

Update on the impact of Covid-19 on food and nutrition security in West and Central Africa^{1,2}

WFP Regional Bureau Dakar , Research, Assessments and Monitoring, Emergency Preparedness, Nutrition and Supply Chain Units

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Key Messages

- In West and Central Africa, the March 2020 Cadre Harmonisé (CH) and Integrated Phase Classification (IPC) in Central African Republic project that more than 21.2 million people will face severe food gap during the lean season in July-August. Three scenarios were developed to estimate the at-risk population in the context of Covid-19. In total, the population at risk in West and Central Africa could feasibly double the figures projected in the CH and IPC given the inclusion of highly vulnerable populations living in urban slums and those already vulnerable (previously in phase 2).
- The challenge of addressing acute malnutrition amongst pregnant and lactating women and children less than 5 years of age is already immense in West and Central Africa. According to the recent CH analysis for the lean season 2020, an estimated 12 million children (6-59 months) are anticipated to be acutely malnourished, up from 8.2 million in the lean season 2019. The measures being implemented to contain the spread of Covid-19, the shifting of resources towards the response to Covid-19 at the expense of other care, and the risk the infection itself will pose to those nutritionally-comprised individuals who fall ill, all threaten to amplify this challenge dramatically.
- The combination of reduced supply resulting from the restrictive measures taken by Governments to mitigate Covid-19 spread has already resulted in price increases in some countries. This will further impact already observed increases in observed in Sierra Leone, Senegal, southern Mauritania and the Central African Republic caused by decreases in agricultural production or result of economic crisis.
- Looking at the situation of rice in West Africa, despite overall increases in production this most recent agricultural season, the region remains rice net import with main origin from Asia. As this region is heavily affected by the Covid-19 crisis, there are possibility that countries hold their cereals stocks and use them for domestic consumptions as it was observed during the 2008 economic crisis, with subsequent further rice price increase.
- Within urban areas, the most vulnerable to directly contracting Covid-19 or being negatively impacted by Covid-19 due to slow-down of economic activities are the urban poor who are generally engaged in low skill wage labor with no job security, dependent on markets for food with little ability to store and save food or money, have poor access to diversified nutritious diets or health care, and live in crowded unsanitary conditions. These populations are as such considered as high priority for assistance.
- While it remains difficult to gauge the impact that Covid-19 will have on 2021 agricultural production, it could include (1) disrupted access to good seeds, fertilizers and pesticides due to market closures; (2) an aging farmer population more vulnerable to Covid-19 as young people migrate for work; and (3) limited access to land to cultivate due to curfews or internal movement restrictions.

¹ The first publication by WFP Regional Bureau VAM/M&E/Nutrition/Supply Chain units, titled *Economic and Market Impact analysis of COVID-19 on West and Central Africa*, was released on 30 March 2020.

² WFP Regional Bureau Dakar (RBD) covers 20 countries in West and Central Africa – Benin, Burkina Faso, Cabo Verde, Cameroon, Central African Republic, Chad, Cote d'Ivoire, The Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Sao Tome & Principe, Senegal, Sierra Leone, Togo

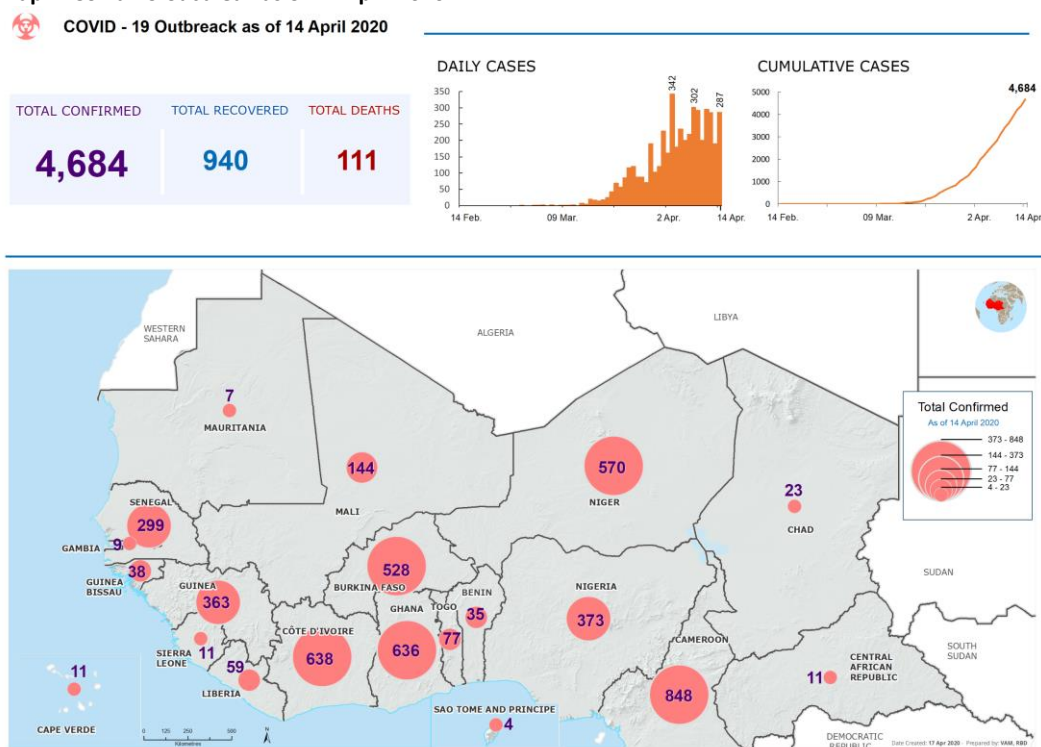
Introduction

This paper serves as the first update assessing the impact of Covid-19 on food and nutrition security in West and Central Africa. It begins by providing an estimation of the number of people who may be at risk of food insecurity resulting from the Covid-19 outbreak at regional level, followed by ‘special focus’ section on markets, and by sections assessing the impact on urban areas, on employment by economic sectors, on agriculture, and on import/export at the macro-economic level.

