Views On News
رأي في أزمة
ECES
المركز المصري للدراسات الاقتصادية
The Egyptian Center for Economic Studies

Date: 16-6-2020 Issue: 14

Views on The Crisis

Agricultural

Introduction

While the whole world shares the broad outlines of the economic and social repercussions of the Coronavirus (COVID-19), which are unprecedented in its recent history, the implications thereof for each country are linked to the nature of each country's economic system, its ability to withstand the entailed repercussions and the speed of its recovery.

In light of the need to study the sectoral implications of these repercussions in order to address the crisis properly, the Egyptian Center for Economic Studies (ECES), in its initiative, is producing a set of daily reports entitled "Views on Crisis". The reports aim to analyze the implications of the coronavirus crisis for

Egypt in relation to a number of vital production and service sectors and to key macroeconomic variables. This ECES initiative comes from the belief that the current critical conditions require directing state's efforts towards achieving two main goals: providing a decent life for Egyptians during the crisis and in the recovery phase, preserving the existing investments-especially domestic investments- and helping to overcome the crisis and prepare for a rapid launch with the gradual decline of the crisis and recovery of the global economy.

The methodology used in these reports is based on an analysis of the supply and demand shocks associated with the crisis cycle in its various stages. Given the lack of detailed data on the sectoral impact of the crisis, the sectoral analysis is based on logical assumptions related to the nature of each sector and the degree of sector vulnerability to previous severe crises that were certainly less severe than the current crisis and different in nature. However, it is a starting point for the urgently required scientific diligence at this stage.

"This epidemic will pass. But it is up to us to determine how long it will last, how damaging it will be, and how long it will take our economy and our country to recover. It is true that we are facing a grave emergency. But if we act together, if we act now, and if we act decisively, we will overcome it."

Cyril Ramaphosa

South Africa President

!. Brief description of the subject of the report

The description begins with an analysis of the overall picture of the agricultural sector in terms of production, employment and trade, and then turns to some important details, specifically on the plant side**.**

Value-added and employment in the agricultural sector

The agricultural sector is one of the most important sectors of the Egyptian economy, as it represents 11.2 percent of GDP and employs about 23.8 percent of total labor in Egypt.[1] However, the relative importance of the sector has declined substantially over the past decades compared to the rise in the relative importance of both manufacturing and services sectors.

While the sector's contribution to GDP decreased by 5.8 percent during the period 1991-2018, it increased for both manufacturing and services by 3 percent and 2.8 percent, respectively, as shown in Figure 1. As for employment, the percentage of those working in agriculture decreased by 15.5 percent, while rising by 6.3 percent and 9.2 percent for both manufacturing and services, respectively, during the same, as shown in Figure 2.

It is clear from the above figures that the contribution of the agricultural sector to GDP decreased more than its contribution to employment during the period 1991 - 2019 as shown also from Figure 3. This means a decline in the income of workers in the sector and a rapid deterioration of their living standards, given that they share a lower added value over time.

[1] Central Agency for Public Mobilization and Statistics, Statistical Yearbook 2019

