



Assessing and mitigating the impact of shocks on food security and nutrition in the Asia Pacific region:

Lessons from the COVID-19 response for informing the Global Food Crisis response

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Main Messages

1

Poor diets are the root cause of under-nutrition, overweight, and micronutrient deficiencies.

2

Nutritious diets remain inaccessible for many people in the Asia Pacific region due to a lack of availability and/or physical and financial constraints.

3

Current rates of non-affordability of nutrient-adequate diets in the Asia Pacific region indicate low nutrition security for the most vulnerable.

4

In addition to affordability, the availability and desirability of nutritious foods is also critical in ensuring access to healthy diets in the Asia Pacific region.

5

The COVID-19 pandemic reduced demand for nutritious diets by decreasing the amount of money households had available to spend on food, specifically by increasing unemployment and decreasing incomes, especially from informal jobs as well as remittances.

6

Reduction or loss of incomes increased the affordability gap for households who were able unable to afford nutrient-adequate diets and pushed households who could previously afford nutrient-adequate diets to no longer be able to afford them.

7

Non-affordability of nutrient-adequate diets also increased due to rising food prices, especially for nutritious foods, resulting from supply constraints and challenges in distribution.

8

School closures decreased regular access to nutritious meals and increased households' economic burden of feeding school-aged children and adolescents.

9

Reduced access to nutritious diets means a deteriorating nutrition situation, since nutritious foods are often the first to be dropped from household menus in difficult financial situations.

10

During the pandemic, governments and partners leveraged existing social protection, agriculture and livelihoods policies, programmes and platforms, and utilized innovative approaches to mitigate the damage of covariate shocks on food security and nutrition.

11

To maintain demand for nutritious foods, governments predominantly used cash assistance to help households cover their needs, and some governments helped support economic access to diets via livelihood support in urban areas.

12

To support the supply of nutritious foods, governments used take-home rations to support students who lost daily meals in school, provided fortified foods in social protection packages as measures to protect micronutrient intake, and helped to maintain food systems working for nutrition through agriculture supports.

13

Responses to the COVID-19 pandemic serve as useful examples for future responses to covariate shocks, including on the potential impacts households face due to increased food, fuel and fertilizer prices engendered by the war in Ukraine.

Recommended actions for governments



Set up digital social protection registries, so that, in event of a shock, assistance platforms can move quickly to identify the most vulnerable households, including those previously ineligible for social assistance.



Set up social protection distribution platforms digitally, so that assistance like cash transfers and vouchers can be rolled out quickly.



Consider the unique vulnerabilities of urban households in programme design and targeting, specifically in terms of stability of income and its sources and daily food sources.



Consider how social protection can be leveraged to maintain both supply and demand of nutritious foods.



Support fortification value chains, so that fortified foods may be leveraged by social protection programmes in times of shock.



Ensure that households that receive cash assistance or vouchers can physically access nutritious foods by improving the food environment in terms of diversifying production, import, and transport options.



Regularly collect subnational retail food prices, including in rural markets, to be able to monitor the cost and affordability of nutrient-adequate and/or healthy diets and to calculate affordability gaps.



As part of preparedness, conduct research to improve understanding on how consumers change behaviours during a shock.



1. Introduction

As the world adjusts to living with the COVID-19 virus, new evidence continues to emerge on the pandemic's indirect effects on health and well-being. Emerging evidence has begun to identify how the pandemic has disrupted pathways toward positive nutrition outcomes – lockdowns, closures and illnesses all affected people's capacities to produce, source, access and afford nutritious diets. Throughout the pandemic, WFP has continually assessed household vulnerability to food and nutrition insecurity through monitoring surveys, while simultaneously providing technical assistance and operations support for programmes in response to the pandemic in the Asia Pacific region.

Based on these experiences and in cooperation with partners, WFP undertook a series of studies to better understand the realities of the food security and nutrition landscape since the start of the COVID-19 pandemic in the region. In addition to WFP's food security monitoring reports and data made available from WFP's Fill the Nutrient Gap analyses, this brief utilizes secondary data relevant to the crisis, as well as four documents recently published by WFP and its partners:

- [Micronutrient Landscape in South Asia \(WFP, 2022\)](#)
- [Food security and diets in urban Asia: How resilient are food systems in times of COVID-19? An analysis and characterization of 8 urban food systems in selected cities in Asia \(Dikoda and WFP, 2022\)](#)
- Accessing the Impacts of COVID-19 on Poverty, Food Security, and Nutrition in Asia: An Economic Modeling Study (International Food Policy Research Institute and WFP, 2021/2022)
- [Impact of COVID-19 on school feeding programmes: Analysis of responses and Programme readjustments in the Asia and the Pacific region \(Oxford Policy Management and WFP, 2022\)](#)

These studies document how COVID-19 impacted food systems at all levels, which subsequently impacted access to healthy, nutritious diets: through changes in production and distribution of foods, households' economic and physical access to foods, and through changes in consumer behaviour caused by restrictions or reduced access. Dikoda's study on urban food systems considers system-wide impacts, including

reduced economic access to diets and the ability to purchase foods and physical access to spaces which sell nutritious foods. The work led by the International Food Policy Research Institute (IFPRI) considers how shocks disrupt food systems through macro-economic effects, which impact household's economic access to nutrient-adequate diets at the local level. Oxford Policy Management's (OPM) and WFP's assessment of school feeding programmes looks at the intersection of food systems and education systems, and how disruptions to education platforms can impact children's access to food.

The COVID-19 pandemic was a shock at an unprecedented scale, but shocks will continue, and it is critical to understand how they can affect access to nutritious diets and how governments can respond. **The aim of this brief is to unpack how COVID-19 impacted nutrition via its effects on the affordability of nutrient-adequate diets specifically in the Asia Pacific region and to highlight examples of policy tools implemented to specifically target food security and nutrition.** Results of the aforementioned studies are triangulated with WFP's own reporting of the food and nutrition security situation in the region, plus relevant secondary data sources, to contextualize how COVID-19 affected the supply and demand of nutritious foods within food systems in the region. Next, this paper highlights policies and instruments used by governments and development partners to mitigate the effects of the pandemic on food and nutrition security, and specifically on supply and demand for nutritious diets.

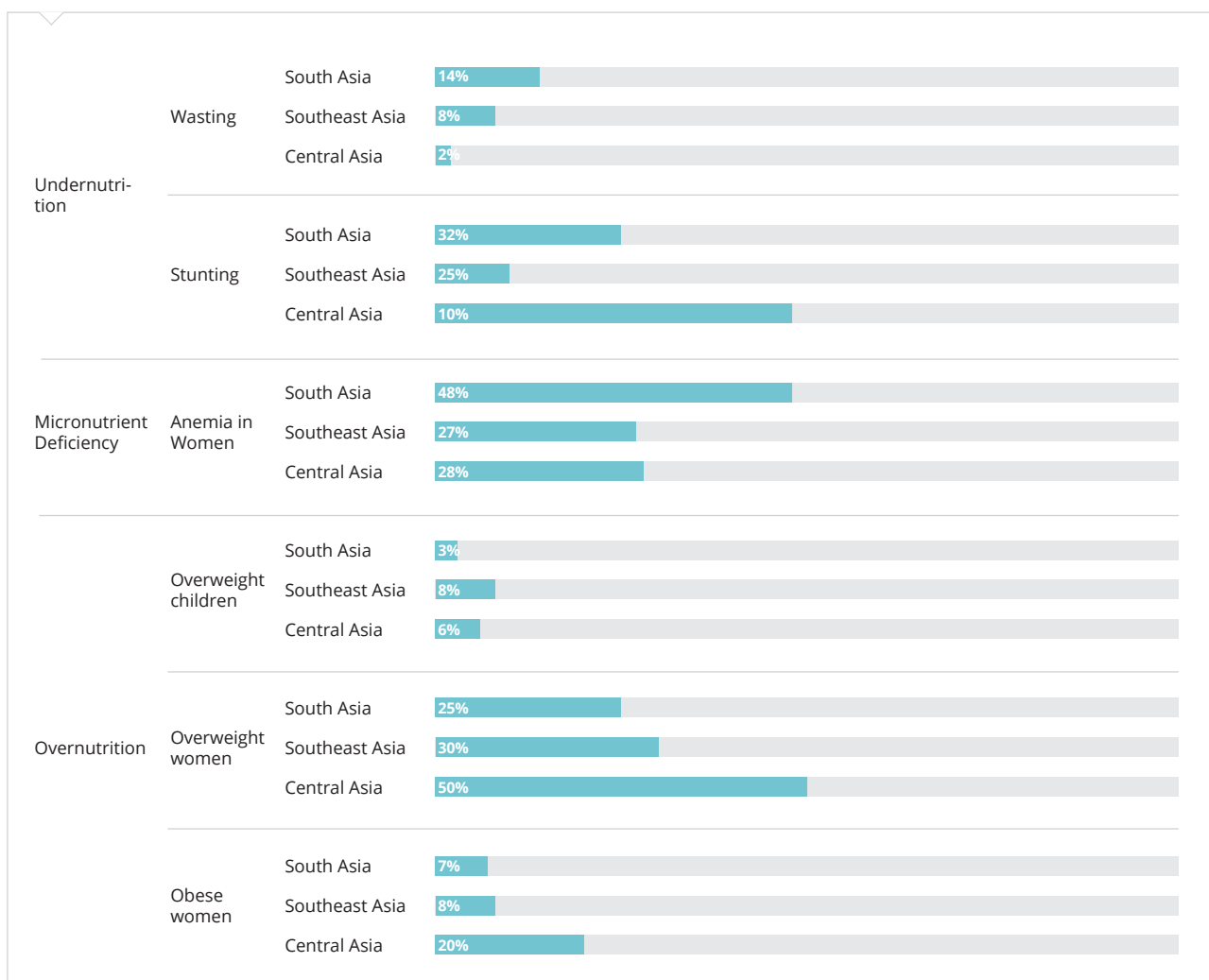
While the focus of this brief is on the COVID-19 crisis, its lessons can be applied now and into the future. Other types of covariate shocks will create compounding problems for countries. For example, since the start of the crisis in Ukraine, prices for wheat and seed oils have risen and are expected to continue increasing (1,2), further reducing access to certain foods. The crisis will also impact household incomes in the Asia Pacific region, particularly in north and central Asia, where a significant portion of households depend on remittances from Russia (3). The lessons learned from COVID-19 can be applied to these and other emerging challenges.

