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COVID-19 IMPACTS ON AGRI-FOOD VALUE CHAINS

LIBYA

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LIBYA

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The report was prepared by:

Ghada Ahmed, International Senior Agriculture Economist with the FAO Representation in Libya

In collaboration with:

Mohamed Amrani, Ph.D. Senior Policy Officer, FAO-SNE.

Abdelhakim Al-Dogish, Director, International Cooperation, Ministry of Agriculture Livestock & Marine, Libya.

Dr. Ali Rahouma, Senior Advisor, Focal Point, Ministry of Agriculture Livestock & Marine, Libya.

Samer Abdeljaber, WFP Country Director in Libya.

Grace Namugayi, VAM Specialist and Yukinori Hibi, Head of Programme of WFP.

Nasr Ali and Khaled El-Beydi, FAO Libya Field Economists.

Angham Abdelmageed, Senior Graphic Designer, FAO RNE.

Meriem Abayed, Graphic Designer, FAO Libya.

Dr. Philippe Ankers, Sub Regional Coordinator, FAO-SNE.

Abdalla Zaied, Technical Advisor, FAO Libya.

Mohamed Al-Ansi, Head of FAO Representation in Libya.

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ABBREVIATIONS

A4U	Agriculture 4.0 Unit
AHC	Agriculture Health Crisis Unit
ARCC	Agriculture Reconstruction Command Center
COVID-19	Coronavirus Disease 2019
FAO	Food and Agriculture Organization of the United Nations
FSH	Food Security Hub
GDP	gross domestic product
GNA	Government of National Accord
GVC	global value chains
LYD	Libyan dinar
LNA	Libya National Army
NASCO	National Supply Corporation
PSF	Price Stability Fund
USD	United States dollar
VC	value chains
WFP	World Food Programme

EXECUTIVE SUMMARY

The rapid escalation of the COVID-19 pandemic highlighted structural problems with Libyan food and agriculture value chains. Nine years of protracted conflict weakened Libya's agriculture and deteriorated its food and agribusiness sector. The entire value chain is underdeveloped, is not well integrated and depends on imports, making it vulnerable to global supply shocks.

Sixty percent of value chain actors interviewed in this study reported that Libya's food security is at high risk and is likely to get worse. The most significant threat to food security in Libya is the dwindling access to food as a consequence of unemployment, unpaid salaries, high exchange rates and lost income from lockdowns and other pandemic restrictions. All value chain actors reported that the government and the Libyan Central Bank are unable to respond to the escalating crisis.

The situation is likely to get worse as Libya's economy is projected to contract by over 20 percent by the end of 2020, mostly driven by reduced global oil prices (GIEWS, 2020). The decline in oil revenues will increase acute shortages of foreign exchange and letters of credit which will impact the ability of value chain actors to import food from global markets. As of October 2020, there was no evidence of Libyan government COVID-19 relief disbursements to value chain actors, most of whom are facing financial difficulties. This study identified key supply and demand side impacts of the pandemic accordingly:

On the supply side, shocks due to the pandemic intensified food access and supply chain bottlenecks. Challenges include:

Farming and markets are disrupted and some farmers are considering abandoning agriculture. Labor, inputs and logistics costs increased or are inaccessible. Market closures and lockdowns are preventing buyers from coming to the farms and markets. Over 80 percent of farmers experiences

reduced farm sales, declines in prices and increases in waste.

Logistics cost increased and are a major bottleneck across all links in the chain. Logistics are stressed and costs have increased because of border closures, travel limitations, freight restrictions, curfews, quarantines and labor shortages. Trading volumes are down, port clearance times and costs have increased.

Food trade is expected to continue to slow and import volatility has increased. Current imports are mostly shipments from pre-COVID-19 contracts. Access to letters of credit and foreign exchange is more limited. Global and regional lockdowns complicate supply chains, slow trading and increase costs.

Some retailers and bakeries sold out of items as consumers started panic buying and restocking supplies is more difficult. Consumers are panic buying and food suppliers are unable to make deliveries on time. Many bakeries are not getting their flour supplies, forcing them to shut down. Supply chain disruptions are creating shortages, increasing prices and giving rise to opportunistic behavior by suppliers.

The government is not providing any COVID-19 financial relief support, has high deficits and is not supporting the agri-food value chain.

On the demand side, food consumption is compromised as food prices have increased. High unemployment, unpaid salaries, lack of cash and reduced savings are reducing purchasing power. Decrease in demand is impacting the supply side actors as they struggle to cover their costs.

The negative impacts of COVID-19 on agriculture and food value chains are continuing to unfold. Several grave shocks are likely to emerge in the medium to long term that will increase food insecurity. Building value chain resilience is critical to mitigate food insecurity risks and reduce the potential shocks that lie ahead.

Key recommendations are:

1. Policy responses for economic recovery and sustainable agriculture in the short to medium term

The pandemic response requires a strong policy responses starting by making food and nutrition assistance at the heart of social protection programmes in Libya and to keep the food value chain alive by focusing on key logistics bottlenecks. Libya will benefit from keeping the global food trade open to be able to keep physical and economic access to food feasible and sustainable.

Libya may rethink its food security to ensure strong and significant recovery from both conflict and COVID-19 crisis. And regardless of the balance between sovereignty and food security to be chosen, countries need to develop relevant, bankable, operational, and resilient food security strategies. In addition, subsidies, economic incentives and digital transformation should be part of any change in paradigm.

The pandemic impact on agri-food value chains is a threat to agriculture and food security. Libya's informal economy, will experience further exacerbation of worker vulnerability including agriculture workers that are mostly immigrants. The COVID-19 pandemic is a major economic and labor market shock, presenting significant impacts in terms of unemployment and underemployment for informal workers in Libya.

2. Other specific quick-win responses

A. Establish an Agriculture Reconstruction Command Center (ARCC).

The ARCC would serve as an independent overarching joint commission to spearhead the reconstruction of sustainable agriculture and fisheries sectors. The national hub will be responsible for coordination and management of international assistance; development of agricultural policy; conducting programmatic analysis, feasibility studies and project prioritization; private sector development and capacity building. ARCC will have three units that

work on developing a more resilient, sustainable and inclusive agri-food value chains:

B. Food Security Hub (FSH).

The FSH will establish a robust food security mapping, monitoring and response system. FSH will provide regular monthly analysis and reporting to inform crisis response, provide market and consumer monitoring and connect

VC actors. The unit will develop an Food Security Monitoring Unit dashboard/portal that provides a snapshot of the food security situation including price and production levels, risk warnings, hot spots, COVID-19 price impacts, employment and consumer monitoring.

C. Agriculture 4.0 Unit (A4U)

The A4U will jump start the digitization of agriculture, support data needs in ARCC units, support Agri-Tech startups, uncover market opportunities, build capacity, and leverage successes such as the WFP program in Fezzan. Data communication tools will connect local producers to markets and explore ways to shorten and simplify supply chains and create more versatile markets. The unit will help start the digitization of agriculture and funding which will develop the sector and market opportunities.

D. Agriculture Health Crisis Unit (AHC)

The AHC will develop a strategy to monitor, shield, test, trace and treat agri-food value chains. AHC will provide a proactive approach to addressing health concerns, crisis and containment at the producer, animal, crop and consumption levels.

E. Develop gender specific programs

Conduct in-depth assessments of gender in agriculture that target increasing employment opportunities and lowering entry barriers for women in the agri-food value chains in the short, medium and long term. Use the analysis to inform a COVID-19 emergency response to develop programs that target gender employment gaps and increase opportunities in agri-business.

METHODOLOGY

This assessment examines the impact of COVID-19 on food value chains and food security in Libya. The study uses the global value chain analysis framework to map the role of actors in the chain and determine shifts that occurred since the onset of COVID-19. Global value chains (GVC) refer to the sequence of value-added activities that comprise the creation, delivery, and end-use of a product or service. Applied to the agri-food sector, the framework examines actors, activities, policies, and transformations in global and local food networks and their impact on food security outcomes (Ahmed, 2019). The study examines the GVC actors and geographic scope in figure 1 and their relationship to the four dimensions of food security:

- » Food Availability: Food is consistently available for consumption;
- » Food Access: Population has the physical access and the ability to purchase food to meet dietary needs
- » Food Utilization: Proper knowledge of preparation and sanitation exists for available food and the food is culturally appropriate for the target population.
- » Stability: Availability, access, and utilization are consistent over time.

Figure 1: Food security and global value chains framework



Source: Author

The study adopts a detailed qualitative approach to provide a firm/actor level analysis of lead players. The report draws on primary data collected by interviewing key actors in Libya as well as secondary data, including trade and agricultural statistics, academic journals and international and industry reports. The primary data collection consists of two components:

- » In July 2020, the World Food Programme mVAM (mobile Vulnerability Analysis and Mapping) utilized mobile technology to reach 118 farmers in the east, south and west of Libya (from Ajdabiya, Al-Jabal Al-Akhdar, Al-Jufra, Al-Kufra, Al-Marej, AlRehabat, Bani Walid, Benghazi, Derna, Ghadames, Ghat, Marzuq, Misrata, Sabha, Sirte, Tobruk, Tripoli, Ubrai, Wadi Al-Shatii).
- » In August 2020, FAO led semi-structured interviews with 66 value chain actors in the east and south (Al Qatrun, AL-Jabal Al-Akhdar, AL-Jufra, AL-Kufra, AL- Khums, AL-Marej, AL-Wahat, Bani Walid, Benghazi, Derna, Ghadames, Ghat, Jafara, Janzur, Marzuq, Misrata, Qasr Masoud, Sabha, Sirte, Tajura, Tobruk, Tripoli, Ubrai, Umm al Aranib, Wadi Al-Ajal, Wadi Al-Shatii, Western mountain) of Libya from :

- ten farmers;
- ten importing firms;
- ten bakeries;
- ten retailers;
- three fishermen and retailers, three butchers, two chicken broilers ;
- nine government representatives (including the Ministry of Economy and Industry and the Central Bank of Libya);
- eight port representatives and shipping handlers in the Port of Benghazi, the Port of Tripoli and the Port of Tobruk; and
- chamber of industry.

Limitations

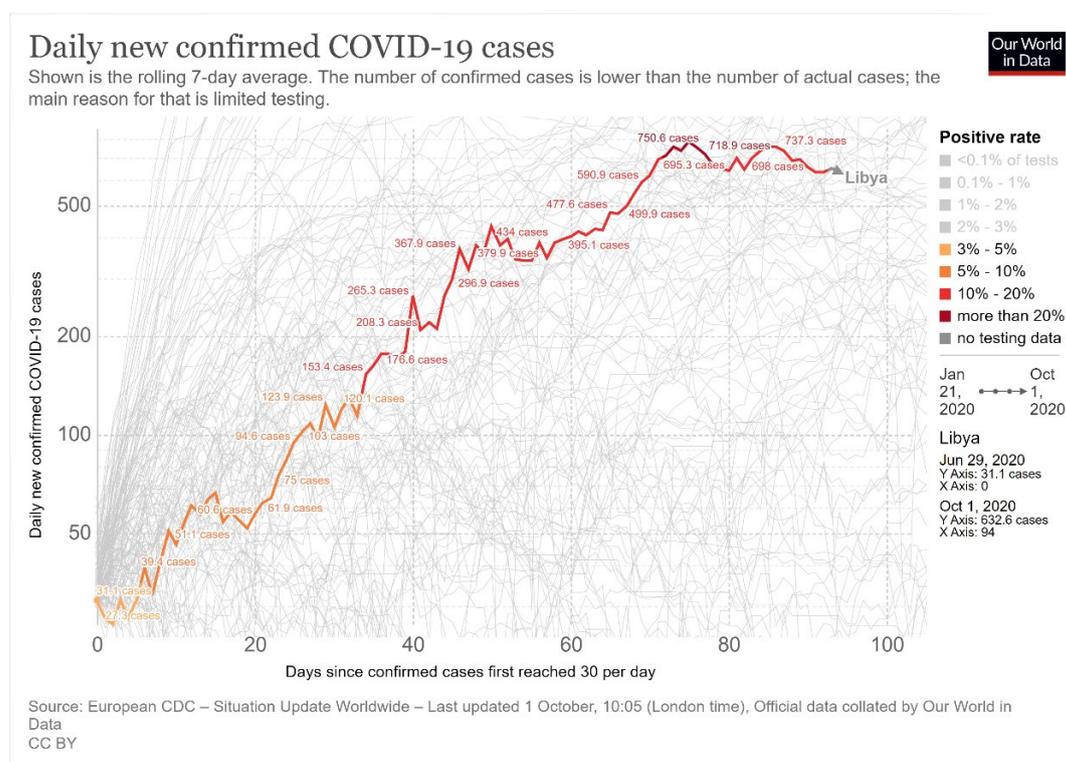
- » **Data availability.** There are limited up-to-date data on agriculture, economic and market systems in Libya. Data used in this report is based on the latest available data sets from international and local sources.
- » **Conflict and COVID-19.** The complicated dynamic of the conflict and the pandemic limited access to some key participants. Despite these difficulties, local field researchers managed to collect data through mVAM technology, semi-structured interviews and field visits. Government data was difficult to access.
- » **Cultural and other sensitivities.** Awareness of value chain actors about the pandemic is low and stigma against being sick limits data collection regarding the spread of the pandemic. Other sensitivities include gender, financial, operational, corruption and procurement challenges.

1. COVID-19 IN THE COUNTRY

COVID-19 has showed the importance of global response, integrated support, and leave no one behind, especially with the most vulnerable, particularly in the emerging and developing world. "Only together can we overcome the intertwined health and social and economic impacts of the pandemic and prevent its escalation into a protracted humanitarian and food security catastrophe, with the potential loss of already achieved development gains" (Joint statement by ILO, FAO, IFAD and WHO. 2020e)

In november 2020,Libya's COVID-19 cases are doubling every two weeks and grew by a factor of 80 since the end of May 2020 (IMF, 2020a). As of November 2020, confirmed COVID-19 cases exceeded 73 600 compared to about 9 007 cases in July 2020 (Roser *et al.*, 2020). Confirmed coronavirus cases in figure 2 are increasing at an alarming rate and reached over 1 000 cases per day in October 2020 (Roser *et al.*, 2020). The number of cases is understated due to a lack of testing and access to healthcare, continued hostilities and limited data collection.

Figure 2: Libya confirmed COVID-19



Source: Roser *et al.*, 2020

The pandemic health crisis further stressed the under-resourced and damaged health systems in Libya. COVID-19 hot spots in the country are highly populated cities, including Tripoli, Benghazi, Misrata and Sabha. Recently, the mayor of Hay Al-Andalus in Tripoli described the situation as dangerous and stated that the

pandemic is now beyond containment (World News Daily, 2020). Libyan authorities initiated public health measures in late March 2020 to control the spread of Corona virus, including mobility restrictions, border closures, and curfews (Table 1).

Table 1: COVID-19 measures in Libya

PUBLIC HEALTH MEASURE		IMPACT
 <p>Restricting movements & lockdowns</p>	<ul style="list-style-type: none"> → Near total lockdown → Curfews from 3:00 p.m. to 6 a.m. → Border closures → Travel restrictions → Banning public gatherings → Repatriation of Libyans 	<ul style="list-style-type: none"> → Different governmental administrations hamper enforcement → Low awareness and disbelief of the pandemic → Restrictions are often not respected → Reduced cross border imports and clearance of goods at the ports → Reduced labor availability and incomes → Repatriated Libyans and cross-border smuggling continue to spread the virus → Reduced access to markets
 <p>Quarantining travelers</p>	<ul style="list-style-type: none"> → All travelers and cross border transporters have to isolate up on arrival 	<ul style="list-style-type: none"> → Limited availability of drivers to transport goods → Loss of driver income
 <p>Freeing inmates</p>	<ul style="list-style-type: none"> → Some 470 inmates from local and regional prisons and detention centers 	<ul style="list-style-type: none"> → Low to high security risks
 <p>Health measures</p>	<ul style="list-style-type: none"> → Inspection of all imported goods → Wearing masks and protective gear → Social distancing 	<ul style="list-style-type: none"> → Protective gear is not available and unaffordable → Low awareness → Health precautions are not followed → Difficult to implement among displaced Libyans and migrants

Source: based on field research and IOM Displacement Tracking Matrix, 2020; IMF, 2020a

Libya’s National Centre for Disease Control, which operates across the country, continues to implement strict measures to contain the spread of the Coronavirus within Libya, but the fighting and migrating militias and civilians pose a challenge (IMF, 2020a). The mobility graph in figure 3 below show that Libyans are not responding to these measures.

A sharp fall in living standards, low awareness regarding the pandemic and the continued

conflict are some of the reasons that many Libyans are not following the health guidance. Many cannot afford minor purchases of masks or disinfectants and are struggling to meet their basic needs. The situation is likely to deteriorate as the spread of the COVID-19 intensifies coupled with lack of enforcement of containment measures which will increase infection rates especially among displaced Libyans and migrants (World Bank, 2020b).