Figure 1. Share of the main economic sectors in GDP

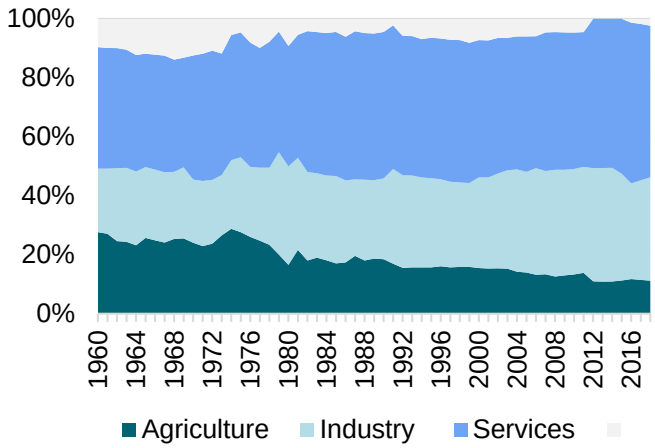
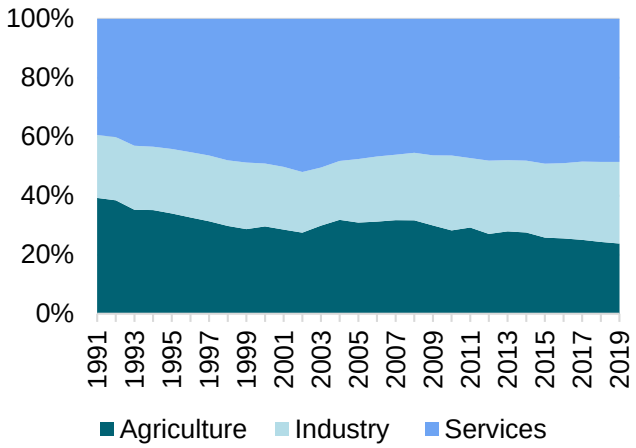
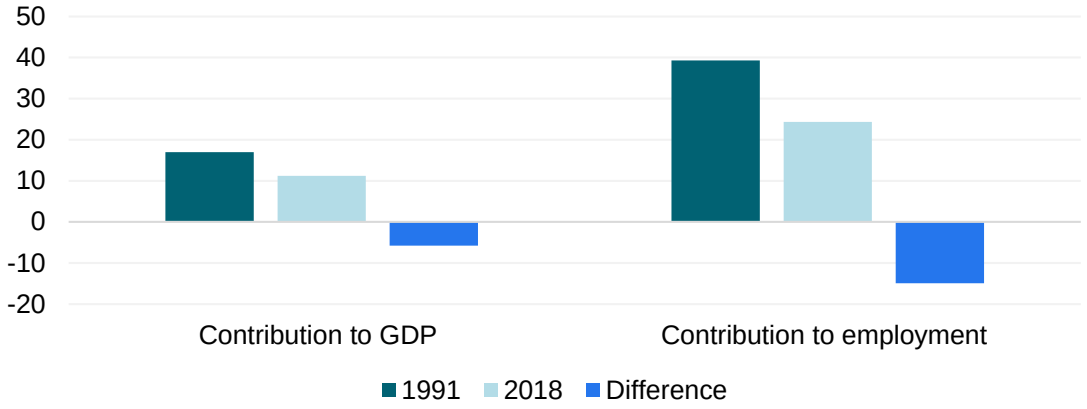


Figure 2. Percentage of workers in the main economic sectors in Egypt



Source: Prepared by the researcher based on the World Bank database, International Development Indicators, https://bit.ly/2KSd8Ff

Figure 3. Contribution of the agricultural sector to GDP declined faster than its contribution to employment over the period 1991-2018



Source: Prepared by the researcher based on the World Bank database, International Development Indicators, https://bit.ly/2KSd8Ff

Agricultural exports and imports

Tables 1 and 2 as well as Figures 4, 5, 6 and 7 illustrate the development of Egyptian agricultural exports and imports, as value and rate of change, as well as a percentage of total Egyptian exports and imports.

Table 1. Development Stages of Egyptian exports 1960 - 2017

Stage	Value of Change	Rate of Change	Percentage of total exports
1960 - 1974	The value of agricultural exports increased from $368 million to $982 million.	167%	Agricultural exports represented about 70% of total Egyptian exports on average. Cotton represented more than two-thirds of agricultural exports.
1974 - 2000	The value of agricultural exports declined from $982 million to $518 million.	-90%	The percentage of agricultural exports to total Egyptian exports declined from 65% to 8% due to the decrease in the relative weight of cotton in agricultural exports from 48% to 2.2%, a significant decrease that was not compensated by other agricultural exports, in addition to the diversification and increase of Egyptian non-agricultural exports.
2000 - 2017	Exports increased from $518 million to $5 billion.	864%	The percentage of agricultural exports in total Egyptian exports increased from 8% to 20%, mainly due to the increase in Egypt's exports of vegetables and fruits, with the value of their exports increasing 20 times during this period.[2]

Source: Prepared by the researcher based on the UN Food and Agriculture Organization database, https://bit.ly/2VZdDUB

[2] Several studies indicate that the export leap in fruit crops and some types of vegetables resulted mainly from the efforts of the private sector and not from a policy set forth and implemented by the state.