2. Malnutrition in all its forms persists as nutritious diets remain inaccessible in the Asia Pacific Region

Before the COVID-19 pandemic, the Asia Pacific region was facing an evolving challenge of the triple burden of malnutrition; millions of individuals suffered from underweight, millions more are overweight or obese, and both groups suffer from micronutrient deficiencies (4). Asia is home to over half of the global total of undernourished people, estimated at 381 million people in 2019. Simultaneously, due to the large population size, 45 percent of the world's overweight children live in Asia (17 million out of a 38 million children globally), despite

the region having one of the lowest rates of overweight of five percent (5). Current trends in undernutrition are reasons for alarm, as studies have found that different forms of malnutrition compound on one another (i.e. children who are stunted in childhood are at higher risk of overweight later in life), and therefore further aggravate individuals' health vulnerabilities (6). Figure 1 provides a snapshot of the current state of the triple burden across three regions in Asia (7).

FIGURE 1: ESTIMATING THE TRIPLE BURDEN OF UNDERNUTRITION, OVERWEIGHT, AND MICRONUTRIENT DEFICIENCIES (7).



Poor diets are at the root of under-nutrition, overweight, and micronutrient deficiencies. Although indicators of dietary quality, such as Minimum Dietary Diversity (MDD) have generally been improving across the region, evidence suggests that COVID-19 has undone recent progress (8,9). Diverse diets are essential to ensuring adequate micronutrient intake, but accessing these diets requires sufficient food availability, resources, accessibility and knowledge. In 2021, the World Bank published findings that diets across Asia are not diverse and predominantly based on starchy staples, while consumption of other, nutrient-rich food groups is limited. Analysis of food expenditure revealed that individuals overconsume staples, fats and oils and under consume, fruits, vegetables, and protein-rich foods, shown in Figure 2 (10).

Data on specific micronutrient deficiencies are often difficult to collect, and therefore not available in all Asia Pacific countries (4). However, in those places where data exist, WFP’s report on the status of micronutrient deficiency in the region shows that micronutrient deficiencies among children and women are a widespread public health concern. In Afghanistan, where a 24-hour recall survey found only one in five children consumed a diet containing foods from more than five food groups (8), vitamin A, vitamin D and zinc deficiency rates stand at 50 percent, 81 percent and 15 percent, respectively. In Bangladesh, where 24-hour recall surveys found that two in five children consume diets including five or more food groups (8), vitamin A, vitamin D and zinc deficiency rates stand at 21 percent, 40 percent and 45 percent, respectively (4).

FIGURE 2: OVERCONSUMPTION OF STAPLES AND OILS AND UNDERCONSUMPTION OF FRUITS, VEGETABLES AND PROTEIN FOODS IN SOUTH ASIA (10).

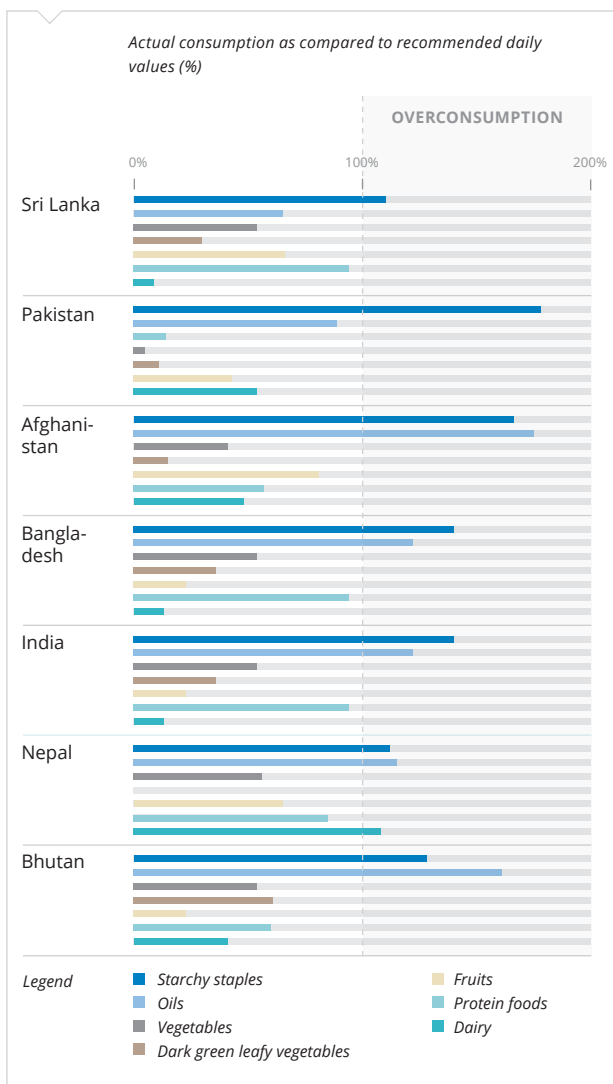
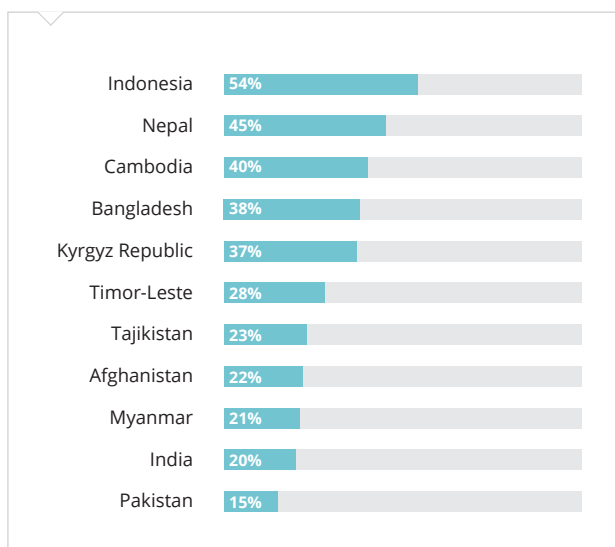


FIGURE 3: PERCENTAGE OF CHILDREN CONSUMING FOODS FROM FIVE OR MORE FOOD GROUPS (MDD-5) IN THE DAY PRECEDING THE SURVEY (8).



Evidence of the linkages between dietary diversity and nutritional adequacy is available across contexts in the region. Studies in the Philippines (11, 12), Bangladesh (13), China (14), and many other contexts outside of the region (15), have all found that consumption of at least five food groups – captured by the indicator of MDD-5 – is a good predictor of nutrition adequacy in children. The current low rates of consumption of MDD-5 raise alarm about nutritional risks in childhood and into adulthood. Figure 3 shows that across countries in which WFP operates (and for which data is available), less than half of children are estimated to be consuming adequately diverse diets, placing them at risk of nutrient deficiency (8).

Current rates of non-affordability in the Asia Pacific region indicate low nutrition security for the most vulnerable.

Nutrient-adequate diets are defined as cost-optimized diets that meet nutrient and energy needs, while healthy diets are diets defined by food-based dietary guidelines, which are intended to prevent all forms of malnutrition, be locally accepted, and include a diversity of food groups (16). Between 2016 and 2021, WFP has estimated the non-affordability of nutrient-adequate diets for 13 countries in the Asia Pacific region¹ at subnational level. Costs of the nutrient-adequate diet are calculated using real food prices collected either by government (e.g., consumer price index data), self-reported surveys (e.g., household incomes and expenditure surveys), or primary market data collection. Non-affordability of the nutrient-adequate diet is estimated using these diet costs and reported food expenditure, including the value of consumption of home-grown foods, foods received in-kind, and marketplace purchase. Non-affordability is therefore the percentage of households whose total food expenditure would fall below the daily cost of the nutrient-adequate diet, i.e., the percentage of households who would not be able to afford a least-cost nutrient-adequate diet.

Subnational analyses across Asia have found that non-affordability varies not only across countries but also within countries. In the example of Nepal, five percent of households would be unable to afford a nutrient-adequate diet in Kathmandu but this figure was as high as 79 percent in the rural Karnali mountainous area (17). Figure 4 shows the non-affordability estimated by WFP for each subnational assessment, as well as the national average for each country (represented by the gray square). Across the 13 assessments, national average rates of non-affordability range from 12 percent in Indonesia to as high as 86 percent in Afghanistan (18).