“ People are asked to wear masks and use (sanitizing) alcohol, but they have not been paid salaries. I prefer to buy bread for my children. ”

*Said a Tripoli taxi driver.
(World News Daily, 2020)*

Figure 3: Libyan's are spending less time at home as COVID-19 cases increase

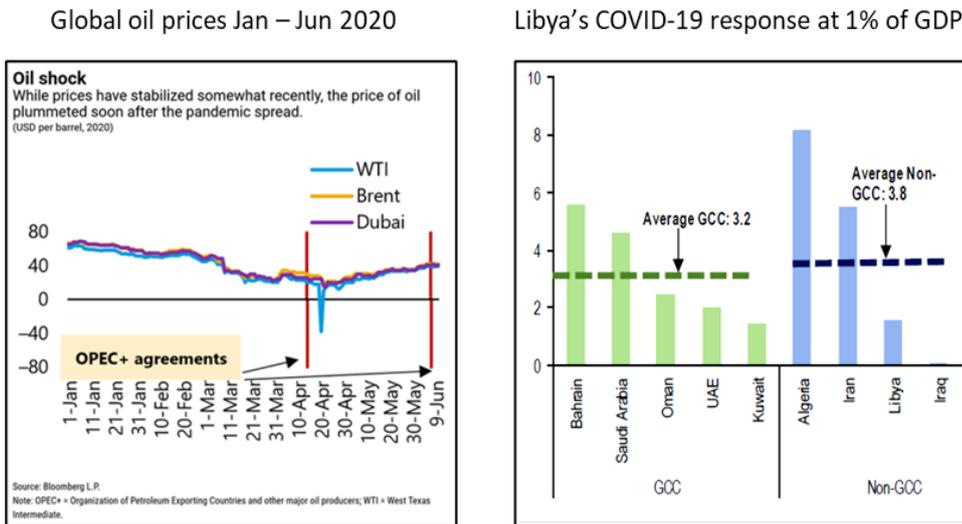
Source: Google COVID-19 Mobility Trends, 2020

Dip in oil prices, conflict and a weak economy constrain Libya's fiscal policy response to COVID-19.

The spread of the pandemic worsened Libya's already hemorrhaging economy and contracting GDP which is suffering from years of conflict and underdevelopment. Libya's economy is not well diversified and depends highly on oil and gas revenues, making it especially susceptible to

global shocks. The global prices of oil plummeted in early 2020, fell below USD 0 by April 22th and turned negative (see figure 4). The drop in prices is so severe and unprecedented that some traders paid buyers to take oil and move it prior to expiration of future contracts in May of 2020 (IMF, 2020c; Reed and Krauss, 2020). The spread of the pandemic reduced demand for oil and prices continue to be depressed below pre-pandemic levels.

Figure 4: Global oil price drop and Libya’s COVID-19 response as percent of gross domestic product



Source: IMF, 2020a, 2020c

The steep drop in oil prices, the collapse of over 90 percent of oil production, and the continued blockade of Eastern Libya’s port terminals by Khalifa Haftar’s forces cost Libya over USD 8 billion in export proceeds (El Wardany, 2020; IMF, 2020a). The drop in oil revenue reduced the fiscal space in public expenditure to effectively respond

to a pandemic. The government’s fiscal response in figure 4 was very low, at only 1 percent of the country’s GDP, below the regional oil producers’ response which exceeded 3 percent of gross domestic product with over USD 30 billion (IMF, 2020a). Table 2 provides a summary of some of the fiscal response announcements.

Table 2: COVID-19 Fiscal Response in Libya

LIBYAN GOVERNMENT FISCAL RESPONSE TO COVID-19	
April 2020, Government of National Accord (GNA)	LYD 500 million in emergency COVID-19 response
August 2020, Central Bank of Libya	LYD 562 million were allocated to the Ministry of Health
	LYD 50 million were allocated to municipalities and local councils
	LYD 95 million to the military for medicines and medical equipment
	LYD 41 million to Libyan embassies and consulates overseas

Source: IMF, 2020a

The spread of the pandemic is augmenting Libya's economic crisis.

Table 3 below shows that Libya's GDP contracted by 59 percent in 2020, compared to an expansion of 10 percent in 2019. The removal of food subsidies, due to lack of funds and the devaluation of the Libyan Dinar, increased inflation to about 22 percent of GDP after going down in 2018 and 2019. Foreign exchange is difficult to come by with a growing trade deficit that exceeds 7 percent of a declining GDP. The Libyan Dinar lost about 54–70 percent of its value due to weak economic fundamentals which increased the cost of agricultural inputs, food and medical imports (World Bank, 2020c).

The World Bank estimates that Libya's gross domestic debt will continue to be high, at about 144 percent of GDP. Budget deficits are expected to be financed through cash advances from the Tripoli Central Bank and the issuance of government bonds in the east, but there is no evidence that the central bank will do so (World

Bank, 2020c). All field interviews reported that lack of letters of credit and financing from Libya's Central Bank is a considerable constraint to food imports which deteriorated with the onset of the pandemic.

There is a systemic cash crisis at all levels in the country including banking and households. There is very little trust in the banking system, which is reinforced by the banks' inability to finance public debt and meet the government's financing needs including civil servants' salaries. In mid-April the GNA declared a 20 percent pay cut to salaries including public sector employees. Many employees have not received salaries for many months and vendors are not being paid.

The private sector is weak due to the pre-2011 public and private sector monopolies which created negative sentiment towards investment (USDA, 2020b). Investments in infrastructure, logistics and modern retailing are low, especially in rural areas which depend on micro retailers.

Table 3: Libya's economic indicators

 INDICATORS	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Gross domestic product, constant prices ^(a)	-67	125	-37	-53	-13	-7	64	18	10	-59	
Inflation, average consumer prices ^(a)	16	6	3	2	15	24	28	-1	5	22	
General government net lending/borrowing ^(b)	-17	29	-5	-74	-131	-113	-43	0	9	-7	
Current account balance ^(b)	10	30	0	-78	-54	-25	8	2	0	-7	
^(a) %change / ^(b) %of GDP											

Source: IMF, 2020b

Libya’s population is mostly young and unemployed.

By the end of May 2020, the International Labour Organization (ILO) estimated that 94 percent of the world’s workforce lived in a country with some form of workplace closures. The lockdown measures to contain the spread of COVID-19 severely curtailed people’s ability to work and

employment impacts appear much larger than anticipated (WFP, 2020). The majority of Libya’s population (see Table 4) is young with over 65 percent of the people under 34 years of age. About 80 percent of the population is in urban areas that are also growing hot spots of the pandemic. Almost 30 percent of the population lives under the poverty line (Arab Development Portal, 2019).

Table 4: Libya’s population profile in 2019

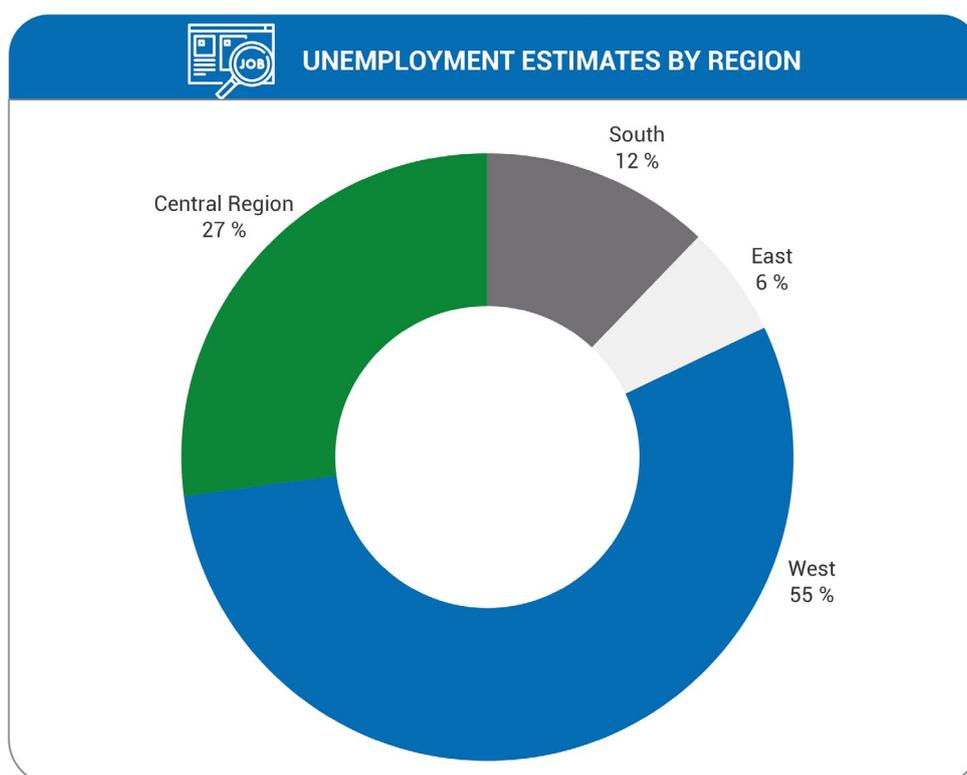
POPULATION	% MALE	% FEMALE	% URBAN	% RURAL	% 15 - 34 YEARS OF AGE
6 777 452	51	49	80	20	66

Source: World Bank, 2020a

The World Bank estimates the Libyan labor force in 2020 averaged 2 460 060 people (World Bank, 2020a). The unemployment rate is high at about 20 percent. Unofficial unemployment estimates are higher and exceed 30 percent and among

youth at about 50–60 percent (Zaptia, 2020). The Western part of the country has the highest unemployment rates, followed by the central region (Figure 5).

Figure 5: Unemployment in Libya by region



Source: Zaptia, 2020

The public sector, which accounts for over 85 percent of employment, is unable to meet its salary obligations and the rising wage bill that accounts for about 48 percent of its GDP (World Bank, 2015, 2020c). We expect that high

unemployment, cash shortages, high inflation, security issues and the spread of COVID 19 will erode Libyan's purchasing power exposing them to higher food insecurity.

2. LIBYA'S POSITION IN GLOBAL VALUE CHAINS



In 2020, Libya's economy per capita is USD 3 280 compared to USD 6 060 in 2019. In 2018, Libya is ranked 68th in terms of exports and 90th in terms of imports. Libya ranked 113th in terms of the economic complexity index (ECI) lower than neighboring Niger (OEC, 2020) indicating poor participation in global value chains with low product diversification and low product processing. Libya's economy depends on fossil fuel exports that represent over 95 percent of its exports, amounting to about USD 29 billion in 2018 (Chatham House, 2020).

Agriculture contributes less than 3 percent of the country's GDP and about 19–22 percent of the Libyan population is engaged in agriculture (GIEWS, 2020; WFP, 2020a; World Bank, 2020a). Agriculture production only covers small part of food imports because of water scarcity, lack of skilled and attraction of labor, and scarce arable land that covers only about 1.7 percent of the country's area.

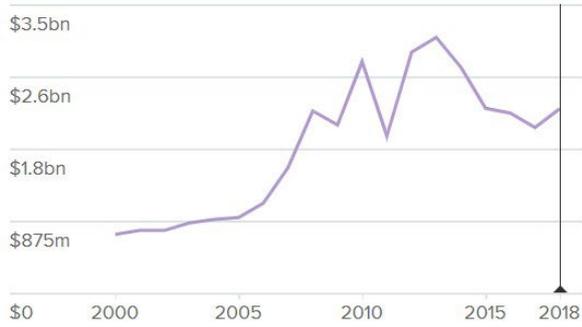
Libya is a net food importer with over 75–80 percent of its food coming from Europe and the Middle East and North Africa region (Figure 6) (Chatham House, 2020; FAO, 2020b). Over 74 percent of food imports are grains and cereals. Wheat, wheat flour and barley account for 54 percent of imports (Figure 7). Spain is the largest exporter of agricultural products, especially live animals, followed by Ukraine for grains, Turkey for cereals and meats, Romania for cereals, meats and dairy. It is important to note that Egypt is the leading exporter of horticulture, dairy and honey products (Chatham House, 2020; OEC, 2020). Libya's food import dependency and unstable political and economic landscape exposes the country to high price volatility due to import regimes, exchange rates and depreciation of the Libyan currency. This in turn will impact the country's access to food. Global trade already recorded a 5 percent drop in the third quarter of 2020 and is projected to continue to decline by 7 percent by the fourth quarter compared to the same period the previous year (UNCTAD, 2020).

Most food and agricultural imports come from countries that are severely affected by COVID-19 (Figure 6). Figure 8 shows the impact of global trade restrictions¹ in the wake of COVID-19 on food importers, including Libya. (Laborde, 2020). Countries in the region started implementing border control measures to slow the spread of the virus which decreased the flow of food imports from Egypt and Tunisia. Libyan authorities also closed the borders, implemented curfews and imposed quarantine measure on drivers moving goods across borders. These steps led to a price increase of about 50 percent on some food items (World News Daily, 2020; Xinhua, 2020).

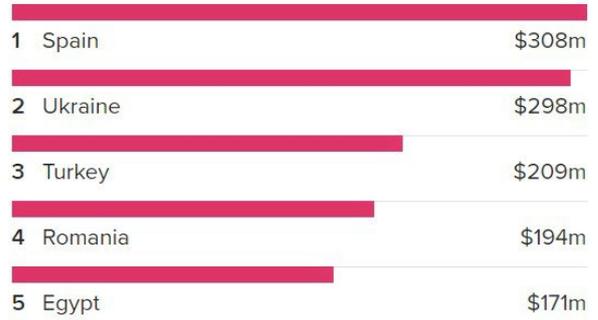
¹ Annex 1 provides a list of active and inactive COVID-19 export restrictions. About 19 countries restricted exports in the wake of COVID-19, impacting approximately 27 food export products. Currently 8 countries have active export restrictions on 11 food products (Laborde, 2020).

