Potential impacts of COVID-19 on rice production and supply in Africa and policy options

A Policy Note to CARD Stakeholders

May 2020
Preamble

Since the Uruguay round of General Agreement on Tariffs and Trade (GATT; 1994) and the advent of World Trade Organization (WTO; 1995), Africa's total volumes of rice (milled) importation have increased by 4.7-fold from about 4 million tons in 1994 to about 14.8 million tons in 2017\(^1\) (Fig. 1). Though the local paddy production in Africa increased by 2.3-fold during the same period; the spurt in Africa's imports is largely driven by a fast-growing appetite for rice consumption. Within Africa, the share of rice importation by countries in Eastern Africa has significantly increased from 14% in 1994 to 24% in 2017.

Of the 34.234 million tons of wholly or partially milled rice that were exported in 2018, about 10.771 million tons (about 31.46% of total global rice trade) were destined for Africa\(^2\). Although the annual trade volumes and trade partners vary across the years, the reliance of African markets on major Asian rice exporting countries such as Thailand, India, Pakistan, China and Vietnam have recently gained strengths (Table 1) due to availability and lower transportation time and costs.

Table 1: Rice trade between Africa and top rice exporters in the world\(^2\)

<table>
<thead>
<tr>
<th>Exporting Country</th>
<th>Global Volume of Exports (tons)</th>
<th>Share of country's exports in global rice trade</th>
<th>Volume of exports shipped to Africa (tons)</th>
<th>Share of country's exports in Africa's rice trade</th>
<th>African nations to which rice was exported to in 2018 (in descending order of importation volumes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thailand</td>
<td>9,743,725</td>
<td>28.46%</td>
<td>5,046,251</td>
<td>46.85%</td>
<td>Benin, South Africa, Angola, Cameroon, Mozambique, Côte d'Ivoire, Kenya, Togo, Ghana, Senegal, Congo, Democratic Republic of the Congo, Algeria, Burkina Faso, Niger, Tanzania, Madagascar, Gabon, Equatorial Guinea, Sierra Leone, Zimbabwe, Guinea, Chad, Gambia, Nigeria, Jordan, Djibouti, Mali, Rwanda, Zambia, Guinea-Bissau, Namibia, Sudan, Ethiopia, Somalia, Botswana, Uganda</td>
</tr>
</tbody>
</table>

\(^1\) Based on raw data sourced from Food and Agriculture Organization (FAO; fao.org/faostat; accessed 07-April-2020)

\(^2\) Based on raw data sourced from International Trade Center (ITC; accessed on 16-April-2020)
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<th>Share of country's exports in global rice trade</th>
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<th>African nations to which rice was exported to in 2018 (in descending order of importation volumes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pakistan</td>
<td>3,380,514</td>
<td>9.87%</td>
<td>1,365,971</td>
<td>12.68%</td>
<td>Kenya, Tanzania, Madagascar, Mozambique, Côte d'Ivoire, Benin, Togo, Somalia, Senegal, Sierra Leone, Guinea, Guinea-Bissau, Ghana, Gambia, Zimbabwe, Djibouti, South Africa, South Sudan, Congo, Zambia, Democratic Republic of Congo, Botswana, Malawi</td>
</tr>
<tr>
<td>China</td>
<td>1,861,021</td>
<td>5.44%</td>
<td>1,079,170</td>
<td>10.02%</td>
<td>Côte d'Ivoire, Guinea, Benin, Sierra Leone, Senegal, Madagascar, Cameroon, Kenya, Guinea-Bissau, Democratic Republic of the Congo, Togo, Sudan, Ghana, Zimbabwe, Mozambique, Malawi, Mali, Angola, South Sudan, Chad, Burkina Faso, Gambia, Niger, Burundi, Ethiopia, Central African Republic, Namibia, South Africa</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>2,616,357</td>
<td>7.64%</td>
<td>420,224</td>
<td>3.90%</td>
<td>Ghana, Côte d'Ivoire, Mozambique, Tanzania, Togo, Angola, South Africa, Cameroon, Nigeria, Kenya, Senegal, Congo</td>
</tr>
<tr>
<td>USA</td>
<td>1,628,400</td>
<td>4.76%</td>
<td>78,394</td>
<td>0.73%</td>
<td>Côte d'Ivoire, Tanzania, Benin, Liberia, Ghana, Guinea, Guinea-Bissau, Cameroon, Mozambique, Congo, Sierra Leone, Togo, Madagascar, South Africa, Angola, Senegal, Somalia, Estonia, Nigeria</td>
</tr>
<tr>
<td>Cambodia</td>
<td>567,782</td>
<td>1.66%</td>
<td>5,104</td>
<td>0.05%</td>
<td>Ghana, Namibia, Kenya, Guinea, Côte d'Ivoire, Guinea-Bissau, Equatorial Guinea, Djibouti</td>
</tr>
<tr>
<td>Italy</td>
<td>593,149</td>
<td>1.73%</td>
<td>2,850</td>
<td>0.03%</td>
<td>South Africa, Kenya, Nigeria, Sudan, Mozambique, Madagascar, Tanzania, Rwanda</td>
</tr>
</tbody>
</table>