Figure 4. Total value of Egyptian agricultural exports in billion dollars

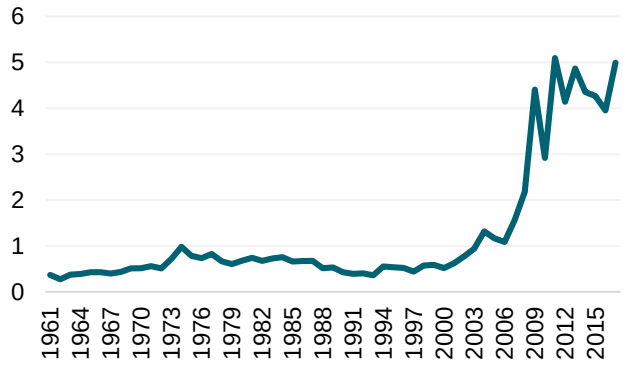
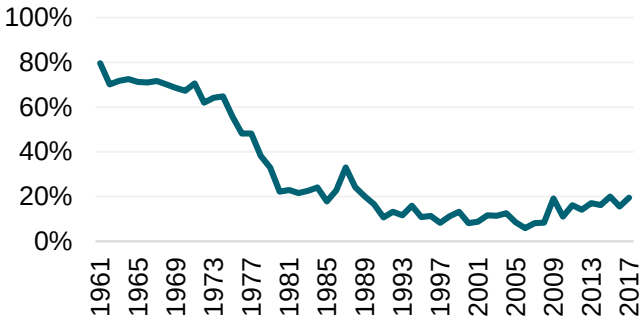


Figure 5. Agricultural exports as a percentage of total overall Egyptian exports



Source: Prepared by the researcher based on the UN Food and Agriculture Organization database, https://bit.ly/2VZdDUB

Table 2. Stages of development of Egyptian imports 1960 - 2017

Stage	Value of Change	Rate of Change	Percentage of total imports
1960 - 1970	Relative stability of agricultural imports at $260 million on average.	10% up or down on average, on an annual basis	33% on average, with intense fluctuation around this value from year to year.
1970 - 1982	A significant increase in agricultural imports from $214 million to $3.6 billion.	1403%	37% on average, with fluctuation around this value also from year to year.
1982 - 2005	Relative stability at $3.2 billion on average during this period.	Annual fluctuation between 28% and (-22%)	The percentage of agricultural imports in total Egyptian imports decreased significantly from 35% to 15%, as the value of non-agricultural imports continued to rise.
2005 - 2017	The value of agricultural imports increased from $4 billion in 2005 to $15 billion in 2012, and fluctuated thereafter until 2017, noting the big jump that occurred from 2005 to 2010, and then exports declined.	Net increase of 229%	The percentage of agricultural imports in total Egyptian imports increased from 17% in 2005 to 21% in 2017.