Figure 6: Libya's food imports in 2018 by source

USD 2.2bn



TOP 5



FASTEST GROWING

2013-2018



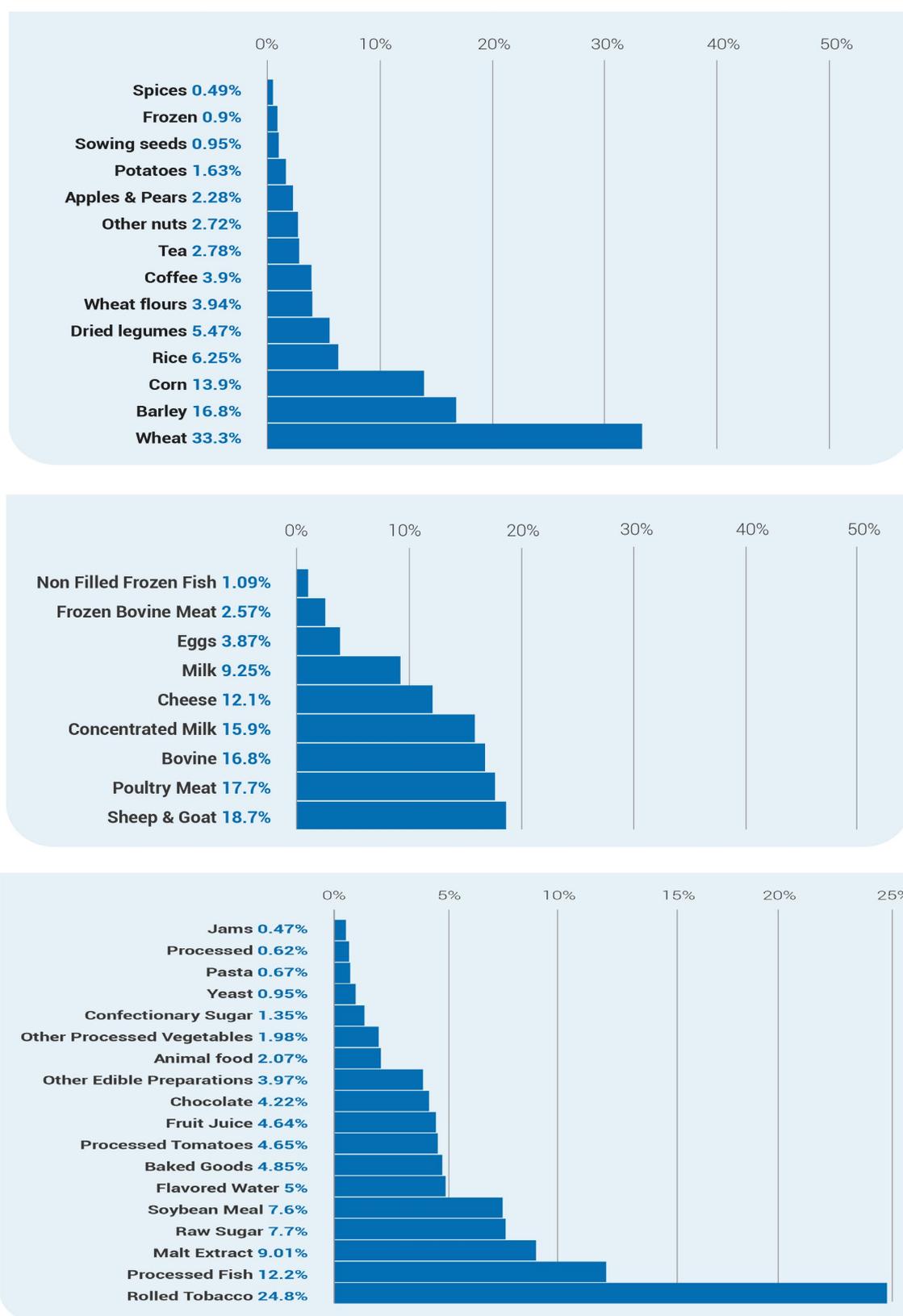
FASTEST DECLINING

2013-2018



Source: Chatham House, 2020

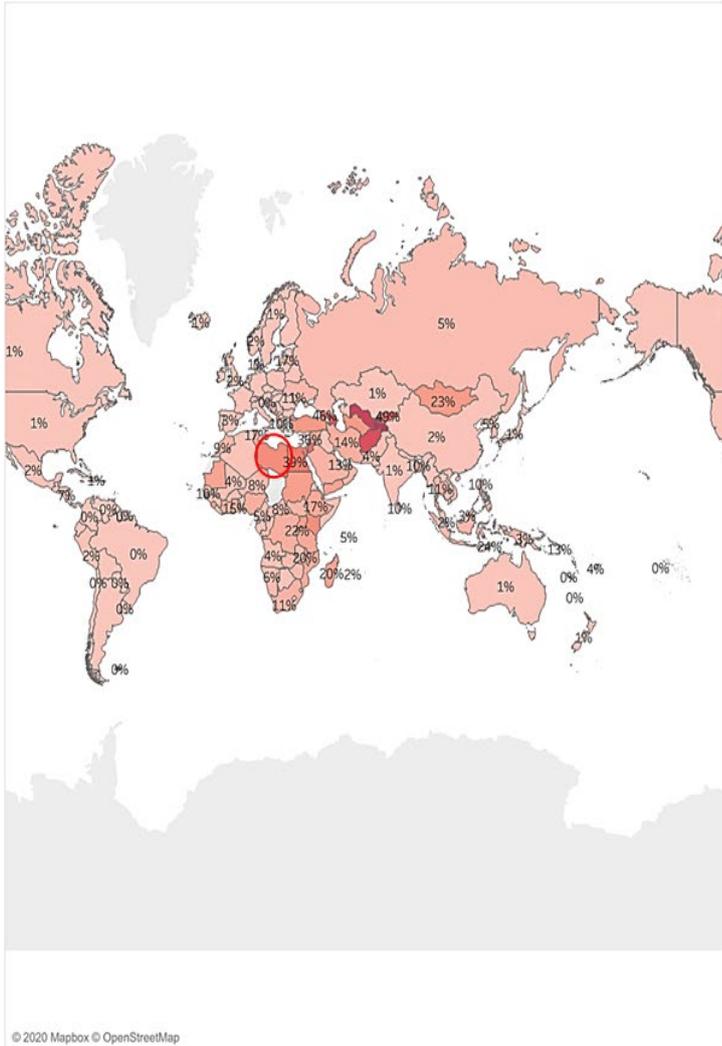
Figure 7: Libya's 2018 food imports by commodity



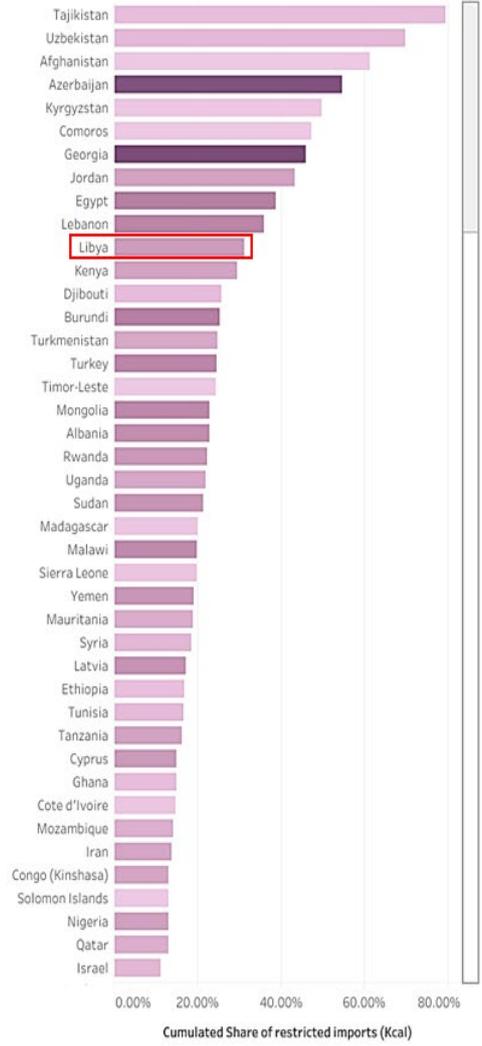
Source: OEC, 2020

Figure 8: Share of food export restrictions on importing countries

Share of Restriction by Importer - Cumulative



Share of Restriction by Importer - Cumulative



Share of restricted flows in food imports (Kcal)



Share of restricted imports in Kcal (currently active)



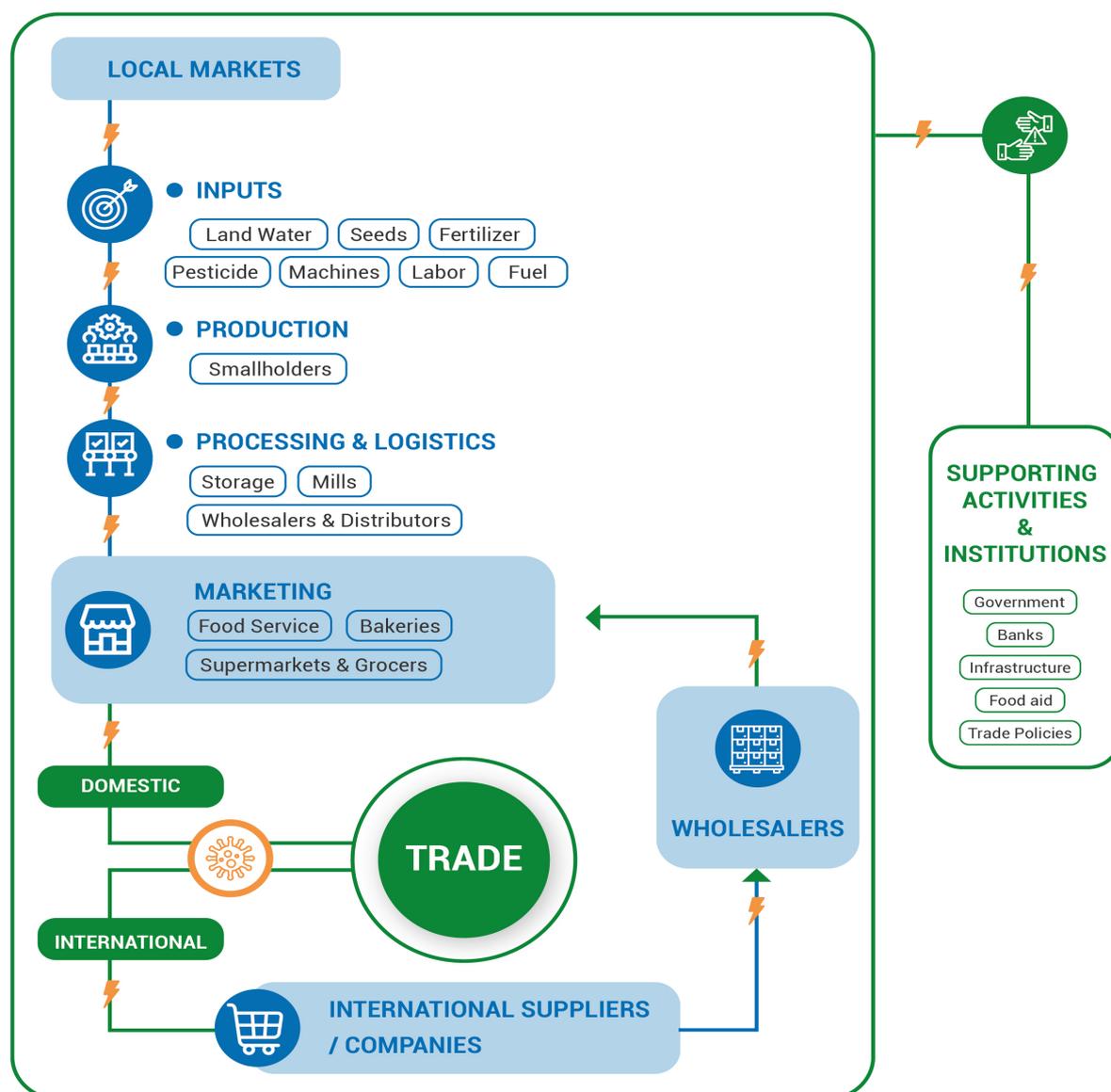
Source: Laborde, 2020

Food value chains

The Libyan agri-food value chain (see figure 9) was underdeveloped prior to the 2011 uprising. Agriculture productivity is low, and the sector suffers from years of negligence and

underinvestment. Logistics are a problem in the entire chain and depend on scarce inputs including foreign labor, roads and fuel. The network is almost entirely import oriented with very little food exports and some local production.

Figure 9: Food and Agriculture value chain map



Source: author

Global measures, summarized in Annex 1, include border closures, export rationing, and outbreaks in critical infrastructure overseas hampered Libyan importers' ability to access markets. At the same time, economic challenges discussed

above further complicated supply and demand fundamentals which contributed to an increase in food prices. Table 5 below provides an overview of some of Libya's value chain actors and disruptions in the chain.

Table 5: Value chain disruptions by actor due to COVID-19 impacts in Libya

ACTOR	ROLE IN THE CHAIN	DISRUPTION	IMPACT OF COVID-19 ON DISRUPTIONS
 Ministry of Agriculture	Responsible for the agriculture sector and agricultural subsidies	Downgraded to an authority Ended subsidies	Increased
 Price Stabilization Fund (PSF)	Food imports Food Subsidies Food Marketing	Unable to mobilize funds Unable to supply subsidized goods	Increased
 Ministry of Economy and Trade	Approve import budget Support subsidies Business licensing and registration	High operating deficit Low capacity Cannot support subsidies Reduced oil revenues Increasing trade deficit	Increased Is not providing COVID-19 relief
 Central Bank	Oversea banking sector and government budget Approve import budgets Issue letters of credit Sets official exchange rate	Operates a high deficit Lack capacity Unable to pay government obligations	Increased
 Consumer cooperatives	Subsidized food retailing Approximately 6,500 retail outlets	Mostly Difunctional Unable to procure goods from PSF and lacks funds	Increased Shortages at the consumer cooperatives level
 Farm owners and fishermen	Mostly small-scale farming Production of grains, livestock, fish, fruits and vegetables, dates and honey	Some plan to abandon agriculture Severe shortages of water, fuel, labor, logistics and inputs Unable to access markets	Increased Higher costs, losses and reduced incomes
 Private Importers	Food and agriculture imports	Unable to access credit Lack of labor and transport Border closures Port procedures Reduced access to commodities	Increased Difficulty accessing imports Higher commodity prices
 Bakeries	About 4 000 bakeries Flour and bread retailing	Power and flour shortages Labor shortages	Increased Input prices and costs increased Some bakeries shut down
 Mills	Public and private millers 42 mills (3 million tons of flour) 8 semolina mills (700 000 tons)	Less than 20 are operational	Unable to access to subsidized wheat
 Food retailers	Small food vendors in traditional markets Micro grocers Hypermarkets	Declining sales Power failures Product spoilage Lack of cash and credit	Increased

Source: Field interviews August 2020

In April 2020, the Libyan Joint Market Monitoring Initiative announced that the cost of the Minimum Expenditure Basket (MEB) increased, on average, by about 30 percent. Bread, rice and cereals account for over 30 percent of consumer spending. Shortages in food items, such as eggs, vegetables and wheat products are being reported. The median price for wheat flour increased by 50 percent. Fish and fish products are the only food sector that is forecasted to grow by about 2 percent by 2023 if constraints in fisheries are addressed and sustainable fisheries are developed (BMI, 2020).

Libyan food value chains actors

The government is the main actor in food imports, grain processing, food marketing and subsidies. Tenders and purchase orders are the main mechanisms that the government uses to procure food commodities every three to four months. The Central Bank and the Ministry of Economy and Supply set the budget for commodity imports, procedures, letters of credit and trade guidance.

The National Supplies Corporation (NASCo) is the government food marketing monopoly that managed imports, storage and distribution of food staples since 1971. The National Company for Flour Mills and Fodder and the

General National Company for Semolina are the government monopolies that operate grain and cereal processing, storage and distribution under the guidance of NASCo. They are responsible for:

- » Flour milling facilities
- » Production of fodder products and marketing inside and outside of Libya
- » Import and distribution of fodder in Libya
- » Production of semolina and noodles

There are about 50 mills in Libya but less than 20 are estimated to be operational with a production capacity of almost 70-1 000 tonnes of flour per day. Most of the operational mills are small scale (65 percent) and only seven of them are large industrial processors. The National Flour Mills

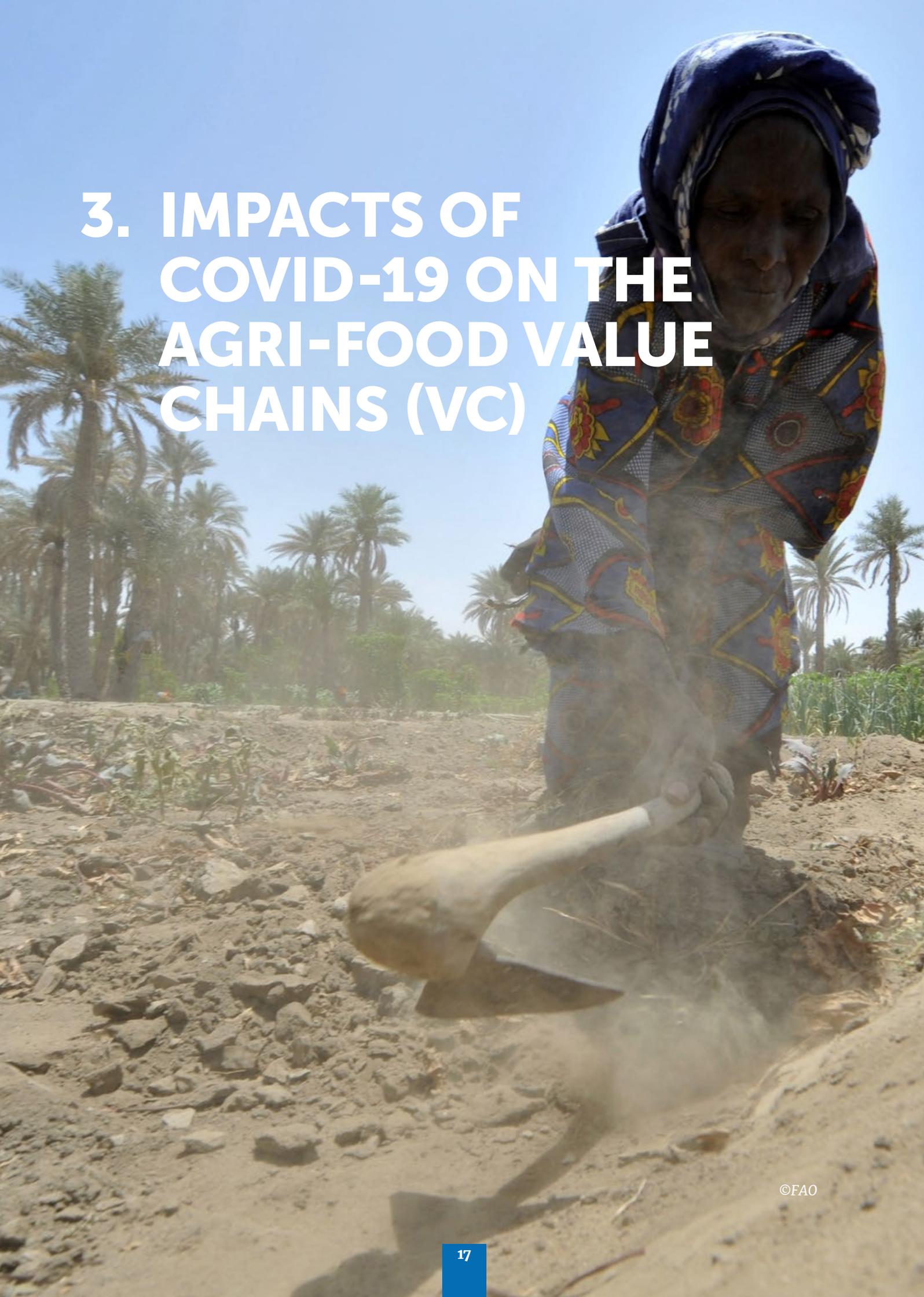
Company operates three of the large mills (two near Tripoli and one in Benghazi). Milled flour is distributed to retailers and the Price Stability Fund (Lyndon, Chris, 2018). Since 2011 the lack of operational mills led to increased flour imports. FAO estimates that flour imports increased by 94 percent in 2018, at about 93 383 tonnes, compared to only 5 549 tonnes in 2013 (FAO, 2020b).

