing cash transfer programmes were revised and expanded to address risks affecting large numbers of people. To include social protection coverage for returning migrant workers, a residence based system of social protection was changed to one based on national citizenship (FAO et al., 2020). In Myanmar, the government has provided support through food transfers to at risk households, top-ups to social pensions for three months and cash transfers to vulnerable populations, including displaced persons, through mobile banking services. Garment factory workers who have lost their jobs are also eligible for emergency cash funds for three months. In Cambodia, the government has provided a social fund of USD 70 per month for garment factory workers who lost their jobs (Nguyen et al. (2020).

Despite the measures taken across the Mekong Region, established SP systems and emergency financial support do not yet reach all of the most vulnerable and those in need, including rural communities, slum dwellers, those in the informal economy, women and children. For example, in Viet Nam the SP support package omits or neglects families of young workers, especially those with children and single mothers; families with members suffering from serious illnesses; informal workers in urban areas and households in rural areas engaged in agricultural and non-agricultural activities. While the government targeted people facing difficulties due to the COVID-19 pandemic, there are no specific criteria for targeting vulnerable women. Female heads of households from rural or ethnic minority areas and urban migrant women in informal employment may not have access to this support. In Thailand, a fiscal package was implemented to support 3 million workers outside the social security system, informal workers, farmers and entrepreneurs affected by COVID-19. In principle, migrant workers have access to social security benefits and various COVID-19 compensation payments if they lost their job or face a reduced income if they have worked in Thailand for over six months and contributed to the Social Security Fund. The benefits include compensation and/or severance pay for employees who lost or quit their jobs due to the pandemic, in amounts ranging from 45 to 75 percent of salary, depending on the specific circumstance.

For many countries in the AP Region, the priority was to support the health sector, broaden the coverage of existing SP schemes and provide top ups to existing social (ILO, 2020b). Indonesia, for example, dedicated around one-fifth of its stimulus package to the health sector to purchase medical equipment and support health workers. Free medical treatment was provided to all regardless of their registration with the national health insurance scheme. Thailand broadened the benefit package of those already covered by social health protection schemes and extended financial protection for health expenses to all residents, granting access to health coverage for Emergency Patients. Malaysia, China and Thailand ensured that refugees and asylum seekers have free access to COVID-related treatment. India announced it would reimburse the cost of COVID-19 testing in private labs for the 500 million people covered by the flagship public health insurance scheme. Under the umbrella of the National Social Assistance programme, 35 million beneficiaries received Rupees 500 for two months, including older people, widows and people with disabilities. Mongolia has increased child benefit for 90 percent of children aged 0-18. Sri Lanka has provided a top up to its senior citizens and disability allowances, including those on the waiting list in the measure.
Governments targeted their fiscal stimulus and social protection support differently to households, health care or businesses depending on national priorities and nature of the COVID-19 pandemic impacts (direct or indirect). Figure 4.2 shows the distribution of government support between health (health care capacity, medical equipment, vaccines) or income (cash transfers) support to households or businesses. In most countries, the majority of government expenditure went to households (income or health), but some countries targeted businesses more (either through tax policy changes or cash transfers). Most of the Pacific SIDS preferred to implement transfer policies in favour of businesses (e.g. Fiji, Kiribati, Maldives, Papua New Guinea, Samoa, Vanuatu) as their common concern is not the spread of the pandemic but declining tourism income with cash flow constraints for businesses. Tuvalu and Timor-Leste have mobilized resources to improve health care capacity such as upgrading facilities and buying medical equipment. Countries that have managed the pandemic relatively well, such as Republic of Korea, Singapore and Viet Nam, focused their support on income transfer to households. This is particularly the case for Republic of Korea and Singapore thanks to well developed health care systems and well established healthcare facilities.

Figure 4.2: Distribution of support per target area during the pandemic

![Figure 4.2: Distribution of support per target area during the pandemic](source: Data from ADB, accessed 21 July 2021)

Figure 4.3 summarises data on safety nets provided across the AP Region using 2020 data. Among the various types of safety nets, pension payments for the retired (shown in grey in stacked bars) appear to be the most common government payment to households. Pensions’ share in the total safety net payments decreases markedly in advanced economies (i.e. Australia, Japan, New Zealand, Singapore, Republic of Korea) since there are other types of payments that take a share of the distribution. The share of the population covered by at least one type of social security payment (shown in green in stacked bars) diminishes as the GDP of the corresponding
Figure 4.3: Safety nets in Asia-Pacific, 2020

Source: Data from ILOStat, SDG indicator 1.3.1 - Proportion of population covered by social protection floors/systems (%) – Annual, accessed 10 June 2021.
4.2 Policies and measures to support farming and domestic food production

To sustain food supply and protect farmers, governments implemented farm programmes and measures including farm input subsidies, farm price support through procurement and regulation, public input distribution, online commodity auctions and other policies targeting broad-based rural development. Figure 4.5 summarises selected food policy measures for a number of countries in the region.

economy declines. The pandemic has forced governments to broaden coverage of social security systems beyond pension payments. For example, the number of unemployed people receiving benefits has increased significantly, even though the available data are incomplete and it is difficult to predict the extent of the expansion in unemployment payments in many cases. Data from the Republic of Korea show an increase in coverage of unemployment benefits from 37.1 percent to 45.4 per cent in 2020, roughly equivalent to a 20 percent rise (data source: ILOStat
SDG indicator 1.3.1 – Proportion of population covered by social protection floors/systems (%) – Annual. Figure 4.4 shows the share of the population covered by at least one social programme for all countries of the AP Region. Countries in South Asia (Afghanistan, Pakistan, India, Bhutan and Nepal) have smaller population coverage under SP compared to the regional median (around 27 percent). The second group of South-east Asian countries with lower than median SP coverage includes Myanmar, Cambodia and the Lao People’s Democratic Republic where the pandemic has taken its toll since March 2021. As the vulnerable segments of the populations in these countries were already affected and could not get enough support from the government in 2020, they are likely to experience further hardships and difficulties from the recent worsening of the pandemic since mid-March 2021.

