

## Crop calendars and recommended actions during the Covid-19 outbreak in the Africa region

12 April 2020

### Key messages:

- Analyzing crop calendars indicates that production tasks need to be carefully assessed in order to establish if there will be disruptions at this level.
- Efforts should be undertaken for inputs and seeds to arrive on time for core agricultural activities.
- Harvested staple and high value crops need to find their way to the downstream links of the supply chain and local and urban markets.
- Focus should be given to collection centers and to resolve logistics and transportation constraints
- Measures must be in place to support processing firms' especially SMEs.
- Ministries would need to coordinate safety protocols and measures and inform about the severity of the health challenges while trying to maintain operation in food systems.

As of today, many countries in Africa have imposed quarantine measures at some level of geographic administration for a short or longer period<sup>1,2</sup>. The measures restrict people's and labour mobility, reducing economic activity and gradually impacting on food systems<sup>3</sup>. In addition, the measures are slowing down transportation and logistics networks both internationally and locally. The health shock is leading economies into a recession threatening the emergence of a food and nutrition crisis.

Challenges are intensified by the interaction of the outbreak with poor health systems and initially weak economic conditions. Structural constraints and vulnerabilities of food and agriculture systems make for an already challenging situation. Extensive poverty, acute and chronic hunger and malnutrition, as well as weak safety nets, may exacerbate the impact of the Covid-19 pandemic in many African countries.

Many countries in the region already resort to adopting standard sets of measures for natural disasters or economic downturns to minimize food insecurity challenges<sup>4</sup>. These include food price monitoring, food stock inventory assessments, but in other cases price controls and building up of strategic food stocks. Efforts are being undertaken to minimize logistics challenges by reducing or eliminating direct and indirect trade barriers and transportation costs. Other countries are implementing export restrictions to ensure local food availability. Finally, some countries expand safety nets and social protection systems if resources are available.

### Assessing the impact of Covid-19 on production systems using crop calendars

<sup>1</sup> <https://www.brookings.edu/blog/africa-in-focus/2020/04/04/africa-in-the-news-impacts-of-covid-19-on-african-economies-and-elections-updates/>

<sup>2</sup> [https://en.wikipedia.org/wiki/Template:2020\\_coronavirus\\_quarantines\\_outside\\_Hubei#cite\\_note-6](https://en.wikipedia.org/wiki/Template:2020_coronavirus_quarantines_outside_Hubei#cite_note-6)

<sup>3</sup> <https://time.com/5816299/coronavirus-africa-ventilators-doctors/>

<sup>4</sup> FAO,(2020), FAPDA policy database: <http://www.fao.org/in-action/fapda/fapda-home/en/> , FAO, Rome

As the Covid-19 outbreak continues to unfold affecting an increasing number of countries in the region, it imperative to assess and plan ahead of the impacts of the pandemic on local food and agriculture systems. Overlaying the calendars of agricultural tasks with the onset of the outbreak in each country can support this task by studying the challenges at the level of production.

Planting and harvesting calendars, indicate the critical periods that activities need to take place for each commodity in every country, as commanded by local agro-ecological conditions. Crop calendars assist extension officers and farmers to make timely decisions on agricultural tasks, from sowing and planting to harvesting. They support trade and distribution of seeds and inputs to farmers at the right time. They provide a base for strategic planning in normal times, but also a crucial tool to support responding in emergencies and rehabilitating of farming systems during and after shocks and natural disasters like the Covid-19 outbreak.

FAO is launching a tool that overlays information on the onset of Covid-19 outbreak with published information on planting and harvesting months for key food and agriculture commodities in as many countries as possible<sup>5</sup>. The tool includes a traffic light system indicating FAO recommendations for the planting and harvesting tasks by crop and country.

A green light advises to proceed with the task while speeding up the pace. This happens in all cases that a task needs to take place during the month of April and irrespective of the total number of months needed to complete the task in a normal state. A yellow light advises monitoring and assessing the situation as the crisis unfolds and preventive or protective policy measures are introduced by each country to contain the outbreak. The yellow light also suggests speeding up the pace, if this is deemed necessary and feasible.

As more and more countries introduce measures that reduce population and labor mobility in view of the pandemic, it is unavoidable that agricultural tasks may be compromised, turning the health shock to a production system and food insecurity one. If agricultural tasks are not performed on time, crops ready for harvest may be lost, while planting may not be feasible, challenging in this way future food availability. In other words, food production systems may collapse. This is especially true for countries where agricultural systems are labour intensive like in many countries in sub-Saharan Africa.