Staple goods such as bread, flour, and rice are supplied at subsidized prices in consumer co-operatives and in bakeries for bread. Food subsidies cover basic food commodities such as flour, rice, and sugar, which are imported by the NASCo, as well as non-food commodities such as gasoline (Sehib, 2013).

Around 2004, the Price Stabilization Fund (PSF) was established to manage Libya's food subsidies. The government stopped supporting subsidies, accounting for about 11 percent of GDP, because of the declining oil revenues and increasing budget deficit (World Bank, 2015, 2020c). Actors in the chain are sourcing outside the government subsidy system at parallel market prices which increased food prices locally.

The private sector emerged as the main actor in the food value chains after the 2011 uprising. Many Ghaddafi-era traders (mostly in Tripoli) are the lead players in food imports and wholesaling. Hosni Bey Group is the largest trader, processor and retailer. There are few small-scale traders who operate in major cities, import many food and non-food items and operate as distributors and wholesalers. Local distributors and retailers buy from these wholesalers and do not import directly. Some importers are upgrading by setting up storage and packaging facilities (USDA, 2020b). Farmers in the chain sell their products to local wholesalers, distributors and retailers. There is a thriving black market that provides foreign currency, food commodities, cross border trading (including smuggling of food in and out of Libya) and agriculture inputs at high prices. There are no state mechanisms that effectively oversee prices, operations and transactions throughout the chain.

3. IMPACTS OF COVID-19 ON THE AGRI-FOOD VALUE CHAINS (VC)



Libya's food security is at high risk.

Eighty percent of Farmers and 75 percent of importing firms (see Figure 10) believe that Libya's food insecurity increased after the beginning of the pandemic. Libya's food production is low, insufficient to meet local demand and farmer support is non-existent. All actors believe that dependence on imports is the primary reason for the heightened food insecurity risk and the worsening of food access.

Awareness of the food security risks range from a low 20 percent among retailers to above 75 percent among farmers and firms, suggesting knowledge about the food situation and policy responses is low in several value chain segments, including the government and retailers. Only

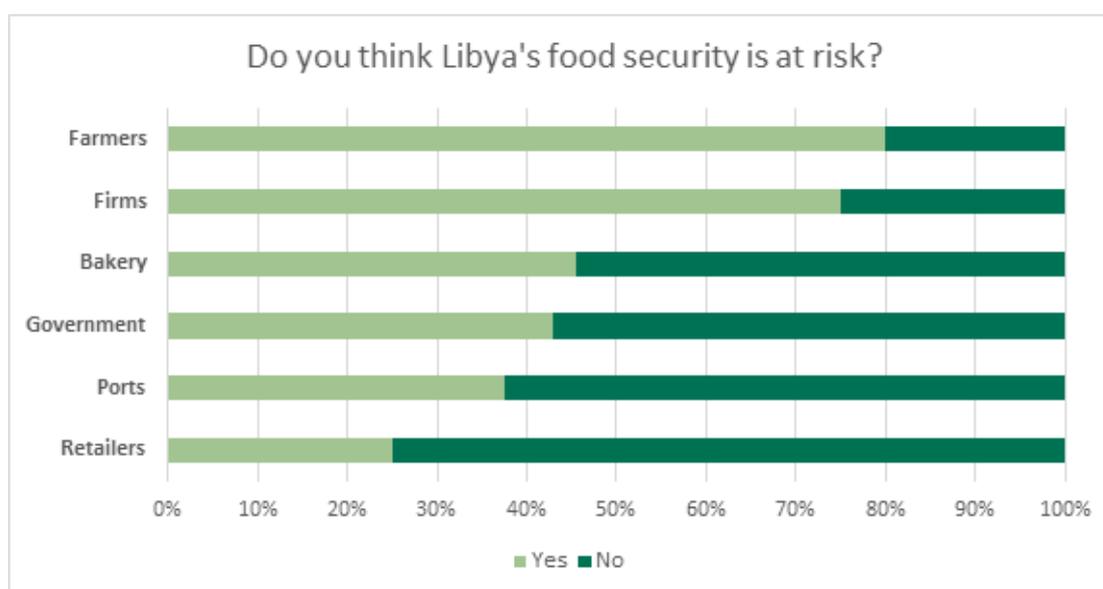
20 percent of retailers think that Libya's food security is at risk, signifying muted impact on the retail level and lack of information regarding downstream value chain disruptions.

Farmers, firms and bakeries all reported adverse impacts due to the pandemic lockdowns in Libya, neighboring countries and global supply networks. All three VC actors reported reduced

access to markets and acute shortages of labor, liquidity, foreign exchange and production inputs. Importing firms are closely connected to uncertainties in global markets, think that the situation will likely get worse and stated that current imports are mostly from pre-COVID-19 contracts. Challenges in downstream VC segments are manifesting at point of sale retailers and bakeries as shortages in staples such as flour, bread and eggs, lead to higher prices, slowing demand and higher food waste.

Households food affordability is declining, and families are already substituting nutritional quality for quantity. The WFP estimates that 80 percent of households are reducing their food consumption, food rationing, eliminating higher cost food items, and/or increasing intake of cheaper foods (WFP mVAM, 2020). Since March 2020, the WFP received a higher number of requests for assistance from 24 municipalities and the Ministry of Social Affairs to support over 100 000 people in addition to those that WFP is already supporting. The number of food-insecure people in Libya increased from 336 000 to over 683 000, of which 209 000 are migrants and 474 000 are Libyans (WFP, 2020c).

Figure 10: Libya's food security is at risk



Source: FAO field interviews August 2020

Higher prices, stringent food standards and financial constraints are the leading import trends.

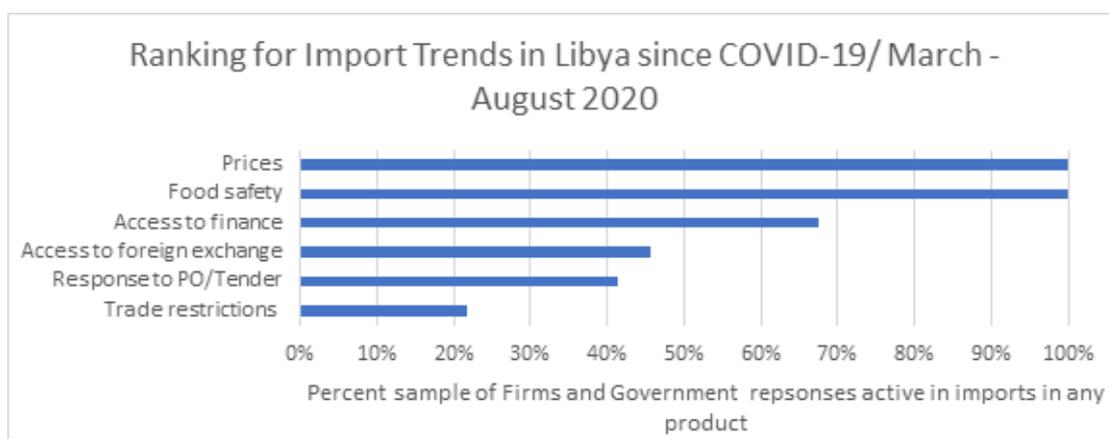
All importing firms and government agencies report high foreign exchange rates and food safety concerns among the leading impacts of COVID-19 in Libya (Figure 11). The Libyan economic crisis worsened with the onset of the pandemic as global oil prices tumbled and government deficit increased, which impacted food access in multiple ways.

First, the Libyan Central Bank is unable to issue letters of credit to food importers and is not providing them with foreign currency. Firms and government VC actors are reporting higher prices (100 percent), lack of access to finance (67 percent) and lack of access to foreign exchange (46 percent) as the leading trends since the spread of the pandemic, which they directly link to the central bank. Importers resort to black market traders who offer foreign currency at about 75 percent above the official bank rate. As of August 2020, the Libyan Central Bank official exchange rate was only 1 406 LYD for the USD 1 compared to the market rate of about 5.59–6.9 LYD for USD 1 (FAO and WFP, 2020; REACH, 2020b). COVID-19 worsened the black market currency that worsen the situation of importers in accessing to market noting that parallel currency market is the primary source of currency for all firms in the study.

Second, all government and firm interviews in the study highlighted food and health safety as a leading trend in imports since the onset of the pandemic. However, the government is unable to fund the necessary steps to have an efficient and stringent testing and monitoring system. At the same time, importers are experiencing delays from their suppliers as more stringent testing and other pandemic food safety standards are implemented in exporting countries. This in turn causes interruptions in product arrivals and port clearances in Libya which then causes other delivery delays of inputs and products to upstream and downstream VC actors and creates temporary shortages.

Third, neither the government nor the Libyan Central Bank have enough liquidity to pay government employees and provide financial assistance during COVID-19. This in turn is creating a cash crisis at all levels in the chain, including households who report not having enough cash to meet their daily expenses. The government is unable to fund and meet its financial obligations to VC actors who are supplying subsidized food staples. Financial constraints at the firm level, coupled with political and economic instability since the spread of the pandemic, has impacted the ability of these firms to attract competitive responses to tenders and purchase orders in 45 percent of the firms in the study.

Figure 11: COVID-19 food import trends



Source: FAO field interviews August 2020

Libya is considered as “high-risk market” by global exporters, banks, and shippers. Therefore, difficulties to trade for Libyan firms. Port volumes dropped by about 50 percent and grain imports, including wheat, barley and rice, decreased by 30 percent, 12 percent and 50 percent respectively in 2019 and are projected to decline further in 2020 (Table 6). The decrease in wheat imports

reduced the availability of local milled flour, which explains the lack of locally milled flour in Libya. The chronic flour shortage in Libya has increased the price of flour and bread by at least 50 percent during the pandemic (GIEWS, 2020). Libyan importers anticipate that these conditions are likely to worsen as global suppliers continue to struggle with COVID-19 supply chains.

Table 6: Libya grain imports and total supply from 2012–2019

COMMODITY	ATTRIBUTE	2012 /2013	2013 /2014	2014 /2015	2015 /2016	2016 /2017	2017 /2018	2018 /2019	2019 /2020	TREND	% CHANGE FROM 2012
 Barley	Imports	681	1 001	1 324	1 084	438	888	650	600		-12%
	Total supply	822	1 124	1 443	1 213	561	999	769	719		-13%
 Corn	Imports	812	684	581	679	492	689	700	700		-14%
	Total supply	899	833	714	753	555	744	744	744		-17%
 Meal, Soybean	Imports	248	232	212	185	280	124	250	240		-3%
	Total supply	295	307	299	264	324	228	258	263		-11%
 Rice, Milled	Imports	300	250	200	200	180	170	140	130		-57%
	Total supply	300	250	200	200	180	170	140	130		-57%
 Wheat	Imports	2 050	1 326	1 316	1 477	1 267	1 549	1 400	1 400		-32%
	Total supply	2 450	1 726	1 566	1 727	1 544	1 773	1 723	1 723		-30%

Source: USDA, 2020a

Food value chains disruptions started with the conflict and worsened by COVID-19.

The choke points suggest that disruptions in the Libyan food value chains increased and food insecurity is likely on the rise. Figure 12 summarizes the leading obstacles in the value chain by actor type. Lack of government support and appropriate policies are a major choke point for agriculture and food systems in Libya. The three authorities, the Government of National Accord (GNA), the Benghazi-based Libya National Army (LNA) and the House of Representatives, are not providing any COVID-19 assistance or other types of relief to the agricultural sector, are not raising awareness regarding the pandemic, are

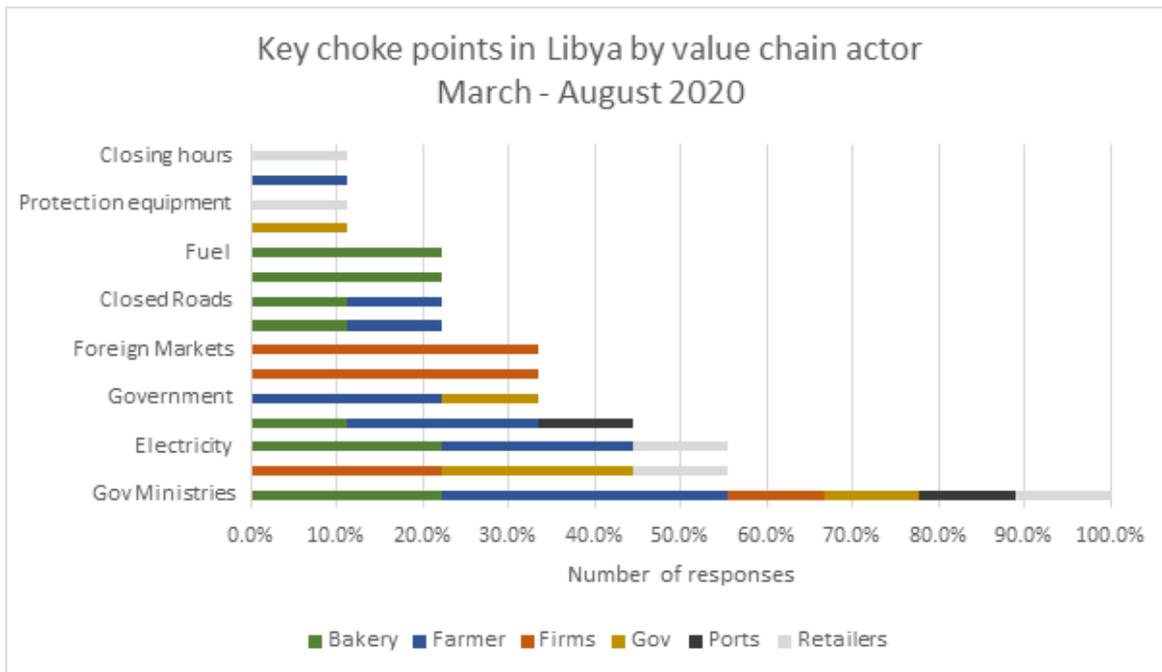
not developing the agricultural sector. Value chain actors tend to see them as a major problem. Value chain actors (farmers, traders, retailers, port authorities and government) have low awareness regarding the pandemic and resort to social media, news and informal information outlets.

All actors, including government representatives, stated that the Libyan Ministry of Economy and Industry and the central bank are not responsive to the current situation. The cash crisis forced many households to adjust their consumption by reducing food purchases. This is confirmed by other WFP surveys (FAO and WFP, 2020; WFP, 2020a, 2020b, 2020c).

COVID-19 containment measures, such as closures, have impacts on value chain actors, including lower market access, decreasing income, and higher production and market costs. Labor, energy and financing problems are escalating with the spread of the pandemic, which

increases the operating costs of value chain actors. Mobility restrictions and shutdowns during the pandemic are also increasing food waste and consumer stockpiling at the farm and retail segments of the chain. Table 7 below summarizes the impact of the COVID-19 in the value chain.

Figure 12: Choke points in agri-foods by actor



Source: FAO field interviews August 2020

The FAO FAPDA site reports policy measures on COVID-19. Re Libya, allocations of resources are reported.

