



# Measures for supporting wholesale food markets during COVID-19

## KEY MESSAGES

---

- Prioritize agrifood systems, which include wholesale food markets, as essential services that should continue to operate during periods of lockdown, emergency, curfew or other health containment measures.
- In the absence of internationally recommended protocols, these proposed considerations are meant to supplement — not replace — any national, provincial and local health and safety laws and regulations with which wholesale food markets must comply.
- Wholesale food markets can help protect market operators, employees, workers, food system actors and customers and slow the virus' spread by adopting COVID-19 compliance measures in their facilities.
- Local market authorities, government officials, private sector operators and trade associations need to collaborate in the design and implementation of these measures, which should be guided by what is feasible, practical and acceptable in adapting to the local market context.
- Strong coordination and communication are crucial among national, provincial and local government in agriculture, health and commerce, food safety authorities and market officials.
- Raising awareness of wholesale market operators and customers on good practices and rigorous enforcement of COVID-19 sanitary guidelines are fundamental for safe markets.
- Implementing these measures may require technical assistance and support, small expenditures on equipment for COVID-19 compliance, and additional emergency funding to cover increased operating costs.
- Support to investments to upgrade, modernize or construct new wholesale food markets is crucial to build resilient food systems.

## Introduction

Recent COVID-19 outbreaks in wholesale and retail food markets, slaughterhouses and meat processing plants throughout the world underscore the continued importance of rigorous application of COVID-19 health protocols to minimize disruptions to the food system. An estimated 79 percent of vendors in Lima's (Peru) open-air retail food markets and an estimated 12 percent of the workforce in meatpacking and processing plants in the United States of America have fallen ill with COVID-19, with other outbreaks at meatpacking plants in Australia, Brazil, Canada, Ireland and Spain (Chadde *et al.*, 2020; Collins *et al.*, 2020; Dyal *et al.*, 2020). COVID-19 challenges national and local governments to remain vigilant to the rapid spread of the virus to merchants, workers and other food system actors, and to the threat posed to the continued safe operation of food systems and their ability to assure people have

regular access to affordable, safe and nutritious food. The rigorous application of health protocols in all agrifood system functions remains just as critical today as at the start of the crisis, whether countries are still in lockdown, phasing down virus containment measures or actively working to reduce the negative health, economic and food security impacts.

This brief is focused on wholesale food markets (WFMs). A WFM refers to a common facility that groups multiple food businesses (such as merchants or traders) involved in the sale of foodstuffs to food business operators (such as retailers, food service distributors, hotels, restaurants and institutions – the customers). WFM management, referred to as ‘local market authorities’, may be either the local, provincial or national government, or a public or private company taking its powers from public authorities (World Union of Wholesale Markets [WUWM], 2020).

This brief offers a set of considerations for ways in which local, provincial and national government can collaborate with WFM authorities and food system actors to protect merchants, workers and customers and to slow the spread of COVID-19. In the absence of an internationally recommended set of protocols, these considerations are based on practices used by WFMs for health safety measures and continued operations in compliance with government health protocols and virus containment measures. Local market authorities, local and national government officials and associations of merchants, traders and workers are the primary audience for this report. The measures that governments and local market authorities take to secure safe operations will naturally differ by local context, location, type of market and its specific operations.<sup>1</sup> This brief is based on interviews and correspondence with, as well as health safety measures issued by, WFM authorities.

### WFMs and market infrastructure under stress

WFMs represent the keystone of food systems. They facilitate the physical exchange of food by linking production to consumption, providing important services (for example, information, standards, transparency, competition and scale) that ensure a safe and affordable supply of fresh, nutritious food products for urban areas, as well as livelihoods and jobs for rural production zones. WFMs benefit all food system actors – from producers, traders and transporters to processors, retailers and restaurants – working in traditional, modern and informal food system channels. With 40 percent of the fruits and vegetables supply in Europe, and around 50 to 60 percent in Latin American, Asian and African countries, they represent a high share of fresh food distribution worldwide (FAO and FLAMA, 2020). Many play an important role in serving regional markets, such as Tshwane’s wholesale food market in South Africa. They meet the needs of a large clientele – retailers, local shops, food distributors, the hotel-restaurant-catering (HORECA) segment, public institutions, out-of-home catering and school canteens. WFMs also create an enabling environment for the development of private food companies that benefit from wholesale market infrastructure and services for their operational activities.