1. Afghanistan, Bangladesh, Nepal, Pakistan, Sri Lanka, Kyrgyz Republic, Tajikistan, Cambodia, Indonesia, Laos, Myanmar, Philippines, and Timor Leste



FIGURE 4: RANGE OF NON-AFFORDABILITY BY SUBNATIONAL UNIT FROM FILL THE NUTRIENT GAP ANALYSES BY COUNTRY AND YEAR OF ANALYSIS (18).

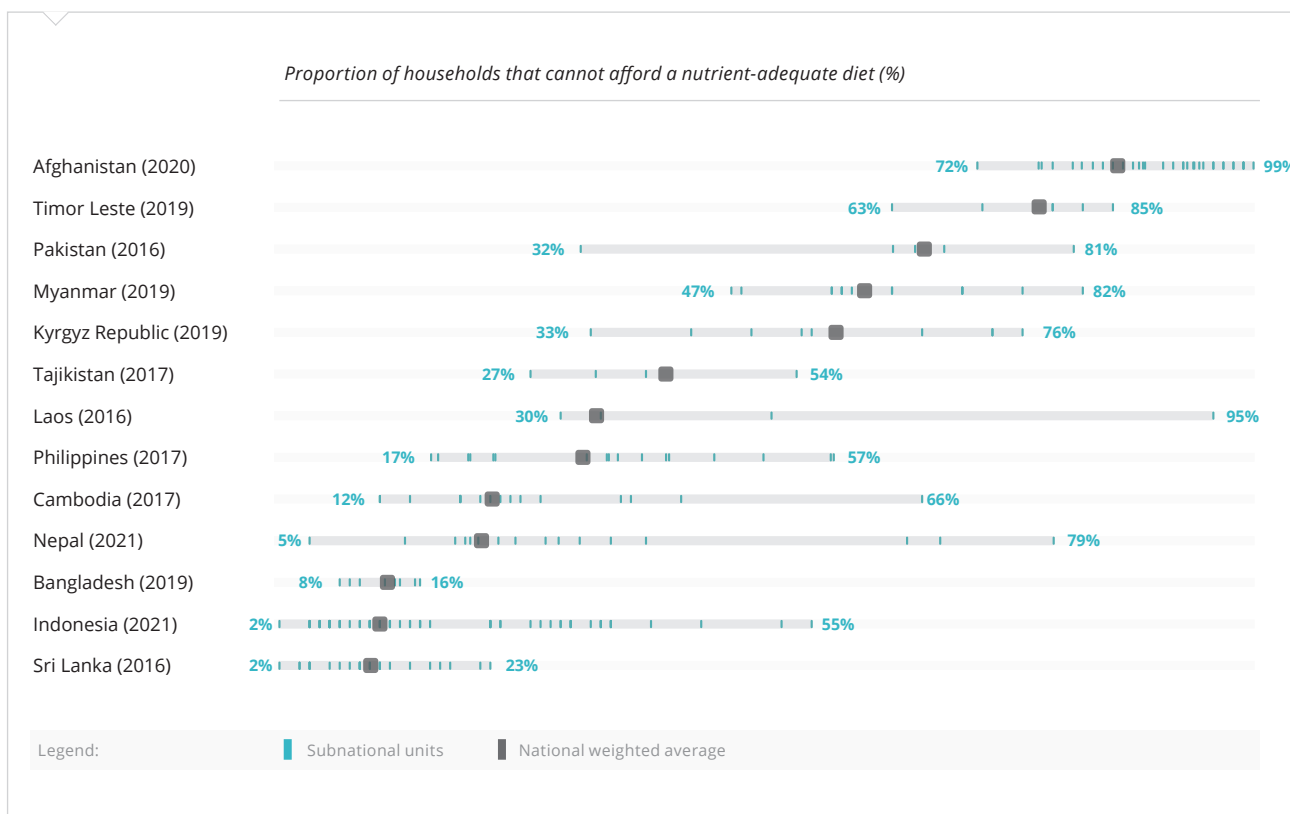
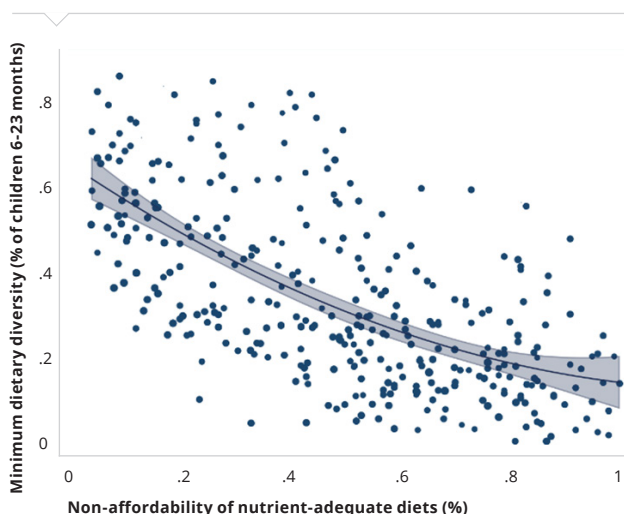


FIGURE 5. SCATTERPLOT BETWEEN THE PERCENTAGE OF CHILDREN 6-23 MONTHS OLD WITH MINIMUM DIETARY DIVERSITY AND NON-AFFORDABILITY OF NUTRIENT-ADEQUATE DIETS CALCULATED FOR LOW AND MIDDLE INCOME COUNTRIES ACROSS ASIA, AFRICA AND LATIN AND CENTRAL AMERICA, WEIGHTED BY POPULATION SIZE (N = 344, R = -0.65, P < 0.01) (19)



Access to nutritious foods for diverse diets is largely determined by the affordability of nutritious diets.

Non-affordability estimates of nutrient-adequate and healthy diets are a useful benchmark for assessing the risk of households being unable to access diets that would cover their nutrient needs. This is increasingly used as an indicator for nutritional vulnerability or nutrition-sensitive poverty lines. Monitoring diet cost and non-affordability can serve to provide some information on diet quality, as analyses have shown that non-affordability is closely associated with minimum dietary diversity. Figure 5 captures the relationship between minimum dietary diversity in children under two years at the sub-national level and the sub-national estimates of non-affordability of the nutrient-adequate diet, showing a strong significant correlation between the two variables. This emphasizes that the pathway of improving nutrition through diversified diets is contingent upon households being able to afford nutritious foods, thereby emphasizing the need to study non-affordability as a measure of nutritional risk (19).

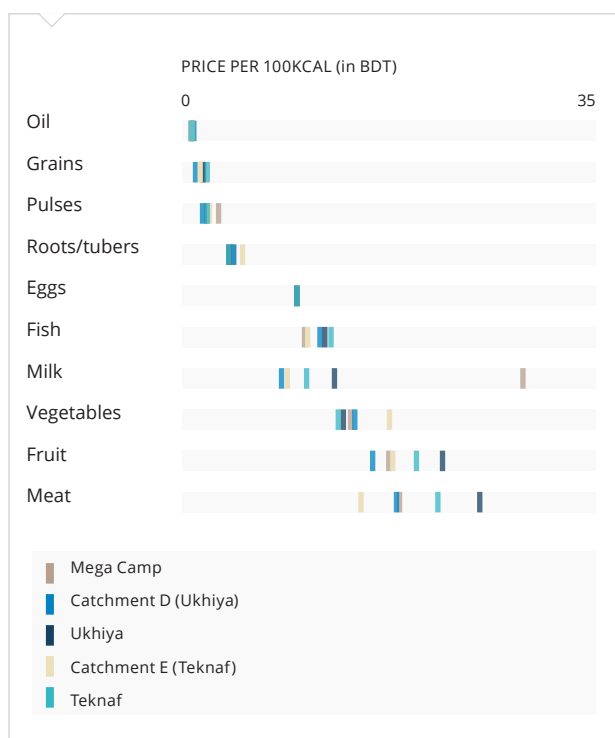
High costs of foods also keep diet non-affordability high. In the Fill the Nutrient Gap analyses (FNG), WFP has often analysed the cost per gram and calorie of different food groups, to better understand if food systems support comparatively affordable access to nutritious foods. The FNGs have found that often, starchy staples, sugar, and oil are far cheaper per gram and per calorie than fruits, vegetables, and animal-source foods, making them more accessible to households who are trying to satisfy basic food needs. Figure 6, below, shows the price per 100 kilocalories for different food groups across settlements in Cox’s Bazar, Bangladesh (20), highlighting that cereals, roots and tubers, pulses, and oil are more accessible than fruits, vegetables or animal-source foods for meeting energy needs from basic foods.

Non-affordability is important, but availability and desirability are also critical in ensuring access to healthy diets in the Asia Pacific region. To enable access, an adequate quantity and quality of nutritious foods must be available and easily physically accessible to consumers. In rural areas, availability

is often constricted first by limited production and further stymied by infrastructural challenges. Rural communities may not produce enough for their own consumption, logistical mechanisms for provisioning local markets, have the cold storage facilities necessary to receive perishable goods, or face significant complications to reach markets. Conversely, in urban centres, availability may be limited by a lack of hygienic marketplaces or grocery outlets (e.g., food deserts).

Desirability of nutritious foods is an increasingly complex problem in the region and is highly context-specific. Countries in the region are undergoing a transition as traditional diets in both rural and urban areas are being replaced with diets based on convenience, heavily influenced by marketing, branding or social perceptions around certain foods (21). Employment demands and the increasingly important role of women in the workforce inadvertently also increase purchases of convenience foods. Calorie, fat, salt and sugar-dense fast food, ultra-processed foods, and unhealthy snacks are gradually replacing healthier meals cooked and eaten at home (22).