Country	Policy Classification	Policy direction	Policy phase	Initial date	Commodity	Source
Libya	Foreign exchange policy / Macroeconomic policy	Removal	Announcement	03/01/2021		Media - Aljazeera
Libya	Salaries of civil servants / Foreign exchange policy	Increase	Implementation	22/12/2020		Media - Libya Herald
Libya	Nutrition and health policy / Institutional measure	Introduction	Implementation	01/12/2020		Media - Libya Herald
Libya	Other import restrictions / Technical barriers to trade	Removal	Implementation	24/11/2020		Media - Libya Herald
Libya	Transport regulation and infrastructure	Removal	Implementation	15/11/2020		Media - GardaWorld
Libya	Nutrition and health policy	Introduction	Implementation	15/11/2020		Media - The Libya Observer
Libya	Free or preferential trade agreement	Introduction	Implementation	15/10/2020		Media - Libya Herald
Libya	Institutional measure / Transport regulation and infrastructure	Maintenance	Implementation	07/07/2020		Media - GardaWorld
Libya	Institutional measure / Transport regulation and infrastructure	Introduction	Implementation	18/06/2020		OCHA
Libya	Food subsidy	Introduction	Implementation	30/05/2020		Media - The Libya Observer
Libya	Price control	Introduction	Implementation	23/04/2020	Vegetables and derived products, Fruits and derived products, Beef, cattle products, Pigmeat, pigs products, Poultry meat and eggs, Ovine meat and products, Milk and dairy products, Others meat or animal derived products	Social Protection and Jobs Responses to COVID-19: A Real-Time Review of Country Measures
Libya	In-kind food transfer / Price control	Introduction	Implementation	07/04/2020	Wheat flour, Sugar (cane, beet and refined)	OCHA
Libya	Nutrition and health policy	Introduction	Implementation	31/03/2020		NCDC
Libya	Public/mutual fund and contingent risk financing	Introduction	Implementation	30/03/2020		Common Market for Eastern and Southern Africa
Libya	Institutional measure / Transport regulation and infrastructure	Introduction	Implementation	16/03/2020		OECD
Libya	Subsidies on fuel, power and water	Introduction	Announcement	03/03/2020		Media - Libya Herald

Source: <http://fapda.apps.fao.org/fapda/#main.html>

Table 7: COVID-19 choke points and impacts on agri-foods value chain actors

VALUE CHAIN ACTOR	⚡ CHOKE POINT	⚡ IMPACT ON THE CHAIN
 Farmers	Curfews, border, road and market closures	Cannot obtain inputs such as seeds. Cannot access markets to sell produce, lower sales Lower incomes and market activities
	Government	No technical or financial assistance
	Labor	Foreign workers are unavailable Higher labor cost
	Energy shortages	Lower productivity and higher costs
 Bakeries	Curfews, border, road and market closures	Reduced and delayed flour deliveries, bakery closure Panic buying Higher flour prices and bread prices
	Government, Price Stabilization Fund	Lack of financial support Subsidized flour is not available Prohibit bakeries from producing certain products Higher operating cost and reduced revenue
	Labor	Higher labor cost
	Fuel and electricity shortages Policies	Increased costs and reduced income Bottleneck in bread production
 Firms	Curfews, border, road and market closures	Limited imports and increased prices Higher transport and import costs Increased product spoilage and expiration Unable to procure in the same frequency
	Central Bank of Libya	Unable to access credit and foreign currency Unable to meet trade financing
	Government	High risk makes Libya an undesirable trade partner
	Energy	Increased spoilage of foods
 Ports	Curfews, border, road and market closures	Lower shipping traffic Ships stay longer in ports
	Government	Poor port management and procedures increase time in ports Is not paying employees and suppliers
	Reduced labor	Longer port clearance and lack of freight handlers
 Retailers	Curfews, border, road and market closures	Panic buying Reduced sales Shortages of some food items and higher prices Food items are expired Unavailability of gloves, masks
	Central Bank	Lack of cash and credit reduces supplier and buyer access to goods
	Government	Is not providing any COVID-19 assistance or guidance Higher theft of food items
	Energy	Increased spoilage of some foods Increase costs and higher losses

Source: FAO field interviews

Actors are unable to procure inputs and food imports at the same frequency.

All actors in the chain have high exposure to global food and agriculture supply chains. Value chain actors (see Figure 13) who are closer to food imports are experiencing the highest levels of disruptions since March 2020. COVID-19 restrictions, lockdowns and other pandemic measures are impacting 93 percent of the firms

who are reporting not being able to purchase goods in the same frequency from global markets. Border closures and lockdowns in Egypt and Tunisia are causing significant delays in the arrival of shipments to Libya through neighboring ports. Mobility restrictions and quarantine requirements are reducing cross border trucking and discouraging truck drivers to come to Libya.

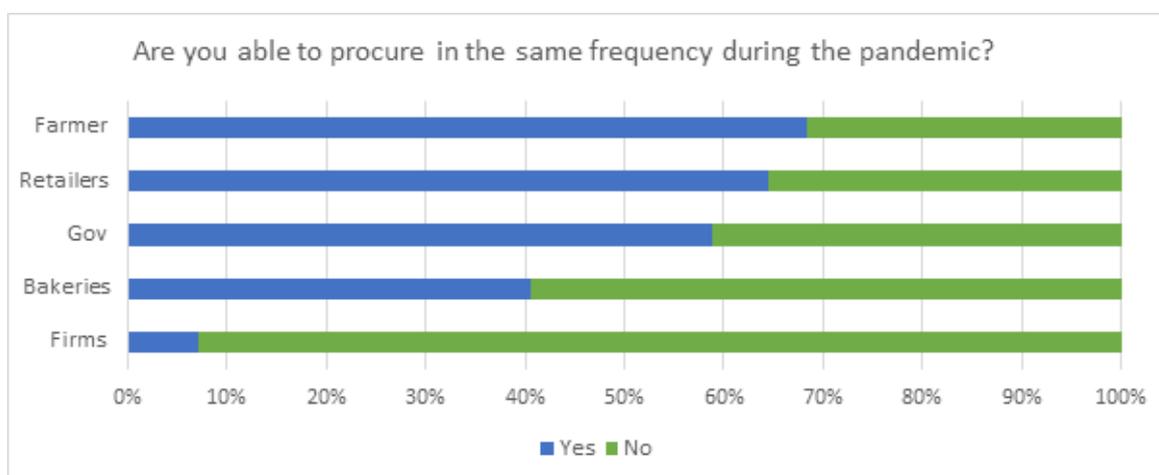
Bakeries are undergoing significant challenges with 59 percent of them unable to access

many inputs, especially flour, due to COVID-19 restrictions. Flour is hard to come by at the official subsidized price, migrant workers are less willing to come to Libya during the pandemic and other inputs, including yeast and energy, are expensive and difficult to access. The sharp decrease in wheat imports is reducing the availability of locally milled wheat, while imported flour is more expensive and flour deliveries to bakeries are unreliable. The threat to continuous operation of bakeries has increased during the pandemic.

Procurement challenges are slightly muted at the farmer level with only 32 percent, retailers

at 36 percent and government actor's at 41 percent, who are reporting not being able to access inputs and products at the same frequency as before the pandemic. Some of the reasons behind this include: the farm production season starts in October and interviews were conducted in August 2020; procurement challenges take some time to cascade down to other value chain segments; lack of knowledge regarding supply chain challenges in other VC segments; retailers and farmers are increasing storage, farmers are reducing their use of inputs; and, when these food products and inputs are available the prices from opportunistic traders are higher.

Figure 13: Impact of the pandemic on procurement frequency by actor



Source: FAO field interviews August 2020

Farm production and marketing

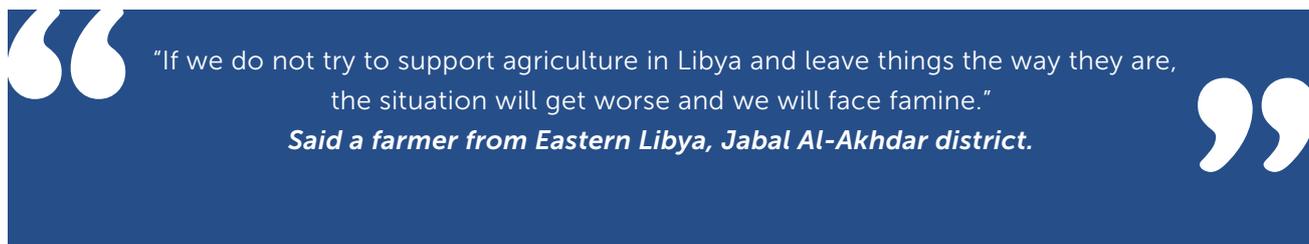
Fifty five percent of the farmers in the study have diversified activities including cereals, crops and livestock; 44 percent are farming crops such as melons, potatoes and dates; and 1 percent are in livestock husbandry.

COVID-19 market and border closures impacted farm production and sales.

Farmers are unable to move their crops from farm to market, pushing prices to lower levels at the farm level (FAO and WFP, 2020) while food shortages and consumer prices are increasing. Agriculture depends on foreign labor from

neighboring countries who are now less willing to come to Libya during the pandemic (FAO and WFP, 2020). Inputs such as fertilizers, herbicides and pesticides depend on imports and their prices have increased by about 20 to 50 percent since March 2020. Agriculture extension services and farmer assistance does not exist.

Farmers depend on family networks for financial assistance and 40 percent of respondents mentioned that they are facing financial difficulties. Sixty percent reported that they are currently managing but that if the situation continues, they will be facing financial challenges. Only 12 percent of the farmers use credit (mostly from the South) to finance their activities. None of the farmers in the west use credit.



Farmers are unable to sell their crops, animal feed and livestock.

Prior to COVID-19, farmers marketed their products in nearby markets or to wholesalers and retailers at the farm gate (figure 14). The pandemic containment policies, including market and road closures and curfews, reduced farmer access to their usual markets and many buyers were not coming to the farm gate or local markets. Some farmers had to look for other marketing channels, 24 percent and 46 percent of the farmers were unable to travel due to COVID-19 restrictions and high logistical costs. Consequently, farm gate prices dropped (figure 15) and farmers (40 percent) are increasing their storage of crops and wheat grains. Other farmers stated that conditions such as market access problems and worsening labor shortages since March 2020 reduced their harvesting capacity of

perishable crops such as melons which increased waste (FAO and WFP, 2020). Farmers are also experiencing suppressed consumer demand since the beginning of the pandemic (figure 16).

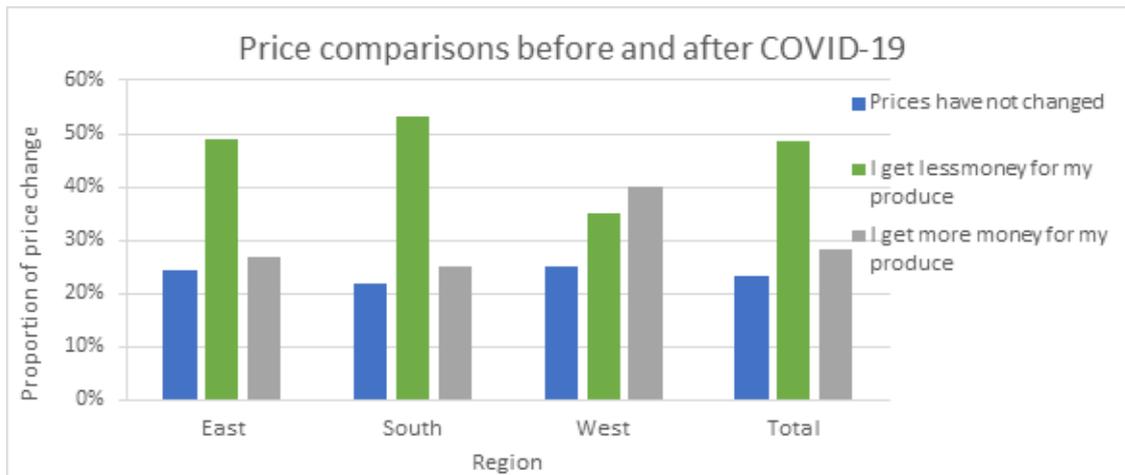
Logistical problems intensified during the pandemic and reduced farmers' access to buyers and inputs. For example, the price of local animal feed increased, and livestock growers are not covering their production costs. Sheep breeders who move from production areas in the east to sell in the western parts of the country are unable to reach their markets since March 2020. This created an oversupply in eastern markets during the Eid al-Adha and lowered prices during the highest sales season for these farmers. Similarly, the WFP recently observed from its WhatsApp information network that many farmers in the Southern region, including date farmers in Jura, are experiencing a dip in prices.

Figure 14: Farm marketing channels



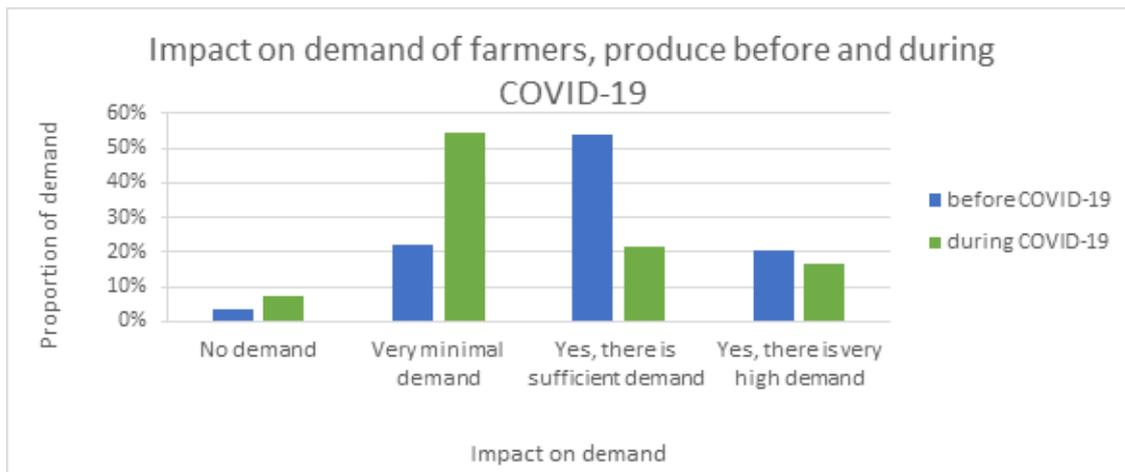
Source: mVAM field interviews, July 2020

Figure 15: Farmer price decreased during COVID-19



Source: mVAM field interviews, July 2020

Figure 16: Demand for farm products decreased during COVID-19



Source: mVAM field interviews, July 2020

Some farmers are not sure about staying in farming.

Fifty percent of farmers interviewed are confident that they will continue to work in agriculture and produce the same crops. The other 50 percent are considering switching crops or leaving agriculture altogether. Farmers mentioned

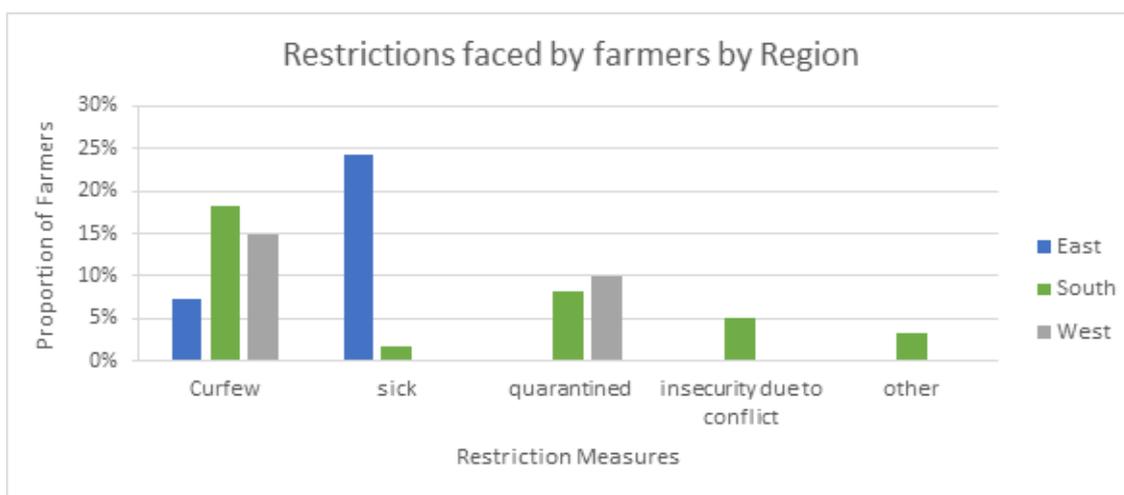
reduced access to water, energy, and labor and the higher costs of inputs and labor as the primary drivers. All farmers mentioned that they have been experiencing difficulties since the conflict began in 2011 and believe that conditions are worse since March 2020 (FAO and WFP field interviews, 2020).

COVID-19 movement restrictions impacted farmers and labor mobility.

Curfews and quarantines have an impact on the mobility of 58 percent of the farmers (see Figure 17). Only 5 percent (in the South) said that the conflict impacted their movement. Despite mobility restrictions, 68 percent of farm workers

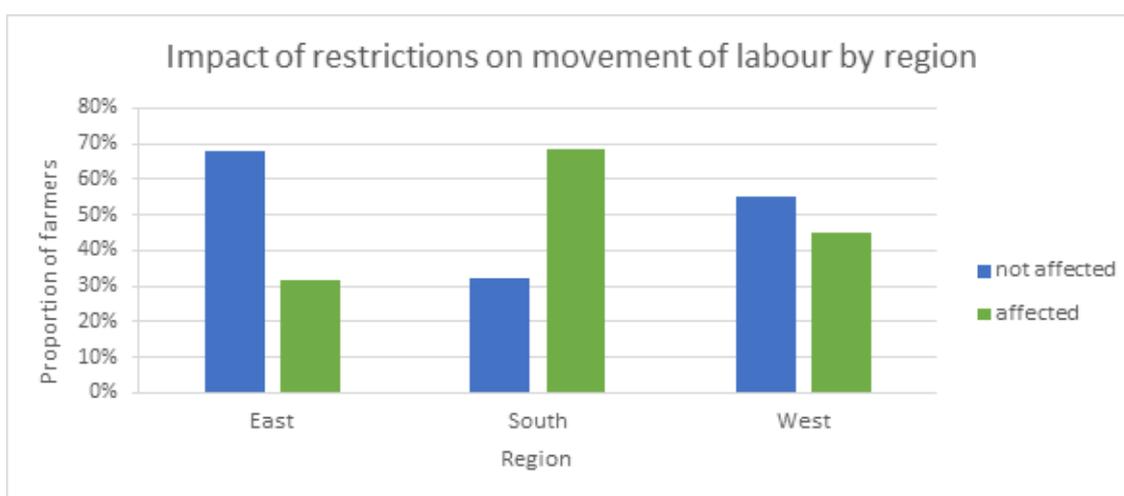
in the South were able to travel to their farms and 32 percent were not able to travel (Figure 18). In the East and West most farm workers, 68 percent and 55 percent, were not able to reach their farms. Most farmers, 90 percent, could not access extension services during COVID-19 restrictions (FAO and WFP field interviews, 2020).

