



ADB TA-9916: Greater Mekong Subregion
Sustainable Agriculture and Food Security Program

KNOWLEDGE PRODUCT 1: COVID-19 FOOD SECURITY RESPONSE AND RECOVERY ACTIONS IN THE GMS

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Greater Mekong
Subregion
Sustainable
Agriculture & Food
Security Program



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TA-9916: GMS SAFSP supports the implementation of the *Strategy for Promoting Safe and Environment-friendly Agro-Based Value Chains in the GMS and Siem Reap Action Plan*, which was endorsed by GMS agriculture ministers in 2017. TA-9916 aims to create an enabling environment that will enhance economic, social and environmental benefits to GMS stakeholders from access to markets and safer food products. The emphasis is on enhancing opportunities for more collaboration among GMS and with other sub-regional entities, thereby promoting regional integration. The project targets six themes, namely (i) COVID-19, green and gender-responsive agribusiness supply chains; (ii) financing climate-smart small and medium agribusinesses; (iii) crop safety and quality management; (iv) livestock health and value chains improvement; (v) transboundary adaptation of GMS agriculture; and (vi) water-food-energy nexus.

NOTES

The views expressed are those of the authors and do not necessarily reflect the views and policies of the Asian Development Bank (ADB) or its Board of Governors or the governments they represent.

In this publication, the symbol “\$” refers to US dollars.

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Abbreviations

ADB – Asian Development Bank

APVAX – Asia-Pacific Vaccine Access Facility

ASEAN – Association of Southeast Asian Nations

COVAX - COVID-19 Vaccines Global Access (Facility)

CPI – Consumer Price Index

ENI – The Economist Normalcy Index

ESCAP – (United Nations) Economic and Social Commission for Asia and the Pacific

FAO – Food and Agriculture Organization

FTA – Free Trade Agreement

GDP – gross domestic product

GMS – Greater Mekong Sub-region

ICT – information and communication technology

ILO – International Labor Organization

LMIC - Livestock Marketing Information Center

MAFF – Ministry of Agriculture, Forestry and Fisheries (Cambodia)

MARA – Ministry of Agriculture and Rural Affairs (The People’s Republic of China)

MOC – Ministry of Commerce (Cambodia)

OECD – Organisation for Economic Co-operation and Development

PRC – The People’s Republic of China

SDGs – Sustainable Development Goals

SMEs – small and medium-sized enterprises

SPS – sanitary and phytosanitary

TA – Technical Assistance

UNCTAD – United Nations Conference on Trade and Development

UNDP – United Nations Development Program

UNICEF – United Nations Children’s Fund

WGA – Working Group on Agriculture

WHO – World Health Organization

Executive Summary

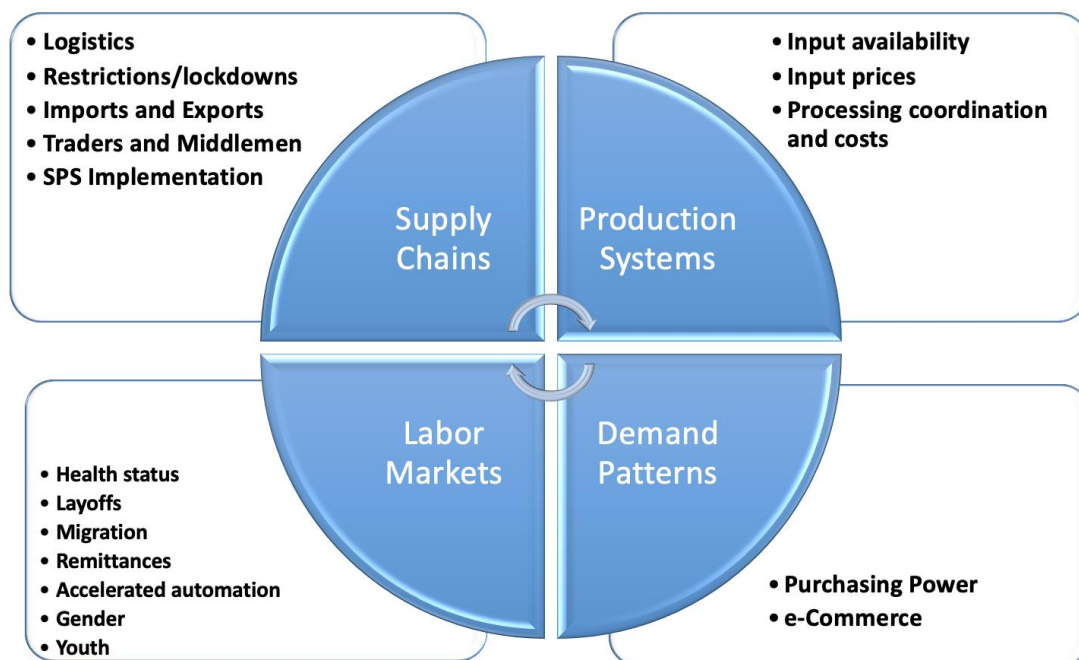
COVID-19 represents an ongoing global threat to public health, but it has been especially disruptive to agri-food supply chains and smallholder livelihoods that are dependent upon them. In the GMS, significant progress over the last decade to promote more inclusive and sustainable smallholder value chains is at risk of being lost. Smallholder resilience against the COVID-19 shock is undermined by a lack of access to more advanced financial and information services, while food supply chain disruptions hinder access to markets and finance. These impacts tend to be severe for perishable products, increasing the need to secure inputs, supporting extension, information, and logistical services, and institutional innovations (certification, cooperatives, and contracting) to facilitate better risk management.

For the GMS sub-region as a whole, COVID-19 has revealed an essential need for more determined commitments to policy coherence, including more extensive and inclusive policy dialogue, harmonized standards, trade facilitation, and market integration. In a March 2021 policy brief on COVID-19 threats to the ASEAN economies, the ADB highlighted agro-processing as a critically affected sector (Seng et al., 2021). Their prescription for action on agro-processing emphasizes the "urgency of structural reform to support recovery and a return to sustainable, broad-based growth."¹ These recommendations resonate strongly with the core commitments of TA-9916.

After an introduction, the first research section of this report gives an overview of the persistent and emerging risks that COVID-19 presents to the agri-food sector. Risks are classified into four salient categories: Supply Chains, Production Systems, Labor Markets, and Demand Patterns (Figure 1). To support efficient resource allocation and livelihoods, each of these components of the economic system relies on varying degrees of coordination and predictability. Today's modern urban economies utilize transport and information infrastructure to achieve levels of supply chain complexity and timeliness that would be beyond the imagining of our ancestors, but even rural subsistence economies now rely on predictable market access, agricultural inputs, and remittance income from far away.

¹ Seng, B., Swee, C. W., Mangal, M., Hee Ng, T., & Zara, D. (2021). Supporting Post-COVID-19 economic recovery in Southeast Asia. ADB Briefs. <https://doi.org/10.22617/bf210101-2>

Figure 1: Primary Channels of Supply Chain Disruption by COVID-19



This section also illustrates how, despite disruptions, the global agri-food sector has remained relatively stable since the start of the pandemic.

Global Perspective

The key insights from the global perspective include the following:

Key Points

- Policies implemented to control the spread of the virus have resulted in logistical disruptions for the agri-food sector, with notable impacts on supply chains, demand patterns, production systems, and labor markets
- Heterogenous policy responses and virus transmission rates have resulted in uneven economic recovery patterns
- The seasonality of the agri-food sector and the perishability of agri-food products exasperates issues introduced by logistical disruptions
- Disruptions to labor markets are likely to result in negative knock-on effects for agricultural workers
- The pandemic has rapidly accelerated digitization and e-commerce globally

Regional (ASEAN and GMS) perspectives are covered in the third section of the report, including situational assessments of development and health project outputs, including, regional COVID-19 baseline assessment, regional policy responses, regional policy coordination, regional economic outlook, among many other areas. At the East and Southeast Asian regional level, the COVID-19 pandemic has driven aggregate economic contraction, agri-food supply chain disruption, and placed hundreds of millions of people at risk of disease, financial hardship, and food insecurity. A situational

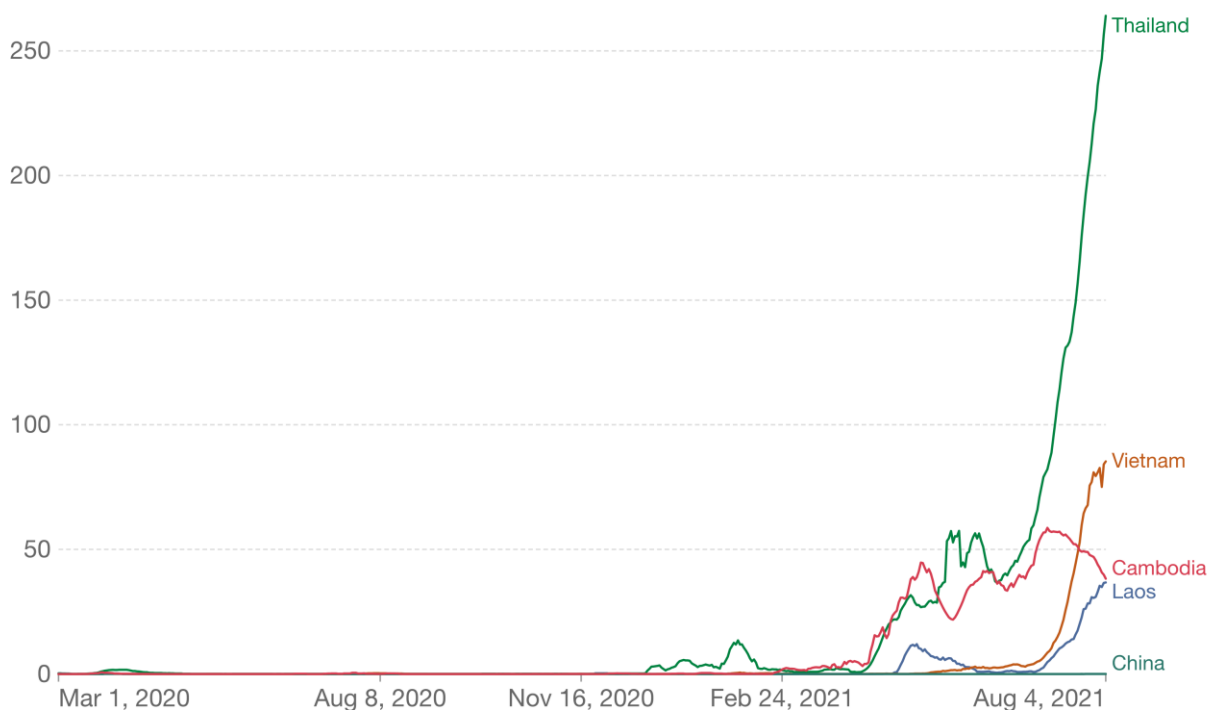
assessment of the COVID-19 sub-themes offers insight into the implications of the pandemic for foods security generally and this TA in particular.

New variants, low vaccine availability, and easing of containment policies led seven countries in the region to experience their highest daily case rates in May and June 2021², over a year and a half after the virus was first detected. In the GMS, case rates continue to surge as of August 2021 (Figure 2). Eight countries continue to experience relatively high daily case rates³. This regional surge is occurring while other nations, such as the United States and the United Kingdom, relax restrictions following low transmission rates. Yet, the virus remains unpredictable, and the Delta variant poses a threat to the progress made in containing the spread of COVID-19.

Figure 2: COVID-19 Cases Per-Million People

Daily new confirmed COVID-19 cases per million people

Shown is the rolling 7-day average. The number of confirmed cases is lower than the number of actual cases; the main reason for that is limited testing.



Source: Johns Hopkins University CSSE COVID-19 Data

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Source: Our World in Data, <https://ourworldindata.org/covid-cases>

Regional Perspective

The main findings at the regional level are presented below.

² Cambodia, Timor, Lao PDR, Malaysia, Mongolia, Thailand, and Vietnam

³ Cambodia, Indonesia, Malaysia, Mongolia, Philippines, South Korea, Thailand, Vietnam

Key Points

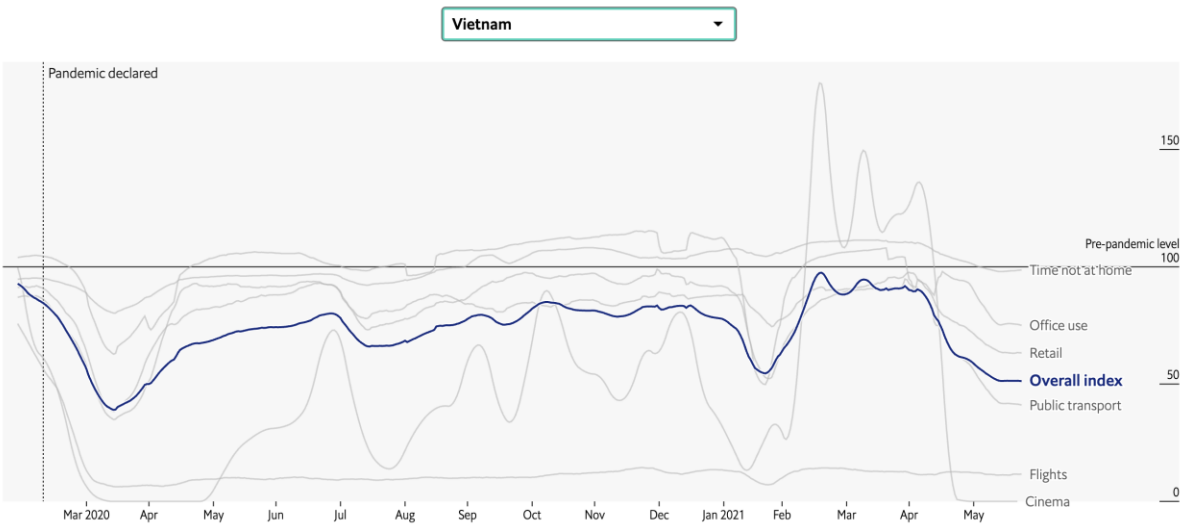
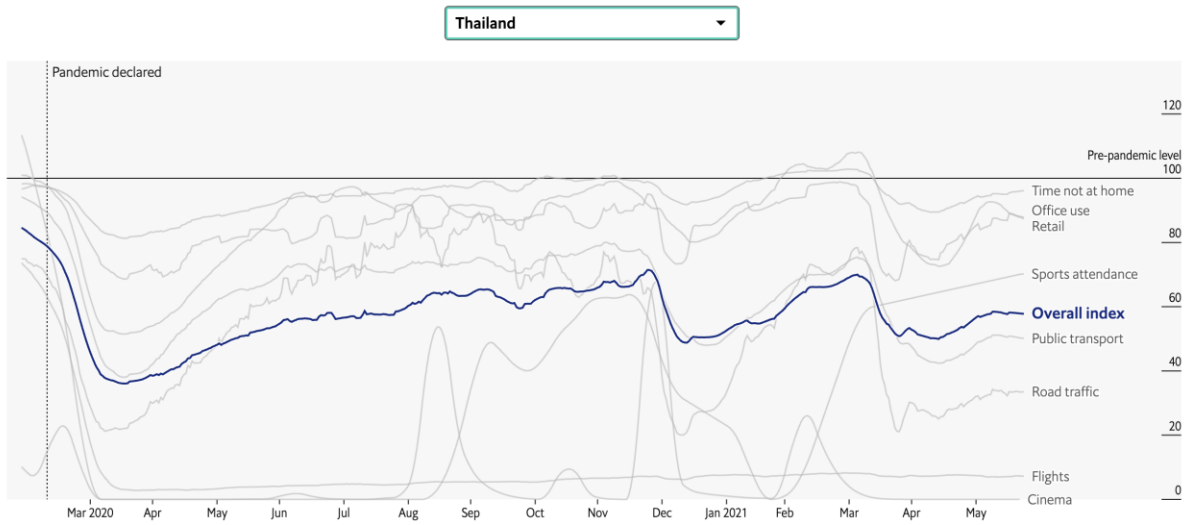
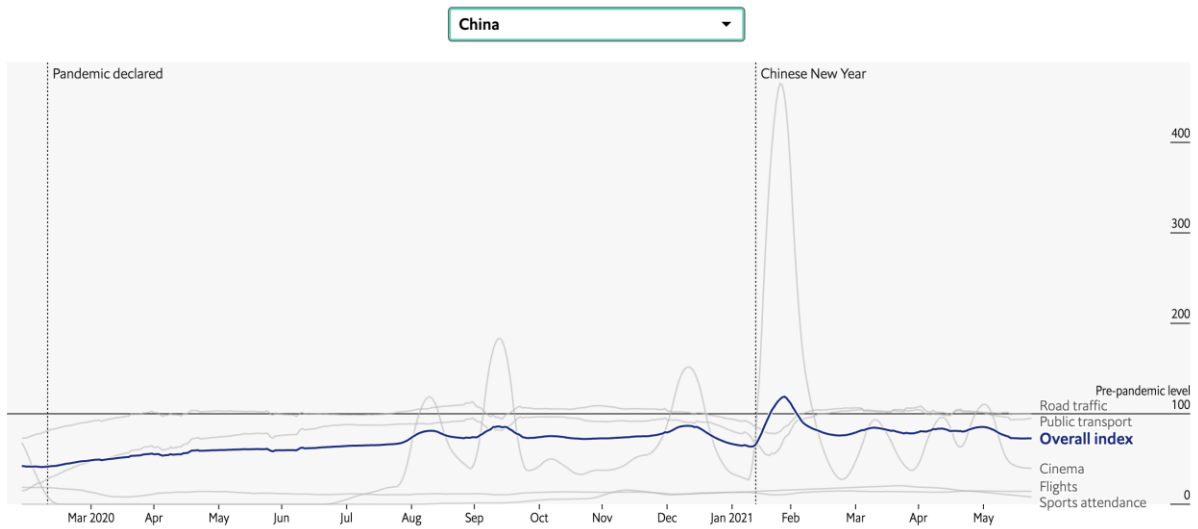
- While initially able to contain the spread of the virus, the GMS saw a surge of cases in June, July and August of 2021, and vaccination in the region remains low
- While 2020 brought reductions in GDP growth in the region, in 2021 growth is expected to rebound and the agri-food sector is expected to remain resilient
- Women were hardest hit by the pandemic, partially due to a prevalence of women in informal employment
- Migrants remain vulnerable to income loss due to travel restrictions, yet the prevalence of migrants in 'essential' work has mitigated remittance losses
- Uncertainties regarding virus transmission and weak regional coordination eroded trust in the region and has created space for enhanced intra-regional cooperation
- The pandemic has accelerated digitization and e-commerce, yet infrastructure and connectivity must be addressed to ensure equitable access to technology

The final section evaluates the national perspective from each GMS member country, reviewing their individual responses to the COVID-19 pandemic. Given the diversity of these countries, it is hardly surprising that COVID-19 impacts and responses are very heterogeneous, but all countries share significant disruptions to their agri-food sectors and trade. The national responses are presented in the following areas: (i) logistics, (ii) labor markets, (iii) digitization, (iv) fiscal support, and (v) external market shocks. This section will be most important for GMS countries and for ADB staff in terms of preparing RCI interventions with adequate responses which are suitable to the situation in various countries.

National responses to the COVID-19 pandemic are varied across the GMS, yet each country has experienced significant disruptions to its agri-food sector. While most disruptions have short-term impacts, the pandemic has resulted in market shifts that may result in fundamental adjustments to agri-food supply chains. The heterogeneity in adjustment patterns across the GMS is demonstrated by The Economist Normalcy Index (ENI)⁴.

⁴ For each country, the ENI is defined as a composite of eight indicators, split into three domains. The first grouping is transport and travel: public transport in big cities; the amount of traffic congestion in those same cities; and the number of international and domestic flights. The second looks at recreation and entertainment: how much time is spent outside the home; cinema box-office revenues (a proxy measure for cinema attendance); and attendance at professional sports events. The third is retailing and work: footfall in shops; and occupancy of offices (measured by workplace footfall in big cities). For more information see <https://www.economist.com/graphic-detail/tracking-the-return-to-normalcy-after-covid-19>

Figure 3: Economist Normalcy Index for selected GMS Economies



General conclusions for each GMS country are summarized below.

Cambodia

Key Points

- Agri-food sector remains resilient in the face of the pandemic
- Decreased agri-food imports have drawn attention to the importance of the local food economy and on free trade agreements with regional trading partners
- Policies to contain the spread of the virus prompted the government to facilitate agri-food supply chain operations and monitor prices, particularly in urban centers
- Agri-food processors and MSMEs are particularly vulnerable to labor market disruptions
- The pandemic has highlighted the potential of e-commerce to improve SPS and intra-regional trade and the government has work to leverage technology for the agri-food sector

Lao PDR

Key Points

- Transportation disruptions slowed the delivery of key agricultural inputs
- Lao PDR's economy contracted significantly in 2020, after relatively stable growth over the last two decades
- A unique trend in Lao PDR, the pandemic has pushed *more* workers into the agri-food sector
- The digitization of the agri-food sector is likely to be hampered by low internet connectivity rates

Myanmar

Key Points

- Difficulties accessing agricultural markets and low prices are cited as constraints for the agrifood sector
- The high prevalence of rain dependant crops is resulting in heterogenous crop output for the 2021 growing season
- Food insecurity remains a major concern for the country, with 45 percent of farming communities expecting reduced agricultural yield in 2021⁵ and 22 percent of surveyed farmers reducing area farmed⁶
- The pandemic caused the disruptions of between 6.9 and 7.3 million jobs in Myanmar
- Broad fiscal support from the government seeks to remedy economic fallout caused by the pandemic

⁵ IFPRI. September 2021. Community perceptions of the agricultural impacts of Myanmar's health and political crises. <https://ebrary.ifpri.org/utils/getfile/collection/p15738coll2/id/134734/filename/134945.pdf>

⁶ FAO & WFP. 2021. Myanmar | Agricultural livelihoods and food security in the context of COVID-19: Monitoring report – May 2021. Rome. <https://doi.org/10.4060/cb5218en>

The People's Republic of China (Yunnan Province and Guangxi Zhuang Autonomous Region)

Key Points

- Despite the pandemic, China's agri-food sector remains stable with Yunnan and Guangxi reporting positive agricultural output, however, exports have declined to their lowest point since 2021
- The canceling of agri-food exhibitions and trade shows forced wholesalers to find alternative avenues to purchase agri-food products from producers
- Labor shortages were felt in both urban and rural settings, with reports that nearly half of migrant workers have not returned to urban centers for employment
- The use of e-commerce in the agri-food sector has exploded, with and mobile phone use (i.e., for live broadcasting) becoming an essential task for agri-food producers
- The pandemic has highlighted the need to enhance SPS requirements, particularly as it relates to livestock and wildlife

Thailand

Key Points

- Thailand has experienced the largest decline in economic growth in the ASEAN community, however, the agri-food sector remains stable
- Airfreight traffic has declined sharply and may hamper the trade of agri-food products
- Reliance on migrant labor in agri-food processing has caused labor shortages and emphasized the need for firms to automatize processing
- Declines in international tourism have caused a sharp increase in unemployment in the services sector
- The government has strongly promoted the use of contactless payment and e-commerce in the agri-food sector, working with producers to facilitate online transactions

Vietnam

Key Points

- The agri-food sector remains resilient, with growth reported in the first quarter of 2021
- A range of free trade agreements are helping to facilitate the intra-regional trade of agri-food products
- The government has stepped in to facilitate agri-food supply chains in the face of lockdown policies that restrict internal movement
- Reverse labor migration trends have prompted the government to invest in rural employment opportunities
- While the use of technology and e-commerce has increased during the pandemic, there is still room to expand the use of technology in the agri-food sector

- Mismatches in supply and demand resulted in logistical disruptions

This report describes and synthesizes the myriad forces that interact to disrupt agri-food supply chains around the GMS region. Although each of these diverse economies is contending with its own challenges, from a larger perspective many opportunities emerge for regional dialog and cooperation to mitigate shared risks and facilitate common economic and social interests. One of the central priorities for Technical Assistance 9916 will be to leverage these opportunities, promoting more coherent regional policies and standards for trade and logistics that can reduce health and economic vulnerability, bringing the GMS closer to its immense long-term potential for inclusive and sustainable growth.

I. Introduction

1. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is a highly contagious virus that causes the COVID-19 illness. The World Health Organization declared the COVID-19 outbreak a global pandemic on March 11, 2020. Since December 2019, there have been over 203 million reported cases of COVID-19, over 4.2 million deaths from the virus, and over 4.4 billion COVID-19 vaccine doses administered globally⁷ (as of August 6, 2021).

2. While COVID-19 represents an ongoing global threat to public health, it has been especially disruptive to agri-food supply chains and smallholder livelihoods that are dependent upon them. In the GMS, significant progress over the last decade to promote more inclusive and sustainable smallholder value chains is at risk of being lost. Smallholder resilience against the COVID-19 shock is undermined by a lack of access to more advanced financial and information services, while food supply chain disruptions hinder access to markets and finance. These impacts tend to be severe for perishable products, increasing the need to secure inputs, supporting extension, information, and logistical services, and institutional innovations (certification, cooperatives, and contracting) to facilitate better risk management.

3. For the GMS sub-region as a whole, COVID-19 has revealed an essential need for more determined commitments to policy coherence, including more extensive and inclusive policy dialogue, harmonized standards, trade facilitation, and market integration. In a March 2021 policy brief on COVID-19 threats to the ASEAN economies, the ADB highlighted agro-processing as a critically affected sector (Seng et al., 2021). Their prescription for action on agro-processing emphasizes the "urgency of structural reform to support recovery and a return to sustainable, broad-based growth"⁸. These recommendations resonate strongly with the core commitments of TA-9916.

⁷ COVID-19 Dashboard, Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU), <https://coronavirus.jhu.edu/map.html> (as of June 14, 2021)

⁸ Seng, B., Swee, C. W., Mangal, M., Hee Ng, T., & Zara, D. (2021). Supporting Post-COVID-19 economic recovery in Southeast Asia. ADB Briefs. <https://doi.org/10.22617/brf210101-2>

Figure 4: Major COVID-19 Agri-food Challenges and Recommendations

Five major challenges pre-COVID-19



Inconsistent supply of raw materials



Low level of automation and technological adoption



Infrastructure gaps



Lack of access To key enablers such as financing, technologies, and skilled labor



Lack of environmental sustainability and shifting consumer purchasing behaviors

Three major shifts from COVID-19



Shifts in demand for food and beverage products



Breakdown in the supply of production inputs



Increased food protectionism policies

Four areas of policy action



Enhancing the efficiency and transparency of supply chains

- Invest in reliable data management systems
- Harmonize standards for food products



Strengthening the industry's added value

- Expand food product range
- Attract investments and companies



Pursuing steps to raise productivity rates

- Focus on research and enabling policies to ensure a more consistent supply of raw materials



Building industry resilience

- Streamline regulatory functions
- Strengthen the local agro-processing ecosystem
- Pursue food-related circularity policies

Source: Seng et al (2020). For a more macro perspective, see e.g., <https://foodindustry.asia/news-articles/2020/fiscal-risk-amount-for-asias-food-industry>

A. National Engagement, Awareness, and Proactive Policy Response

4. To better ascertain the initial conditions for national partner economies, the TA began with individual consultations of responsible and relevant offices in each country. Every country was actively engaged on its domestic COVID-19 response, but the degree to which the rural sector, agri-food, and trade were represented in current policies varied considerably. Most countries expressed the importance of self-directed policy responses, but most recognized the importance of multilateral dialogue and policy coherence, particularly with respect to trade and transboundary disease risk. As the region learned from recent experience with zoonoses (HPAI, Swine fever, etc.), national programs of disease eradication and recovery can be rendered futile in the presence of under-regulated transboundary risk. While some countries expressed an interest in direct capacity development to

strengthen the agri-food dimension of their COVID-19 resilience, all acknowledged the importance of sub-regional transparency, dialogue, and relevant policy coordination.

5. Despite COVID-19 disruption and differing stages of sector development, agri-food continues to offer a potent catalyst for inclusive and sustained economic growth across the GMS. It should be emphasized that COVID-19 is not an animal disease and there is no significant evidence that it can be transmitted via food products (although food service presents a risk of human transmission). The main threat of COVID-19 for agri-food is logistical disruption of supply chains, as people change their marketing behavior to reduce person-to-person interaction. Effective responses to this have used information and other digital technologies to match buyers and sellers in new ways, often “reversing” logistical flows to bring suppliers to customers. Adapting to these changes is most challenging to rural households, who face high search and market access costs in the best of circumstances and are least likely to be early adopters of innovative marketing tools. Financially, rural households are also doubly vulnerable to COVID-19, as it threatens their agri-food market and is “sending home” large numbers of their urban migrants. Since these people remain the majority of the poor and the food-producing population in all GMS countries, strengthening their COVID-19 resilience is a very high priority.

6. This report is intended to raise public and private awareness of the salient challenges COVID-19 presents to agri-food supply chains, livelihoods, and food security in the GMS region. In doing so, it offers a basis for proactive policy dialog and decision-making within and between national economies, promoting economic resilience and securing the basis for inclusive and sustainable prosperity.

II. Global Perspective

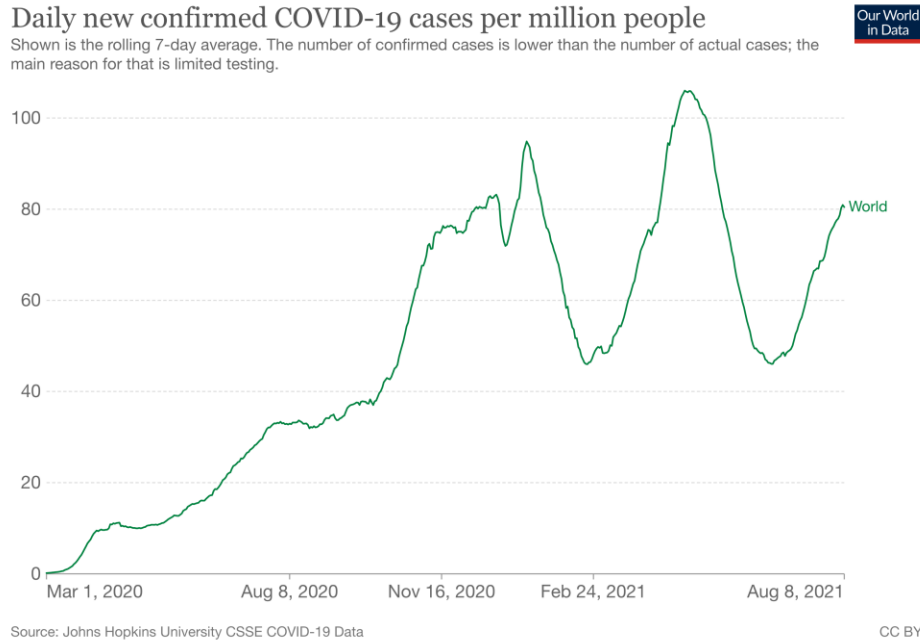
Key Points

- Policies implemented to control the spread of the virus have resulted in logistical disruptions for the agri-food sector, with notable impacts on supply chains, demand patterns, production systems, and labor markets
- Heterogenous policy responses and virus transmission rates have resulted in uneven economic recovery patterns
- The seasonality of the agri-food sector and the perishability of agri-food products exasperates issues introduced by logistical disruptions
- Disruptions to labor markets are likely to result in negative knock-on effects for agricultural workers
- The pandemic has rapidly accelerated digitization and e-commerce globally

A. Background

7. While globally aggregated COVID-19 infection rates began declining in April 2021 by the end of June 2021, global case rates began rising once again (Figure 5). The virus continues to pose significant threats, including cyclical surges within countries, and sporadic accelerated infections from variant strains such as the Delta variant, which is responsible for accelerated transmission in much of the world. Unequal global vaccine availability has resulted in case rates declining in some regions while they increase in others. For example, in June 2021 the United States experienced its lowest daily case rate since inception, while Thailand concurrently experienced its highest daily cases rate, responding quickly with stricter containment policies. Elsewhere in the GMS, Vietnam reacted to accelerating variant infection with expanded restrictions and lockdowns in May 2021 in response to increased community transmission and Cambodia similarly expanded restrictions in April 2021. As of August 2021, the pandemic remains unpredictable, and the situation continues to evolve rapidly. A visual representation of vaccination rates and the burden of COVID-19 is offered in Figure 6.

Figure 5: Daily New Confirmed COVID-19 Cases - Global



Source: Our World in Data, <https://ourworldindata.org/covid-cases>

Figure 6: Vaccination Coverage by Population

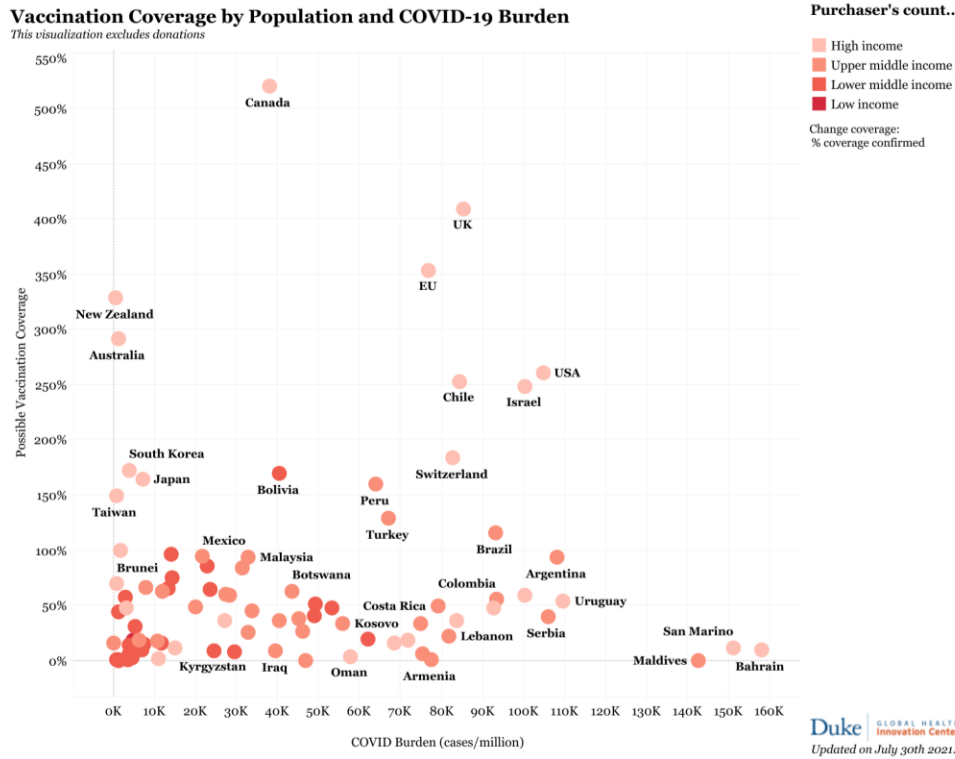
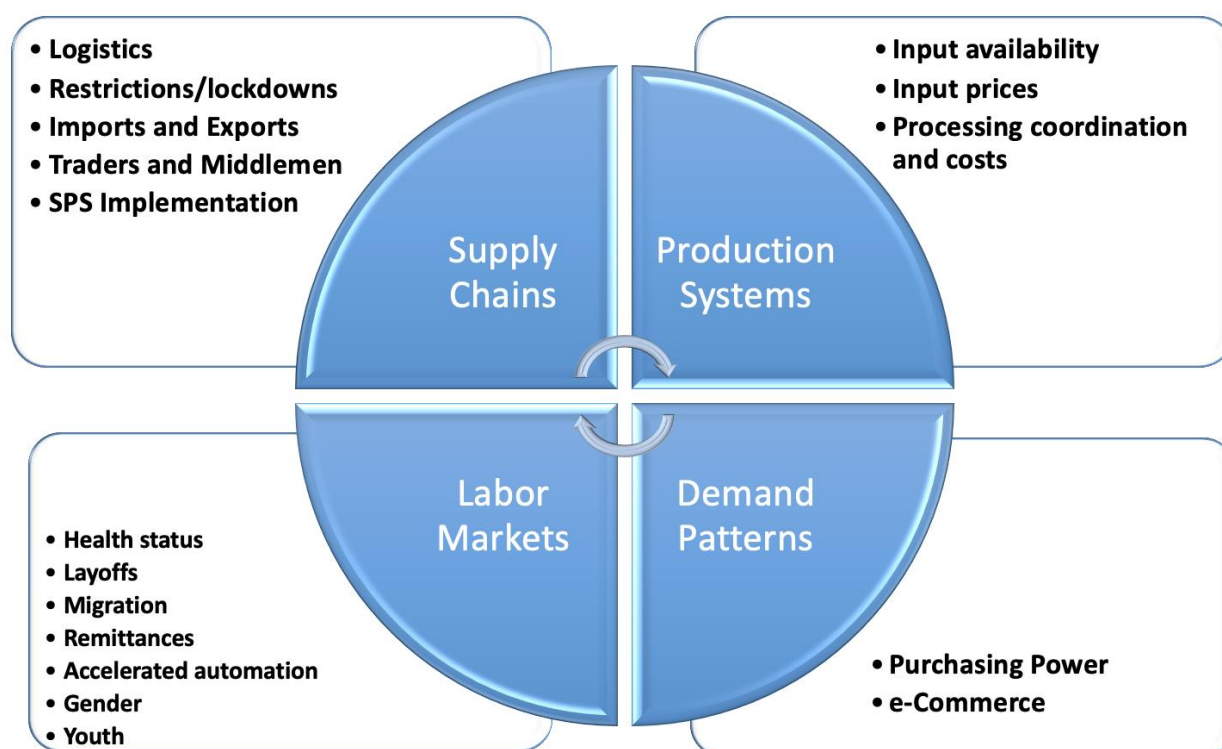


Image Source: Duke Global Health Innovation Center, <https://launchandscalefaster.org/covid-19/vaccinepurchases>

B. COVID-19 and the Agri-food Sector

8. The pandemic itself, as well as policy and other behavioral responses to control it, have presented a diverse array of risks to the agri-food sector and food security. Most notably among these is the disruption of supply chains that are the lifeline of 79 percent of the world's poor who live in rural areas. Current trends suggest that low-income countries stand to lose a decade's worth of income gains because of the pandemic (The Economist, 2021)⁹, including direct and indirect threats to food security and agricultural productivity for the years to come. Assessing these risks requires a clear understanding of viral epidemiology, public health, but also the economics of behavioral and policy responses to this rapidly evolving pandemic. Heterogeneity of initial conditions, resources, and institutional capacity have created very complex dynamics of impact, adjustment responses, and economic and social recovery.

Figure 7: Primary Channels of Supply Chain Disruption by COVID-19



9. The following section gives an overview of the persistent and emerging risks that COVID-19 presents to the agri-food sector. Risks are classified into four salient categories: Supply Chains, Production Systems, Labor Markets, and Demand Patterns (Figure 7). To support efficient resource allocation and livelihoods, each of these components of the economic system relies on varying degrees of coordination and predictability. Today's modern urban economies utilize transport and information infrastructure to achieve levels of supply chain complexity and timeliness that would be

⁹ The Economist Newspaper. (2021, May 22). *How covid-19 could impede the catch-up of poor countries with rich ones*. The Economist. <https://www.economist.com/finance-and-economics/2021/05/22/how-covid-19-could-impede-the-catch-up-of-poor-countries-with-rich-ones>.

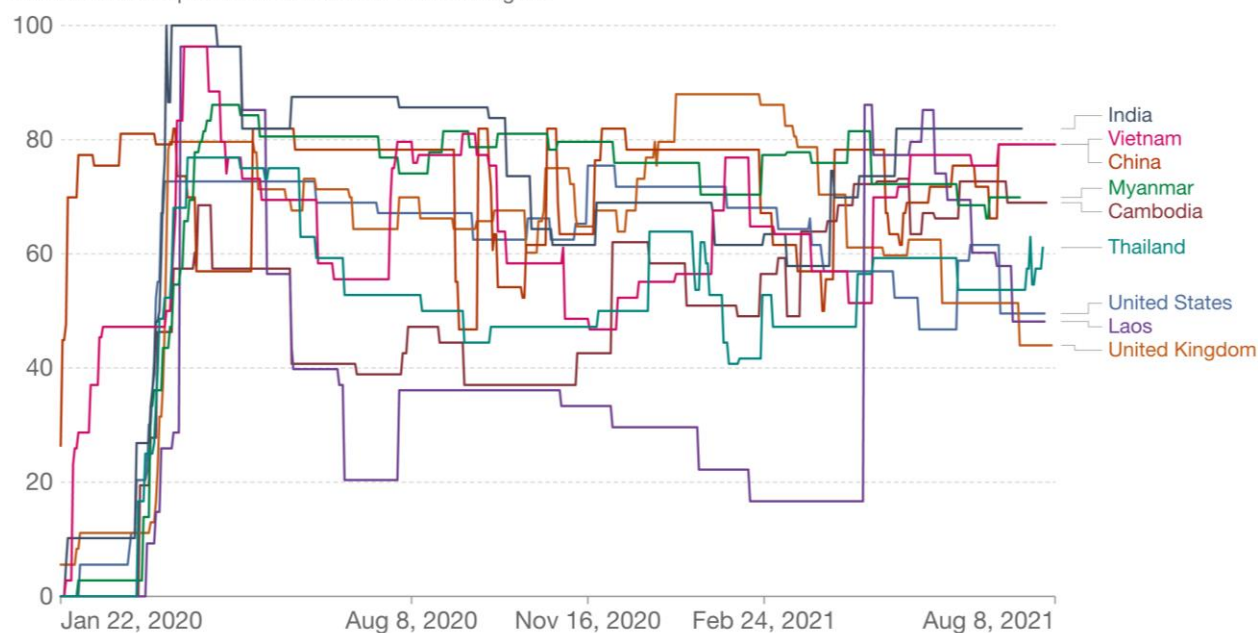
beyond the imagining of our ancestors, but even rural subsistence economies now rely on predictable market access, agricultural inputs, and remittance income from far away.

Figure 8: COVID-19 Stringency

COVID-19: Stringency Index



This is a composite measure based on nine response indicators including school closures, workplace closures, and travel bans, rescaled to a value from 0 to 100 (100 = strictest). If policies vary at the subnational level, the index is shown as the response level of the strictest sub-region.



Source: Hale, Angrist, Goldszmidt, Kira, Petherick, Phillips, Webster, Cameron-Blake, Hallas, Majumdar, and Tatlow (2021). "A global panel database of pandemic policies (Oxford COVID-19 Government Response Tracker)." *Nature Human Behaviour*. – Last updated 8 August 2021, 18:50 (London time)
OurWorldInData.org/coronavirus • CC BY

Supply Chains

10. One of the pervasive economic consequences of COVID-19 is supply chain disruption, following from complex behavior adjustments to dramatic and largely unpredictable public health shocks. Many disruptions in agri-food supply chains have been attributed to policies aimed at controlling the spread of the virus. The Oxford COVID-19 Government Response Tracker¹⁰ offers a stringency index of such policies (Figure 8) to elucidate two salient elements: a) dynamic temporal shifting of policies, and b) heterogeneity of government responses across countries. These disruptions are compounded by a variety of coordination failures across domestic and international markets. We divide these drivers into several components below.

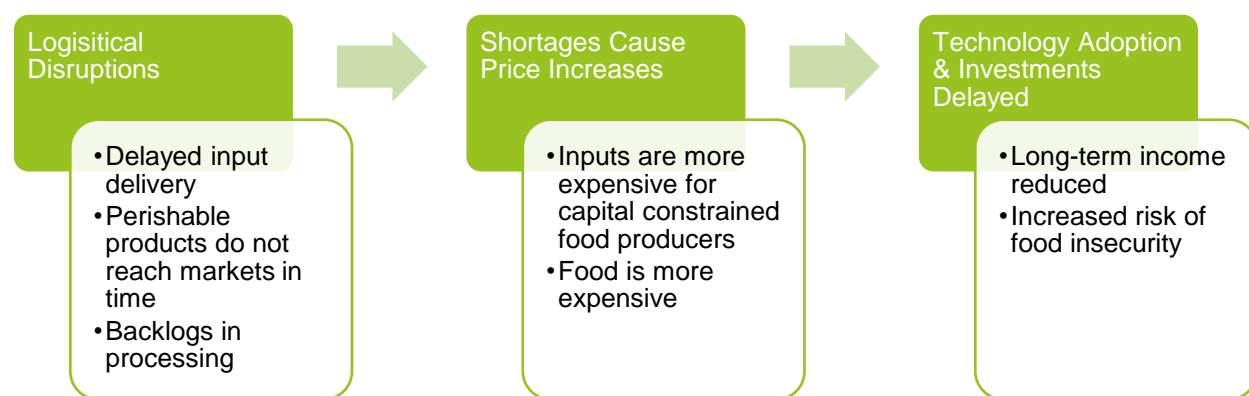
11. One of the primary coordination failures has occurred in supply chain logistics, exchanging, and delivering goods and services in all directions across market economies. Mismatches in this

¹⁰ Thomas Hale, Noam Angrist, Rafael Goldszmidt, Beatriz Kira, Anna Petherick, Toby Phillips, Samuel Webster, Emily Cameron-Blake, Laura Hallas, Saptarshi Majumdar, and Helen Tatlow. (2021). "A global panel database of pandemic policies (Oxford COVID-19 Government Response Tracker)." *Nature Human Behaviour*.

See also Roland-Holst and Grams: 2013. Ruminant Supply Chains in Mongolia: A preliminary assessment of strategies for improving returns, risk management, and productivity, Research report, FAO, Rome.

context lead to sequential delays, “snowballing” along vertical supply chains when one or more delayed inputs strand complementary inputs as well as final products. Taken together, these vertical failures also compound inventory costs and lost income to owners of idle resources, capacity, lost sales, or spoiled/wasted products. While many logistical risks and disruptions appear manageable in the short term, logistical ripple effects can propagate risks for producers and consumers well into the future. The longer-term risks associated with logistical disruptions also inevitably impact prices, which in agri-food supply chains means affordability and availability of food, agricultural inputs, and technology adoption and investment decisions.