Overview of Covid-19 Outbreak

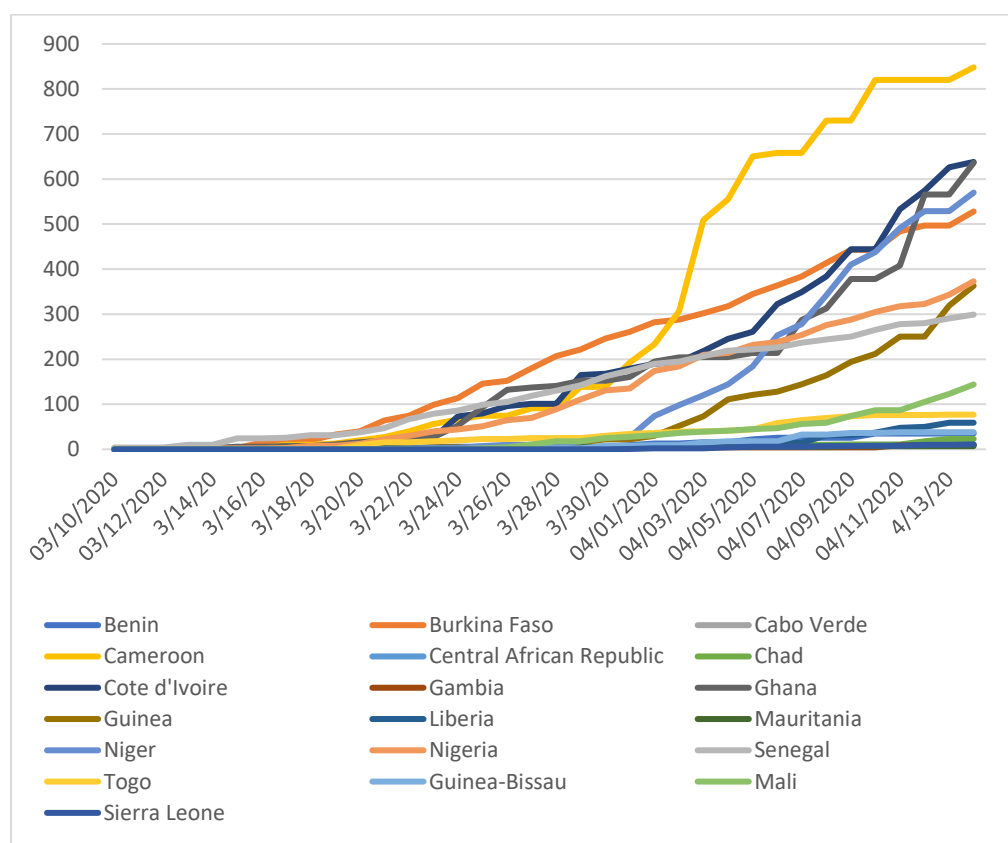
As of 14 April 2020, there were 4,684 confirmed active cases in the region, with Cameroon, Cote d’Ivoire, Niger, and Burkina Faso reporting the highest burdens (Map 1). The real number of cases is assumed to be several times higher given that the number of confirmed cases is contingent on testing. Epidemiological curves in the region are increasingly resembling those of other hard-hit countries in Europe and America, with the region several weeks behind in terms of onset (Figure 1). Notably sharp increases have been seen in the past week in Niger, Cote d’Ivoire and Ghana, although some of the increase may be due to expansive testing conducted, for example in Ghana and Cameroon (Figure 1).

Map 1. Covid-19 outbreak as of 14 April 2020



Data Source: Geographic data – WFP Offices, RBD and COD; Covid-19 cases – JHU CSSE available via HDX

Figure 1. Cumulative Covid-19 cases in West and Central Africa, 10 March 2020 – 14 April 2020



Data Source: JHU CSSE available via HDX

Impact on Food Security and Nutrition

In West and Central Africa, the March 2020 Cadre Harmonisé (CH) and Integrated Phase Classification (IPC) in Central African Republic project that more than **21.2 million people** will face severe food gap during the lean season in July-August. Conflict, by causing rising displacement and disrupting livelihoods and market flows, is certainly a key driver in many areas, particularly in the Liptako Gourma (border region of Mali, Burkina Faso and Niger), Lake Chad Basin and Cameroon (Northwest and Southwest regions), however climate factors (drought, floods) and pests that reduced crop harvest also contributed to rising food insecurity in many areas across the Sahel (Mauritania, north Senegal, Gambia, western Mali, central Niger, central Chad), while economic crises and high inflation were paramount in other countries (Sierra Leone, Guinea-Bissau).

This projection of the number of people food insecure was calculated without taking into consideration the potential impact of Covid-19. The spread of Covid-19 and in particular the mitigation measures taken by governments in efforts to contain the outbreak threaten to increase the vulnerability of a large number of people to food insecurity in the context of dramatic slow-down of the economy, rising unemployment across nearly all sectors, with some more hard-hit than others (trade, tourism), threats to food supply and access (rising price, declining purchasing power), and drops in national revenue at a time the demand for public expenditures (social, health) increase.³ In order to estimate the additional population projected to be at risk of food insecurity due to the impact of Covid-19, the following assumptions were made:

1. A proportion of the population previously categorized in phase 2 (under pressure) will fall into food insecurity due to the impact of Covid-19 (see Annex 3 for description of phases);

³ These drivers of rising vulnerability are explored in depth in the first publication of this paper and in this update.

2. Urban populations will be heavily impacted by the spread of the virus (see section on 'Urban Risk' for more details), with the most vulnerable living in urban slums. It is assumed that poverty rate in urban slums is at least 60 percent.⁴

Three scenarios were developed to estimate the at-risk population in the context of Covid-19. In all 3 scenarios, the total food insecure as projected by the CH and IPC for the coming lean season are included. Following on assumption 1 above, up to 20% of the population in phase 2 may be at risk of falling into food insecurity. Given assumption 2 above, the projection also includes a proportion of urban poor living in slums and therefore considered at high risk of food insecurity due to the impact of Covid-19. The proportion of urban poor living in slums range from 20, to 30, to 50 percent depending on the scenario for majority of the countries, except for 5 countries in which the CH analysis covered the capital city (Mali, Burkina Faso, Niger, Senegal and Sierra Leone).⁵ In these 5 countries, the proportions were reduced to 5, 10, and 20 percent in order to avoid double-counting. **In total, the population at risk in West and Central Africa could feasibly double the figures projected in the CH and IPC given the inclusion of highly vulnerable populations living in urban slums and those already vulnerable (previously in phase 2).**

Table 1. Scenarios of populations at risk (see annex 1 for methodology and country level details)

	Food Insecure per CH & ICP (Phase 3-5)	20% of population in phase 2	Urban poor living in slums	Total at risk of food insecurity
Scenario 1 (50% urban poor in slums)	21,229,828	11,807,509	26,398,556	59,241,268
Scenario 2 (30% urban poor in slums)	21,229,828	11,807,509	15,323,923	48,166,635
Scenario 3 (20% urban poor in slums)	21,229,828	11,807,509	10,108,613	42,999,981

Data sources: INFORM Index for Risk Management; CILSS March 2020 projection for lean season 2020; IDP data from OCHA, IOM, CONUSAR, CMP, Protection Cluster Diffa

Nutritional status of women and children

The challenge of addressing acute malnutrition amongst pregnant and lactating women and children less than 5 years of age was already immense in West and Central Africa. According to the recent CH analysis for the lean season 2020, an estimated 12 million children (6-59 months) are anticipated to be acutely malnourished, up from 8.2 million in the lean season 2019. The measures being implemented to contain the spread of Covid-19, the shifting of resources towards the response to Covid-19 at the expense of other care, and the risk of infection itself will pose to those nutritionally-comprised individuals who fall ill, all threaten to amplify this challenge dramatically. Countries are facing large reductions in fiscal capacity at the same time as mounting demands on social sector expenditure, which in turn will impact the functioning of the health system, health care programmes and service delivery. Sub-Saharan Africa already ranks in the lowest tiers for health service coverage as well as health spending.⁶ Ratios of health service providers to the population are also notably low, with 7 countries (Burkina Faso, C.A.R., Chad, Guinea, Liberia, Senegal, and Togo) falling below the recommended standard of minimum 100 doctors per 1,000 population set by the WHO (Table 2).⁷ In terms of per capita

⁴ The May 2010 WFP Urban vulnerability assessment (VAMU, January 2010) in Ouagadougou findings indicated that almost **60%** of the inhabitants of slums are severely food insecure and lack of stable income source was the major driver. These findings are similar to the results of the January 2012 urban assessment in Mali (VAMU, January 2012). We assume that at least, 60% of slums inhabitants are poor, so food insecure.

⁵ The CH analysis concentrates mostly on rural population for food security analysis.