Figure 17: Mobility restrictions by region in July 2020



Source: mVAM field interviews, July 2020

Figure 18: Effects of restrictions on labor movement by region



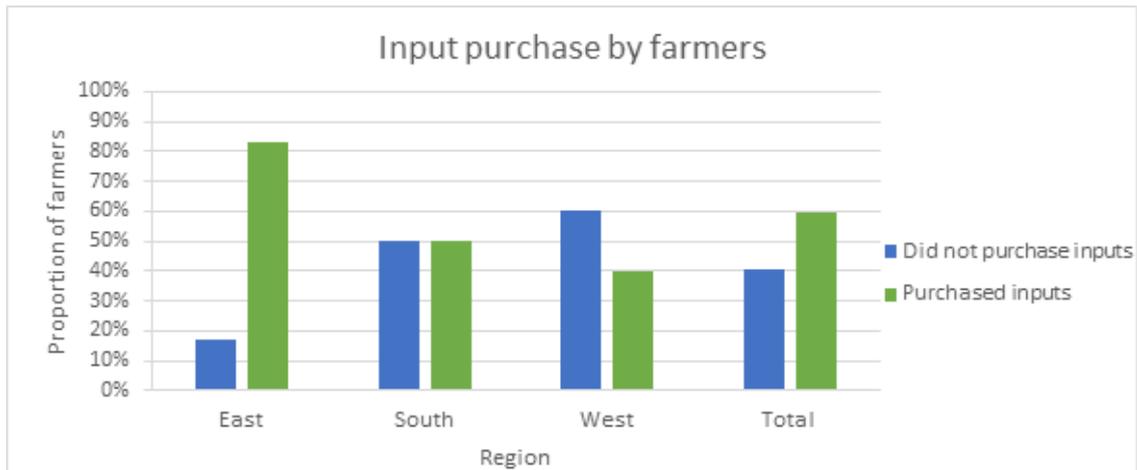
Source: mVAM field interviews, July 2020

A large number of farmers did not purchase inputs during COVID-19 restrictions.

Sixty percent of farmers in the West do not purchase agriculture inputs (Figures 19 and 20)

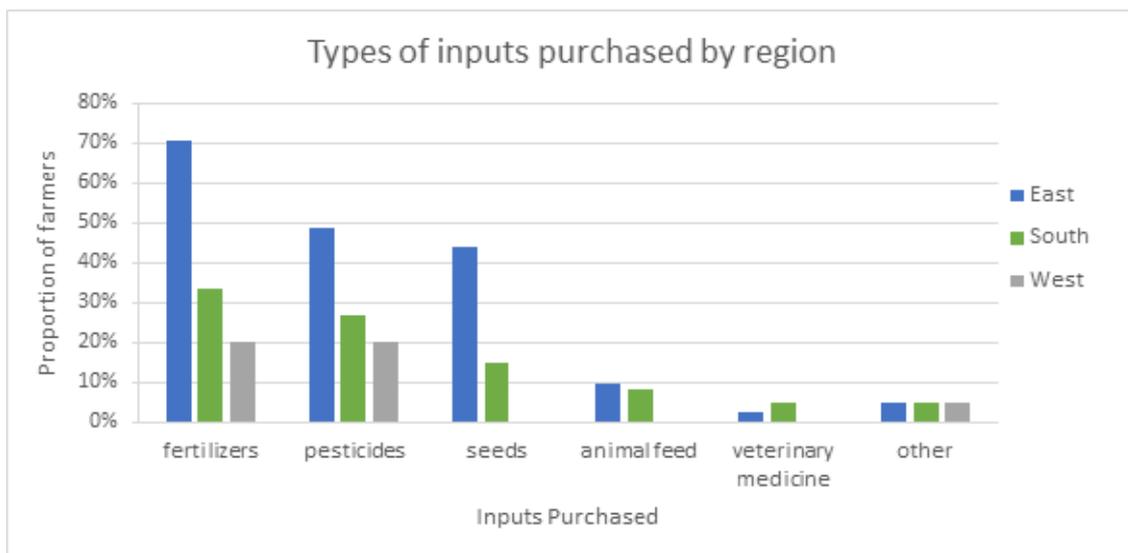
followed by 50 percent of farmers in the South and 17 percent in the East. The farmers that do not buy inputs report lack of access and cost as the primary reason (Figure 21) (FAO and WFP, 2020).

Figure 19: Input purchases by region since March 2020

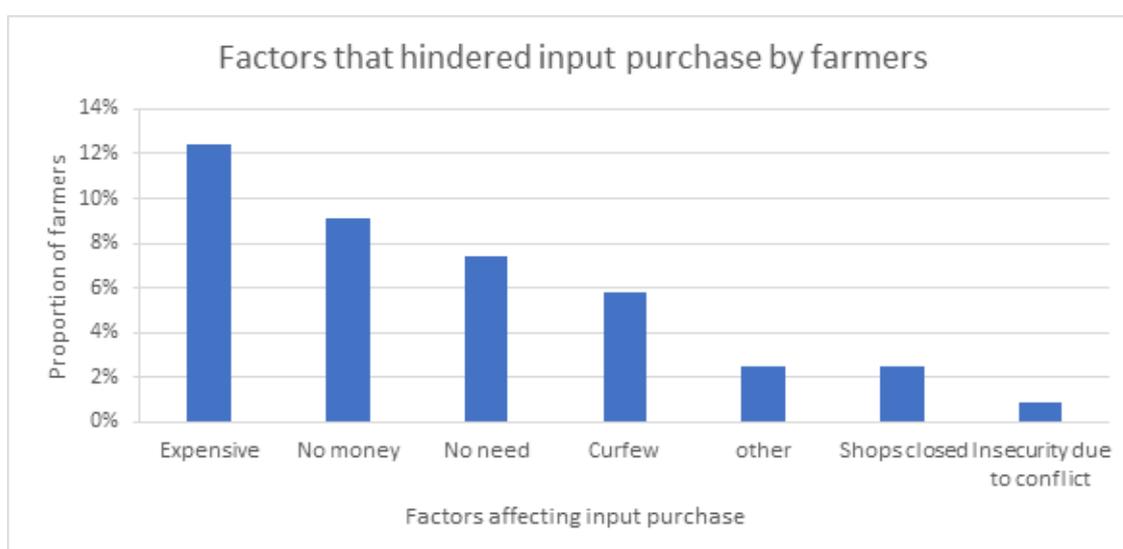


Source: mVAM field interviews, July 2020

Figure 20: Regional farm input purchases by type since March 2020



Source: mVAM field interviews, July 2020

Figure 21: Reasons for not buying farm inputs since March 2020

Source: mVAM field interviews, July 2020

FISHERIES

The fish sector collapsed significantly with the ongoing conflict and COVID-19.

All fishermen and fish retailers interviewed said that the sector is neglected since the 2011 uprising and that conditions have worsened over the years of conflict. Seventy five percent of fishermen report that the lack of government support, such as technical assistance, is the main reason the sector is underdeveloped. Key informant interviews suggest that knowledge about sustainable fishing practices is non-existent and that lack of coastal management is a threat to capture fisheries.

The implementation of the COVID-19 containment measures impact 67 percent of fishermen who were unable to deliver their catch to the local markets because of road closures. Market closures reduce demand for fish and 67 percent of the fishermen experience reduced sales, lower income and increased waste. All fishermen face competition from cheaper imported fish and 75 percent of fishermen and retailers are reducing prices because buyers are unable to come to markets. Fishermen think that lack of cash and road closures are among the leading factors depressing demand. All fishermen are facing financial difficulty and are borrowing money from family. Box 1 summarizes the fisheries sector field interviews.

Box 1: Fisheries interviews summary

- » 67 percent of fishermen are not able to deliver their catch to local markets and are selling less fish due to road closures and shutdowns.
- » Market demand decreased due to competition from imports and the shutdown of hotels and restaurants.
- » 75 percent fish retailers reduced fish prices decreased due to lower demand from COVID-19 containment measures.
- » 100 percent of interviewed fish producers/ retailers are facing financial difficulty and borrow from family.
- » Consumer demand decreased because of high fish prices and lack of cash.
- » 75 percent fishermen see the government as a major bottleneck because it does not provide financial, technical and gear buying support to fishermen.

The fishing sector consists of artisanal fishing (Batah, Flouka, Mator), Lampara fishing, industrial trawling, and tuna fishing. About 55 percent of fishing take place in the western region followed by 23 percent in the Gulf of Sirte and 22 percent in Jabal-Akhdar (Filogh, 2019). In 2017, capture production decreased by about 50 percent from 2011 to 32 000 tonnes and aquaculture production decreased by 98 percent from the mid-2000s to only 10 tonnes. Per capita fish consumption in Libya is low compared to other animal proteins and was about 17.4 kg in 2016. In 2017, fish imports were estimated at USD 173 million and fish exports at almost USD 36 million. Libyan fishermen operated about 4 534 vessels in 2017 and the available employment estimates were 480 people working in aquaculture and 50 603 in capture fishing (FAO, 2020a). Libya is a net importer of fish. However insecurity and use of vessels and ports for illegal migration has limited fishery more than imports.

Over 60 percent of the workforce is foreign and is mostly from Egypt. Foreign labor is increasingly difficult to access because of the security situation, fear of the pandemic and COVID-19 mobility restrictions. Lack of coastal management and controls, increased smuggling, and the use of illegal fishing methods such as explosives is a serious threat to the ecosystem and marine life (Filogh, 2019). The fishing sector has considerable potential if sustainably developed to meet local demand. Addressing blast fishing is critical to reducing ecosystem and biodiversity loss.

GOVERNMENT ACTORS

A significant reduction in oil revenues, continuous conflict and low government capacity are factors that inhibit the government's ability to effectively respond to the pandemic and support value chain actors.

Forty four percent of interviewed government officials said that the government is the primary problem in the food value chains. The government stopped importing wheat and grains according to 55 percent of the respondents.

There is significant damage to the infrastructure that supports the food value chains, including grain storage, milling, transportation and energy, that the government is unable to address during COVID-19 crisis.

Interviewees specified that the government is not providing technical and financial support to farmers and other value chain actors. Only 22 percent of the government representatives identified transportation and COVID-19 shutdowns as the causes of delays in flour and other bread inputs going to bakeries. Twenty two percent mentioned that the Libyan Central Bank is a major bottleneck to food and agriculture imports and procurements because it does not have sufficient funds to facilitate credit and provide foreign exchange.

All government actors reported that monthly food and grain imports decreased from once a month to once every three months during the pandemic. At the same time, only 11 percent of the government representatives did not think that the COVID-19 pandemic had a big impact on food availability and access in Libya, which had already been problematic from the years of conflict and political instability. Box 2 summarizes the government actors field interviews.

- » The government issued several stringent measures to contain the pandemic and ensure food security, but lack of monitoring and implementation is a problem. Some of these:
- » Rationing the distribution of food commodities to ensure strategic stocks

- » Document and track food stocks in warehouses.
- » Eliminate distribution of food commodities to some consumer cooperatives to reduce leakage to the black market and illegal trade.
- » Update consumer information shopping at the government cooperatives.
- » Allocate funds for food logistics.

Also, free or preferential trade agreement have signed with Turkey, government provided in-kind food transfer / Price control (Wheat flour, Sugar (cane, beet and refined), as well as acted on nutrition and health policy and transport regulation and infrastructure (FAO-FAPDA website, Country Libya).

Box 2: Government actors interviews summary

- » 55 percent mentioned that the government is no longer involved in wheat imports
- » 44 percent think that the government is a problem in the agri-food value chain and is not providing sufficient response to the pandemic
- » 22 percent believe that the Central bank of Libya is the primary bottleneck, due to lack of funds, credit and foreign exchange
- » 100 percent witnessed a decrease in imports from monthly to quarterly shipments after COVID-19
- » 22 percent report that COVID-19 shutdowns are causing transportation and handling bottlenecks, which is causing flour delivery delays at the bakery level
- » 11 percent think that COVID-19 has little impact on product availability

PORTS

We interviewed representatives from the Benghazi, Tobruk and Tripoli ports as well as organizations in port clearance, customs, shipping and freight handlers. All interviewees stated that customs' procedures in 2020 are almost the same as in 2019. Sixty three percent stated that new COVID-19 port restrictions were implemented, including a reduction in the number of workers, physical distancing, quarantine requirements of ships and workers. 50 percent reported that containers are now being tested for COVID-19. The pandemic measures reduced labor capacity and caused delays in port handling and clearance.

Seventy five percent reported that 200–500 trucks come to the port daily without any problems.

All port representatives said that wheat and barley are the primary import grains, followed by soy and maize. 63 percent of port representatives, thought that port activity decreased or was about the same and 13 percent reported an increase in maize and flour imports since March 2020. However, when asked about the number of containers the port is handling since March 2020 compared to the same time last year, all respondents agreed that the number decreased significantly from 2019. Box 3 summarizes

findings from port actors' interviews.

Box 3: Port interviews summary

- » All interviewees are involved in wheat and barley imports followed by Soy and Maize (88 percent)
- » 13 percent witness higher maize and flour imports since March 2020
- » 63 percent report the same or lower import activity since the beginning of the pandemic
- » 100 percent mention that the number of containers dropped significantly compared to 2019 levels
- » 50 percent report testing containers for COVID-19
- » 75 percent report that about 200-500 trucks come to the port daily with no issues

BAKERIES

Flour, labor, logistics, inputs and closures are problematic for bakeries.

Only 20 percent of the bakeries stated that prices increased during the COVID-19, which suggests that prices had been on the rise before the pandemic. Some bakeries cited that flour prices are set by the government but also mentioned that the government is unable to compensate the bakeries for subsidized bread and inputs. Subsidized flour is not available, and 40 percent of the bakeries reported that they have not been able to purchase flour since the pandemic. All interviewed bakeries reported an acute flour shortage and 30 percent of them have resorted

to black-market flour dealers to access flour at higher prices.

All bakeries reported longer bread lines and some reported having to ration production of bread because inputs were either not available and/or cost more. Electricity is a major bottleneck and 20 percent of bakeries reported not having access to reliable energy. Twenty five percent of the bakeries in the study reported having to stop production of high value confectionary and baked goods after the government demanded that they only produce staple bread after March 2020. Higher input prices and limited hours of operation during the pandemic forced bakeries to close for about 6 weeks putting many bakeries at risk of permanent closure. Box 4 summarizes interview findings in the bakeries segment of the VC.

Box 4: Bakery interviews summary

- » 20 percent say that prices increased since COVID-19
- » 40 percent of bakeries are not able to purchase flour since the pandemic
- » 30 percent of bakeries buy black market flour at a higher price
- » 20 percent of bakeries do not have access to a reliable electricity source
- » 25 percent are forced to stop confectionary and high value baked goods to only produce staple bread

The government mandated subsidized bakeries to install power generators to avert a bread shortage, which increased operating costs. These bakeries access subsidized flour at about 17.75 Libyan Dinar for a 50 kgs bag of flour. Flour deliveries dropped, transportation and operation costs increased, and labor shortages have worsened with the pandemic. The situation for private bakeries is even worse, with flour prices increasing from 75 LYD to 90 LYD and sugar from 75 LYD to 120 LYD during the pandemic.

Inputs such as edible oil increased from 50 LYD to 75 LYD per case and yeast prices doubled from 40 LYD to 80 LYD during the pandemic. The closure of gas stations for over 17 hours a day during the pandemic increased the price of transportation. Flour deliveries are increasingly unreliable, and some bakeries are forced to shut down or ration production when their flour supply is low.

The Bakeries' Union estimates that Libya consumes over 800 000 tons of flour, which is distributed to about 5 500 bakeries (Zapita, 2018). The Central Bank of Libya is not providing importers with letters of credit to purchase wheat from global markets. Flour imports are more expensive than locally milled flour, which is in any case mostly unavailable. Bakeries reported leakage of subsidized flour to neighboring countries and market monopolies as a problem. Price gauging by monopoly suppliers of flour and other inputs increased during the pandemic. These challenges emerged with the conflict in Libya and intensified during the pandemic. The government policy actions increased operational burdens and reduced bakery incomes while not providing any support to these bakeries. This situation is likely to get worse unless immediate action is taken to improve the wheat to bread supply chains in the country along with a COVID-19 relief package to help bakeries during this crisis.