Figure 9: Long-Term Impacts of Logistics Disruptions



Restrictions and Lockdowns

12. Containment policies that restrict the movement of people and goods within and between countries have been a primary driver of agri-food supply chain disruptions. While these policies were necessary to help control the spread of the virus, they caused pervasive logistical failures and misallocation of agri-food products. For example, policies that mandated closure for restaurants, hotels, and schools, resulted in producers being unable to sell products to established buyers, leaving farmers stranded with (usually perishable) products, but no customer. In the United States, the Dairy Farmers of America reported its members dumped upwards of 3.7 million gallons of milk daily in April 2020 because of such disruptions (Yaffe-Bellany & Corkery, 2020)¹¹. Likewise In May 2020, 58 percent of agricultural households in Mongolia reported they were unable to sell their agri-food products due to logistical disruptions (FAO, UNICEF, WFP and WHO, 2021)¹². Such instances have knock-on effects for farmers who subsequently earn less, have less capital to invest in future production, and have less income to spend on food for their own households (Figure 10).

¹¹ Yaffe-bellany, D., & Corkery, M. (2020, April 11). *Dumped Milk, Smashed Eggs, Plowed Vegetables: Food Waste of the Pandemic*. The New York Times. <https://www.nytimes.com/2020/04/11/business/coronavirus-destroying-food.html>.

¹² FAO, UNICEF, WFP and WHO. 2021. *Asia and the Pacific Regional Overview of Food Security and Nutrition 2020: Maternal and child diets at the heart of improving nutrition*. Bangkok, FAO. <https://doi.org/10.4060/cb2895en>

Figure 10: Knock-On Effects of Logistics Disruptions (Example)



13. At the beginning of this paragraph, it should be emphasized that there is a strong demand surge for commodities, and the demand surge tightened logistical bottlenecks. While the initial misallocation of agri-food products resulting from the supply chain shocks has largely subsided, inability to sell products during the shock reduced incomes for agricultural households, and the misallocation resulted in shortages in some markets, such as grocery stores (Mehrabi, 2021)¹³, pushing up prices for agri-food products and threatening food security of urban populations. A strong surge in demand for commodities driven by uneven global economic recovery patterns has exasperated logistical bottlenecks. While in some countries, demand for commodities has resumed to normal levels, other countries continue to experience delays in production and delivery of such commodities. This surge in demand coupled with remaining bottlenecks may result in more serious logistical disruption in the future. Such effects are particularly salient for vulnerable smallholder farmers whose incomes shrank and purchasing power decreased. As is widely known, poverty traps like this are very asymmetric. Low-income households can fall below the poverty line with a transitory shock to income (harvest or animal stock loss, demise or serious injury of a family member, flood, etc.), yet suffer years with increased risk of malnutrition and reduced yields in the future. Yield reductions have already followed COVID-19, as supply chain disruptions also delayed delivery of time-sensitive inputs such as seeds and agrochemicals. In circumstances where income shocks reduce complementary food purchasing, farmers may consume seeds or animal stocks to supplement their current food intake in the present at the expense of future production and income, similarly, lower current income can reduce investment in necessary inputs for future harvests (Food Security and COVID-19, 2021)¹⁴.

Imports and Exports

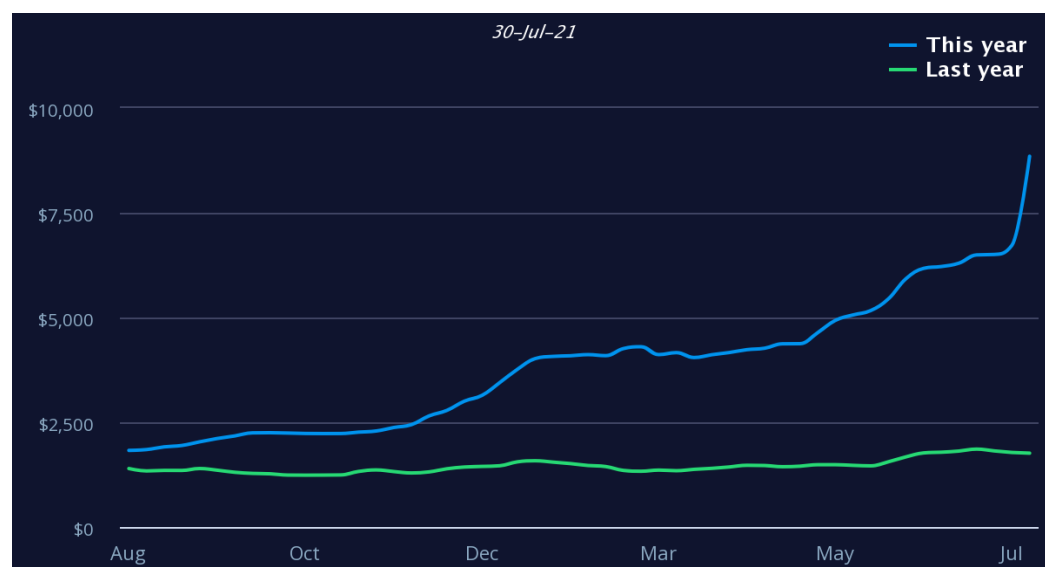
14. Containment policies restricting movement across international borders initially created a diverse and mutually reinforcing array of bottlenecks, port backlogs, and labor market disruptions (employment risks are assessed in Section 3). While FAO reports that bottlenecks and backlogs have mostly subsided, disruptions at ports caused very extensive (and expensive) long-term spillovers in shipping container inventory management and freight prices. Initial port disruptions included social distancing and disinfectant protocols that sharply increased clearance, transshipment, and transit times at borders, temporary measures directly restricting imports and exports, and protracted labor

¹³ Mehrabi, Z. (2021, July 7). *How to buffer against an urban food shortage*. Nature News. <https://www.nature.com/articles/d41586-021-01758->

¹⁴ *Food Security and COVID-19*. World Bank. (2021, July 2). <https://www.worldbank.org/en/topic/agriculture/brief/food-security-and-covid-19>.

supply¹⁵ ¹⁶. Essentially, this prevented shipping containers (which there is a large but finite number of) from reaching destinations on time. The aggregate slowdown across borders ultimately caused a shortage of containers and increased freight prices¹⁷ ¹⁸ (Figure 11). In OECD countries, these disruptions most severely impacted perishable, time-sensitive products such as fruits and vegetables,¹⁹ yet the outright closure of international borders impacted cash crops the most, as reported in Lao PDR²⁰. Between November 2020 and February 2021, the cost to rent shipping a container from Asia to Europe increased by over 250 percent²¹, while the cost of shipping a container from Asia to North America increased by over 80 percent²². By March 2021, rice exporters in Thailand, Vietnam, and Cambodia were unable to fulfill shipments to North America for lack of affordable containers²³. Because the resulting misallocation has spread globally, these price increases and container shortages are expected to persist,²⁴ which will continue to impose greater hardship on agri-food because of its larger share of perishable (fresh) and large-volume (commodity grain) cargos.

Figure 11: Freightos Baltic Index (FBX) Global Container Index – Year-on-Year Container Prices



Source: Freightos Baltic Index, <https://fbx.freightos.com/>

¹⁵ COVID-19 and the food and agriculture sector: Issues and policy responses. OECD. (2020, April 29). <https://www.oecd.org/coronavirus/policy-responses/covid-19-and-the-food-and-agriculture-sector-issues-and-policy-responses-a23f764b/>.

¹⁶ FAO. 2021. Food Outlook: Biannual Report on Global Food Markets. Rome. <https://doi.org/10.4060/cb4479en>

¹⁷ The Economist Newspaper. (2021, February 11). *Container-shipping costs have surged in recent months*. The Economist. <https://www.economist.com/graphic-detail/2021/02/11/container-shipping-costs-have-surged-in-recent-months>.

¹⁸ Parkin, B. (2021, May 6). *India's Covid surge rocks global shipping industry*. <https://www.ft.com/content/cf40d764-6ab6-4638-bea6-594cc3cd5d53>.

¹⁹ *Food Supply Chains and COVID-19: Impacts and Policy Lessons*. OECD. (2020, June 2). <https://www.oecd.org/coronavirus/policy-responses/food-supply-chains-and-covid-19-impacts-and-policy-lessons-71b57aea/#endnotea0z3>.

²⁰ World Food Programme Lao PDR. (2020, May). *COVID-19 Rapid Assessment of Food Security and Agriculture in Lao PDR*. UN World Food Programme. <https://www.wfp.org/publications/covid-19-rapid-assessment-food-security-and-agriculture-lao-pdr>.

²¹ The Economist Newspaper. (2021, February 11). *Container-shipping costs have surged in recent months*. The Economist. <https://www.economist.com/graphic-detail/2021/02/11/container-shipping-costs-have-surged-in-recent-months>.

²² Ibid

²³ Goodman, P. S., Stevenson, A., Chokshi, N., & Corkery, M. (2021, March 6). *'I've Never Seen Anything Like This': Chaos Strikes Global Shipping*. The New York Times. <https://www.nytimes.com/2021/03/06/business/global-shipping.html>.

²⁴ Dempsey, H., & Hume, N. (2021, May 11). *Commodities boom sends bulk shipping costs to decade highs*. Financial Times. <https://www.ft.com/content/849434bb-1311-4d89-bc13-3e6c5dc7111a>.

15. In addition to high freight rates and container shortages, continued COVID-19 outbreaks have restricted the turnover and employment security of shipping crews. The recent outbreak in India has driven countries such as Singapore, United Arab Emirates, Norway, and China to place restrictions on ships coming from India, Bangladesh, and Pakistan - preventing ships from changing crew members at their ports or even entering the ports²⁵. Taken together, these logistical and human resource disruptions will place additional pressure on the shipping industry, which is responsible for transporting 80 percent of global trade (Dempsy and Parkin, 2021)²⁶. Transboundary trucking, the essential second tier of the global cargo transport system, is experiencing analogous problems with container allocation and transboundary mobility.

Traders and Middlemen

16. Traders and middlemen are essential to connecting agri-food suppliers to customers, often aggregating, transshipping, and distributing agri-food products from multiple suppliers to retailers across regions. However, COVID-19 movement restrictions have prevented traders and middlemen from performing essential transport and logistics operations for producers and consumers. A Rapid Assessment of Food Security and Agriculture in Lao PDR found “restrictions in movement by traders, middlemen and farmers had a visible impact on the sales of farmer produce (cash crops and horticulture) and the availability and prices of food products”²⁷. In India, middlemen and traders faced hurdles collecting perishable products, such as milk, from scattered production sites, resulting in wasted product and lost livelihoods²⁸. Agri-food traders and middlemen are also encountering food trucking bottlenecks and capacity declines, which have been reported from Sub-Saharan Africa to the United States²⁹ ³⁰. Local market closures have compounded the impacts of restrictions on movement for traders and middlemen. In Cambodia, for example, in April 2021, a government policy closed all state and unregulated markets in Phnom Penh, Ta Khmau district (Kandal), and Preah Sihanouk³¹. Such closures and the corresponding decline in the demand for traders have the effect of reducing earnings and food security across entire value chains of low-income enterprises and households - smallholder farmers, traders and middlemen, informal workers, and consumers, increasing food wastage as products fail to reach consumers ³².

Sanitary Requirements and Inspection Protocols

17. Initial uncertainty regarding the transmission of COVID-19 and the potential for animal hosts prompted increased concern over sanitary and phytosanitary requirements for agri-food products, notably for meat and seafood. The World Trade Organization reported that 38 members notified the

²⁵ Ibid

²⁶ Ibid

²⁷ World Food Programme Lao PDR. (2020, May). *COVID-19 Rapid Assessment of Food Security and Agriculture in Lao PDR*. UN World Food Programme. <https://www.wfp.org/publications/covid-19-rapid-assessment-food-security-and-agriculture-lao-pdr>.

²⁸ FAO. 2021. *Food Outlook: Biannual Report on Global Food Markets*. Rome. <https://doi.org/10.4060/cb4479en>

²⁹ Nchanji, E. B., & Lutomia, C. K. (2021). Regional impact of COVID-19 on the production and food security of common bean smallholder farmers in Sub-Saharan Africa: Implication for SDG's. *Global Food Security*, 29, 100524. <https://doi.org/10.1016/j.gfs.2021.100524>

³⁰ Smith, J. (2021, May 2). *Truckers Expect U.S. Transport Capacity Crunch to Persist*. The Wall Street Journal. <https://www.wsj.com/articles/truckers-expect-u-s-transport-capacity-crunch-to-persist-11619956801>.

³¹ United Nations World Food Programme in partnership with Agriculture Marketing Office of the Ministry of Agriculture, Forestry and Fisheries. (2021, April). *Cambodia Market Update: Effect of the COVID-19 Pandemic on Food Prices*. United Nations World Food Programme. <https://docs.wfp.org/api/documents/WFP-0000127920/download/>.

³² Asian Development Bank. (2020, December 9). *ADB, Olam to Support Smallholder Farmers Livelihoods Disrupted by COVID-19*. Asian Development Bank. <https://www.adb.org/news/adb-olam-support-smallholder-farmers-livelihoods-disrupted-covid-19>.

organization about product standards, regulations, or procedures³³. In November 2020, for example, China ceased imports from 99 suppliers from 20 countries particularly targeting meat, fish, and seafood in areas with high infection rates³⁴. Likewise, in March 2020, the Philippines banned poultry imports from Brazil over COVID-19 fears³⁵, and in November 2020, Vietnam's Ministry of Health ordered testing for food imported from countries with large COVID-19 outbreaks³⁶. Rising concern over zoonotic diseases, such as African Swine Flu, which decimated the Chinese pork industry in 2019, presents a continuing risk for the international trade of animal products in the future. Additional sanitary and documentation requirements introduce added costs to agri-food producers, discourages investment for export, and may unfairly favor domestic producers over international ones³⁷. It should be noted that, while food service remains a source of risk because of human-to-human interaction, there has been no conclusive evidence anywhere of COVID-19 being transmitted by food products or domestic animals.

Production Systems

18. The containment policies that disrupted transportation, goods and service trade across borders, and the movement of traders and middlemen also affected Production Systems in the agri-food sector, namely labor and capital inputs including fertilizers, insecticides, seeds, and processing equipment and services.³⁸

Delivery of Inputs

19. Delays in the delivery of key agricultural inputs, technologies, and services during critical seasonal periods are a widely reported impact of COVID-19 supply chain disruptions. For example, The Food and Fertilizer Technology Center for the Asian and Pacific Region found that in the summer of 2020, 40.5 percent of agricultural households surveyed in Vietnam could not buy required inputs when needed, 32.5 percent had encountered procurement difficulties due to supply interruptions, and 20.8 percent faced challenges with either time of delivery, supplied amount, or both³⁹. In some cases, such disruptions led agricultural households to switch suppliers or the type of input entirely, which could result in longer-term adjustment to distribution channels and a reconfiguration of supply chains. Ultimately, barriers to procuring key inputs have an impact on food and financial security for agricultural households unable to sustain production and sales of agri-food products at prior rates.

20. The severity of such disruptions depends upon when control measures and restrictions were implemented in relation to seasonality. For example, if restrictions were implemented during a key planting period and seeds were not timely delivered, a farmer might have to forgo the season's crop,

³³ *Standards, Regulations And Covid-19 – What Actions Taken By WTO Members?*. World Trade Organization . (2020, December 2). https://www.wto.org/english/tratop_e/covid19_e/standards_report_e.pdf.

³⁴ Cadell, C. (2020, November 13). *China's sweeping COVID controls put frozen food importers on ice*. Reuters. <https://www.reuters.com/article/us-health-coronavirus-china-frozenfood/chinas-sweeping-covid-controls-put-frozen-food-importers-on-ice-idUSKBN27T0YK>.

³⁵ Thomson Reuters. (2020, August 14). *Philippines bans chicken imports from Brazil on coronavirus scare*. Reuters. <https://www.reuters.com/article/us-health-coronavirus-philippines-brazil/philippines-bans-chicken-imports-from-brazil-on-coronavirus-scare-idUSKCN25A1D1>.

³⁶ Mai, V. (2020, November 28). *COVID-19 Updates (Nov. 28): Food packaging imported from COVID-19 countries will be tested*. Vietnam Times. <https://vietnamtimes.org.vn/covid-19-updates-nov-28-food-packaging-imported-from-covid-19-countries-will-be-tested-26158.html>.

³⁷ FAO. 2021. *Food Outlook: Biannual Report on Global Food Markets*. Rome. <https://doi.org/10.4060/cb4479en>

³⁸ Impacts on labor are discussed in Section 3.

³⁹ Thang, T. C., Trang, T. T. T., Linh, N. T. H., & Thuy, N. T. (2020, December 22). *Impacts of COVID-19 Pandemic on Smallholder Farmers and Vulnerable Rural People in Vietnam*. FFTC Agricultural Policy Platform (FFTC-AP). <https://ap.fttc.org.tw/article/2676>.

adversely (and essentially without warning) impacting farmer's income, food security, credit worthiness, and capacity for investment in future production. Smallholder farmers and those without crop insurance or lacking other social safety nets are particularly vulnerable in this scenario. While price escalation might offset some of this burden on farmers who can sustain production, much of this money goes to imports and other substitutes. Again, 79 percent of the world's poor are rural, and most of these individuals derive their primary income from agri-food production. It is well known that rural poverty is essentially a low investment equilibrium, enforced by high risk and barriers to market access. COVID-19 has aggravated both these conditions, with obvious implications for livelihoods in low-income countries.

Prices of Inputs

21. Supply disruptions and inflation have increase prices for agricultural inputs, undermining net incomes and investment incentives for agricultural households. High commodity prices and pandemic-driven monetary support have contributed to global inflation, which is expected to increase during the remainder of 2021⁴⁰. Inflation, combined with supply chain disruptions has led to the largest increase in food prices in over a decade⁴¹. Meanwhile, the cost of fertilizers has soared due to COVID-19 restrictions at refineries that limited supplies, increasing phosphate raw material costs⁴². Natural gas and crude oil are key inputs for many fertilizers and therefore the increases in oil prices have also contributed to increased fertilizer prices. These price increases have been attributed to post-pandemic demand recovery in PRC and other countries. Likewise, animal feed costs have increased as maize prices soared 66 percent and wheat prices rose 23 percent since January 2020⁴³. Ultimately, the FAO expects interruptions in the Production Systems will decrease agricultural outputs and cause food shortages, especially for perishable high-value commodities. Food prices are already climbing in response to these disruptions and increases in aggregate inflation will decrease purchasing power - the United States inflation rate at 5 percent⁴⁴ and it is expected such inflation will be mirrored in other currencies. A rapid and significant decline in purchasing power will compound challenges associated with food insecurity in low-income countries⁴⁵, especially for low-income households that spend the bulk of their income on food. Weakened purchasing power may mean households will transition away from nutritious foods toward high-calorie commodities, which ultimately will threaten nutrition. Extensive studies have been conducted linking child and maternal nutrition with educational attainment, mental health, and economic productivity. For example, Pizzol et al. (2021) find children suffering from malnutrition scored worse than their peers on a variety of visual processing, short-term memory, and intelligence scales⁴⁶.

⁴⁰ Global Recovery Strong but Uneven as Many Developing Countries Struggle with the Pandemic's Lasting Effects. (2021, June 8). The World Bank. <https://www.worldbank.org/en/news/press-release/2021/06/08/world-bank-global-economic-prospects-2021>

⁴¹ Terazono, E. (2021, June 3). Global food prices post biggest jump in decade. Financial Times. <https://www.ft.com/content/8b5f4b4d-cbf8-4269-af2c-c94063197bbb>.

⁴² Baffes, J., & Koh, W. C. (2021, June 8). Fertilizer prices expected to stay high over the remainder of 2021. World Bank Blogs. <https://blogs.worldbank.org/opendata/fertilizer-prices-expected-stay-high-over-remainder-2021>.

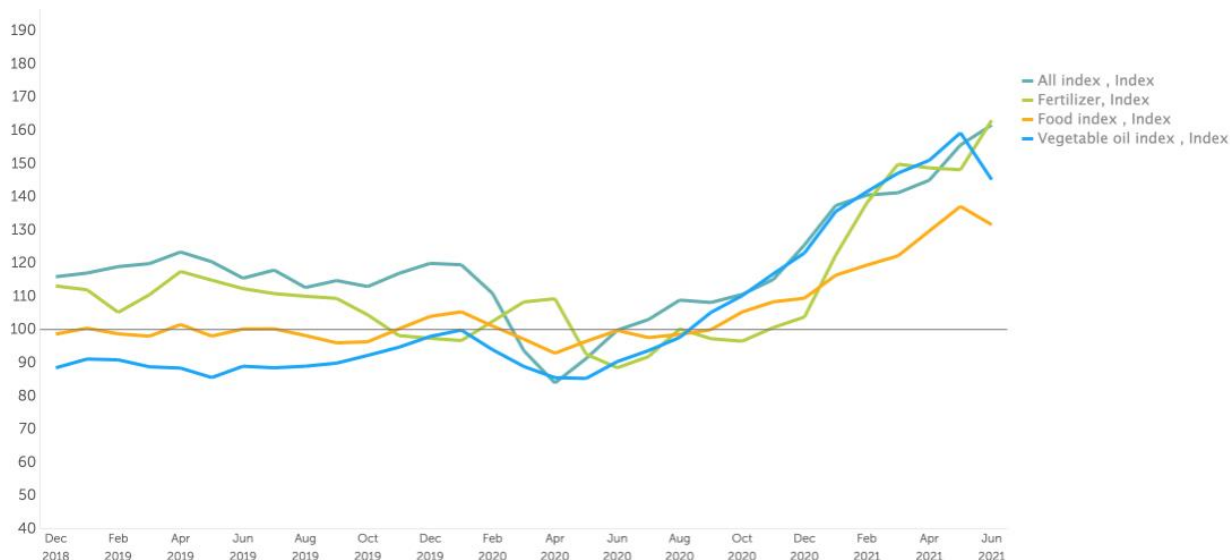
⁴³ Food Security and COVID-19. World Bank. (2021, July 2). <https://www.worldbank.org/en/topic/agriculture/brief/food-security-and-covid-19>.

⁴⁴ Subbarao, D. (2021, June 21). Emerging markets are right to worry about capital flows. Financial Times. <https://www.ft.com/content/30652b8d-8aff-444a-a703-fd8582058c69>.

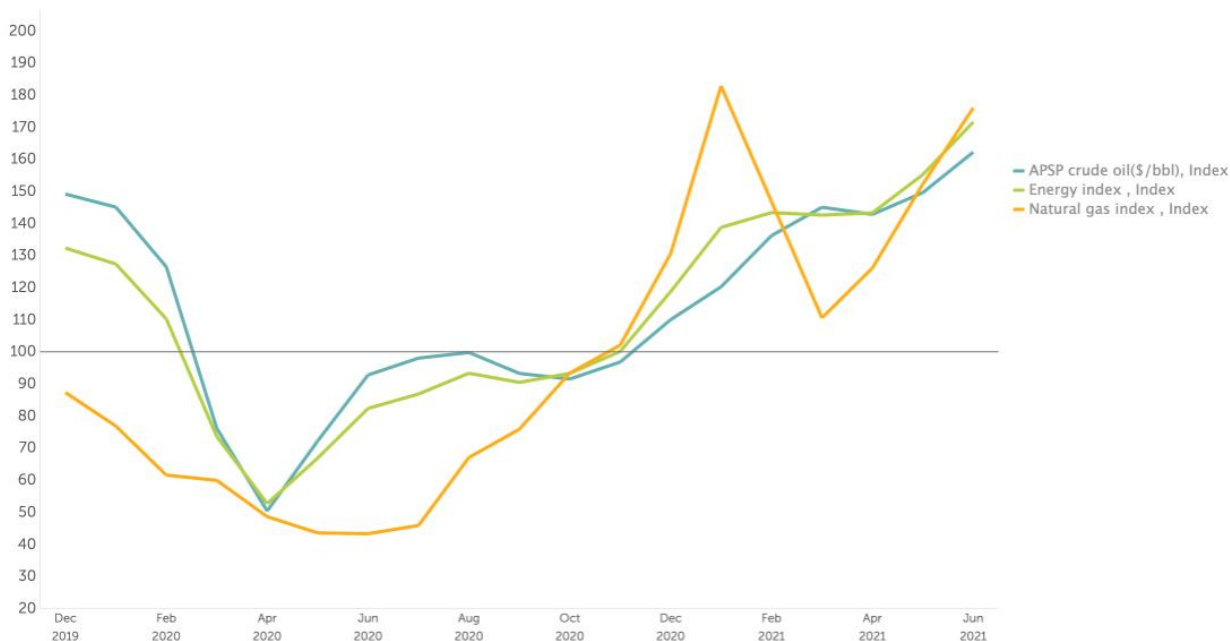
⁴⁵ Global Recovery Strong but Uneven as Many Developing Countries Struggle with the Pandemic's Lasting Effects. (2021, June 8). The World Bank. <https://www.worldbank.org/en/news/press-release/2021/06/08/world-bank-global-economic-prospects-2021>

⁴⁶ Pizzol, D., Tudor, F., Racalbutto, V., Bertoldo, A., Veronese, N., & Smith, L. (2021). Systematic review and meta-analysis found that malnutrition was associated with poor cognitive development. *Acta Paediatrica*. <https://doi.org/10.1111/apa.15964>

Figure 12: IMF Primary Commodity Prices



Source: Primary Commodity Price System, International Monetary Fund <https://data.imf.org/?sk=471DDDF8-D8A7-499A-81BA-5B332C01F8B9&slid=1547558078595>



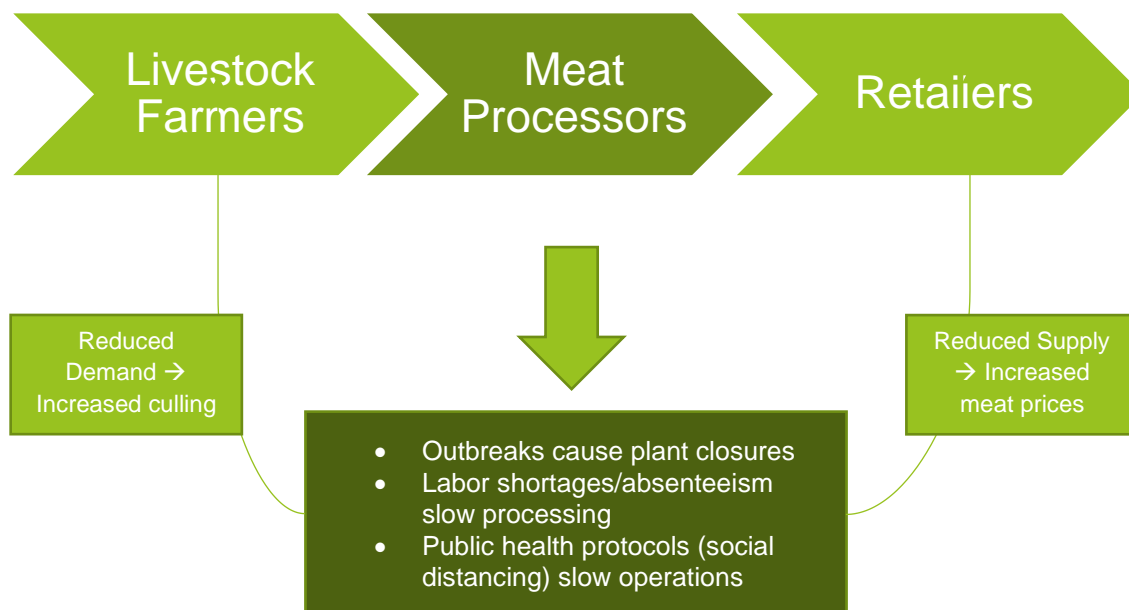
Source: Primary Commodity Price System, International Monetary Fund <https://data.imf.org/?sk=471DDDF8-D8A7-499A-81BA-5B332C01F8B9&slid=1547558078595>

Processing

22. Transportation disruptions and containment policies, such as social distancing and quarantine protocols, caused backlogs in agri-food processing that have caused unprecedented food waste and mismatches in commodity supply and demand. To be clear, livestock supply includes output from

animal processing as a pathway from upstream farmers (producers) to markets. Conversely, livestock demand includes processing as an intermediary to get products from live animals to consumers. For this reason, COVID-19 induced disruptions to livestock processing created demand shocks for (upstream) producers and supply shocks for (downstream) consumers.

Figure 13: Livestock Supply Chain Disruptions



23. Processing disruptions were most severe for high-value, labor-intensive and perishable products, such as meat, horticulture, and food supply chains designed for 'just-in-time' delivery. In the meat industry, public health policies led to "slower processing line speeds and shifted production to high-volume, less processed cuts"⁴⁷. For example, in the United States and Canada, COVID-19 outbreaks and absenteeism led dairy and meat processors to have to reduce operations or temporarily close ⁴⁸. This led to backlogs and large-scale slaughter and burial of "premature" animals⁴⁹.

24. Small-scale meat processors shouldered a disproportionate burden of this disruption, as evidenced by reports of locally owned butcher shops scheduling appointments a year in advance to process animals⁵⁰. The Livestock Marketing Information Center (LMIC) reported that slaughter backlogs from COVID-19 reduced the demand for fed cattle and led to a 30 percent drop in prices

⁴⁷ Weersink, A., von Massow, M., Bannan, N., Ifft, J., Maples, J., McEwan, K., McKendree, M. G. S., Nicholson, C., Novakovic, A., Rangarajan, A., Richards, T., Rickard, B., Rude, J., Schipanski, M., Schnitkey, G., Schulz, L., Schuurman, D., Schwartzkopf-Genswein, K., Stephenson, M., ... Wood, K. (2021). COVID-19 and the agrifood system in the United States and Canada. *Agricultural Systems*, 188, 103039. <https://doi.org/10.1016/j.agsy.2020.103039>

⁴⁸ Ibid

⁴⁹ Corkery, M., & Yaffe-bellany, D. (2020, May 14). Meat Plant Closures Mean Pigs Are Gassed or Shot Instead. *The New York Times*. <https://www.nytimes.com/2020/05/14/business/coronavirus-farmers-killing-pigs.html>.

⁵⁰ Stability of the food supply a huge factor in COVID vaccinations for ag workers. Penn State University. (2021, April 2). <https://news.psu.edu/story/653519/2021/04/02/impact/stability-food-supply-huge-factor-covid-vaccinations-ag-workers>

compared with the 5-year average in April 2020⁵¹ ⁵². However, prices have rebounded for live fed steer, increasing by 30.5 percent since July 2020⁵³. In Canada, processing disruptions led to imports of Canadian hogs falling by 21 percent year-over-year ⁵⁴, and in the United States, cattle and pig slaughter fell by about 40 percent in April compared to the same period in 2019⁵⁵. The reliance on human resources (labor) in meat processing means the industry is more vulnerable to public health restrictions⁵⁶. This contrasts with grain handling and processing, which is highly automated and therefore did not experience the same disruptions⁵⁷. This dependence on labor may accelerate the transition to automation as processing facilities work to address future risks ⁵⁸ ⁵⁹. It may also push the livestock product supply chain toward greater consolidation because larger firms have more capital to invest in automation and can shoulder risk more efficiently. Lastly, the pandemic may push processors to establish direct-to-consumer sales or increase e-commerce and the use of delivery intermediaries⁶⁰.

Labor Markets

25. COVID-19 and corresponding containment policies struck agri-food labor markets abruptly and have caused extended unemployment in many segments of the global economy. The International Labor Organization estimates that there will be 205 million unemployed people in 2022⁶¹ ⁶², up from 187 million in 2019. Globally, the ILO has measured an 8.8 percent decline in working hours, an 8.3 percent decline in labor income, and reports 81 million people have been pushed outside the labor force as a result of the pandemic⁶³.

⁵² Weersink, A., von Massow, M., Bannon, N., Ifft, J., Maples, J., McEwan, K., McKendree, M. G. S., Nicholson, C., Novakovic, A., Rangarajan, A., Richards, T., Rickard, B., Rude, J., Schipanski, M., Schnitkey, G., Schulz, L., Schuurman, D., Schwartzkopf-Genswein, K., Stephenson, M., ... Wood, K. (2021). COVID-19 and the agrifood system in the United States and Canada. *Agricultural Systems*, 188, 103039. <https://doi.org/10.1016/j.agsy.2020.103039>

⁵³ Prices and Production. (n.d.). <http://lmic.info/spreadsheets/prices-and-production>

⁵⁴ Ibid.

⁵⁵ *Food Supply Chains and COVID-19: Impacts and Policy Lessons*. OECD. (2020, June 2). <https://www.oecd.org/coronavirus/policy-responses/food-supply-chains-and-covid-19-impacts-and-policy-lessons-71b57aea/#endnotea0z3>

⁵⁶ Ibid.

⁵⁷ Ibid.

⁵⁸ Weersink, A., von Massow, M., Bannon, N., Ifft, J., Maples, J., McEwan, K., McKendree, M. G. S., Nicholson, C., Novakovic, A., Rangarajan, A., Richards, T., Rickard, B., Rude, J., Schipanski, M., Schnitkey, G., Schulz, L., Schuurman, D., Schwartzkopf-Genswein, K., Stephenson, M., ... Wood, K. (2021). COVID-19 and the agrifood system in the United States and Canada. *Agricultural Systems*, 188, 103039. <https://doi.org/10.1016/j.agsy.2020.103039>

⁵⁹ Reardon, T., Heiman, A., Lu, L., Nuthalapati, C. S. R., Vos, R., & Zilberman, D. (2021). "Pivoting" by food industry firms to cope with COVID-19 in developing regions: E-commerce and "copivoting" delivery intermediaries. *Agricultural Economics*, 52(3), 459–475. <https://doi.org/10.1111/agec.12631>

⁶⁰ Reardon, T., Heiman, A., Lu, L., Nuthalapati, C. S. R., Vos, R., & Zilberman, D. (2021). "Pivoting" by food industry firms to cope with COVID-19 in developing regions: E-commerce and "copivoting" delivery intermediaries. *Agricultural Economics*, 52(3), 459–475. <https://doi.org/10.1111/agec.12631>

⁶¹ Romei, V. (2021, June 2). *ILO warns of pandemic's lasting damage to global labour market*. Subscribe to read | Financial Times. <https://www.ft.com/content/c484b0c2-9c55-46ff-8505-91977a228e6f>.

⁶² *Slow jobs recovery and increased inequality risk long-term COVID-19 scarring*. WESO Trends 2021: Slow jobs recovery and increased inequality risk long-term COVID-19 scarring. (2021, June 2). https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_794834/lang--en/index.htm.

⁶³ COVID-19. ILOSTAT. (2021, March 29). <https://ilostat.ilo.org/topics/covid-19/>

Figure 14: Estimates of the working hours, employment and labor income lost in 2020, and projections for 2021 (ILO, 2021)

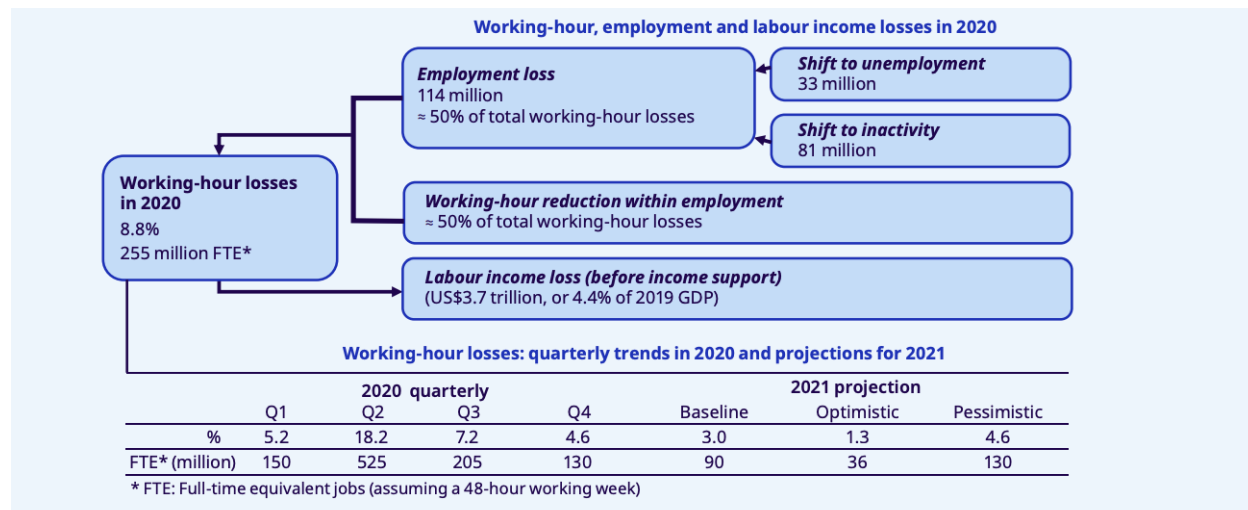


Image Source: ILO Monitor: COVID-19 and the world of work. Seventh edition, https://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/documents/briefingnote/wcms_767028.pdf

26. In OECD countries, it is estimated an additional 22 million people are out of work, most of whom were employed in low-skilled jobs that were threatened by automation and digitization⁶⁴. Many agri-food firms faced a constrained labor supply as migration patterns have shifted, movement was restricted, and absenteeism increased. The consequences of these changes will be felt most prominently in downstream segments of the agri-food economy, especially SMEs that are labor-intensive⁶⁵, undercapitalized, informal, and ineligible for (or unaware of) government support⁶⁶. Without more inclusive and determined government support for SMEs, the agri-food sector “may witness accelerated consolidation and lower labor intensity in the mid and downstream AFS nodes”⁶⁷.

Public Health Concerns

27. COVID-19 outbreaks in food processing facilities or on large plantations have contributed to serious disruptions in harvesting schedules, with all their attendant downstream implications for inventories and prices. This situation is especially disruptive when harvesting labor for time-sensitive crops is unavailable or restricted due to social distancing protocols and public health guidance. In the spring of 2021, cramped working conditions in Indian tea plantations led to thousands of COVID-19 cases among workers and forced many families and communities into (jobless) quarantine⁶⁸. This, paired with erratic weather patterns, has caused tea auction prices in Kolkata to increase by 40 percent

⁶⁴ <https://www.oecd.org/newsroom/jobs-must-be-at-heart-of-recovery-to-avoid-deep-scars-in-economy-and-society-says-oecd.html>

⁶⁵ Reardon, T., Bellemare, M. F., & Zilberman, D. (2020, April 2). *How COVID-19 may disrupt food supply chains in developing countries*. International Food Policy Research Institute. <https://www.ifpri.org/blog/how-covid-19-may-disrupt-food-supply-chains-developing-countries>.

⁶⁶ Christiaensen, L., Rutledge, Z., & Taylor, J. E. (2021). Viewpoint: The future of work in agri-food. *Food Policy*, 99, 101963. <https://doi.org/10.1016/j.foodpol.2020.101963>

⁶⁷ Ibid.

⁶⁸ Nagaraj, A. (2021, June 1). *'Recipe for disaster': COVID-19 spreads fear in India's tea estates*. Reuters. <https://www.reuters.com/article/us-health-coronavirus-india-tea/recipe-for-disaster-covid-19-spreads-fear-in-indias-tea-estates-idUSKCN2DD3D2>

between March and April 2021⁶⁹. Similarly, in April 2021, an outbreak at the prominent Ayutthaya shrimp market in Thailand prompted its closure⁷⁰.

Migration

28. The movement of labor within and between countries is an essential dimension of modern agri-food sector dynamics and long-term viability. Restrictions on the movement of such labor have adversely and very unequally impacted the sector in both the short and long term.

29. At the start of the pandemic, laborers in densely populated urban settings (more prone to COVID-19 outbreaks) were laid off in droves as these economies ground to a halt. This led to a reversal of traditional migration patterns, with migrants departing urban settings to return to rural hometowns⁷¹ (Carducci et al., 2021). Migrants made up 4.7 percent of the global labor force before the pandemic, yet that number is expected to fall because of the pandemic.⁷² Estimates of the number of migrants returning from abroad are still to be calculated, however in May 2021, the FAO reported Lao PDR, Thailand, and Cambodia all repatriated over 100,000 nationals by October 2020⁷³. Additional domestic reverse migration is also observed. In India, the FAO reports between 10 million and 25 million migrants were forced to return to rural regions from urban centers⁷⁴. However, in rural areas, underemployment is endemic. For example, in Vietnam, it is estimated that 66.3 percent of rural migrant workers were laid-off or suspended because of the pandemic⁷⁵. This reverse migration exacerbated strains on local food systems, as demand for commodities increased, and stretched public health systems, as migrants from urban centers brought COVID-19 to rural areas.

30. Movement restrictions also led to the misallocation of labor⁷⁶. While unemployment rose, the agri-food sector faced labor constraints due to the inability of migrant laborers to commute to production sites or engage in transportation work⁷⁷. Absenteeism was also widely reported. In France, for example, staff availability in meat processing plants declined by nearly 30 percent⁷⁸. Labor shortages in the agri-food sector were widespread⁷⁹. For example, in Australia, crops have rotted in fields without migrant laborers to pick them⁸⁰. Lack of labor may impact not only harvest time-sensitive crops and processing but also yields if labor is unavailable during the planting season. As migrants

⁶⁹ Terazono, E. (2021, May 16). *Covid threat and drought combine to put India's tea harvest at risk*. Subscribe to read | Financial Times. <https://www.ft.com/content/585c8ad7-e1c2-4c88-9087-16d877a1c185>

⁷⁰ Limited, B. P. P. C. (n.d.). *Covid outbreak closes Ayutthaya shrimp market*. <https://www.bangkokpost.com>.

<https://www.bangkokpost.com/thailand/general/2101059/covid-outbreak-closes-ayutthaya-shrimp-market>

⁷¹ Carducci, B., Keats, E.C., Ruel, M. et al. Food systems, diets and nutrition in the wake of COVID-19. *Nat Food* 2, 68–70 (2021). <https://doi.org/10.1038/s43016-021-00233-9>

⁷² <http://www.fao.org/policy-support/tools-and-publications/resources-details/en/c/1402168/>

⁷³ <http://www.fao.org/policy-support/tools-and-publications/resources-details/en/c/1402168/>

⁷⁴ <http://www.fao.org/policy-support/tools-and-publications/resources-details/en/c/1402168/>

⁷⁵ Thang, T. C., Trang, T. T. T., Linh, N. T. H., & Thuy, N. T. (2020, December 22). *Impacts of COVID-19 Pandemic on Smallholder Farmers and Vulnerable Rural People in Vietnam*. FFTC Agricultural Policy Platform (FFTC-AP). <https://ap.fttc.org.tw/article/2676>

⁷⁶ Reardon, T., Heiman, A., Lu, L., Nuthalapati, C. S. R., Vos, R., & Zilberman, D. (2021). "Pivoting" by food industry firms to cope with COVID-19 in developing regions: E-commerce and "copivoting" delivery intermediaries. *Agricultural Economics*, 52(3), 459–475. <https://doi.org/10.1111/agec.12631>

⁷⁷ Reardon, T., Heiman, A., Lu, L., Nuthalapati, C. S. R., Vos, R., & Zilberman, D. (2021). "Pivoting" by food industry firms to cope with COVID-19 in developing regions: E-commerce and "copivoting" delivery intermediaries. *Agricultural Economics*, 52(3), 459–475. <https://doi.org/10.1111/agec.12631>

⁷⁸ Food Supply Chains and COVID-19: Impacts and Policy Lessons. OECD. (2020, June 2).

<https://www.oecd.org/coronavirus/policy-responses/food-supply-chains-and-covid-19-impacts-and-policy-lessons-71b57aea/#endnotea0z3>

⁷⁹ Taylor, J. E. (2020, December 13). A Global Selection of Press Coverage on Farm Labor. Farm Labor.

<https://farmlabor.ucdavis.edu/news/links-selection-press-coverage>

⁸⁰ Zhuang, Y. (2021, March 3). Without Backpackers to Pick Them, Crops Rot by the Ton in Australia. *The New York Times*.

<https://www.nytimes.com/2021/03/02/world/australia/agriculture-backpackers.html?searchResultPosition=5>

are an increasing share of rural labor in most middle- and high-income countries, this means COVID-19 disruptions in regions with high rates of agricultural employment will experience larger losses in crop production⁸¹.

Remittances

31. Restrictions on migrant labor inevitably pass through to impacts on remittances, an important source of income for many in low-income countries. The World Bank estimates COVID-19 has caused a widespread reduction of remittances, up to 23 percent in SSA⁸² alone. In Lao PDR, the FAO estimates that reduced remittances could push an additional 214,00 people into poverty⁸³. The development impact of this is amplified because remittances have many positive externalities – they can relieve constraints on household production and investment, leading to positive spillovers for other households in the community⁸⁴. Out-migration also reduces the local labor supply, which can increase local wages and benefit community workers, without reducing community income when remittances are included. Overall, a reduction in remittances is likely to have a negative impact on food security for receiving households, and in-migration is likely to disrupt the local labor supply.

32. Simply put, the two primary gateways out of poverty over the last century have been releasing surplus labor and marketing of agri-food products to growing cities. COVID-19 has seriously disrupted both of these livelihood channels, with adverse consequences that are disproportionately borne by the poor.

Accelerated Automation

Many posit that “COVID-19 will reinforce trends of digitization and anti-globalization (including in food trade), while slowing economic growth and structural transformation”⁸⁵. The labor shortages felt in the agri-food sector may lead firms to hedge against future risks by accelerating labor substitution through technology adoption and digitization of production. The availability of new digital technologies is shifting this landscape, allowing for traditionally labor-intensive agricultural tasks to become automated⁸⁶. However, it is likely SMEs will not be able to make these transitions at the same rate as larger firms and therefore may be pushed out of their markets. Despite this, the agricultural machinery services industry may expand to serve farms too small to justify the outlay of purchasing machinery themselves⁸⁷. For example, in Nigeria, a ‘Hello Tractor’ program offers small farmers affordable tractor rentals. While accelerated automation may hurt laborers, particularly migrants, digitization could take a smallholder-friendly pathway, helping overcome credit constraints, access barriers, asymmetric information, and other endemic market failures.