Overall, while the low and middle-income AP countries have responded to the COVID-19 crisis by either expanding existing social security programmes or introducing some new schemes, however so far the magnitude of these fiscal responses, ranging between 0.02 to 0.8 per cent of GDP (UNDP, 2020), is still too small to constitute effective economic stimulus packages. They are also not sufficient to counter the devastating effect on the well-being of the vulnerable.

### 4.2 POLICIES AND MEASURES TO SUPPORT FARMING AND DOMESTIC FOOD PRODUCTION

To sustain food supply and protect farmers, governments implemented farm programmes and measures including farm input subsidies, farm price support through procurement and regulation, public input distribution, online commodity auctions and other policies targeting broad-based rural development. Figure 4.5 summarises selected food policy measures for a number of countries in the region.

Examples of government short-term farm support measures during COVID-19 include the following.

- Sri Lanka supported farmers through the purchase of the paddy harvest through cooperatives, early purchase of fish harvests, procurement of vegetables and fruit stocks, as well as purchasing food at guaranteed prices. Saughagya National Programme distributed seeds to households and maize seeds to farmers with concessional loans to farms. Tax reduction incentives were offered to encourage investments in agricultural projects. To protect consumers, price ceilings were adopted to prevent price hikes in broiler chicken, maize, red lentils, big onions, canned fish, vegetables, rice and turmeric.

- Myanmar focused on agricultural production and aided with the distribution of farm machinery and funds for access to agricultural inputs. The government also created opportunities for labour-intensive cash for work activities and cash and lending support to smallholders to support
Examples of government short-term farm support measures during COVID-19 include the following.

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- Myanmar focused on agricultural production and aided with the distribution of farm machinery and funds for access to agricultural inputs. The government also created opportunities for labour-intensive cash for work activities and cash and lending support to smallholders to support input purchases in time for monsoon planting. Restrictions on rice export quotas were removed to incentivize farmers to continue planting.

- Papua New Guinea provided grants for improved crop production, such as buying seedlings and protection of plant and animal health. Price support for export crop production was provided for small cash crop producers (coffee, cocoa, copra) with price controls for key cereals and food items such as frozen meat products, eggs and fresh produce.

- Pakistan’s relief package for agriculture included subsidies on certified seed and fertilizers and pesticides for cotton. Wheat procurement supported farmers. To protect vulnerable families, 19 food (basic) items (i.e. wheat flour, sugar, pulses etc.) were subsidized. Food price controls were also imposed against hoarding food items and sanitizers.

Government loans, loan guarantees and tax breaks/subsidies for enterprises including food and agriculture were common across most AP countries (Table 4.1). All countries except India, Republic of Korea and Indonesia provided employment subsidies. In the food sectors, all countries except the Republic of Korea exempted food system workers from lockdowns or provided special green channels for them. On the trade side, most countries in the region refrained from export bans, except in some cases on a temporary basis. Some countries in South Asia placed major restrictions on urban food traders, who played critical intermediary roles between producers and consumers (Fan et al., 2021). In general SP systems launched or expanded in the wake of pandemic rarely included agriculture and smallholder farmers.
Table 4.1: Macroeconomic and food sector measures implemented by some leading Asia Pacific economies in the early stages of the COVID-19 pandemic

<table>
<thead>
<tr>
<th>Country</th>
<th>Macroeconomic measures</th>
<th>Food sector measures</th>
<th>Increased barriers to food exports</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Government loan or loan guarantee</td>
<td>Tax break and/or subsidies</td>
<td>Employment subsidies</td>
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<td>YES</td>
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<td>the Philippine</td>
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<tr>
<td>Viet Nam</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
</tbody>
</table>

Source: Oxford Economics (2020)

4.3 PROGRAMMES STIMULATING LOCAL FOOD PRODUCTION AND SHORT VALUE CHAINS

The COVID-19 pandemic offered stronger support to programmes stimulating and supporting shorter supply chains (lower number of exchange layers) and production based on local sourcing (shorter distance from production to consumption) and stronger urban–rural relationships. Many AP countries implemented such programmes during the COVID-19 crisis. Agriculture and the food production industries in some countries have reported they became at least a temporary buffer zone, absorbing workers laid off by other sectors of the economy.

In Malaysia the government has introduced various initiatives, including loan facilities for agrifood businesses to relieve cash flow problems, cover operating costs or purchase assets. Malaysia also set up RM 1 billion food security fund to encourage local food production though various forms of assistance and acquisition of agricultural inputs (Shaharudin, 2020). Viet Nam introduced then removed export bans on rice to ensure availability of food for its citizens and implemented preferential import and export tariffs for businesses operating in agricultural, forestry and fishery product processing (ADB, 2021)). In South Asia, Pakistan implemented tariff and customs duty reductions on food items and a relief package for food supplies (ADB, 2021m). Nepal extended loans for timely imports and distribution of food (ADB, 2121a) while Mongolia implemented an import tax and duties exemption for food products (ADB, 2021n).
For SIDS, encouraging local food production during COVID-19 was pursued by many countries through a variety of programmes and initiatives. Fiji, Vanuatu, Tonga, Tuvalu and the Solomon Islands all encouraged local food production, distributing seedlings and planting material (Sherzad, 2020). Fiji implemented a home gardening programme and boosted seeds and materials distribution (ADB, 2021). Samoa distributed seeds for short cycle crops and planting materials for cassava and sweet potato to farmers and families. It also eased imports on the most common household foods and duty concessions applied to an extended list of agricultural and fishing materials (ADB, 2020e). Vanuatu distributed free seedlings for backyard gardening of root crops and vegetables, as well as backyard fish farms with free tilapia fish and feed. The Solomon Islands promoted local food production to guarantee food supply to urban areas by distributing seedlings Sherzad (2020).