WFMs are generally large structures traditionally located in city centres, though many newer, modern facilities are built on the outskirts of cities. They occupy large pieces of land, ranging from three and five hectares, in Lima (Peru) and Belgrade (Serbia), respectively, to 234 and 327 hectares, in Paris and Mexico City, respectively (WUWM, 2020). Most traditional wholesale

---

<sup>1</sup> Some of the considerations presented in this brief are also relevant in certain situations to retail food markets where vendors sell primarily to consumers. While quite diverse, retail food markets generally involve thousands of vendors, often in tightly spaced urban areas, for which the local context and considerations are significantly different from those presented herewith. Retail markets merit a separate brief.

markets offer both wholesale and retail transactions to consumers. They often have outdated infrastructure, limited access control enforcement and suboptimal operations, management and governance structures. Informal food vendors and restaurants operate freely in the areas surrounding these traditional structures. Modern WFMs, on the other hand, are secure facilities with controlled entrances, characterized by updated infrastructure, improved services, clear operational procedures and strong management and governance mechanisms. They are usually located in urban peripheries to reduce congestion, ease transport and distribution logistics, reduce environmental impacts and provide potential development areas for private food businesses.

WFMs specialize in the trade of fresh food, bringing together large numbers of people on a daily basis. They employ many people, ranging from 120 employees in Montevideo (Uruguay) to 1 800 in Istanbul (Turkey) and 25 000 in Heredia (Costa Rica). Thousands of customers visit WFMs daily; 6 000 per day in Rome (Italy), 24 000 in Johannesburg (South Africa) and over 50 000 in Sao Paulo (Brazil) and Shangqiu (China) (WUWM, 2020). Mexico City's sprawling *Central de Abasto* market (wholesale and retail sales of a wide range of products, not exclusively food) is a medium-size city, attracting an estimated half a million people a day in normal times and employing over 100 000 workers (formal and informal) (Torres, 2020).

The potential closure of WFMs and other food system infrastructure (meat packing and processing plants, rural producer markets and open-air retail food markets) and bans on informal food sector vendors pose major risks to the food system. Shuttering WFMs prevent transactions between producers, traders and wholesalers, and disrupt supplies to retailers, food businesses and final consumers. With no place for transactions, food supply drops, prices increase and livelihoods and income suffer, creating a major stress on food security. Insufficient and poor access to dry and cold chain storage may compound marketing problems, leading to increased food loss and waste and vanished profits. Market uncertainty also has an effect on future production incentives.

Keeping traditional food markets open, protected and safe helps to keep food systems inclusive, allowing multiple actors involved in production, transportation, marketing, processing, restaurants and waste management to continue practicing their livelihoods and jobs. The agrifood sector is one of the largest employers in high-, middle- and low-income countries alike, providing jobs and livelihoods in agriculture, industry and service parts of the economy (Tefft *et al.*, 2017). Wholesale markets are at the heart of the interlinked agrifood system.

Countries with well-structured, functional networks of actors – agrifood businesses, retail food markets, informal food sector associations, producer and civil society organizations – organized around efficient wholesale market infrastructure, have proven the most adept in adapting to incredible disruption in their operations, finding innovative solutions to new problems and operating constraints. COVID-19 has revealed significant structural weaknesses in the food system, whether antiquated markets or the lack of organization, professionalization and adaptive capacities of agribusiness firms, market actors and their networks. These inadequacies reduce food system performance and resilience.

Changes in food demand and markets affect WFM activity. The impact of COVID-19 on economic and social life affects traditional market outlets as well as demand for food. The HORECA food channel represents an important and growing segment of the market, as people throughout the world eat more meals outside the home. Restaurant closures in the wake of COVID-19 have dried up a huge food outlet for wholesale market operators. Food consumption patterns also change as the health crisis converges with an economic one, reducing income, increasing uncertainty and triggering coping strategies.

COVID-19 has affected food demand as people increase consumption of certain products (starches, cheaper proteins, frozen and storable food) but decrease consumption of others (such as fish and premium meat). In some countries, emerging evidence suggests that consumer demand for local, healthy food is high (for vitamin-rich fruits and vegetables). In this environment, the problem is not agriculture supply; it is a problem of matching supply with rapid changes in food demand and markets.

Additional changes in fresh food marketing due to virus containment measures have directly influenced wholesale market operations. There is a significant rise in e-commerce, drive-in pickup and home delivery services, and higher demand for short value chains linked to urban and peri-urban agriculture. Numerous countries throughout the world witnessed large increases in online or telephone food sales during the lockdown period, giving a huge boost to a growing market segment and inspiring new business models (such as home delivery) and partnerships (for example, with China, France and Spain).