⁸¹ Falkendal, T., Otto, C., Schewe, J., Jägermeyr, J., Konar, M., Kummu, M., Watkins, B., & Puma, M. J. (2021, January 13). *Grain export restrictions during COVID-19 risk food insecurity in many low- and middle-income countries*. Nature News. <https://www.nature.com/articles/s43016-020-00211-7>

⁸² Christiaensen, L., Rutledge, Z., & Taylor, J. E. (2021). Viewpoint: The future of work in agri-food. *Food Policy*, 99, 101963. <https://doi.org/10.1016/j.foodpol.2020.101963>

⁸³ <file:///Users/sophiewestover/Downloads/cb4712en.pdf>

⁸⁴ Ibid.

⁸⁵ Ibid

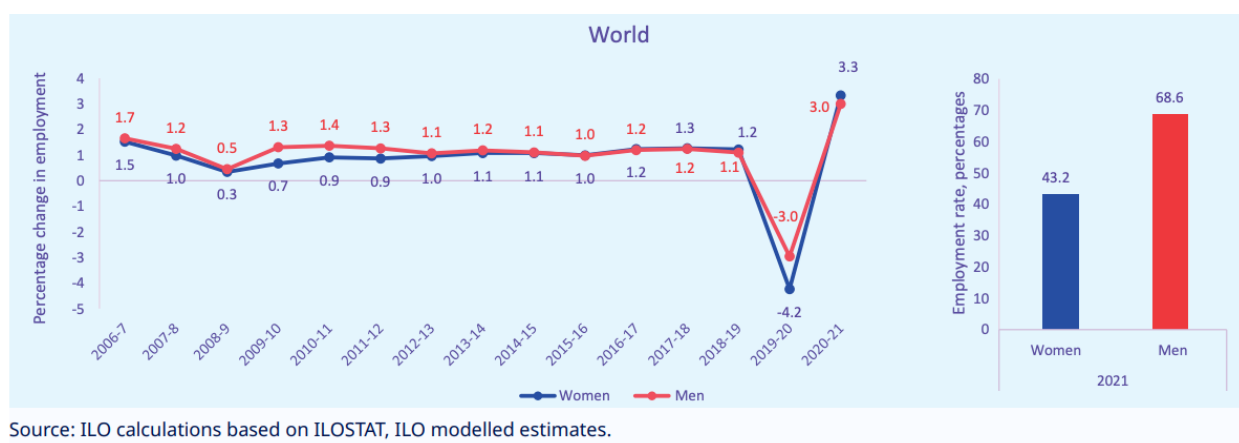
⁸⁶ Ibid

⁸⁷ Ibid

Gender

33. The pandemic has disproportionately hit women. The ILO reported that employment among women decreased by 5 percent in 2020 compared to 3.9 percent for men⁸⁸. A recent USAID report finds women accounted for 54 percent of job losses caused by the pandemic; a rate that is 1.8 times higher than felt by males⁸⁹. In addition, women shouldered added domestic responsibilities because of this crisis, such as caring for sick relatives, which, in addition to health and economic security threats, has “created the risk of a “re-traditionalization” of gender roles”⁹⁰. It is widely reported that women are absorbing a larger portion of the shocks felt from the pandemic and experiencing the greatest drop in income and participation in the labor force. This is due to the high prevalence of women’s employment in the informal sector, which offers low job security, and greater childcare demands at home⁹¹. This is consistent with a pattern of occupational discrimination observed for youth, women, migrants, disabled people, and other marginalized groups. Across macroeconomic cycles generally, they are the last to be hired and the first to be fired. In other words, in the absence of compensatory policies, the duration of benefits is shorter, adversity longer.

Figure 15: Percent Change in Employment by Sex, 2006-2021 and Employment Rate, 2021 (ILO, 2021)



Source: ILO calculations based on ILOSTAT, ILO modelled estimates.

Image Source: *Building Forward Fairer: Women’s rights to work and at work at the core of the COVID-19 recovery*, ILO Policy Brief, https://www.ilo.org/gender/Informationresources/Publications/WCMS_814499/lang--en/index.htm

Youth

34. While youth are considered more adaptable to economic shocks, before COVID-19, fears about youth leaving agricultural employment persisted. Unfortunately, adversity can defeat aspiration, both for the young and those who control their destiny. According to the ILO and UNICEF, the global decline in economic activity resulting from the pandemic has led to an additional nine million children being pushed into labor by the end of 2022, particularly in the agricultural sector⁹². This increase in child labor is of particular concern when considered in the context of more direct pandemic risks to

⁸⁸ Slow jobs recovery and increased inequality risk long-term COVID-19 scarring. WESO Trends 2021: Slow jobs recovery and increased inequality risk long-term COVID-19 scarring. (2021, June 2). https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_794834/lang--en/index.htm

⁸⁹ https://www.usaid.gov/sites/default/files/documents/Full_COVID_and_Gender_Technical_Brief_March_2021_Compliant.pdf

⁹⁰ Ibid

⁹¹ Carducci, B., Keats, E.C., Ruel, M. et al. Food systems, diets and nutrition in the wake of COVID-19. *Nat Food* 2, 68–70 (2021). <https://doi.org/10.1038/s43016-021-00233-9>

⁹² Child labour in agriculture is on the rise again, with further deterioration foreseen due to COVID-19. FAO. (2021, June 10). <http://www.fao.org/news/story/en/item/1411120/icode/>

child welfare. The same sources cite credible estimates that without adequate responses, the pandemic and the corresponding recession may lead to an “additional 9.3 million children wasted, 2.6 million stunted and 168,000 child deaths in LMICs”⁹³ by 2022. These adverse trends may result in more youth looking for employment to supplement household incomes. Yet, as Spain has shown, in times of high unemployment, older workers often push younger workers out of the labor force, driving them “deeper” into the informal sector. In Asia and the Pacific, a co-publication from the Asian Development Bank and the ILO found that close to 220 million young workers (aged 15-25) were particularly vulnerable to job losses, partially because of less experience and because close to 50 percent of young workers were employed in the sectors hit hardest by the pandemic⁹⁴. These effects are compounded by existing high levels of unemployment among youth in the region – in 2019 13.6 percent of young workers (under 25) were unemployed, compared with just 3.0 percent among adults⁹⁵. Lastly, school and business closures have challenged the ability of young people to transition from school to work and have disrupted education and training. These disruptions hit low-income youth lacking access to technology, such as computers and the internet, hardest, subsequently worsening inequality.

Demand Patterns

35. Potentially the most direct and durable impact of the pandemic on the agri-food industry is shifting demand for agri-food products. The adverse impacts, mainly shocks originating in changing consumer behavior, have created a kind of negative income accelerator, with consumer risk aversion and pessimism reducing demand and income for food producers/intermediaries, while the latter respond with reduced investment, employment, etc., compounding the former. As Zilberman et al., (2012) point out, economic shocks push “consumers above a threshold or inflection point” that leads to adaptations and changes in behavior. This new behavior drives consumers to “learn and maximize from a new behavior pattern” (Zilberman et al., 2012)⁹⁶, meaning changes are more likely to persist. Additionally, the rise of e-commerce and direct-to-consumer sales have altered the demand patterns for certain products, probably with lasting effect.

Purchasing Power

36. Weaker purchasing power, the result of rising food prices, increased unemployment, and reduced farmer yields, means demand will shift from high-value products to lower value products (which may also impact long-term nutritional outcomes). The FAO expects the pandemic could push 100 million people into extreme poverty and that “each percentage point drop in global GDP can be expected to result in an additional 700,000 stunted children”⁹⁷. The most vulnerable segments of the population will be smallholder farming households, agri-food workers, and households in commodity- and tourism-dependent economies⁹⁸. The same report expects the pandemic will push 88 to 115

⁹³ Ibid

⁹⁴ <https://www.adb.org/sites/default/files/publication/626046/covid-19-youth-employment-crisis-asia-pacific.pdf>

⁹⁵ <https://www.adb.org/sites/default/files/publication/626046/covid-19-youth-employment-crisis-asia-pacific.pdf>

⁹⁶ Zilberman, D., Zhao, J., & Heiman, A. (2012). Adoption Versus Adaptation, with Emphasis on Climate Change. *Annual Review of Resource Economics*, 4(1), 27–53. <https://doi.org/10.1146/annurev-resource-083110-115954>

⁹⁷ Lederer, E. M. (2020, June 10). *UN chief urges fast action to avoid `global food emergency`*. AP NEWS. <https://apnews.com/article/e18e4549cddabeb9753bec0cfc66dc51>

⁹⁸ Food and Agriculture Organization of the United Nations. (2020, June). *Policy Brief: The Impact of COVID-19 on Food Security and Nutrition*. COVID-19 Response and Recovery Programme.

https://www.un.org/sites/un2.un.org/files/sg_policy_brief_on_covid_impact_on_food_security.pdf

million people into extreme poverty (less than US\$1.90 per person per day) and cause an additional 83 to 132 million undernourished adults⁹⁹.

37. These conditions are being exacerbated by the largest jump in food prices in over a decade, exemplified by a 40 percent surge in the average cost of agricultural commodities¹⁰⁰. Such changes will shift consumption patterns toward cheaper staples, away from more nutritious foods, threatening extensive malnutrition. The FAO has already observed an increase in demand for “affordable” meats and a decreased demand for oils/fats^{101 102}. Import curtailments associated with economic downturns have been observed as well. In October 2020, 21 countries had announced temporary measures restricting food exports, which has exerted upward pressure on global prices¹⁰³. Actual threats to global food security are related more closely with unemployment and reduced incomes, as opposed to supply chain disruptions. These risks are especially prevalent in low-income countries with weak safety nets.

E-Commerce

38. Containment policies that have closed restaurants and other out-of-home food services drastically shifted demand toward at-home food consumption. This was especially salient among price-elastic agri-food products such as beverages and fish¹⁰⁴. While restrictions on in-person dining have lifted in many parts of the world, demand from hotels and restaurants, and other institutional food services have been slow to return. With more households cooking at home, retail sales have increased which has driven e-commerce. For the agri-food sector, data shows that since the start of the pandemic, the frequency and share of online food purchases have grown by 16-70 percent and that this trend is expected to continue¹⁰⁵.

39. The changes in distribution channels and migration of more agri-food products being sold online could open trade opportunities and have introduced untested markets. The globe has witnessed many wholesale or logistics firms quit operations to become “delivery intermediaries” in response “to the downstream and processing firms’ rapid deployment of e-commerce service” substitutes¹⁰⁶. Processors and farmers were able to utilize digital technology to shift to direct-to-consumer sales, an adept pivot to capture downstream markets. Upticks in e-commerce are displayed in Figure 16 and utilize Euromonitor International survey data.

⁹⁹ Food and Agriculture Organization of the United Nations. (2020, June). Policy Brief: The Impact of COVID-19 on Food Security and Nutrition. COVID-19 Response and Recovery Programme.

https://www.un.org/sites/un2.un.org/files/sg_policy_brief_on_covid_impact_on_food_security.pdf

¹⁰⁰ Terazono, E. (2021, June 3). *Global food prices post biggest jump in decade*. Financial Times.

<https://www.ft.com/content/8b5f4b4d-cbf8-4269-af2c-c94063197bbb>

¹⁰¹ FAO. 2021. Food Outlook: Biannual Report on Global Food Markets. Rome. <https://doi.org/10.4060/cb4479en>

¹⁰² FAO. 2021. Food Outlook: Biannual Report on Global Food Markets. Rome. <https://doi.org/10.4060/cb4479en>

¹⁰³ Barlow, P., van Schalkwyk, M. C. I., McKee, M., Labonté, R., & Stuckler, D. (2021). COVID-19 and the collapse of global trade: building an effective public health response. *The Lancet Planetary Health*, 5(2). [https://doi.org/10.1016/s2542-5196\(20\)30291-6](https://doi.org/10.1016/s2542-5196(20)30291-6)

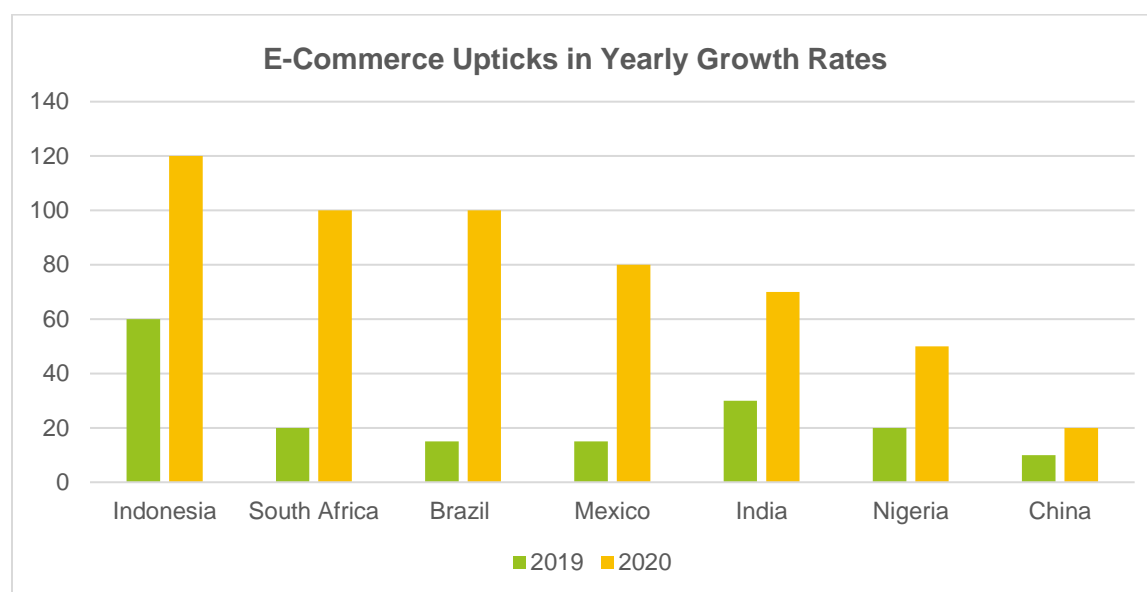
¹⁰⁴ FAO. 2021. Food Outlook: Biannual Report on Global Food Markets. Rome. <https://doi.org/10.4060/cb4479en>

¹⁰⁵ Reardon, T., Belton, B., Liverpool-Tasie, L. S., Lu, L., Nuthalapati, C. S., Tasie, O., & Zilberman, D. (2021). E-commerce's fast-tracking diffusion and adaptation in developing countries. *Applied Economic Perspectives and Policy*.

<https://doi.org/10.1002/aep.13160>

¹⁰⁶ Reardon, T., Heiman, A., Lu, L., Nuthalapati, C. S. R., Vos, R., & Zilberman, D. (2021). “Pivoting” by food industry firms to cope with COVID-19 in developing regions: E-commerce and “copivoting” delivery intermediaries. *Agricultural Economics*, 52(3), 459–475. <https://doi.org/10.1111/agec.12631>

Figure 16: E-Commerce Growth



Source: Reardon, T., Belton, B., Liverpool-Tasie, L. S., Lu, L., Nuthalapati, C. S., Tasie, O., & Zilberman, D. (2021). E-commerce's fast-tracking diffusion and adaptation in developing countries. *Applied Economic Perspectives and Policy*. <https://doi.org/10.1002/aep.13160>

Outlook

40. Despite disruptions, the global agri-food sector has remained relatively stable since the pandemic began. This may be due to low-income elasticity of demand, meaning the demand for these products (domestic or foreign) is less impacted by income shifts at the global level. Even more elastic agri-food products, such as beverages and fish, are expected to rebound. Logistic concerns are also appearing to recede, although they may have longer-term effects on prices and output over the next few years, particularly those related to shipping and agricultural products. The FAO has found “the economic impacts of COVID-19 are not expected to hinder global demand for foodstuffs in 2021, nor did the pandemic curtail growth in the bill in 2020, the level of which stood as the previous record”¹⁰⁷. The FAO also estimates the value of global agricultural trade is on an upward trajectory¹⁰⁸. Thus, macroeconomic trends for agri-food seem resilient to the pandemic, but beneath the smooth veneer of aggregate trends, we can expect to see more dramatic distributional impacts. Most expert opinion, and emerging data, suggest that the adjustment burden of COVID-19 on the global food system, while smoothed by rising aggregate income and price rationing, will fall disproportionately on poor and otherwise marginalized populations. The heterogeneity of these impacts offers an opportunity for policy makers to craft complementary measures that mitigate adjustment costs and offer more sustainable and inclusive food, economic, and social security.

New Opportunities

41. The pandemic has increased the importance of South-South trade, in no small part because the implementation of trade restrictions forced countries to find new markets for their products. This

¹⁰⁷ FAO. 2021. Food Outlook: Biannual Report on Global Food Markets. Rome. <https://doi.org/10.4060/cb4479en>

¹⁰⁸ FAO. 2021. Food Outlook: Biannual Report on Global Food Markets. Rome. <https://doi.org/10.4060/cb4479en>

was intensified by decreased demand for particular agricultural goods in higher-income countries (i.e., meat). With declining demand for such products, low-income exporting countries enhanced intra-regional trade. Adding to changes in trade patterns are the US-China trade relations. The FAO finds that new intra-regional trade flows “were a result of a diversion of trade away from the United States of America in the first half of 2020, due to the evolving trade relations between the United States and China and satisfying immediate demand for meat in China in the wake of the African swine fever outbreak”¹⁰⁹. Global food trade increases reliance on international markets for domestic products, resulting in transboundary spillovers. For example, when EU supply chains for citrus were disrupted at the beginning of the pandemic, Egypt was able to fill the supply gap and make major inroads into the EU market (FAO). Bi-lateral standards, such as those proposed via the TA, will help to facilitate such spillovers and enhance the flow of goods within the region and to new markets, such as in OECD nations. This is critical when addressing regional food security issues.

Food Security

42. The myriad disruptions caused by COVID-19, as described above, pose significant threats to food security across the globe and specifically in the GMS. The Global Food Security Index considers affordability, availability, quality and safety, and natural resources and resilience as the core issues that define food security across the 113 countries it indexes. The Index shows heterogenous results both between indicators, and countries, as detailed in Section IV.

Affordability

43. The affordability of food is measured by the “ability of consumers to purchase food, their vulnerability to price shocks and the presence of programmes and policies to support customers when shocks occur”¹¹⁰. The FAO’s Food Price Index shows that international food prices surged by 40 percent between May 2020 and June 2021¹¹¹ while the World Bank reports that The Agricultural Commodity Price Index is near its highest level since 2013¹¹². These increases in prices are attributed to supply chain disruptions, as detailed in this report, including processing backlogs that result in a mismatch of supply and demand, labor shortages, increased freight prices, and the slowing of trade at ports due to social distancing protocols. Analysis has also shown that the burden of increasing food prices is disproportionately felt by emerging economies.

Availability

44. The availability of food is measured by “the sufficiency of the national food supply, the risk of supply disruption, national capacity to disseminate food and research efforts to expand agricultural output”. The FAO Biannual Report of Global Food Markets¹¹³ projects the moderate growth of global production of cereal, wheat, coarse grains, rice, meat and meat products, milk and milk products, and fish and fishery products. The growth in oil crops is expected to be insufficient to meet demand and sugar production is expected to decline for the third consecutive year. Overall, the availability of food in terms of national food supply appears to remain stable, however, the risk of supply disruption

¹⁰⁹ FAO. 2021. Food Outlook: Biannual Report on Global Food Markets. Rome. <https://doi.org/10.4060/cb4479en>

¹¹⁰ The Global Food Security Index (GFSI), Economist Intelligence Unit and is sponsored by Corteva Agriscience, <https://foodsecurityindex.eiu.com/Home/About>

¹¹¹ *Rising food prices are a concern but no reason for panic yet*. ifpri.org. (n.d.). Retrieved September 17, 2021, from <https://www.ifpri.org/blog/rising-food-prices-are-concern-no-reason-panic-yet>

¹¹² *Food security and COVID-19*. World Bank. (n.d.). Retrieved September 17, 2021, from <https://www.worldbank.org/en/topic/agriculture/brief/food-security-and-covid-19>

¹¹³ FAO. 2021. Food Outlook: Biannual Report on Global Food Markets. Rome. <https://doi.org/10.4060/cb4479en>

persists in regions that continue to experience high infection rates – as described above. Governments have responded to supply chain disruptions by enhancing the capacity of social safety net programs and supply chain support.

Quality and Safety

45. The quality and safety of food are measured by the “variety and nutritional quality of average diets, as well as the safety of food”¹¹⁴. The pandemic created variegated impacts on quality in safety. On one hand, uncertainty over virus transmission via food products at the initial stages of the pandemic led to increased attention toward Sanitary and Phytosanitary measures. This has been demonstrated in the various bans of imported fish and meat products. On the other hand, the variety and nutritional quality of average diets are expected to decrease as income losses accelerate and compound. As household consumption is constrained, low-income consumers are likely to substitute more expensive nutritious food products for cheaper, less nutritious foods.

Natural Resource and Resilience

46. The final measurement of the Food Security Index, Natural Resource and Resilience “assesses a country's exposure to the impacts of climate change; its susceptibility to natural resource risks; and how the country is adapting to these risks”¹¹⁵. While the pandemic may exasperate the strains presented by climate change and natural resource risk, it does not have direct implications on this measurement. However, production dips in key agricultural crops, drought, and other extreme weather events have direct impacts on production, yet these are geographically specific.

¹¹⁴ The Global Food Security Index (GFSI), Economist Intelligence Unit and is sponsored by Corteva Agriscience, <https://foodsecurityindex.eiu.com/Home/About>

¹¹⁵ Ibid.

III. Regional Perspective

Key Points

- While initially able to contain the spread of the virus, the GMS saw a surge of cases in June, July and August of 2021, and vaccination in the region remains low
- While 2020 brought reductions in GDP growth in the region, in 2021 growth is expected to rebound and the agri-food sector is expected to remain resilient
- Women were hardest hit by the pandemic, partially due to a prevalence of women in informal employment
- Migrants remain vulnerable to income loss due to travel restrictions, yet the prevalence of migrants in 'essential' work has mitigated remittance losses
- Uncertainties regarding virus transmission and weak regional coordination eroded trust in the region and has created space for enhanced intra-regional cooperation
- The pandemic has accelerated digitization and e-commerce, yet infrastructure and connectivity must be addressed to ensure equitable access to technology

A. Background

47. At a regional level, the COVID-19 pandemic has driven aggregate economic contraction, agri-food supply chain disruption, and placed hundreds of millions of people at risk of disease, financial hardship, and food insecurity. A situational assessment of the COVID-19 sub-themes offers insight into the implications of the pandemic for food security generally and this TA in particular. Initial findings from the situation assessment regarding the COVID-19 sub-theme are synthesized and captured in Table 1. The following section provides a regional perspective on the COVID-19 situation, 2) COVID-19 policy responses, 3) an economic outlook, 4) implications on the agri-food sector, 5) capacity gaps, and 5) the implications of the pandemic on the TA.

Table 1: Main Findings from Situational Assessment of COVID-19 under ADB TA-9916

Policy	<ul style="list-style-type: none">• Countries we consulted with all had active national response and recovery strategies, but the scope and inter-agency coordination varied significantly.• Currently relatively uneven coordination between countries and within several member country governments, inter-ministerial coordination is limited.• Resources available or made available for adjustment assistance vary greatly and are quite scarce in several countries.• Public perceptions of risk and response varied within and between countries.
Capacity Gaps	<ul style="list-style-type: none">• Widespread coordination problems in domestic agri-food value chains.• Very limited resources and capacity for supporting smallholder producers and agri-food supply chain intermediaries.• Limited social insurance programs for vulnerable households, and limited information on risk management options.

-
- Limited information on domestic and export market access barriers, disruptions, and policy initiatives to mitigate these.
 - A workshop is currently envisioned, emphasizing regional dialogue, standards, best practices, and policy coherence.
-

Demonstrations • N/A

Regional COVID-19 Situation

48. East and Southeast Asia were initially relatively successful in containing the COVID-19 virus. Many countries maintained low infection rates throughout 2020, despite the virus originating in the region. This is partially attributed to the implementation of strict containment policies in East and Southeast Asia during the first phase of the pandemic, which spared countries from experiencing rampant outbreaks as seen in the United States and much of Europe during the spring and summer of 2020.

Current Transmission

49. New variants, low vaccine availability, and easing of containment policies led seven countries in the region to experience their highest daily case rates in May and June 2021¹¹⁶, over a year and a half after the virus was first detected. In the GMS, case rates continue to surge as of August 2021 (Figure 17). Eight countries continue to experience relatively high daily case rates¹¹⁷. This regional surge is occurring while other nations, such as the United States and the United Kingdom, relax restrictions following low transmission rates. Yet, the virus remains unpredictable, and the Delta variant poses a threat to the progress made in containing the spread of COVID-19.

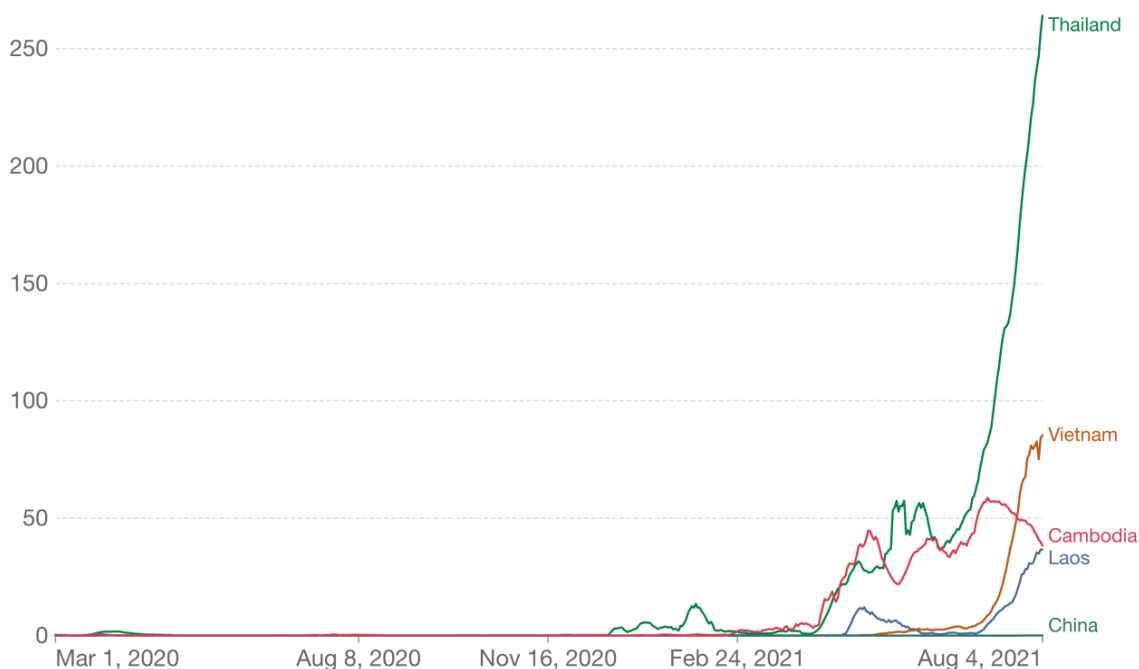
¹¹⁶ Cambodia, Timor, Lao PDR, Malaysia, Mongolia, Thailand, and Vietnam

¹¹⁷ Cambodia, Indonesia, Malaysia, Mongolia, Philippines, South Korea, Thailand, Vietnam

Figure 17: COVID-19 Cases Per-Million People

Daily new confirmed COVID-19 cases per million people

Shown is the rolling 7-day average. The number of confirmed cases is lower than the number of actual cases; the main reason for that is limited testing.



Source: Johns Hopkins University CSSE COVID-19 Data

CC BY

Source: Our World in Data, <https://ourworldindata.org/covid-cases>

Implications of Current Surge on Agri-food Sector

50. Policies are needed to control the virus and ensure the safety of those working in the agri-food sector, yet they must also ensure the timely and efficient trade of agri-food products, particularly perishable ones. The continuation, and potential tightening, of containment policies in response to high current case rates may result in longer-term supply chain disruptions for the agri-food sector, leading to knock-on effects for food security, nutrition, and health in the medium- and long term. While globally, it appears many of the supply chain disruptions are resolving themselves, East and Southeast Asia may require additional time for normal domestic and international movements to resume.

Regional Vaccination Rates

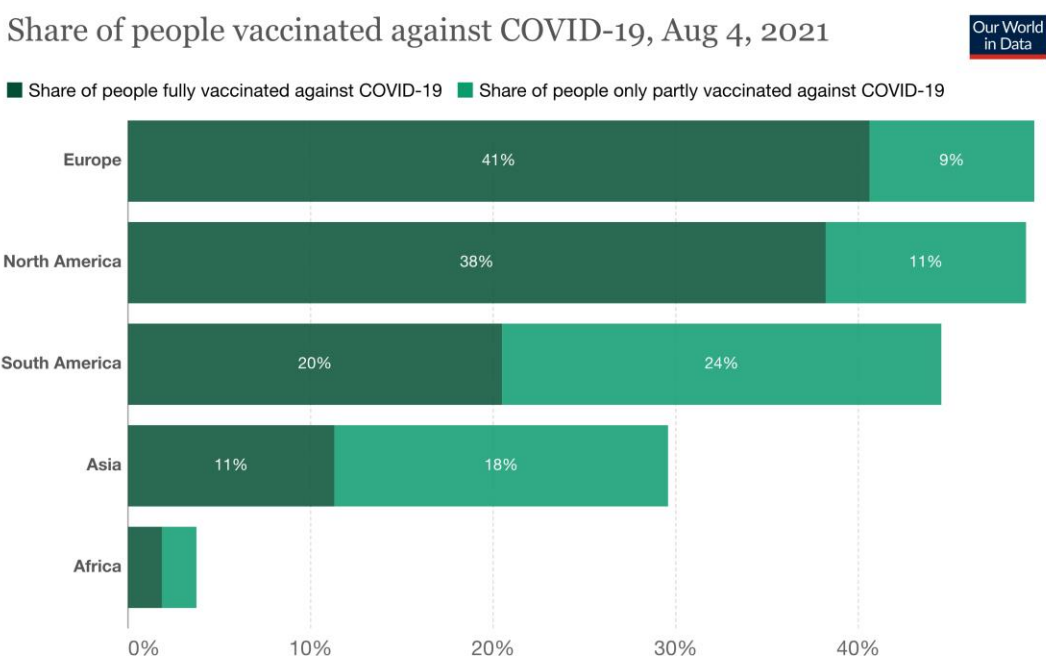
51. Vaccination is increasingly seen as the most viable solution to controlling the pandemic¹¹⁸. However, inoculation rates in the region remain low. Only 29.57 percent of Asia's population has received one dose of the vaccine (Our World in Data, COVID Vaccinations)¹¹⁹. While this is higher than in Africa, where just 3.7 percent of the population has received one dose, it's lower than in South

¹¹⁸ Mandavilli, A. (2021, June 28). Pfizer and Moderna Vaccines likely to produce Lasting immunity, study finds. The New York Times. <https://www.nytimes.com/2021/06/28/health/coronavirus-vaccines-immunity.html?action=click&module=Science++Technology&pgtype=Homepage>

¹¹⁹ Our World in Data, <https://ourworldindata.org/covid-vaccinations>

America (44.45 percent), North America (49.18 percent), and Europe (49.64 percent)¹²⁰ (Figure 18). Slow vaccine roll-out is partially attributed to governments in the region placing less emphasis on producing and procuring vaccines during the first phase of the pandemic when containment policies were able to keep transmission rates low¹²¹. The divergence in vaccination availability is now leading to heterogeneous inoculation rates between countries, meaning economic recovery will likely be staggered.

Figure 18: Global Vaccination Rates



Source: Official data collated by Our World in Data. This data is only available for countries which report the breakdown of doses administered by first and second doses in absolute numbers.
CC BY

Source: Our World in Data, <https://ourworldindata.org/covid-vaccinations>

Vaccination Campaigns

52. Supply shortages, transportation issues, under-resourced public health systems and governments, conflict (particularly in Myanmar), local production capacity issues, and hesitancy are all impacting vaccination rates in the region¹²². In May 2021, only 0.3 percent of the COVID-19 vaccines produced globally went to low-income countries¹²³, partially due to wealthy countries making vaccine purchases in 2020 in numbers that exceeded their total population. Yet, there are many efforts to accelerate vaccination in the region. The Asia Pacific Vaccine Access Facility (APVAX) is a \$9 billion Asian Development Bank initiative to support developing member countries access and distribute safe

¹²⁰ Ibid.

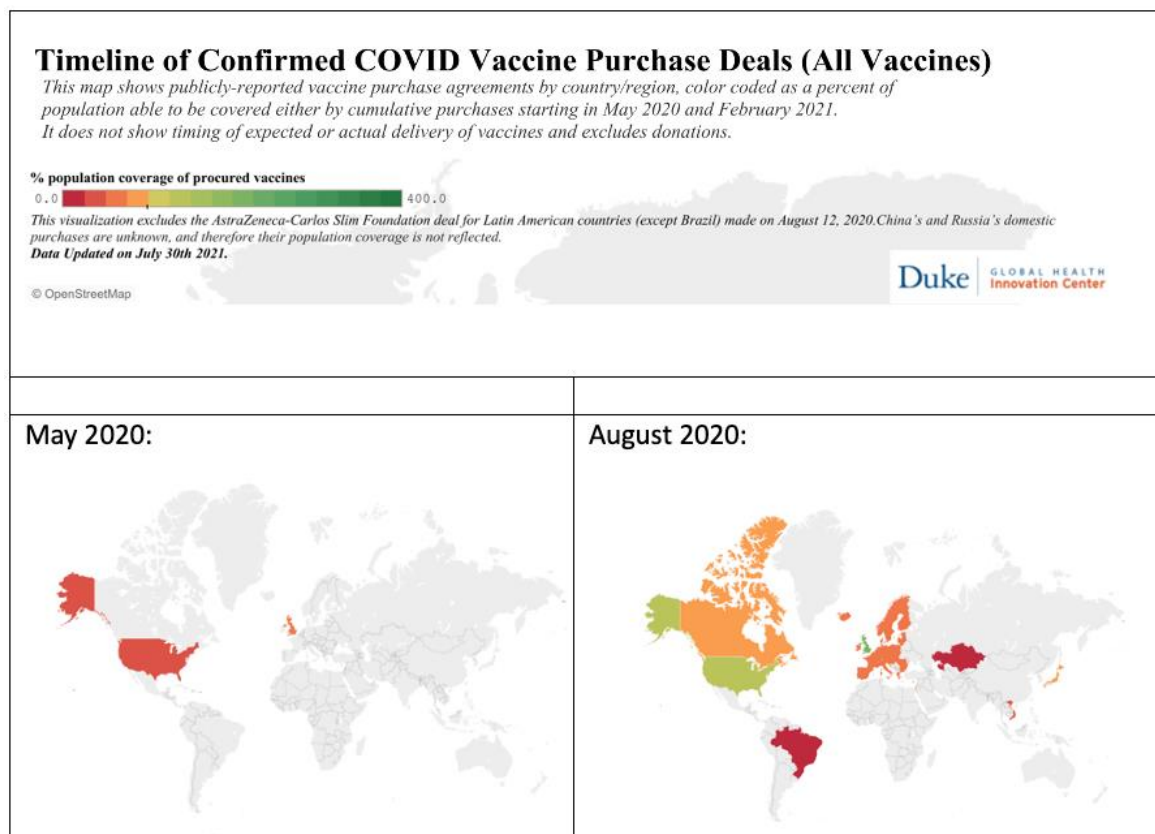
¹²¹ Cave, D. (2021, June 15). *Why Asia, the Pandemic Champion, Remains miles away from the finish line*. The New York Times. <https://www.nytimes.com/2021/06/15/world/asia/asia-coronavirus.html>

¹²² *Southeast Asia and COVID-19 vaccines explained - Asia Society Policy Institute*. Southeast Asia and COVID-19 - Asia Society Policy Institute. (2021, June 21). https://southeastasiacovid.asiasociety.org/southeast-asia-and-covid-19-vaccines-explained/#content-blocks__2

¹²³ World Health Organization. (n.d.). *Global health Summit 2021*. World Health Organization. <https://www.who.int/news-room/events/detail/2021/05/21/default-calendar/global-health-summit-2021>

and effective vaccinations. The COVID-19 Vaccines Global Access (COVAX)¹²⁴ is providing support to the region as is the Quadrilateral Security Dialogue Indo-Pacific vaccines initiative¹²⁵, which aims to provide one billion doses to the Indo-Pacific. Countries in the region have also made direct purchases for vaccines, with China purchasing 440 million, Thailand with 104.1 million, Vietnam with 80 million, Myanmar with 33.5 million, Cambodia with none purchased, and no data available for Lao PDR.¹²⁶

Figure 19: Vaccine Purchase Deals



Images adapted from Duke Global Health Innovation Center, <https://launchandscalefaster.org/covid-19/vaccinepurchases>

B. Regional Policy Responses

53. By February 29, 2020, 40 countries globally implemented bans on travel from high-risk regions, 12 of which were in East and Southeast Asia¹²⁷. China, at this time, implemented quarantine regulations for travelers from high-risk regions¹²⁸. Of the 25 countries that currently have total border

¹²⁴ Run by Gavi, the Vaccine Alliance, the Coalition for Epidemic Preparedness Innovations, and the World Health Organization,

¹²⁵ The United States Government. (2021, March 12). *Fact sheet: Quad summit*. The White House.

<https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/12/fact-sheet-quad-summit>

¹²⁶ Duke Global Health Innovation Center. (n.d.). Vaccine purchases. Launch and Scale Speedometer.

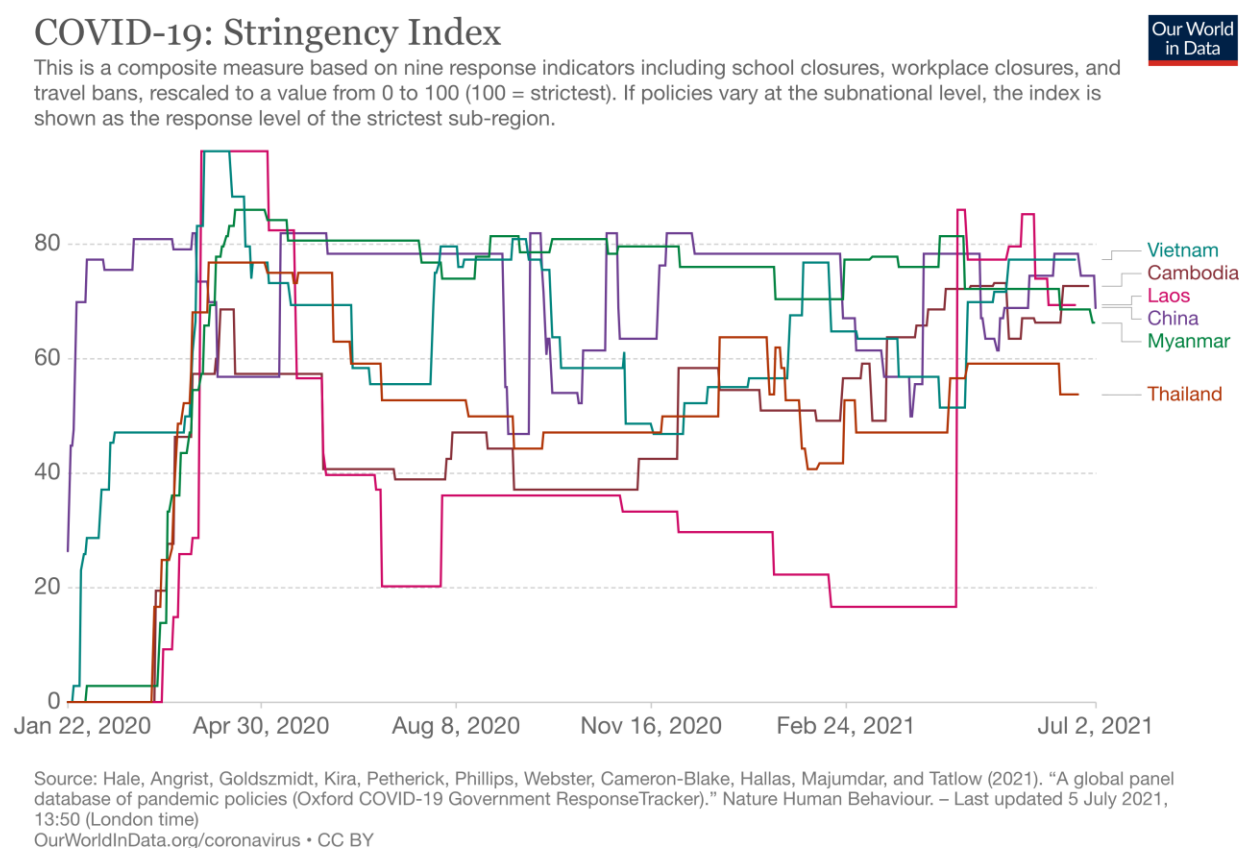
<https://launchandscalefaster.org/covid-19/vaccinepurchases>

¹²⁷ Taipei, China, South Korea, Indonesia, Japan, Vietnam, Brunei, Hong Kong, Mongolia, Malaysia, Singapore, Philippines, Papua New Guinea

¹²⁸ Thomas Hale, Noam Angrist, Rafael Goldszmidt, Beatriz Kira, Anna Petherick, Toby Phillips, Samuel Webster, Emily Cameron-Blake, Laura Hallas, Saptarshi Majumdar, and Helen Tatlow. (2021). "A global panel database of pandemic policies (Oxford COVID-19 Government Response Tracker)." *Nature Human Behaviour*.

closures (as of June 24, 2021), five are in East and Southeast Asia¹²⁹. Seven countries in the region have bans on travelers from at-risk regions as of June 24, 2021¹³⁰. As of August 9, 2021, the Government Response Stringency Index¹³¹, which measures how strict 'lockdown' style policies are, indicates GMS countries all have indices ranking upward of 45, with China having the strictest policies in the region with a score of 79.17, followed by Vietnam (79.17), Cambodia (68.98), Myanmar (69.91), and Thailand (61.11), and Lao PDR (48.15)¹³² (Figure 20). Venezuela has the strictest response policies in the world, with a score of 97.22 and Nicaragua has the least strict policies in place, with a score of 2.78¹³³.

Figure 20: COVID-19 Response in the GMS



Movement Restrictions

54. Six countries in East and Southeast Asia have implemented stricter restrictions on internal movement between June 2020 and July 2021, four countries have the same level of restrictions after

¹²⁹ Myanmar, Brunei, Vietnam, Japan, and Timor

¹³⁰ Taiwan, Indonesia, Thailand, China, Hong Kong, Singapore, Philippines

¹³¹ The Government Response Stringency Index is a project of Oxford University and is generated using nine indicators measured on an ordinal scale. It considers school, workplace and public transit closures, public event cancellations, gathering restrictions, public information campaigns, stay at home orders, restrictions on internal movement, international travel controls, contact tracing, face covering requirements, and vaccination policies.

¹³² Thomas Hale, Noam Angrist, Rafael Goldszmidt, Beatriz Kira, Anna Petherick, Toby Phillips, Samuel Webster, Emily Cameron-Blake, Laura Hallas, Saptarshi Majumdar, and Helen Tatlow. (2021). "A global panel database of pandemic policies (Oxford COVID-19 Government Response Tracker)." *Nature Human Behaviour*. <https://doi.org/10.1038/s41562-021-01079-8>

¹³³ *Ibid.*

a year, and five countries have relaxed restrictions (Table 2). Restrictions on internal movement and international travel controls are policy measures that have the largest impact on the agri-food sector because they can hinder the transportation of agri-food products and reduce access to markets. For example, in April 2021, Cambodia prohibited travel between provinces, South Korea suspended direct flights from the UK, and Japan introduced entry restrictions on travelers from 100 countries, including permanent residents.¹³⁴ Workplace closures are also an important indicator for the agri-food sector because the closure of restaurants or wet markets causes a mismatch in supply and demand. In these cases, farmers may lack a market to sell their product but have adequate supply, and consumers may lack access to the products they demand. While movement restrictions were in place to control the spread of the virus, many governments provided exemptions for the agri-food sector to ensure adequate food supply. However, at the onset of the pandemic, some exemptions were neglected and the transport of agri-food products in some regions was hampered. This may be due to shifting policies, divergency of policies between provinces, or fear of containment. Figure 21 and Figure 22 provide a visual understanding of how the pandemic shaped the use of public transit and visits to grocers and pharmacies.

Table 2: Changes in COVID-19 Response Policies - Restrictions on Internal Movement

Country	June 14 2020	July 29, 2021	Change
Brunei	Recommended Movement Restriction	No Restrictions	Less
China	Restricted Movement	Restricted Movement	Same
Cambodia	No Restrictions	Restricted Movement	More
Timor-Leste	No Restrictions	Restricted Movement	More
Indonesia	Recommended Movement Restriction	Restricted Movement	More
Japan	Recommended Movement Restriction	Recommended Movement Restriction	Same
Lao PDR	No Restrictions	Recommended Movement Restriction	More
Malaysia	No Restrictions	Restricted Movement	More
Mongolia	Restricted Movement	Recommended Movement Restriction	Less
Myanmar	Restricted Movement	Recommended Movement Restriction	Less
Philippines	Recommended Movement Restriction	Restricted Movement	More
Singapore	Restricted Movement	No Restrictions	Less
South Korea	Recommended Movement Restriction	No Restrictions	Less
Thailand	Restricted Movement	Restricted Movement	Same
Vietnam	Restricted Movement	Restricted Movement	Same

Source: Thomas Hale, Noam Angrist, Rafael Goldszmidt, Beatriz Kira, Anna Petherick, Toby Phillips, Samuel Webster, Emily Cameron-Blake, Laura Hallas, Saptarshi Majumdar, and Helen Tatlow. (2021). "A global panel database of pandemic policies (Oxford COVID-19 Government Response Tracker)." *Nature Human Behaviour*.

¹³⁴ Ibid.

Figure 21: Global Mobility Trends - Transit

Retail and recreation: How did the number of visitors change since the beginning of the pandemic?



This data shows how the number of visitors to places of retail and recreation has changed relative to the period before the pandemic. This includes places like restaurants, cafés, shopping centers, theme parks, museums, libraries, movie theaters.