4.4 PROGRAMMES TO PROMOTE FOOD SUPPLY DISTRIBUTION, MARKETING, LOGISTICS AND URBAN FOOD SYSTEMS

The pandemic has highlighted vulnerabilities within particular urban food system components. COVID-19 restrictions undermined the critical role played by street vendors and street stalls involved in food distribution and marketing throughout AP urban centres. Assisting street food vendors with food safety information and other smart regulations and establishing self-regulation associations is a good way to fill the gap between food safety standards and street vendors’ knowledge (Song, 2020).

Some major cities of AP countries implemented the CRFS (City Regions Food Systems) assessment and planning process in their programmes. In Colombo, Sri Lanka, there is a strong alignment between the CRFS approach and the measures introduced by a government taskforce to ensure sufficient availability of staple foods. The taskforce took a systemic approach to ensure communities have access to food using alternative supply chain linkages by coordinating with multistakeholders across administrative boundaries (Blay-Plamer et al., 2020). In Chiang Mai, northern Thailand, an urban farm developed on a former landfill site was set up during the 2020 nationwide lockdown, when many of the city’s residents lost their tourism jobs. This initiative provided valuable support to many residents of Chiang Mai and served as an example of urban farming and a model of how to turn unused spaces into places that benefit the whole community.

Many countries have enacted programmes to strengthen domestic food procurement, urban food logistics and food storage. Malaysia supported a food security fund to develop food storage and logistics infrastructure, a crop integration programme and agrifood projects. It also implemented a food basket programme to provide essential food items to eligible households.
and also supported NGOs (non-governmental organizations) and relevant social entrepreneurs to deliver food assistance to the vulnerable (ADB, 2021h). Sri Lanka responded to domestic market shocks by fixing the maximum retail prices for rice and vegetables to protect consumers from price hikes. The Government of Fiji directly purchased food from producers to ensure supplies of fresh produce in local markets and to food vendors in lockdown areas. Vanuatu gave producers logistics support (food collection and distribution) to guarantee the supply of local produce to urban households. In the Solomon Islands, financial support was provided to some urban municipalities to rehabilitate markets for root crops and vegetables and to establish satellite food markets (Sherzad, 2020). Producers in Tuvalu, Samoa, Fiji and Tonga were supported to improve their food storage methods to reduce post-harvest losses and stabilize food supply to markets (Sherzad, 2020).

4.5 POLICY RESPONSES TARGETING FOOD UTILIZATION, NUTRITION AND DIETARY DIVERSIFICATION

Several nutrition programmes and initiatives were enacted to redress the negative impacts of the pandemic on the most vulnerable segments of the population. In Bhutan, the government launched a campaign, Healthy DrukYul (Healthy Bhutan), to encourage healthy eating habits and a shift from traditional food rich in salt and carbohydrates to a vegetable and fibre-based diet (Bhandari, 2020). Nepal expanded its existing social support child grant programme from 13 to 25 districts. With school closures, take home food rations were implemented through the school feeding platform managed by the Food Management and Trading Company of Nepal who handled procurement, aggregation and disbursement (Singh et al., 2020).

The specific challenges to food access by urban populations induced innovations during the pandemic, especially in food distribution channels, such as the emergence of user friendly home delivery applications and online services delivering processed food and fresh produce to homes (Farmery et al., 2020; Rattan Lal, 2020). Digital platforms are developed and used by organizations pushing for nutritional programmes in the midst of COVID-19. Organizations like HarvestPlus and International Potato Center (CIP) have used digital platforms to raise awareness among farmers about the benefits, availability and sources of biofortified seeds and to deliver them (Heck et al., 2020). Promoting food diversification, including through biofortification, is another strategy to safeguard nutrition security. Several low and medium-income countries have food fortification requirements embedded in their food systems through mandatory salt iodization programmes, fortification of at least one cereal grain and of edible oil, margarine or ghee (Bouis & Saltzman 2017; Yadava et al., 2020; Boyd, 2020).
4.6 POLICIES TO PROMOTE DIGITALIZATION OF THE AGRIFOOD AND RURAL SECTORS

ICT’s contribution to economic growth and employment is undeniable, with a significant share in GDP and employment in China, India, Japan, Malaysia and Republic of Korea (see Figure 4.6). However, the digital divide in the AP Region hampers the widespread use of ICT tools and applications. More than half the region’s population remains unconnected. Poor access to the internet and the quality of broadband make it difficult for farmers, employees and students to use it for farm work or to work or study from home during the lockdowns (UN, 2021a). In developing Asia, there is still a strong rural-urban digital divide. In Bhutan only 29 percent of rural households had access to the internet in 2016, compared with more than 70 percent among urban households. By contrast, the rural-urban digital divide in Japan is only 83-88 percent, respectively. Digital divide also exists for gender and in the AP Region: the share of women using the internet was 41 percent in 2019, compared with 48 percent for men.

**Figure 4.6: Contribution of ICT to GDP and employment**

![Graph showing the contribution of ICT to GDP and employment in different countries.](source: Adopted from UN, 2021a)

During the pandemic, digital technologies partially compensated for losses resulting from limited face to face interactions, enabling people to access food, finance, health and social protection services. As the recovery gradually takes hold, speeding up the digital transformation in agriculture is an opportunity to “build back better”. Applying digital technologies along the agrifood value chains, such as mobile payments and e-commerce platforms, digital ID systems, e-contracts and e-extension services, would help alleviate some of pandemic disruptions. Indonesia, Thailand, Viet Nam, the Philippines and Malaysia are moving fast on digitalization, with an expected significant expansion of the e-commerce market from 2020 onwards. For Viet
Nam, the pandemic accelerated the digital transformation, already prioritized in 2019 with the National Digital Transformation Road Map 2025. Following the rapid expansion of 4G networks, progress was made in the digital identity, digital citizenship and digital lifestyle components of the road map. In 2020, the government unveiled a national e-commerce development plan (Okeleke, 2020). Malaysia has special tax reliefs on buying ICT tools and Samoa provides funds to upgrade rural hospitals (ADB, 2021f). Malaysia and the Philippines were the only countries that specifically targeted ICT use as a response and recovery tool.