⁶ World Bank Group. April 2020. "Assessing the Economic Impact of Covid-19 and Policy Responses in Sub-Saharan Africa." *Africa's Pulse*: Volume 21. Available at <https://openknowledge.worldbank.org/bitstream/handle/10986/33541/9781464815683.pdf?sequence=10&isAllowed=y>

⁷ Ibid.

expenditure on health, almost all of the countries except Cabo Verde and Sao Tome and Principe fall below WHO recommended minimum level for low-income countries (US\$86).⁸

Table 2. Access to health care indicators

Country	Total density per 100 000 population: Health centers	Total density per 100 000 population: District/rural hospitals	Total density per 100 000 population: Provincial hospitals	Physicians per 1000 people (2015-2019 data)*	Health expenditure per capita (current USD) – 2016*
Benin	5.45	0.25	0.05	0.16	30.40151
Burkina Faso	11.89	0.25	0	0.06	40.94096
Cabo Verde	3.81	0.6	0	0.77	159.0735
Cameroon	0.63	0.67	0.08	--	64.46729
Central African Republic	1.99	0.28	0.11	0.06	16.36044
Chad	0	0.5	0.15	0.05	31.68594
Côte d'Ivoire	11.83	1.16	0.45	--	67.5707
Gambia	1.68	0.38	0.22	0.11	20.93044
Ghana	9.13	1.3	0.03	0.18	67.50886
Guinea	3.52	0.26	0.09	0.08	37.45934
Guinea-Bissau	32.98	25.64	0	0.2	39.05417
Liberia	1.05	0.35		0.04	68.31284
Mali	5.71	0.39	0.05	0.14	29.78662
Niger	4.97	0.43	0.06	--	22.68334
Sao Tome and Principe	2.07	0		0.32	105.1344
Senegal	0.54	0.16		0.07	52.60971
Sierra Leone	1.21			--	86.30819
Togo	10.94	0.51	0	0.05	38.77138

Source: Authors compilation from World Bank Development Indicators* and IMPACT risk management data

The elements listed below will have an indirect and direct impact on the health system and nutrition status through the different links in the chain from food intake to care.

Impact on Health system and health programs is expected as follows:

- Overloading of health structures (influx in case of infections)
- Increased risk of contamination in health care settings (providers and patients)
- Decreased human resource availability/capacity
- Additional and increased requirements for equipment and supplies
- Increased demand for care
- Disruption of supply chains (out-of-stock, late delivery)
- Air Cargo Interruption
- Withdrawal of partners or development workers
- Expansion of containment measures
- Contamination of health personnel and care providers
- Limitation or limited functionality of existing community groups (such as the mothers' support group)
- Cancellation/deferral of mass activities (screening, vaccination, VITA supplementation, deworming)

Impact on the nutritional situation of children and mothers, as well as the under-five mortality rate are as follows:

- Increase in the number of food insecure households (see sections above) which in turn impacts the nutritional status of household members
- Decreased purchasing power due to lost or disrupted income and resulting prioritization of basic staples over diversified diets (unable to afford nutritious foods)

⁸ Ibid.

- Increase in childhood diseases due to a disruption of basic social services, disruption of immunization services, limited access to water, hygiene and sanitation services; and
- Increasing malnutrition in young children due to reduction in recommended practices for home care and feeding

An analysis of the impact of Covid-19 on the total burden of acute malnutrition is currently underway. The resulting scenarios will make it possible to predict the number of cases of acute malnutrition expected both with the classic factors and following the impact of the Covid-19.

Special Focus: Impact on Markets

In general, food markets are well integrated in West Africa due to historical trade habits, advanced political and economic integration, and improved infrastructure. In a normal year, food commodities move from production zones to the consumption zones with no major challenges. The regional market system is divided into three basins, Eastern, Central and Western, that are well interconnected despite ongoing conflicts in Northern Nigeria, Lake Chad region and Liptako Gourma.

As of early April, all ports and airports in the region remain operational for essential imports and exports only and closed to non-essential travel. Slowdowns have been noted in some ports, however, concerning the loading and unloading of commodities. Precautionary measures and sometimes screening tests imposed on ships' crews are some of the explanations for the slowness observed. Restrictions on internal movement implemented to contain the spread of the virus in nearly all of the countries in the region and lockdowns in several cities are affecting the flow of food and goods within countries (Table 3).

Table 3: Lock-downs and movement bans impacting market flows⁹

Country	Restrictions
Benin	Sanitary zone in the south of the country with movement restrictions
Burkina Faso	12 Cities and towns under lockdown
Cameroon	Movement restrictions between regions
Central African Republic	Movement restrictions between regions
Chad	None
Cote d'Ivoire	Abidjan locked down
The Gambia	Movement restrictions between regions, weekly markets closed
Ghana	Greater Accra and Greater Kumasi locked down Movement restrictions between other regions
Guinea	Movement restrictions between regions
Guinea Bissau	N/A
Liberia	Movement restrictions between regions
Mali	Movement restrictions between regions
Mauritania	Movement restrictions between regions, weekly markets closed
Niger	Movement restrictions between regions
Nigeria	Lagos, Abuja, Bauchi state, Plateau State locked down
Sao Tome & Principe	N/A
Senegal	Movement restrictions between regions, weekly markets closed
Sierra Leone	Movement restrictions between regions
Togo	Lomé, Tsévié, Kpalimé, Sokodé locked down

Source: WFP compiled

Market closures

In some countries, markets are being closed in line with prohibitions on assembly of persons. In Burkina Faso, for example, more than 26 markets in the capital were closed between 26 March and 20 April by order of the

⁹ Curfews in almost all countries are not measures that significantly impact markets functioning

governor of the region.¹⁰ Some markets in quarantined cities have also been closed. In Côte d'Ivoire, Gourou¹¹ market and some Yopougon markets and restaurants in Abidjan were closed. In Senegal, the weekly rural and urban markets were closed while the opening hours were revised for the urban markets (8 a.m. to 2 p.m.)¹². In Senegal, Mauritania and Gambia, weekly markets have been closed to prevent the concentration of people while in Chad, only markets that are not selling food products have been closed down.

Some countries such as Mali¹³ deviate somewhat from this general observation - even though a curfew was imposed from 9 p.m. to 5 a.m., markets remain open and the passage of freight is allowed at the borders. This is also the case in Benin, where the authorities did not impose any restrictive measures until 13 April 2020. Since 13 April, a cordon sanitaire has been put in place in 15 communes in the south of the country for a period up to 27 April 2020. Trade remains free between all areas of the country. In several countries (Senegal, Mali, Niger, Chad...) there have been reports of (voluntary or involuntary) retention of stocks by farmers for fear of how the situation will evolve.

Disruption of internal food supply

Government restrictions on movement tend to exempt the transport of goods but still restrict movement of farmers living in localities close to large urban centers who often come (daily or weekly) to the urban markets to sell part of their crops and return to the village with manufactured goods. These restrictions on inter-city travel and the closure of rural markets thus affect traditional mechanisms of destocking of local agricultural products by farmers, particularly in collection markets. This situation also affects the marketing of livestock by pastoralists and agro-pastoralists.

Moreover, in almost all the countries of the region, goods trucks are more than usual confronted with road hassles affecting perishable foodstuffs, lengthening supply times and resulting in price increases. This is also the case at the borders with waiting times that have increased considerably (1 week to 10 days) depending on the country. This police harassment is accompanied in several cases by informal tax levies and bribes that are passed on in prices to consumers. In the Central African Republic, the monitoring system put in place by the government and its partners reports major disruptions in the supply chain leading to shortages of certain products in the country's markets. According to the bulletin released *"about sixty trucks carrying food and non-food items are blocked at the border with Cameroon and only about ten manage to cross per week"*. Similar information was reported by the national market information systems of the hinterland countries but also between Senegal and Mauritania.

Admittedly, no slowdown in international trade has yet been reported, but various specialised structures (WTO¹⁴, World Bank, FAO, OECD¹⁵) estimate that international trade is expected to decline by between 13% and 33%. These falls are explained by reduction in goods production during the containment period, but also by the risks of stock retention by producing countries to cope with any resumption of the pandemic. Thus, imports of industrialized and unprocessed products could tighten globally and particularly in Africa¹⁶ and will contribute to increased supply chain disruptions.