FIRMS

Ten percent of Libyan importers in this study could not access wheat at all since the beginning

of the COVID-19 pandemic, citing problems such as access to letters of credit from the Libyan Central Bank, lack of foreign exchange, and lockdowns in exporting countries and neighboring receiving ports. Fifty percent of the firms buy grain through tenders. Ninety percent of the firms reported a decrease in procurement frequency and an increase in the amount of time to deliver supplies to their customers since the beginning of the pandemic. Ten percent of the respondents cited that it can take at least five months to deliver food products to their buyers. Fifty percent of the importers were not able to deliver products to their customers at the same frequency from March 2020 to August 2020 as compared to previous years. Trucking is cited by 50 percent of the firms as a major problem in delivery disruptions due to a lack of drivers who are more difficult to employ since the beginning of the pandemic. Twenty percent of the firms mentioned that major bottlenecks to imports during the COVID-19 include the Libyan Central Bank, border closures and global agribusiness factory lockdowns. 60 percent of firms believe that Libya's food security is at risk and 40 percent highlighted that high dependence on imports exposes the country to food insecurity.

Lack of access to letters of credit and foreign exchange at the official rate are the biggest obstacles to imports. Bank credit and foreign currency challenges increased with the spread of the pandemic. Security risks are high and access to international banking and credit facilitation is very low. Global supply chain disruptions delayed the shipments and processing of contracted imports since the start of COVID-19. The pandemic reduced access to labor, which reduced the logistics and handling capacity and increased costs. The closure of ports and borders highly impacted the arrival of food commodities, especially cross-border imports from Egypt and Tunisia. The dependency on imports and rising prices are unsustainable and importers expect the problems to get worse as COVID-19 continues to spread. Box 5 summarizes findings from importing firms.

Box 5: Firm interviews summary

- » 10 percent do not have access to wheat
- » 40 percent do not import wheat
- » 50 percent buy through tenders with no change since COVID-19
- » 50 percent depend on trucks to transport goods and experience delivery disruptions since COVID-19
- » 20 percent say that Libya's central bank is a bottleneck since COVID-19. Problems include access to foreign currency and letters of credit.
- » 20 percent face difficulties importing because of border closures and overseas factory lockdowns
- » 60 percent believe that Libya's food security is at risk
- » 40 percent think that dependence on imports exposes Libya to high food insecurity risks

RETAILERS

There are four types of food retailing in Libya: traditional vendors, modern retailing (hypermarkets and supermarkets), micro-groceries and consumer cooperatives. Hypermarkets account for most of packaged food purchases in the larger cities, while traditional vendors are more common for fresh produce and fish and butchers for meat. All retailers are cash only businesses. Only 20 percent of retailers can deliver to their customers and 50 percent take phone orders from their customers during the pandemic. Traders are reducing or halting some imports for fear of losses amid market volatility.

Forty percent of retailers highlighted their inability to stock shelves and reported shortages. Twenty percent of the interviewees reported bread and flour shortages and 75 percent could not procure staples in the same frequency since the beginning of the pandemic. Ninety percent of retailers said that prices of all food products increased due to supply shocks, shortages and pandemic shutdowns.

At the beginning of the pandemic, the Libyan Security Directorate issued shutdown and stay at home orders, except for general grocery stores, mills, and food retailers, and established a curfew from 6 pm until 6 am. These measures stimulated consumer buying, with 50 percent of retailers

reporting panic buying of basic food commodities and cleaning products. Moreover, 60 percent of retailers reported longer consumer lines.

At the same time, 70 percent of interviewees stated that store closures, curfews and lack of cash among customers, reduced sales and increased the volume of unsold food, resulting in high food waste. Most retailers pointed out that wholesalers and suppliers increased their storage of food to withhold supplies which increased prices and caused food shortages in some areas. Sixty percent of retailers need financial assistance and forty percent believe that Libya's food security is at risk.

According to the REACH COVID-19 Rapid Market Assessment in Libya, 48 percent of assessed cities reported food shortages and 86 percent of assessed cities reported food price spikes. In some cities of the Southern and Eastern region, authorities implemented measures to mitigate price hikes (REACH, 2020a, 2020b). The interviewees reported that high food prices, lack of cash and unemployment are factors forcing consumers to reduce food consumption. The partial ban on retailing operations was lifted during Ramadan and prices slightly declined as more products became available. However, prices did not return to pre-pandemic levels. None of the retailers received any pandemic support from the government.

Box 6: Retailer interviews summary**Supply challenges are slowly becoming pronounced**

- » 10 percent report that their suppliers have difficulty with orders and delivery fulfillment
- » 20 percent report bread and flour shortages
- » 75 percent are not able to procure bread, eggs and flour in the same frequency as before
- » 50 percent indicate that supplies are the same
- » 40 percent experience supply shortages
- » 70 percent are increasing storage and complain about higher rates of unsold expired food items

Demand challenges increased with COVID-19

- » 50 percent receive phone orders and only 20 percent deliver to customers
- » 30 percent think that customers are buying the same amount
- » 50 percent say that customers are panic buying
- » 70 percent of retailers do not limit quantities sold to consumers
- » 60 percent of retailers have longer than usual customer lines

Financial challenges increased with COVID-19

- » 90 percent report higher prices for all products and customers unable to pay in cash
- » 60 percent of retailers need financial assistance

4. RECOMMENDATIONS



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1. Support the economic recovery and sustainable agriculture in the short to medium term

The pandemic has impacted farmers, food processors, and consumers. The recovery will need a strong policy responses starting by making food and nutrition assistance at the heart of social protection programmes in Libya to protect producers and food access for the most vulnerable by increasing their purchasing power.

COVID-19 and the risk to food supply chains responses (Cullen M.T, 2020) developed by FAO provides recommendations that apply to Libya. In particular, Libya is requested as many other countries to keep the food value chain alive by focusing on key logistics bottlenecks. Based on the current study survey, the bottlenecks existed and worsened by COVID-19.

Libya will be benefited in keeping the global food trade open. Trade agreement with Turkey is a good example to be able to keep physical access to food from importation.

In addition, Libya may want to rethink its food security for strong and significant recovery, and regardless of the balance between sovereignty and food security to be chosen, countries need to develop relevant, bankable, operational, and resilient food security strategies. In addition, subsidies, economic incentives and digital transformation should be part of any change in paradigm.

The pandemic impact on agri-food value chains is a threat to agriculture and food security.

Addressing value chain constraints include:

Libya's informal economy, will experience further exacerbation of worker vulnerability including agriculture workers that are most immigrants. Response measures should foster the expansion of social protection coverage to informal workers in agriculture and rural sectors. In Fact, FAO (2020d) has warned that The COVID-19 pandemic is a major economic and labor market shock, presenting significant impacts in terms of unemployment and underemployment for informal workers.

Other response actions:

» Conduct a comprehensive labor market assessment to address employment loss due to COVID-19 and identify employment opportunities. Assess and adjust existing livelihood programs to minimize the risk of COVID-19 transmission and identify and address needs that emerged due to the pandemic.

» Establish a call to agriculture work program, a public works program, with COVID-19 health protection measures to provide employment opportunities in the agriculture VC and address labor shortages. Instruments such as grants, capacity building, and employment support will be leveraged to develop opportunities, provide income for workers, and ensure continued operation of essential goods and services to address food and agriculture constraints.

» Address the problem of blast fishing immediately and identify opportunities for upgrading. Fishing methods are a threat to sustainability in this growing sector. There are many untapped opportunities that can be leveraged to improve the VC and create employment opportunities in capture and farmed fisheries.

» Conduct agri-food VC analysis on strategic crops and produce and identify upgrading trajectories. The study will support specific agricultural VCs, improve markets and reduce waste. The analysis will support building the economic foundation, livelihoods and recovery in Libya by developing the private sector in the VC. Upgrading trajectories will target raising smallholder's income through increased access to markets, enhanced resilience to climate shocks and increased agricultural productivity.

2. Establish an Agriculture Reconstruction Command Center (ARCC).

Many countries set up agricultural response units in the face of COVID-19 to centralize strategy, planning and action. International development experience in conflict and post conflict countries also highlight the importance of creating joint commissions that focus on agriculture development (Box 7 and 8).

Box 7: Leveraging technology in food security hubs in Kenya in response to the COVID-19 crisis

- » Kenya has already set up a food-security hub and is deploying digital tools and data-gathering approaches to manage food availability, accessibility, and affordability—as well as providing support to value-chain players. Kenya is proactively gathering pricing and availability data on about ten food commodities at a subnational level on a weekly basis through digital tools and maintaining dashboards on trends to identify any “hot spots” where interventions are required.
- » The World Bank is leveraging digital technology in Kenya through partnerships with Ag-Tech startups to transform delivery of inputs, soil testing, crop insurance, credit, extension advice, and market linkages, to enable farmers to overcome temporary COVID-19 related constraints and ensure better targeting and more effective service delivery in the long run, especially in remote areas.

Source: Pais, Jayaram and Wamelen, 2020; World Bank, 2020d

Box 8: The joint Sino-American Commission was instrumental to agricultural development in rural reconstruction in Taiwan province of China

The Sino-American Joint Commission on Rural Reconstruction (JCRR) in Taiwan province of China. Like many developing countries, Taiwan province of China was a resource-poor, low-income developing country. The economy suffered from high inflation and chronic deficits on the balance of payments. The JCRR was protected from the government bureaucracy by being on the outside. It provided financial and technical assistance to governmental and private organizations to carry out projects. Its efforts resulted in agricultural output growth by 6 percent a year in the 1950s and 5 percent in the 1960s (Wu Huang, 1993). Paddy production rose from 1.1 MMT in 1948 to 1.8 MMT by 1957.

Source: Wang, 1977

The command center will be a robust national hub that monitors the impact of the pandemic in the agriculture sector; develops and spearheads the reconstruction of the agriculture and fisheries value chains (VC); and monitors food security in the country. The ARCC and its units will provide support to sustainable agricultural development, capacity development, employment creation and entrepreneurship.

A committee led by international actors and independent from the government will lead the center along with carefully selected representatives from the Libyan food and agriculture sector, including farming, the private sector, academia, technology firms, and the health ecosystem. The command center will manage development assistance and the development of an agricultural framework. It will not be associated with a political power.

The center will be responsible for developing project prioritization strategies based on feasibility studies conducted by global and local experts. The center will also scan the country and the region to identify promising tech startups and innovators to help transform the sector and address bottlenecks.

ARCC will be a hub for three units: a) Food Security Hub to map and monitor the food situation and response in Libya; b) Agriculture 4.0 Unit to leverage technology to track food and agriculture information, communicate market and other information to value chain actors, digitize financial transactions and track supply chains; and c) Agriculture Health and Safety Monitoring Unit to monitor, shield, test and treat, as well as to prevent and contain outbreaks in the agri-food ecosystem, including farmers, animals, soil, water and crops.

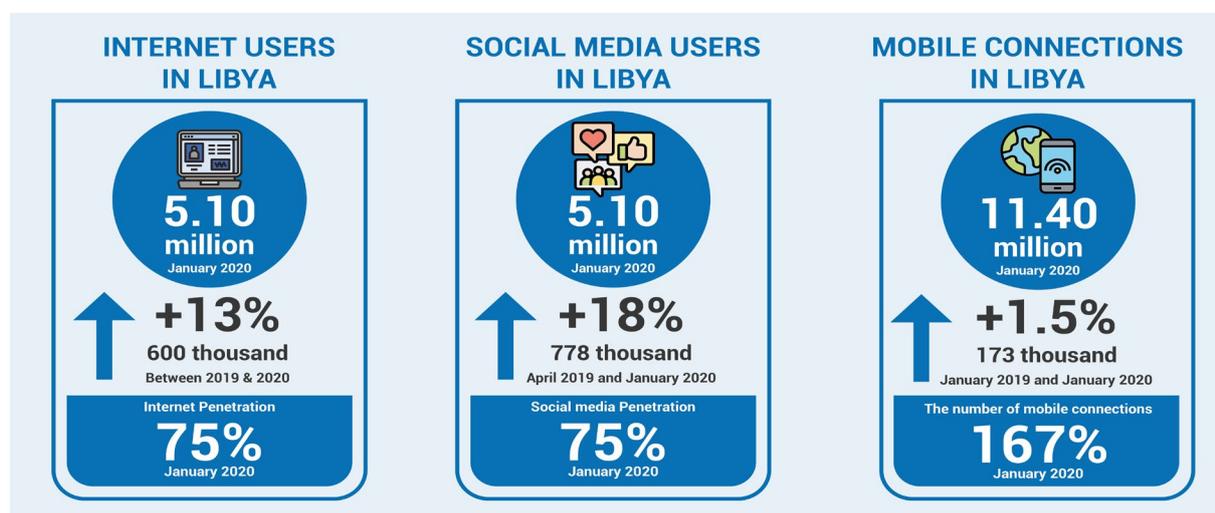
A. Food Security Hub (FSH).

The Food Security Monitoring Unit (FSMU) will establish a robust food security mapping and monitoring system in Libya. The unit will be providing regular monthly reporting and analysis on the food and agriculture VC that would cover availability, access, utilization and stability. FSH will develop analysis and monitoring of the impact of COVID-19 on food insecure populations to understand basic needs and relevant coping mechanisms. FSMU will leverage digital tools in the A4U to map value chain actors and register farmers. The unit will connect the food VC actors, especially farmers and consumers, to collect and communicate information such as food prices, input prices, production volumes and locations and food assistance. The unit will develop an FSMU dashboard portal that provides a snapshot of the food security situation, including price watch, production watch, risk warning, hot spots, COVID-19 price watch, employment monitoring and consumer monitoring.

B. Agriculture 4.0 Unit (A4U) inside ARCC.

The Agriculture 4.0 Unit will use information technology tools to develop the agriculture and fisheries sectors and support other ARCC units. Figure 22 illustrates the increasing adoption of digital tools in Libya which presents a great opportunity to engage youth to leverage technology to collect agriculture and fisheries information, increase awareness, and diversify market channels. A4U inside ARCC will track and forecast food availability, pricing, accessibility, trade flows, and retail data at the urban and rural levels to support the FSH. The data gathered will inform and deliver technical capacity building and financial support, as well as model ways to optimize the VC. The data communication tools will connect local producers to markets and explore ways to shorten and simplify supply chains and create more versatile markets. The unit will help start the digitization of agriculture and funding which will develop the sector and open market opportunities.

Figure 22: Technology use in Libya



Source: (Kemp, 2020)

C. Agriculture Health and Safety Monitoring Unit (AHSMU) inside ARCC to develop a monitor, shield, test, trace and treat strategy in agriculture.

Disease transmission in and from agriculture activity is a serious public health concern for all value chain actors. The unit will proactively monitor the health situation to provide an early response strategy. FAO and WHO have developed a guide for application of risk analysis principles (FAO and WHO, 2011). Exploring the use of mobile clinics and creating a “healthy farm” certification should be considered. The key elements are:

- i) Monitor: leverage A4U to use mobile technology to monitor, report and inform about worker, animal, water and soil health;
- ii) Shield: develop a strategy to protect, educate and communicate with farm owners and workers about various control methods to protect against disease transmission. Rethink market systems to improve sanitization and encourage open-air markets that would reduce transmission.
- iii) Test: prioritize regular, randomized food and agriculture sector testing;
- iv) iTrace: COVID-19 and/or other infection cases to implement disease containment as soon as possible. Mobile phone location and other mobility tracking technology can be a critical tool in this process;
- v) Treat: prioritize treatment of farm workers and improve their access to health care and other types of support to stop outbreaks.

1. Gender specific programs that target increasing employment opportunities in the agri-food value chains.

At least 52 percent of Libyan women are affected by the COVID-19 crisis, and 26 percent foresee an impact on their livelihoods if the lockdown is extended (UN Women, 2020). Gender in agriculture value chain assessments are needed to better understand the barriers to entry and opportunities for women. An in-depth evaluation of the role of women in agriculture value chains, their opportunities and their digital and financial literacy need to be conducted to better support women’s livelihoods and develop sustainable and inclusive micro and small enterprises. Gender sensitive programs will need to be developed and implemented in the short-term, including emergency funding, health information and capacity development to link women to employment opportunities, reduce the double burden on women and create awareness regarding health vulnerabilities and domestic and economic violence. Mobile technologies can be leveraged to increase access to capacity building, finance and opportunities in agricultural processing and marketing.

5. CONCLUSION



Agriculture in Libya is weak, and the agri-food value chains are not well developed, making them highly vulnerable to shocks. The ongoing conflict and the COVID-19 pandemic threaten the food security of the Libyan population, many of whom are suffering and displaced. Lockdowns and pandemic measures are deepening the crisis in Libya. Food systems disruptions are pronounced, particularly when it comes to food supply chains, including sourcing inputs, bringing food to market and imports. Farmers' incomes are depressed, livelihoods of value chain actors are at risk and food prices of many staples have increased. The pandemic, the economic crisis, the financial uncertainty and the security situation constrain food imports, restrict the flow of agriculture products and diminish the purchasing power of suppliers and buyers in the country. The Libyan government has not provided any COVID-19 relief to assist VC actors manage the economic effects of the pandemic measures. In the medium to long

term, Libya will likely face deeper disruptions to its food systems, with serious consequences for agriculture, food security, health and nutrition.