4.7 PROGRAMMES AND INTERVENTIONS TO PROMOTE ONLINE MARKETING AND E-COMMERCE

COVID-19 opened new marketing and distribution trends and gave a strong impetus to online marketing and e-commerce. Prior to this online shopping was not widespread in most AP countries, as the majority of people relied on farmer’s markets, among others, for their food needs. But COVID-19 changed that and created a sharp shift toward online marketing. Global e-commerce update in December 2020 reported that retail AP e-commerce sales growth was 26.4 percent in 2020 (Emarketer, 2021). A 2020 OECD report stated that the share of online retail in accumulated retail sales in China reached 24.6 percent between January and August 2020, up from 19.4 percent in August 2019 and 17.3 percent in August 2018. Also, it was reported that China’s recovery from the COVID-19 pandemic was in large part driven by consumer activity across e-commerce platforms.

Online marketing and ecommerce during COVID-19 and their expansion to the food marketing and supply chains created a self-reproducing cycle of new economic development with more knowledgeable and skilled people who are more engaged and involved with more efficient and productive ways of doing things. The COVID-19 pandemic has facilitated future transformation of the e-commerce platforms in the agriculture sector. Farmers and wholesalers who have not used them before the pandemic are now becoming familiar with these innovative tools and realizing the effectiveness of online channels. Consumers have become used to online ordering of fresh food which is delivered to their home. Online shopping was growing steadily in Thailand even before the COVID-19 pandemic. But 2020 saw a massive increase in people ordering everything from groceries to clothing to household supplies. In Pacific Island countries, e-commerce has increased and played a role in COVID-19 recovery. In Fiji and the Solomon Islands, social media platforms serving as markets and bartering systems have gained in popularity. In Fiji, the Barter for Better Fiji group established in April 2020 reached over 180 000 members. In the Solomon Islands, some produce that is usually sold to hotels and not typically eaten by local communities, like herbs, are now sold on social media platforms (ACAIR, 2020).
In China, disruption to food systems has caused considerable problems in sales of agricultural products during COVID-19. To mitigate the adverse effects, measures have been taken to match production with sales to help both farmers and consumers. China opened a green channel for fresh agricultural products and prohibited unauthorized roadblocks. It also used e-delivery platforms to resolve logistical challenges from smallholders to urban communities, while minimizing the potential risk of infection from visits to crowded food markets (Fan et al., 2021). Several lessons can be drawn from COVID-19 responses in China. Diversification of distribution helps improve food system resilience. The online channel is a very good complement or even alternative during such a crisis and ensures distribution from production to consumption through more efficient and digitalized systems (Fei and Jia Ni, 2020).

The COVID-19 pandemic has accelerated the transformation of agrifood e-commerce platforms in China. For the platforms, management of the food supply chain has been further optimized through the farmer aid initiatives during the crisis, encouraging more long-term strategies for these e-commerce businesses to collaborate closely with the agricultural production end of the supply chain. A striking example of a company that adapted to the new environment is China’s Master Kong, a leading instant noodle and beverage producer. The company reviewed dynamics on a daily basis and reprioritized efforts. It anticipated hoarding and stock-outs, tilting focus away from offline, large retail channels to O2O (online-to-offline), e-commerce and smaller stores. By tracking retail outlets’ reopening plans it was also able to adapt its supply chain. As a result, the supply chain recovered by more than 50 percent just a few weeks after the outbreak and was able to supply 60 percent of reopened stores, three times as many as some competitors (Reeves et al., 2020).

**4.8 POLICIES AND RESPONSE PROGRAMMES FOR GREEN RECOVERY**

Considerable scope exists for the AP Region to integrate green growth and climate change considerations into COVID-19 recovery plans. A number of fiscal stimulus packages are likely to create an unfavourable change in biodiversity, air quality and climate since most financial support went to carbon-intensive sectors, including industry, energy, transport and agriculture. South Asia, one of the world’s largest carbon dioxide emitters (Rhee and Svirydzenka, 2021), is uniquely placed to speed up efforts to reduce emissions, thereby limiting climate change
and benefiting the local economy and the health of the region’s population. Some countries are currently implementing green growth strategies, but others still need to formulate and integrate their green growth policies into national development plans.

Four complementary policy objectives should reinforce the transition to a green growth trajectory: rebalancing the economy towards green sectors, promoting the use of renewable energy, raising awareness of the benefits of green activities in rural development and agrifood systems and achieving economic growth and development by efficient use of natural assets. To accomplish this, governments should facilitate the transition to a green economy and provide funds for a sustainable transition process. They need to create an enabling regulatory environment for public-private partnerships in green investments, promote transparency and access to information on environmental impacts of economic activities and manage both market and governance failures.

