Ebony Center for Strategic Studies
Customs Road, Zain Building Opp MTN, Juba - Suoth Sudan
Tel: +211921626272
Email: Nyandengguot@ebonycenter,org
Www.ebonycenter.org
'Advancing critical thinking and innovation'

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Confronting The Emerging Food Crisis: The African Quadrangle Initiative[1]

EXECUTIVE SUMMARY

1. **The Russian invasion of Ukraine triggered an unprecedented constellation of international sanctions and blockades that will cripple Russia's economy for the next several decades.**
2. **This crisis creates an opportunity for North African and Horn of Africa countries to replace imported agricultural products from Russia and Ukraine.**
3. **In 2019, Egypt, Ethiopia, Sudan, and South Sudan imported over $4.23 billion of agricultural goods from Russia and Ukraine.**
4. **These imports are now in jeopardy and must be replaced by import substitution initiatives, or the development of new supplies.**
5. **Egypt imports 8 percent of its wheat and 70 percent of its soybeans from far-away America.**
6. **Ethiopia imports 43 percent of its wheat, 64 percent of its dried legumes, and 100 percent of its sorghum from the U.S.—crops that can be grown in the African Quadrangle.**
7. **The African Quadrangle Initiative (AQI) consists of two related programs: (a) import substitution where possible; and (b) suitable agricultural developments in all four countries to reduce reliance on imports.**
8. **The African Quadrangle Initiative (AQI) is the comprehensive creation of a North Africa and Horn of Africa agricultural enterprise zone to leverage local conditions in the service of food security and rational economic futures.**

I. The Urgent Crisis

In 2019, Egypt imported 70 percent of its wheat from Russia and Ukraine—a foreign currency drain of approximately $3.27 billion. In addition, Egypt spent approximately $740 million to import corn and soybeans from Ukraine. Sudan imported 46 percent of its wheat from Russia at a foreign exchange cost of approximately $204 million. Ethiopia acquired 9 percent of its wheat imports from Russia at a foreign exchange cost of approximately $13.5 million. Only South Sudan, facing a severe food crisis modulated by a massive effort by the World Food Programme, is insulated from the global implications of Russia's invasion of Ukraine—and that is because South Sudan is financially irrelevant in global markets.

[1] Prepared by the Ebony Center's VEST Team comprised of Lual A. Deng, Shanta Devarajan, Daniel W. Bromley. Meshack T. Tjirongo, and Alex Michie

With Russia now cut off from most global trade, and with Ukraine's agriculture threatened by the massive disruption of war and occupation, the global market for cereals has never faced such uncertainty. Supply problems portend both shortages as well as price increases that will hit the four countries comprising what we call the African Quadrangle—Egypt, Ethiopia, Sudan, and South Sudan—especially hard.

The international community has long warned of the defective agricultural sectors of both Sudan and South Sudan. We will see below a brief indication of the severe dysfunction of both country's agricultural economy. Ethiopian agriculture is only marginally better. Egypt, on the other hand, has a very productive agricultural sector. Yet, given the scarcity of arable land—and the irregular and insufficient water supplies—the country is unable to meet the needs of its domestic consumers. Hence, the massive importation of cereals from a range of countries—both near and far.

With the looming cessation of imports from Russia, and with an emerging global food crisis on the horizon, it is urgent that these countries use the current crisis as an opportunity for the rationalization and rehabilitation of their agricultural sectors. It is also an opportunity for the two Sudans to revisit the idea of the 1970s to become the breadbasket of the Africa and Arab worlds. And this is where the development partners (DPs) of the four countries in the African Quadrangle can provide the necessary technical and financial resources for the realization of the AQI.

II. The Current Food Situation in the African Quadrangle: Challenges and Opportunities

As above, the Russian invasion of Ukraine has alerted the world to a range of existing trade arrangements that are not sustainable. A sharp increase in global shipping costs will render some current trade regimes infeasible. In some instances, former suppliers will be unable to meet traditional import quantities —thereby inducing unwelcome price increases of imported food crops. This will undoubtedly require finding new sources of imports.

In some instances, the best way to contend with the coming disruptions will be to launch creative ***import substitution*** strategies so that traditional import arrangements are no longer required. We will elaborate below the general outlines of an import substitution program for the agricultural sector. The purpose of such a program will be to replace the bulk of current food imports into the Quadrangle countries with a newly robust agricultural sector.