Coalition for African Rice Development (CARD), a consultative group for rice development in Africa, under its second phase (2019-2030) has been helping 32 rice growing countries in Africa establish National Rice Development Strategy (NRDS) for advancing their rice sub-sector; so that the overall rice production in the continent is doubled. One of the key approaches involve strengthening of resilience of the local rice production and supply against climatic and market shocks.

Recent outbreak of coronavirus disease 2019 (COVID-19) has sparked fears over the stability of global network of rice production and supply chains. On-farm rice production and processing in both Asia and Africa generally involves labor intensive operations and logistics support along the entire value chain. Since social distancing is currently being used as a key strategy for containing the pandemic; it is possible that the rice production and supply chains in both Asia and Africa will be affected. Although the issues are still unfolding, the lock down measures imposed in several parts of Asia and Africa are expected to further limit the movement of rice to markets.

Since Africa is a net rice importer, if the major Asian rice exporting countries suffer from lower rice production and/or introduce export restrictions/bans or stockpile their local rice production through purchase program; African markets might face shortage of rice supplies. When coupled with volatility in exchange rates; such cracks in rice production and supply chains could lead to substantial hikes in domestic market prices and thereby could partly debilitate food security, poverty reduction and socio-economic development in several African nations. Nevertheless, any gaps in supply of rice from Asia shall be filled by domestic rice, if the African nations can
further accelerate their efforts in rising their local rice production and domestic market share. Thus, the emerging crisis also creates opportunities for the African rice sector to sharpen its competitiveness and self-reliance.

Although rising in its stature, rice is not a traditional staple food crop in several parts of Africa and hence it represents only one of the several constituents of a common household’s food basket. Its importance and hence the consumer demand during the COVID-19 pandemic may therefore be subject to the availability and prices of other alternative staple food crops, and the purchasing power of households. Yet it was the sharp rise in prices of rice (along with wheat and maize) that set the pretext for the 2007-08 food price crisis, when the availability and the average prices of other African staple food crops such as potato, cassava and beans remained relatively less affected.

The purpose of this policy note is to inform the stakeholders of the rice sector in CARD member countries on the importance of taking appropriate policy measures that might help overcome the looming market adversaries. By taking cues from the previous epidemics in Asia (SARS) and Africa (Ebola) and the 2007-08 food price crisis; this note intends to trigger internal discussions on policy responses at national and regional levels. The scope of this policy note is to explore the policy actions for combatting only the impacts of COVID-19; and does not include other enduring challenges of rice sector development.

It is also imperative to note that the policy options indicated in this document are only suggestive in nature and therefore the choice of actions need to be carefully calibrated based on evidences and sectoral contexts of individual nations and the regional economic communities (RECs). Care should also be taken to ensure that the policy actions are in alignment with the overarching framework of national and world health sectoral policies that are aimed at containing the spread of COVID-19.

In the following sections, the presumptive choke points along the local and global production and supply chains of rice and the candidate policy actions are discussed. The suggested policy options in this document are classified into those (a) that may not require detailed assessments and (b) that do require careful assessments and calibration of intensity and duration. Nevertheless, the policy options belonging to both these classes need to be urgently explored by the governments in order to mitigate the impacts of COVID-19.

**On-farm rice production**

In Africa, the rice crop is generally harvested one or two times from the same land during the course of a year. Hence, depending on the seasonality of the rice crop and the status of the pandemic curve in the rice producing areas, the impacts of COVID-19 on rice production may vary in different countries and in different rice producing areas within a country. COVID-19 mediated disruptions could affect labor availability, on-farm seed inspection and production activities, delivery/distribution of farm inputs and machineries, training and extension services; leading to decreases in area under rice production, on-farm productivity and total rice production in both Asia and Africa. The limitations in accessing and affording the farm inputs might also rise the costs of production, especially in the hands of smallholder rice farmers. With increased demand for personal water usage for improving the hygiene against COVID-19 by urban and rural population; it is possible that the availability of water for irrigation may come under pressure and might exacerbate the impact of any climate vagaries.