Panic buying followed by a decline in market attendance

¹⁰ <https://fr.allafrica.com/stories/202003250412.html>, and <https://www.sidwaya.info/blog/2020/03/24/fermeture-des-marches-et-yaars-les-acteurs-saluent-la-decision-meme-si/>

¹¹ <https://news.abidjan.net/h/670770.html>

¹² According to the officials of the Commissariat for Food Security (CSA), which manages Senegal's market information system (SIM), 40 monitored markets out of 55 markets have been closed, including some big regional market like Diaoubé.

¹³ In his speech announcing the measures taken against the COVID19, the Head of State of Mali announced the closure of land borders "except for freight and transport of goods". Markets would remain open.

¹⁴ <https://news.un.org/fr/story/2020/04/1066152>

¹⁵ <https://www.webmanagercenter.com/2020/04/01/446229/covid-19-profiler-de-la-disponibilite-de-fonds-a-linternational-pour-reformer/>

¹⁶ See the previous impact analysis document published by the WFP Regional Bureau of Dakar to see which countries are most dependent on imports in the region.

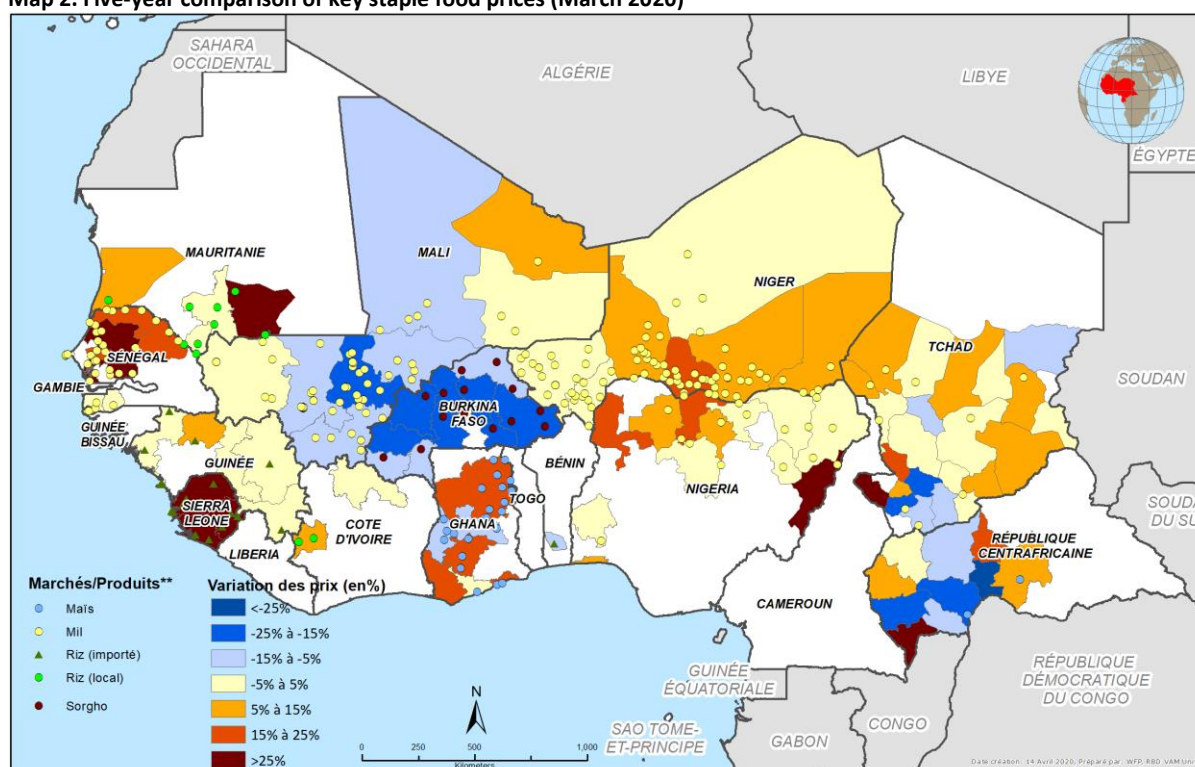
The periods prior to the introduction of curfews in the various countries of the region were characterized by a substantial increase in the demand for food products that were described in some countries as "panic buying"¹⁷. This situation was recorded in several capitals of the region such as Dakar, Abidjan, Abuja and Monrovia. While in supermarkets, the increase in demand caused by these purchases of unusual quantities of food and sometimes non-food products have been fairly quickly contained by an adjustment in supply, in traditional markets, however, supply has not always been able to adjust, creating artificial shortages and price increases¹⁸. Panic buying is putting unforeseen pressure on the supply chain of retailers and supermarkets. At some point, they limit the access of large numbers of households to much-needed basic food and non-food items.

Price increases that could reduce the purchasing power of poor households

The combination of reduced supply resulting from the restrictive measures taken by Governments to combat Covid19 and panic buying that reduced the availability of certain food (and sometimes non-food products such as hydro-alcoholic gels, toilet paper) has resulted in price increases in some countries and in specific markets. However, given that the response measures were taken in the last week of March, price developments based on the monthly average do not yet fully reflect the increases observed at the end of the month and the beginning of April.

Compared to the five-year average, the highest increases in staple cereal prices (over 25%) are observed in Sierra Leone, Senegal, southern Mauritania and the Central African Republic. For the first three countries, increases in local food prices have been observed since the beginning of the year. In Senegal and Mauritania, these increases are caused by decreases in agricultural production for the current crop year. For Sierra Leone, the price increases for local and imported food products are the result of the economic crisis the country is facing following the depreciation of its currency (Map 2 – monthly and annual comparisons are available in Annex 4).

Map 2. Five-year comparison of key staple food prices (March 2020)



Data Sources: Geographic data – WFP Offices, RBD and COD; Price data – WFP

¹⁷ According to Wikipedia, panic buying occurs when consumers buy unusually large quantities of a product in anticipation of or after a real or perceived disaster, or in anticipation of a large fluctuation in the price of goods.

¹⁸ See CSA- SIM bulletin of Senegal, price bulletin of Central African Republic, Côte d'Ivoire, impact analysis of COVID19 of Guinea Bissau.

Focusing on price trends during the last week of March and the first week of April for those countries where information is available, price increases appear to be affecting a larger number of areas and products. In the Central African Republic, since the end of March, prices for basic food products have risen by more than 20% in the various country markets. The most significant increases are reported in the capital Bangui, where a sharp rise in demand has been noted after mitigation measures to deal with the Covid-19 crisis were announced. The same upward trend in prices of basic food products is reported for this period in Senegal, Mauritania, Ghana and Nigeria. On the other hand, in Burkina Faso, Niger and Mali, food prices remained stable overall. See table 4 for a summary of food availability and food prices in West Africa region at the end of March 2020.