### Making WFMs safe and COVID-19 compliant

Most governments have included WFMs as a COVID-19 essential service. This measure has enabled them to continue operations under COVID-19 lockdowns in compliance with health protocols. Many local market authorities have worked with the private sector, trade associations, provincial and national government, and departments of health, agriculture, commerce and security officials, to design and implement various operational measures compliant with virus-containment measures.

In other situations, multiple factors have hindered rigorous design and implementation. For example, officials may have designed measures without consideration of how markets actually operate and without consultation from merchants and traders. They may suffer from a lack of local government leadership or clarity on who is responsible for addressing the problem. Certain markets may allow merchants and traders to implement safety measures without expert input and oversight. Or officials may design measures that suffer from poor implementation and enforcement. Responding to the COVID-19 crisis is also challenged by the absence of market regulations and operational procedures before the crisis, and the lack of functional consultative mechanisms between public sector, private sector and civil society actors (A.M. Huaita Alfaro, personal communication, 2020).

In many cities, older traditional WFMs have not been updated or modernized for several decades and suffer from inadequate infrastructure, services, financial viability, management and governance. These problems complicate their ability to respond effectively to the diverse challenges of COVID-19.

### Considerations for WFMs

FAO offers the following considerations for WFMs to help protect market operators, employees, workers, all food system actors and customers working in or using the facilities, and to slow the spread of COVID-19. The list identifies different approaches and measures for addressing particular problems. Most of them can be considered as good practices and adapted and applied when possible, with market officials and local government taking into consideration the local context and particularities of their market. Some of the more innovative ones will need middle-term perspective to confirm their validity.

Design and implementation should be guided by what is feasible, practical, acceptable and tailored to the needs of each WFM. [These considerations are meant to supplement — not replace — any national, provincial and local health and safety laws, rules and regulations with](#)

which WFM must comply. These considerations are also evolving and subject to updates, given new scientific evidence and amended health protocols from the World Health Organization (WHO) and national health departments.

### 1. Changing operational procedures to improve merchant, worker and customer safety

---

- Considerations
  - i. WFMs invest in sinks and sanitization stations and enforce regular hand washing and sanitation for everyone in the market.
  - ii. Wearing masks is mandatory for everyone in the market.
  - iii. WFMs may consider other measures on personal protective equipment to protect worker and customer safety.
  - iv. Markets facilitate and enforce physical distancing by marking trading floors to delimit selling spaces.
  - v. Markets organize employees and workers in strictly controlled shifts to limit widespread contamination of the market workforce.
  - vi. Markets establish strict protocol for testing worker and customer temperatures and quarantining ill workers.
- Examples
  - i. The Tshwane Market (South Africa) identified high-risk areas within the market and established measures to curb the spread of the virus. They include hand sanitizing for everyone entering the market trading halls, and restrictions on the number of market users (buyers and support service providers and porters) entering trading halls at a given time. The market implemented this measure to avoid crowding and to ensure compliance with physical distancing protocol; all market personnel (such as cashiers, security officers, consignment control, cold stores and banana ripening facility) sanitize their hands regularly while at work.
  - ii. In Mercamadrid (Spain) and many markets in India, governments encourage companies and markets to avoid having their entire staff present during trading hours to mitigate the risks of contamination to all employees.
  - iii. In Portugal, each trading company present in the markets – regardless of their size, turnover or number of employees, and following health authorities' guidelines and recommendations – must have its own contingency plan and be responsible for providing material it considers the most appropriate for its own situation.
  - iv. Health officials in Mexico City's *Central de Abasto* wholesale market are conducting COVID-19 tests.

### 2. Modification of access rules

---

- Considerations
  - i. Local market authorities enforce strict access controls to market facilities, considering the issues of passes (for example, e-passes) to market traders, workers and transporters, controlling truck deliveries and vehicle traffic.
  - ii. Fencing could be used around the market with security-enforced entrances and exits to facilitate the flow of people.
  - iii. Market infrastructure permitting, officials could consider one-way direction of flows of people over the whole market, by separating entrances and exits both for the main gates and market halls. This measure would contribute to physical distancing protocols in the market.