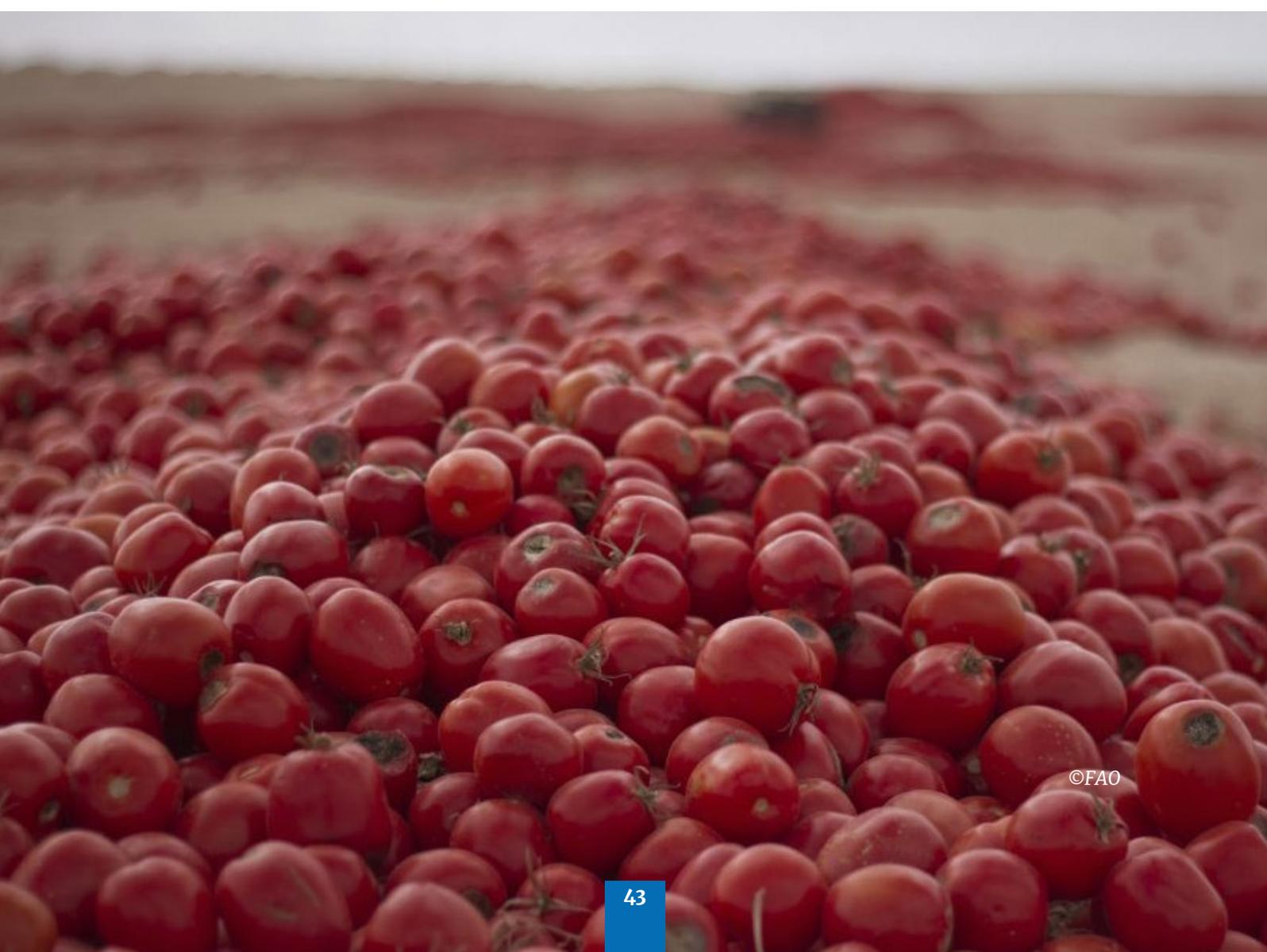
Very strong relevant and up-to-date food security powered with digital transformation, food system transformation, and smart policies is a must to recovery from both conflict and COVID-19 crisis.

Building value chain resilience while closely monitoring the situation on the ground is a key step to mitigating the impact of the crisis. To support a transition to more sustainable and inclusive food systems and avoid the worst impacts, Libya will need concerted action to reconstruct the agriculture sector, more robust monitoring of food and health security, deployment of technology in agriculture value chains, gender specific programming and targeted rapid response to assist with the economic downfalls resulting from the pandemic.



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ANNEXES



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ANNEX 1: COVID-19 FOOD PRODUCTS EXPORT RESTRICTIONS

List of COVID-19 Export Restrictions on Food Products

Policy Status	Category	Country Label	Products	Day of Starting Date	Day of End Date	Share of restricted products in total country food exports (expressed in Kcal, annual basis)	Share of restricted products in total country food exports (expressed in USD, annual basis)	Country Global Market Share (Kcal) in restricted products	C (
Inactive	Actual Ban	Algeria	Semolina, flour, pulses and rice, pasta, ..	05/07/2020	06/06/20	92.60%	77.81%	0.13%		
		Armenia	Onions, garlic, turnips, rye, rice, buckw..	04/10/2020	06/30/20	0.46%	0.13%	0.00%		
		Belarus	Buckwheat, Onions, Garlic	04/01/2020	06/30/20	0.99%	0.20%	0.18%		
			Onions, garlic, turnips, rye, rice, buckw..	04/10/2020	06/30/20	0.60%	0.11%	0.02%		
		Cambodia	rice, white rice	04/05/2020	05/19/20	31.36%	43.19%	1.25%		
		Egypt	Pulses	03/28/2020	06/28/20	2.39%	3.32%	0.95%		
		Honduras	Red beans	03/31/2020	05/30/20	0.04%	0.08%	0.33%		
		Kazakhstan	Buckwheat, wheat, rye, including flours..	03/22/2020	04/01/20	28.06%	29.28%	1.95%		
			Buckwheat; White sugar; Potatoes; Oni..	04/02/2020	05/31/20	76.67%	65.76%	2.14%		
			Onions, garlic, turnips, rye, rice, buckw..	04/10/2020	06/30/20	2.46%	3.83%	0.27%		
			Potato, with the exception of seed pota..	04/14/2020	05/31/20	76.61%	65.47%	2.16%		
		Kyrgyzstan	Onions, garlic, turnips, rye, rice, buckw..	04/10/2020	06/30/20	1.30%	0.36%	0.00%		
			Wheat, flour, vegetable oil, sugar, chick..	03/23/2020	09/22/20	4.67%	1.63%	0.00%		
		North Mace..	wheat and meslin; wheat flour	03/20/2020	04/30/20	2.77%	0.26%	0.00%		
		Pakistan	food	04/29/2020	05/13/20					
			onions	03/24/2020	05/31/20					
			wheat; flour	06/10/2020	06/11/20					
		Romania	Wheat, barley, oat, maize, rice, wheat f..	04/10/2020	04/16/20	51.44%	39.19%	1.11%		
		Russia	Onions, garlic, turnips, rye, rice, buckw..	04/10/2020	06/30/20	1.23%	1.61%	0.85%		
			Processed grains	03/20/2020	06/30/20	0.31%	0.49%	2.27%		
			Wheat and meslin; rye; barley; corn	04/01/2020	06/30/20	68.27%	48.15%	8.43%		
		Serbia	Sunflower Oil, Molasses, Yeast	03/21/2020	04/21/20	10.56%	6.42%	1.06%		
		South Africa	Beer, Spirts	03/25/2020	04/16/20	4.71%	4.50%	2.44%		
			Wine		03/25/2020	04/07/20	1.82%	8.66%	4.32%	
					04/16/2020	04/30/20	1.82%	8.66%	4.32%	
		Syria	eggs, cheese and yogurt, canned and pa..	04/08/2020	05/08/20	9.89%	7.94%	0.07%		
		Thailand	Eggs	03/26/2020	04/30/20	0.04%	0.14%	0.87%		
		Turkey	Lemon	04/08/2020	08/31/20	1.66%	6.87%	9.86%		
		Ukraine	Buckwheat; Buckwheat grain	04/09/2020	07/01/20	0.27%	0.27%	2.79%		
		Viet Nam	Rice	04/10/2020	04/30/20	47.78%	14.48%	9.90%		
		Announcem..	Ghana	soybeans	05/11/2020	06/10/20	0.12%	0.06%	0.00%	
			Moldova	Grains	04/15/2020	Null	50.79%	19.19%	0.28%	
Not Binding	Ukraine	Wheat	04/05/2020	06/01/20	23.86%	18.92%	6.98%			

Source: Laborde, 2020

ANNEX 2 AGRICULTURAL PRICES

1. Agriculture input prices in Libyan Dinar

Product	Before March 2020	After March 2020
Wheat - seeds 100kg	135	240
Barley - seeds 100kg	80	120
Chemical fertilizers - 100kg Hydrogen + Potassium + Calcium	225	280
Urea - 100kg	80	155
Daily worker wage	80	150
Animal feed barley 100kg	80	120
Supplementary animal feed - 100kg	160	290
Fare for 200km	90	150

Source: Agricultural Commodity and Farmers Markets

2. Prices of subsidized commodities at the consumer cooperatives in Libyan Dinar

Item	PSF Price	Consumer price
Corn Oil (Liter)	2.25	2.5
Sunflower Oil (Liter)	2	2.5
Processed Tomato (400g)	0.75	0.85
Sugar (1kg)	1.25	1.5
Pasta (1kg)	0.8	1
Flour(1kg)	0.75	1
Medium and short grain rise(1kg)	1.5	1.75

Source: The Ministry of Economy, 8, 2020

3. Prices for food commodities in Libyan Dinar at local markets

Product	Before March 2020	After March 2020
Flour (1Kg)	1.5	2.5
Pasta (1Kg)	4	5
Medium and short grain Rice (1Kg)	2.5	3
Sunflower Oil (1Kg)	4	5.5
Corn Oil (1Kg)	4.75	7.5
Chicken (1Kg)	10	17
Lamb (1Kg)	35	40
Beef (1Kg)	25	33
Canned Tuna	3	3.5
Eggs (30 eggs)	8	10
Butter (1Kg)	12	26
Ghee (Cheese box 6 taro)	3	3.5
Canned Milk	3.5	5
Tea (1Kg)	5.5	8
Sugar (1Kg)	2.5	3
Processed Tomatoes (1Kg)	1.75	3.5

Source: retailers August 2020

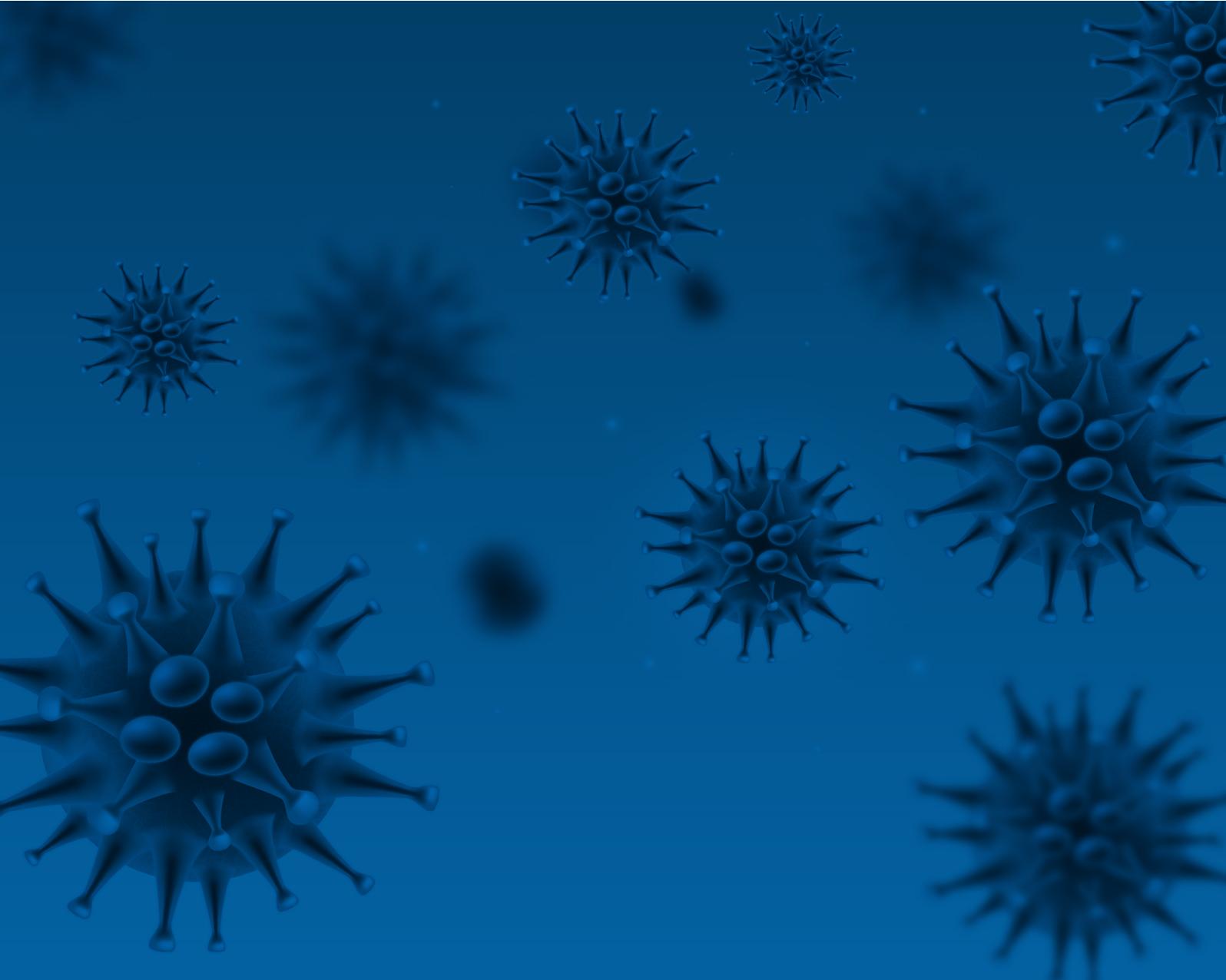
ANNEX 3 AGRICULTURAL PRODUCTION IN LIBYA 2015-2018

Agricultural production in tonnes and trends in Libya 2015-2018

Product	2015	2016	2017	2018	Trend
Almonds, with shell	32,648	31,947	30,869	29,625	
Apples	19,487	19,149	18,699	19,111	
Apricots	26,587	27,533	28,325	29,117	
Barley	91,475	94,492	93,656	93,208	
Beans, dry	1,233	1,242	1,259	1,276	
Broad beans, horse beans, dry	1,567	1,564	1,565	1,565	
Cabbages and other brassicas	4,578	4,610	4,638	4,666	
Carrots and turnips	31,306	32,289	32,863	33,436	
Cauliflowers and broccoli	6,696	7,056	7,257	7,457	
Chick peas	118	116	134	134	
Chillies and peppers, green	27,317	28,160	28,957	29,754	
Cucumbers and gherkins	9,310	9,271	9,225	9,269	
Dates	175,632	173,495	174,862	176,229	
Eggplants	3,557	3,531	3,500	3,529	
Figs	9,569	9,664	9,623	9,597	
Fruit, fresh nes	5,182	5,415	5,578	5,742	
Garlic	4,638	4,684	4,737	4,771	
Grapes	31,890	32,038	32,057	32,077	
Groundnuts, with shell	16,851	15,484	14,645	13,972	
Lemons and limes	20,782	21,151	21,590	22,029	
Maize	3,627	3,432	3,502	3,571	
Melons, other (inc.cantaloupes)	26,365	26,295	26,323	26,351	
Millet	6,082	6,652	6,623	6,682	
Olives	188,763	187,508	187,881	188,255	
Onions, dry	183,344	182,930	183,083	183,236	
Onions, shallots, green	52,976	53,822	54,255	54,688	
Oranges	50,927	51,879	52,577	53,276	
Peaches and nectarines	13,579	14,001	14,311	14,620	
Pears	1,406	1,406	1,409	1,412	
Peas, dry	5,899	5,886	5,946	6,005	
Peas, green	6,797	6,907	6,925	6,943	
Plums and sloes	54,725	56,797	58,477	60,157	
Potatoes	335,371	336,321	342,341	348,361	
Pumpkins, squash and gourds	34,323	34,686	34,988	35,290	
Tangerines, mandarins, clementines, satsumas	10,034	9,987	9,959	9,932	
Tomatoes	214,735	213,383	214,483	215,584	
Vegetables, fresh nes	71,243	72,037	72,439	72,841	
Vegetables, leguminous nes	19,455	19,826	20,145	20,465	
Watermelons	234,472	233,810	234,911	236,012	
Wheat	198,513	163,706	149,036	138,770	



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Food and Agriculture Organization of the United Nations

11 Al-Eslah Al-Zerai Street, Dokki, P.O. BOX 2223
Cairo, Egypt

Email: FAO-RNE@fao.org

Website: fao.org/neareast/

Twitter: [FAOinNENA](https://twitter.com/FAOinNENA) - [FAOinNENA-EN](https://twitter.com/FAOinNENA-EN)

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