FIGURE 6: AVERAGE PRICE PER 100KCAL BY FOOD GROUP IN COX’S BAZAR (20)



3. COVID-19 decreased demand for nutritious diets by increasing economic barriers

Recent research conducted in the Asia Pacific region has found that economic barriers caused by COVID-19 prevent households from being able to afford diets that meet micronutrient needs. Death and illness caused directly by the virus, movement restrictions enacted by government, school and other institutional closures, and new policies on hygiene and health requirements impacted household incomes across the region during the pandemic (23). Although accessibility and desirability are key components to access healthy diets, as described in the previous section, affordability provides a simple, quantifiable measure of how many people economically are unable to access healthy, nutritious diets and is a useful indicator for the COVID-19 period and other times of shock. In 2021/2022, IFPRI and WFP estimated the increase in non-affordability of healthy diets due macro-level economic disruptions caused by the COVID-19 pandemic. The 2020 SOFI report found that before the pandemic, 1.9 billion people in Asia could not afford healthy diets—the IFPRI study estimated that in Asia in 2020 and 2021, an additional 300 million people would not be able to afford healthy diets. The IFPRI report also found that an additional 60 million would suffer from undernourishment, on top of the 381 million estimated by the SOFI report in 2020 (9).

The COVID-19 crisis and restrictions had significant impacts on household incomes in the Asia Pacific region. Income losses were particularly severe

among informal workers, particularly those without employment-related safety nets. A joint study conducted by Dikoda and WFP between January and April 2021 in eight Asian cities² found that the majority of surveyed households reported reduced incomes. Average household income declined by at least 40 percent in all cities, with the largest decline (75 percent) reported in urban slums in Bangladesh (from February to April 2020) (23). In urban areas of the Kyrgyz Republic, every third household reported job losses (30 percent), and three out of five urban households experienced a reduction in income (58 percent) (24).

Reductions in income were not limited to urban areas. National-level surveys carried out by WFP in Laos (25), Myanmar (26), Nepal (27), all found that the majority of respondents reported reduced income as a result of the pandemic. A national survey carried out in June/August 2020 and December 2020/January 2021 in the Philippines found that between the two survey rounds, incomes fell on average by 12 percent. The Philippines survey found that among essential needs, access to food was most negatively affected as a direct result of reduced household income and job losses. Over 80 percent of respondents stated a lack of money (or “no money”) as their primary concern (28). In the Kyrgyz Republic, a WFP study found that 15 percent of households reported job losses due to the pandemic, and rural poverty increased up to 29.3 percent (up 6 percentage points compared to 2019) (24). In Cambodia, both traditionally rural and urban livelihoods were affected: among the poorest households (identified by the Government’s ID Poor Programme), 49 percent of family farm agricultural households and 54 percent of wage workers reported reduced income between November 2019 and January 2021 (29).

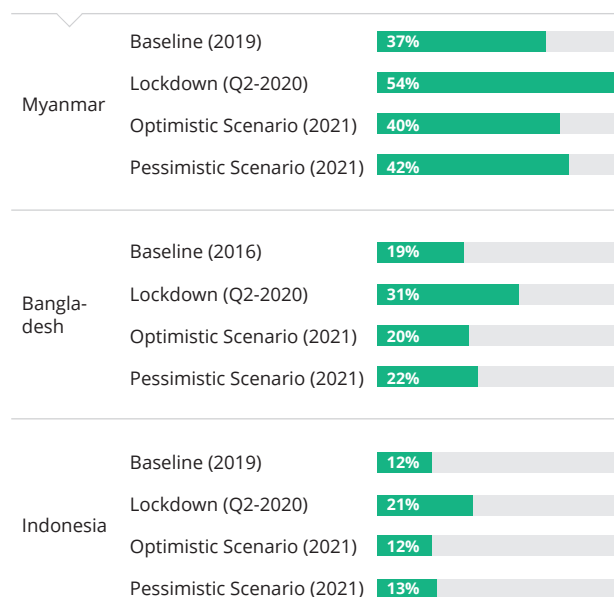
Movement restrictions during the pandemic also reduced incomes by disrupting remittances. In Laos, among households receiving money from abroad, the vast majority (83 percent) reported reduced remittances (25). In Cambodia, the largest percentage of households which reported reduction in incomes were households dependant on remittances (29). In Nepal, households dependant on remittances reported the third highest losses in income after households employed in the tourism sector or cereal-based agriculture sector (27).



Research has found direct links between reduced incomes and affordability of diets. Among the 498 development actors interviewed for the Dikoda study, 65 percent reported that food affordability was disrupted during the pandemic (23). Food security assessments carried out by WFP and partners in Indonesia (30), the Kyrgyz Republic (24), and Nepal (27) have found that daily wage earners and informal sector workers were most severely affected by income disruptions and mostly likely to face increased non-affordability. The joint WFP and IFPRI analysis on the macro-level effects of the COVID-19 pandemic on diets and nutrition estimates that, at the national-level, the non-affordability of nutrient adequate diets in Bangladesh, Indonesia and Myanmar increased by 12, 9 and 17 percentage points, respectively (31). The same analysis estimates that even under an optimistic post-pandemic recovery scenario, non-affordability would not improve as compared to pre-COVID-19 levels, as shown in Figure 7.

Reductions in income push people further into the affordability gap or push households which could previously afford nutrient-adequate diets into non-affordability. Many people in the Asia Pacific region live on the cusp of diet non-affordability, and shocks can push households into non-affordability (9, 16). Figure 4 in the previous section illustrates estimates of non-affordability across contexts in the region, but does not describe the depth of non-affordability, i.e., how far households are from being able to afford nutrient-adequate diets or how close they are to falling below

FIGURE 7: ESTIMATED IMPACTS OF THE COVID-19 PANDEMIC ON THE NON-AFFORDABILITY OF NUTRIENT-ADEQUATE DIETS IN BANGLADESH, INDONESIA, AND MYANMAR (32)



the non-affordability threshold. Figure 8 and Figure 9 illustrate the concept of the affordability gap calculated for a nutrient-adequate diet. A shock can push a households into having a larger gap (i.e. moving further away from being able to afford a nutrient-adequate diet), as shown in Figure 8. Shocks can also move households along the expenditure curve (i.e., reduce their spending) or increase the cost of the nutrient-adequate diet, putting households in the highlighted area in Figure 9 at risk of falling below the non-affordability threshold.

FIGURE 8: VISUALIZATION OF INCREASING AFFORDABILITY GAP FOR A HOUSEHOLD CAUSED BY INCOME SHOCKS (ADAPTED FROM BALAGAMWALA & KURI ET AL (19))

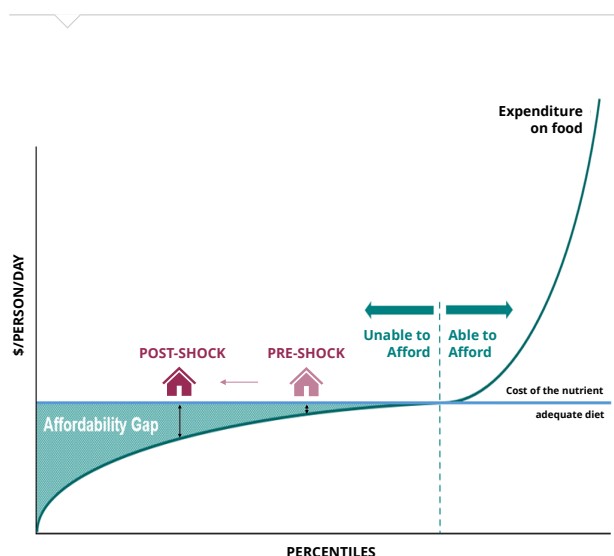
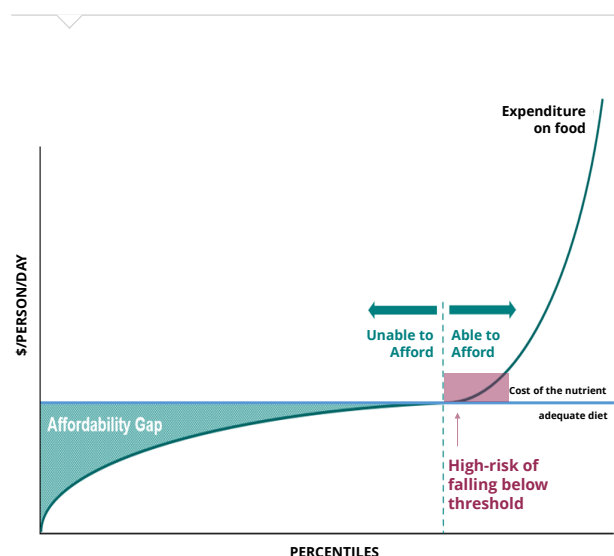


FIGURE 9: VISUALIZATION OF SEGMENT OF HOUSEHOLDS VULNERABLE TO FALL BELOW THE AFFORDABILITY LINE (ADAPTED FROM BALAGAMWALA & KURI ET AL (19))