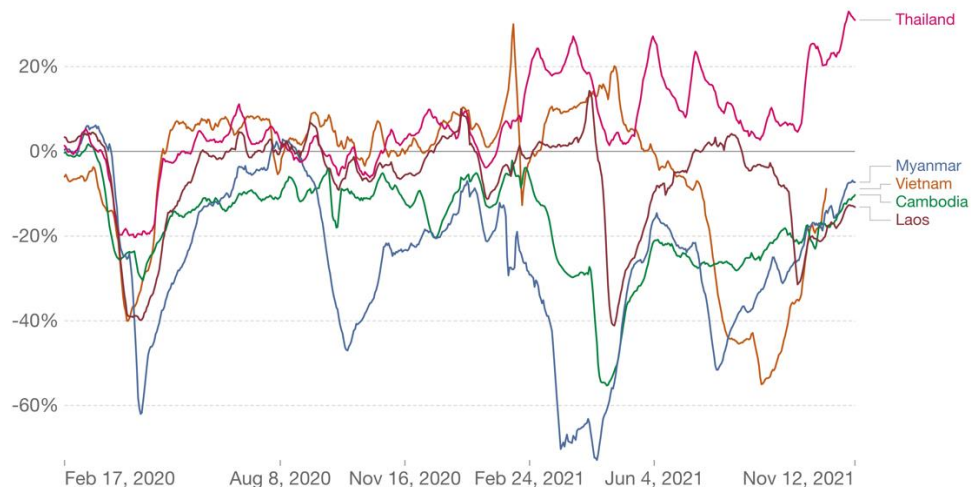
Source: Google COVID-19 Community Mobility Trends – Last updated 15 November 2021, 15:17 (London time)
 Note: It's not recommended to compare levels across countries; local differences in categories could be misleading.
 OurWorldInData.org/coronavirus • CC BY

Figure 22: Global Mobility Trends - Groceries and Pharmacy Visits

Grocery and pharmacy stores: How did the number of visitors change since the beginning of the pandemic?



This data shows how the number of visitors to grocery and pharmacy stores has changed relative to the period before the pandemic. This includes places like grocery markets, farmers markets, specialty food shops, drug stores, and pharmacies.



Source: Google COVID-19 Community Mobility Trends – Last updated 15 November 2021, 15:17 (London time)
 Note: It's not recommended to compare levels across countries; local differences in categories could be misleading.
 OurWorldInData.org/coronavirus • CC BY

Source of Figure 21 and Figure 22: Our World in Data, <https://ourworldindata.org/covid-google-mobility-trends>

Gender Response

55. UNDP's COVID-19 Global Gender Response Tracker monitors government response to the pandemic. Details of policy responses in the GMS are provided in Section IV. The number of national policies implemented, and the number of which are considered to address women's economic and social security is provided in Table 3 below. This table shows the heterogeneity in the region regarding policy responses between countries. For example, while Thailand has implemented 20 COVID-19 response policies, Lao PDR has implemented just two.

Table 3: COVID-19 Response Policies

Country	Number of COVID-19 Policy Responses	Number that are gender-sensitive
Cambodia	15	8
Lao PDR	2	0
Thailand	20	6
Vietnam	13	3
China	22	8
Myanmar	18	11

Source: Covid-19 global gender response tracker. UNDP Covid-19 Data Futures Platform. (2021, April 21). <https://data.undp.org/gendertracker/>

Regional Policy Coordination

56. Initial consultations suggested the scope and inter-agency coordination varied significantly and there is uneven multi-lateral coordination in the region. This is attributed to Implementation Constraint 4: heterogeneity of initial conditions across the GMS sub-region. The diversity among countries in the region in terms of stage of economic development, language, culture, and industry results in the need for different policies.

57. Regional cooperation is largely coordinated by the ADB, ASEAN, and the GMS. The Asian Development Bank has engaged in 214 COVID-19 response projects, excluding short-term financing transactions¹³⁵. Of these projects, 38 are regionally targeted. Table 4 shows ADB projects by country. The ADB has committed \$19.83 billion to help all Member Countries respond to the pandemic, allocating \$7.39 billion for Southeast Asian economies¹³⁶. Of this funding, \$93.75 is allocated to the agricultural sector and \$65.1 million for Southeast Asia, specifically.¹³⁷

¹³⁵ Asian Development Bank. (2021, August 2). *COVID-19 (coronavirus): ADB's Response*. Asian Development Bank. <https://www.adb.org/what-we-do/covid19-coronavirus>.

¹³⁶ Ibid.

¹³⁷ Asian Development Bank. (2021, August 2). *COVID-19 (coronavirus): ADB's Response*. Asian Development Bank. <https://www.adb.org/what-we-do/covid19-coronavirus>.

Table 4: ADB Projects by Country

Country	Number of COVID-19 ADB Projects	Country	Number of COVID-19 ADB Projects
Brunei	0	Mongolia	19
China	11	Myanmar	5
Cambodia	7	Philippines	17
Timor-Leste	1	Singapore	0
Indonesia	15	South Korea	1
Japan	0	Thailand	8
Lao PDR	5	Vietnam	10
Malaysia	3		

Source: Asian Development Bank, https://www.adb.org/search?page=1&facet_query=sm_field_subjects%24name%3ACOVID-19&facet_query=ola_collection_name%3Aproject%7CProject&facet_query=sm_field_countries%24name%3ARegional

58. The Association of Southeast Asian Nations (ASEAN) has provided tools, resources, opportunities for inter-agency dialogue, and multi-lateral agreements to assist the region in recovering from the COVID-19 pandemic. At the ASEAN-Plus Three Summit in November 2020, Member States committed to the Hanoi Plan of Action on Strengthening ASEAN Economic Cooperation and Supply Chain Connectivity in Response to the COVID-19 Pandemic, a significant step in safeguarding trade in the region. The plan seeks to address trade disruptions and ensure the flow of essential goods, such as agri-food products in the region to mitigate the impact of COVID-19 and improve supply chain connectivity. The agreement includes refraining from unnecessary non-tariff measures during the pandemic, enhancing communication of trade-related measures (i.e., export prohibitions or restrictions), enhancing cooperation and dialogue between Member States, honoring commitments to international bodies such as the WHO, and strengthening supply chain connectivity to respond to COVID-19 and future shocks. With this agreement, the region strives to address concerns arising from the disruptions the pandemic resulted in.

Regional Economic Outlook

59. ASEAN projects robust economic growth in the third quarter of 2021, expects favorable agricultural production, and for staple crop stores to remain large¹³⁸. However, Southeast Asia's economy has contracted since the start of the pandemic, led by reductions in GDP of 9.6 percent in the Philippines and 6.1 percent in Thailand¹³⁹ (Table 5), and the UNDP reports Vietnam, Cambodia, and Lao PDR are all experiencing large fiscal deficits, with Cambodia and Lao PDR facing high

¹³⁸ Gilmour, B., Lin, T., & Lee, S. (2021, February). *Covid-19 pandemic implications on agriculture and food*. Asia Pacific Foundation of Canada. <https://asean.org/storage/COVID-19-Pandemic-Implications-on-Agriculture-and-Food-Consumption-Final.pdf>

¹³⁹ Asian Development Bank. (n.d.). *GDP growth in Asia and the Pacific, Asian development Outlook (ADO)*. GDP Growth in Asia and the Pacific, Asian Development Outlook (ADO) | ADB Data Library | Asian Development Bank. <https://data.adb.org/dataset/gdp-growth-asia-and-pacific-asian-development-outlook>

external debt¹⁴⁰. In terms of output, the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) estimates that in 2020, output declined by 1.8 percent in Asia and the Pacific and by 1 percent in the region's developing countries¹⁴¹. With a lack of safety nets and reduced access to credit to purchase inputs, ASEAN predicts contractions in supply could continue into 2021 and 2022.

Table 5: Growth rate of GDP (% per year)

Growth rate of GDP (% per year)	2016	2017	2018	2019	2020	2021	2022
Southeast Asia	4.9	5.4	5.1	4.4	-4.0	4.4	5.1
Brunei Darussalam	-2.5	1.3	0.1	3.9	1.2	2.5	3.0
Cambodia	7.0	6.9	7.5	7.1	-3.1	4.0	5.5
Indonesia	5.0	5.1	5.2	5.0	-2.1	4.5	5.0
Lao PDR	7.0	6.9	6.2	4.7	-0.5	4.0	4.5
Malaysia	4.4	5.8	4.8	4.3	-5.6	6.0	5.7
Myanmar	5.9	5.8	6.4	6.8	3.3	-9.8	...
Philippines	7.1	6.9	6.3	6.1	-9.6	4.5	5.5
Singapore	3.3	4.5	3.5	1.3	-5.4	6.0	4.1
Thailand	3.4	4.2	4.2	2.3	-6.1	3.0	4.5
Timor-Leste	3.4	-4.1	-1.1	1.8	-7.9	3.4	4.3
Vietnam	6.2	6.8	7.1	7.0	2.9	6.7	7.0

Source: Asian Development Bank. (n.d.). GDP growth in Asia and the Pacific, Asian Development Outlook (ADO). GDP Growth in Asia and the Pacific, Asian Development Outlook (ADO) | ADB Data Library | Asian Development Bank. <https://data.adb.org/dataset/gdp-growth-asia-and-pacific-asian-development-outlook>.

60. As an indicator of how firms in the regions are faring, The World Bank Business Pulse Survey, conducted between April 2020 and September 2020, indicates that Vietnamese businesses on average saw a 37.2 percent decrease in sales between 2019 and 2020¹⁴² and 81.7 percent of businesses saw a decrease in sales year over year. Figure 23 shows the relationship between changes in sales for business and the Oxford COVID-19 Stringency Index.

¹⁴⁰ UNDP (2020). The Social and Economic Impact of COVID-19 in the Asia-Pacific Region. Position Note prepared by UNDP Regional Bureau for Asia and the Pacific. Bangkok: United Nations Development Programme. <https://www.undp.org/publications/social-and-economic-impact-covid-19-asia-pacific-region#modal-publication-download>

¹⁴¹ United Nations, Asian Development Bank, and United Nations Development Programme. Responding to the COVID-19 Pandemic: Leaving No Country Behind Bangkok, Thailand: United Nations, 2021, <https://www.adb.org/sites/default/files/publication/687786/responding-covid-19-pandemic.pdf>

¹⁴² COVID-19 Business Pulse Survey Dashboard. World Bank. (n.d.). <https://www.worldbank.org/en/data/interactive/2021/01/19/covid-19-business-pulse-survey-dashboard>

Figure 23: Average Percent Change in Monthly Sales and Oxford COVID-19 Stringency Index



Image Adapted from World Bank “COVID-19 Business Pulse Surveys Dashboard”. The World Bank Group, Washington, DC 2020 <https://www.worldbank.org/en/data/interactive/2021/01/19/covid-19-business-pulse-survey-dashboard.print>

Trade

61. UNCTAD reported global trade has largely rebounded in the first quarter of 2021, with trade in goods exceeding pre-pandemic levels and further rebounds predicted. Much of the rebound is attributed to increased exports from East Asian economies, where exports in the first quarter of 2021 have increased 33 percent when compared to the first quarter of 2020.¹⁴³ The global trade of agri-food products has also increased, up 18 percent in the first quarter of 2021 relative to the first quarter of 2019, and up 17 percent relative to the first quarter of 2020.¹⁴⁴ Annual trade between GMS countries in 2020 was \$639 billion¹⁴⁵, up from \$593.8 billion in 2019¹⁴⁶.

¹⁴³ UNDP (2020). The Social and Economic Impact of COVID-19 in the Asia-Pacific Region. Position Note prepared by UNDP Regional Bureau for Asia and the Pacific. Bangkok: United Nations Development Programme, <https://www.undp.org/publications/social-and-economic-impact-covid-19-asia-pacific-region#modal-publication-download>

¹⁴⁴ Global trade Update (MAY 2021). UNCTAD. (May 2021). <https://unctad.org/webflyer/global-trade-update-may-2021>

¹⁴⁵ GMS intra-regional trade (In us\$ billion). Greater Mekong Subregion (GMS). (2021, May 13).

<https://www.greatermekong.org/gms-intra-regional-trade%C2%A0-us-billion>

¹⁴⁶ GMS =CAM + GUA + YUN + LAO + MYA + THA + VIE → excludes all of PRC

Regional Agri-food Sector

62. While food supply remains stable, transportation of agri-food products remains a challenge due to containment policies that are still in place to contain the current surge. Such policies may slow the delivery of perishable agri-food products because of quarantine requirements, checkpoints, social distancing protocols at ports, and restrictions on internal and external movement. Other factors that may impact food supply include the level of capital intensity of the agri-food subsector and the gestation or growing cycle of the agri-food product. The temporal dimension of each product may serve as an indicator of how disrupted the sub-sector will be. Without adequately addressing these issues, ASEAN predicts the agri-food sector in the region to contract by 5 percent in the next few years¹⁴⁷. Disruptions to the agri-food sector are far-reaching because about \$500 billion of the region's output is generated by the agricultural sector, representing about 17 percent of ASEAN's total GDP, and providing 116 million jobs, or 35 percent of the labor force¹⁴⁸.

Transport Challenges

63. International transport challenges remain a present risk for the region's agri-food sector. While initial concerns regarding disruptions to air cargo transport arose, in April 2021 Asia-Pacific airlines saw demand for international air cargo increase 9.2 percent compared with April 2019¹⁴⁹. However, the region continues to experience international air cargo capacity constraints, which are down by 18.7 percent when compared to April 2019¹⁵⁰. While air cargo transport is critical for imports and exports, only 0.16 percent of global food is transported via air cargo¹⁵¹ making it of less concern for agri-food products in particular.

64. The shipping industry remains more strained than the air cargo sector. Freight rates have reached historical highs due to capacity management, shortages, and pandemic-related delays that resulted in a mismatch between supply and demand. However, the Asia-East Coast North America route has seen the lowest increase in freight rates, at 63 percent. This is compared with a 443 percent increase in the China-South America route¹⁵². These price surges are expected to continue, a major concern given that 80 percent of the world's population relies on imported food¹⁵³ and 58.67 percent of food is transported via boat¹⁵⁴.

¹⁴⁷ UNDP (2020). The Social and Economic Impact of COVID-19 in the Asia-Pacific Region. Position Note prepared by UNDP Regional Bureau for Asia and the Pacific. Bangkok: United Nations Development Programme, <https://www.undp.org/publications/social-and-economic-impact-covid-19-asia-pacific-region#modal-publication-download>

¹⁴⁸ *ibid*

¹⁴⁹ Air cargo up 12% in APRIL compared to pre-covid levels. IATA. (n.d.). <https://www.iata.org/en/pressroom/pr/2021-06-08-01/>

¹⁵⁰ *Ibid*.

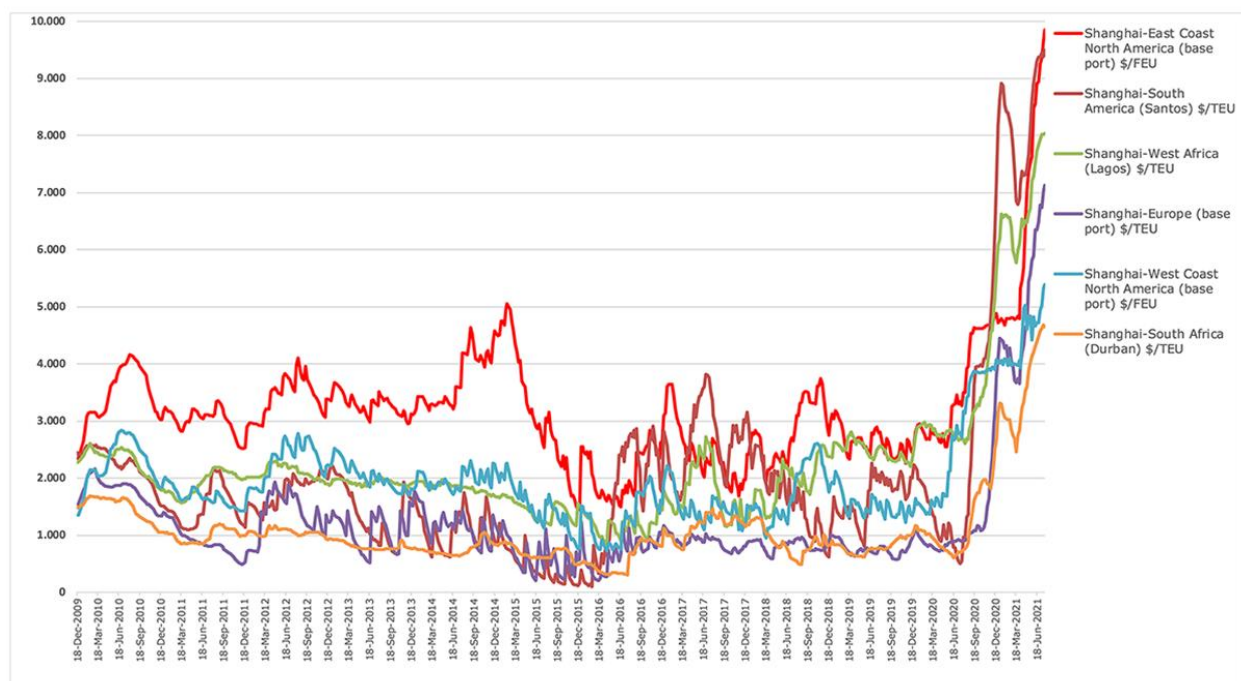
¹⁵¹ Ritchie, H. (n.d.). *Very little of global food is transported by air; this greatly reduces the climate benefits of eating local*. Our World in Data. <https://ourworldindata.org/food-transport-by-mode>

¹⁵² UNCTAD. (2021, April). Container Shipping In Times Of Covid-19: Why Freight Rates Have Surged, And Implications For Policymakers. UNCTAD. https://unctad.org/system/files/official-document/presspb2021d2_en.pdf

¹⁵³ The Economist Newspaper. (n.d.). *The world's food system has so far weathered the challenge of covid-19*. The Economist. <https://www.economist.com/briefing/2020/05/09/the-worlds-food-system-has-so-far-weathered-the-challenge-of-covid-19>

¹⁵⁴ Ritchie, H. (n.d.). *Very little of global food is transported by air; this greatly reduces the climate benefits of eating local*. Our World in Data. <https://ourworldindata.org/food-transport-by-mode>

Figure 24: Shanghai Containerized Freight Index (SCFI), weekly spot rates. 18 December 2009 to 23 July 2021, selected routes



Source: UNCTAD, based on data provided by Clarkson's Research Services, <https://unctad.org/news/how-cushion-consumers-high-maritime-freight-rates>

65. There are many knock-on effects that the disruption in shipping may have on the region. A recent ASEAN publication¹⁵⁵, suggests shipping disruptions may have long-term impacts on food security and nutrition because border impediments may reduce the quality and nutritional value of agri-food products, increasing waste and driving up costs¹⁵⁶. Rising costs may also dampen international trade and reduce demand and increases the unit cost of traded goods. A recent UNDP report suggests delays and increased transport costs increases “the economic distance between countries” which serves as “a composite measure of physical distance and trade barriers”¹⁵⁷, which could have the effect of reducing per capita incomes in producing countries¹⁵⁸.

66. Additionally, citizens from the Philippines, Indonesia, Thailand, and Vietnam, are employed heavily in the shipping industry. Restrictions regarding crew changes, general industry disruption, and inherent conditions on ships that allow for easy transmission of the virus may have negative impacts on the livelihoods of maritime workers.

Livestock

67. Regionally, the livestock sub-sector faces challenges. Lockdown policies in rural regions caused disruptions in supply and markets, which put a unique pressure on the livestock industry

¹⁵⁵ Gilmour, B., Lin, T., & Lee, S. (2021, February). *Covid-19 pandemic implications on agriculture and food*. Asia Pacific Foundation of Canada. <https://asean.org/storage/COVID-19-Pandemic-Implications-on-Agriculture-and-Food-Consumption-Final.pdf>

¹⁵⁶ Ibid.

¹⁵⁷ The social and economic impact of COVID-19 in the Asia-Pacific Region . United Nations Development Programme. (n.d.). <https://www.undp.org/publications/social-and-economic-impact-covid-19-asia-pacific-region>

¹⁵⁸ Ibid.

because animals require daily feed and farmers are dependent on time-sensitive inputs. The production cycles for livestock vary – from daily for dairy, to every six weeks for chickens¹⁵⁹, causing the industry to be highly dependent on timely and efficient supply chain operations. China is particularly at risk due to remnants of the African Swine Flu crisis, which decimated 40 percent of national pig herds¹⁶⁰. Adding to risks for the livestock sector are feed shortages resulting from logistical disruptions, a complaint captured in a Chinese survey of farmers who reported that feed delivery and transport of their livestock to processing centers were the largest challenges¹⁶¹. Emerging threats are also a concern for the industry. A 2021 report in *Nature Food* finds land-use change and the livestock revolution stand to increase instances of coronaviruses in the future¹⁶². Hot spots identified in the report include China, Indonesia, and Thailand, as these countries have high levels of forest fragmentation and concentrated livestock and human populations¹⁶³. This increases the importance of traceability in the livestock sector to ensure outbreaks can be managed appropriately.

Fisheries

68. Fisheries offer an essential source of food and employment for many in the region. According to ASEAN, its Member States account for a quarter of global fish production and the four largest fish producers are in the region (Indonesia, the Philippines, Thailand, and Vietnam)¹⁶⁴. Thailand alone provides 30 percent of the world's prepared or preserved tuna¹⁶⁵. The seafood sector emerged as vulnerable to COVID-19 due to issues at ports regarding disembarking and embarking, reduced demand for perishable seafood products difficult to prepare in home kitchens, and misinformation regarding virus transmission via seafood products. As a result, aquaculture producers in the region have reduced stocking targets, ultimately reducing the production of highly traded species such as shrimp, salmon, and tilapia¹⁶⁶.

69. Freshwater fisheries face their own set of challenges. The Mekong River Commission reports containment policies caused adverse environmental impacts on the Mekong River's fisheries due to increased recreational fishing, over-exploitation to meet food security needs, and reductions in enforcement and environmental policy. Although there were initial reductions in fishing due to lockdown policies that shuttered industry, reductions in income and job losses led to increases in fishing along the Mekong River. As unemployed, resource-constrained individuals returned from urban areas to rural regions, many turned to fishing to supplement food intake. Adding to stresses on the river's fisheries, safety concerns led to the reduction of enforcement and compliance to fishing regulations. This has added pressure on the Mekong's fish stocks and presents the risk of over-

¹⁵⁹ Zhang, X. (2020). Chinese livestock Farms struggle Under Covid-19 Restrictions. International Food Policy Research Institute . https://doi.org/10.2499/p15738coll2.133762_19

¹⁶⁰ Thomson Reuters. (2020, February 11). China's coronavirus Clampdown pushes PORK Prices TOWARD RECORD. Reuters. <https://www.reuters.com/article/us-china-health-pork/chinas-coronavirus-clampdown-pushes-pork-prices-toward-record-idUSKBN2050X7>

¹⁶¹ Zhang, X. (2020). Chinese livestock Farms struggle UNDER COVID-19 RESTRICTIONS. International Food Policy Research Institute. https://doi.org/10.2499/p15738coll2.133762_19

¹⁶² Rulli, M. C., D'Odorico, P., Galli, N., & Hayman, D. T. (2021). Land-use change and the livestock revolution increase the risk of zoonotic coronavirus transmission from rhinolophid bats. *Nature Food*, 2(6), 409–416. <https://doi.org/10.1038/s43016-021-00285-x>

¹⁶³ Ibid.

¹⁶⁴ Fisheries: ASEAN Investment. Fisheries | ASEAN Investment. (n.d.). <http://investasean.asean.org/index.php/page/view/fisheries>

¹⁶⁵ Gilmour, B., Lin, T., & Lee, S. (2021, February). Covid-19 pandemic implications on agriculture and food ... Asia Pacific Foundation of Canada. <https://asean.org/storage/COVID-19-Pandemic-Implications-on-Agriculture-and-Food-Consumption-Final.pdf>

¹⁶⁶ Ibid.

harvesting¹⁶⁷, which the Mekong River Commission estimates will be more severe for low-income countries with higher rates of food insecurity.

Water and Irrigation

70. Initially, demand for water decreased during the pandemic as lockdown policies suppressed the supply of farm labor and trade slowed. Yet, the reversal of migration patterns and lockdown measures preventing people from working and going to school increased the number of people in residential areas and placed added pressure on residential water sources. Adding to strains on water are efforts to increase domestic food production to protect against food insecurity, which may ultimately have negative effects on freshwater fisheries along the Mekong ¹⁶⁸. Cambodia, for example, plans to expand irrigation systems in the country, increase agricultural output, and make investments in aquaculture and animal husbandry. While these measures seek to address the growing problem of food security, they may strain water resources in the region in the long term.

Gender

71. In East and Southeast Asia, women are more vulnerable to the economic consequences of the pandemic and face higher rates of unemployment and corresponding income declines. UN Women estimates that 4 out of 5 women in the Asia-Pacific lost their jobs as a result of the pandemic and experienced a larger decline in working hours when compared to men¹⁶⁹. This is attributed to high rates of employment among women in processing and the service sector, which were heavily impacted by containment policies. Women are also heavily employed in the informal sector, often working in wet markets or as food vendors, many of which were closed or forced to operate at reduced capacity. For example, 94 percent of women in Cambodia and 87 percent of women in Myanmar are engaged in informal employment¹⁷⁰.

72. These women, operating outside of formal labor markets, lack access to safety net policies and health care, which places them at risk of poverty and health-related issues. These disruptions resulted in decreased incomes for women and have to knock-on effects on households. Many faced increased threats of domestic violence, trafficking, and forced marriage due to school closure¹⁷¹. In rural areas, only 13 percent of women hold titles to agricultural land¹⁷², this presented issues when the male landholder was a migrant laborer and could not return home due to containment policies to make decisions regarding the use of the land. Women also use the internet less and the gender gap in

¹⁶⁷ Steven J. Cooke, William M. Twardek, Abigail J. Lynch, Ian G. Cowx, Julian D. Olden, Simon Funge-Smith, Kai Lorenzen, Robert Arlinghaus, Yushun Chen, Olaf L.F. Weyl, Elizabeth A. Nyboer, Paulo S. Pompeu, Stephanie M. Carlson, John D. Koehn, Adrian C. Pinder, Rajeev Raghavan, Sui Phang, Aaron A. Koning, William W. Taylor, Devin Bartley, J. Robert Britton (2021) A global perspective on the influence of the COVID-19 pandemic on freshwater fish biodiversity. *Biological Conservation*. Volume 253, 2021

¹⁶⁸ MRC (2021) *Catch and Culture - Environment*. Vol 27, No 1. ISSN 0859-290. 60 pp. Mekong River Commission Secretariat, Vientiane, Lao PDR.

¹⁶⁹ *Gender equality post covid-19*. UN Women | Asia and the Pacific. (n.d.). <https://asiapacific.unwomen.org/en/digital-library/publications/2021/06/gender-equality-post-covid-19>.

¹⁷⁰ Ibid.

¹⁷¹ United Nations, Asian Development Bank, and United Nations Development Programme. *Responding to the COVID-19 Pandemic: Leaving No Country Behind* Bangkok, Thailand: United Nations, 2021, <https://www.adb.org/sites/default/files/publication/687786/responding-covid-19-pandemic.pdf>

¹⁷² Gilmour, B., Lin, T., & Lee, S. (2021, February). *Covid-19 pandemic implications on agriculture and food ...* Asia Pacific Foundation of Canada. <https://asean.org/storage/COVID-19-Pandemic-Implications-on-Agriculture-and-Food-Consumption-Final.pdf>.

mobile phone ownership in the region is close to 50 percent placing them at a disadvantage when considering movement toward digitization¹⁷³.

Migrant Labor

73. ASEAN estimates there are 10 million migrant workers in Member Countries¹⁷⁴, many working in the agricultural sector. Initially, it was estimated that COVID-19 would lead to a \$6-12 billion reduction in remittances in the region¹⁷⁵. However, the reduction in remittances has not been as severe as expected. According to current balance-of-payment data, globally remittances reduced by 2.3 percent globally but increased in developing Asia by 0.7 percent¹⁷⁶. This may be because migrant laborers tend to fill 'essential' jobs and continued to work despite containment policies. However, migrant laborers still face severe challenges because they are often excluded from social safety net programs and health services. Additionally, there have been increased instances of exploitation and abuse by employers.

74. The work of Action Track 4 of the UN Food Summit, *Advancing equitable livelihoods*, should account for the disproportionate impacts of COVID-19 on women and migrants. Recovery efforts in the agri-food sector should preferentially support such vulnerable groups through promoting actions to enhance inclusive decision making, increase investments, and adapt institutions and policies to favor equitable agri-food systems livelihoods, while duly considering the heterogeneity of labor markets within and between GMS countries.

Food Insecurity

75. Overall, ASEAN expects an average decline in incomes of 7 percent, yet some countries will experience larger declines than others. Regionally, ESCAP estimates that the pandemic has pushed 89 million people into extreme poverty (\$1.90/day)¹⁷⁷ and UNICEF estimates an additional 71 million households with children have been pushed into poverty¹⁷⁸. With constrained budgets, poor households that spend a large portion of their income on food will be pushed to purchase high-calorie staples and move away from more expensive and diverse diets. Typically, lower-cost foods have lower nutritional value, which means not only will many households face food insecurity but will face issues related to malnutrition. These effects include declines in maternal health, increased instances of childhood stunting and wasting, and ultimately higher mental health issues and poor educational attainment caused by poor childhood nutrition.

¹⁷³ *Gender equality post covid-19*. UN Women | Asia and the Pacific. (n.d.). <https://asiapacific.unwomen.org/en/digital-library/publications/2021/06/gender-equality-post-covid-19>.

¹⁷⁴ Ibid

¹⁷⁵ Asian Development Bank. (n.d.). *GDP growth in Asia and the Pacific, Asian development Outlook (ADO)*. GDP Growth in Asia and the Pacific, Asian Development Outlook (ADO) | ADB Data Library | Asian Development Bank. <https://data.adb.org/dataset/gdp-growth-asia-and-pacific-asian-development-outlook>.

¹⁷⁶ Asian Development Bank. (n.d.). *GDP growth in Asia and the Pacific, Asian development Outlook (ADO)*. GDP Growth in Asia and the Pacific, Asian Development Outlook (ADO) | ADB Data Library | Asian Development Bank. <https://data.adb.org/dataset/gdp-growth-asia-and-pacific-asian-development-outlook>.

¹⁷⁷ United Nations, Asian Development Bank, and United Nations Development Programme. Responding to the COVID-19 Pandemic: Leaving No Country Behind Bangkok, Thailand: United Nations, 2021, <https://www.adb.org/sites/default/files/publication/687786/responding-covid-19-pandemic.pdf>

¹⁷⁸ Ibid

Regional Capacity Gaps

76. Many capacity gaps and their implications for TA implementation have been addressed at the national level. As emphasized in the discussion of Implementation Constraint 4 above, these vary with emergent risk patterns and differential or even unique initial conditions. Through official consultation and desk research by the TA team of international and national experts, these diverse issues were assessed and discussed in this section. Desk research was based on official statements or documents, interviews with key informants, and independent evidence.

Coordination

77. COVID-19 exposed the importance of regional cooperation and shed light on the need for harmonized regulations, technical standards for data, and integrated markets. In responding to the pandemic, many countries in the GMS implement siloed, protectionist policies that were detrimental to the agri-food sector¹⁷⁹. Yet, intra-regional trade remains a key driver of regional GDP. In the Asia Pacific, regional trade as a percent of GDP increased from 17 in 1960 to 52 in 2016¹⁸⁰. The ADB's Asia-Pacific Regional Cooperation and Integration Index¹⁸¹ suggests there is still room for improvement regarding regional cooperation, indicating while the movement of people pre-COVID-19 was strong, money and finance, regional value chains, and infrastructure and connectivity are areas for future focus¹⁸² (Figure 25).

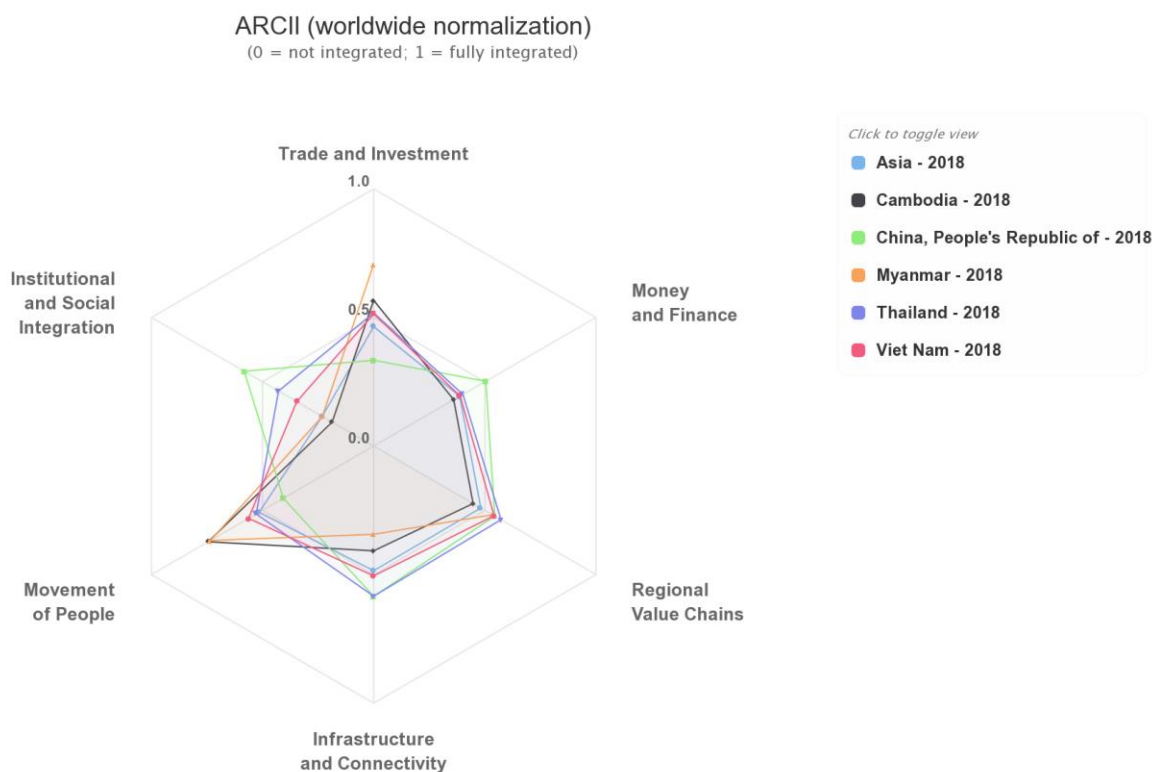
¹⁷⁹ *ibid*

¹⁸⁰ United Nations, Asian Development Bank, and United Nations Development Programme. Responding to the COVID-19 Pandemic: Leaving No Country Behind Bangkok, Thailand: United Nations, 2021, <https://www.adb.org/sites/default/files/publication/687786/responding-covid-19-pandemic.pdf>

¹⁸¹ The Asia-Pacific Regional Cooperation and Integration Index (ARCII) measures progress on cooperation on trade and investment, money and finance, regional value chains, infrastructure and connectivity, movement of people, and institutional and social integration.

¹⁸² Economic Research and Regional Cooperation Department (ERCD). (n.d.). *Asia regional INTEGRATION CENTER*. Asia-Pacific Regional Cooperation and Integration Index (ARCII) ARCII. <https://aric.adb.org/database/arcii>.

Figure 25: GMS Regional Cooperation Indices



Source: <https://aric.adb.org/database/aricii>

78. To ensure the cross-border flow of goods and people, cooperation among customs and border procedures are needed, specifically trade in agriculture and livestock¹⁸³. Cross-border health issues are also an area for improvement to control for communicable and zoonic diseases and address the health needs of migrants.¹⁸⁴ Overall, regional cooperation is needed to facilitate travel, trade, investments, value chains, and labor flows¹⁸⁵ and regional legislation will be increasingly important as firms move toward e-commerce.¹⁸⁶ Initiatives such as The Cambodia-Laos-Vietnam Development Triangle Area and the Cross-Border Transport Connectivity and Economic Corridor Development are an indication of increased coordination.

79. The progress made toward increased coordination can be leveraged by Action Track 3 of the UN Food Systems Summit, *Boosting nature-positive production at scale*. COVID-19 recovery efforts and stimulus packages in GMS countries should integrate incentives for nature- and land-positive agri-

¹⁸³ United Nations, Asian Development Bank, and United Nations Development Programme. Responding to the COVID-19 Pandemic: Leaving No Country Behind Bangkok, Thailand: United Nations, 2021, <https://www.adb.org/sites/default/files/publication/687786/responding-covid-19-pandemic.pdf>

¹⁸⁴ Asian Economic Integration Report 2019/2020: (2019). *ASIA REGIONAL INTEGRATION CENTER*. <https://doi.org/10.22617/tcs190461-2> https://aric.adb.org/pdf/aeir/AEIR2019-2020_5_subregional-cooperation-initiatives.pdf#page=20

¹⁸⁵ United Nations, Asian Development Bank, and United Nations Development Programme. Responding to the COVID-19 Pandemic: Leaving No Country Behind Bangkok, Thailand: United Nations, 2021, <https://www.adb.org/sites/default/files/publication/687786/responding-covid-19-pandemic.pdf>

¹⁸⁶ United Nations, Asian Development Bank, and United Nations Development Programme. Responding to the COVID-19 Pandemic: Leaving No Country Behind Bangkok, Thailand: United Nations, 2021, <https://www.adb.org/sites/default/files/publication/687786/responding-covid-19-pandemic.pdf>

food innovations such as agroforestry, conservation agriculture, biofertilizers, and natural-based solutions which also contribute to mitigating and adapting to the impacts of climate change.

80. Domestically, the pandemic exposed how coordination problems and asymmetric information cause a misallocation of agri-food products driven by a mismatch in supply and demand. Unequal and highly fragmented national market regulation and standards and weak coherence in transboundary policies and monitoring practices reduce the willingness-to-pay among consumers who are unsure of the quality of agri-food products. Additionally, disruptions in the delivery of key inputs and closing processing plants and borders exposed the fragility of domestic value chains and emphasized a need for shorter, more localized value chains. This shift can be leveraged by Action Track 2 of the UN Food Systems Summit, *Shifting to sustainable consumption patterns*. COVID-19 is indirectly increasing reliance on local food systems.

Food Safety and Quality

81. While most food safety and quality measures are implemented at the national level, intra-regional trade is of increasing importance for the region. ASEAN notes 23 percent of trade and 15 percent of investments are intra-regional¹⁸⁷ and in January 2020, The High-Level Symposium on Intra-ASEAN Trade and Investment convened policy makers in the region to encourage increased trade in the region. Yet, risky informal trade between countries persists, particularly among livestock, which increases risks of disease spread, a rising concern in the context of COVID-19. Price variation, caused by weak coordination along value chains and lack of trust from consumers regarding the quality of the product may result in a problem of moral hazard in which the producer reduces the quality of inputs. Weak coordination also results in problems of adverse selection, where those with access to information regarding price or demand for a product can select favorable deals at the expense of those lacking information.

Barriers to Market Access

82. There is limited information on domestic and export market access barriers, disruptions, and policy initiatives to mitigate these. Yet, the pandemic has spurred dialogue between countries to facilitate greater trade, reduce market barriers, and improve coordination. Initial export restrictions were implemented in some countries, for example in March 2020, Vietnam stopped exporting rice to ensure national food security¹⁸⁸, however, regional agreements such as the Hanoi Plan of Action on Strengthening ASEAN Economic Cooperation and Supply Chain Connectivity in Response to the COVID-19 Pandemic has increased intra-regional coordination around exports.

Weak Support for Small and Medium-Sized Enterprises

83. Regionally, there are very limited resources and capacity for supporting smallholder producers and agri-food supply chain intermediaries. Support to SMEs is critical because in the Asia-Pacific, 96 percent of all businesses are SMEs, and they account for two-thirds of private-sector jobs¹⁸⁹. Yet

¹⁸⁷ ASEAN seeks to boost Intra-Regional trade and investment. (n.d.). <https://asean.org/asean-seeks-boost-intra-regional-trade-investment/>.

¹⁸⁸ Southeast Asia Covid-19 Tracker. Southeast Asia Covid-19 Tracker | Center for Strategic and International Studies. (2021, July 22). <https://www.csis.org/programs/southeast-asia-program/projects/southeast-asia-covid-19-tracker#National%20Responses>.

¹⁸⁹ The social and economic impact of COVID-19 in the Asia-Pacific Region. United Nations Development Programme. (n.d.). <https://www.undp.org/publications/social-and-economic-impact-covid-19-asia-pacific-region>.

evidence suggests SMEs are not receiving support at the level needed. In March 2020, a UNDP survey found just 9.5 percent of young social entrepreneurs operating SMEs reported their business received governmental support, such as a tax break, loan, grant, subsidy¹⁹⁰. The finding suggested government assistance instead went mostly to large companies.

84. COVID-19 has increased the importance of supporting SMEs because smallholders and intermediaries often have limited access to working capital and are the most vulnerable to economic shocks, such as the one spurred by the pandemic. This is compounded by limited social insurance programs for vulnerable households, and limited information on risk management options. Some countries in the region have expanded safety nets in response to the pandemic, however. For example, Cambodia implemented a series of policies providing financing for SMEs and designated \$350 million for wage subsidies and aid to vulnerable groups, and Lao PDR lifted income taxes for SMEs. The World Bank Business Pulse Survey indicates 19.35 percent of establishments in Vietnam and 41.8 percent of establishments in Cambodia received or expect to receive public assistance ¹⁹¹. Yet, funding for safety net programs is likely to decrease once the pandemic subsides.

85. The increased prevalence of safety net programs in the region can be leveraged by the Action Tracks 1 and 5 of the UN Food Systems Summit, *Ensuring access to safe and nutritious food for all*, and *Building resilience to vulnerabilities, shocks, and stresses*. There is a need for continuity of such programs in the medium term (3-5 years) to achieve policy coherence on food safety and quality through mutual recognition of standards in GMS countries. The continuation of such programs provides opportunities to support and expand measures to improve direct access of farmers to higher-value markets.

Implications for the TA

86. The pandemic has fundamentally altered many aspects of the regional economy. It has increased the importance of bi-lateral dialogue and created an opportunity for the region to build back the economy with stronger mechanisms to ensure food safety and climate-smart agricultural practices. Accounting for these changes is critical to the success of the TA and to building improved agricultural value chains. The implications of the impacts of COVID-19 on the TA are discussed below.

Trust

87. The COVID-19 pandemic has brought in a new set of challenges and trust issues in the GMS surrounding public health and the safety of agri-food products. Claims that the virus could be spread via shrimp and subsequent bans on imports is an example of how trust was eroded¹⁹². Rebuilding trust in the region is important to the TA and requires enhanced multi-lateral coordination. The TA is well-positioned to facilitate such dialogue and to develop guidelines, regulations, and standards for the agri-food sector. Regional certifications, traceability mechanisms, and smart climate agricultural standards can increase trust on multiple levels – between producer and consumers, regional and

¹⁹⁰ Author Kanni Wignaraja UN Assistant Secretary-General and UNDP Regional Dir, Author, Kanni Wignaraja UN Assistant Secretary-General and UNDP Regional Director for Asia and the Pacific, & Wignaraja, K. (n.d.). *Protecting young startups during covid-19*. United Nations Development Programme. <https://www.undp.org/blogs/protecting-young-startups-during-covid-19>.

¹⁹¹ *COVID-19 business PULSE Survey Dashboard*. World Bank. (n.d.). <https://www.worldbank.org/en/data/interactive/2021/01/19/covid-19-business-pulse-survey-dashboard>.

¹⁹² Chan, C. (2021, June 4). *Chinese shrimp HUB suspends frozen seafood imports from several Asian countries*. Undercurrent News. <https://www.undercurrentnews.com/2021/06/04/chinese-shrimp-hub-suspends-frozen-seafood-imports-from-several-asian-countries/>.

international trading partners. These standards and certifications are needed throughout the value chain, extending to inputs such as fertilizers and seeds. Harmonized data sets, cross-border data transfers, and information technology can enhance trust as well. Yet, this relies on secure telecommunications infrastructure, laws (such as privacy laws), and government transparency, As stated by the ADB, “open information societies thrive best in the global economy¹⁹³. Therefore, the TA should continue work to increase harmonization along regional agri-food value chains and consider the use of digital technology and data in the process.

Digitization

88. The TA should leverage the acceleration toward digitization the pandemic has caused. The World Bank Business Pulse Survey indicates just 3 percent of monthly sales by Vietnamese firms (excluding micro firms) were conducted on digital platforms, and just 11 percent of sales from Cambodian firms used digital platforms¹⁹⁴. Yet, the Survey also indicates 37 percent of Cambodian firms and 46 percent of Vietnamese firms reported they started to use or increased use of digital platforms during the pandemic¹⁹⁵ (Figure 26). Digitization can improve information flows along value chains, lower transaction costs, and reduce instances of mismatched supply and demand. Examples of how technology can correct for asymmetric information abound. For example, MyCrop Technologies is helping farmers make better decisions regarding production using advanced data analytics. Such technologies can help producers capture higher prices, reduce costs, and optimize inputs for environmental efficiency. Movement toward digitization in the region is growing, yet there are still many gaps to address – there is a large digital divide in the GMS, between and within countries, which threatens to exasperate inequalities. For example, women own mobile phones and utilize web-based services less than their male counterparts and connectivity is spotty in many rural regions. All Action Tracks of the UN Food Systems Summit should consider the heterogeneity of connectivity and technology use in the region to ensure initiatives that leverage technology to advance the five tracks can be equitably utilized throughout the region.

¹⁹³ United Nations, Asian Development Bank, and United Nations Development Programme. Responding to the COVID-19 Pandemic: Leaving No Country Behind Bangkok, Thailand: United Nations, 2021, <https://www.adb.org/sites/default/files/publication/687786/responding-covid-19-pandemic.pdf>

¹⁹⁴ COVID-19 business PULSE Survey Dashboard. World Bank. (n.d.). <https://www.worldbank.org/en/data/interactive/2021/01/19/covid-19-business-pulse-survey-dashboard>.