There is a significant number of planting and harvesting tasks for many crops that it is recommended to speed up farming activities in April in many countries in Africa (Table 1). In April and May, planting operations of main season cereal crops will take place in West and East African countries, Central African Republic and Congo. Minor cereal crops will be planted in all Southern African countries, for example wheat. During the same months, harvesting operations of cereal crops will take place in all Southern African countries, in south and central areas of Tanzania and coastal areas of Kenya.

Overall, the crop calendar tool for crops in African countries indicates that:

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<sup>5</sup> The crop calendars tool with information in many more countries can be found in the following link: <http://www.fao.org/2019-ncov/covid-19-crop-calendars/en/>

- Tasks in subsistent agriculture for staple crops may not be challenged in terms of harvesting or planting. This is because at least as per officially reported data the onset of the Covid-19 outbreak is not yet severe and much less in rural agricultural areas<sup>6</sup>. In addition, the dominant smallholder family farming character of the sector in many countries indicates that not much interaction with external factors can compromise the planting or harvesting tasks.<sup>7, 8</sup> Finally, the non-perishable character of the staple crops contributes to their preservation for longer periods if links with the supply chain remain erratic or are severely compromised.
- This may not be the case for high value food and cash crops which depend on hired labour and are highly perishable. Regular and seasonal on farm labour tasks for vegetables, fruits and all horticulture products may end up incomplete or need to be postponed with the enforcement of quarantine measures. This is particularly important in view of the high labour density in terms of time required to perform the tasks in the subsector.

Challenges to production in relation with upstream and downstream links of the value chain, may prove more difficult to overcome:

- Deliveries of inputs and seeds across territories within a country are uncertain for all types of crops. Reports from shipping companies indicate that disruptions in global trade delay the delivery of fertilizer and other inputs produced outside the region, which is already low during normal times<sup>9</sup>. Similar challenges emerge for imported food.
- Crops in highly commercialized farms that require dense labour inputs, supplied over a short period of time, may not be harvested or if harvested may not reach downstream links of the supply chain and local or urban markets. This is a situation that many European countries are facing for several weeks already<sup>10</sup>. Preliminary reports indicate that some countries ban the imports of horticulture crops out of fears that they may not arrive in good state for consumption as a result of delays (Botswana in Africa, Bhutan in Asia).

### Recommended actions

Many countries in sub-Saharan Africa are included among those assessed as requiring external assistance for food, as indicated in the March 2020 issue of the FAO publication on crop prospects and food situation<sup>11</sup>. Several of the countries in the region are countries in food crisis<sup>12</sup> as per IPC dashboards published in 2019. Finally, for almost all the countries and commodities, production systems rely on labour for core agricultural tasks.

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<sup>6</sup> <https://africacdc.org/download/outbreak-brief-12-covid-19-pandemic-7-april-2020/>

<sup>7</sup> <https://www.ifpri.org/blog/how-covid-19-may-disrupt-food-supply-chains-developing-countries>

<sup>8</sup> FAO 2020, COVID-19 and the risk to food supply chains: How to respond?, Policy Brief, FAO, Rome: <https://doi.org/10.4060/ca8388en>

<sup>9</sup> <https://www.nepia.com/industry-news/coronavirus-outbreak-impact-on-shipping/>

<sup>10</sup> <https://www.bloomberg.com/news/articles/2020-03-27/from-spain-to-germany-farmers-warn-of-fresh-food-shortages>

<sup>11</sup> FAO 2020, [CROP PROSPECTS and FOOD SITUATION](#), Quarterly Global Report, FAO Rome, March

<sup>12</sup> Out of the 54 countries in the region, many are in [food crisis as per 2019 IPC/CH](#).

Analyzing crop calendars indicates that production tasks need to be carefully assessed in order to establish if there will be disruptions at this level. Nevertheless, it seems that issues are more likely to emerge at the links of production with markets both upstream and downstream.

Drastic measures are necessary to minimize disruptions in agricultural tasks and food systems during the Covid-19 pandemic to avoid an even wider food crisis in the region.