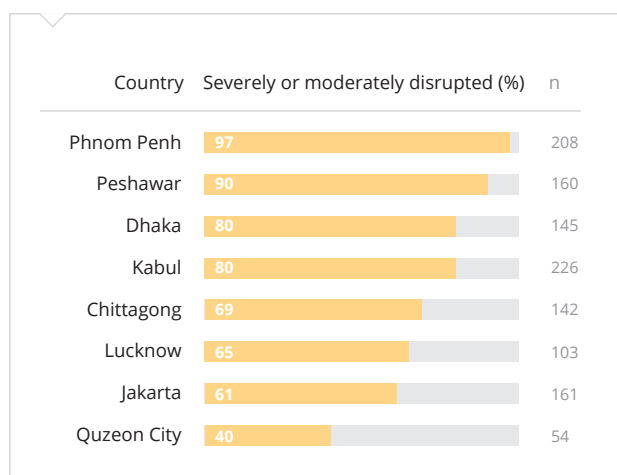
4. COVID-19 increased the supply-side barriers to accessing nutritious diets

Non-affordability of nutrient-adequate diets also increased due to rising food prices. Food prices increased during the pandemic in urban areas on average, but the magnitude varied greatly across food groups (23). National survey results from WFP assessments in Laos found that 42 percent of respondents perceived little change in food prices, while 52 percent reported witnessing higher prices, with 4 percent reporting price increases by more than 50 percent (25). In the Kyrgyz Republic, the rising food prices due to the pandemic impaired access to basic food – overall food prices increased by 19 percent for main food items (January – August 2021 compared to the same period last year), 69 percent for wheat and 18 percent for wheat flour, 58 percent for sugar and 82 percent for vegetable oil (as of 24 September in comparison to February 2020) (24).

Reduced physical availability also negatively impacted accessibility to food. Breakdowns in the supply chain, combined with movement and transport restrictions, reduced households’ ability to physically access fresh foods in marketplaces and to prepare meals in restaurants and food stalls. The Dikoda study’s survey of individuals employed in small and

medium enterprises (SMEs) found that disruptions to supply chains were felt across Asian cities, as shown in Figure 10. The study explains that urban areas typically have longer supply chains than rural areas, making them more susceptible to disruption, supply chain breakdowns were also common to rural areas (23). In Cox’s Bazar, a quarter of the 766 households surveyed by WFP reported that they face challenges due to travel restrictions and a quarter responded that they were unable to purchase foods due to market closures (30). Eighty-four percent of 1,007 respondents in the national-level Laos survey perceived restrictions in movement within their own district and 66 percent reported that some villages reduced trade and labour flows by refusing entry to external visitors. While most markets in Laos remained open, three-fourths of all respondents reported that the size/volume of markets had reduced (25). While little information exists on how long these restrictions lasted, evidence from the Dikoda study suggests that the Government realized the necessity of remedying disruptions within months of the pandemic—for example, in Pakistan, the Government had lifted movement restrictions for goods, and supply chains were functioning by April 2020 (23).

FIGURE 10: RESPONSES FROM SMES (N=1,199) TO QUESTION “HAVE YOUR SUPPLY CHAINS BEEN DISRUPTED BY THE COVID-19 PANDEMIC?” (8).





School closures also increased households' economic burden of feeding school-aged children and adolescents. Over 129 million school children in the Asia Pacific region regularly received school meals before the pandemic, making school meals an integral part of ensuring access to food on a regular basis (32). While schools in some countries attempted to adapt to school closures, a recent assessment conducted jointly by OPM and WFP show that often these programmes were limited in scope or duration. In the countries studied by the assessment, most Governments adapted school meals into take-home rations (THR), with the exception of India, where THRs were combined with cash transfers. The potential intra-household sharing resulting from moving on-site school feeding to homes was not factored into the size and duration of the THR. This meant that those benefits (in caloric value and quantity) may not have been adequate for the intended primary recipients (school-age children). The report highlights that school meal adaptations fell short of providing the same nutritional benefits as in-person meals, as in-person school feeding programmes often include supplementary fresh produce through community contributions or school gardens, and take-home rations were primarily made up of staples and dry commodities (although it is important to note that in some cases, fortified rice was given, boosting the nutritional value of meals). Where perishable food was included (e.g., eggs in the THR in Sri Lanka), food safety standards have understandably been a concern (32).

5. Reduced access to nutritious diets means a deteriorating nutrition situation



In difficult financial situations, nutritious foods are often the first to be dropped from household menus (33). Through its impacts on increased food price and loss of income, the COVID-19 pandemic increased non-affordability of nutritious diets, thereby reducing consumption of nutritious foods and decreasing nutrition security, as shown in Figure 11. Movement restrictions during the pandemic delayed planned surveys to capture data on the nutrition situation. This made it difficult to assess the direct impact of the pandemic on dietary diversity and other nutrition indicators. Some data on child and maternal nutrition are available for the Philippines, which conducted nutrition surveys in 2018 and then during the COVID-19 period in 2020. In Quezon City, Philippines, the proportion of children 6-23 months old consuming diets that met minimum diversity (MDD) and minimum acceptable diet (MAD) reduced by more than half, from 25 percent and 15 percent to 8 percent and 7 percent, respectively (23).

FIGURE 11: IMPACT PATHWAY OF THE REPERCUSSIONS OF THE COVID-19 PANDEMIC ON NUTRITION SECURITY. ADAPTED FROM DIKODA/WFP REPORT (18) AND FROM BALAGAMWALA & KURI ET AL (14).



Data from the Status and Determinants of Food insecurity and Undernutrition (SDFU) study carried out in Jakarta, Indonesia, also captured the effects of the pandemic on nutrition indicators by comparing data collected in 2018 and data from the 2020 COVID-19 period (34). Findings reported reduced dietary diversity in women from 79 percent to 54 percent and in children from 81 percent to 55 percent. Interestingly, the pandemic appears to have reduced the consumption of unhealthy foods, likely due to reduced presence of vendors and stalls—both women and children reported reduced consumption of sugar-sweetened beverages, down from 84 percent to 65 percent and 53 percent to 41 percent, respectively. Among children, consumption of savoury or fried snacks decreased from 63 percent to 41 percent.

Anecdotal evidence and survey responses from the Dikoda study (23) also support claims that the nutrition situation deteriorated in Pakistan—there, surveyed development actors reported that families were coping by reducing diet diversity and consuming more staple foods to meet energy needs.

In contexts where diets were inadequate, modelling simulations find that nutrient gaps widened during the pandemic (31). The IFPRI study carried out for Indonesia, Myanmar, and Bangladesh estimated the effects the pandemic would have on consumption of specific food groups, based on simulations of the economic implications of COVID-19 on households. Figure 12 shows that in all three countries, it was estimated that consumption gaps –defined as the gap between actual consumption and recommended dietary consumption – widened across all food groups, but most drastically for staples in Indonesia, and for vegetables in both Myanmar and Bangladesh (31).

FIGURE 12: ESTIMATIONS OF CHANGES IN CONSUMPTION GAPS (RED PART OF EACH BAR) FOR KEY FOOD GROUPS FOR INDONESIA, MYANMAR, AND BANGLADESH DUE TO THE COVID-19 PANDEMIC (31)

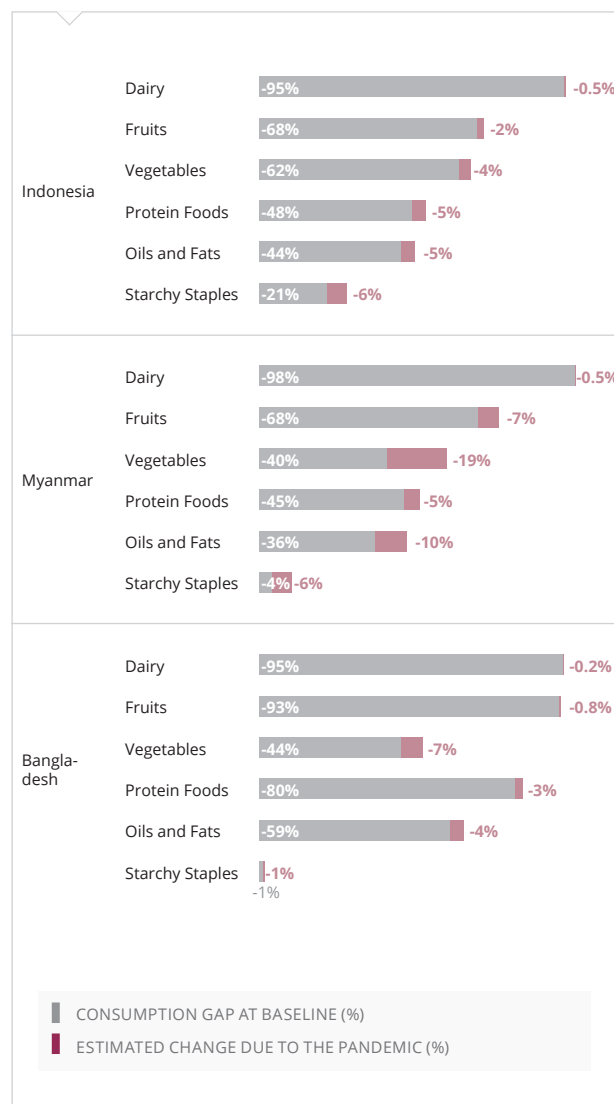
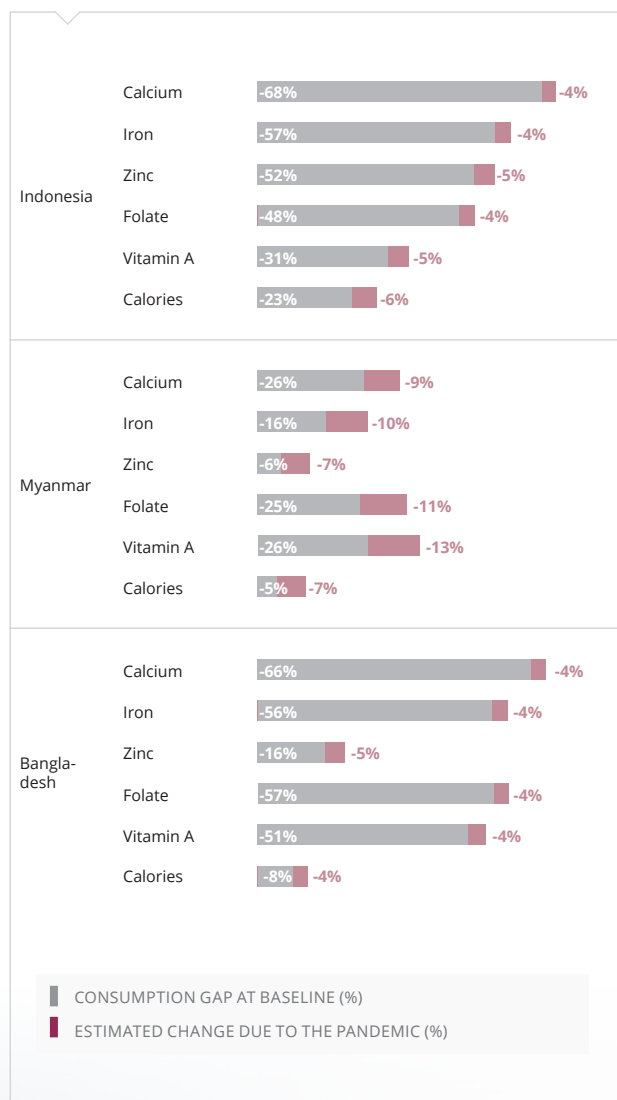