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The 2014 Ebola epidemic in West Africa reduced the area under rice production by 3.7% in Guinea, 8% in Sierra Leone and 11.6% in Liberia\(^4\), and gross rice production in these 3 countries decreased by 10\(^5\). Data on rice production in China reveal that during the severe acute respiratory syndrome (SARS) pandemic in 2002-2003; the area under rice cultivation and the total rice production dipped significantly by 8.1% and 9.5% respectively (Fig. 2). While it is too early to predict the changes in area and volumes of rice production due to COVID-19; any reduction in Asia and/or Africa will affect demand-supply dynamics and the global market prices. The rice value chain support services in Africa should patronize rice planting and production-related activities to combat the impacts of COVID-19 on the volumes of the local rice production. The following policy actions shall be considered to address the above-mentioned issues:

Table 2: Matrix of potential issues and policy actions for increasing on-farm production during the pandemic

<table>
<thead>
<tr>
<th>Issues</th>
<th>Probable Policy Options</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Options that may not require detailed assessments</strong></td>
<td><strong>Options that do require careful assessments and calibration</strong></td>
</tr>
<tr>
<td><strong>Reduction in area under rice production</strong></td>
<td>• Set up and/or engage NRDS taskforce in closely monitoring and warning early on the pace of progress in farming activities such as land preparation, planting and input distribution in rice producing areas</td>
</tr>
<tr>
<td><strong>Reduction in on-farm rice productivity</strong></td>
<td>• Fast track the orders and clearance on importation of inputs (seeds, fertilizers, machineries) to ensure their timely availability to farmers</td>
</tr>
<tr>
<td><strong>Inequitable distribution of water for irrigation</strong></td>
<td>• Prioritization and allocation of water resources for irrigation should be decentralized and engage nearby communities in the decision-making process from the start of the season</td>
</tr>
</tbody>
</table>

\(^4\) FAO (2016) Impact of the Ebola virus disease outbreak on market chains and trade of agricultural products in West Africa

\(^5\) UNDP (2014) Assessing the socio-economic impacts of Ebola virus disease in Guinea, Liberia and Sierra Leone
While the African countries will have to carefully weigh the availability of fiscal space and/or external funding sources before deciding on the subsidy support; it is important to note that providing temporary input subsidies alone may not be enough. This is because; during the pandemic the rice farmers might find it difficult to mobilize enough group of labors for operations such as transplanting, weeding and harvesting. And it will be likely that such critical field operations may get waivered especially during peak season; leading to reductions in on-farm productivity. Hence the temporary input subsidies may become more effective when combined with fiscal and monetary policies that encourage labor and/or machineries for both on-farm and off-farm operations.

*Postharvest handling, trading and processing of paddy*

It is imperative that the local on-farm production moves to the consumer markets more efficiently with no or minimal losses. Efficiency of postharvest handling of harvested paddy (transportation, threshing, drying, cleaning, packing, storage) thus becomes highly critical for maximizing the productivity and profitability for the rice producers. A majority of the smallholder rice farmers in Africa typically sell their surplus in production directly to rural traders, after performing very minimal value additional activities such as drying and packing of grains. Due to lack of regulatory structures and inadequate private investments, the downstream integration of producers with the trading networks of paddy grains are less organized in most parts of Africa. Such systemic issues might aggravate the impacts of COVID-19 on the supply of paddy grains to the mills.