- Performing regular agricultural tasks in the region needs to be carefully monitored and assessed in conjunction with the onset of the outbreak. Extension officers, agricultural agencies and experts need to collaborate with health experts and provide valid guidance regarding the decision to undertake basic agricultural tasks, at a specific time and pace in agreement with crop calendars. Timely collaboration will need to support effective information sharing and provide guidance, by using all available communication networks.
- Efforts should be undertaken to ensure that inputs and seeds arrive on time for core agricultural activities on smallholder and other farms in the region. An increased amount of resources should be dedicated to input acquisition and delivery to farmers in the region. The slowdown on global economic activity has reduced fertilizer production<sup>13</sup>. While both demand for and supply of inputs is available, the challenge is the constraints to undertake and complete the transaction and ensure delivery. The outbreak defines a state that will last for several months, if not longer, and protocols are needed to resume economic activity, while ensuring safety of the people engaging in economic activities.
- Complementary efforts need to be undertaken to promote the use of alternative inputs, bio-pesticides and organic fertilizers. Data collected by FAO indicates that many countries in Africa reported taking steps in this direction.
- Harvested staple and high value crops need to find their way to the downstream links of the supply chain and local and urban markets. Collection centers need to be established covering regions and territories within countries. Logistics and transportation constraints need to be eliminated so that harvested crops reach their destinations. Keeping food systems functioning during the pandemic, will avert a secondary more devastating food crisis in a challenged region with poor capacity to handle any type of shocks and much less a combination of them.
- Measures must be in place to support processing firms, especially small and medium size enterprises engaging in the sector. Several countries in the region, are considering or implementing measures to ease tax burdens and alleviate credit and liquidity challenges for SMEs<sup>14</sup>.
- Slowing or locking down economic activities in urban areas will release formal, but mostly informal labor (low, semi and high skilled), that sooner than later will need to cover basic needs. During the food price crises in 2008-09, many youths returned to the villages in order to reduce living costs. This possibility during the Covid-19 pandemic deserves attention as it will impact

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<sup>13</sup> FAO reported information indicated that potash fertilizer production is reduced by nearly 15 percent in Russia the last months.

<sup>14</sup> FAO,(2020), FAPDA policy database: <http://www.fao.org/in-action/fapda/fapda-home/en/> , FAO, Rome

real wages not only in urban, but also in rural areas. Producers will benefit, but poverty and food security impacts are expected to be strong.

- Health systems in Africa are already rudimentary. Countries should invest much more in prevention measures to assure the safety of all workers in the food system. Ministries would need to coordinate at higher and technical levels to develop safety protocols and measures and inform about the severity of the health challenges, while trying to maintain operations in food systems. Advocacy and communication campaigns through all available means would have to come strong in informing about these protocols and safety measures.

**Guiding questions for consideration by the Ministers:**

- How can Ministries most effectively implement the proposed measure based on crop calendars?
- What do you foresee as the major limitations, i.e. storage, access to markets, labour force?

**Table 1: FAO recommendations for planting and harvesting tasks in African countries during the Covid-19 pandemic**

Country	Commodity	Gross Production Value* (current million US\$)	Planting calendar	FAO advise (plant)	Harvest calendar	FAO advise (harvest)	Quarantine End date**
Algeria	Potatoes	1852	jul-apr		oct-jul		14/04/2020
Angola	Maize		sept-oct		mar-apr		
Benin	Cassava	1677	mar-aug		may-nov		
Benin	Yams	1042	jan-apr		jul-nov		
Botswana	Maize	3	nov-jan		may-jul		30/04/2020
Botswana	Sorghum	13	dec-jan		may-jun		30/04/2020
Burkina Faso	Maize	467	may-aug		aug-oct		
Burundi	Beans		feb-mar		may-jun		
Burundi	Cassava	558	All year		All year		
Cabo Verde	Bananas	13	All year		All year		
Cabo Verde	Tomatoes	28	All year		All year		
Cameroon	Plantains	1117	apr-sept		All year		
Cameroon	Cassava	1328	mar-jun		All year		
Central African Republic	Yams	247	mar-jun		oct-dec		
Central African Republic	Cassava	378	apr-sept		All year		
Chad	Millet		mar-jul		sept-oct		
Chad	Sorghum		jun-jul		sept-nov		
Congo	Cassava	1545	oct-nov		All year		20/04/2020
Congo	Maize		sept-oct&feb-mar		dec-jan&jun-jul		20/04/2020
Cote d'Ivoire	Yams	1215	jan-jul		jul-feb		
DR Congo	Cassava		All year		All year		