FIGURE 13: ESTIMATED IMPACTS OF COVID SHOCKS AND SOCIAL PROTECTION INTERVENTIONS ON NUTRIENT CONSUMPTION GAPS FOR THE POOREST 40 PERCENT OF HOUSEHOLDS IN INDONESIA, MYANMAR AND BANGLADESH (%) (32)



Reduction in the consumption of nutritious foods will affect the intake of micronutrients. In the same IFPRI study, researchers estimated the impact that reduced consumption would have on existing micronutrient gaps, defined as the gap between current micronutrient consumption and recommended consumption and represented as a percentage. Figure 13 shows the increase in micronutrient consumption gaps for Indonesia, Myanmar and Bangladesh (31). The recent WFP Micronutrient Landscape report estimates that in Bangladesh, 45 percent of children already suffer from zinc deficiency (data on zinc deficiency estimates are not available for Indonesia and Myanmar) (4). Because of elevated nutritional needs, reduction in the consumption of micronutrient-dense foods will most likely widen nutrient gaps the most for the most nutritionally vulnerable, specifically pregnant and breastfeeding women, adolescent girls, and young children (35-36).

Reduced access to health services further exacerbated deterioration of nutritional status.

In addition to good dietary intake, access to health services is a key determinant of nutritional status (38). Hygiene and safety measures put in place during the COVID-19 pandemic response disrupted regular access to healthcare services, including nutrition-specific interventions typically provided at health centres, like uptake of vitamin A supplementation and treatment of severe acute malnutrition, as well as interventions which have been estimated to significantly prevent stunting, like immunization programmes. While decreased access to nutritious diets is likely to have negative impacts on the nutritional status of women, men, girls and boys, reduced access to essential health services is also likely a driver of such impacts (38).



6. Governments and partners can leverage existing social protection, agriculture and livelihoods policies, programmes and platforms, and utilize innovative approaches to mitigate the damages of covariate shocks on nutrition

Between January and May 2020, an additional 752 social protection measures were implemented globally, plus an additional 662 between May and December 2020, and an additional 1,919 between January and May 2021 (39). Across the Asia Pacific region, governments made great strides in expanding existing social protection systems or creating new programmes to respond to the economic impacts of the COVID-19 crisis. This section does not provide an exhaustive overview of all social protection programmes that have been implemented in the COVID 19 response in the region; rather, it features certain programmes and assesses their linkages to ensuring adequate access to nutritious diets. It uses information from the Dikoda study, the

World Bank, WFP and a few supplemental secondary sources to highlight social protection measures, work and employment programmes and cash assistance programmes that support access to nutritious diets. Although further research is required to quantify the effects these programmes had on nutritional outcomes, it is useful to identify the types of efforts made and to understand their potential benefits. Additionally, these examples provide recent lessons learned to inform future responses to similar covariate shocks, including for shocks relevant to the current status of food security and nutrition resulting from rising food and commodity prices brought on by the war in Ukraine.



7. Maintaining demand and strengthening food value chains through social protection measures

Governments predominantly used cash assistance to support food and nutrition security during the pandemic response. Functional food systems require stable demand, ensuring that producers and retailers have outlets for selling foods and can make a living. Cash assistance plays a role in stabilizing demand by ensuring household purchasing power. Globally, cash responses were the most popular form of social assistance intervention in response to the pandemic (39).

In Bangladesh, the Government collaborated with partners to leverage cash assistance programmes delivered through the social protection system to promote increased consumption of diverse food groups. With the specific aim of improving nutrition in urban areas, WFP, the United Nations Food and Agriculture Organization (FAO) and BRAC, in collaboration with the Government of Bangladesh, piloted a new cash assistance programme in Dhaka with a digital cash back system to incentivize healthier food choices. The programme combined cash assistance with cash incentives and nutrition behaviour change communication to promote healthy diets through enhanced dietary diversity. Households received monthly cash assistance, and their spending patterns were monitored through a digitalized system. Beneficiaries who purchased across at least five of seven food groups received cash back (up to BDT 750) to further incentivize purchases of nutritious foods. To further mitigate overconsumption and promote dietary diversity and particularly consumption of fresh foods, limits were placed on the amount of cashback available for buying fortified rice and fortified oil (23). WFP and the Ministry of Women and Children's Affairs reached an agreement to document the results of the approach as part of the future rollout of the "Mother and Child Benefit Programme" in urban areas which will be implemented by the Government.

In Cambodia, the Government expanded its current cash transfer programme through the IDPoor system, a digital platform for identifying poor and vulnerable

households. The system was initially operationalized for rural areas but was expanded into urban areas during the pandemic. Findings from a World Bank phone survey estimate that the proportion of IDPoor households receiving social assistance increased from 50 percent in June 2020 to 92 percent in October 2020 (29).

One of the objectives of the IDPoor Programme is to ensure access to essential needs and ensuring food security. Prior to the expansion, 86 percent of households in the programme reported that they worried about "not having enough food to eat", while 53 percent worried about eating "only a few kinds of foods" and 50 percent worried about eating less than typically. Survey results found that 100 percent of respondents spent the transfer on food across three separate rounds of surveys between 2020 and 2021. Between the first survey conducted in May-June 2020 and the third conducted in January-February 2021, the number of recipients who reported severe food insecurity declined from 67 percent to 34 percent (29).





Some governments helped support economic access to diets via livelihood support in urban areas. Urban food systems were destabilized during pandemic response as movement restrictions and closures of public spaces disabled consumers from accessing marketplaces and street vendors, food outlets and restaurants. Urban food retailers lost a large proportion of their income during the pandemic, and many small and medium-sized enterprises (SME) faced challenges in accessing adequate financial services or technical support to survive or adapt.

Indonesia provided support to both informal and formal workers by offering vocational training with monetary benefits in the form of cash and non-cash credit via the expansion of Kartu Prakeria Programme (40). In Jakarta, the local government cooperated with online retail platform TaniHub to maintain supply and demand of nutritious foods. Under the partnership, TaniHub established a warehouse near Jakarta to ensure food supply and delivery speed to Jakarta and its satellite cities was not disrupted. Similarly, the Ministry of Agriculture National and Provincial Food Security Agency established an online food marketplace and

delivery services, Pasar Mitra Tani (Farmers Partner Market) in two Jakarta sub-districts. The platform connects economically vulnerable households with producers, ensuring that food is sold at affordable prices (23). In Bhutan in August 2020, the Ministry of Agriculture and Forests supported shops with bulk deliveries of vegetables like cabbage, carrots and potatoes to maintain supplies of nutritious foods. In conjunction, the government set price ceilings to enable households to purchase the foods (39).

The Dikoda study found that much more could be done to support urban retail livelihoods. Among the 1,181 urban SME owners surveyed by Dikoda, 48 percent reported downsizing the size of their staff as a result of the pandemic and 80 percent said they were unable to access financial support during the pandemic. SME respondents provided specific feedback on what actions were necessary for them to become more resilient during the pandemic—the most common responses were assistance in business resilience planning (34 percent), marketing advice (30 percent), advice on sales and distribution (28 percent) and advice on measures to keep staff in the workplace (25 percent) (23).

Governments focused on ensuring that social protection responses were nutrition-sensitive by including fortified products in packages. By utilizing existing fortification value chains, governments were able to leverage social protection programmes to enable household access to nutritious foods.