Pursuing the path that neglects the environmental consequences of economic growth is unaffordable. COVID-19 offers a unique opportunity to rebuild a post-COVID-19 recovery alongside a green rural economy that reduces poverty (SDG 1), food insecurity and malnutrition (SDG 2) and inequality (SDG 10). The UN “Building back better” aspiration requires a mix of social, economic and environmental policies and should facilitate this transition. Such policies include clean energy, climate-smart agriculture, nature-based solutions to biodiversity and ecosystem services. Green recovery also encompasses inclusive and broad based rural development, sustainable tourism and bridging the digital divide. Green responses are not rare in the region. Examples include Fiji Disaster Rehabilitation and Containment Facility that supported affected businesses. Bangladesh prioritized green recovery as it faces multiple emergencies, including COVID-19, floods, droughts, often concurrently. With its already developed green strategy, Viet Nam aims to reduce GHG (greenhouse gas) emissions and ensure equal access to outcomes of the green transition. Pakistan’s Green Stimulus package aims to create innovative financial tools, such as the Ecosystem Restoration Fund, to create green jobs. Maldives initiated a green plan to promote renewable energy use and create job opportunities, especially for women and youth.
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APPENDIXES

SECTION 1: MACRO AND SOCIOECONOMIC IMPACTS

Figure A1.1: High frequency phone surveys: coping, food security, income and social assistance
APPENDICES

SECTION 1 (MACRO AND SOCIOECONOMIC IMPACTS)

Figure A1.1: High frequency phone surveys: coping, food security, income and social assistance.

Note: Vertical axis represents percent of households for each factor placed on the horizontal axis. The HFPS covers households’ coping strategy (COPING), food security (FOOD SEC.), employment (LABOR), INCOME and SAFETY NET. Under COPING, there is one factor examined “reduction in consumption of goods during the pandemic (Red. cons.)” reported at the national, urban and rural levels. Under FOOD SEC., two factors are examined: “ate less than they thought they should due to lack of money (Ate less)” and “did not eat anything for a whole day due to lack of money (Hungry).” Under LABOR, one factor is examined “did not work since the start of the pandemic (Inactive).” Under INCOME, three factors are reported: “decrease in total income (Total inc.),” “decrease in wage income (Wage inc.),” and “decrease in remittances (Remittance).” Since the beginning of the pandemic. Under SAFETY NET, two factors are reported: “receipt of assistance since the start of the pandemic (Asst. rec.)” and “receipt of assistance after losing jobs (Asst. w/unemp.).” The following figures have the same vertical and horizontal axes.
Figure A1.2: Food and medical products trade policy responses and COVID-19 in the AP Region

Source: Adopted from Evenett et al., 2020. The upper part plots the number of active trade policy measures and the absolute number of COVID-19 cases over time, while the lower part plots the weekly variation of COVID-19 cases.
SECTION 2: FOOD INSECURITY AND MALNUTRITION

Figure A2.1: Prevalence of undernourishment in Asia and the Pacific by country

Table A2.1: Prevalence of undernourishment by subregion since 2000 (percent)

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<td>8.3</td>
<td>8.3</td>
<td>8.4</td>
<td>9.9</td>
</tr>
<tr>
<td>Asia and the Pacific</td>
<td>14.3</td>
<td>9.6</td>
<td>8.3</td>
<td>8.0</td>
<td>7.5</td>
<td>8.7</td>
</tr>
<tr>
<td>Eastern Asia</td>
<td>10.0</td>
<td>&lt;2.5</td>
<td>&lt;2.5</td>
<td>&lt;2.5</td>
<td>&lt;2.5</td>
<td>&lt;2.5</td>
</tr>
<tr>
<td>East Asia excluding China</td>
<td>5.3</td>
<td>7.0</td>
<td>5.8</td>
<td>6.1</td>
<td>6.0</td>
<td>5.9</td>
</tr>
<tr>
<td>Oceania</td>
<td>6.9</td>
<td>5.3</td>
<td>6.0</td>
<td>6.1</td>
<td>6.2</td>
<td>6.2</td>
</tr>
<tr>
<td>Oceania excluding Australia and New Zealand</td>
<td>20.6</td>
<td>16.7</td>
<td>20.0</td>
<td>20.1</td>
<td>20.0</td>
<td>19.9</td>
</tr>
<tr>
<td>South-eastern Asia</td>
<td>20.6</td>
<td>11.6</td>
<td>8.6</td>
<td>8.3</td>
<td>7.0</td>
<td>7.3</td>
</tr>
<tr>
<td>Southern Asia</td>
<td>16.6</td>
<td>15.6</td>
<td>14.4</td>
<td>14.1</td>
<td>13.3</td>
<td>15.8</td>
</tr>
<tr>
<td>South Asia excluding India</td>
<td>17.6</td>
<td>14.2</td>
<td>12.3</td>
<td>11.4</td>
<td>10.7</td>
<td>11.8</td>
</tr>
</tbody>
</table>

Note: Value (percent) for 2020 are projections.
Source: FAO, 2021c
Table A2.2: Number of undernourished people in Asia and the Pacific and subregions since 2000 (millions)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>800.3</td>
<td>636.8</td>
<td>606.9</td>
<td>615.1</td>
<td>650.3</td>
<td>768.0</td>
</tr>
<tr>
<td>Asia and the Pacific</td>
<td>503.7</td>
<td>378.2</td>
<td>339.6</td>
<td>333.4</td>
<td>321.9</td>
<td>375.8</td>
</tr>
<tr>
<td>Eastern Asia</td>
<td>152.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East Asia excluding China</td>
<td>10.9</td>
<td>15.0</td>
<td>12.5</td>
<td>13.2</td>
<td>12.8</td>
<td>12.8</td>
</tr>
<tr>
<td>Oceania</td>
<td>2.2</td>
<td>1.9</td>
<td>2.4</td>
<td>2.4</td>
<td>2.6</td>
<td>2.7</td>
</tr>
<tr>
<td>South-eastern Asia</td>
<td>107.9</td>
<td>69.0</td>
<td>54.2</td>
<td>52.7</td>
<td>46.0</td>
<td>48.8</td>
</tr>
<tr>
<td>Southern Asia</td>
<td>241.3</td>
<td>267.9</td>
<td>259.9</td>
<td>256.9</td>
<td>255.2</td>
<td>305.7</td>
</tr>
<tr>
<td>South Asia excluding India</td>
<td>70.3</td>
<td>67.9</td>
<td>62.7</td>
<td>58.9</td>
<td>58.9</td>
<td>66.1</td>
</tr>
</tbody>
</table>

Source: FAO, 2021c
Note: The estimated PoU for Eastern Asia from 2011 onwards is below 2.5 percent of the population, the lowest value that can be reliably reported using the PoU methodology to calculate the number of undernourished people. Values for 2019 are projections.