<b>DR Congo</b>	Maize		jul-jan		nov-jun		
<b>Eritrea</b>	Sorghum	48	may-sep		nov-feb		23/04/2020
<b>Eritrea</b>	Barley	80	jan&jul-aug		apr&nov		23/04/2020
<b>Eswatini</b>	Maize		oct-dec		apr-may		
<b>Ethiopia</b>	Maize	1604	feb-jun		jun-dec		
<b>Ethiopia</b>	Wheat	1793	feb-oct		may-mar		
<b>Egypt</b>	Maize	2448	apr-may		sep-nov		
<b>Egypt</b>	Wheat	3207	dec		apr-may		
<b>Equatorial Guinea</b>	Cassava	21	feb-mar		feb-mar		
<b>Equatorial Guinea</b>	Sweet potatoes	31	feb-mar		feb-aug		
<b>Gabon</b>	Maize		sept-oct&jan-feb		dec-jan&may-jun		
<b>Gambia</b>	Groundnuts	31	may-jul		oct		
<b>Gambia</b>	Millet	20	jun-jul		sept-oct		
<b>Ghana</b>	Cassava	904	apr-aug		nov-jan		14/04/2020
<b>Ghana</b>	Yams	902	dec-mar		jul-dec		14/04/2020
<b>Guinea</b>	Cassava	359	may-jul		mar-may		
<b>Guinea-Bissau</b>	Maize		may-jun		sept-oct		
<b>Lesotho</b>	Maize		oct-dec		may-jun		
<b>Liberia</b>	Cassava		mar-may		jan-jun		14/04/2020
<b>Liberia</b>	Rice		apr-jul		sept-oct		14/04/2020
<b>Libya</b>	Wheat		oct-nov		may-jun		20/04/2020
<b>Libya</b>	Potatoes		jan-feb		may-jun		20/04/2020
<b>Madagascar</b>	Rice	913	All year		All year		12/4/2020
<b>Madagascar</b>	Cassava	354	sept-may		may-feb		12/4/2020
<b>Malawi</b>	Cassava	1747	nov-dec				
<b>Malawi</b>	Maize	762	nov-may		apr-nov		

<b>Mali</b>	Millet	425	jun-jul		aug-nov		
<b>Mali</b>	Rice	666	may-aug		sep-dec		
<b>Mauritania</b>	Sorghum		jul-aug		oct-dec		
<b>Mauritania</b>	Rice		jun-jul		oct-nov		
<b>Mauritius</b>	Pumpkins, squash and gourds	12	sept-apr		jan-aug		
<b>Morocco</b>	Wheat	1406	nov-dec		jun-aug		20/04/2020
<b>Mozambique</b>	Maize	410	oct-may		jan-jul		
<b>Mozambique</b>	Cassava	1843	aug-apr		feb-jun		
<b>Namibia</b>	Maize	10	jun-sep&dec-jan		apr-jul&nov-dec		
<b>Niger</b>	Millet	1546	may-jul		sept-oct		
<b>Niger</b>	Chillies and peppers	876	may-jul		jul-nov		
<b>Nigeria</b>	Yams	10423	feb-mar		nov-may		12/04/2020
<b>Nigeria</b>	Cassava	6605	mar-sept		dec-jan		12/04/2020
<b>Rwanda</b>	Maize		sept-oct&feb-mar		jan-feb&jun-jul		19/04/2020
<b>Rwanda</b>	Sorghum		sept-oct&feb-mar		jan-feb&jun-jul		19/04/2020
<b>Senegal</b>	Rice	186	may-aug		aug-dec		
<b>Senegal</b>	Groundnuts	216	feb-aug		jun-dec		
<b>Sierra Leone</b>	Rice	863	apr-oct		sept-feb		
<b>Sierra Leone</b>	Cassava	1937	All year		All year		
<b>South Sudan</b>	Maize		mar-apr		jul-aug		
<b>South Africa</b>	Maize		oct-jan		apr-jun		15/04/2020
<b>Sudan</b>	Millet		jun-jul		nov-dec		
<b>Sudan</b>	Wheat		nov		mar		
<b>Togo</b>	Millet		may-jul		oct-nov		



<b>Togo</b>	Maize		mar-apr&aug-sept		aug-sept&dec-jan		
<b>Tunisia</b>	Barley		oct-jan		may-jul		19/04/2020
<b>Tunisia</b>	Wheat		oct-jan		may-jul		19/04/2020
<b>Uganda</b>	Cassava		apr-may		sept-mar		
<b>United Republic of Tanzania</b>	Maize	1175	All year		feb-oct		
<b>Zambia</b>	Maize	444	jul-dec		jan-jun		
<b>Zambia</b>	Cassava	612	dec		nov		
<b>Zimbabwe</b>	Maize	295	nov-dec		mar-jul		12/4/2020
<b>Zimbabwe</b>	Soybeans	35	nov-dec		mar-jun		12/4/2020

\* Average 2014-2016

\*\* Quarantine measures can be at national or sub-national level depending on the country

\*Green: proceed and speed up activities if April is included in planting or harvesting. Yellow: Monitor and speed up activities if assessed and necessary.

Source: *Compilation of data from FAOSTAT, FAO-GIEWS, FAO-AMIS, FAO-AGP, USDA, ECDC*