With the objective of supporting intake of micronutrients for the poorest households, the Government of India leveraged the Public Distribution System (PDS), the world's largest food security schemes for the distribution of staple food items to households. In 2019/2020, the pilot scheme on 'Fortification of Rice and its Distribution under PDS' was launched in an effort to target micronutrient deficiencies among women and children. As of June 2021, the programme had distributed over two tonnes of fortified rice in six Indian states (40). With support from WFP, the Government of Bangladesh included fortified rice into large-scale social safety nets such as the Vulnerable Group Development Programme, and also introduced fortified rice into the open market sale in Dhaka, a public food distribution programme that sells rice at subsidised prices to support the low-income population. Under the programme, the price of fortified rice was set lower than the market price, at BDT 30 (USD 0.36) per kg for a maximum of 5 kg of rice per household per day to families with lower incomes. It is estimated that each household will be able to buy on average 20kg of fortified rice per month (41).

Governments used varying types of take-home rations to support students who lost daily meals in school. A report (32) by OPM and WFP outlines how governments of Nepal, India, the Philippines, Sri Lanka, Cambodia and Bangladesh dealt with school meal programmes after schools in all six countries closed. The report generally found that governments made efforts to provide school-aged children and their families with nutritional support, but the amount and frequency of support was inadequate to make up for the lost nutritional benefits of school meals.

The school feeding programme in Bangladesh was adapted to provide take-home fortified biscuits. Bangladesh supplied THB to students throughout the duration of the lockdown because stocks of THB were sufficient and funding mechanisms were flexible enough to allow adaptations in procurement. In Cambodia, both the government and WFP supported households with 3-4 rounds of take-home rations, but neither distribution was sufficient for the duration of the lockdown. In India, individual states had authority over the modality of school meal replacements, and primarily opted for a combination of in-kind food distributions and cash to parents' bank accounts. Although the Indian model showed some success in delivery, the efficacy depended largely on the capacity of the facilitators within each state.

In the Philippines, national school feeding programmes were adapted to take-home rations six months after school closures, and included nutri-buns and milk. School feeding programmes in Bangsamoro Autonomous Region in Muslim Mindanao (BARMM), which included take-home rations of fortified rice and fresh commodities, were significantly delayed (i.e., adapted one year after school closures) due to

government centralization of procurement of fortified rice and limited local suppliers. Neither the national nor the BARMM programmes covered the full duration of the lockdown. In Sri Lanka, the Government provided take-home rations which included fresh, nutritious foods (eggs) but only covered one month, despite school closures lasting seven months. In Nepal, nationally-led mid-day school meal program was not adapted during school closures, but some programs coordinated between the Ministry of Health and WFP remained ongoing.

Generally, take-home rations were found to be inadequate substitutes for in-person school meal programmes, which typically provide hot and/or nutritionally balanced meals, sourcing from local producers. Additionally, the realities around intra-household sharing of food likely meant that children were not benefitting from the rations to the desired extent, and that rations primarily reduced food insecurity, rather than addressing specific nutrition needs.

Some governments helped to maintain food systems working for nutrition through agriculture support, both for rural and urban producers. Many countries enacted and prioritized a variety of measures beyond what are traditionally considered social safety nets to help farmers access critical inputs (seeds, fertilizer) and finance and made exceptions to movement restrictions (green channels) for agriculture, or to intervene directly in product procurement to support smooth functioning of the supply chain.

In Sri Lanka, the Government made efforts to support farmers through direct purchasing of rice at guaranteed prices via cooperatives, as well the purchase of fresh



nutritious foods like fish, vegetables, and fruits. Guaranteeing prices through price ceilings was reported to have prevented price hikes in nutritious food items (39).

In Fiji, the Government announced agriculture input support via the Home Gardening Programme and Farm Support Programme for the production of nutritious foods. Under the Home Gardening initiative, urban and peri-urban families with adequate land sizes received home gardening packages with vegetable seeds and instructions on planting techniques. Under the Farm Support initiative, beneficiaries received equipment packages plus seeds for a diversity of crops including cassava, eggplant, chilies, okra, tomatoes, bitter melon, and cowpeas (39).

Governments also put in place programmes to support urban farming. In the Philippines in September 2020, the Department of Agriculture rolled out the “Bayanihan to Recover As One Act,” an expansion of the urban agriculture programme for household food security.

Beneficiaries of the programme receive a “starter kit,” complete with seeds, instructions, and sample designs for individual and community gardens (39). In Indonesia, the Government supported the emerging trend of urban households producing their own vegetables, fruits, and condiments like ginger and turmeric, in response to price spikes in fresh foods during the pandemic. The Government also supported a community-based initiative that provides households with seeds and instructions on production. The Government aims to expand this initiative to open and unused urban spaces, including public spaces like mosques and rooftops (23).

Agricultural support programmes were relevant during the pandemic because of the direct impacts of travel restrictions, but will continue to be relevant for other shocks, like the ongoing crisis in Ukraine. As the crisis has already impacted food prices directly and through impacts on gas prices in many parts of the world, governments’ support for localized production will be critical to ensure accessibility.



8. Complementary interventions to support food security and nutrition

Governments focused on ensuring that social protection responses were nutrition-sensitive by including linkages to health services. In August 2021, the Government of Laos began the Mother and Early Child Grant initiative in Sanamxay district using both cash-to-door and digital delivery platforms. The programme provides cash transfers as incentives for vaccinations, plus provides access to antenatal and postnatal health services (40).

Governments used targeting to ensure that vulnerable groups were prioritized for in-kind distributions. In July 2020, ahead of the holiday of Eid-ul-Azha, the Bangladeshi Ministry of Disaster Management and Relief distributed 10-kilogram rations of rice to the extremely poor, with a particular focus on female-headed households and households most likely at risk of starvation and malnutrition. The programme recommenced one year later ahead of the 2021 Eid-ul-Azha holiday (39).



9. Lessons Learned and Way Forward

The COVID-19 pandemic highlighted how critical it is that governments have a holistic and flexible set of policies and implementation instruments, including social protection, livelihood support programmes, and school feeding programmes in place to be used. These instruments, if well-designed, can be adapted to respond to shocks to allow for expansion in coverage, use of alternative delivery platforms and adjustment of transfer size to meet the change in needs. Based on the events of the COVID-19 pandemic, several lessons can be learned:



Shocks destabilize demand for nutritious foods. Events which destabilize incomes reduce households' food budgets, which impacts the diversity and quality of foods households can purchase, thereby reducing access to micronutrients via nutritious foods. In the case of COVID-19, responses to the pandemic also reduced physical access to markets, vendors and other sources of food, further impacting food consumption.



Shocks destabilize supply of nutritious foods. Events which restrict movement, such as the COVID-19 lockdown, can affect supply chains, resulting in reduced supply of foods and inefficient movement of fresh produce which leads to increased price volatility. Such restrictions also affect consumers' access to markets and convenient food vendors and reduce access to stable sources of meals such as in schools. In the case of the COVID-19 pandemic, movement restrictions temporarily broke down supply chains, led to inefficient movement of fresh produce, reduced access to convenient food vendors, and reduced access to stable sources of meals, like in schools.



In the Asia Pacific region, even before COVID-19, millions of households were unable to afford the least-cost nutrient-adequate diet. Recent analyses estimate that during the pandemic, these numbers increased significantly, and the depth of non-affordability also increased. This is concerning for the status of nutrition in the region.



The effects of destabilization in supply and demand of nutritious foods can be eased with adequate policy tools and instruments that address stress points within food systems. Social protection programmes like cash transfers can stabilize demand and behaviour change mechanisms can support consumer choices for nutritious foods. Agricultural production and urban garden programmes can stabilize supply of nutritious foods. Other tools, like school feeding programmes, can also be leveraged but need to be designed to account for intra-household sharing and to last for the duration of a crisis.



In addition to traditional support mechanisms for food security and nutrition, like cash programmes and food distributions, governments across the Asia Pacific region have used innovative methods, like leveraging online food delivery platforms or using cashback programmes to incentivize purchases of nutritious foods, to ensure that the supply of nutritious food is maintained and that demand for nutritious diets is maintained or improved. The pandemic also spurred governments to orient resources towards urban areas, as opposed to traditional programmes which focus on rural communities, as individuals living in cities were strongly affected due to the high levels of informal jobs.

Many of these responses provided critical support but were implemented several months into the response phase of the pandemic, when households had already been affected by illness, income loss, and other secondary effects of the pandemic. As new challenges emerge, there are lessons to be taken from the COVID-19 pandemic around timeliness of responses. The World Bank's living paper tracking government's social protection responses to the pandemic found that countries with existing registries responded faster than those that did not (39). Readiness to respond to shocks should ensure registries in both rural and urban

areas, so that measures can be put in place when and where most necessary. Timeliness is also an important consideration for other types of programmes, like school feeding – for example, provisioning of take-home rations following school closures was often delayed, and the length of the support was often inadequate.

A more forward-looking approach is needed to build resilience and ensure systems are shock responsive. Robust shock-responsive social protection systems should be functional before households are confronted with difficult situations, and infrastructure like registries for the poorest, registries for informal workers, and platforms for digital distribution can make responses faster. A forward-looking approach can also mean developing or improving value chains for nutritious foods, including for fortified staples and specialized nutritious foods. Distribution or delivery of fortified foods in a social protection package can have a direct impact on improving nutrient intake. However, these require that post-harvest fortification facilities are in place, that post-harvest fortification actors are equipped to provide sufficient quantities, and that fortification standards are sufficient and appropriately enforced to make an impact on nutrient gaps.