Table 4. Average food availability and price trends by country

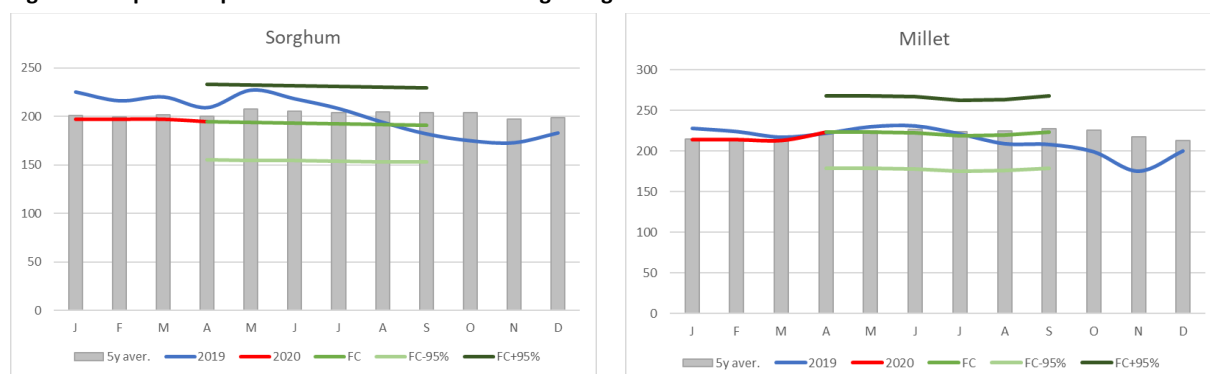
Country	Food availability	Food Prices
Benin	Stable	Stable
Burkina Faso	Stable	Stable
Cabo Verde	N/A	N/A
Cameroon	Stable	Stable
Central African Republic	Decreasing	Increasing
Chad	Stable	Increasing
Cote d'Ivoire	Stable	Stable
Gambia	N/A	N/A
Ghana	Decreasing	Increasing
Guinea	Stable	Stable
Guinea-Bissau	N/A	N/A
Liberia	N/A	N/A
Mali	Stable	Stable
Mauritania	Decreasing	Increasing
Niger	Decreasing	Increasing
Nigeria	Decreasing	Increasing
Senegal	Decreasing	Increasing
Sierra Leone	Decreasing	Increasing
Togo	Stable	Stable

Source: WFP

It is important to note that our analyses anticipate an increase in food prices just before the beginning of Ramadan due to the increase in demand and speculation by traders during this period of the year. As a result, a combination of effects (decline in 2019/2020 agricultural output, increases in demand related to Covid-19 and Ramadan) will be expected during the third week of April leading to high food prices and a reduction in the purchasing capacity of the most vulnerable households. In addition, some traders are taking advantage of this opportunity to raise the price of imported rice. Especially in Senegal perfumed rice, whose price per 50 kg bag has increased from 21,500 XOF to 25,000 XOF (more than 16%). Based on the historical series of price data, price forecasts based on an ARIMA model¹⁹ suggest that even countries such as Burkina Faso, Niger and Mali that had been recording local cereal price trends below the five-year average could find themselves by the lean season with curves above seasonal trends (see the graphs below). By adding the confidence intervals of the forecasts, these price increases may exceed 25% in May-June 2020, which could be dramatic for households that already spend more than 80% of their expenditure on food. It should be noted that these forecasts don't yet take into account the increases resulting from the impact of Covid-19, which will only really appear from April 2020 on.

¹⁹For the detailed methodology of forecasting please follow the link https://dataviz.vam.wfp.org/economic_explorer/price-forecasts-alerts

Figure 2: Staple food price trends and forecast in Ouagadougou



Source: WFP¹⁵

Impact on Urban Areas

Close physical contact facilitates the rapid spread of infectious diseases such as Covid-19, with population density greatly increasing the frequency of this kind of contact. As a result, cities around the world are generally more vulnerable to infectious disease outbreaks than rural areas. In Sub-Saharan Africa, the fastest urbanizing region in the world, three major factors will likely make it even more challenging to control the outbreaks, or 'flatten the curve', under social distancing mitigation measures employed by governments:

1. The scale of the informal economy, which, in West Africa, ranges from 58% of total employment (Cabo Verde) up to 94% of total employment (Benin)²⁰ and is by nature heavily reliant on face-to-face exchanges²¹;
2. The high levels of poverty tied to large-scale rural-to-urban seasonal or permanent migration by poorer populations in search of income opportunities; and
3. The extent of slums and informal settlements²², home to approximately 60% of urban populations in Sub-Saharan Africa.²³

Comparing West and Central African countries by the proportion of the population that live in urban areas, the coastal countries of Cameroon, Cote d'Ivoire, Ghana, and Nigeria all have more than 50% living in urban areas (Table 5).²⁴ However, looking at density of urban areas as measured by average number of people per kilometer living in a country's built-up areas (2015 data), cities in the countries of Chad, Mali, Cote d'Ivoire and Central African Republic, are on average more dense than other countries (Map 3).²⁵ It should be noted that this includes very dense refugee camps such as those in eastern Chad, as recorded in 2015. Furthermore, certain countries have particularly high proportion of urban populations living in slum conditions, notably Central African Republic, Chad, Sao Tome and Principe, and Mauritania (all >=80%) (Map 4).

Table 5. Urban population indicators and Covid-19 cases

	Tot. Pop. density (people per sq. km of land area) -2018	Urban pop. growth (annual %) - 2018	Pop. living in urban areas (%) -2018	Pop. living in slums (% of urban pop) - 2018	Covid-19 Active cases as of 14 April
Benin	101.9	3.9	47.3	59.6	35
Burkina Faso	72.2	5.0	29.4	58.5	528
Cabo Verde	134.9	1.9	65.7	No data	11
Cameroon	53.3	3.7	56.4	21.7	848

²⁰ ILOSTATS, Available at <https://databank.worldbank.org/source/world-development-indicators>

²¹ According to ILO, employment in the informal economy (excluding agricultural employment) as a proportion of total employment includes "all jobs in unregistered and/or small-scale private unincorporated enterprises that produce goods or services meant for sale or barter. Self-employed street vendors, taxi drivers and home-base workers, regardless of size, are all considered enterprises."

²² The United Nations Human Settlements Programme (UNHABITAT) defines a slum as "an urban area with a lack of basic services (sanitation, potable water, electricity), substandard housing, overcrowding, unhealthy and hazardous locations, insecure tenure and social exclusion."

²³ UNHABITAT, available at <https://databank.worldbank.org/source/world-development-indicators>

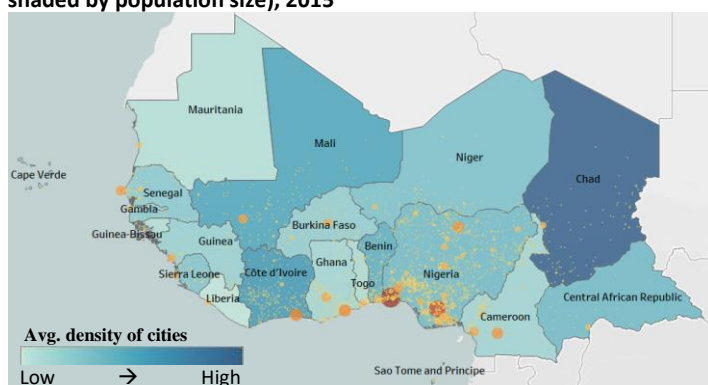
²⁴ INFORM, Index for Risk Management, Epidemic Risk. Available via <https://data.humdata.org/organization/inform>

²⁵ Africapolis data, available at <https://africapolis.org/data>

C.A.R	7.5	2.5	41.4	97.5	11
Chad	12.3	3.9	23.1	87.0	23
Côte d'Ivoire	78.8	3.4	50.8	59.2	638
Gambia	225.3	4.0	61.3	26.0	4
Ghana	130.8	3.4	56.1	30.4	636
Guinea	50.5	3.8	36.1	49.2	363
Guinea-Bissau	66.7	3.5	43.4	78.9	38
Liberia	50.0	3.3	51.2	70.3	59
Mali	15.6	4.9	42.4	47.0	144
Mauritania	4.3	4.4	53.7	79.5	7
Niger	17.7	4.3	16.4	61.8	570
Nigeria	215.1	4.2	50.3	53.9	373
Sao Tome and Principe	219.8	3.0	72.8	86.6	4
Senegal	82.3	3.7	47.2	29.5	299
Sierra Leone	106.0	3.1	42.1	59.8	11
Togo	145.0	3.7	41.7	53.0	77

Source: authors compilation from World Development indicators, IMPACT risk management data, HDX Covid-19 daily updates

Map 3. Avg. density of urban areas and city size (circle scaled and shaded by population size), 2015



Map 4. Proportion of urban population living in slums, 2018



Data sources: Boundaries- WFP, COD, HDX, WHO; Urban density and urban population – Africapolis; Slum % - IMPACT index for risk management

Within urban areas, the most vulnerable to directly contracting Covid-19 or being negatively impacted by Covid-19 due to slow-down of economic activities are the urban poor who are generally engaged in low skill wage labor with no job security, depend on markets for food, typically live hand-to-mouth with little ability to store and save food or money, have poor access to diversified nutritious diets or health care, and live in crowded unsanitary conditions. Many of these poor and vulnerable may also have comorbidities such as tuberculosis that increase their risk of dying from Covid-19. These populations are as such considered as high priority for assistance.