Consider what this would entail. Tables 1 - 4 illustrate, for 2019, the extent of dominant food imports into the four countries that would seem to lend themselves to being replaced by programs to enhance local production. A range of imports of lesser importance—fruits, tea and coffee, and certain other food stuffs (potatoes)—are not considered here.

Table 1. Egyptian Agricultural Imports (2019)

2019 IMPORTS	Wheat	Corn	Soybeans	Dried Legumes	Rice	**SUM**
Million Dollars	$4,670	$1,680	$1,440	$352	$242	$8,384
Source (%)						
Russia	55%					
Ukraine	15%	34%	12%			
Romania	13%					
USA	8%		70%			
France	7%					
Brazil		33%				
Argentina		26%	15%			
UK				13%		
Australia				36%		
Canada				10%		
Ethiopia				5%		
China					56%	
India					36%	
	98%	93%	97%	64%	92%	

Source: Observatory of Economic Complexity (OEC); https://oec.world

As will become clear below, Egypt is the dominant importer of these crops. To stress this point, the four countries imported a total of $9.2 billion worth of cereals and dried legumes, of which Egypt accounted for 91 percent ($8.4 billion). The other three countries accounted for only 9 percent of food imports $862 million in 2019.

Table 2. Ethiopian Agricultural Imports (2019)

2019 IMPORTS	Wheat	Corn	Dried Legumes	Rice	Sorghum	Barley	Cereal Flour	Malt	**SUM**
Million Dollars	$150	$9	$16	$32	$12	$5	$11	$34	$269
Source (%)									
Romania	41%								
Russia	9%								
Bulgaria	5%								
USA	43%		64%		100%				
Belgium						38%		41%	
Netherlands								27%	
France								14%	
Poland								9%	
India				95%					
Turkey			25%						
UAE		9%	9%				9%		
South Africa		73%					91%		
Kenya		9%							
Argentina		7%							
France						62%			
	98%	98%	98%	95%	100%	100%	100%	91%	

Source: Observatory of Economic Complexity (OEC); https://oec.world

Table 3 below shows that Sudan imported in 2019 about 46 percent of its wheat from Russia at a foreign exchange cost of approximately $204 million.

Table 3. Sudan Agricultural Imports (2019)

2019 IMPORTS	Wheat	Corn	Sorghum	Dried Legumes	Rice	Wheat Flour	**SUM**
Million Dollars	$445	$4	$23	$53	$42	$5	$572
Source (%)							
Russia	46%					25%	
Egypt						9%	
Romania	22%	89%					
USA			100%	14%			
Yemen						45%	
Germany	9%						
Lithuania	11%						
UK				9%			
Turkey		7%		45%	11%	15%	
China					7%		
Canada				23%			
India					77%		
	88%	96%	100%	91%	95%	94%	

Source: Observatory of Economic Complexity (OEC); https://oec.world

Of the four countries, only South Sudan did not import agricultural products from Russia and Ukraine in 2019. However, South Sudan has a history of imported military equipment from Russia and Ukraine.

Table 4. South Sudan Agricultural Imports (2019)

2019 IMPORTS	Sorghum	Dried Legumes	Rice	Wheat Flour	**SUM**
Million Dollars	$8	$4	$8	$1	$21
Source (%)					
Rwanda		13%			
Netherlands				30%	
USA	17%	7%			
Kenya	83%	64%		43%	
Turkey		16%		27%	
China			100%		
	100%	100%	100%	100%	

Source: Observatory of Economic Complexity (OEC); https://oec.world

The data in Tables 1 - 4 offer a promising set of possibilities for the rehabilitation of the agricultural economy of the Quadrangle region. Of specific interest, we will focus on the possibilities open to Ethiopia, Sudan, and South Sudan to increase production of a range of food crops that would allow Egypt to shift to near-by sources for the vast majority of its current imports—wheat, corn, soybeans, rice, and dried legumes.