¹⁹⁵ *ibid*

Figure 26: Increases in Digital Platform Use

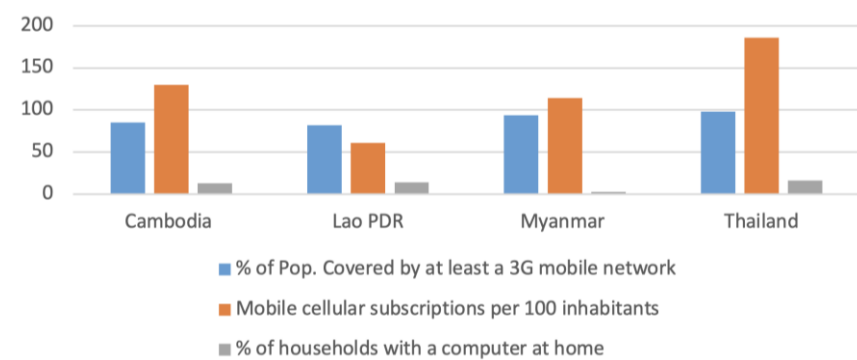


Image Adapted from: World Bank “COVID-19 Business Pulse Surveys Dashboard”. The World Bank Group, Washington, DC 2020 <https://www.worldbank.org/en/data/interactive/2021/01/19/covid-19-business-pulse-survey-dashboard.print>

89. Digitization and e-commerce have the potential to increase sustainable development by increasing formalization and enhancing regulatory compliance. This can help to displace illicit trade, increase access to international trade, improve transparency, enhance efficiency, increase competitiveness, and drive value addition by helping to transform industries¹⁹⁶.

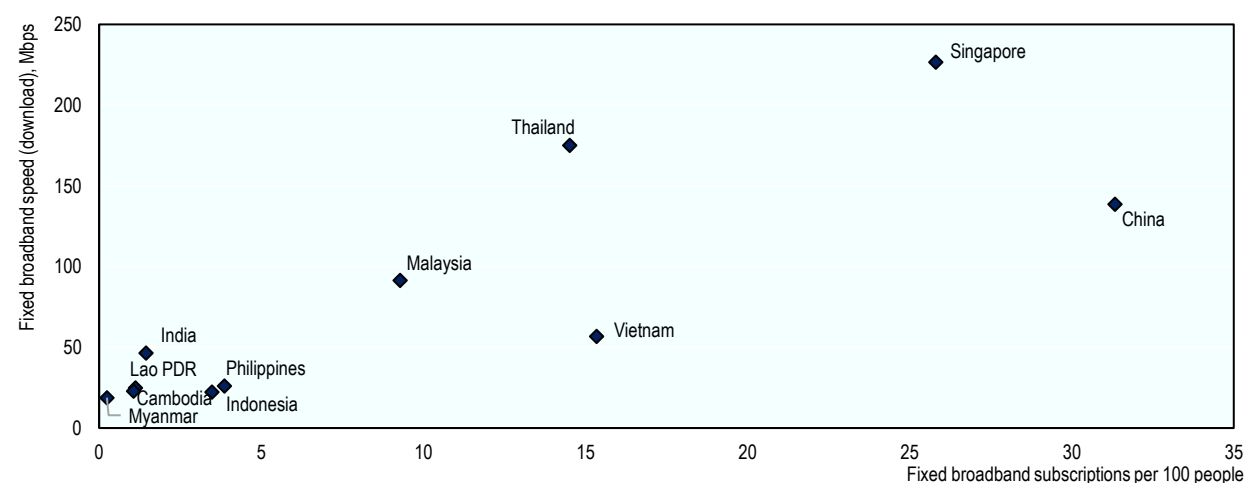
¹⁹⁶ United Nations, Asian Development Bank, and United Nations Development Programme. Responding to the COVID-19 Pandemic: Leaving No Country Behind Bangkok, Thailand: United Nations, 2021, <https://www.adb.org/sites/default/files/publication/687786/responding-covid-19-pandemic.pdf>

Figure 27: Sub-regional ICT Connectivity



Source: Digital development. ITU. (n.d.). <https://www.itu.int/en/ITU-D/Statistics/Dashboards/Pages/Digital-Development.aspx>.

Figure 28: Fixed Broadband Subscriptions and Speed: Emerging Asian Economies



Source: Note: Data on fixed broadband subscriptions are as of 2019, except for Myanmar (2018) and world average (2018). Data on fixed broadband speed (download) are as of September 2020. Source 12: OECD Development Centre based on data from World Bank and Speedtest Global Index. <https://doi.org/10.1787/888934228248> adapted from *Economic Outlook for Southeast Asia, China and India* OECD Development Centre

90. Fintech also shows great potential, as it allows for low-fee remittance transfers, government to person payments, and helps governments access a broader tax base¹⁹⁷. Given the broad benefits of equitable digitization, the TA should work to improve regional cooperation around infrastructure and connectivity, as these will be critical to ensuring technologies for agri-food producers are accessible. The ASEAN Digital Masterplan 2025 demonstrates movement toward increased cooperation and continued effort should focus on improving data centers, cloud computing infrastructure, and exchange points.

¹⁹⁷ United Nations, Asian Development Bank, and United Nations Development Programme. Responding to the COVID-19 Pandemic: Leaving No Country Behind Bangkok, Thailand: United Nations, 2021, <https://www.adb.org/sites/default/files/publication/687786/responding-covid-19-pandemic.pdf>

Increased SME Synergies

91. The impacts of the pandemic on SMEs also indicate an opportunity for the TA to enhance cooperatives and synergies among smallholders so they can coordinate as a block and access digital technology and information with greater ease. Focusing on improving smallholder coordination can contribute to increased incomes, accelerate streamlining, reduce duplication of initiatives, enhance value-added production, and improve environmental efficiency. For example, leveraging knowledge of how to produce compost fertilizers among smallholders has the potential to increase agricultural productivity and improve livelihoods for all agri-food supply chain actors.

Table 6: ADB and other Recent Development Partner Initiatives on COVID-19 Policy Response

Sponsoring Institution	Date	Initiative	Summary
ADB/GMS	Mar 2021	Greater Mekong Subregion - Economic Covid-19 Response and Recovery 2021-23	This regional plan identifies a limited number of achievable initiatives across the subregion within the medium term. It complements and supports implementation of the GMS Economic Cooperation Program Strategic Framework 2030 (GMS- 2030) as well as commitments of GMS countries under the Sustainable Development Goals and the National Determined Contributions to the United Nations Framework Convention on Climate Change. The Plan supplements national COVID-19 responses by focusing on RCI priorities. It will (i) balance health, economic, environmental, and social priorities; (ii) ensure private sector involvement; (iii) engage local governments and communities; and (iv) be widely and effectively communicated.
ADB	June 2020	Policy Actions for COVID-19 Economic Recovery (PACER) Dialogues	Aims to facilitate conversations around how to help economies ‘bounce back’ from COVID-19. It is offered to government officials in Southeast Asia and the People’s Republic of China to explore policy measures and actional initiatives. Organized under ADB-supported BIMP-EAGA, IMT-GT, and GMS (B-I-G) Capacity Building Program.
ADB	Current	COVID-19 Active Response and Expenditure Support Program (CARES Program)	Funding via the COVID-19 Pandemic Response Option under ADB’s Countercyclical Support Facility and works to provide assistant for developing Member Countries. In April 2020, 3\$ billion was approved to assist the Philippines and Indonesia
ADB/GMS	Current	Greater Mekong Subregion Health Security Project	The project focuses on communicable disease control in Cambodia, Lao PDR, Myanmar, and Vietnam. It provides loans and grants to improve i.) regional cooperation and disease control in border regions ii.) national disease surveillance and outbreak response systems, and iii.) laboratory services ad hospital infection prevention.
ADB	Dec 2020	Asia Pacific Vaccines Access Facility (APVAX) ¹⁹⁸	9\$ billion vaccine initiative to support developing member countries to procure and deliver safe COVID-19 vaccines. APVAX offers frameworks and resources to increase access to vaccines in Asia via two mechanisms: i.) Rapid Response Component and, ii.) Project Investment Component. Financing coordinates with the World Bank Group, World Health Organization, COVID-19 Vaccines Global Access Facility (COVAX), GAVI, and other partners.

¹⁹⁸ <https://www.adb.org/sites/default/files/institutional-document/662801/adb-support-covid-19-vaccine-access.pdf>

GMS	Jan 2021	GMS Summit 7 Leaders Session 1	<p>Response to COVID-19 and Other Challenges</p> <ul style="list-style-type: none"> GMS faces its deepest recession in decades. COVID-19 can eviscerate growth, incomes, and employment, and threatens to reverse hard-won progress in poverty reduction. The GMS Program demonstrated its usefulness by quickly and effectively responding to the crisis. However, it faces its biggest challenge in its 28 years of existence. The GMS-2030 provides a holistic multi-sectoral, multi-thematic response. It references to COVID-19 response at short-, medium-, and long-term. But it also deals with other challenges. A COVID-19 Response Plan 2021–2023 prepared to respond to the medium-term health, economic and social impacts of the pandemic and to complement GMS-2030.
GMS	Jan 2021	GMS Summit 7 Leaders Session 3	<p>I. Achievements under the Ha Noi Action Plan 2018-2022</p> <ul style="list-style-type: none"> Sector Achievements and Response to COVID-19 Pandemic Targeted new commitments to mitigating Covid-19 impacts on Transportation, Agriculture, Tourism, and Urban Development <p>II. Completion of Key Strategic and Planning Documents</p> <ul style="list-style-type: none"> Proposed for Endorsement - GMS COVID-19 Response and Recovery Plan 2021-2023
ADB/GMS	Dec 2020	Greater Mekong Subregion - Economic Cooperation Program - Strategic Framework 2030	<p>The advent of COVID-19 has confronted the GMS Program with its most significant challenge in its 28 years of existence. The pandemic may lead to a long-term contraction of growth, incomes, and employment. This, in turn, could negatively impact a decade of progress on poverty reduction won through rising subregional cooperation across a swathe of activities, particularly trade and connectivity. The GMS Program has demonstrated its usefulness and responded quickly and effectively to the pandemic, adding value to national strategies. The effective reaction of GMS countries to the pandemic has kept the number of people affected and the number of deaths due to COVID-19 at very low levels compared with other subregions around the globe. GMS economies, businesses, and households, however, are severely affected and many vulnerable people are suffering. Some of the changes produced by the pandemic, however, have the potential of permanent and more structural implications for the subregion, thus demanding a longer-term collaboration of GMS countries. The GMS Economic Cooperation Program Strategic Framework 2030 (GMS-2030) aims to provide a holistic response to existing and new challenges.</p>
ABD/GMS	Jun 2021	Regional Meeting: One Health in the Greater Mekong Subregion	<p>A virtual meeting hosted by the ADB and the Nossal Institute for Global Health to share lessons learned from approaches and policy action under ADB project TA 9571-REG: Strengthening Regional Health Cooperation in the Greater Mekong Subregion (GMS). The meeting served to (i) discuss the current status of One Health-relevant systems, policies, and approaches across the GMS based on examples from the region and Nossal Institute's review work to date; (ii) introduce and discuss economic approaches for valuing the benefits of One Health across sectors; and (iii) identify and discuss opportunities for further collaboration and priority next steps for One Health in the GMS.</p>
ASEAN/World	Apr 2021	Agriculture Ministerial on	<p>The Cambodian government, through the Ministry of Agriculture, Forestry and Fisheries, is committed to promoting agricultural diversification as part of its battle against COVID-19 to maintain a stable</p>

Bank/FAO		Covid-19 Risk and Response	business environment and people's livelihoods during the health crisis. The commitment was made during a virtual roundtable meeting of the agriculture ministers of Indonesia, Lao PDR, Malaysia, Papua New Guinea, the Philippines, Vietnam, and East Timor on April 23, hosted by the World Bank and co-chaired by its director of Development Policy and Partnerships Mari Pangestu.
ASEAN	Nov 2020	ASEAN Comprehensive COVID-19 Recovery Framework and its Implementation Plan	The ASEAN Comprehensive Recovery Framework (ACRF) serves as the consolidated exit strategy from the COVID-19 crisis. It articulates ASEAN response through the different stages of recovery, by focusing on key sectors and segments of society that are most affected by the pandemic, setting broad strategies, and identifying measures for recovery in line with sectoral and regional priorities. Since the pandemic is still evolving, the approach to recovery should be proactive and all-encompassing (whole-of-community), flexible and agile so the region can easily adopt its strategies to changing conditions. To implement the ACRF, an Implementation Plan is also developed.
ADB	Current	ADB COVID-19 Policy Database	A policy database that provides information on the key economic measures that governments are taking to combat the COVID-19 pandemic. Measures are classified according to how they work their way through the financial system, and how they affect the financial positions of different sectors of society. It also tracks noneconomic measures.
EU	Feb 2021	European Recovery and Resilience Facility ⁴⁵	Making €672.5 billion in loans and grants available to Member States to support reforms and investments, the RRF is the key instrument at the heart of NextGenerationEU, the EU's plan for emerging stronger from the COVID-19 pandemic. It will play a crucial role in helping Europe recover from the economic and social impact of the pandemic and will help to make the EU's economies and societies more resilient and secure the green and digital transitions.
ASEAN	Current	ASEAN Emergency Operation Centre Network for Public Health	Established to support coordination and decision-making across ASEAN countries by designated public health emergency management personnel. Led by Malaysia.
	Current	ASEAN BioDiaspora Virtual Centre	Comprised of two tools 1.) The Explorer Tool and 2.) The Insights Tool, the Centre is a real-time, web-based risk assessment tool that connects various databases regarding air travel, demographics, human population density, animal populations, industrialization, and other relevant indicators. The tools leverage big data and advanced analytics to assist policy makers in understanding and assessing infectious disease spread. The Centre publishes a regular Risk Assessment (RA) Report for International Dissemination of COVID-19. Led by the Philippines
	Current	Regional Public Health Laboratories	Regional network of laboratories to support communication and information flow, resource sharing, and mutual recognition to support the delivery of high quality, timely, and interpretable results from labs. Led by Thailand

Network		
	ASEAN Risk and Communication Centre	Preparedness and capacity building programs to respond to COVID-19 and other regional threats. Led by Malaysia
Apr 2020	ASEAN Response Fund	A pool for financial resources for ASEAN Member States to respond to the detection, control, and prevention of COVID-19 transmission, particularly among frontline workers. The Fund is equally accessible to all Members and is intended to support the procurement of test kits, diagnostic tools, personal protective equipment, essential medical supplies, such as vaccines, and support virology research and development. ¹⁹⁹ Established at the 36 th ASEAN Summit
	ASEAN Plus Three Epidemiology Training Network	An extension of the ASEAN Experts Group on Communicable Diseases Plus Three's Medium-Term Plan, the ASEAN Plus Three Epidemiology Training Network seeks to build a regional support system to assist Member States in addressing infectious and communicable diseases, encourage sharing and cross-learning to improve health care.
Apr 2020	ASEAN Coordination Council Working Group on Public Health Emergencies	Facilitates coordination and collaboration among regional sectors to respond to public health emergencies. The Working Group seeks to enhance communication between senior officials around the prevention, containment, and management of the COVID-19 pandemic. Topics include border controls, safety nets, capacity building, training, and next steps.
Nov 2020	ASEAN Strategic Framework on Public Health Emergencies ²⁰⁰	Core document providing guidance on regional response to public health emergencies. Intended to increase preparedness, detection, response, and resilience to public health emergencies by identifying fiscal and resources. It builds on and collaborates with complementary ASEAN agreements.
Current	ASEAN Regional Reserve of Medical Supplies for Public Health Emergencies ²⁰¹	To address capacity and resource gaps, this reserve will function to distribute stockpiled essential medical supplies to Member States impacted by public health emergencies.
Nov 2020	ASEAN-Plus	Reiterated support for Hanoi Plan of Action on Strengthening ASEAN Economic Cooperation and Supply Chain Connectivity in Response to the COVID-19 Pandemic ²⁰³ (adopted June 2020). Twenty-

¹⁹⁹ https://asean.org/storage/53-Finalised-and-APPROVED-TOR_COVID-19-ASEAN-Response-Fund.pdf

²⁰⁰ https://asean.org/storage/2020/11/4-ASEAN-Strategic-Framework-on-PHE_Final.pdf

²⁰¹ https://asean.org/storage/54-Finalised-and-APPROVED-TOR_ASEAN-Regional-Reserve-for-Medical-Supplies.pdf

²⁰³ 2020 Hanoi Plan of Action on Strengthening ASEAN Economic Cooperation and Supply Chain Connectivity in Response to the COVID-19 Pandemic, <https://asean.org/storage/2020/06/Hanoi-POA.pdf>

		Three Summit ²⁰²	one decisions affirmed regarding a joint effort to restore economic growth via cooperation, trade, supply chain connectivity, food security, public health responses, private sector engagement, digital transformation, among other key issues of concern. Decisions also encourage dialogue between ministries around financial, monetary, and fiscal issues of common interest. The Summit addresses regional responses to COVID-19.
	Ongoing	ASEAN Travel Corridor Arrangement Framework	Under the Comprehensive Recovery Framework, the ATCAF will work to establish the resumption of essential business travel among ASEAN member countries while abiding by public health protocols.
ASEAN	Jun 2020	Hanoi Plan of Action on Strengthening ASEAN Economic Cooperation and Supply Chain Connectivity in Response to the COVID-19 Pandemic ²⁰⁴	Plan to address trade disruptions and ensure the flow of essential goods (i.e., food, medicine) in the region to mitigate the impact of COVID-19 and improve supply chain connectivity. The agreement includes refraining for unnecessary non-tariff measures during the pandemic, enhancing communication of trade-related measures (i.e. export prohibitions or restrictions), enhancing cooperation and dialogue between Member States, honoring commitments to WHO International Health Regulations, International Maritime Organization statements, and International Civil Aviation Organization Declarations, and strengthening supply chain connectivity to respond to COVID-19 and future shocks.
	Nov 2020	ASEAN Centre on Public Health Emergencies and Emerging Diseases	Established at the 37 th ASEAN Summit in November 2020, the Centre will increase regional health security and advance ASEAN preparedness and resilience to current and future public health emergencies, such as infectious disease. ²⁰⁵
UN ESCAP	Mar 2021	2021 Theme Study, UN ESCAP, Beyond the pandemic: Building back better from crises in Asia and the	Economic and Social Commission for Asia and the Pacific's theme study for the 77 th session of the Commission offers a five-point policy agenda to assist UN ESCAP member States in spurring long-term and sustainable recovery from COVID-19. The policy recommendations are i.) enhance regional cooperation, ii.) build universal social protection along the life course, iii.) ensure sufficient fiscal space, iv.) promote trade facilitation, digitization, and harmonization, and fully embed social and environmental concerns into global supply chains, v.) safeguard environmental health.

²⁰² <https://asean.org/storage/Final-APT-Leaders-Statement-on-Strengthening-APT-Cooperation-for-Economic-and-Financial-Resilience-in-the-face-of-Emerging-Challenges.pdf>

²⁰⁴ 2020 Hanoi Plan of Action on Strengthening ASEAN Economic Cooperation and Supply Chain Connectivity in Response to the COVID-19 Pandemic, <https://asean.org/storage/2020/06/Hanoi-POA.pdf>

²⁰⁵ https://asean.org/storage/2021_JS-ASEAN-for-WHA-74-clean_Final.pdf

Pacific ²⁰⁶			
	Nov 2020	Regional Comprehensive Economic Partnership (RCEP) Agreement	15 ASEAN Member States and five regional partners signed the RCEP in November 2020. RCEP is a free trade agreement that is expected to remove 90 percent of import tariffs among signatories, established e-commerce, trade, and intellectual property regulations. The agreement will assist the region in economic recovery post-COVID-19 by encouraging economic activity
UN	Sep 23 2021	The Food Systems Summit	The UN Food Systems Summit, held during the UN General Assembly in New York on September 23, is setting the stage for global food systems transformation to achieve the Sustainable Development Goals by 2030.
ADB	Aug 26 2021	Policy Responses to the COVID-19 Pandemic for Food Security in Asia and the Pacific	Webinar to discuss issues and policy responses, as well as to support knowledge exchange between ADB and OECD and other stakeholders in the region, on setting sustainable and resilient food systems
ADB	Aug 24 2021	COVID-19 Threatens Asia and Pacific's Progress on SDGs	Release of a dedicated COVID-19 edition of ADB's flagship statistical abstract, Key Indicators

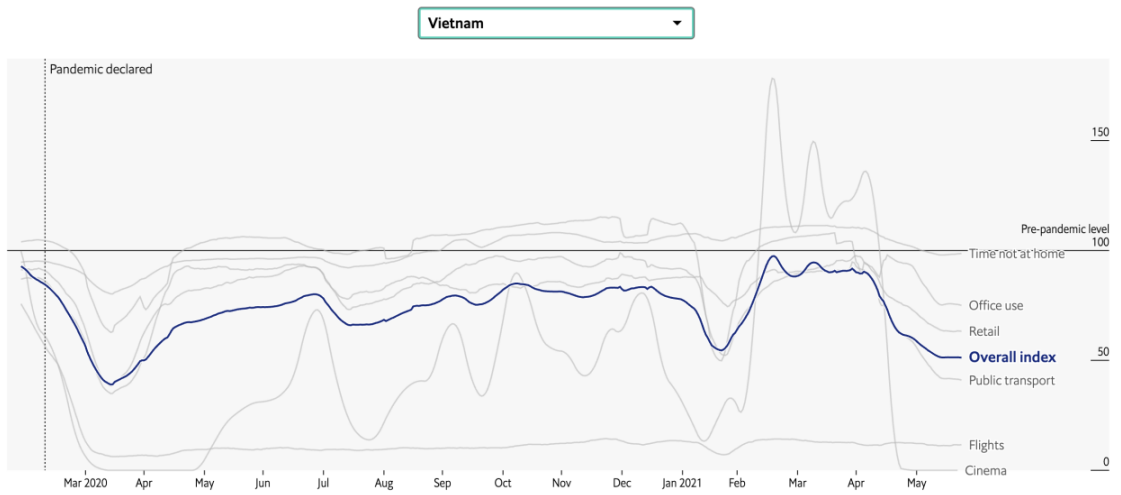
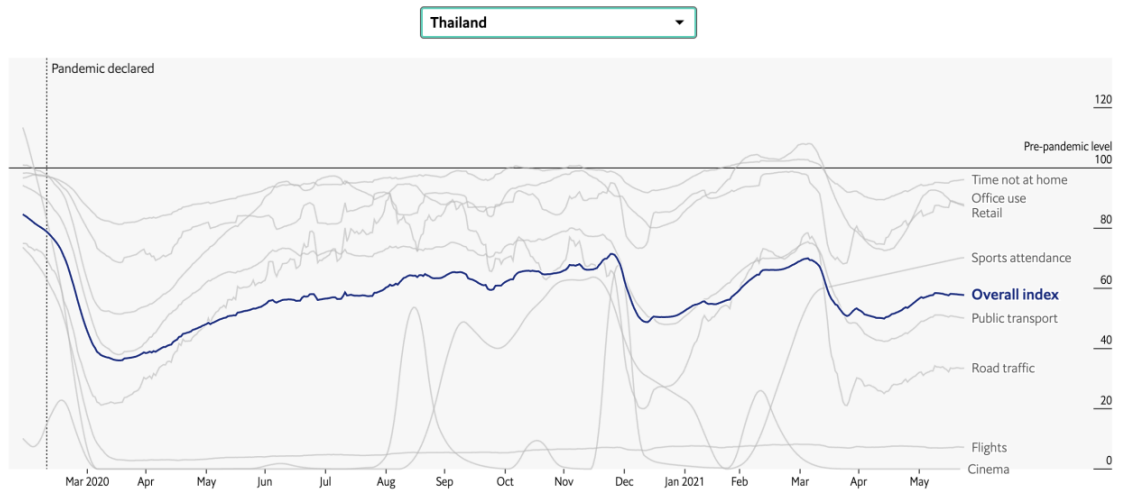
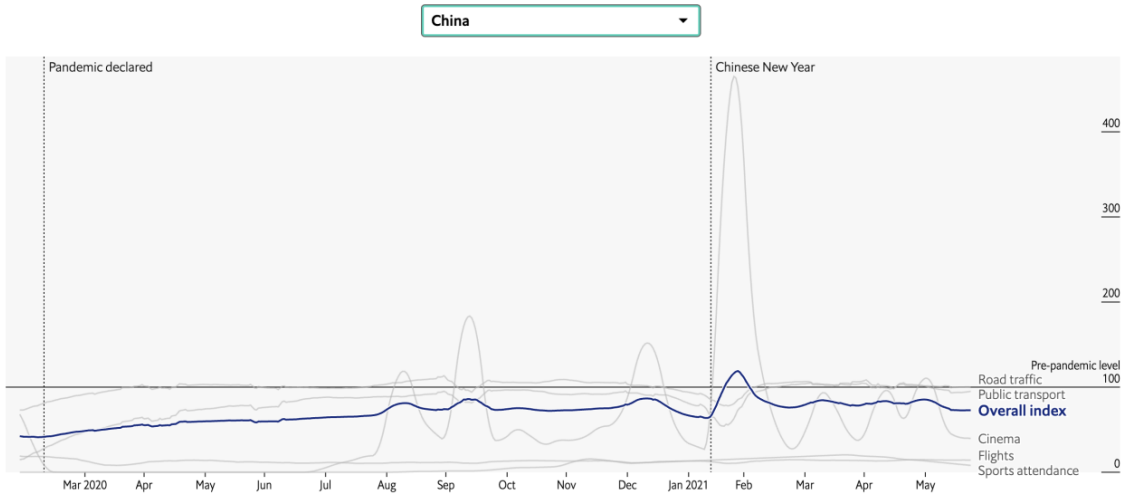
²⁰⁶ https://www.unescap.org/sites/default/d8files/knowledge-products/Beyond%20the%20pandamic_Theme%20study.pdf

IV. National Perspectives

92. National responses to the COVID-19 pandemic are varied across the GMS, yet each country has experienced significant disruptions to its agri-food sector. While most disruptions have short-term impacts, the pandemic has resulted in market shifts that may result in fundamental adjustments to agri-food supply chains. The heterogeneity in adjustment patterns across the GMS is demonstrated by The Economist Normalcy Index (ENI)²⁰⁷.

²⁰⁷ For each country, the ENI is defined as a composite of eight indicators, split into three domains. The first grouping is transport and travel: public transport in big cities; the amount of traffic congestion in those same cities; and the number of international and domestic flights. The second looks at recreation and entertainment: how much time is spent outside the home; cinema box-office revenues (a proxy measure for cinema attendance); and attendance at professional sports events. The third is retailing and work: footfall in shops; and occupancy of offices (measured by workplace footfall in big cities). For more information see <https://www.economist.com/graphic-detail/tracking-the-return-to-normalcy-after-covid-19>

Figure 29: Economist Normalcy Index for selected GMS Economies

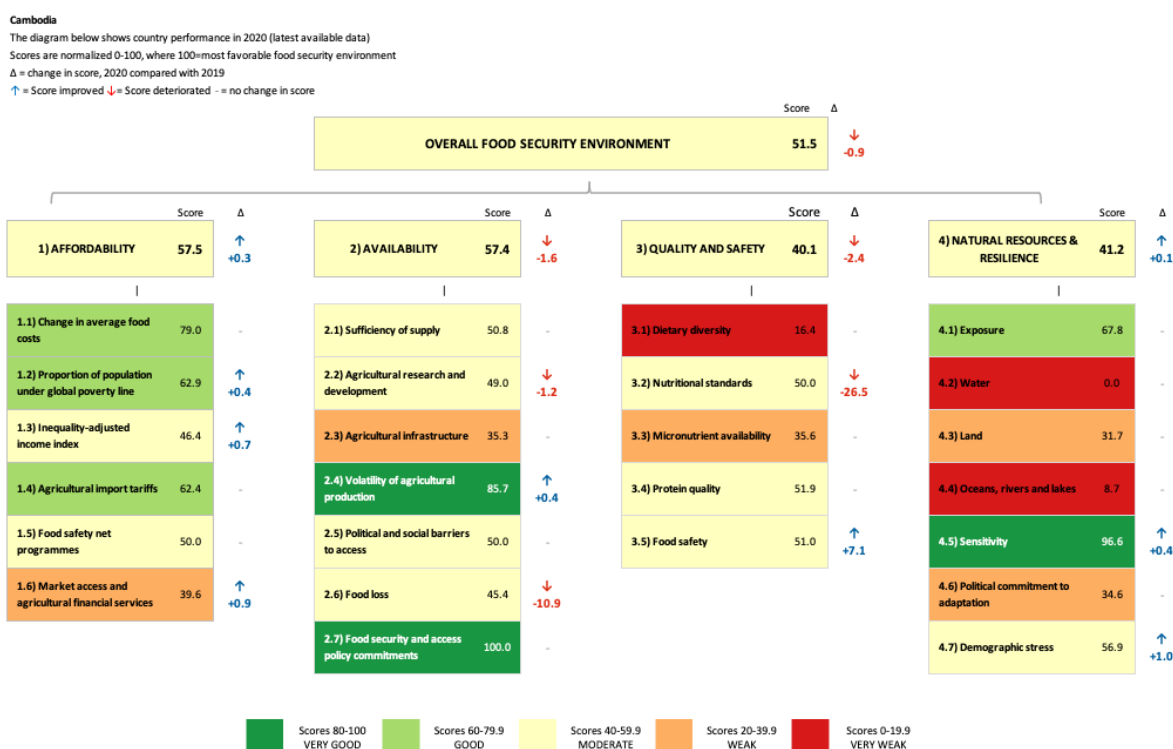


A. Cambodia

Key Points

- Agri-food sector remains resilient in the face of the pandemic
- Decreased agri-food imports have drawn attention to the importance of the local food economy and on free trade agreements with regional trading partners
- Policies to contain the spread of the virus prompted the government to facilitate agri-food supply chain operations and monitor prices, particularly in urban centers
- Agri-food processors and MSMEs are particularly vulnerable to labor market disruptions
- The pandemic has highlighted the potential of e-commerce to improve SPS and intra-regional trade and the government has work to leverage technology for the agri-food sector

Figure 30: Food Security Assessment: Cambodia Food Security Performance in 2020 (most recent data), compared with 2019



Source: The Global Food Security Index (GFSI), Economist Intelligence Unit and is sponsored by Corteva Agriscience, <https://foodsecurityindex.eiu.com/Home/About>

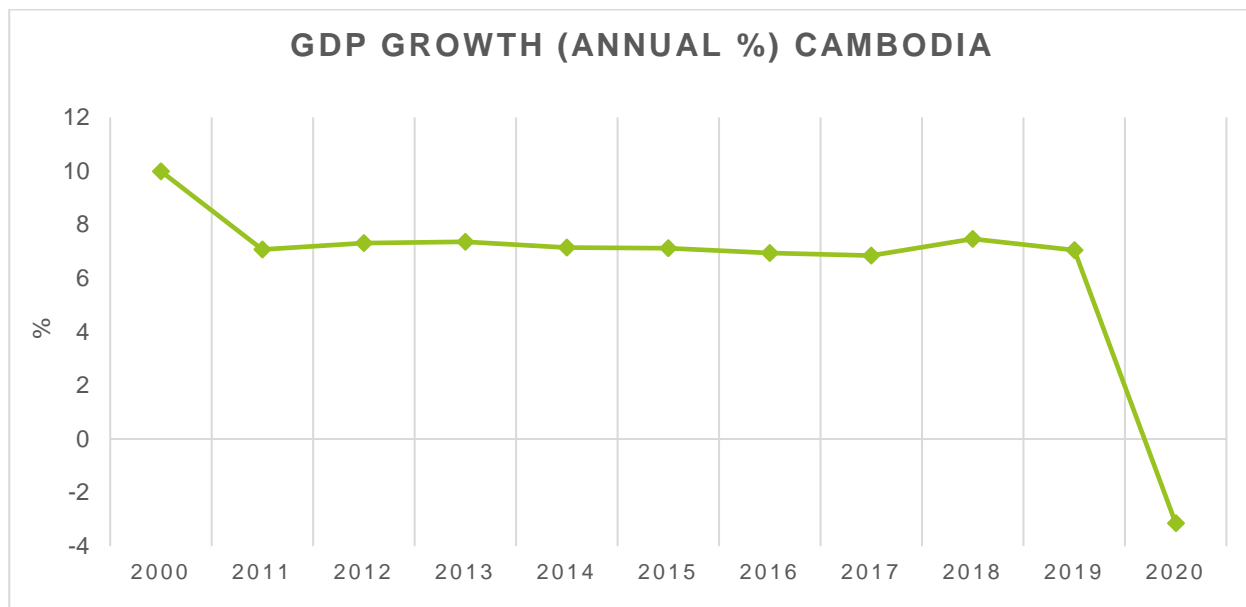
Background

93. As of August 10, 2021, Cambodia has reported 82,898 COVID-19 cases and 1,602 deaths from the virus. Agriculture, forestry, and fisheries remain an important contributor to Cambodia's GDP, comprising 22.8 percent of its GDP in 2020, up 2 percent from 2019²⁰⁸. Despite widespread economic fallout from the pandemic, the Royal Government of Cambodia considers the agri-food sector the only sector that has not been severely affected by the pandemic. However, decreased imports of agri-food

²⁰⁸ Agriculture, forestry, and Fishing, value added (% of GDP) - CAMBODIA. World Bank. (n.d.). <https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS?locations=KH>.

products from neighboring countries have underscored the importance of domestic food security and renewed government support for domestic agri-food production. For example, in 2020 agri-food imports from Vietnam and Thailand were limited, or cut completely, due to the pandemic prompting the Ministry of Agriculture, Forestry, and Fisheries to emphasize smallholder and domestic agricultural production to meet increasing domestic demand and support the local agri-food economy. To ensure adequate domestic supply of agri-food products, the government implemented various trade measures such as bans and suspensions of rice and fish exports and implemented price controls and monitoring.

Figure 31: GDP Growth



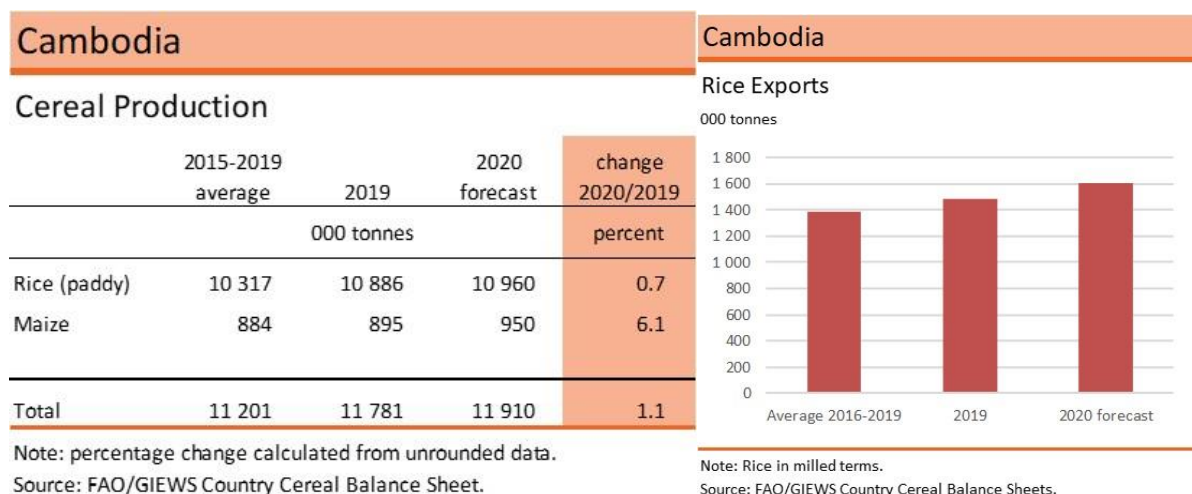
Source: World Bank National Accounts Data and OECD National Account Data Files, <https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=KH>

94. Despite widespread declines in international trade, Cambodia’s agricultural exports show good growth, with the country producing more than 20 million tons of agricultural products in 2020 and exporting more than 13 million tons of agri-food products, worth \$3.433M. The export of specific commodities has increased substantially, with mango exports rising by 241 percent between January and May 2021 following an April 2021 agreement with China that certified 37 mango plantations and five packaging factories with compliant SPS standards²⁰⁹. Rice exports have also risen, a critical marker given rice is the most important agri-food product for Cambodia, contributing almost half of the entire agricultural sector’s contribution to GDP. Increased international demand for rice has led to a 38.3 percent increase in exports from the country in the first nine months of 2020 compared to the same period in 2019, reaching 0.48 million tons, however, milled rice exports were down in the first quarter of 2021²¹⁰.

²⁰⁹ Vireak, T. (2021, April 27). *Mango exports to China at hand after customs approvals*. Phnom Penh Post. <https://www.phnompenhpost.com/business/mango-exports-china-hand-after-customs-approvals>.

²¹⁰ *Cambodia’s agriculture Sector amid COVID-19*. Open Development Cambodia (ODC). (2021, April 28). <https://opendevelopmentcambodia.net/cambodias-agriculture-sector-amid-covid-19/#ref-149389-7>.

Figure 32: Cambodian Agricultural Production and Exports



Source: FAO, <http://www.fao.org/giews/countrybrief/country.jsp?code=KHM&lang=fr>

Table 7: Cambodia - Selected Crop Statistics

Statistics for selected time period

Series / Monthly	Start	End	Data points	Perc. change %	Avg Price	Std dev.	Min Price	Min Date	Max Price	Max Date	Price Range
□ Cambodia, Wholesale, Banteay Meanchey, Rice (Mix), Riel/kg	Aug-19	Aug-21	25	5.88	1,762.60	40.50	1,700.00	Jun-20	1,800.00	Aug-21	100.00
□ Cambodia, Wholesale, Battambang, Rice (Mix), Riel/kg	Aug-19	Aug-21	25	0.00	1,527.24	42.55	1,467.00	Jun-20	1,600.00	Aug-21	133.00
□ Cambodia, Wholesale, Kampong Chhnang, Rice (Mix), Riel/kg	Aug-19	Aug-21	25	5.41	1,877.84	64.33	1,757.00	Mar-20	1,990.00	Mar-21	233.00
□ Cambodia, Wholesale, Phnom Penh, Rice (Mix), Riel/kg	Aug-19	Aug-21	25	0.00	1,674.00	94.99	1,600.00	May-21	1,800.00	Aug-21	200.00

Percent change from selected end date

Series / Monthly	latest available (t) Date	latest available (t) Value	t-1 month Date	t-1 month Value	t-1 month %Δ	t-1 %Δ in the latest 2 years	t-1 year Date	t-1 year Value	t-1 year %Δ	t-13 Months Date	t-13 Months Value	t-13 Months %Δ
□ Cambodia, Wholesale, Banteay Meanchey, Rice (Mix), Riel/kg	Aug-21	1,800.00	Jul-21	1,800.00	0.00	█	Aug-20	1,735.00	3.75	Jul-20	1,740.00	3.45
□ Cambodia, Wholesale, Battambang, Rice (Mix), Riel/kg	Aug-21	1,600.00	Jul-21	1,600.00	0.00	█	Aug-20	1,500.00	6.67	Jul-20	1,500.00	6.67
□ Cambodia, Wholesale, Kampong Chhnang, Rice (Mix), Riel/kg	Aug-21	1,950.00	Jul-21	1,983.00	-1.66	█	Aug-20	1,853.00	5.23	Jul-20	1,858.00	4.95
□ Cambodia, Wholesale, Phnom Penh, Rice (Mix), Riel/kg	Aug-21	1,800.00	Jul-21	1,800.00	0.00	█	Aug-20	1,600.00	12.50	Jul-20	1,600.00	12.50

Source: GIEWS FPMA Tool, FAO <https://fpma.apps.fao.org/giews/food-prices/tool/public/#/dataset/domestic>

95. Enhancing agri-food exports via Free Trade Agreements (FTA) and public-private partnerships have contributed to the positive agri-food sector outlook. A bi-lateral FTA with South Korea and China led to a 2.66 percent increase in goods trade between Cambodia and South Korea between 2020 and 2021. The FTA indicates 300 goods of Cambodian origin currently enjoy duty-free status with China, 95 percent of which are agri-food products. Likewise, 31 Cambodian goods, most of which are agri-food products, enjoy zero tariff preference with Vietnam. Working to enhance agri-food exports into the future, the Ministry of Agriculture, Forestry and Fisheries (MAFF) and the Japanese company, Yamato Green Co., Ltd, signed a Memorandum of Understanding in 2020 to enhance the trade of safe vegetables. The overall

export outlook remains positive, with Cambodia-US trade increasing by 24.48 percent between 2020 and 2021²¹¹.

Logistics

96. Policies to contain the spread of the virus led to disruptions in land transportation that slowed and limited the supply of produce to markets and the delivery of agricultural inputs to farmers. Having reported just 366 COVID-19 cases in all of 2020, cases surged in July of 2021. This resulted in the government implementing a highly restrictive three-tier zoning policy in 2021. Under the most restrictive red policy, residents are only allowed to leave their homes for medical emergencies, COVID-19 tests, or vaccinations. In these areas, all markets, supermarkets, and food vendors were forced to close. While red zone restrictions were lifted in May 2021, in some areas, such restrictions lasted for up to four weeks, forcing residents to depend on government-supplied food. Such restrictions had major impacts on food access. In May 2021, *The Lancet* reported in Phnom Penh 83 percent of residents faced food shortages in the coming week²¹².

97. These restrictions on movement prevented consumers from accessing agri-food products, prompting the government to facilitate the distribution of grocery packages to people in lockdown areas. MAFF and MOC collaborated to facilitate the supply and transportation of local agri-food products to central and urban markets and facilitate the delivery of agri-food products from supermarkets to households in restricted zones. The government released eight mobile units and set up a total of 11 stalls with 25 booths to stabilize commodity prices as well as curb price surges. Additionally, The Cambodia Rice Federation distributed milled rice (100 tonnes) to lockdown areas in a joint humanitarian effort with 65 private firms, banks, rice millers, packing firms, and freight firms.

98. Yet the restrictive policies disrupted rice milling operations, a critical commodity for the country, as workers were unable to travel to work and the logistics sector was unable to transport rice from mills across cities, provinces, and districts to markets and ports. These blockages prompted the Cambodian Rice Federation to release a statement in April 2021 citing the lockdown as a barrier to normal operations resulting in production and delivery delays²¹³. In March 2021, vice-president Chan Sokheang of the Cambodia Rice Federation stated that the global shipping container crisis also threatened operations, noting container shortages, high prices, and shipment delays posed a threat to the timeliness of milled-rice shipments, presented a cash-flow challenge, and increased the risk of missed loan repayments²¹⁴.

Labor Markets

99. Lockdown policies had significant impacts on labor supply as many were unable to travel to worksites, particularly workers residing in red-tiered zones. Labor was suspended largely in urban areas in industrial parks, resulting in notable impacts on garment factories, hotels, clubs, entertainment services, the transport industry, construction, and agriculture, causing many workers to lose their daily income. During the strictest lockdowns in Phnom Penh, 70 percent of respondents to a survey from *The Lancet* said they could no longer earn an income²¹⁵ and 31 percent of households eligible for the country's IDPoor program reported a drop in their incomes due to the fallout caused by the pandemic. Even businesses located outside of restricted zones were impacted as employees residing within restricted areas were unable to travel to job sites. This resulted in widespread labor shortages that prevented

²¹¹ Reported in National Survey Responses

²¹² Tatum, M. (2021). Cambodia ends Controversial COVID-19 Restrictions. *The Lancet*, 397(10289), 2035. [https://doi.org/10.1016/s0140-6736\(21\)01196-x](https://doi.org/10.1016/s0140-6736(21)01196-x)

²¹³ *Now Cambodian Rice Federation seeks understanding from buyers as logistics LOGJAM hinders deliveries - KHMER TIMES*. Khmer Times - Insight into Cambodia. (2021, April 20). <https://www.khmertimeskh.com/50842357/now-cambodian-rice-federation-seeks-understanding-from-buyers-as-logistics-logjam-hinders-deliveries/>.

²¹⁴ Kunmakara, M. (2021, March 31). *Sweeping calls for financial sector to delay loan payments*. Phnom Penh Post. <https://www.phnompenhpost.com/business/sweeping-calls-financial-sector-delay-loan-payments>.

²¹⁵ h Tatum, M. (2021). Cambodia ends Controversial COVID-19 RESTRICTIONS. *The Lancet*, 397(10289), 2035. [https://doi.org/10.1016/s0140-6736\(21\)01196-x](https://doi.org/10.1016/s0140-6736(21)01196-x)

companies from operating normally, particularly troubling for the agri-food processing sector, such as rice and seafood. Beyond large processing plants and rice mills, labor shortages are particularly troubling for MSMEs, which make up 99.8 percent of Cambodia's businesses²¹⁶. MSMEs are responsible for 70 percent of the country's employment²¹⁷ and are particularly vulnerable to the impacts of the pandemic because of low access to capital and formal safety net programs.

Digitization

100. COVID-19 has accelerated the digitization of the agri-food sector, highlighting the importance of integrating supply chains into the e-market. There are two main drivers for this acceleration. First, the pandemic increased concern for improved Sanitary and Phytosanitary measures and food safety. Second, disrupted supply chains increased the importance of using technology to match supply and demand.

101. To respond to the first driver, the MAFF began to promote the use of a QR Code System and the use of CamGAP to promote food safety. The MAFF agreement with Yamato Green Co., Ltd, signed in July 2020, aims to strengthen and expand the use of modern technology to support the cooperation, investment, and development of safe vegetable production, from cultivation, processing, packaging to exporting to domestic and foreign markets. The MAFF also supports the use of value chain technology to improve producer capacity and use of inputs, which contributes to transparency and the safe use of agri-food chemicals. Additionally, The Agriculture Sector Development Policy and Plan 2019-2023 supports increasing the use of technology in animal husbandry for breeding, feed, and enhancing productivity. Integrating technology into the agri-food sector offers potential to improve Cambodia's position as an agri-food exporter.