Impact on Employment by Economic Sectors

While the vulnerability of urban areas is critical and will need to be increasingly monitored in the West African context, the illness is nonetheless likely to continue to spread throughout each country, and the impact on rural communities should not be overlooked. As such, another lens through which to assess the impact of Covid-19 in West Africa is by sector, encompassing both urban and rural populations as part of broader value chains. The International Labour Organization (ILO) has analysed the global impact of Covid-19 on economic output and employment by sector, providing global and regional perspectives. The assessment of impact on sectors relies on real-time economic and financial data from (1) global firms (particularly for manufacturing and service activities), (2) investment in fixed assets, domestic and foreign trade, and (3) business expectations.²⁶ Based on these metrics, the sectors determined to be most at risk for reduced economic output and resulting employee

²⁶ Technical annex 3 of International Labour Organization (ILO). 7 April 2020. *ILO Monitor 2nd edition: COVID-19 and the world of work. Updated estimates and analysis.* Available at https://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/documents/briefingnote/wcms_740877.pdf

layoffs due to containment measures include trade, manufacturing, and accommodation and food services sectors (Table 6). These sectors have a high proportion of vulnerable populations such as women, unprotected workers, daily wage workers and migrant workers. In the Africa region, these sectors account for 26.4% of the labour force.²⁷

Table 6. Proportion of employment by risk category in Africa

High risk (share in global employment)		Medium risk ((share in global employment)		Low risk (share in global employment)	
Retail/trade	14.5%	Transport	6.1%	Agriculture	26.5%
Manufacturing	13.9%	entertainment	5.4%	Health	4.1%
Accommodation and food service	4.3%	Finance	1.6%	Education	5.3%
		Construction	7.7%		

Source: ILO data, WFP compiled

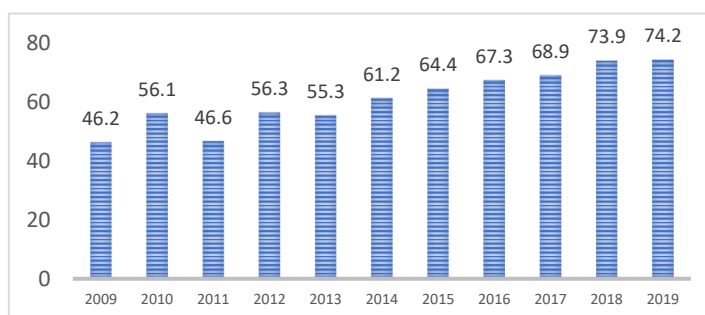
Within West Africa, nearly 70 percent of the workforce are employed in three formal sectors, agriculture (40%) wholesale and retail trade (20%), and manufacturing (9%), two of which (trade and manufacturing) are at high risk of impact from Covid-19.²⁸ Within the trade sector, retail outlets deemed non-essential have been mandated to close in most countries in order to reduce interaction and reinforce social distancing, and while food retail shops remain open, workers in that sub-sector are also at high risk of exposure to Covid-19.²⁹ In all three sectors, the ability to work from home and maintain an income in the event of strict quarantine measures to contain the spread is very low.

Impact on Agriculture

Good agriculture season in 2020, but unevenly distributed

The 2020 agriculture season has been normal and above-normal in West and Central Africa. Total crops production reached more than 74 million metric tons, which represent 12.8 percent increase compared to five-year average. Harvests of major cereals, notably rice and maize, increased respectively by 11 and 21 percent.

Figure 3. Cereal production in West & Central Africa, 2009/10 – 2019/20



Source: CILSS data and authors analysis

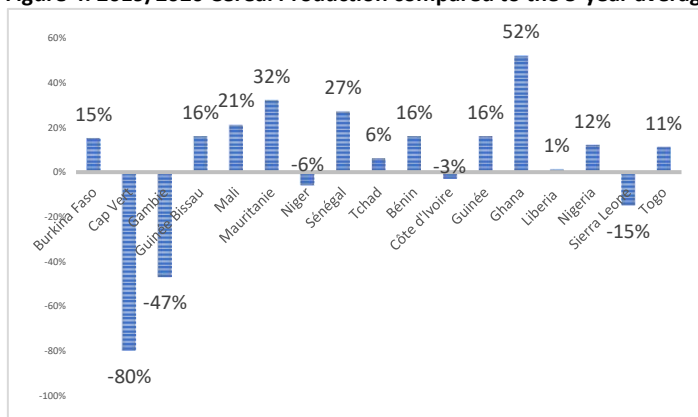
²⁷ Ibid

²⁸ These figures refer to formal employment only, as opposed to informal employment. In our previous paper, we noted that employment in agriculture is up to 80% in the region, a figure that includes informal employment.

²⁹ Ibid

However, the production of cereals was unevenly distributed within the region. For example, cereal production dropped significantly compared to the five-year average in Gambia, Cabo Verde and Sierra Leone, and slightly in Niger and Cote d'Ivoire. As a result, household stocks for many in these countries are likely to run low earlier than usual, making them more dependent on markets at a time when income sources are imperiled.

Figure 4. 2019/2020 Cereal Production compared to the 5-year average



Source: CILSS data and authors analysis

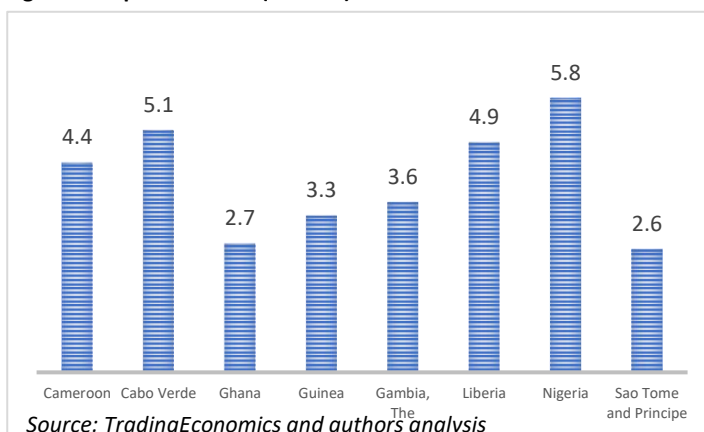
Potential 2020 agricultural season production challenges

While it remains difficult to gauge the impact that Covid-19 will have on agricultural production in West and Central Africa, some potential pathways of impact could include (1) disrupted access to good quality seeds, fertilizers and pesticides due to market closures; (2) an aging farmer population more vulnerable to Covid-19 as young people migrate for work; (3) inability of seasonal workers who have migrated across borders to return to their land for the farming season; and (4) limited access to land to cultivate due to curfews or internal movement restrictions.

Impact on Imports and Exports

Depending on the stock levels for staple cereals held at national level, countries may become increasingly dependent on food imports at a time when exporting countries may look to hoard their food supply or border closures and various containment measures could slow/limit the flow of trade. In general, countries have on average 3 months of stock on reserve in country (Figure 4). If mitigation measures and reactionary measures by exporting countries increase, the currently level of reserves may be insufficient.