Table A2.3: Prevalence of moderate and severe food insecurity in Asia and the Pacific (percent)

<table>
<thead>
<tr>
<th></th>
<th>Moderate food insecurity</th>
<th>Severe food insecurity</th>
<th>Moderate or severe food insecurity</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>14.3</td>
<td>16.5</td>
<td>18.5</td>
</tr>
<tr>
<td>Asia and the Pacific</td>
<td>11.0</td>
<td>13.3</td>
<td>15.4</td>
</tr>
<tr>
<td>Eastern Asia</td>
<td>3.3</td>
<td>3.6</td>
<td>4.0</td>
</tr>
<tr>
<td>East Asia excluding China</td>
<td>5.2</td>
<td>6.1</td>
<td>5.8</td>
</tr>
<tr>
<td>Oceania</td>
<td>8.9</td>
<td>9.8</td>
<td>9.4</td>
</tr>
<tr>
<td>South-eastern Asia</td>
<td>13.0</td>
<td>14.2</td>
<td>15.5</td>
</tr>
<tr>
<td>Southern Asia</td>
<td>15.7</td>
<td>19.3</td>
<td>23.9</td>
</tr>
<tr>
<td>South Asia excluding India</td>
<td>27.7</td>
<td>26.6</td>
<td>27.0</td>
</tr>
</tbody>
</table>

Source: FAO, 2021c

Table A2.4: Number of moderately or severely food insecure people in Asia and the Pacific (millions)

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2016</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>1645.5</td>
<td>1762.9</td>
<td>1978.7</td>
<td>2049.9</td>
<td>2368.2</td>
</tr>
<tr>
<td>Asia and the Pacific</td>
<td>769.3</td>
<td>775.6</td>
<td>935.0</td>
<td>962.5</td>
<td>1111.2</td>
</tr>
<tr>
<td>Eastern Asia</td>
<td>98.0</td>
<td>104.1</td>
<td>159.5</td>
<td>124.6</td>
<td>130.8</td>
</tr>
<tr>
<td>East Asia excluding China</td>
<td>9.3</td>
<td>10.6</td>
<td>11.1</td>
<td>10.5</td>
<td>11.3</td>
</tr>
<tr>
<td>Oceania</td>
<td>4.5</td>
<td>4.8</td>
<td>5.5</td>
<td>5.7</td>
<td>5.1</td>
</tr>
<tr>
<td>South-eastern Asia</td>
<td>96.3</td>
<td>109.1</td>
<td>113.6</td>
<td>111.0</td>
<td>125.5</td>
</tr>
<tr>
<td>Southern Asia</td>
<td>570.6</td>
<td>557.7</td>
<td>656.5</td>
<td>721.4</td>
<td>849.8</td>
</tr>
<tr>
<td>South Asia excluding India</td>
<td>204.7</td>
<td>194.9</td>
<td>205.2</td>
<td>222.0</td>
<td>231.2</td>
</tr>
</tbody>
</table>

Source: FAO, 2021c
Table A2.5: Number of severely food insecure people in Asia and the Pacific (millions)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>604.5</td>
<td>620.2</td>
<td>731.3</td>
<td>779.9</td>
<td>927.6</td>
</tr>
<tr>
<td>Asia and the Pacific</td>
<td>316.5</td>
<td>285.2</td>
<td>369.4</td>
<td>390.4</td>
<td>443.8</td>
</tr>
<tr>
<td>Eastern Asia</td>
<td>13.2</td>
<td>24.6</td>
<td>31.3</td>
<td>21.7</td>
<td>33.8</td>
</tr>
<tr>
<td>East Asia excluding China</td>
<td>1.4</td>
<td>1.3</td>
<td>1.9</td>
<td>1.8</td>
<td>2.0</td>
</tr>
<tr>
<td>Oceania</td>
<td>1.0</td>
<td>1.3</td>
<td>1.5</td>
<td>1.6</td>
<td>1.1</td>
</tr>
<tr>
<td>South-eastern Asia</td>
<td>15.2</td>
<td>16.1</td>
<td>17.1</td>
<td>16.9</td>
<td>22.1</td>
</tr>
<tr>
<td>Southern Asia</td>
<td>287.2</td>
<td>243.3</td>
<td>319.5</td>
<td>350.3</td>
<td>386.8</td>
</tr>
<tr>
<td>South Asia excluding India</td>
<td>63.6</td>
<td>61.4</td>
<td>66.6</td>
<td>75.0</td>
<td>80.0</td>
</tr>
</tbody>
</table>

Source: FAO, 2021c

Table A2.6: Cash transfers by Country government to mitigate the effect of COVID-19