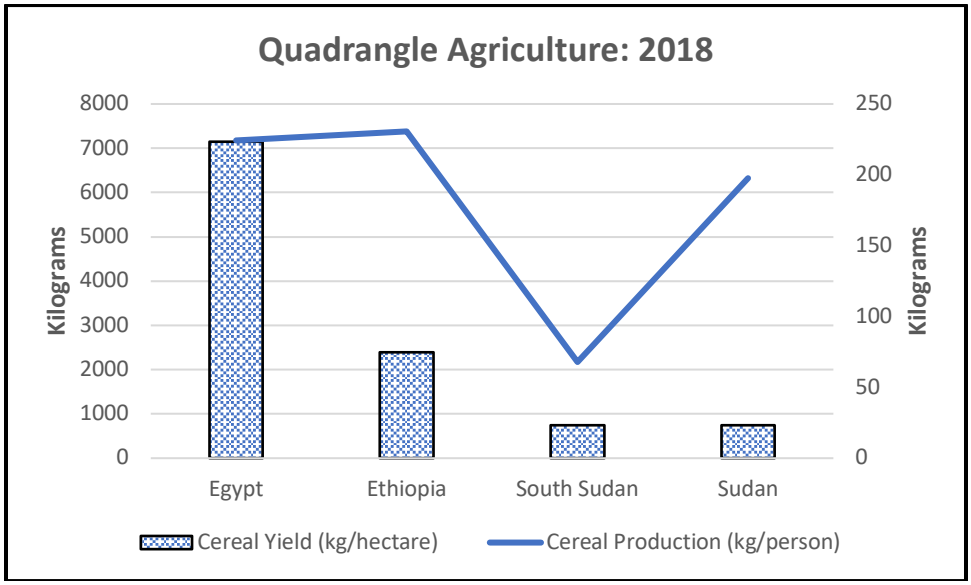
The proposed program would enable Ethiopia to shift its reliance on imports of wheat, corn, dried legumes, rice, sorghum, barley, and cereal flour to its own enhanced production, but also to rely on increased production from Sudan and South Sudan. In this regard, it is paradoxical to see that Sudan imports 100 percent of its sorghum needs from the United States—almost half-a

world away. Surely Sudan can produce more sorghum. Even South Sudan, short of foreign exchange—and quite capable of producing sorghum—imports 17 percent of its sorghum from the U.S., and 83 percent from nearby Kenya. Notice that South Sudan imports $8 million worth of rice from China, while the fertile and well-watered stretches of the White Nile and the Bahr el-Ghazal offer prime locations for rice cultivation. These conditions offer important possibilities for import substitution initiatives.

III. Agriculture in the African Quadrangle

As indicated above, Egypt has an exemplary agricultural sector but faces a strict binding constraint on available arable land. Ethiopia is less land-constrained, and yet it has a rather desultory agricultural sector. Sudan and South Sudan face a much more promising agricultural environment in terms of available land and water. Unfortunately, agriculture in both countries is plagued by dysfunction, poor use of resources, and a variety of self-inflicted impediments.

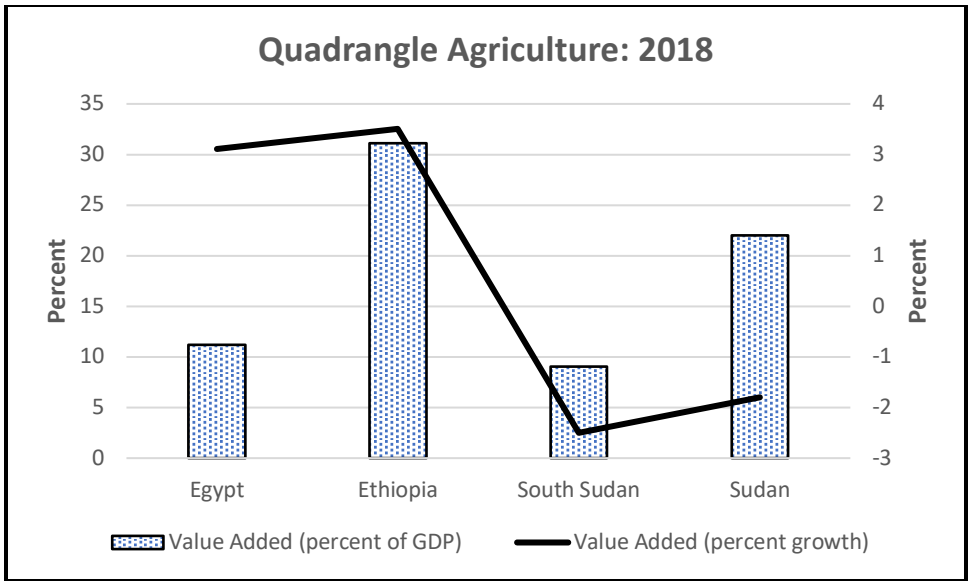
Consider Figures 1-3. In Figure 1 we see the impressive situation in Egypt, and the severe dysfunction of the other three countries.