Figure 5. Import reserves (months)



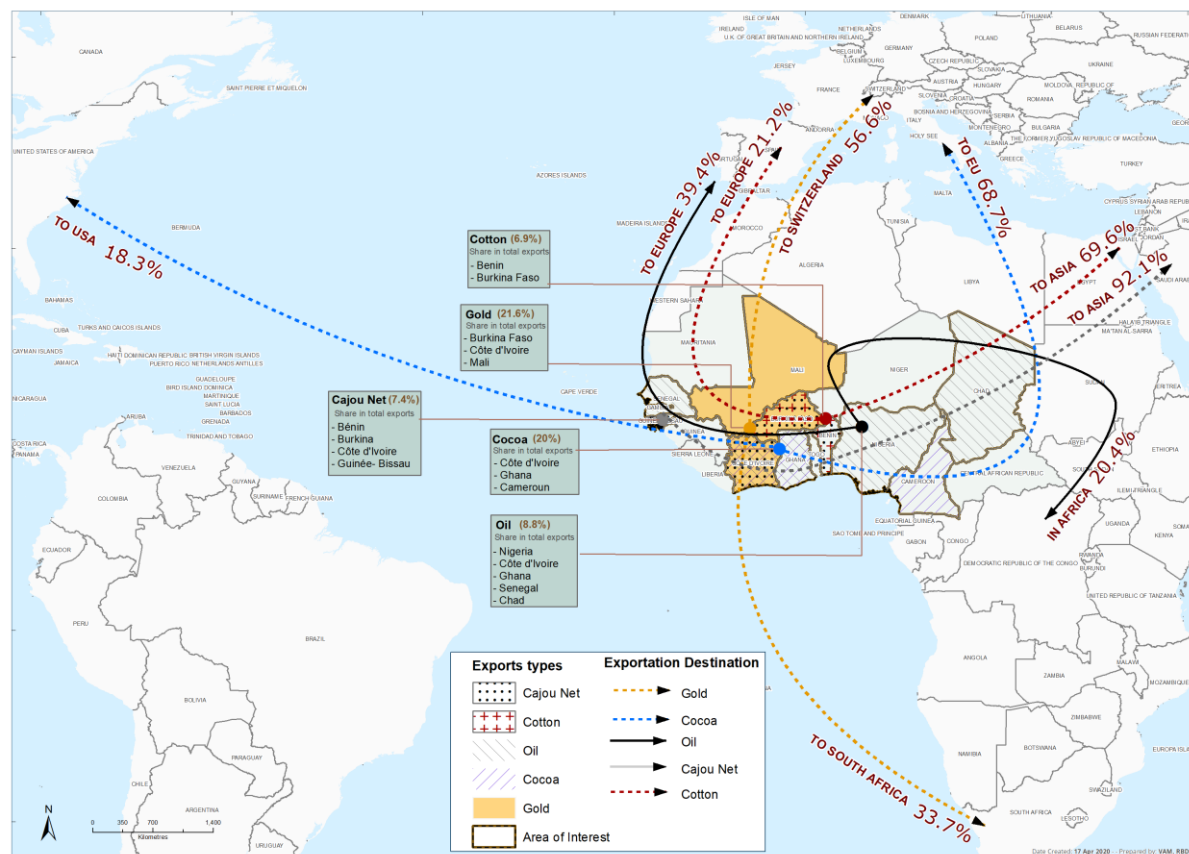
Source: TradingEconomics and authors analysis

Looking at the situation of rice in West Africa, despite overall increases in production this most recent agricultural season, the region remains a net rice importer, meaning that the local production does not cover the countries' need. Overall, the region must import 9.9 million metric tons of rice to meet domestic demand. Asia in general, and Vietnam, China and India in particular, are the main origins of rice consumed in the region. These countries are heavily affected by the Covid-19 crisis. They may hold their cereals stocks and use them for domestic consumptions (human, animal, fuel, etc.). Similar decisions were taken in 2008 during the food crisis, leading to a significant rice price increase in the region.

In addition, many West African countries remain heavily dependent on export of primary commodities, most of which are facing major declines due to the disruption caused by Covid-19. As discussed in the previous paper,

oil dependent economies such as Nigeria, Ghana, Chad and Cameroon, will be particularly hard hit.³⁰ One estimate projects that the budget deficits of these countries will double as oil revenue drops by at least 50%.³¹ However, other countries will also face plummeting revenues following shrinking demand and declining prices of cash crops and minerals (e.g. cocoa, cotton, cashew nut and gold), which will reduce their capacity to import food supplies.

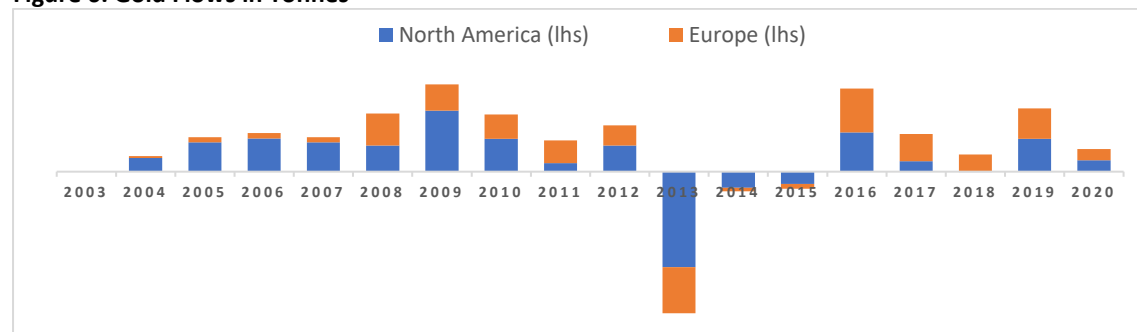
Map 5. Exports from West Africa (% of total exports that go to that destination)



Data Source: Central Bank of West African States (BCEAO) data

Mali and Burkina are important gold exporters. Overall, the demand for gold is expected to decrease in 2020 both in Europe and United States.

Figure 6. Gold Flows in Tonnes



Source: TradingEconomics data and authors analysis

³⁰ The first publication by WFP Regional Bureau VAM/M&E/Nutrition/Supply Chain units, titled *Economic and Market Impact analysis of COVID-19 on West and Central Africa*, was released on 30 March 2020.

³¹ African Union. April 2020. *Impact of the coronavirus (Covid-19) on the African economy*.

In the case of cacao, Côte d'Ivoire and Ghana produce more than 60 percent of global supply of cocoa. As of 29 March 2020, cacao arrivals at ports in Ivory Coast were seen at around 1,645 thousand metric tons, down 1.7 percent from the same period last season, exporters estimated.³² Cacao production is already facing structural constraints that are expected to worsen with the crisis, likely leading to declining output. Land preparation and planting require intensive workforce from April to June. Current public gathering and restriction on internal movement may reduce farmers participation to mutual aid activities and lead to reduced planting surface. Expected decrease demand from America, Europe and some extend China will affect significantly the 2020 cacao commercialization in June-July and December and drastically reduce the revenues of those two countries. Forecast prices for May 2020 indicate a decline to around \$2235 per metric ton in early April, \$425 below a month earlier, and \$90 below a year ago.

Cashew nuts are another major export commodity produced in West Africa. Notably, Côte d'Ivoire is the world's largest exporter and the second-largest producer of cashew nuts. Officially, more than 80 percent of the population in Guinea-Bissau depends directly on the cultivation of cashews for their subsistence. Restriction in internal movement will disrupt ongoing commercialization of cashew nut because thousands of middle man and collectors have no access to farms and buy directly from farmers.