10. Considerations and recommendations in the context of the global food crisis

Although this brief focused on COVID-19, it is important to consider how other covariate shocks may create similar challenges in the future and how the lessons learned from the COVID-19 response might be useful to inform adaptations to policies and programme instruments which may be required to respond to these shocks. Other covariate shocks are taking place at time of writing, and their repercussions on food supply chains and economic access to nutritious diets will be significant. The war in Ukraine that began on 24 February 2022 – and is ongoing at the time of this paper’s publication – will demand significant scale-up and innovation in social protection measures to mitigate the impact.

The war has impacted access to nutritious diets as it has destabilized local and international food systems. The Russian Federation and Ukraine are among the most important producers of agricultural commodities globally and the main suppliers of food and fertilizers to many countries. In 2021, Ukraine was the world’s largest exporter of sunflower oil, second largest exporter of barley, third largest exporter of maize, and fifth largest exporter of wheat (2). At present, the Ukrainian Ministry of Agriculture projects a significant reduction in harvests, as an estimated 30 percent of agricultural land is either occupied or unsafe for cultivation. Furthermore, as actors along export supply chains in Ukraine have been unable to move products via maritime trade routes due to blockades by Russian naval vessels and naval mines, commodities which have been harvested cannot leave Ukraine (43). As of May 2022, researchers at IFPRI estimated that prices of wheat on international markets had already increased by 25 percent as compared to pre-war levels. With food prices on local markets increasing as commodity price changes transmit to countries, non-affordability of nutrient-adequate diets will also rise, making more people vulnerable to malnutrition. Expanded and increased social protection measures are required to support vulnerable households who are facing food insecurity because of increased food prices in food-importing countries, specifically in the regions of West and Central Asia, and in countries with high import dependency



ratios for wheat from Ukraine or Russia, like Kazakhstan, Kyrgyzstan and Indonesia (2; 42; 44-45).

In addition to food prices, the war has also increased prices of fertilizer and fuel, two inputs required to produce, store, and transport food (1,2). International fertilizer prices have increased by 230 percent since 2020 — such increases have potential to significantly destabilize food systems via reduced production capacities (as purchase of fertilizer will be lower), which can increase non-affordability of nutritious diets by reducing agricultural households' incomes, decreasing food availability and increasing food prices. Increased fuel prices also disrupt supply chains which can make foods inaccessible – in East Asia and the Pacific, significantly higher fuel prices have already caused sustained supply chain (46). Governments should plan for social assistance programmes which can meet these challenges, for example, by ensuring that rural social assistance programs enable producers to access and afford key inputs to maintain production (47). Agricultural extension services should promote crop rotations and production diversification as they can also help to reduce the use of and reliance on fertilisers.

In addition to the impacts of food prices, the war will likely affect the estimated four million Central Asian migrant workers who send remittances from Russia to their home countries. As was seen during the pandemic, income losses can have a profound impact on affordability of nutritious foods and forces households to purchase less nutrient-dense foods. Vulnerable households in Kazakhstan, Kyrgyzstan, Uzbekistan, and Tajikistan who are dependent on remittances may require social assistance (48).

Extreme weather events caused by climate change can equally create covariate shocks that ripple through

entire food, health, infrastructure, and other systems. For example, between March and June of 2022, India and Pakistan had extreme heat upwards of 40°C, attributed to climate change. In addition to the direct illness and death caused by extreme heat, temperatures have impacted different points along foods systems, such as reducing available water for food production and disrupting electrical networks critical to the transport and storage of food (49-50). Governments will need to have safety nets in place to support households whose livelihoods are affected by sudden disaster, and to have mechanisms in place to support access to nutritious foods in case climate events reduce harvests and reduce capacities of supply chain actors to store and transport foods.

It is important to have measurement tools in place which can quickly assess impacts of covariate shocks, like estimations of the cost of nutrient-adequate and healthy diets and their rates of non-affordability. Calculation of these metrics is only possible if food prices are regularly collected and made available for use in research and food security and nutrition monitoring. Regular food price data collection also allows governments to better understand how shocks relate to changes in food prices. Recently published research by Bai et al. found that the food consumer price index, calculated from retail prices, rose more than the average consumer price index when the COVID-19 infection rate (number of cases in a month per million people) was higher, and that the food consumer price index increased more than farm commodity prices (51). It is therefore important to monitor subnational retail food prices across a diversity of food groups, as opposed to only farm commodity prices, as they best capture the realities household face in accessing nutritious foods, and to make this data available for research purposes (52).



Preparedness is paramount: social protection policies, data platforms, and implementation instruments should be in place to support supply and demand for nutritious foods before the next crisis and should be flexible to respond quickly in case of breakdown in “business as usual.” Based on the lessons from COVID-19, several basic policy prescriptions can be drawn to help governments prepare food value chains and social protection systems for future shocks:



Set up digital social protection registries, so that, in event of a shock, assistance platforms can move quickly to identify the most vulnerable households, including those previously ineligible for social assistance. Registries should include the very poor, people with disabilities, informal workers or unemployed people providing care work, displaced individuals, and marginalized groups. When possible, registries should include the composition of households to capture specific vulnerabilities among household members and be dynamic to allow for information to be updated. For any programmes which are based on targeting, for example for children under two years old or pregnant women, mechanisms to inform eligible parties must be clear and effective.



Set up social protection distribution platforms digitally, so that assistance like cash transfers and vouchers can be rolled out quickly. Households need food daily. Any delay in transfers, especially for those that depend on daily wages, has an immediate impact on an individual's food security and nutrition.



Consider the unique vulnerabilities of urban households in programme design and targeting, specifically in terms of stability of income and its sources and daily food sources. The COVID-19 pandemic exposed the fact that not only the rural poor may require significant assistance. To enhance targeting of vulnerable urban populations, further investments by governments and stakeholders should be made in research and evidence to understand different vulnerabilities across livelihoods and locations.



Consider how social protection programmes can be leveraged to maintain supply and demand of nutritious foods. Food systems that support access to nutritious foods require both a steady supply of nutritious foods and consumers who can access those foods. For example, governments could consider how school feeding can be designed to guarantee demand through local sourcing while simultaneously guaranteeing supply of nutritious foods via school meals to children. Steps should be taken to ensure that the poorest households, who are likely to be targeted by social protection programmes have functioning markets within their access. On the supply-side efforts should be undertaken to strengthen value chains of nutritious foods through improvements in production, processing, distribution, market infrastructure and reduction in post-harvest losses. Steps should be taken to ensure that the poorest households, who are likely to be targeted by social protection programmes have functioning markets within their access. On the supply-side efforts should be undertaken to strengthen value chains of nutritious foods through improvements in production, processing, distribution, market infrastructure and reduction in post-harvest losses.





Strengthen fortification value chains so that they may be leveraged by social protection programmes, including in times of shock.

Governments, with private sector partnerships, should support functional large-scale food fortification that can meet an increase in demand if fortified foods were to be provided through a social protection programme. When appropriate, governments may identify potential suppliers of specialized nutritious foods which can be sourced for nutrition-specific programmes for the most vulnerable. Under more sophisticated programmes, governments should consider how provision of specialized nutritious foods can be linked to further encourage uptake of other services, like school enrolment and health centre visits.



Ensure that households that receive cash or voucher assistance can physically access nutritious foods by improving and diversifying production, import, and transport options.

Governments should make efforts to ensure food systems are able to produce, transport, and store perishable nutritious foods, even if movement is stymied during a shock. In the aftermath of shocks, free movement of food is essential to avoid shortages and prevent skyrocketing prices. Governments can safeguard food systems to supply chain disruptions by promoting diversified suppliers of nutritious foods, including at the local level; investing in infrastructure and diversifying modalities for the transport of food; and differentiating among import partners.



Regularly collect subnational retail food prices, including in rural markets, to be able to monitor cost and affordability of nutrient-adequate and/or healthy diets and to calculate affordability gaps.

Further efforts should be made by governments to enhance data collection to inform programme design and adaptations. This include frequent collection of prices of items from different food groups in markets in rural and urban locations and collection of data on (or estimate) changes to household incomes to enable monitoring of the economic aspects of nutrition vulnerability.



As part of preparedness, conduct research to improve understanding on how consumers change behaviours during a shock.

During the pandemic, there was limited information available on how consumer behaviours related to food changed. More information is needed to understand how food preferences change and the types of food substitutions made, changes in intra-household dynamics and norms, change in where people source food from (prepared at home, purchased from market, own produced) and whether behaviour changes are different in modern food systems compared to more traditional food systems. Additionally, it is important to understand whether changes in behaviours and practices are temporary or continue to last beyond the shock.





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Annex: Acronyms

BDT	Bangladeshi Taka
CPI	Consumer Price Index
FNG	Fill the Nutrient Gap
IFPRI	International Food Policy Resource Institute
MAD	Minimum Acceptable Diet
MDD	Minimum Dietary Diversity
OPM	Oxford Policy Management
SME	Small and Medium Enterprises
THR	Take-Home Rations
USD	United States Dollars
VAM	Vulnerability Analysis and Mapping
WFP	World Food Programme



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