- iv. Consider limiting buyers' access to sensitive market areas (for example, storage, warehouses) where food products are temporarily stored to reduce risks of contamination.
- v. Market health and security staff are in charge of temperature readings and health checks of all workers and drivers.
- Examples
  - i. Lima (Peru) forbids entrance to unlicensed buyers.
  - ii. In Sfax (Tunisia), the market disinfects all trucks at the market gates.
  - iii. In Rome (Italy), the *Centro Agroalimentare di Roma* market does not allow trucks arriving from Ministry of Health-declared red zones (with high COVID-19 infection rates) to enter the market premises. Market and health personnel conduct temperature screening at all entrances, while a strengthened security staff and policy ensure strict enforcement. Market authorities have provided protective equipment (masks) to market workers.
  - iv. China's markets organize driver temperature checks and the disinfection of trucks at entrance gates. These measures require an increase in supervisory controls and coordination with security teams.

### 3. Multiplication of sanitation actions in market facilities

---

- Considerations
  - i. In accordance with health protocols and in collaboration with health officials and local government, market authorities are responsible for the regular cleaning and sanitation of public market places, and common outdoor and indoor spaces using recommended products.
  - ii. Market operators conduct daily sanitation of private stalls as advised by health protocols.
  - iii. Carry out regular waste collection and ensure functioning of drainage systems.
  - iv. Consider actions to improve ventilation and airflow in closed spaces.
  - v. To the extent possible, maximize use of pallets, crates and cartons to safeguard protection of food and reduce waste.
- Examples
  - i. In Rome (Italy), the market management company conducts daily cleaning and sanitation of public areas, while merchants renting market space and storage are responsible for daily sanitation of their facilities.
  - ii. In India, market officials carry out regular disinfectant spraying in public areas and the main WFM facilities.

### 4. Changing market hours

---

- Considerations
  - i. Markets often extend trading times to facilitate operations in compliance with COVID-19 health protocols. Extended times help limit market congestion, reducing the concentration of transporters and buyers and improving physical distancing. Longer trading hours allow buyers to organize their purchases and product pick-ups. Officials may coordinate changes in WFM hours with those in open-air retail markets.
  - ii. Consider increased monitoring of market prices that may vary with new market and trading times.
- Examples
  - i. The Santo Domingo (Dominican Republic) market extended the trading time from 06:00 to 15:00.

- ii. In Casablanca (Morocco), wholesale market officials coordinate the opening times with those in traditional retail markets to provide sufficient time to deliver products to small retailers for sale to final consumers.

### 5. Reducing congestion and urban deliveries

---

- Considerations
  - i. In addition to changes in trading hours, which contribute to a reduction of traffic congestion, market management companies support private operators to improve efficiency by grouping delivery, supported by new technologies. These actions help to minimize exposure.
- Examples
  - i. In India, the use of drones and global positioning system-enabled delivery vans contribute to real-time transport monitoring and help reduce traffic congestion around markets.
  - ii. In most Latin American countries, food market operators are encouraged to use group deliveries to avoid unnecessary trips from suburban markets to city centres.

### 6. Regular communication of market information and support to e-commerce for merchants, traders, buyers and the public

---

- Considerations
  - i. In times of crises like COVID-19, regular, consistent and concise communication with clear messages on the food situation is important for reducing panic and maintaining confidence in the agrifood system. Good coordination of messaging by all sectors will help keep misinformation or confusion from spreading, and enhance trust in the information and in securing food needs. Information may relate to new market times, regulations, operational procedures and good health practices when working and shopping.
  - ii. The regular collection and reporting of market price information helps orient buyers' market decisions, increases transparency and enhances trust in the food supply chain.
  - iii. To the extent possible, WFMs may consider support to merchants and traders to perform online sales and direct delivery to buyers. Increasing online sales reduces market congestion.
- Examples
  - i. WFMs and agriculture and food market information systems use various means to communicate market information: social media, radio, television, newspapers, digital message boards in markets, market bulletins and regular meetings with merchant, trader, producer and vendor associations.
  - ii. Local government and Ministries of Agriculture in many countries in Asia and Europe issued joint statements with the private sector and commerce on the current levels and functioning of markets and the national food supply system.
  - iii. Market officials in France and Portugal have supported merchants to adapt their operations, using new online platforms to meet evolving food demand. Officials have allowed merchants to increase sales in new areas (such as consumers), as traditional outlets (such as HORECA) have dried up.
  - iv. These actions helped consumers procure food following the closure of open-air retail food markets in some countries (such as France).
  - v. In Portugal, wholesale markets such as [mercachefe.pt](https://www.mercachefe.pt) now trade online and in some cases provide logistic support to allow small producers to sell directly to end consumers on certain days.
  - vi. In Italy, as throughout the world, *Italmercati*, in collaboration with *Borsa Merci Telematica Italiana*, issues weekly bulletins on prices and available quantities for a basket of fresh horticulture products in Italian markets.