Disclaimer: *The designations employed and the presentation of material in the map(s) do not imply the expression of any opinion on the part of WFP concerning the legal or constitutional status of any country, territory, sea, or concerning the delimitation of its frontiers or boundaries*

ANNEX 1

Urban poor in slums = % of total population living in urban slums (total pop. * % living in urban areas * % living in slums within urban areas)

Scenario 1 – sum of phase 3-5 projected for lean season 2020, 20% of phase 2 projected for lean season 2020, and 50% of urban poor in slums

Scenario 2 – sum of phase 3-5 projected for lean season 2020, 20% of phase 2 projected for lean season 2020, 30% of urban poor in slums

Scenario 3 – sum of phase 3-5 projected for lean season 2020, 20% of phase 2 projected for lean season 2020, and 20% of urban poor in slums

Missing CH food security data
Missing poor in urban slums data
CH analysis covered capital cities
so the proportion of urban poor in
slums considered at risk is lower
per scenario (30%, 10%, 5%)

Country	(a) Total Population (GHS-POP-R2019)	(b) Population living in urban areas (%)	(c) Population living in slums (% of urban population)	(d) Total pop. in slum (a * b * c)	(e) Urban poor (assume 60% poverty incidence in slums) (d * 0.6)	(f) 20% of urban poor in slums are at risk** (e * 0.2)	(g) 30% of urban poor in slums are at risk** (e * 0.3)	(h) 50% of urban poor in slums are at risk** (e * 0.5)	(i) Total food Insecure (CH3+), projected lean season	(j) Total phase 2, projected lean season	(k) 20% of phase 2 (j * 0.2)	scenario 1 (h + i + k + l)	scenario 2 (g + i + k + l)	scenario 3 (f + i + k + l)
Benin	10,875,906	47.31	59.60	3,066,782	1,840,069	368,014	552,021	920,035	14,578	795,505	159,101	1,093,714	725,700	541,693
Burkina Faso	18,078,091	29.36	58.50	3,104,809	1,862,885	93,144	186,289	558,866	2,151,966	5,184,308	1,036,862	3,747,693	3,375,116	3,281,972
Cabo Verde	520,502	65.73	--	--	--	--	--	--	10,012	65,521	13,104	23,116	23,116	23,116
Cameroon	23,371,047	56.37	21.70	2,859,017	1,715,410	343,082	514,623	857,705	2,126,115	6,635,115	1,327,023	4,310,843	3,967,761	3,796,220
Central African Republic	4,912,660	41.36	97.50	1,981,270	1,188,762	237,752	356,629	594,381	2,123,265	1,592,979	318,596	3,036,242	2,798,489	2,679,613
Chad	14,012,920	23.06	87.00	2,811,178	1,686,706	337,341	506,012	843,353	1,017,358	3,080,200	616,040	2,476,751	2,139,410	1,970,739
Côte d'Ivoire	22,700,258	50.78	59.20	6,823,962	4,094,377	818,875	1,228,313	2,047,189	168,398	901,731	180,346	2,395,933	1,577,057	1,167,620
Gambia	2,003,564	61.27	26.00	319,171	191,503	38,301	57,451	95,752	136,586	555,988	111,198	343,535	305,235	286,084
Ghana	27,451,740	56.06	30.40	4,678,391	2,807,034	561,407	842,110	1,403,517	21,712	1,804,615	360,923	1,786,152	1,224,745	944,042
Guinea	12,608,522	36.14	49.20	2,241,906	1,345,143	269,029	403,543	672,572	267,170	1,419,132	283,826	1,223,568	954,539	820,025
Guinea-Bissau	1,846,291	43.36	78.90	631,635	378,981	75,796	113,694	189,491	67,767	317,051	63,410	320,668	244,872	206,973
Liberia	4,508,306	51.15	70.30	1,621,148	972,689	194,538	291,807	486,345				486,345	291,807	194,538
Mali	17,610,108	42.36	47.00	3,505,700	2,103,420	105,171	210,342	631,026	1,340,984	3,654,889	730,978	2,702,988	2,282,304	2,177,133
Mauritania	4,096,872	53.67	79.50	1,748,104	1,048,862	209,772	314,659	524,431	609,180	799,825	159,965	1,293,576	1,083,804	978,917
Niger	19,916,908	16.43	61.80	2,021,695	1,213,017	60,651	121,302	363,905	2,012,365	5,018,617	1,003,723	3,379,994	3,137,390	3,076,739
Nigeria	182,141,741	50.34	53.90	49,424,919	29,654,951	5,930,990	8,896,485	14,827,476	7,087,102	19,245,245	3,849,049	25,763,627	19,832,636	16,867,141
Sao Tome and Principe	190,344	72.80	86.60	120,006	72,004	14,401	21,601	36,002				36,002	21,601	14,401
Senegal	15,094,183	47.19	29.50	2,101,357	1,260,814	63,041	126,081	378,244	766,725	3,470,291	694,058	1,839,027	1,586,865	1,523,824
Sierra Leone	6,449,098	42.06	59.80	1,621,876	973,125	48,656	97,313	291,938	1,304,985	4,043,411	808,682	2,405,605	2,210,980	2,162,323
Togo	7,264,896	41.70	53.00	1,605,691	963,415	192,683	289,025	481,708	3,560	453,120	90,624	575,892	383,209	286,867
Total	395,653,957			92,288,617	55,373,167	9,962,644	15,129,298	26,203,931	21,229,828	59,037,543	11,807,509	59,241,268	48,166,635	42,999,981

Source of data: INFORM Index for Risk Management; CILSS March 2020 projection for lean season 2020; IDP data from OCHA, IOM, CONUSAR, CMP, Protection Cluster Diffa

ANNEX 2

List of Acronyms:

BCEAO	Banque Centrale des Etats de l’Afrique de l’Ouest (Central Bank of West African States)
CH	Cadre Harmonisé
COD	Common Operation Datasets
HDX	Humanitarian Data Exchange
ILO	International Labor Organization
IPC	Integrated Phase Classification
JHU CSSE	Johns Hopkins University Center for Systems Science and Engineering
M&E	Monitoring and Evaluation
VAM	Vulnerability Analysis and Mapping
WFP	World Food Organization

ANNEX 3

Cadre Harmonisé Phase Classification

Phase	Description	Objectives of the priority interventions
Phase 1 : minimal	At least four out of five households are able to meet their food and non-food requirements without resorting to unusual coping strategies or being dependent on humanitarian assistance.	Action required to build resilience and reduce disaster risk
Phase 2 : Under pressure	Even with humanitarian assistance, at least one out of five households in the area is in the following situation or worse: reduced food consumption and minimal adequacy, but unable to afford certain essential non-food expenses without engaging in irreversible coping strategies.	Action required to reduce disaster risk and protect livelihoods
Phase 3 : Crisis	Even with humanitarian assistance, at least one out of five households in the area is in the following situation or worse: severe food shortages and acute malnutrition at high or above normal levels; or marginally able to cover the minimum of its food needs by exhausting livelihood assets, leading to food consumption deficits.	Protect livelihoods, prevent malnutrition and prevent deaths
Phase 4 : urgency	Even with humanitarian aid, at least one out of five households in the area is in the following situation or worse: extreme food deficits, which results in very high acute malnutrition or excessive mortality; or extreme loss of livelihood assets, resulting in food consumption deficits in the short term.	Save lives and livelihoods
Phase 5 : famine	Even with humanitarian aid, at least one out of five households in the area has a complete deficit in food and/or other basic needs and is clearly exposed to starvation, death and destitution. (Note that the evidence for the three criteria for food consumption, wasting and TBM are required to classify as famine).	Prevent large-scale deaths and avoid total collapse of livelihoods

ANNEX 4