102. In response to the second driver, the MOC set up an online shop, Super App, to provide free food delivery to those in lockdown areas and leveraged social media to disseminate government information and monitor prices. The MOC also began using Green Trade Company's (GTC) mobile units help to facilitate purchasing during market closures in restricted areas. Beyond facilitating the trade of agri-food products online, the government leveraged technology to provide cash transfers under the National Social Protection Council via the Cash Transfer Programme for Poor and Vulnerable Households during COVID-19. This cash transfer program allowed households to leverage digital technology such as tablets for quick registration and verification for CCTs under the IDPoor program and access a mobile payment system to receive money quickly.

Fiscal Support

103. Cambodia implemented a range of fiscal support mechanisms to support its citizens through the economic fallout the pandemic caused. In February 2021, the MAFF contracted with representatives of 16 agri-food clusters to supply 3,4000 tonnes (\$1.4 M value) of produce and poultry to local markets as part of the government's strategy to ensure the domestic supply of agri-food products. The MAFF and MOC also are actively engaging in contract farming and subsidizing food in urban and restricted areas and enhancing support for the Public-Private-Development Partners-Agricultural Community. To support SMEs in the agri-food sector, the Agricultural and Rural Development Bank is issuing loans to agriculture cooperatives of smallholders with low-interest rates (0.8 percent per month) and offering \$1000 grants for agricultural households. Decrees for banks and micro-finance institutions to delay or suspend loan repayments and interest generation also aim to relieve some of the economic burden of businesses and workers.

²¹⁶ Vireak, T. (2021, June 27). *Cambodia celebrates first International MSME Day*. Cambodia celebrates first International MSME Day | Phnom Penh Post. <https://www.phnompenhpost.com/business/cambodia-celebrates-first-international-msme-day>.

²¹⁷ Thorng, R. (2021). *Ways Forward for Resilient Cambodian Food MSMEs*. Mekong Institute. https://www.mekonginstitute.org/uploads/tx_ffpublication/Ways_Forward_for_Resilient_Cambodian_Food_MSMEs_Final_June_25_2021.pdf.

104. Supporting those outside of the agri-food sector is equally important. To address childhood food insecurity, the School Feeding Breakfast Program aided 300,000 children in nine provinces with school closures, and the MAFF, in partnership with the FAO, launched a project to directly support 10,000 of the most vulnerable people affected by the COVID-19 crisis. The Cash Transfer Programme for Poor and Vulnerable Households during COVID-19 under the IDPoor Programme remains one of the country's most significant programs to support its citizens. Using a digital government-to-people instant cash transfer model, the program supports over 2.7 million people with cash. As of June 2021, \$332M had been dispersed to 693,000 households, averaging \$30M per month. The government has also provided \$4M to support 60,000 households under lockdown and \$2.8 M to support the country's most vulnerable households.

External Market Shocks

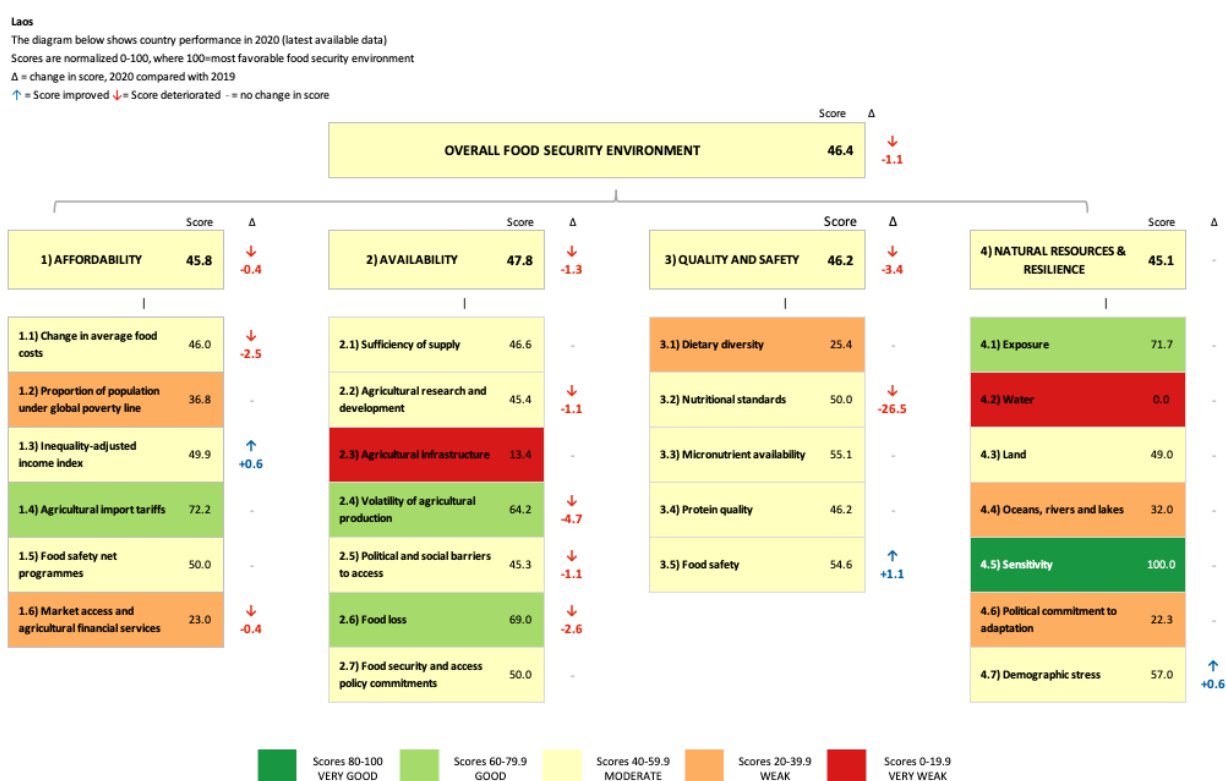
105. The pandemic resulted in a range of external shocks to the market, mainly centering around policies that restricted the free flow of trade. Trade flows slowed due to border closures, decreasing the amount of imported agri-food products, specifically produce, from Thailand and Vietnam. Exports from Cambodia to some neighboring countries decreased as well. For example, exports to Thailand decreased by 48.93 percent (\$329.54M) in the first quarter of 2021. These changes in agri-food trade, specifically the decline in imports, increased the demand for domestically produced rice, fish, poultry, and meat and caused temporary price shocks in March and April in 2020. Contributing to price increases were traders artificially increasing prices for profit, prompting the government to engage in heightened price monitoring. However, survey results suggest such price shocks have since stabilized. Lastly, while other countries experienced spikes in demand resulting from food security fears, Cambodia was able to avoid the rampant stockpiling witnessed in other countries with the aid of communications campaigns to ensure citizens had accurate information of domestic food supply.

B. Lao PDR

Key Points

- Transportation disruptions slowed the delivery of key agricultural inputs
- Lao PDR's economy contracted significantly in 2020, after relatively stable growth over the last two decades
- A unique trend in Lao PDR, the pandemic has pushed *more* workers into the agri-food sector
- The digitization of the agri-food sector is likely to be hampered by low internet connectivity rates

Figure 33: Food Security Assessment: Lao PDR Food Security Performance in 2020 (most recent data), compared with 2019



Source: The Global Food Security Index (GFSI), Economist Intelligence Unit and Corteva Agriscience, <https://foodsecurityindex.eiu.com/Home/About>

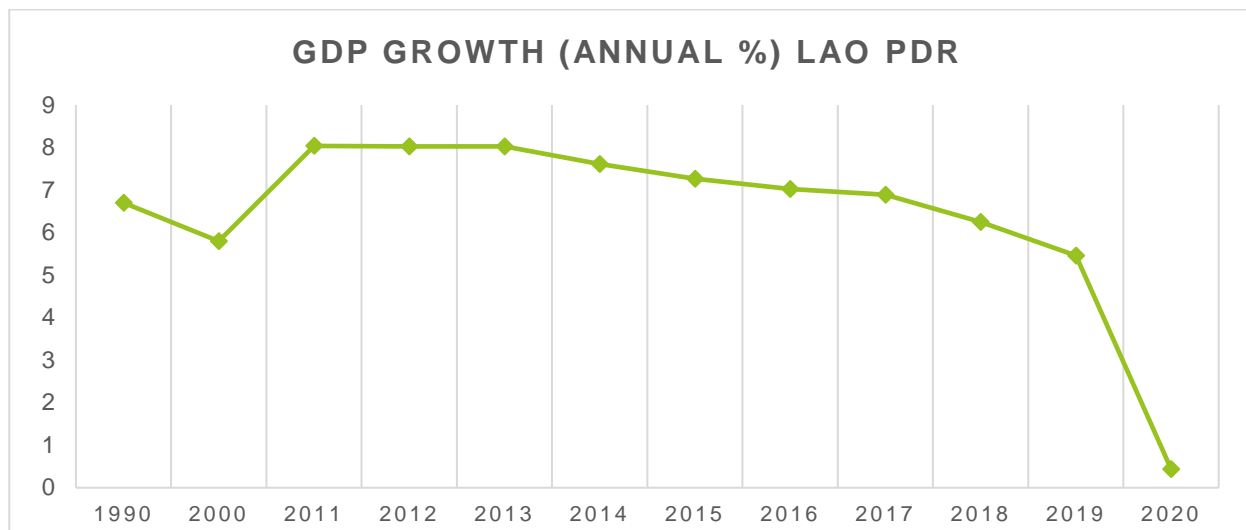
Background

106. As of August 10, 2021, COVID-19 cases in Lao PDR were at their peak, with 8,392 infections and 8 deaths reported since the pandemic began. The World Bank reports that the pandemic has caused the first recession in Lao PDR since the Asian financial crisis of 1997 with its GDP growth rate falling by 0.5 percent in 2020²¹⁸. However, the agri-food sector has been resilient, contributing an added percentage point to the country's GDP between 2019 and 2020. Agriculture, forestry, and fisheries are an important sector for Lao PDR, contributing 16.19 percent to Lao PDR's GDP and employing 61 percent of the labor

²¹⁸ Asian Development Bank. (2021, May 15). *Lao PDR: Economy*. Asian Development Bank. <https://www.adb.org/countries/lao-pdr/economy>.

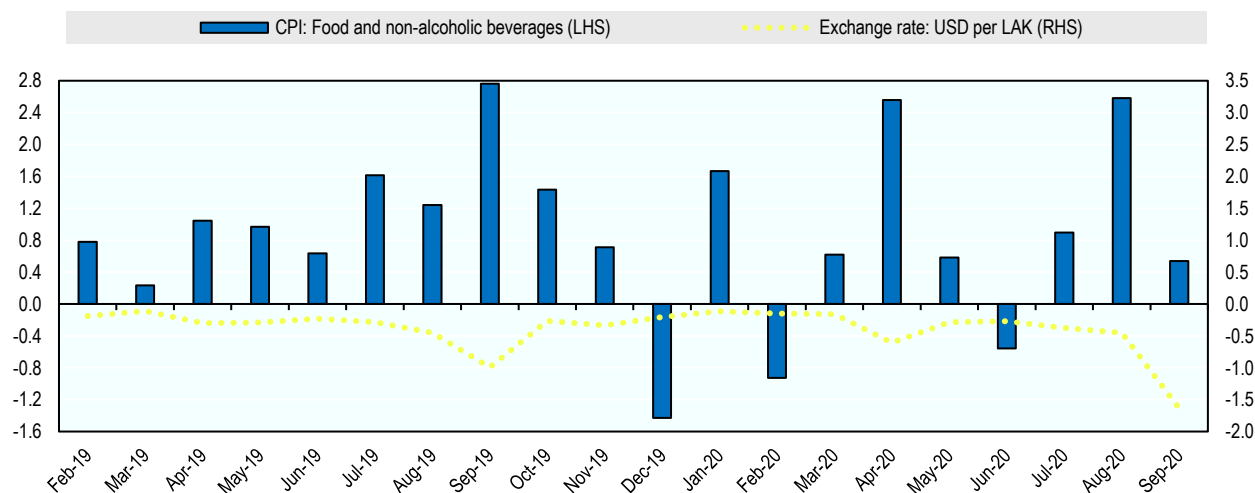
force²¹⁹. Three-quarters of households in Lao PDR get income from family farming and agriculture is a livelihood for 80 percent of households²²⁰. The pandemic has resulted in per capita GDP falling by 1.9 percent in 2020, following robust growth in 2019 at 3.1 percent²²¹. The country is experiencing reductions in income along with declines in remittance inflows, resulting in food insecurity among vulnerable households. To mitigate food insecurity, Lao PDR has established rice reserves at two levels. First, via national rice reserves of 400,000 tons of paddy rice, and second, public rice reserves mainly focused on community rice banks in village clusters or areas that are at risk by natural disasters.

Figure 34: GDP Growth



Source: <https://databank.worldbank.org/reports.aspx?source=2&series=NY.GDP.MKTP.KD.ZG&country=LAO#>

Figure 35: Consumer price index for food and exchange rate against US dollar in Lao PDR, 2019-20, month-on-month percentage change



Note: Exchange rate is defined in terms of USD per Lao kip (LAK) and refers to the monthly average.

Source: OECD Development Centre calculations based on data from CEIC and national sources
<https://doi.org/10.1787/888934228761>

²¹⁹ Employment in AGRICULTURE (% of total EMPLOYMENT) (modeled ILO estimate) - Lao PDR. Data. (n.d.). <https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS?locations=LA>.

²²⁰ Lao economic Monitor, January 2021: Supporting economic recovery, Thematic section:1 Livelihoods in the Time of COVID-19. World Bank. (2021, January 11). <https://www.worldbank.org/en/country/lao/publication/lao-economic-monitor-january-2021-supporting-economic-recovery>.

²²¹ Asian Development Bank. (2021, May 15). Lao PDR: Economy. Asian Development Bank. <https://www.adb.org/countries/lao-pdr/economy>.

107. Maize output fell 20 percent below five-year averages in 2020, partially due to a severe drought, resulting in the lowest maize exports in five years due to low export availability²²². Lao PDR has a self-sufficient rice industry, only exporting small volumes to neighboring countries, however, rice cultivation occupies 60 percent of airable land in the country²²³. In 2021, rice exports are expected to increase by 66 percent from 2020 from 90,000 tonnes to 150,000 tonnes²²⁴. In 2020, 80 percent of exported produce was sold to China²²⁵. The northern regions of Lao PDR are experiencing a second consecutive decrease in cereal production, which threatens household food consumption and income for farmers. However, in an FAO survey conducted in April 2020, respondents did not report significant reductions in the level of agricultural activity and access to agricultural inputs. In the same survey, 40 percent of respondents saw an average harvest, while 27 percent predicted poor or very poor harvests and 20 percent predicted good or excellent harvests²²⁶.

Table 8: Lao PDR – Selected Crop Statistics

Statistics for selected time period

Series / Monthly	Start	End	Data points	Perc. change %	Avg Price	Std dev.	Min Price	Min Date	Max Price	Max Date	Price Range
□ Lao People's Democratic Republic, Retail, Champasack, Rice (Glutinous,first quality), Kip/kg	Oct-09	Jul-21	138	134.85	6,774.33	1,051.30	3,300.00	Oct-09	8,250.00	Nov-19	4,950.00
□ Lao People's Democratic Republic, Retail, Khammouane, Rice (Glutinous,first quality), Kip/kg	Jan-06	Nov-20	166	192.68	5,750.15	1,285.04	3,000.00	Feb-06	10,000.00	Oct-19	7,000.00
□ Lao People's Democratic Republic, Retail, Savannakhet, Rice (Glutinous,first quality), Kip/kg	Jan-06	May-21	173	151.97	5,593.66	1,462.84	3,175.00	Mar-06	9,000.00	Mar-21	5,825.00
□ Lao People's Democratic Republic, Retail, Vientiane Capital, Rice (Glutinous,first quality), Kip/kg	Jan-06	Jul-21	184	150.45	7,332.66	1,527.18	3,660.00	May-06	9,500.00	Oct-19	5,840.00
□ Lao People's Democratic Republic, Retail, Vientiane Capital, Rice (Ordinary,first quality), Kip/kg	Jan-06	May-21	182	111.86	8,638.02	1,548.74	4,720.00	May-06	10,750.00	Oct-19	6,030.00

Percent change from selected end date

Series / Monthly	latest available (t) Date	latest available (t) Value	t-1 month Date	t-1 month Value	t-1 month %Δ	t-1 %Δ in the latest 5 years	t-1 year Date	t-1 year Value	t-1 year %Δ	t-13 Months Date	t-13 Months Value	t-13 Months %Δ
□ Lao People's Democratic Republic, Retail, Champasack, Rice (Glutinous,first quality), Kip/kg	Jul-21	7,750.00	Jun-21			-----	Jul-20	7,750.00	0.00	Jun-20	7,750.00	0.00
□ Lao People's Democratic Republic, Retail, Khammouane, Rice (Glutinous,first quality), Kip/kg	Nov-20	9,000.00	Oct-20	9,000.00	0.00	█	Nov-19	9,000.00	0.00	Oct-19	10,000.00	-10.00
□ Lao People's Democratic Republic, Retail, Savannakhet, Rice (Glutinous,first quality), Kip/kg	May-21	8,000.00	Apr-21	8,250.00	-3.03	█	May-20	8,000.00	0.00	Apr-20	8,500.00	-5.88
□ Lao People's Democratic Republic, Retail, Vientiane Capital, Rice (Glutinous,first quality), Kip/kg	Jul-21	9,166.50	Jun-21			█	Jul-20	8,833.00	3.78	Jun-20	9,000.00	1.85
□ Lao People's Democratic Republic, Retail, Vientiane Capital, Rice (Ordinary,first quality), Kip/kg	May-21	10,000.00	Apr-21	10,000.00	0.00	█	May-20	10,000.00	0.00	Apr-20	10,500.00	-4.76

Source: GIEWS FPMA Tool, FAO <https://fpma.apps.fao.org/giews/food-prices/tool/public/#/dataset/domestic>

²²² Country Briefs Lao People's Democratic Republic. FAO GIEWS Country brief ON Lao People's Democratic Republic -. (n.d.). <http://www.fao.org/giews/countrybrief/country.jsp?code=LAO&lang=en>

²²³ United States Department of Agriculture Foreign Agricultural Service (2021, June 12) Laos Rice Report Annual. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Laos%20Rice%20Report%20Annual_Bangkok_Laos_06-08-2020

²²⁴ Country Briefs Lao People's Democratic Republic. FAO GIEWS Country brief ON Lao People's Democratic Republic -. (n.d.). <http://www.fao.org/giews/countrybrief/country.jsp?code=LAO&lang=en>

²²⁵ Bananas remain TOP Lao agricultural export. Xinhua. (n.d.). http://www.xinhuanet.com/english/asiapacific/2021-03/17/c_139816730.htm.

²²⁶ COVID-19 rapid assessment of food security and agriculture in Lao PDR. UN World Food Programme. (n.d.). <https://www.wfp.org/publications/covid-19-rapid-assessment-food-security-and-agriculture-lao-pdr>.

Logistics

108. COVID-19 cases continue to rise in July and August 2021. This is notable for the agri-food sector, as these months fall in the wet season in Lao PDR, during which the majority of rice production occurs. Therefore, it is likely that the impact of the pandemic on the local agri-food sector will be felt in September and October, the start of the dry season. This spike in cases has brought stricter containment measures in the country, however, the government has excluded agricultural production and fisheries from lockdown policies. By March and June of 2020, a World Bank survey indicated 92 percent of family farms were operating normally²²⁷. Still, village blockades reportedly impacted the local trading of fresh foods, vegetables, fruits, legumes, staple crops, meat, and fish. In an FAO survey, 37 percent of respondents survey reported issues regarding input suppliers stemming from transport services for the provision of inputs²²⁸. The same survey cited stay-at-home orders and restrictions on transport as barriers to normal operations. As expected, the restriction of movement across the country has had visible effects on the size of markets and the availability of agri-food products, leaving agri-food products unsold in some regions while shortages caused price increases in others. This is due to transportation disruptions and decreased activity of mobile traders and middlemen from upstream supply chains. Lao PDR also reported increased costs in raw materials such as seeds, pesticides, and fertilizer, which strains the incomes for many smallholder farmers²²⁹.

109. Cross-border trade was also a concern for the country. Truck drivers transporting imported goods were required to obtain health guarantee certifications from their country of origin and at border crossings, all goods are required to be reloaded at designated areas with strict sanitation measures. These added protocols effectively slowed supply chains and created bottlenecks at ports and crossing. As exports slowed and businesses closed, Lao PDR experienced a decline in demand for agri-food products and a reduction in the market outlets available for commercial farmers. The government has worked to address logistics concerns, provided transport permits for traders and collectors, implemented strict sanitation measures, and allocating specific agricultural product retail spots to restore market access for both producers and consumers.

Labor Markets

110. In June 2021, the Ministry of Labor and Social Welfare reported 114,000 people unemployed and 130,000 returning workers were affected by COVID-19. In May 2020, an ADB survey conducted in four of Lao PDR's major tourist destinations indicated half of the surveyed enterprises were closed and 70 percent of enterprises reduced employment²³⁰. Exasperating problems for the agri-food sector was the closure of hotels and restaurants, which many agri-food producers relied on as buyers for their products. This resulted in declines in income for farmers and hospitality workers and heightened unemployment for vulnerable people. The decline in the tourism economy caused additional concern for laborers which contributed to 4.6 percent of the country's GDP and employs upwards of 54,000 people, over half of whom were women²³¹. In March 2020, international travelers were barred from entering Lao PDR and

²²⁷ *Lao economic Monitor, January 2021: Supporting economic recovery, Thematic section:1 Livelihoods in the Time of COVID-19.* World Bank. (2021, January 11). <https://www.worldbank.org/en/country/lao/publication/lao-economic-monitor-january-2021-supporting-economic-recovery>.

²²⁸ *COVID-19 rapid assessment of food security and agriculture in Lao PDR.* UN World Food Programme. (n.d.). <https://www.wfp.org/publications/covid-19-rapid-assessment-food-security-and-agriculture-lao-pdr>.

²²⁹ Ibid.

²³⁰ Yamano, T., Pradhananga, M., Schipani, S., Samson, J. N., Quiao, L., Leuangkhamsing, S., & Maddawin, A. (2020). The Impact Of Covid-19 On Tourism Enterprises In The LAO People's DEMOCRATIC Republic: An Initial Assessment. <https://doi.org/10.22617/brf200187-2>

²³¹ Yamano, T., Pradhananga, M., Schipani, S., Samson, J. N., Quiao, L., Leuangkhamsing, S., & Maddawin, A. (2020). The Impact Of Covid-19 On Tourism Enterprises In The LAO People's DEMOCRATIC Republic: An Initial Assessment. <https://doi.org/10.22617/brf200187-2>

interprovincial travel was banned and between January and September 2020, tourist arrivals to the country declined by 74 percent²³², creating a gap for agri-food suppliers with contracts with hotels.

111. A unique trend witnessed in Lao PDR was the transition of workers to the agricultural sector from other sectors after the outbreak began. The agri-food sector essentially acted as a buffer that absorbed those who lost jobs in other sectors, particularly low-skilled workers from the manufacturing, construction, and services sectors who traveled from urban centers back to rural hometowns. The World Bank reports that around 10 percent of workers laid off in manufacturing and wholesale and retail trade switched to agriculture²³³. This employment buffer calls for government support for the domestic agri-food economy and for promoting skill development for laid-off workers and returned migrants. These initiatives can help to counteract job loss in non-farm sectors.

Digitization

112. National survey responses did not indicate accelerated use of digital technology in the agri-food sector or increases in e-commerce. This may be attributed to low ICT access. The most recent data from 2017 shows just 2 percent of households in Lao PDR had internet access at home, 14 percent had in-home computers, and only 26 percent of the population was reported to be using the internet.²³⁴ However, there is room for digitization, as the pandemic increased demand for the door-to-door delivery of domestic goods and food.

Fiscal Support

113. Despite the resiliency of the agri-food sector, Lao PDR still faces economic challenges. In July 2020, 70 percent of households reported rising food prices and 37 percent of households reported reductions in food consumption²³⁵. Personal remittances, which were valued at \$296.5M in 2019, declined to \$265M in 2020²³⁶. Between March to July 2020, over half of remittance-receiving households reported declines in both domestic and international remittances. To address these economic declines, the government has implemented a series of fiscal support mechanisms including income tax exemptions for microenterprises, and for SMEs valued under 5M Kip, investor tax delays, and deductions of social insurance fees. During the 2020 lockdown, 0.5 M Kip was paid by businesses to staff and in 2021 a similar financial compensation was made. The Ministry of Labor and Social Welfare planned to increase additional fiscal support in May 2021 to support vulnerable groups including seasonal workers, migrants, poor households, and those who fall outside of traditional social protection programs; however, no implementation has been reported thus far. The government has also allocated \$4M for unspecified support. In May 2020, the government continued to provide financial support to COVID-19 affected producers via access to MSME loans, yet there is no clear policy and mitigation measure for farmers.

External Market Shocks

114. While the lockdown resulted in initial demand declines due to consumers being unable to travel to markets, demand has since stabilized. However, reduced agri-food imports from regions with high infection rates and checkpoint closures eliminated competition from foreign markets and facilitated local production for agri-food products, emphasizing the importance of local food systems. While locally produced agri-food products were elevated, the prices of imported inputs increased as the result of

²³² *Lao economic Monitor, January 2021: Supporting economic recovery, Thematic section:1 Livelihoods in the Time of COVID-19.* World Bank. (2021, January 11). <https://www.worldbank.org/en/country/lao/publication/lao-economic-monitor-january-2021-supporting-economic-recovery>.

²³³ Ibid.

²³⁴ *Digital Development.* ITU. (n.d.). <https://www.itu.int/en/ITU-D/Statistics/Dashboards/Pages/Digital-Development.aspx>.

²³⁵ *Lao economic Monitor, January 2021: Supporting economic recovery, Thematic section:1 Livelihoods in the Time of COVID-19.* World Bank. (2021, January 11). <https://www.worldbank.org/en/country/lao/publication/lao-economic-monitor-january-2021-supporting-economic-recovery>.

²³⁶ *Personal Remittances, Received (Current Us\$) - Lao PDR.* Data. (n.d.). <https://data.worldbank.org/indicator/BX.TRF.PWKR.CD.DT?locations=LA>.

slowed supply chains, which impacted the cost of production for smallholders. In a national survey, 36 percent of respondents reported some problems accessing essential inputs such as seeds and fertilizers, while 7 percent of respondents reported major problems accessing these inputs²³⁷. This could ultimately have an impact on agricultural output and drive prices up even further.

115. False information about cases induced price hikes for food products in local areas dependent on imports and in April 2020 and in May/April 2021. This prompted the government to implement price controls and prohibited the withholding of merchandise or raising prices on necessary items needed to combat the outbreak. Trade inspectors and The Ministry of Industry and Commerce also enhanced surveillance to control prices, implementing fines and punishments on violators, and increasing weekly monitoring reports to a more frequent schedule.

²³⁷ *COVID-19 rapid assessment of food security and agriculture in Lao PDR*. UN World Food Programme. (n.d.). <https://www.wfp.org/publications/covid-19-rapid-assessment-food-security-and-agriculture-lao-pdr>.

C. Myanmar

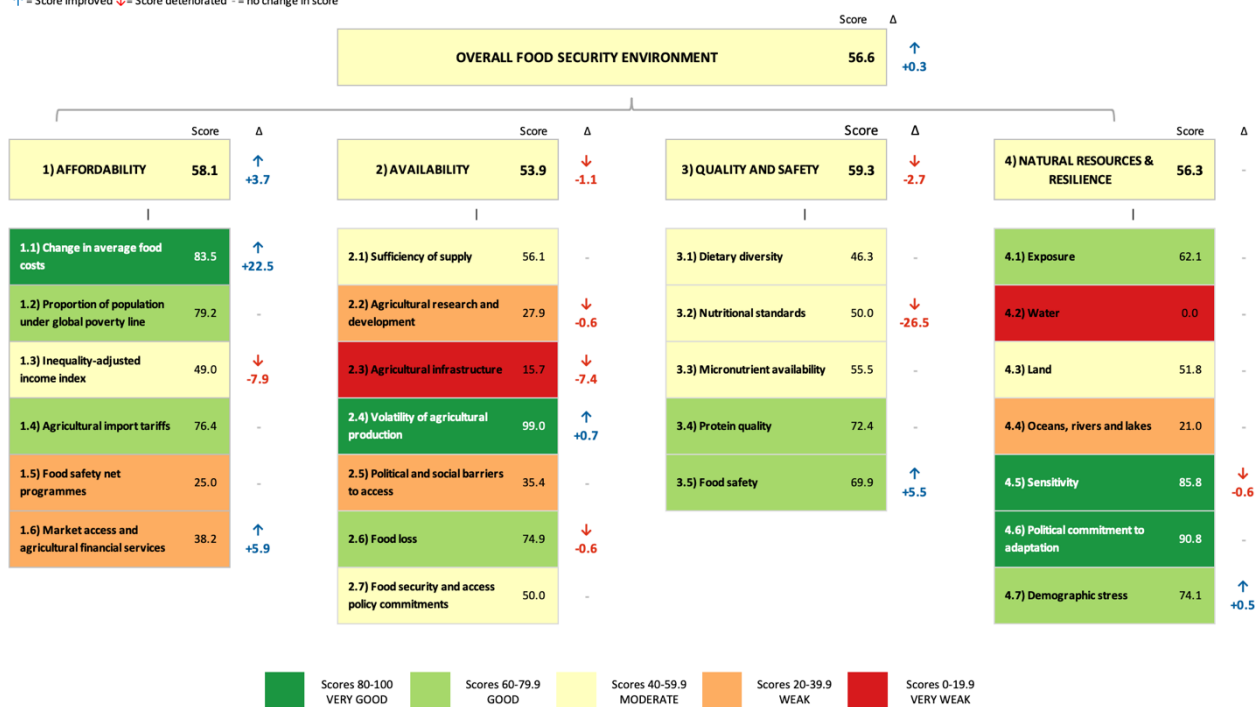
Key Points

- Difficulties accessing agricultural markets and low prices are cited as constraints for the agrifood sector
- The high prevalence of rain dependant crops is resulting in heterogenous crop output for the 2021 growing season
- Food insecurity remains a major concern for the country, with 45 percent of farming communities expecting reduced agricultural yield in 2021²³⁸ and 22 percent of surveyed farmers reducing area farmed²³⁹
- The pandemic caused the disruptions of between 6.9 and 7.3 million jobs in Myanmar
- Broad fiscal support from the government seeks to remedy economic fallout caused by the pandemic

Figure 36: Food Security Assessment: Myanmar Food Security Performance in 2020 (most recent data), compared with 2019

Myanmar

The diagram below shows country performance in 2020 (latest available data)
 Scores are normalized 0-100, where 100=most favorable food security environment
 Δ = change in score, 2020 compared with 2019
 ↑ = Score improved ↓ = Score deteriorated - = no change in score



Source: The Global Food Security Index (GFSI), Economist Intelligence Unit and Corteva Agriscience, <https://foodsecurityindex.eiu.com/Home/About>

Background

116. As of November 11, 2021, there have been 510,725 infections and 18,882 coronavirus-related deaths in Myanmar since the start of the pandemic. Agriculture, forestry, and fisheries remain an important contributor to Myanmar's GDP, comprising 22.28 percent in 2020, up from 22.183 percent in

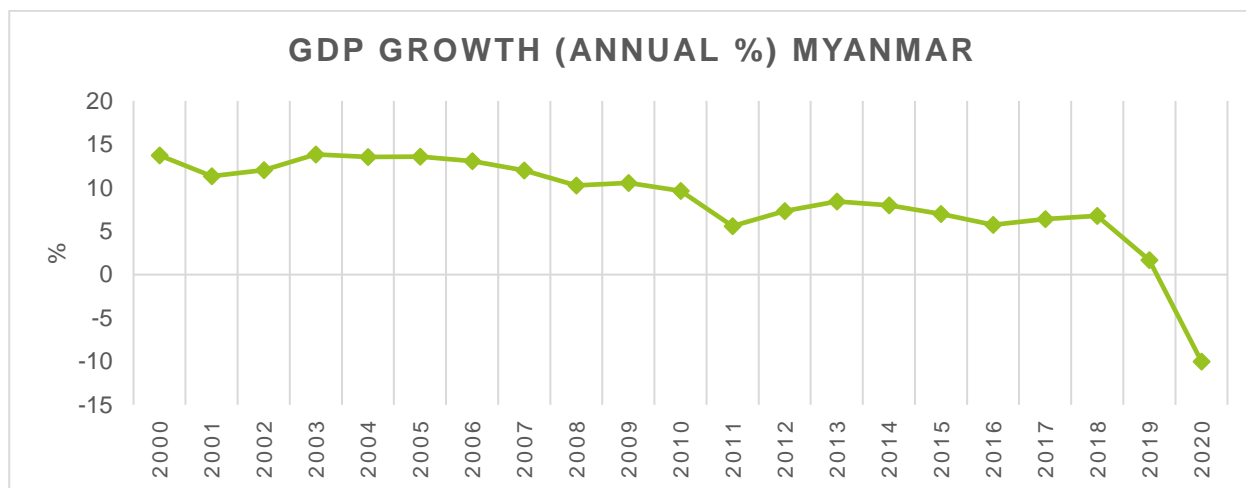
²³⁸ IFPRI. September 2021. Community perceptions of the agricultural impacts of Myanmar's health and political crises. <https://ebrary.ifpri.org/utils/getfile/collection/p15738coll2/id/134734/filename/134945.pdf>

²³⁹ FAO & WFP. 2021. Myanmar | Agricultural livelihoods and food security in the context of COVID-19: Monitoring report – May 2021. Rome. <https://doi.org/10.4060/cb5218en>

2019²⁴⁰ , and employing an estimated 56 percent of the labor force²⁴¹. Smallholders dominate the agricultural economy, with 80 percent of farmers owning less than ten acres of land²⁴². Additionally, 72 percent of the population resides in rural regions²⁴³. Rice is a critically important crop for Myanmar, contributing an estimated 14 percent to the country’s overall GDP in 2016²⁴⁴. The FAO estimates that rice exports in 2021 will reach 2 million tonnes, which represents an 11 percent decrease from 2020 production²⁴⁵. Beans and pulses are also critically important to the economy, representing USD 1.046 billion in export earnings between 2015 and 2016²⁴⁶. The decline in rice exports is attributed to below-average output and export service disruptions, particularly from China.

117. The United National Development Programme’s 2021 Global Multidimensional Poverty Index (MPI) indicates 38.3 percent of Myanmar’s population lives in multidimensional poverty, with 13.8 percent of the population in sever multidimensional poverty²⁴⁷. The COVID-19 pandemic and institutional adjustments have exasperated food insecurity in the country. Childhood stunting remains high, at 29 percent, and 46.3 percent of women of reproductive age are anemic²⁴⁸. Concerns regarding food security are exasperated by findings from the World Food Programme (WFP) and Food and Agricultural Organization (FAO) survey which found that 22 percent of respondents reduced the area of land farming in 2020²⁴⁹.

Figure 37: GDP Growth



Source: World Bank National Accounts Data and OECD National Account Data Files, <https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=KH>

²⁴⁰ Agriculture, forestry, and Fishing, value added (% of GDP) - MYANMAR. World Bank. (n.d.).

<https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS?locations=KH>.

²⁴¹ FAO & WFP. 2021. Myanmar | Agricultural livelihoods and food security in the context of COVID-19: Monitoring report – May 2021. Rome. <https://doi.org/10.4060/cb5218en>

²⁴² FAO & WFP. 2021. Myanmar | Agricultural livelihoods and food security in the context of COVID-19: Monitoring report – May 2021. Rome. <https://doi.org/10.4060/cb5218en>

²⁴³ FAO & WFP. 2021. Myanmar | Agricultural livelihoods and food security in the context of COVID-19: Monitoring report – May 2021. Rome. <https://doi.org/10.4060/cb5218en>

²⁴⁴ World Bank Group, *Myanmar Rice and Pulses: Farm Production Economics and Value Chain Dynamics*, June 2019, <https://openknowledge.worldbank.org/bitstream/handle/10986/33283/Myanmar-Rice-and-Pulses-Farm-Production-Economics-and-Value-Chain-Dynamics.pdf?sequence=1&isAllowed=y>

²⁴⁵ FAO Country Brief, Myanmar, <https://www.fao.org/giews/countrybrief/country.jsp?code=MMR>

²⁴⁶ FAO & WFP. 2021. Myanmar | Agricultural livelihoods and food security in the context of COVID-19: Monitoring report – May 2021. Rome. <https://doi.org/10.4060/cb5218en>

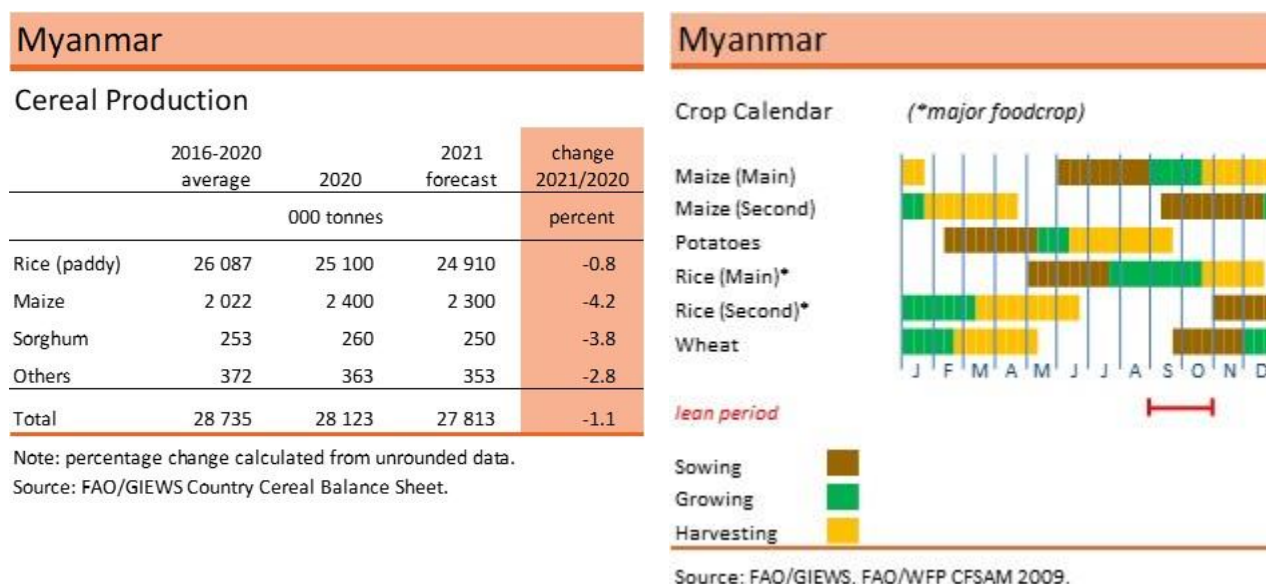
²⁴⁷ United Nations Development Programme and Oxford Poverty and Human Development Initiative, *Multidimensional Poverty Index 2021: Unmasking disparities by ethnicity, caste and gender*, (2021) http://hdr.undp.org/sites/default/files/2021_mpi_report_en.pdf

²⁴⁸ FAO & WFP. 2021. Myanmar | Agricultural livelihoods and food security in the context of COVID-19: Monitoring report – May 2021. Rome. <https://doi.org/10.4060/cb5218en>

²⁴⁹ Ibid.

118. The agricultural sector is highly seasonal and dependant on rainfall. 2021's monsoon season resulted in normal to above normal precipitation, which serves as beneficial to farmers in the northern and southern parts of the country. Yet, rainfall was described as below-normal for the central part of the country, which resulted in delays in planting and ultimately crop growth, which has raised concerns for output in 2021. Cereal production is slated to decrease in all major crops (Figure 38) and 45 percent of respondents to a IFPRI survey of farming communities reported they expect reduced agricultural yield when compared with 2021 and 42 percent experienced lower output in the last 12 months, which has been attributed to drought and pests²⁵⁰. Rising food prices have compounded concerns about food security in the region. The World Food Programme estimates that an additional 3.4 million people may face food insecurity in the coming months and estimated that in mid-2020 2.8 million people were food insecure²⁵¹. The WFP also indicates food prices have increased sharply, indicating the cost of a basic food basket has increased by 20 percent since February 2021. Other commodities that have increased in cost include fuel (which has increased by 68 percent), cooking oil (which has increased by 40 percent), and rice (which has increased by 16 percent)²⁵². Such increases in prices have been attributed to inflation.

Figure 38: Myanmar Agricultural Production and Exports



Source: <https://www.fao.org/giews/countrybrief/country.jsp?code=MMR>

²⁵⁰ IFPRI. September 2021. Community perceptions of the agricultural impacts of Myanmar's health and political crises. <https://ebrary.ifpri.org/utils/getfile/collection/p15738coll2/id/134734/filename/134945.pdf>

²⁵¹ WFP and FAO. 2021. Hunger Hotspots. FAO-WFP early warnings on acute food insecurity: August to November 2021 outlook. Rome.

²⁵² WFP Myanmar, Situation Report #4, August 2021, <https://reliefweb.int/sites/reliefweb.int/files/resources/WFP%20Myanmar%20External%20Situation%20Report%20%234%20-%20August-September%202021.pdf>

Table 9: Myanmar - Selected Crop Statistics

Statistics for selected time period

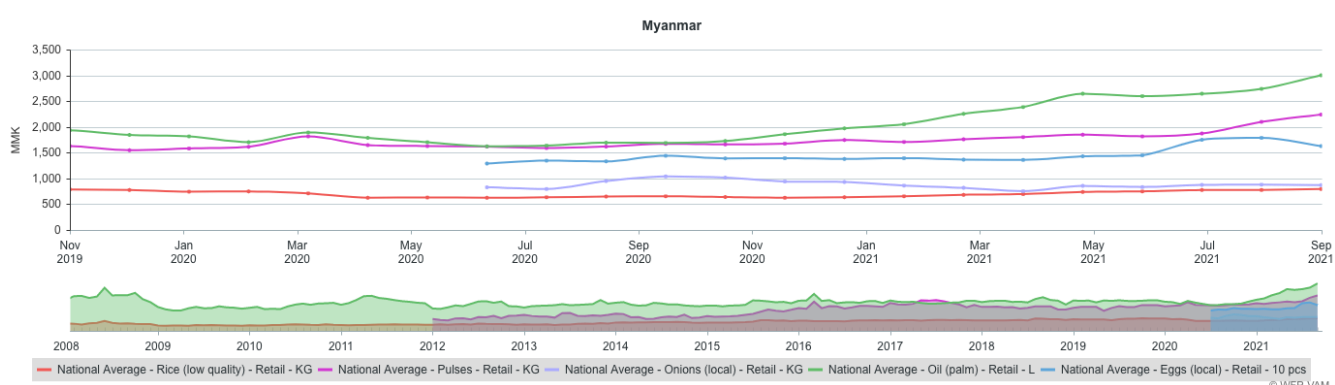
Series / Monthly	Start	End	Data points	Perc. change %	Avg Price	Std dev.	Min Price	Min Date	Max Price	Max Date	Price Range
Myanmar, Retail, Yangon, Gram, Kyat/kg	Jan-11	Oct-21	127	92.31	1,335.38	405.78	737.70	Oct-14	2,174.69	Jan-17	1,436.99
Myanmar, Retail, Yangon, Groundnut Oil, Kyat/kg	Jan-09	Oct-21	151	108.92	2,611.17	462.85	1,752.18	Apr-09	3,953.85	Oct-21	2,201.67
Myanmar, Retail, Yangon, Rice (Emata, Medium), Kyat/kg	Jan-11	Oct-21	127	63.31	503.46	108.25	359.37	Jan-12	726.95	Nov-18	367.58
Myanmar, Wholesale, Yangon, Rice (Emata, EHYV-FQ), Kyat/kg	Jan-10	Jul-21	118	62.39	413.20	79.65	276.18	Apr-12	606.25	Feb-21	330.07
Myanmar, Wholesale, Yangon, Rice (Emata, Manawthukha-FQ), Kyat/kg	Jan-11	Oct-21	120	84.73	414.26	77.29	276.76	Apr-12	572.57	Feb-21	295.81

Percent change from selected end date

Series / Monthly	latest available (t) Date	latest available (t) Value	t-1 month Date	t-1 month Value	t-1 month %Δ	t-1 %Δ in the latest 5 years	t-1 year Date	t-1 year Value	t-1 year %Δ	t-13 Months Date	t-13 Months Value	t-13 Months %Δ
Myanmar, Retail, Yangon, Gram, Kyat/kg	Oct-21	2,145.50	Sep-21	2,158.64	-0.61		Jul-20	1,532.50	40.00	Jun-20	1,574.29	36.28
Myanmar, Retail, Yangon, Groundnut Oil, Kyat/kg	Oct-21	3,953.85	Sep-21	3,678.00	7.50		Jul-20	3,065.00	29.00	Jun-20	3,065.00	29.00
Myanmar, Retail, Yangon, Rice (Emata, Medium), Kyat/kg	Oct-21	647.22	Sep-21	663.30	-2.42		Jul-20	562.80	15.00	Jun-20	603.30	7.28
Myanmar, Wholesale, Yangon, Rice (Emata, EHYV-FQ), Kyat/kg	Jul-21	495.00	Jun-21	499.49	-0.90		Feb-20	501.21	-1.24	Jan-20	474.59	4.30
Myanmar, Wholesale, Yangon, Rice (Emata, Manawthukha-FQ), Kyat/kg	Oct-21	568.53	Sep-21	554.11	2.60		Mar-20	493.78	15.14	Feb-20	443.97	28.06

Source: GIEWS FPMA Tool, FAO, <https://fpma.apps.fao.org/giews/food-prices/tool/public/#/dataset/domestic>

Figure 39: Selected Food Prices November 2019 - 2021



Source: VAM Economic Explorer, World Food Programme, https://dataviz.vam.wfp.org/economic_explorer/prices?adm0=273

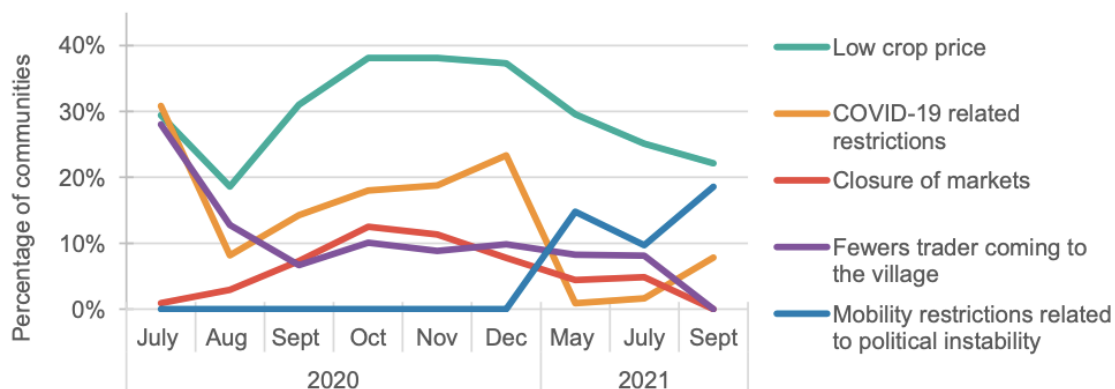
Logistics

119. As in many parts of the world, lockdown measures to control the spread of the virus resulted in logistical disruptions for the agrifood sector. Survey respondents for this report indicated that transportation was a barrier to selling products from production areas, which resulted in destroying food, rotting food, stockpiling products at production sites for lack of transport, oversupply of products,

ultimately resulting in depressed food prices – however, prices have since increased. Such disruptions in lockdown areas show vulnerabilities in storage infrastructure and within the labor market. Logistical disruptions are largely attributed to SPS measures, technology, cold chain, inadequate food storage infrastructure, weak market linkages, and labor dislocation. Additionally, problems arose for product containers accessing international markets because of the difficulty of connecting the container lines and increasing freight charges. Travel restriction and health and safety checkpoints caused significant delays in the transport of fresh food, vegetables, fruits, legumes, staple crops, meat and fish.