### 7. Linking markets to food banks and social safety nets

---

- Considerations
  - i. The widespread loss of jobs and livelihoods and decreased economic activity throughout the world have increased households' reliance on food banks, charitable meal centres and other social safety nets for food security. WFMs and market operators contribute to these community and government efforts by collecting and distributing unsold food products to these organizations.
  - ii. Markets also set up systems to distribute food directly to vulnerable households (those quarantined with possible COVID-19 infection; the elderly).
  - iii. Local government may need to amend existing regulations or create incentives to allow markets to donate to food banks (for example, selling safe food beyond the expiration date), and reduce food waste.
- Examples
  - i. The *Mercabarna* wholesale market in Barcelona collaborated with T-Systems, a digital services subsidiary of Deutsche Telekom, to develop an app accessible by non-government organizations and charity associations to arrange free delivery of fresh produce baskets to vulnerable households.
  - ii. In Peru, wholesalers from the Lima wholesale market have donated 13 tonnes of fruits and tubers, among other products, to the national police, health personnel, shelters and canteens.
  - iii. The Lisbon (Portugal) WFM has served as collection centre for food donations that are delivered to the food bank network.

#### The institutional building blocks for safe WFMs

Many of these considerations are easy to adapt to local conditions and can be applied quickly in WFMs. Others are structural and difficult to implement, as they relate to or depend on modern infrastructure, improved food safety procedures, existing services (such as management information and electronic payment systems, e-platforms) and a higher degree of operational and financial management and governance mechanisms. Many modern WFMs also have contingency and emergency plans. Favourable policy and regulatory environments support their operations. [COVID-19 has underscored the importance of future investment to upgrade, modernize or construct new WFMs.](#)

There were several lessons from WFM experiences in the design and accountable implementation of COVID-19-compliant health protocols. These protocols safeguard market operations, and include:

1. Strong coordination and communication are crucial among national, provincial and local government in agriculture, health and commerce, food safety authorities and market officials.
  - The Government of Portugal created a technical group to monitor the agrifood chain, market and retail operations and potential supply chain disruptions of products. This group includes public authorities (Ministries of Economy and Agriculture), SIMAB SA (which is Portugal's 100 percent publicly owned company that is a majority shareholder for four WFMs) and private sector food companies.
  - The General Manager of Tshwane Market (South Africa) sits on the City of Tshwane Metropolitan Municipality's Technical Committee on COVID-19, which develops and approves strategies and interventions and monitors implementation.



2. Within market management, the creation of a COVID-19 task force enhances the monitoring and coordination of actions on the markets. This task force is in charge of ensuring collaboration and consultation with actors using the markets, as well as public officials and outsourced companies providing services on the markets (such as cleaning, security, health officers).
  - In Tshwane Market (South Africa), one market official has been appointed to coordinate all activities on prevention, control and management of COVID-19.
  - SIMAB SA in Portugal prepared a contingency plan for its network of four wholesale markets with concrete actions and measures to deal with the pandemic, implemented by a task force within the market team.
3. Well-organized and well-managed associations of market actors (for example, producers, wholesalers, transporters, retailers, HORECA businesses, food businesses, market delivery workers) facilitate collaboration with wholesale market management companies and public officials required for the effective design, approval and strict compliance with virus containment measures.
  - Professional associations and industry groups allow market and public officials to stay abreast of market issues and challenges, to integrate their views in decisions on new market directives, and to communicate quickly to all market actors through social media and emails.
  - In markets with weak associations, communication and governance of hundreds of market actors become difficult, complicating strict implementation of health protocols and required behaviour change. Lax compliance has led authorities to close some markets.
  - Structured WFM networks in countries severely affected by COVID-19 (for example, France, Italy, Spain and Portugal) helped the agrifood system respond agilely to food supply disruptions. They supported traditional supply chains, local production and movement of food during strict transport restrictions, contributing decisively to food crisis management.
4. Raising awareness of wholesale market operators and customers on good practices and rigorous enforcement of COVID-19 sanitary guidelines are fundamental to safe markets.
  - The Rome wholesale market broadcasts messages on enforcing preventive measures every 45 minutes on digital message panels and loudspeakers in Italian and Arabic.
  - The websites of many wholesale markets publish daily market updates of the COVID-19 situation, health protocols and market regulations.
5. The sharing of good practices through national and international WFM networks supports better implementation and coordination of the measures.
  - The Latin American Association of Wholesale Food Markets collaborated with FAO in the publication of good practices developed by the regional network (FAO and FLAMA, 2020).
  - The World Union of Wholesale Markets, the global wholesale food market association, also plays a role in the collection and dissemination of good practices among its members. A monthly newsletter shares experiences of its members on COVID-19 measures implementation (WUWM, 2020).
6. The provision of training in health safety and product handling for market actors is important to build market operators' capacity.
  - The City of Tshwane Metropolitan Municipality's Department of Health deployed a health practitioner to train personnel on the prevention, control and management of COVID-19.