<table>
<thead>
<tr>
<th>Region/ Country</th>
<th>Cash Transfers</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOUTH ASIA</td>
<td></td>
</tr>
<tr>
<td>Afghanistan</td>
<td>• Under the REACH programme, households in urban areas a combination of cash and in-kind equivalent to US$100.</td>
</tr>
<tr>
<td></td>
<td>• The World Bank plans to repurpose USD100 million of its Citizens’ Charter Afghanistan Project (CCAP) for COVID-19 relief efforts, aiming to cover 90 per cent of households under the project.</td>
</tr>
<tr>
<td></td>
<td>• In the context of the overall World Bank’s COVID-19 relief response in Afghanistan, $100 million of the Citizens’ Charter program resources were redeployed in May 2020 to provide emergency household assistance in the form of food/cash in CCAP participating communities.</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>• Taka 1,250 million for 5 million households (Taka 2500 each household)</td>
</tr>
<tr>
<td></td>
<td>• Taka 12 billion cash assistance for disadvantaged elderly people, widows and female divorcees</td>
</tr>
<tr>
<td></td>
<td>• Taka 1 billion as bonus for public health workers</td>
</tr>
<tr>
<td>Bhutan</td>
<td>• US$ 106-160 per month to 34,384 people (till November 2020)</td>
</tr>
<tr>
<td></td>
<td>• Additional US$ of 10.5 per child per month to eligible beneficiaries with Children.</td>
</tr>
<tr>
<td></td>
<td>• Paid to people who lost their jobs, or their businesses were affected by the pandemic.</td>
</tr>
<tr>
<td>Pakistan</td>
<td>• USD 1.23 Billion to low-income households</td>
</tr>
<tr>
<td></td>
<td>• USD 75 to 15 million families at risk of extreme poverty.</td>
</tr>
<tr>
<td></td>
<td>• Pak Rs 12000 to 6.2 million daily-wage earners who were laid off.</td>
</tr>
<tr>
<td></td>
<td>• Additional tax relief, and additional health spending were provided to low-income households.</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Region/ Country</th>
<th>Cash Transfers</th>
</tr>
</thead>
</table>
| Sri Lanka       | • Rs. 400 million- Rs. 5,000 each to who lost their incomes due to lockdown situation.  
• UNICEF Sri Lanka estimates that over 60 per cent of the population and about 97% of poorest decile were covered by the social assistance initiatives through the Samurdhi (for elderly and poor) and Farmers and fishermen’s Insurance Scheme. |
| Southeast Asia  | |
| Cambodia        | • USD 232 million (till end on 2020) to 688,539 households. |
| Indonesia       | • US$2.5 billion to 9.2 to 10 million beneficiary families through Program Keluarga Harapan (PKH)  
• One-time unconditional cash transfer of IDR 500,000 targeting beneficiaries who were not covered under PKH.  
• A new unconditional cash transfer program- BLT Dana Desa was initiated for rural residents who were not registered for any other program. |
| the Laos PDR    | • 1 million EUR for 150000 people in 229 poor target villages by the government of Luxembourg |
| Malaysia        | • Onetime cash transfer of different value for poor, disabled, workers who lost jobs (1.5 million workers), pensioners (850,000), e-hailing drivers (120,000), taxi, tourist and trishaw drivers and tourist guides (36,677) |
| Myanmar         | • US$2 billion in April 2020  
• Around $ 200 million to 5.4 million vulnerable and affected worker households. |
| the Philippines | • Several subsidy and cash programs for farmers, low-income households, students, workers, elderly and disabled. |
| Singapore       | • Every individual received a pay-out of $900, $600 or $300, depending on their income.  
• One-off cash assistance of $500 for those who need urgent help with basic living expenses.  
• Cash grant of $800 per month for 3 months, for low- and middle-income Singaporeans who lost their jobs |
| Thailand        | • 366 billion baht to workers to 7.5 million registered farmers, 1.2 million welfare card holders. |
| Timor-Leste     | • $200 per household (Universal cash out) in June 2020.  
• A subsidy of 60% of the incidence value of the first level of optional membership to workers not yet registered within Social Security. |
<p>| Vietnam         | • VND 1.8 million per month to support workers who lost jobs and whose business establishments closed. |</p>
<table>
<thead>
<tr>
<th>Region/ Country</th>
<th>Cash Transfers</th>
</tr>
</thead>
</table>
| Sri Lanka       | • Rs. 400 million- Rs. 5,000 each to who lost their incomes due to lockdown situation.  
• UNICEF Sri Lanka estimates that over 60 per cent of the population and about 97% of poorest decile were covered by the social assistance initiatives through the Samurdi (for elderly and poor) and Farmers and fishermen’s Insurance Scheme. |
| EAST ASIA       |                |
| China           | • Provided coverage and temporary assistance programs to cover families that was directly or indirectly economically impacted by the pandemic. |
| Mongolia        | • One-time universal cash transfer of USD 105 per person (April 2021).  
• Also had social welfare pension fund for senior citizens. |
| South Korea     | • 9.1 trillion won to households (14 million) in the bottom 70 percent income bracket.  
• Emergency relief checks to 800,000 people who had job loss either in formal or informal sector.  
• Emergency relief payments to roughly 21.71 million households of $11.66 billion value. |
| PACIFIC         |                |
| Australia       | • The Government provided two separate $750 payments to social security, veteran and other income support recipients and eligible concession card holders (March 2020 and July 2020). Two additional Economic Support Payments of $250 was given in December 2020 and March 2021.  
• The government announced a time-limited Coronavirus Supplement to be paid at a rate of AUD 550 per fortnight to recipients of Jobseeker payment, parenting payment, youth allowances and other payment types and it was of total cost of AUD 14.1 billion (USD 8.5bn) until September 2020 and late of AUS 250 per fortnight until December 31st, 2020, and later rate of $150 per fortnight until March 31st 2021. |
| New Zealand     | • $2.8 billion for income support for the most vulnerable. |
| PACIFIC SMALL ISLANDS |                |
| American Samoa  | • USD 24 million in 2020 from the US Government as tax relief to track fillers for recipients of the Poverty Benefit Scheme, the Child and Protection allowance and the Disability Allowance Scheme. |
| French Polynesia| • Family allowances were increased from 10,000 francs to 15,000 francs. |
| Guam            | • $11 million to people filing tax and below $10000 incomes  
• $1,200 for individual tax filers, $2,400 for couples who filed joint tax returns, and $500 per dependent child |
### Table A2.7: Food voucher and ration programs launched by Country government to mitigate the effect of COVID-19