120. Climate vulnerability and dependence on rain-fed crops put Myanmar in a weather susceptible position. The agrifood economy is thus highly seasonal and sensitive to disruptions to input supply chains. While the WFP and FAO survey on the agrifood economy found that accessing inputs was not cited as a challenge for farmers, IFPRI found that in the Central Dry Zone, 17 percent of survey respondents cited challenges addressing agricultural inputs and machinery services²⁵³. Other COVID-19 disruptions were cited, namely decreases in sales (77 percent) and lockdown restrictions. However, survey respondents for this report indicated that COVID-19 movement restrictions caused disruptions to input delivery that resulted in increased prices of agricultural inputs. These transportation disruptions were overcome via national and regional coordination and the creation of a committee by the Ministry of Agriculture, Livestock and Irrigation (MOALI,) Livestock Breeding and Veterinary Department (LBVD), and the Myanmar Livestock Federation (MLF). Additionally, 58 percent of seed vendors reported that the pandemic resulted in declines in sales²⁵⁴. Further, an IFPRI report showed agricultural marketing in 50 percent of rural communities was constrained by lockdown restrictions, exasperating issues of low output prices, and low numbers of middlemen²⁵⁵.

Figure 40: Disruptions to crop marketing (IFPRI survey)



Note: The July 2020 survey asked about disruptions to crop marketing since January 2020, following rounds asked about the last month. Source: IFPRI/IPA phone survey (July 2020-September 2021)

Source: IFPRI. September 2021. Community perceptions of the agricultural impacts of Myanmar's health and political crises. <https://ebrary.ifpri.org/utils/getfile/collection/p15738coll2/id/134734/filename/134945.pdf>

121. To address disruptions to the delivery of key agricultural inputs, the Myanmar Livestock Federation with the support of the Livestock Breeding and Veterinary Department and guidance from national and regional level committees for COVID-19, are facilitating the importation of input supplies for livestock and poultry production (such as day-old chicks), the transportation of input supplies and

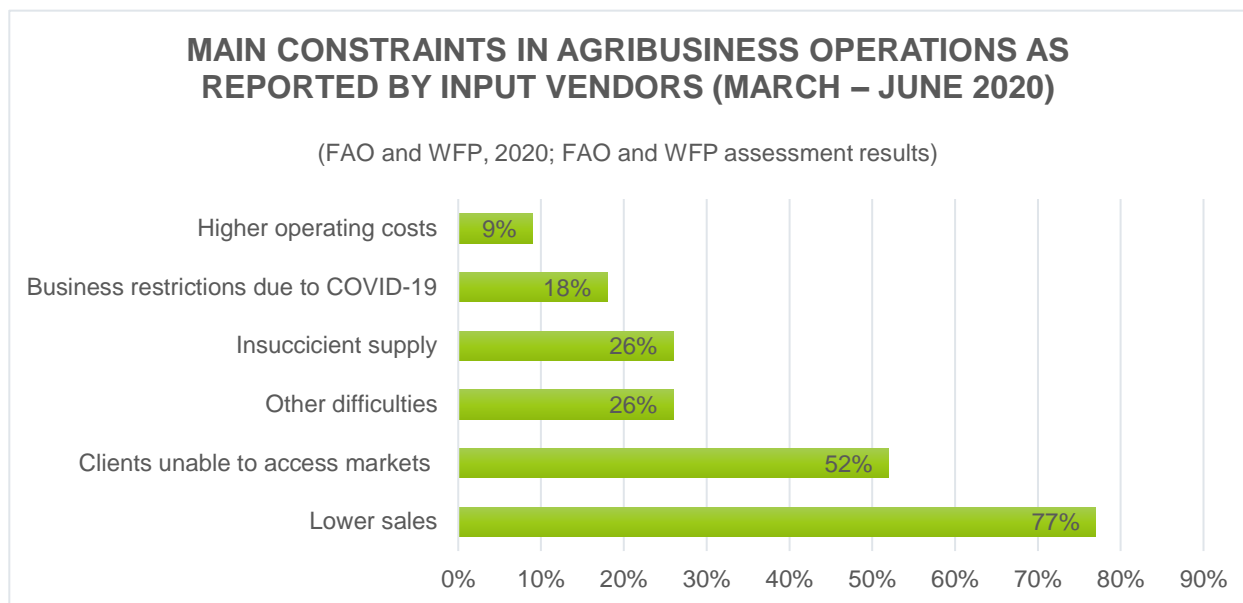
²⁵³ IFPRI. 2021. Survey: COVID-19 undermines incomes, livelihoods in rural Myanmar, <https://www.ifpri.org/blog/survey-covid-19-undermines-incomes-livelihoods-rural-myanmar>

²⁵⁴ FAO & WFP. 2021. Myanmar | Agricultural livelihoods and food security in the context of COVID-19: Monitoring report – May 2021. Rome. <https://doi.org/10.4060/cb5218en>

²⁵⁵ Goeb, J., Synt, N. L. K., Zone, P. P. & Tang, Y. 2020. Monitoring the impact of COVID-19 in Myanmar: Rice millers – October 2020 survey round. Washington, DC. International Food Policy Research Institute (IFPRI). <https://doi.org/10.2499/p15738coll2.134204>

livestock products, and distribution of products during COVID-19 travel restrictions. The goal of such an initiative is to support vulnerable groups in accessing basic needs such as meat, milk, and eggs.

Figure 41: FAO and WFP Survey Results



Source: FAO and WFP, 2020; FAO and WFP assessment results

Labor Market

122. The FAO and WFP have reported that the pandemic caused disruptions to between 6.9 and 7.3 million jobs in Myanmar²⁵⁶. Labor availability within the agricultural sector declined, notably within the fishery sector, and such labor shortages are attributed to regional, state, and township lockdowns and limited transportation options particularly within outbreak areas. Lockdowns also have negative effects on income, with 56 percent of surveyed households in the Dry Central Zone reporting losses in income in February and May 2020, according to IFPRI²⁵⁷. Reductions in income are reported to be the result of lower sales, market closures, demand reductions, and other lockdown measures. The Department of Fisheries, Ministry of Agriculture, Livestock and Irrigation reports the basic labor salary is 4800 Myanmar Kyats (USD 2.70) per day.

123. Remittances from non-farm income also reportedly declined. A survey in the Dry Central Zone by IFPRI found that 47 percent of respondents from households owning land and 55 percent of respondents from households non owning land, had trouble finding farm work since the pandemic began, and over half of respondents from both landless and land-owning households faced reduced employment opportunities and wages²⁵⁸. Such reductions in employment opportunities have been sustained throughout the pandemic. A more recent IFPRI study from 2021 found about one-third of farming communities hired fewer agricultural laborers in 2021 than in 2020²⁵⁹, this change was attributed to reduced income to pay workers. Overall, the ILO estimates that 10.2 percent of working hours were lost due to COVID-19 in 2020, while 14.5 percent of working hours were lost in 2021²⁶⁰.

²⁵⁶ FAO & WFP. 2021. Myanmar | Agricultural livelihoods and food security in the context of COVID-19: Monitoring report – May 2021. Rome. <https://doi.org/10.4060/cb5218en>

²⁵⁷ IFPRI. 2021. Survey: COVID-19 undermines incomes, livelihoods in rural Myanmar, <https://www.ifpri.org/blog/survey-covid-19-undermines-incomes-livelihoods-rural-myanmar>

²⁵⁸ Ibid.

²⁵⁹ IFPRI. September 2021. Community perceptions of the agricultural impacts of Myanmar's health and political crises. <https://ebrary.ifpri.org/utills/getfile/collection/p15738coll2/id/134734/filename/134945.pdf>

²⁶⁰ https://www.ilo.org/shinyapps/bulkexplorer44/?lang=en&segment=indicator&id=HOW_2LSS_NOC_RT_A

124. Gender equity remains an area for improvement for Myanmar. The country ranks 147th on the UNDP's Gender Inequality Index²⁶¹. Females experience higher unemployment rates when compared with males (at a ratio of 1:1.67) and more than half of working women are employed in the agricultural sector²⁶². Youth also face challenges in the context of the COVID-19 pandemic. Youth usually move from rural regions to urban hubs such as Yangon, Mandalay, and other state capitals for employment. With travel restrictions and reduced employment opportunities, youth are posed to experience employment challenges.

Digitization

125. While the role of social media, especially Facebook, is a major source of information including for food availability, collection center locations, and local markets; extensive and organized use of digital technologies to improve agricultural supply chains during the pandemic have not been widely reported.

Fiscal Support

126. Cash flow disruptions were heavily cited within the agri-food sector as a major constraint. A World Bank report found that firms in the agricultural sector were the most likely to experience cash flow shortages and reductions in credit access²⁶³. Further, lockdown measures resulted in lower prices in some regions – the WFP and FAO indicated 46 percent of agrifood producers sold products at lower prices than in 2019²⁶⁴. To mitigate against the effects of COVID-19 on the economy and society, the government released its COVID-19 Economic Relief Plan (CERP). The CEPR is a sweeping initiative that highlights seven goals, ten strategies, and includes 36 actions plans and 76 actions. This plan includes assistance from the Ministry of Agriculture, Livestock and Irrigation (MoALI), which is providing quality seeds and technical assistance to support cultivation and production. MoALI is assisting with the mechanization of farm operations to make up for the scarcity of agricultural laborers due to COVID-19. The CERP has allocated MMK 92.61 billion (USD 52,061,443) to a fund for rural economic development and has made MMK 64 billion of this funding available to smallholder farmers who lost income from reduced sales or remittances.

127. Additionally, the government has allotted MMK 38 billion (USD 21,362,000) to the reserve scheme for basic foodstuffs. In an April 22nd statement, the Ministry of Commerce announced the plan to buy and stockpile 50,000 tonnes of rice and 12,000 tonnes of oil. Rice exporting companies have been selling 10 percent of the total export volume to the country rice reserve program and as of 5 June 2020, 32,000 tonnes of rice had been purchased from 110 companies. Lastly, respondents to the survey conducted for this report stated some military camps bought cauliflower from local farmers in Shan State to compensate for their expenses of production.

128. The Ministry of Planning, Finance, and Industry (MoPFI) has implanted fiscal policy to address the economic impacts of the pandemic. These have included reducing the interest rate of the Myanmar Agricultural Bank to reduce the economic impact on farmers. MADB made MMK 362 billion (USD 273,606,659) in winter loans and MMK 18 billion (USD 13,604,751) in monsoon loans, in addition to a suite of other loans that represents an increase of MMK 63 billion (USD 47,616,629) over 2019²⁶⁵. Additional fiscal support from the government includes MMK 60 million (USD 33,729.47) for fish, eggs, and fingerling distribution, MMK 60 million (USD 33,729.47) for capacity development for fishing workers,

²⁶¹ UNDP. Gender Inequality Index, <http://hdr.undp.org/en/indicators/68606>

²⁶² UNDP. Myanmar Country Report. <http://hdr.undp.org/en/countries/profiles/MMR>

²⁶³ World Bank. 2021. Global Economic Prospects. Washington, DC, World Bank Group.

<https://www.worldbank.org/en/publication/global-economic-prospects>

²⁶⁴ FAO & WFP. 2021. Myanmar | Agricultural livelihoods and food security in the context of COVID-19: Monitoring report – May 2021. Rome. <https://doi.org/10.4060/cb5218en>

²⁶⁵ FAO. 2020. National agrifood systems and COVID-19 in Myanmar. Effects, policy responses and long-term implications. Rome. <https://doi.org/10.4060/cb1347en>

cash support for women and the elderly, a MMK 30,000 (USD 16.86) payment to pregnant women, mothers, and children under the age of two, reducing the pension age, exempting energy payments, and a variety of other social protection programs, workforce development initiatives, and support for SMEs. The FAO's *National Agrifood Systems and COVID-19 Report* provides a detailed description of such fiscal support initiatives²⁶⁶.

129. Surveys conducted for this report indicate that the MLF has a desire to implement a quarantined label for agricultural products. Such a label would require the cooperation of MOHS, MOALI, LBVD, UMFCCL, and MLF. For example, MOHS indicated the ability to provide COVID-19 test to farmers, workers, processors, and distributors and certify the negative result. The MOALI and LBVD would take the role of controlling, inspecting, and certifying the products from those farmers, and processors.

External Market Shocks

130. Lockdowns in export countries resulted in declines in exports. Logistical disruptions at ports of entry, particularly with Thailand, resulted in increased prices for Thai agrifood products, which caused consumers to shift toward the purchase of Chinese agri-food imports. The stockpiling of products (especially poultry products) in neighboring countries during COVID-19 led to increases in the illegal importation of frozen products. This disrupted the local farming sector by competing with demand.

131. A survey conducted for this report indicates there were changes in trade flows. This is largely due to traditional cross-border air and land routes being seriously disrupted by the pandemic, resulting in bottlenecks and mismatches in supply and demand. The National League for Democracy (2015-2020) made special agreements with neighboring countries such as China, India, Bangladesh, and Thailand to increase border trade and improve the legislation around cross-border trading. However, live cattle exports to China were largely disrupted in early 2020 (before COVID-19 affected Myanmar). Total trade in the country dropped by 22 percent between October 2020 and July 2021, marking a trade deficit of USD 368 million ²⁶⁷

²⁶⁶ FAO. 2020. National agrifood systems and COVID-19 in Myanmar. Effects, policy responses and long-term implications. Rome. <https://doi.org/10.4060/cb1347en>

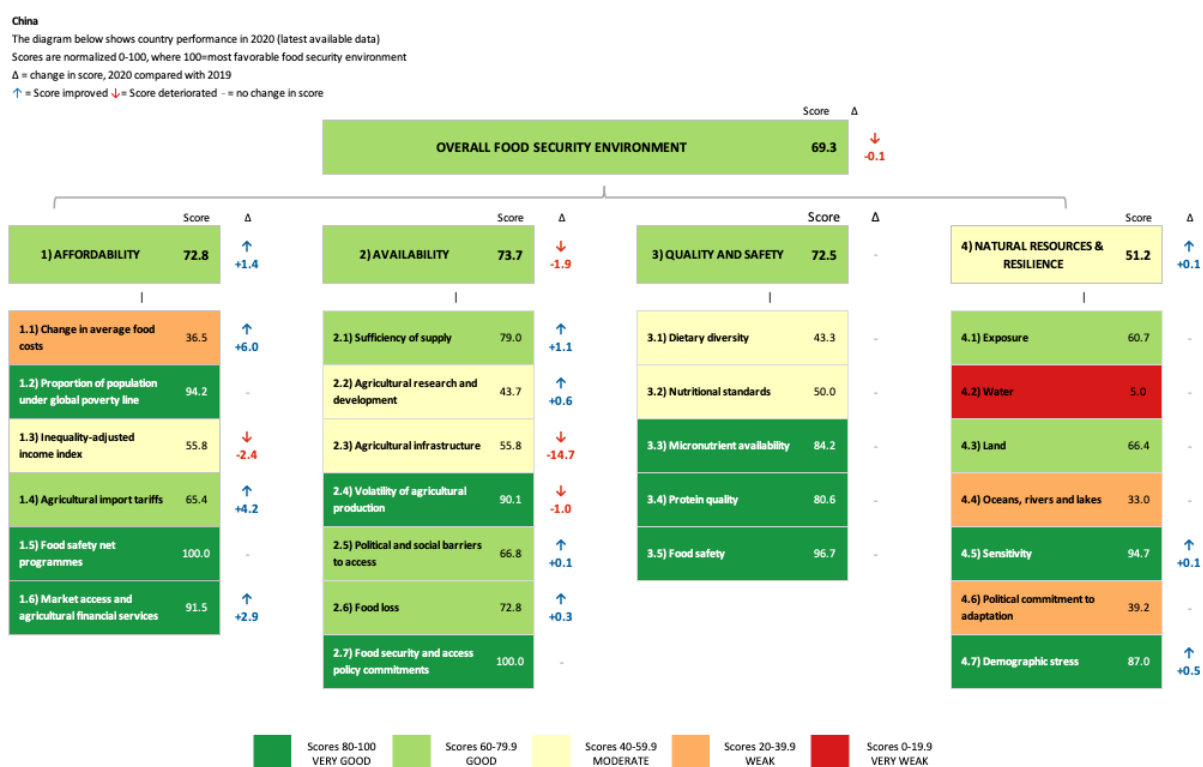
²⁶⁷ Kurtenbach, Elaine, AP. Myanmar Political Standoff Leaves Economy in Tatters. November 2021. <https://apnews.com/article/business-southeast-asia-myanmar-prices-asia-3d699e552d9efbd1e05837aa3b08146e>

D. People's Republic of China (Yunnan and Guangxi Zhuang Autonomous Region)

Key Points

- Despite the pandemic, China's agri-food sector remains stable with Yunnan and Guangxi reporting positive agricultural output, however, exports have declined to their lowest point since 2021
- The canceling of agri-food exhibitions and trade shows forced wholesalers to find alternative avenues to purchase agri-food products from producers
- Labor shortages were felt in both urban and rural settings, with reports that nearly half of migrant workers have not returned to urban centers for employment
- The use of e-commerce in the agri-food sector has exploded, with and mobile phone use (i.e., for live broadcasting) becoming an essential task for agri-food producers
- The pandemic has highlighted the need to enhance SPS requirements, particularly as it relates to livestock and wildlife

Figure 42: Food Security Assessment: China Food Security Performance in 2020 (most recent data), compared with 2019



Source: The Global Food Security Index (GFSI), Economist Intelligence Unit and Corteva Agriscience, <https://foodsecurityindex.eiu.com/Home/About>

Background

132. As of August 11, 2021, there have been 94,080 infections and 4,636 coronavirus-related deaths reported in China since the start of the pandemic. Despite this, China has maintained stable agricultural and rural economic development. The country has strengthened international cooperation to address the

locust crisis, offering control technology and material assistance to Asian and African countries to ensure global food security. Within the framework of the GMS, China is working to strengthen knowledge sharing and cooperation with ADB and Mekong countries by improving agricultural information sharing, technical cooperation, policy coordination, and fostering greater synergy in the agricultural sector to fight against the pandemic at the regional and global level.

Figure 43: GDP Growth



Source: World Bank national accounts data, and OECD National Accounts data files, <https://databank.worldbank.org/reports.aspx?source=2&series=NY.GDP.MKTP.KD.ZG&country=CHN#>

133. In April 2020, China’s production outlook for major staple food crops was positive. Wheat production grew year-over-year, accounting for over 90 percent of the summer grain and providing a solid foundation for a bumper summer grain harvest in late 2020. The area of rice planting increased, reversing a seven-year downward trend. In Yunnan, as of February 2020, the sown area of summer grain crops was 0.989 million hectares, a year-on-year increase of 1.6 percent. Agricultural inputs were expected to meet the needs of spring farming and there was a positive outlook for a bumper harvest. In Guangxi in February 2020, spring farming was progressing as normal. The area of dry-land grain planted in spring increased year-over-year by 30.6 percent and the area of seedling raising grew year-over-year as well. While the quantity of seed soaking of early rice decreased by 57.6 percent, the outlook for a bumper harvest was good in 2020.

134. However, exports declined to the lowest since 2012, with a year-on-year decrease of 18 percent, and agricultural products, particularly vegetables and tea, also declined slightly. Specifically, Yunnan’s foreign trade imports and exports dropped in 2020. To ensure the stability of grain, The Ministry of Agriculture and Rural Affairs (MARA) issued grain output goals to the provincial people's governments, taking stable grain production area as a binding indicator.

Logistics

135. A range of policies implemented to control the spread of the virus has impacted agri-food logistics, particularly hampering the transportation of agri-food products and necessary imports to and from destinations. It is reported that lockdowns and containment policies delayed the delivery of agricultural inputs, machinery, and labor to the countryside and slowed the production of fertilizers, pesticides, seeds, and other agricultural inputs including plant protection and technology extension services. The impact of delayed delivery of agricultural inputs was particularly detrimental to time-sensitive crops sensitive to

weather patterns and seasonal changes. Because COVID-19 was first detected in China, the temporal dimension of containment policies has a unique effect on the agri-food sector. Lockdowns were implemented in China in the winter of 2019/2020 before spring planting took place. In Guangxi, this resulted in decreased labor supply and resources invested in spring farming. To address this, the government implemented "Guidelines for Current Spring Plowing" to guide various regions to restore agricultural production and ensure that spring plowing and preparation were not missed, and the area of spring-sown grain was stabilized.

136. Containment policies mandated traffic controls, forced trading markets to close and restaurants to shutter, causing abrupt price changes at the early stage of the pandemic and challenging the procurement, marketing, and processing of agri-food products. The livestock industry, fragile after the African Swine flu outbreak of 2019, was particularly vulnerable to logistics disruptions. Therefore, the government set up a hotline to accept and solve problems encountered by livestock farmers and organized the delivery of grains to large farming provinces to meet animal feed demands and ensure the stabilization of the sub-sector. The slowing of supply chains caused by traffic controls, social distancing protocols, and labor shortages, introduced the risk that producers would abuse preservatives and other prohibited chemicals to extend the shelf life of their products. To address this, MARA set guidelines on chemicals and fertilizers and other inputs to ensure food safety and quality while local authorities required provisions of certificates of conformity, edible agricultural products certificates, quick inspection methods, test reports, or combined measures. By April 2020, main traffic routes were opened, however the "microcirculation" of roads through villages and towns remained blocked to control the spread of the virus, which made it difficult for some market entities to resume work and production, mainly due to practical difficulties in capital costs. Because of increased costs and health concerns, the country witnessed enterprises and merchants delaying resuming work and opening operations.

Table 10: PRC - Selected Crop Statistics

Statistics for selected time period

Series / Monthly	Start	End	Data points	Perc. change %	Avg Price	Std dev.	Min Price	Min Date	Max Price	Max Date	Price Range
China, Wholesale, Jiujiang, Rice (Indica), Yuan Renminbi/tonne	Aug-19	Aug-21	25	1.01	3,824.48	102.41	3,750.00	Nov-20	4,000.00	Aug-21	250.00
China, Wholesale, Jiujiang, Rice (Japonica), Yuan Renminbi/tonne	Aug-19	Aug-21	25	-4.21	4,141.16	41.15	4,100.00	Aug-21	4,280.00	Aug-19	180.00
China, Wholesale, Jiujiang, Wheat (flour, first grade), Yuan Renminbi/tonne	Aug-19	Aug-21	25	12.50	3,296.62	100.75	3,160.00	May-21	3,600.00	Aug-21	440.00

Percent change from selected end date

Series / Monthly	latest available (t) Date	latest available (t) Value	t-1 month Date	t-1 month Value	t-1 month %Δ	t-1 %Δ in the latest 2 years	t-1 year Date	t-1 year Value	t-1 year %Δ	t-13 Months Date	t-13 Months Value	t-13 Months %Δ
China, Wholesale, Jiujiang, Rice (Indica), Yuan Renminbi/tonne	Aug-21	4,000.00	Jul-21	4,000.00	0.00	---	Aug-20	3,750.00	6.67	Jul-20	3,750.00	6.67
China, Wholesale, Jiujiang, Rice (Japonica), Yuan Renminbi/tonne	Aug-21	4,100.00	Jul-21	4,100.00	0.00	---	Aug-20	4,160.00	-1.44	Jul-20	4,160.00	-1.44
China, Wholesale, Jiujiang, Wheat (flour, first grade), Yuan Renminbi/tonne	Aug-21	3,600.00	Jul-21	3,260.00	10.43	---	Aug-20	3,380.00	6.51	Jul-20	3,380.00	6.51

Source: GIEWS FPMA Tool, FAO <https://fpma.apps.fao.org/giews/food-prices/tool/public/#/dataset/domestic>

137. The pandemic particularly challenged supply chains stretched across long distances, as the longer the distance between producer and consumer, the higher the risk of infection was for transport employees. This had the effect of barring access between normal buyers and sellers. Compounding issues associated with supply chains, wholesale buyers were also impacted by the cancellation of agri-food exhibitions, trade shows, and on-site visits where they typically would submit orders for agri-food products. This forced wholesalers to find alternative ways to purchase goods and increased the need for

improved agricultural product logistics distribution systems, marketing models, traceability systems to ensure quality, and market competitiveness.

Labor Markets

138. Labor shortages and high labor costs were widely reported in China and caused difficulties in the procurement and marketing of agricultural products, particularly "vegetable basket", or perishable agri-food products. Labor shortages were felt in both rural and urban regions and in March 2020, and MARA reported that half of migrant workers had not returned to the city to resume work at this time. The MARA implemented a range of programs to address labor issues throughout the pandemic, developing "point-to-point and one-stop" services and cooperating with relevant departments to help migrant workers return to job sites. The Ministry also promoted local and nearby employment and encouraged key enterprises to preferentially recruit qualified farmer workers. To incentivize agricultural employment, a one-time employment subsidy was offered for employees joining the labor force. For rural laborers who stayed in hometowns to start businesses, MARA promoted the implementation of entrepreneurial subsidy policies and provided one-on-one entrepreneurship training. For those engaged in the secondary and tertiary industries in rural areas, MARA promoted leisure agriculture and rural tourism offering rural small and medium-sized enterprises credit guarantees. Lastly, MARA promoted the construction of high-standard farmland, the improvement of rural human settlements, and accelerated the construction of modern agricultural industries.

Digitization

139. The pandemic rapidly accelerated the digitization of the agri-food sector in China. Under the country's 13th Five-Year Plan, e-commerce is being actively promoted in rural areas, and national rural online retail sales have increased from 180 billion yuan in 2014 to 1.79 trillion yuan in 2020²⁶⁸. The live marketing of agricultural products online has exploded, with 388 million users. Webcasting has thus turned into a necessity for the sale of agri-food products and made it a key driver of income for farmers. In this new ecosystem, mobile phones have become a farm tool, and live broadcasting of products has become a new form of farm labor. In Yunnan and Guangxi, specifically, online live broadcasting helped promote sales of fresh vegetables and fruits. Overall, the country saw fresh food e-commerce, community vegetable stores, and community group purchases surge during the pandemic while purchases at farmers' markets dropped significantly.

140. Acknowledging this trend, the government has worked to support this transition to e-commerce, working to use technology to match production with sales. By increasing cooperation with e-commerce enterprises and online video companies to carry out online promotion and live broadcasting, the government is promoting the rapid sales of unmarketable agricultural products. MARA specifically has worked to coordinate stakeholders to carry out "point-to-point" and online and offline docking procurement activities. The Ministry has emphasized the power of mobilizing purchasers and strengthen cooperation with e-commerce platforms such as Alibaba and JD.com. Uniquely, the Ministry has also invited "net celebrities" to promote sales of agricultural products.

141. The government has also moved beyond using technology to facilitate agri-food purchases, but also launched online systems to facilitate the sale of agricultural inputs and is working to strengthened scientific and technological support for agri-food producers through television, service hotlines, telephone and WeChat consultations, online trainings, guidance, and Q&As to promote new crop varieties and new agricultural technologies.

²⁶⁸ http://www.china.com.cn/opinion2020/2021-03/07/content_77281451.shtml

Fiscal Support

142. The Institute of Food and Nutrition Development of MARA reports that since the outbreak, urban and rural residents' food access has been affected and the top five types of food that are inconvenient to buy are aquatic products (50.8 percent), meat (31.8 percent), soy products (29.2 percent), fruits (27.8 percent) and vegetables (27.4 percent). Declines in food access are ubiquitous for the region, and each country has implemented some sort of fiscal support to address the economic downturn and rise in unemployment caused by the pandemic. In China, direct support to citizens included providing wages to enrollees in local public welfare programs using income generated from the country's Solar Energy for Poverty Alleviation Program, offering unemployed seasonal workers and migrants with a minimum living wage, and doubling monthly price subsidies for urban and rural subsistence allowance recipients. Between January and June 2020, the Civil Affairs Department issued a total of 988 million yuan of temporary price subsidies, benefiting 14.83 million people in need, effectively alleviating the impact of price increases on low-income groups.

143. Additional fiscal support included increasing financial investment, gradually increasing the minimum purchase price for rice, offering temporary price subsidies, loan extensions, pausing the recording of non-performing loan records, and increasing processing speed for new loan disbursement. To control for price increases caused by the pandemic, the government is monitoring the consumer price index (CPI). When the CPI increases by 3.5 percent year-on-year or when the CPI monthly increase in food prices reaches 6 percent year-on-year, the government will issue temporary price subsidies to urban and rural subsistence allowance recipients and the extremely poor. To support businesses, the government has worked to connect relevant authorities and financial institutions to provide discounted loans for companies that guarantee the supply of "vegetable basket" products. It is offering one-time entrepreneurship subsidies and recruitment bonuses and issuing a series of subsidies and implementing minimum purchase prices for rice and wheat to support farmers during critical production times. Lastly, the government has coordinated with financial institutions to pass the extension of loan repayments, extending loan renewals, and offering enterprises affected by the pandemic a further reduction or exemption in loan interest rates.

External Market Shocks

144. Containment policies that slowed supply chains initially led to price shocks while restrictions on movement decreased the labor supply and increased labor costs. Such policies also led to restricting grain imports and exports in the region. For example, Kazakhstan and Vietnam announced restrictions on wheat and rice exports, which presented the threat of panic buying and stockpiling over fear of food shortages. However, China reported no cases of stockpiling at national or local levels thanks to robust public communications campaigns that led society to have an accurate understanding of the overall situation of national food security. Under a joint force to ensure supply and price stability, the government strengthened supervision and insurances regarding supply and price stability of agri-food products and implemented monitoring and early warning systems. This resulted in buffers from external shocks so that even when the domestic pandemic situation was severe, grain and various non-staple agri-food products remained in sufficient quantities and prices remained stable.

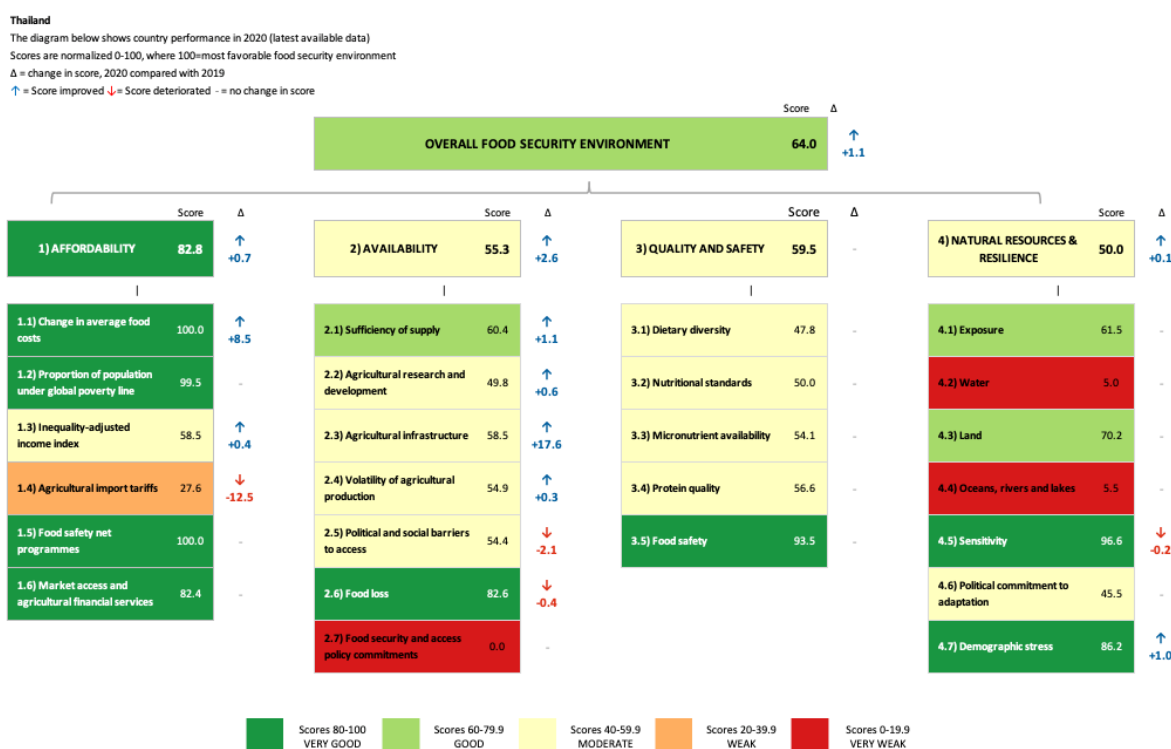
145. One unique market shock felt in the Chinese agri-food economy centered on the wildlife trade. Fear and uncertainty regarding the origin of COVID-19 led to the implementation of strict wildlife control measures, which impacted both the legal and illegal artificial turtle breeding industry and the trade of other wild or exotic animals. Such fears are thought to have driven a decline in demand for aquatic products as well. To address fears around zoonic diseases, China included major enterprises in feed, breeding, slaughtering, and processing into the list of key enterprises needed for pandemic prevention and control.

E. Thailand

Key Points

- Thailand has experienced the largest decline in economic growth in the ASEAN community, however, the agri-food sector remains stable
- Airfreight traffic has declined sharply and may hamper the trade of agri-food products
- Reliance on migrant labor in agri-food processing has caused labor shortages and emphasized the need for firms to automatize processing
- Declines in international tourism have caused a sharp increase in unemployment in the services sector
- The government has strongly promoted the use of contactless payment and e-commerce in the agri-food sector, working with producers to facilitate online transactions

Figure 44: Food Security Assessment: Thailand Performance in 2020 (most recent data), compared with 2019



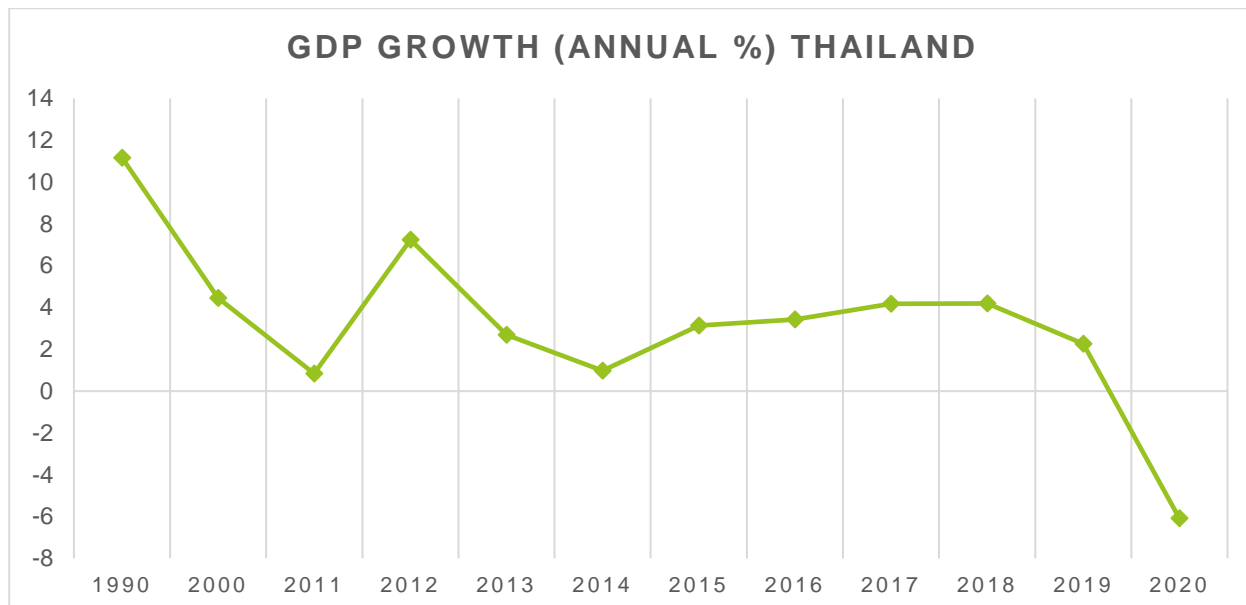
Source: The Global Food Security Index (GFSI), Economist Intelligence Unit and Corteva Agriscience, <https://foodsecurityindex.eiu.com/Home/About>

Background

146. Largely spared from high COVID-19 infection rates in 2020, Thailand experienced a surge in cases in April 2021 and by August 2021, the country saw its highest daily case rates and the largest number of COVID-19 related deaths since the beginning of the pandemic. As of August 11, 2021, the country has reported 816,989 cases and 6,795 COVID-19 related deaths. Tighter lockdowns were announced in July 2021, with domestic flights in and out of Bangkok suspended on July 20, 2021. The economic toll of the second wave of the pandemic resulted in Thailand's economy contracting by 2.6

percent in the first quarter of 2021, following a 6.1 percent drop in GDP in 2020²⁶⁹. This decline in economic growth is one of the most severe in the ASEAN community. However, in the first quarter of 2021, the agri-food sector grew slightly, by 0.1 percent ²⁷⁰, and 2020 saw agricultural exports increase by 2.2 percent ²⁷¹.

Figure 45: GDP Growth



Source: World Bank national accounts data, and OECD National Accounts data files, <https://databank.worldbank.org/reports.aspx?source=2&series=NY.GDP.MKTP.KD.ZG&country=THA#>

147. Agriculture employs 31.4 percent of Thailand’s labor force and contributes 8.6 percent to the country’s GDP²⁷². A large portion of Thailand’s agriculture is produced for export, with a market share in global food exports of 2.3 percent ²⁷³. In 2020, The Ministry of Commerce reported fresh, frozen, and dried fruits grew by 14 percent; frozen poultry grew by 15 percent; processed fruits grew by 8 percent, and seasoning sauces grew by 8 percent²⁷⁴. Export increases were attributed to imports to China, Malaysia, Hong Kong, Singapore, Russia, Cambodia, Lao PDR, Myanmar, and Vietnam. These export increases indicate that Thailand still has a trade surplus and is moving forward with standards to build confidence around food safety throughout value chains.

²⁶⁹ Thailand economic Monitor JULY 2021: The road to recovery. World Bank. (n.d.). <https://www.worldbank.org/en/country/thailand/publication/thailand-economic-monitor-july-2021-the-road-to-recovery>.

²⁷⁰ Ibid.

²⁷¹ Pum. (2021, February 10). สินค้าเกษตรไทยยังเหนือหอม ส่งออกผิดแต่ได้เปรียบดุลการค้า. ประชาชาติธุรกิจ. <https://www.prachachat.net/economy/news-611304>.

²⁷² Agriculture, forestry, and Fishing, value added (% of GDP) - Thailand. Data. (n.d.).

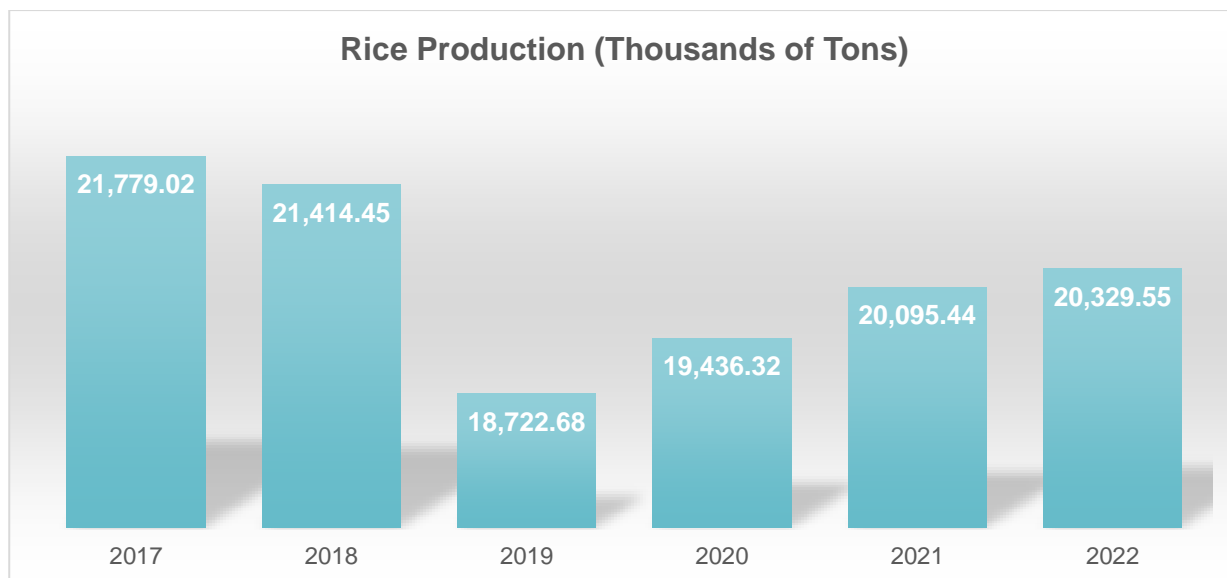
<https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS?locations=TH>.

²⁷³ Limited, B. P. P. C. (n.d.). Exports remain resilient in the midst of the pandemic. <https://www.bangkokpost.com>.

<https://www.bangkokpost.com/business/2130931/exports-remain-resilient-in-the-midst-of-the-pandemic>.

²⁷⁴ Ibid.

Figure 46: National Rice Production and Projections



Source: OECD-FAO Agricultural Outlook Database, Graph shows OECD projections for 2021-22

148. Rice is Thailand’s dominant agricultural industry. The country is the sixth-largest rice producer in the world²⁷⁵, making it a key export. In 2020, paddy output dropped by 25 percent and rice exports decreased by 31.9 percent, partially due to the high comparative price following the worst drought in 40 years. More favorable weather in 2021 is expected to boost yields, with annual output expected to rise by 1.0-3.0 percent ²⁷⁶. Farmers are likely to expand the planted area because although prices are falling, they remain above production costs, and government incentives to expand operations include income guarantees, crop insurance, help with planting schedules, and soft loans. Overall, Thailand’s market has a good buffer in comparison to other countries, with high international reserves, sufficient fiscal space for the government to heal and restore the economy, and a strong financial stability system reflected in the proportion of capital funds and reserves of commercial banks.

²⁷⁵ Suebpongsang, P., Ekasingh, B., & Cramb, R. (2020). Commercialisation of rice farming in Northeast Thailand. *White Gold: The Commercialisation of Rice Farming in the Lower Mekong Basin*, 39–68. https://doi.org/10.1007/978-981-15-0998-8_2

²⁷⁶ *Thailand Country Brief*. FAO GIEWS Country brief on Thailand -. (n.d.). <http://www.fao.org/giews/countrybrief/country.jsp?code=THA>.

Table 11: Thailand – Selected Crop Statistics

Statistics for selected time period

Series / Monthly	Start	End	Data points	Perc. change %	Avg Price	Std dev.	Min Price	Min Date	Max Price	Max Date	Price Range
Thailand, Wholesale, Bangkok, Cassava (flour), Baht/kg	Aug-19	Jul-21	24	7.63	13.14	0.47	12.40	Mar-20	14.10	Jul-21	1.70
Thailand, Wholesale, Bangkok, Chicken meat, Baht/kg	Aug-19	Aug-21	25	-2.04	48.21	1.41	44.64	Apr-20	50.00	Nov-20	5.36
Thailand, Wholesale, Bangkok, Maize (Feed), Baht/kg	Aug-19	Aug-21	25	10.87	9.10	0.44	8.47	Mar-20	10.28	Jul-21	1.81
Thailand, Wholesale, Bangkok, Rice (25% broken), Baht/kg	Aug-19	Aug-21	25	-2.84	12.43	1.27	10.59	Nov-19	15.46	Apr-20	4.87
Thailand, Wholesale, Bangkok, Rice (5% broken), Baht/kg	Aug-19	Aug-21	25	0.73	13.45	1.41	11.29	Nov-19	16.55	Apr-20	5.26

Percent change from selected end date

Series / Monthly	latest available (t) Date	latest available (t) Value	t-1 month Date	t-1 month Value	t-1 month %Δ	t-1 %Δ in the latest 2 years	t-1 year Date	t-1 year Value	t-1 year %Δ	t-13 Months Date	t-13 Months Value	t-13 Months %Δ
Thailand, Wholesale, Bangkok, Cassava (flour), Baht/kg	Jul-21	14.10	Jun-21	13.85	1.81		Jul-20	12.70	11.02	Jun-20	12.70	11.02
Thailand, Wholesale, Bangkok, Chicken meat, Baht/kg	Aug-21	48.00	Jul-21	48.00	0.00		Aug-20	50.00	-4.00	Jul-20	50.00	-4.00
Thailand, Wholesale, Bangkok, Maize (Feed), Baht/kg	Aug-21	10.10	Jul-21	10.28	-1.75		Aug-20	9.09	11.11	Jul-20	8.91	13.36
Thailand, Wholesale, Bangkok, Rice (25% broken), Baht/kg	Aug-21	10.75	Jul-21	11.13	-3.37		Aug-20	13.04	17.56	Jul-20	12.56	-14.38
Thailand, Wholesale, Bangkok, Rice (5% broken), Baht/kg	Aug-21	11.85	Jul-21	12.25	-3.27		Aug-20	14.44	17.94	Jul-20	13.85	-14.44

Source: GIEWS FPMA Tool, FAO <https://fpma.apps.fao.org/giews/food-prices/tool/public/#/dataset/domestic>

Logistics

149. Lockdowns limited inter-provincial travel and mandated the closure of key businesses such as movie theaters, amusement parks, and other high-capacity venues. Containment policies varied between each region based on the risk level associated with COVID-19 spread and a tiered system was implemented. In some provinces, lockdown policies limited transportation, hampering trucks transporting agri-food products without explicit permission from local governments, stifling the free flow of agri-food products domestically. Cross-border trade was similarly impacted due to increased precautions on borders and temporary closures implemented to control infection rates. However, the government reports borders remain open, and trade remains stable. To address export declines and transportation disruptions, The Department of Internal Trade Ministry of Commerce together with wholesaler Makro, is buying agricultural products such as vegetables, fruits, fishery products through direct purchases to help small farmers affected by COVID-19. Through this initiative, the government seeks to increase local agri-food purchases by 20 percent and promote higher domestic agri-food consumption. Additionally, the government and the “Big 20” private sector companies are engaged in controlling the distribution and logistics of agri-food products.