7. Implementing these measures may require technical assistance and support, rapid investments in infrastructure and equipment for COVID-19 compliance, as well as additional emergency funding to cover increased operating costs.

### Future investment for resilient food systems

The COVID-19 crisis underscores the importance of resilient agrifood systems based on strong governance, competent networks of well-organized food system actors and well-connected market infrastructure. Their ability to adapt to an uncertain and rapidly evolving environment, implement protective measures for workers and ensure safe and efficient operations have helped minimize the negative impacts of the crisis on food security. Beyond the immediate interventions to address food system disruptions, however, the COVID-19 crisis points to the need for significant investment and capacity development to strengthen the resilience of agrifood systems. Upgrading essential food market infrastructure and regulatory environments and strengthening actor networks are essential to the agrifood system's ability to deliver on its mandate – providing safe, nutritious and affordable food in a sustainable, resilient and inclusive manner.

A small but growing number of countries and cities around the world are investing in upgrading or constructing new WFMs. Existing WFMs built 30 to 40 years ago have often outlived their usefulness. In many cases, governments and operators have not maintained the facilities, food demand outpaces supply in the areas they serve, their services have not kept up with an evolving agrifood system and their financial viability has eroded. Upgrading WFMs is an investment for many countries with structurally weak food systems. WFMs are bulwarks against future shocks and potential food system disruptions. They provide infrastructure for inclusive and resilient urban development, and for sustainable, safe, nutritious agrifood systems.

### REFERENCES

---

- Chadde, S., Bagenstose, K., Jacobo, V. & Axon, R. 2020. Cheap chicken, beef came at a cost. How American meat plants bred coronavirus hot spots. In: *Investigate Midwest: The Midwest Center for Investigative Reporting* [online]. [Cited 19 June 2020]. <https://investigatemidwest.org/2020/05/22/cheap-chicken-beef-came-at-a-cost-how-american-meat-plants-bred-coronavirus-hot-spots/>
- Collins, D., Parkin Daniels, J., Phillips, D. & Agren, D. 2020. Hubs of Infection': how Covid-19 spread through Latin America's markets. *The Guardian*. 17 May 2020. (also available at <https://www.theguardian.com/world/2020/may/17/coronavirus-latin-america-markets-mexico-brazil-peru>).
- Dyal, J.W., Grant, M.P., Broadwater, K., Bjork, A., Waltenburg, M.A., Gibbins, J.D., Hale, C. *et al.* 2020. COVID-19 Among Workers in Meat and Poultry Processing Facilities — 19 States. *Morbidity and Mortality Weekly Report*, 69: 557–561. (also available at <http://dx.doi.org/10.15585/mmwr.mm6918e3>).
- FAO and FLAMA. 2020. *Wholesale markets: action against COVID-19* [online]. Rome. [Cited 19 June 2020]. <https://doi.org/10.4060/ca8442en>
- Tefft, J.F., Jonasova, M., Adjao, R.T.O.A. & Morgan, A.M. 2017. *Food systems for an urbanizing world: knowledge product* (English). Washington, DC: World Bank Group.

**Torres, N.** 2020. In Mexico, one of world's biggest food markets stirs unease about infections. *Reuters, World*. 17 May 2020. (also available at <https://www.reuters.com/article/us-health-coronavirus-mexico-market/in-mexico-one-of-worlds-biggest-food-markets-stirs-unease-about-infections-idUSKBN22TOFL>).

**UWM.** 2020. *World Union of Wholesale Markets* [online]. [Cited 19 June 2020]. <https://wuwmm.org/>.

## ACKNOWLEDGEMENTS

---

This policy brief was developed by James Tefft, Senior Economist, and Florent Tomatis, Agribusiness and Value Chain Specialist, from the FAO Investment Centre.