Farmgate prices for paddy grains might become highly volatile and vary across geographical regions due to lack of transparency and its poor synchronization with consumer market prices for milled rice. During the pandemic, inadequate and intermittent availability of capital might further affect the cash flow between the traders and the rice producers. Although the current trends in oil price suggest that it is less likely to increase the cost of transportation, the quarantine measures and restrictions on the movement of goods might profoundly affect the logistics into and out of the rice mills. These above-mentioned issues altogether might also stoke hoarding at various stages and further constrain the supply along the commodity chain. Policy responses that could help overcome these challenges could include the following:

| Table 3: Options for overcoming possible issues along postharvest handling, processing and trading of paddy grains during the COVID-19 pandemic |
|-------------------------|---------------------------------------------------------------------------------------------------|
| **Issues**              | **Probable Policy Options**                                                                      |
|                         | **Options that may not require detailed assessments**                                             |
|                         | **Options that do require careful assessments and calibration**                                  |
| Inefficient postharvest handling could reduce on-farm productivity and profitability | \* Promotion of price incentives for value added to the harvested paddy (cleanliness, homogeneity, grading) by farmers  
\* Strengthen linkages and promote supply contracts between farmers/ farmer cooperatives and registered trading enterprises/millers | \* Widen market channels by proactively engaging farmer cooperatives, public- and private enterprises (including millers) and women entrepreneurs in the rice producing areas  
\* Provide affordable drying yards and warehousing facilities for storage of the harvested paddy grains |
| Movement of grains between farms and mills may come under pressure during the lockdown | \* Minimize roadblocks and allow free movement of paddy and rice grains  
\* Organize temporary rent-free pick up sites and/or warehouses and partnerships in transportation in rice producing areas | \* Promote rice processing qualities and capacities (small and medium scale rice mills) in those areas where aggregation and transportation challenges due to COVID-19 are insurmountable |
### Issues

<table>
<thead>
<tr>
<th>Volatility in farmgate prices for paddy grains</th>
<th>Options that may not require detailed assessments</th>
<th>Options that do require careful assessments and calibration</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Set up committees for monitoring movements in farmgate prices and market prices for milled rice grains of various grades and types</td>
<td>• Guarantee/prioritize direct purchase of rice grains from rice farmers and/or locally established millers through governmental/institutional marketing agencies/programs</td>
<td></td>
</tr>
<tr>
<td>• Share market information with farmers and other relevant stakeholders through mobile and other digital information services</td>
<td>• Credit support for aggregation by traders and millers at indicative prices</td>
<td>• Promote direct online sales and digital communications between farmers and trading enterprises</td>
</tr>
</tbody>
</table>

Although closer engagement of private trading enterprises shall improve handling of the harvested grains, enhance marketing activities and reduce hoarding; it is important to ensure that both farmers and traders honor their agreements and accept fast movements in prices. It requires awareness creation through active and real time communications with the farmers and other actors in the commodity chain through quick and appropriate deployment of information and communication technologies.

### Trading and marketing of milled rice

The trading and marketing channels of milled rice in many African countries for domestic and imported rice generally converge at wholesale point of the commodity chain. While the COVID-19 mediated disruptions on domestic trading and marketing of rice might revolve around supply volumes and logistics (tables 2 and 3); the trading of imported rice will be influenced by exportable surplus and trading polices of source-countries. Major Asian rice producing countries generally stockpile their local production by directly procuring paddy grains from farmers at indicative prices to feed weaker sections of the population through domestic public food distribution systems (social safety nets) and/or to help ensure the profitability of their rice producers.

Recent movements of price for the benchmark Thai milled (5% broken) rice\(^6\) suggest that the market prices are highly likely to continue to be more volatile and move upwards at least until the pandemic is resolved (Fig.3). It is widely believed that panic stockpiling of 50 million tons of rice by China, India and Thailand (of the total 75 million tons of world stock) in 2006-07 partly triggered the 2007-08 rice price crisis\(^7\). As the demand for public distribution is set to rise during the period of COVID-19 pandemic, any such excessive stocking and/or export ban by major Asian rice exporting countries might upset the price equilibrium in African markets.

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\(^6\) Based on data from international monthly rice prices (indexmundi.com, accessed on 07-May-20)

The extent of vulnerability of the African nations to such a crisis could directly relate with their rice import-dependence ratio (share of imported rice over the total demand in the given country) and the volume of importation. Available data on imports and production (milled equivalent) of rice in 2017 for which complete datasets are available at the time of drafting this note (Fig. 4) reveal that Tanzania, Nigeria, Malawi, Chad and DRC are less dependent on imports (≤ 10% of country demand) and import less than 100,000 tons of rice; and hence could become less vulnerable if the supply from Asia is broken. It should be noted that the analyses shown in Fig. 4 is solely based on official trade data of FAO, and hence does not include informal trade between Benin and other ECOWAS countries such as Nigeria, if any.