Source: World Development Indicators, 2018

Figure 1. Cereal Yields and Production Per Person

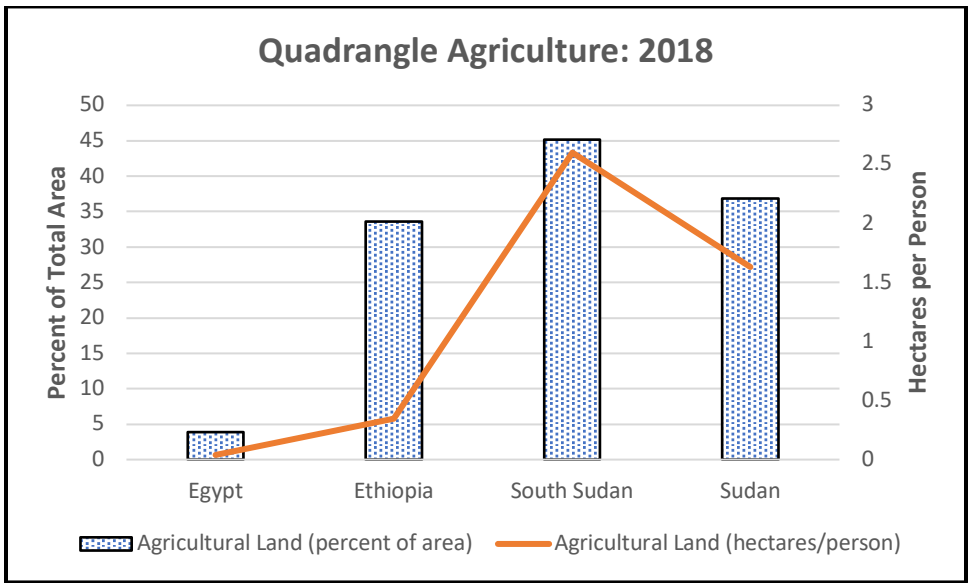
Figure 2 reveals a mixed picture. The percent of value added in agriculture is low for Egypt because it has a much more diversified economy than the other three countries. These three countries show varying importance of agriculture. In South Sudan the dominance of oil exports renders agriculture largely irrelevant. Notice the negative growth of the agriculture sector in Sudan and South Sudan between 2017 and 2018.



Source: World Development Indicators, 2018

Figure 2. Agricultural Value Added and Percentage Growth

Finally, Figure 3 reveals the extreme scarcity of agricultural land in Egypt, and the relative abundance of agricultural land in the other three countries.



Source: World Development Indicators, 2018

Figure 3. Available Agricultural Land

IV. Implications for Agricultural Development in the Quadrangle

The above information suggests that the African Quadrangle offers a very promising setting for enhanced agricultural development predicated on the dual goals of: (1) import substitution; and (2) exploiting unrealized comparative advantages. Egypt is severely limited in available agricultural land, while Ethiopia—but especially Sudan and South Sudan—are blessed with excess arable land that can likely meet all of the current import needs of all four countries. The two Sudans can realize the dream of the 1970s of being a breadbasket of the Arab and African worlds. It is also an opportunity for South Sudan to achieve one of the post-independent objectives of making agriculture the engine of economic growth and sustainable livelihoods. And above all, it would turn the persistent tension in the Nile valley over water to a secure and durable peace—facilitating sustainable development in the Quadrangle.

The four governments in the proposed African Quadrangle Initiative should initiate serious discussions with the international donor community regarding the best means for launching these opportune endeavor.

Given persistent civil conflicts in Ethiopia, Sudan, and South Sudan, the government of South Sudan should enlist the private sector to provide leadership in developing suitable agricultural land through leasehold arrangements. To facilitate this opportunity, the government should convene a private sector conference on the production of key cereals—rice, sorghum, wheat, corn and legumes.