150. One of the largest concerns for the country is air freight traffic, which the government reports has the largest effect on trade. Limitations on international flights in the first quarter of 2020 raised fear about trade, as international flights declined by 35 percent and in the second quarter of 2020, flights declined by 99.4 percent. Overall, trading via air freight has fallen by 52.8 percent, meaning producers are forced to find other avenues to export their products.

Labor Markets

151. Agricultural labor was the most impacted factor of production in Thailand because the Thai agri-food industry relies heavily on migrant labor from neighboring countries and lockdown policies prevented many migrants from crossing borders to work. The impact was particularly severe for the frozen seafood subsector, an industry heavily dependent on foreign labor, and was most severe in the second quarter of 2020. Overall, the official unemployment rate stood at 2 percent in the first quarter of 2021 which most of the country's unemployment coming from the services sector. This may in part be due to declines in tourism, which contributes 15 percent of the country's GDP and is a major employer for the country. In March 2021, it was estimated that the country lost 1.45 million tourism jobs during the pandemic and that the number of foreign tourists decreased from 40 million in 2019 to 6.7 million in 2020²⁷⁷. Likewise, employment in agriculture dropped by 10.9 percent because of the pandemic, while employment in other sectors (mostly manufacturing) increased by 2.5 percent, following increased global demand for good exports²⁷⁸. The declines in income resulting from increased unemployment have increased aggregate household debt by 10 percent year over year, making household debt rates the second-highest in East Asia^{279,280}. Overall, the pandemic has highlighted the need to upskill and reskill the labor force to ensure employment as transitions to automation accelerate and manufacturers work to hedge risks by reducing reliance on low-skilled labor. To respond to this need, The Department of Skill Development has provided a special zero percent interest loan to businesses to help them upskill their employees and increase innovation in the market.

Digitization

152. Increased demand for contactless payment and delivery, along with public health concerns in processing plants and other industries heavily dependent on labor, has accelerated the digitization of the economy as a whole and specifically within the agri-food sector. The adoption of robots to replace labor inputs has been reported in the country and is expected to accelerate in tandem with wage increases and labor shortages²⁸¹. The government has actively supported the digitization of the economy, reducing taxes on machinery, and promoting online banking, payments, and trade. Digital real-time payment increased by 104 percent in 2020²⁸² and mobile wallet adoption increased to 83.9 percent in 2020 from 72.6 percent in 2019²⁸³. The government is embracing this trend, promoting a "New Normal: Touchless Cashless and Trust Economy" to encourage contactless payment via apps and QR codes. The Bank of Thailand has followed, rolling out a national e-payment system, PromptPay. The government is also supporting digital financial aid via the "We Win" project, which helps citizens including small-scale farmers, fishermen, and livestock farmers, access financial support via their smartphones.

153. Beyond digital cash transfers and payments, the Ministry of Agriculture, the Ministry of Commerce, and the Department of Agriculture Extension are all promoting the direct sale of agrifood products from smallholder farmers to locals via online platforms and smartphone apps. Likewise, the Ministry of Agriculture and Cooperatives is shifting all its processes online, allowing food producers to access the information from the Ministry more easily. The Department of Agricultural Extension is also

²⁷⁷ Thomson Reuters. (2021, March 29). *Thailand loses 1.45 million TOURISM jobs from Pandemic: Tourism group*. Reuters. <https://www.reuters.com/article/us-thailand-economy-tourism/thailand-loses-1-45-million-tourism-jobs-from-pandemic-tourism-group-idUSKBN2BL1F7>.

²⁷⁸ *Thailand economic Monitor JULY 2021: The road to recovery*. World Bank. (n.d.).

<https://www.worldbank.org/en/country/thailand/publication/thailand-economic-monitor-july-2021-the-road-to-recovery>.

²⁷⁹ Sriring, O., & Staporncharnchai, S. (2021, April 4). *Thai households struggle with RECORD debt, covid-19 increases BURDEN*. Reuters. <https://www.reuters.com/article/us-thailand-economy-debt/thai-households-struggle-with-record-debt-covid-19-increases-burden-idUSKBN2BR0R0>.

²⁸⁰ *Thailand economic Monitor JULY 2021: The road to recovery*. World Bank. (n.d.).

<https://www.worldbank.org/en/country/thailand/publication/thailand-economic-monitor-july-2021-the-road-to-recovery>.

²⁸¹ Wiriyapong, N. (2021, May 17). *Rise of the robots*. <https://www.bangkokpost.com>.

<https://www.bangkokpost.com/business/2116851/rise-of-the-robots>.

²⁸² Nation Thailand (2021, April 22). *Digital payments Soar 104% As thais go cashless during Covid*. Nation Thailand.

<https://www.nationthailand.com/life/30405048>.

²⁸³ *Ibid.*

working to assist the distribution of agri-food products to consumers and modern trade markets such as Tesco Lotus and Big C and supporting farmers selling products online.

Fiscal Support

154. Without government intervention, the World Bank estimates the pandemic should push an additional 700,000 people into poverty, increasing the poverty rate to 7.5 percent. Poverty is expected to increase by a greater margin in rural areas than in urban centers, with the greatest increases witnessed in northeastern Thailand, a heavily agriculture-dependent region²⁸⁴. To address income loss and the economic shock COVID-19 has presented, the government has engaged in a wide range of fiscal support policies including cash transfers, subsidies, loans, and credit extensions to help drive demand and support household consumption. The Social Security Office is providing support for workers and business owners by reducing employer contributions, extending the payment durations, adding more benefits and compensation for unemployed workers, and increasing health care. The Bank for Agriculture and Agricultural Cooperatives is providing rescue loans and credit with low-interest rates to help farmers and producers maintain production. It is also providing cash transfers and leveraging online platforms to connect consumers with smallholder farmers.

155. The Bank of Thailand has announced soft loans for SMEs and the government has provided subsidies to almost 16 million farmers while working to distribute cash handouts quickly and efficiently to farmers across the country. Overall, the government has allocated 1 trillion baht in public spending for economic stimulus and support for vulnerable households,²⁸⁵ 70 percent of which will go directly to households, benefiting over 44 million people and reaching 80 percent of households in 2020. In total, 97.2 percent of the 1 trillion THB spending envelope had been allocated to specific causes, and THB 687 billion had been disbursed as of May 2021, with the goal of spending the rest by the end of September 2021. About 386 billion baht, equivalent to 2.35 of the country's GDP has been distributed via cash transfers - the majority of which went to support informal workers and farmers. Additionally, in May 2021 an added 500 billion baht in borrowing was approved, which will also go to support households in hopes of boosting GDP in 2021²⁸⁶.

External market shocks

156. At the initial stages of the pandemic, food hoarding caused a shortage of bagged rice and the price rose by 20-30 percent, however, the government worked to manage public perception and ensured adequate rice stocks to prevent further stockpiling and hoarding. All reported food shortages were temporary, yet local supply shortages increased prices for key agricultural products such as pork, fresh fruit, and vegetables. While increasing agri-food prices can help to support recovery as it brings more money into the pockets of producers, it has larger negative effects on food consumption for vulnerable households.

157. Like other countries in the region, COVID-19 restricted exports of key goods, impacting producers and causing many to go out of business. The reduction in exports was especially large for frozen food and seafood sub-sectors, and these exports remain low comparatively. A silver lining of declined export rates was that local people were able to access lower-priced and better-quality food, however, this effect was temporary and demand for agri-food products is projected to rise both overseas and in domestic markets. The demand for rice and grains, palm oil, and seafood continues to increase domestically, but these products are exposed to trade risks and competition from other producers in the region. Agricultural products with a slow recovery pattern include rubber, tapioca, and sugar. The demand for these products

²⁸⁴ h *Thailand economic Monitor JULY 2021: The road to recovery*. World Bank. (n.d.). <https://www.worldbank.org/en/country/thailand/publication/thailand-economic-monitor-july-2021-the-road-to-recovery>.

²⁸⁵ Ibid.

²⁸⁶ *Thailand economic Monitor JULY 2021: The road to recovery*. World Bank. (n.d.). <https://www.worldbank.org/en/country/thailand/publication/thailand-economic-monitor-july-2021-the-road-to-recovery>.

has decreased due to the pandemic and overall production has shrunk due to severe drought. Due to this, prices are expected to decrease for these commodities. Overall, agri-food prices are above pre-pandemic levels, which can in some contexts support recovery as more money goes to food producers. Price increases are attributed to the high demand for soybeans and maize in China and output shortfalls in South America due to the La Niña weather phenomenon²⁸⁷. The Ministry of Internal Trade is working to address price fluctuations by controlling and publishing domestic prices on the official page of the Ministry.

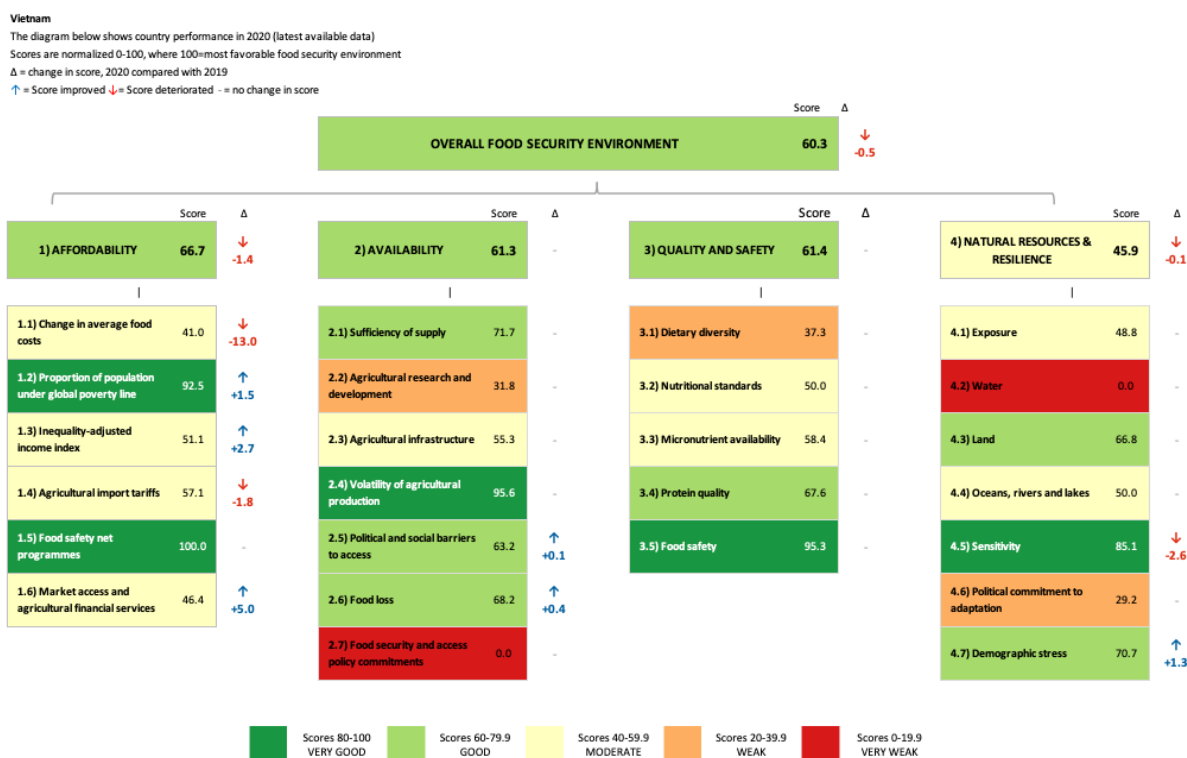
²⁸⁷ *Thailand economic Monitor JULY 2021: The road to recovery*. World Bank. (n.d.). <https://www.worldbank.org/en/country/thailand/publication/thailand-economic-monitor-july-2021-the-road-to-recovery>.

F. Vietnam

Key Points

- The agri-food sector remains resilient, with growth reported in the first quarter of 2021
- A range of free trade agreements are helping to facilitate the intra-regional trade of agri-food products
- The government has stepped in to facilitate agri-food supply chains in the face of lockdown policies that restrict internal movement
- Reverse labor migration trends have prompted the government to invest in rural employment opportunities
- While the use of technology and e-commerce has increased during the pandemic, there is still room to expand the use of technology in the agri-food sector
- Mismatches in supply and demand resulted in logistical disruptions

Figure 47: Food Security Assessment: Vietnam Performance in 2020 (most recent data), compared with 2019



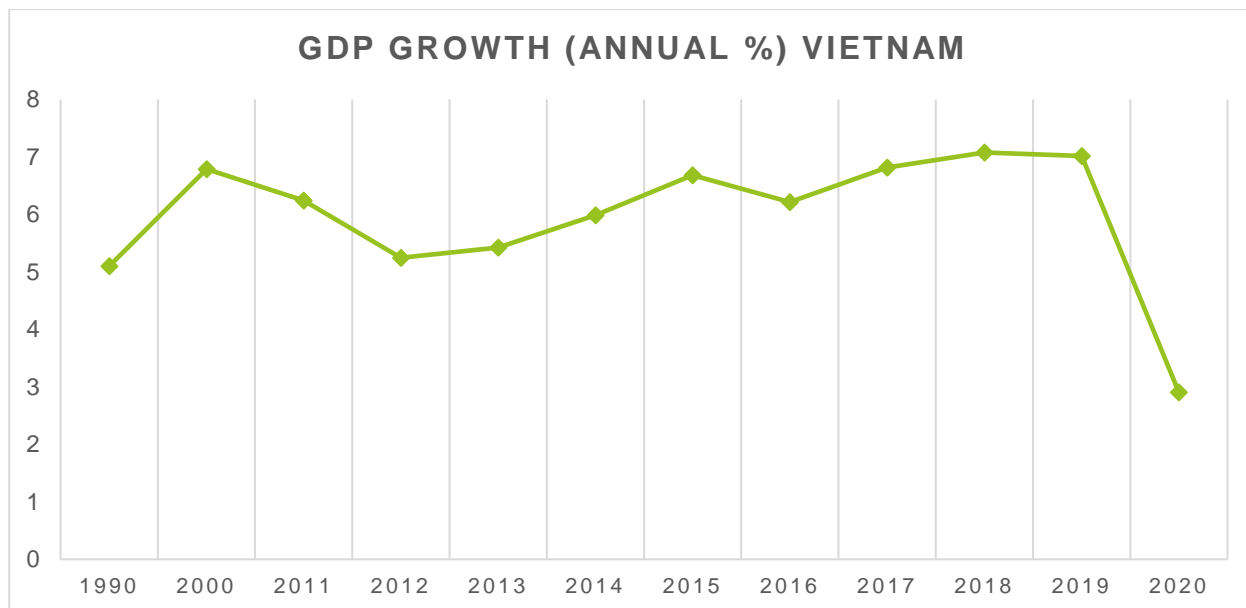
Source: The Global Food Security Index (GFSI), Economist Intelligence Unit and Corteva Agriscience, <https://foodsecurityindex.eiu.com/Home/About>

Background

158. By August 11, 2021, Vietnam had detected 232,937 cases of COVID-19 and 4,145 deaths, reaching peak infection rates. Lockdown and containment policies followed the outbreak and by early July, most businesses in Ho Chi Minh City were closed, including wet markets and food vendors. Residents were restricted to shopping for food at designated supermarket chains, 300 checkpoints were established to monitor residents, and police began issuing fines to those traveling for non-essential

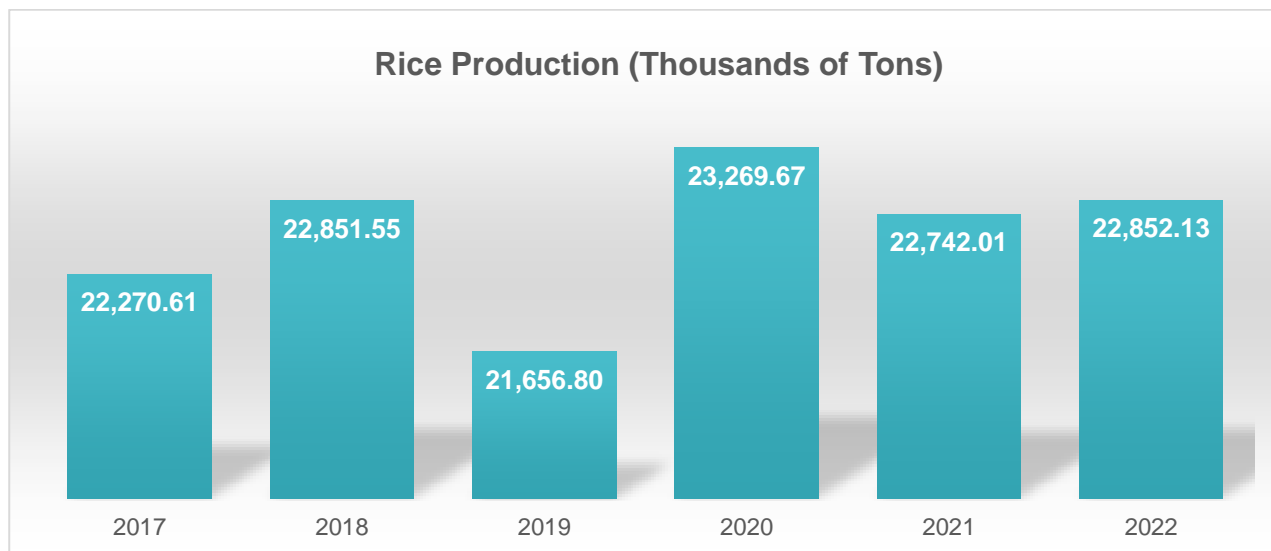
purposes²⁸⁸. The impacts of these lockdowns on the agri-food sector are likely to surface in the coming weeks and months.

Figure 48: GDP Growth



Source: World Bank national accounts data, and OECD National Accounts data files, <https://databank.worldbank.org/reports.aspx?source=2&series=NY.GDP.MKTP.KD.ZG&country=VNM#>

Figure 49: Vietnam Rice Production and Projections



Source: OECD-FAO Agricultural Outlook Database, Graph shows OECD projections for 2021-22

159. Thus far, however, Vietnam has fared relatively well, with the agricultural sector growing by 3.16 percent in the first quarter of 2021²⁸⁹ and GDP growing by 6.61 percent in the second quarter of 2021. The agricultural sector is an important determinant of economic health for Vietnam, contributing 14.8

²⁸⁸ Hermesauto. (2021, July 21). *Vietnam's Ho Chi Minh city turns into ghost town under covid-19 lockdown*. The Straits Times. <https://www.straitstimes.com/asia/se-asia/vietnams-ho-chi-minh-city-turns-into-ghost-town-under-covid-19-lockdown>.

²⁸⁹ Vu, K. (2021, March 29). *UPDATE 1-Vietnam Q1 GDP up 4.48% Y/y, underpinned by exports*. Reuters. <https://www.reuters.com/article/vietnam-economy-data/update-1-vietnam-q1-gdp-up-4-48-y-y-underpinned-by-exports-idINL1N2LR03Z>.

percent of the country's GDP²⁹⁰ and employing 37.2 percent of the labor force²⁹¹. Like other countries in the region, rice is a critical crop for Vietnam, generating 20 percent of export revenue and representing 30 percent of Vietnam's total agricultural production value ²⁹². The government reports 2021 rice production has been positive and that rice exports increased by 1.6 percent in 2020, partially because of FTAs and good weather. While some businesses reported reductions in exports to China, total exports to China in 2020 increased by 13.8 percent and while overall exports increased 6.5 percent and imports increased by 3.6 percent. However, as experienced elsewhere in the region, consumer prices rose 2.41 percent in June²⁹³.

160. The Việt Nam Trade Promotion Agency under the Ministry of Industry and Trade (MoIT) forecasts the agricultural sector will earn \$41B from exports in 2021, with the export value of produce reaching 7.78B between January and May of 2021 ²⁹⁴. This represents an increase of 13 percent year-over-year. The livestock sector has grown by 43.9 percent and the aquatic products sector grew 12 percent year-over-year²⁹⁵. Exports have been boosted by the range of FTA the country has entered. These include the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), the EU-Việt Nam Free Trade Agreement (EVFTA), the UK-Việt Nam Free Trade Agreement (UKVFTA), and the Regional Comprehensive Economic Partnership (RCEP). Overall, 13 FTAs have come into effect, two are about to come into effect, and two are under negotiation. Slow action taken on FTAs for agri-food products are due to technical barriers on food safety, quality, and SPS needed for international trade.

²⁹⁰ *Agriculture, forestry, and Fishing, value added (% of GDP) - Vietnam*. Data. (n.d.).

<https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS?locations=VN>.

²⁹¹ *Employment in AGRICULTURE (% of total EMPLOYMENT) (modeled ILO estimate) - Vietnam*. Data. (n.d.).

<https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS?locations=VN>.

²⁹² Maitah, K., Smutka, L., Sahatqija, J., Maitah, M., & Phuong Anh, N. (2020). Rice as a determinant of VIETNAMESE economic sustainability. *Sustainability*, 12(12), 5123. <https://doi.org/10.3390/su12125123>

²⁹³ Nguyen, D. T. U. (2021, June 28). *Economy expanded 6.61% in the quarter, statistics office says*. Bloomberg.com.

<https://www.bloomberg.com/news/articles/2021-06-29/vietnam-s-economy-speeds-up-in-second-quarter-as-demand-revives>.

²⁹⁴ *Việt Nam Targets \$41b agriculture export in 2021*. vietnamnews.vn. (n.d.). <https://vietnamnews.vn/economy/977045/viet-nam-targets-41b-agriculture-export-in-2021.html>.

²⁹⁵ Ibid

Table 12: Vietnam - Selected Crop Statistics

Statistics for selected time period

Series / Monthly	Start	End	Data points	Perc. change %	Avg Price	Std dev.	Min Price	Min Date	Max Price	Max Date	Price Range
□ Viet Nam, Wholesale, An Giang, Rice (25% broken), Dong/kg	Sep-19	Sep-21	24	20.46	9,261.86	1,420.55	6,890.00	Sep-19	11,600.00	Jan-21	4,710.00
□ Viet Nam, Wholesale, An Giang, Rice (5% broken), Dong/kg	Sep-19	Sep-21	24	19.72	9,921.74	1,673.32	7,225.00	Sep-19	12,450.00	Jan-21	5,225.00
□ Viet Nam, Wholesale, Bac Lieu, Rice (25% broken), Dong/kg	Sep-19	Sep-21	25	25.93	9,301.48	1,419.59	6,750.00	Sep-19	11,400.00	Feb-21	4,650.00
□ Viet Nam, Wholesale, Bac Lieu, Rice (5% broken), Dong/kg	Sep-19	Sep-21	25	26.24	9,644.03	1,445.71	7,050.00	Sep-19	11,800.00	Feb-21	4,750.00
□ Viet Nam, Wholesale, Dong Thap, Rice (25% broken), Dong/kg	Sep-19	Sep-21	25	27.95	9,024.03	1,260.96	6,662.50	Sep-19	10,637.50	Mar-21	3,975.00
□ Viet Nam, Wholesale, Dong Thap, Rice (5% broken), Dong/kg	Sep-19	Sep-21	25	27.18	9,565.83	1,312.32	7,175.00	Sep-19	11,225.00	Jan-21	4,050.00

Percent change from selected end date

Series / Monthly	latest available (t) Date	latest available (t) Value	t-1 month Date	t-1 month Value	t-1 month %Δ	t-1 %Δ in the latest 2 years	t-1 year Date	t-1 year Value	t-1 year %Δ	t-13 Months Date	t-13 Months Value	t-13 Months %Δ
□ Viet Nam, Wholesale, An Giang, Rice (25% broken), Dong/kg	Sep-21	8,300.00	Aug-21	8,100.00	2.47		Sep-20	10,004.40	17.04	Aug-20	10,063.00	-17.52
□ Viet Nam, Wholesale, An Giang, Rice (5% broken), Dong/kg	Sep-21	8,650.00	Aug-21	8,400.00	2.98		Sep-20	10,860.40	20.35	Aug-20	10,953.25	-21.03
□ Viet Nam, Wholesale, Bac Lieu, Rice (25% broken), Dong/kg	Sep-21	8,500.00	Aug-21	8,500.00	0.00		Sep-20	10,160.00	16.34	Aug-20	10,437.00	-18.56
□ Viet Nam, Wholesale, Bac Lieu, Rice (5% broken), Dong/kg	Sep-21	8,900.00	Aug-21	8,900.00	0.00		Sep-20	10,440.00	14.75	Aug-20	10,737.50	-17.11
□ Viet Nam, Wholesale, Dong Thap, Rice (25% broken), Dong/kg	Sep-21	8,525.00	Aug-21	8,000.00	6.56		Sep-20	9,840.00	13.36	Aug-20	10,037.50	-15.07
□ Viet Nam, Wholesale, Dong Thap, Rice (5% broken), Dong/kg	Sep-21	9,125.00	Aug-21	8,600.00	6.10		Sep-20	10,440.00	12.60	Aug-20	10,637.50	-14.22

Source: GIEWS FPMA Tool, FAO <https://fpma.apps.fao.org/giews/food-prices/tool/public/#/dataset/domestic>

Logistics

161. To control the spread of the virus, the country imposed a range of policies that resulted in disruptions to agri-food supply chains. Food access was strained in locations with large outbreaks and strict containment policies, as the government implemented bans on markets and street vendors, causing farmers to lose access to customer bases. Many factories had to close because of the pandemic, especially ones in industrial parks with high concentrations of labor. These closures resulted in severe disruptions in processing in May and June 2021 following high case rates as factories and many large supermarkets had to shut down. For example, two Nike suppliers halted production in July 2021 in response to rapid transmission of the virus²⁹⁶. The lockdowns in May and June 2021 also stifled the free flow of agri-food products, temporarily impacting delivery schedules. However, the government has since established green line for trucks to ensure the delivery of fresh agri-food products. Before this, social distancing and lockdown measures not only stopped food transportation from producers to consumers, but also caused a shortage of labor and that is expected to reduce the number of agri-food products being produced in the coming season, however food supply is generally ensured by the government.

162. The country has also experience linkage disruptions as trade fairs and food exhibitions were canceled and product development for the One Commune One Product project was halted temporarily.

²⁹⁶ Laurenthomas. (2021, July 19). *Nike could run out of sneakers made in Vietnam as Covid Crisis worsens, S&P global warns*. CNBC. <https://www.cnbc.com/2021/07/19/nike-could-run-out-of-shoes-from-vietnam-as-covid-worsens-sp-global.html>.

To address logistics disruptions that prevented farmers from selling crops via normal supply chains, campaigns encouraged urban populations to 'rescue' agri-food products from the areas affected by COVID-19. The Ministry of Agriculture and Rural Development and The Ministry of Industry and Trade are working with stakeholders to help sell farm produce that is unable to reach traditional markets. For example, the government supported 'rescuing' lychees from Bac Giang province, and flowers from Lam Dong province in May and June 2021. The local government in Bac Giang set up a special team to work at the border with China to provide support to lychee exporters from Bac Giang to China. Lychee is Bac Giang's main crop and is exported mainly to China at a value of about >\$100M a year.

163. Disruptions in supply chains have also resulted in low trade volume and export activity due to increased transportation costs in domestic markets. Export businesses reported a drop in demand from import markets and have experienced high transportation costs, particularly in the freight shipping industry. Supply disruptions in July 2021 may exasperate these issues, with growing reports of port congestion as factories and processing plants close due to COVID-19 outbreaks²⁹⁷. To manage supply chain breakdowns, efforts were made to diversify partners and find alternative solutions for post-harvest processing and transportation. The local government provided food delivery in some regions with strict restrictions and the government is worked with the private sector to develop food reserves. For example, a public-private partnership with Vinafoods is slated to ensure sufficient rice supply, and planning for production of target crops at national and provincial levels aims to ensure supply matches with demand in the coming year.

Labor Markets

164. Government surveys suggest input production factors, including labor, credit, equipment, and ability to access fields are not reported as issues for major food crops such as rice and maize. However, In May and June 2021, the impact of the pandemic was concentrated on industrial activities that depend on labor supply, such as processing and manufacturing. Labor disruptions overall have resulted in a 70 percent reduction in income and in some cases, food has not been available or affordable to workers who lost their jobs/income due to the lockdown. These losses and the slowdown in economic development are expected to have long-term indirect and direct effects on vulnerable households' income and on low-skilled workers' ability to find employment, threatening nutrition for many in the country.

165. Similar to other countries in the region, reverse labor migration has been observed in Vietnam, in which a flow of laborers has been seen returning to hometowns in rural areas due to COVID-19 (e.g., factories closed, or health concerns). This has increased rural labor supply, at least, temporarily. In response, the government has focused on restructuring the rural labor force towards the industrial and service sectors and has supported improving labor quality via vocational training in rural areas and encouraged SMEs to invest in rural areas and agriculture. Supporting smallholders remains a priority, with the government has supported the provision of inputs for SMEs, including seedlings and fertilizer, offering technical training, promoting inclusive business models (e.g., support businesses that purchase output from farms), as well as participation in trade fairs and product development.

Digitization

166. Digital applications are vital in business operations to stay ahead in Vietnam. Digital agriculture is high on the government's agenda and Ministries have actively encouraged high-tech applications and investment in agriculture. Online portals have launched to help farmers in pandemic-hit provinces sell their products and there are observed increases in e-commerce and the development of domestic marketing campaigns to improve food safety. To improve marketability for smallholder farmers, the government has provided farmers and agencies with access to a wide range of databases, technologies,

²⁹⁷ Knowler, G. (2021, July 20). *Vietnam port CONGESTION growing as COVID Outbreak Closes factories*. JOC. https://www.joc.com/port-news/international-ports/vietnam-port-congestion-growing-covid-outbreak-closes-factories_20210720.html.

and applications and is providing technical support for small-scale farmers investing in high-tech input production materials.

167. The pivot to digitization is ubiquitous. OCOP products have been displayed on e-commerce floors such as Vnpost, Voso.vn, Lazada, online communication and marketing have skyrocketed, and some local governments have transitioned to using online platforms to monitor prices of important crops. Yet, there is a need for improvement of these systems. To address this, the government has emphasized start-up incubation leveraging technology via hackathons and encouraged youth entrepreneurship.

168. While digitization is accelerating, digital payments are not yet popular at the smallholder level because in many places digital access is still difficult. However, the government has implemented tax breaks on digital payment transactions to encourage more touchless payment transactions. Overall, the adoption of technology is viewed in a positive light, and it is reported that modernization and adoption of technology in post-harvesting processes had led to a 5-7 percent growth in the agri-food sector's annual added value.²⁹⁸ More innovation is needed to correct for asymmetric information in the country, as currently, common practice is for farmers to choose crops based on conversations with neighbors and friends, unsolicited information, or temporary market info.

Fiscal Support

169. The government has actively worked to promote safety nets and community support for vulnerable people. For example, setting up a 'Rice ATM' for vulnerable households and providing targeted cash transfers for people who lost jobs due to the pandemic. The cash transfer system was sped up to address stringent paperwork requirements and long lead times. The government also allowed employers to postpone contributions to employees' benefits and provided opportunities to borrow money to pay salaries for employees if the business is affected by COVID-19 (e.g., if revenue is reduced 20 percent, the employer is entitled to borrow up to 50 percent of payroll amount for 12 months). The government has reduced and/or postponed payment taxes for agri-food enterprises, supported low-interest loans for farmers and agri-food businesses, and worked to strengthen the local agri-food processing ecosystem by reducing transport cost through improved logistics, investments in agriculture technologies, and innovation to enhance the potential and capabilities of farmers and community.

170. A survey by JICA indicated 22.25 percent of businesses were able to access government support and that only 19 percent of funds were dispersed as of August 2020. Concerningly, 54.6 percent of businesses think they do not meet the conditions to receive support, 26 percent of businesses do not know about support policies and nearly 15 percent of businesses think that support processes and procedures are too complicated so do not want to access support packages. Furthermore, many unregistered laborers (working on call) are not able to access government support, meaning safety nets need to be expanded.

External Market Shocks

171. Abrupt price changes in urban areas were felt as lockdowns were implemented that banned markets and street vendors, however, the government has reported these price fluctuations have not been at a significant level. To control for price manipulation, the government has implemented punishments for speculative actions that manipulate the market and threaten food security to earn abnormal profits and is working to protecting against price gouging via contract negotiation. It also established a task force for coordination on crisis management and sharing information for agricultural production including import-export planning, market promotion, food processing and storage, safe and environmentally friendly production processes, e-commerce, and online trading. Furthermore, the

²⁹⁸ *Viet Nam Targets \$41b agriculture export in 2021*. vietnamnews.vn. (n.d.). <https://vietnamnews.vn/economy/977045/viet-nam-targets-41b-agriculture-export-in-2021.html>.

government is working to encourage investments in production and processing facilities to reduce production costs and improving logistics to reduce transportation costs.

172. The pandemic caused consumer fear that the virus could be transmitted through fresh foods, which initially reduced demand for fresh agri-food products. In response, the government has offered technical support for safe agri-food production for producers, implemented food safety and quality control systems including routine inspection and food safety conformity assessment. Fear about food security also led to stockpiling, which reduced the capacity of cool storage for fresh agri-food products and stressed transportation and logistics systems. However, the government has engaged in planning for production of target crops at national and provincial levels to ensure supply matches with demand and has restricted the conversion of rice plantation land to use for other crops. Oversupply has happened very frequently in Vietnam, particularly for dragon fruit, oranges, watermelons, passion fruit, vegetables, and pork.

173. Lastly, export businesses reported a drop in demand from import markets due to high transportation costs. The trade deficit with China remains is a high priority for the country - in 2020, Vietnam suffered a trade deficit of \$32B, however, gained a \$7B trade surplus in 2020.

V. COVID-19 Follow-up and Support Actions for TA-9916

174. Integral to this Technical Assistance, in addition to the production of this Knowledge Product and its dissemination, will be a suite of locally targeted support actions for selected GMS member countries. These are briefly explained in the following sections and will be carried out in close consultation with national counterparts.

A. Objectives

175. There are two primary goals of this follow-up support:

- Promote GMS wide cooperation in COVID-19 response and recovery efforts; and
- Support for strengthening COVID-19 food security response and action plans in at least four GMS countries.

B. Proposed Actions

176. Following the COVID-19 knowledge product dissemination, TA 9916 consultants will work closely with each WGA to undertake the following support actions.

Table 13: COVID-19 Response Support Actions and Their Timing

No	Support Action	Timing
1	Finalize the Complete the Knowledge Project 1: COVID-19 Food Security Response and Recovery Actions in the GMS and facilitate its wide dissemination to GMS agriculture sector members- both public and private sector.	Completed by October 2021
2	Discuss with the respective WGA and the department responsible for COVID-19 response and recovery in each country the specific Knowledge Project 1: COVID-19 Food Security Response and Recovery Actions main findings related to their country.	October 2021
3	Using the discussions with each respective WGA and the departments as a basis identify where the TA 9916 consultants can provide support for the strengthening of the COVID-19 food security response and action plans.	October 2021
4	Investigate the coordination of COVID-19 response support with donor partners.	October to November 2021
5	Ensure that COVID-19 response and actions are assessed in the TA 9916 agri-food value chain case studies that will be undertaken over quarter 3 and quarter 4 2021.	December 2021 to March 2022
6	Conduct workshops with key stakeholders to disseminate COVID-19 response and actions lessons to strengthen the recovery of agri-food value chains	From November 2021 onwards

VI. Synthesis and Recommendations

Synthesis

177. The COVID-19 crisis has touched every dimension of our lives, and the risks it presents have risen sharply in the GMS. Particularly for vulnerable populations, such as women and migrants. This report describes the myriad ways COVID-19 is threatening agri-food supply chains, food security, and livelihoods around the GMS. The continued unpredictability of the virus presents challenges for policymakers working to respond to the pandemic and protect populations from its spread. Via the analysis presented in this document, policymakers can deepen their understanding of how containment measures, such as market closures and roadblocks, can result in knock-on effects for food security and agricultural production.

178. Each of the diverse economies in the GMS is contending with its own challenges, but the COVID-19 crisis offers many opportunities for regional dialog and cooperation to mitigate shared risks and facilitate common economic interests. Framing the central priorities for Technical Assistance 9916 within the context of the pandemic is critical to the development of initiatives that respond to our 'new normal'. In particular, shifting dynamics in the region offer opportunities to:

- Promote more coherent regional policies and standards for agri-food trade and logistics - This will require increased attention to SPS, vulnerability/fragility of the logistics sector, and its essential services to regional agri-food.
- Reduce health and economic vulnerability - Pandemic-driven social safety net programs can create a foundation for more lasting interventions, awareness of zoonic diseases threats, mitigation of economic shocks, and other market vulnerabilities (e.g., labor shortages).
- Bring the GMS closer to its immense long-term potential for inclusive and sustainable growth – Enhancing the status of intra-regional dialogue and cooperation, coordinated safety net programs targeting vulnerable populations to promote inclusion, threat awareness (e.g., pandemic + climate change), and resilience.

Recommendations

179. The actions of the TA should build on or complement the variety of policies already being implemented or initiated to facilitate recovery. These policies include:

- Direct fiscal and financial assistance to producers, processors, and supply chain intermediaries
- Enhanced support for extension services and e-commercialization
- Development partner advisory and other support for national recovery strategies

180. The TA should leverage the existing pathways in each country to engage with agri-food producers at every step of the supply chain. This will have the effect of streamlining assistance and capacity development for agri-food producers. The acceleration of digitization the pandemic has caused offers a great opportunity for this work, as agri-food supply chain actors are increasingly dependent on technology for operations. However, heterogeneous technology access and connectivity should be a primary consideration to ensure work is inclusive. For regional cooperation, development partners should play the role of harmonizing interventions to enhance the efficacy of standardization and pave the way for seamless intra-regional agri-food trade.

181. In addition to enhancing the above policies. several other initiatives should be considered:

1. A GMS secretariat on regional biosecurity for agri-food

Centralizing monitoring and coordination around biosecurity for agri-food will have the effect of improved regional responses to health-related threats. This will enhance the capacity for safe and traceable intra-regional agri-food trade, dually protecting economies from trade disruption and increasing regional food security.

2. A GMS negotiating party on agri-food trade facilitation

A mechanism to facilitate conflict resolution, trade policy, intra-regional trade logistics facilitation, standardization, and certification can help protect economies from the extensive disruption the COVID-19 pandemic caused. A negotiating party will enhance trust between countries and work to align supply and demand to ensure economic resilience and sustained growth.

3. Multilateral initiative to improve the GMS agri-food investment climate

A coordinated initiative to improve the agri-food investment climate will accelerate innovation that can be shared across borders and ensure equitable capacity development between countries. Such an initiative could increase foreign direct investment, draw together investors with common goals, and concentrate investment initiatives on key challenges in the agri-food sector.

Appendix 1 – TA-9916 Statement for the UN Food Systems Summit

Sustaining Food Security in the Context of COVID-19 Pandemic in the Greater Mekong Subregion (GMS)

Record of the Virtual Dialogue by the GMS Working Group on Agriculture held on 1 September 2021

as an Input to the UN Food Systems Summit on 23 September 2021

1. The members of the Working Group on Agriculture (WGA) from the five countries of the Greater Mekong Subregion (GMS), namely, the Kingdom of Cambodia, the People's Republic of China (PRC), the Lao People's Democratic Republic (Lao PDR), the Kingdom of Thailand, and the Socialist Republic of Viet Nam, met virtually on 1 September 2021 to deliberate on the theme "Sustaining Food Security in the context of Coronavirus Disease (COVID-19) Pandemic in the GMS". The WGA examined the progress and challenges in addressing COVID-19 impacts on food security in the GMS.

2. The WGA noted that all GMS countries were largely successful in limiting the spread of COVID-19 for nearly 15 months since January 2020. However, with the appearance of a more infectious Delta variant in April 2021, the WGA noted that the subregion is now facing multiple challenges, which might have significant adverse implications for farmer livelihoods, agri-food value chain efficiency and operations, and food security in the medium to long term. The WGA noted that the GMS countries have high potential to recover from the pandemic and produce safe, nutritious, and environment-friendly agri-food products, and that subregional cooperation in COVID-19 recovery efforts is critical to sustain food systems.

3. The WGA confirmed that the five action tracks of the UN Food Systems Summit offer several opportunities for green, inclusive, and sustainable post-pandemic recovery of agri-food systems in the GMS, in collaboration with different development partners, and regional organizations. However, the WGA recognized disparities among the GMS countries in terms of capacities, institutions, and facilities for COVID-19 recovery of agri-food systems. It stressed the need for harnessing the collective wisdom and experience of the subregion in tackling epidemics and pandemics and to ensure that the trade of safe agri-food products is protected against the future possible spread of zoonotic diseases.

4. The WGA urged the GMS countries and other stakeholders to accelerate the implementation of specific policies and measures under each of the action tracks to promote green, resilient, and inclusive COVID-19 recovery.

- **Action track 1: Ensuring access to safe and nutritious food for all.** To address food access, nutrition and safety concerns from COVID-19, the GMS governments provided safety net programs to increase access, improve production, build capacity for quality enhancement, and maintain sanitary and phytosanitary standards. The WGA noted that adoption of digitalized food traceability systems and paperless cross-border trade are critical for creating tamper proof labels capable of winning consumers' trust. The WGA stressed the need for continuity of such programs in the medium term (5-7 years) and continuously improve policy coherence on agri-food safety and quality through mutual recognition of standards in GMS countries. The WGA noted opportunities to contribute to COVID-19 recovery by supporting value chain innovations to improve direct connection of farmers to higher value markets,

particularly through e-commerce and other digital means. The WGA noted the need to strengthen coordination mechanisms to promote information transparency and evidence-based risk management in order to prevent agri-trade protectionism arising as an unintended outcome of the pandemic.

- **Action track 2: Shifting to sustainable consumption patterns.** The WGA noted that COVID-19 indirectly increased reliance on local food systems and promoted e-commerce leading to reduced food loss and waste at the household level. However, increased food losses and waste due to disruptions in intra- and inter-regional agri-food trade was also evident at national and regional levels. The WGA stressed the need for addressing COVID-19 induced market distortions and imbalances that resulted in food spoilage and waste through promoting rapid deployment of digital and spatial information technologies in an inclusive manner while paying due attention to the needs of those left out in the digital economy. The WGA emphasized that COVID-19 recovery efforts should focus on promoting principles of circular and green economy throughout the agri-food sector.
- **Action track 3: Boosting nature-positive production at scale.** The WGA appreciated the ongoing efforts of GMS countries to protect, manage and restore ecosystems to “produce more from less” and deliver sustainable food production and ecosystem services. However, agri-food production in some places is encroaching natural ecosystems leading to deforestation and forest degradation, fragmentation, illegal wildlife trade, and increased interactions between humans and wildlife facilitating the spread of zoonotic diseases. The WGA noted that COVID-19 recovery efforts and stimulus packages in GMS countries should integrate incentives for nature- and land-positive agroecological innovations such as agroforestry, conservation and regenerative agriculture, organic agriculture, biofertilizers, and nature-based solutions that can facilitate climate change mitigation and adaptation.
- **Action track 4: Advancing equitable livelihoods.** The WGA noted disproportionate impacts of COVID-19 pandemic on livelihoods of vulnerable groups, particularly women (who are overrepresented in informal employment), youth, disabled, elderly, indigenous peoples, and migrants who suffered income losses due to travel restrictions. The WGA stressed that COVID-19 recovery efforts in the agri-food sector should preferentially support such vulnerable groups through promoting actions to enhance inclusive decision making, increase pro-poor value-added investments, and adapt institutions and policies to support equitable agri-food systems livelihoods, while duly considering heterogeneity of labor markets among GMS countries. The need for increasing purchasing power of vulnerable groups and attracting a new generation of youth and entrepreneurs to agriculture in the GMS was stressed.
- **Action track 5: Building resilience to vulnerabilities, shocks, and stresses.** The WGA confirmed that agri-food sector in the GMS remains highly vulnerable to impacts of COVID-19 and climate change. Seasonal nature and the perishability of agri-food products amplify even minor logistical disruptions of value chains with lasting knock-on effects and prolonged recovery patterns. The WGA noted that agri-food systems in the GMS should integrate measures to mitigate and adapt to the impacts of climate change, biodiversity loss, pandemics, and economic crises. The WGA recommended that COVID-19 recovery efforts should strengthen the resilience of agri-food systems in a holistic manner (e.g., One Health approach). The WGA sought support for mainstreaming climate and disaster-resilient agri-food infrastructure investments, and measures to increase the export of agri-food products to high value regional and international markets in the COVID-19 recovery stimulus packages in GMS.

5. The WGA called on the participants of the United Nations Food Summit, including governments, development partners, the private sector, and civil society organizations to support COVID-19 recovery efforts and promote green, resilient, inclusive, and sustainable agri-food systems in the GMS.

Get in touch

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