<table>
<thead>
<tr>
<th>Region/ Country</th>
<th>Cash Transfers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hong Kong SAR, PRC</td>
<td>• Allowances for tourism sector people, students and other vulnerable population and old people.</td>
</tr>
<tr>
<td>Micronesia (Federal State of Micronesia)</td>
<td>• USD 6,000,000 million to about 4,500 low-income as each get $1,000.</td>
</tr>
</tbody>
</table>
| Samoa | • The Ministry of Finance collaborated with the Samoa Chamber of Commerce to distribute monetary compensation for all workers who were laid off or had reduced incomes  
• $300 added monthly benefits of senior citizens |
| Tonga | • One-off payments to elders, households, and special top ups for in bank accounts of female household members. |
| Tuvalu | • $40 per person per month for the duration of the crisis (2-3 months) to all.  
• Front line workers- Risk allowance equivalent to $1.7 million. |
| Vanuatu | • VUV $18,000 to population  
• VUV $200M to frontline health workers. |


<table>
<thead>
<tr>
<th>Region/ Country</th>
<th>Food Voucher and Ration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SOUTH ASIA</strong></td>
<td></td>
</tr>
</tbody>
</table>
| Afghanistan | • 90% of rural households received an equivalent of US$50 food staples and hygiene- total allocated $86 million in first phase and then $158 million in the second phase.  
• Free bread provided to 2.5 million poor people in Kabul |
| Bangladesh | • 10-kg rice free to over 10 million ultra-poor and destitute families |
| Bhutan | • Enhanced support to Food Cooperation of Bhutan to stock essential food and non-food items for distribution and enhancing food availability during shortages |
| India | • The state of Gujarat expanded free grains to even APL (Above Poverty Line) households who are officially not covered in the National Food Security Act.  
• Delhi providing Free rations, with 50% more quantity than normal entitlements, to 7.2M beneficiaries. Also cooked meals were served twice a day free to each person at all Delhi Government night shelters. |
<table>
<thead>
<tr>
<th>Region/ Country</th>
<th>Food Voucher and Ration</th>
</tr>
</thead>
</table>
| India           | • Bihar - With the support of local women SHG members, new vulnerable families were identified and total of 2.3 million new ration cards were made in 2020  
• The Kerala state government delivered food ingredients for mid-day meals to over 300,000 children studying in 33,115 anganwadis (rural childcare center) closed due to the COVID-19 pandemic. |
| Maldives        | • Food basket to 691 vulnerable families that were under quarantine for 14 days. |
| Nepal           | • Daily food rations to vulnerable families.  
• Prices of essential commodities like rice, flour, sugar, salt, and cooking oil were subsidized by 10%. |
| Pakistan        | • Some states provided rations |
| Sri Lanka       | • Deliver “triposha” and other nutritious supplements to the households of pregnant mothers and infants with nutrition deficiencies |
| SOUTHEAST ASIA  | |
| Indonesia       | • Food assistance of IDR 300,000 per household per month from April-December 2020.  
• The food assistance program- Sembako expanded from 15.2 million to 20 million for low-income households (30% of population). |
| the Laos PDR    | • November 2020, 32,089 nutritious meals to a total of 2,674 beneficiaries (1,310 women) at a total commodity voucher cost of US$57,631 |
| Malaysia        | • RM100 million allocated to assist in purchasing daily necessities and food items. |
| Myanmar         | • Myanmar Government provided emergency food ration to around 4.1 million vulnerable households and at risks population in April 2020. This is estimated to be of total value of MMK 49 trillion (USD 35.8 million).  
• WFP provided food assistance to over 60,000 people in 10 out of 14 states and regions in Myanmar. |
| the Philippines | • Access to free, healthy meals to undernourished children. |
| Singapore       | • S$300 Grocery Vouchers in 2020, and S$100 in 2021  
• S$100 for passion card top-up for all seniors  
• S$100 supermarket vouchers for lower income groups |
<p>| Timor-Leste (East Timor) | • Vouchers or basket that included food, hygiene, and cleaning items budgeted as USD $71.5 million |
| Japan           | • Free lunch to students from April 2020 covering 165,000 students at 7.7 billion yen. |</p>
<table>
<thead>
<tr>
<th>Region/ Country</th>
<th>Food Voucher and Ration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SOUTHEAST ASIA</strong></td>
<td></td>
</tr>
<tr>
<td>Mongolia</td>
<td>• Monthly cash benefit was doubled for adult and children per family during COVID.</td>
</tr>
<tr>
<td>South Korea</td>
<td>• Gift vouchers for online shopping to purchase essential food and other commodities.</td>
</tr>
<tr>
<td><strong>PACIFIC SMALL ISLANDS</strong></td>
<td></td>
</tr>
<tr>
<td>French Polynesia</td>
<td>• Distribution of fruits and vegetables along with food basket to meet basic food needs.</td>
</tr>
<tr>
<td>Guam</td>
<td>• Extension of the 15% increase in Supplemental Nutrition Assistance Program (Food stamps)</td>
</tr>
<tr>
<td></td>
<td>• Benefits for another three months- $5 million to 43,000 families.</td>
</tr>
<tr>
<td></td>
<td>• Free lunch for children in school- 6,857,730 meals</td>
</tr>
<tr>
<td>Hong Kong SAR, PRC</td>
<td>• Consumption vouchers of HK$5,000 for each eligible resident in total value of HK$36 billion.</td>
</tr>
<tr>
<td>the Solomon Islands</td>
<td>• Food distributed to population under locked out</td>
</tr>
</tbody>
</table>

For further information please contact:
FAO Regional Office for Asia and the Pacific
FAO-RAP@fao.org
Food and Agriculture Organization of the United Nations
Bangkok, Thailand