Countries with greater import dependence ratio and/or import volumes (>100,000 tons) are highly prone to shortage in external supplies and/or restricted rice trade flows. Market prices of rice might become more volatile and subject to wild speculations in these countries. In the absence of exact data on volumes of informal cross-border rice trade between Benin and its contiguous countries, Benin is identified as the most vulnerable countries due to its higher volumes of importation (Fig. 4). Although the import-dependence of countries such as Rwanda, Burundi, Zambia, CAR, Sudan, Gabon and Congo is higher (> 40%); since they import less than 100,000 tons of milled rice; the markets in these countries might become moderately vulnerable to COVID-19 mediated disruptions in the global rice supply chain. Market prices of rice in domestic markets in these countries might come under intense pressure.

Since climate change, political uncertainties and other natural disasters (flood, drought and crop pest outbreaks) during the COVID-19 pandemic could further aggravate the levels of vulnerability and food security, perhaps all the above countries will need to strategize on how to increase the domestic production and supply of rice. It is important however to note that the policies governing rice trading and marketing in several African nations are now increasingly becoming integrated with that of regional economic blocs. Hence any policy actions at national level will need to be aligned with the respective regional policy framework(s), and any intended and unintended consequences of the policy actions need to be assessed in the context of the expected outcomes of

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8 Based on data accessed from fao.org/faostat on 28-Apr-20
the individual member countries. The following policy options shall be considered for rebalancing the global and national rice supplies in domestic markets.

Table 4: A matrix of possible issues and policy options for tackling market crisis during COVID-19 pandemic

<table>
<thead>
<tr>
<th>Issues</th>
<th>Probable Policy Options</th>
</tr>
</thead>
</table>
| Reduction in domestic supplies of milled rice leads to spikes in market prices of rice | • Enhance movements of paddy grains and milled rice (table 3)  
• Temporary ban on private grain hoarding or stocking                  | • Release of rice grain stocks from grain reserve into free market  
• Temporary pause on state procurement and stocking of paddy grains and milled rice  
• Temporary reduction or removal of value added tax (VAT) if applicable on rice along the commodity chain  
• Temporary restrictions (tariff, ban) on exportation of paddy (unless the country’s capacity for milling is below the requirements) and milled rice  
• Temporary ban on rice export subsidies, if applicable |
| Reduction in external supplies of rice causes hike in market prices and volatility | • Negotiations and/or partnerships with private sector (importers, wholesalers) on indicative prices  
• Simplified procedures for registration and licensing for rice importation | • Reduction or removal of tariff barriers on importation of rice (tariff rates, ad valorem duty, transit duty and other charges)  
• Reduction or removal of non-tariff barriers that make rice importation difficult or costly (import quotas, foreign exchange regulations, prior import deposits, preferential arrangements, rules of origin, delays in customs clearance)  
• Widening of rice trading network with traditional and unorthodox rice exporting countries through bilateral and/or multilateral agreements  
• Special financial window support (low interest capital, assistance in foreign exchange) for rice importers  
• Facilitating rapid custom clearance through mechanisms such as e-customs, online approval and issuance of certificate of origin for cross-border rice trades within the region/respective REC |
Besides availability of rice in the markets, accessibility to rice markets will also be crucial in ensuring food security; as restrictions in movement and reduction in economic activity at the household-, national- and regional levels might reduce the purchasing power. While reduction and/or removal of tariff and non-tariff barriers and export restrictions help increase the flow of rice supplies; when adopted by several countries simultaneously, such measures might lead to greater global demand and shall effectively put upward pressure on market prices. Hence, constant monitoring and evaluation of the rice supply volumes and market prices will be pivotal in determining and in fine-tuning the degree and duration of the restrictions and/or relaxations in the above-mentioned policy regulations.

Making and implementing policy decisions in response to COVID-19 will require increased engagement and coordination of various line ministries (agriculture, trade and finance), development partners, private sector and local governments. Several CARD member countries have already set up NRDS taskforce which can undertake consultations with a broad range of national stakeholders on quickly assessing the issues and gathering evidences (on key indicators of rice production, marketing and trade). The NRDS taskforce shall hence be engaged as an ad hoc policy advisory committee for the Ministry of Agriculture on the rice value chain during the pandemic. To increase the effectiveness and sustainability of the implementation of the policy decisions however, it is important that the NRDS taskforce has the ability to link with national planning and budgeting process. The NRDS taskforce shall also be responsible for reporting the progress on implementation and fine-tuning of the rice-related policy measures in consultation with the country's agriculture sector working group.

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