Figure 6. Total value of Egyptian agricultural imports in billion dollars

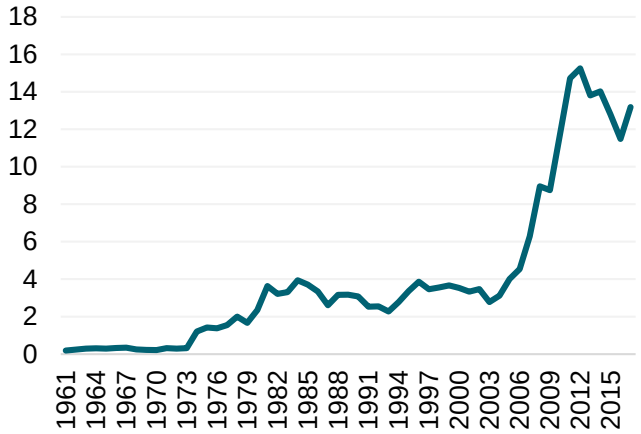
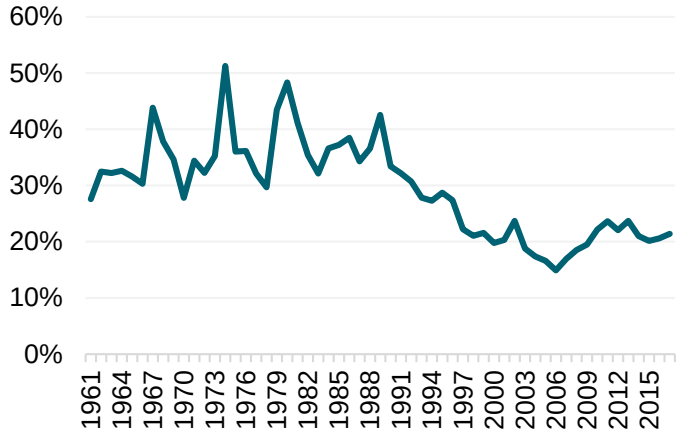


Figure 7. Agricultural imports as a percentage of total Egyptian imports

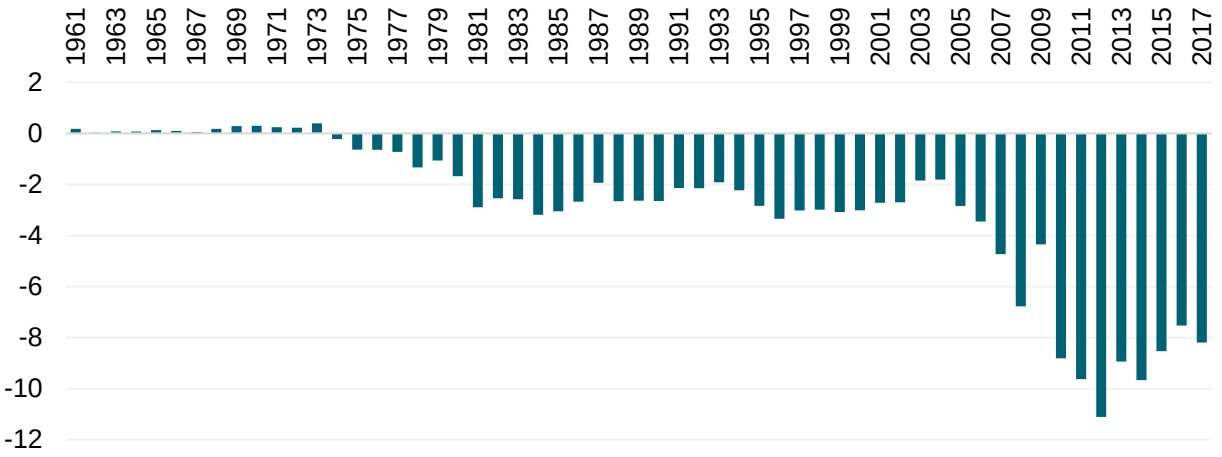


Source: Prepared by the researcher based on the UN Food and Agriculture Organization database, https://bit.ly/2VZdDUB

Net impact on the agricultural trade balance

Although the value of both agricultural exports and imports gradually increased since the early 1970s and significantly since the beginning of the millennium, the value of the increase in imports was substantially greater than the value of the increase in exports.[3] This led to a significant increase in the trade deficit beginning in the mid-seventies, as shown in Figure 8.

Figure 8. Agricultural trade balance in Egypt in billion dollars



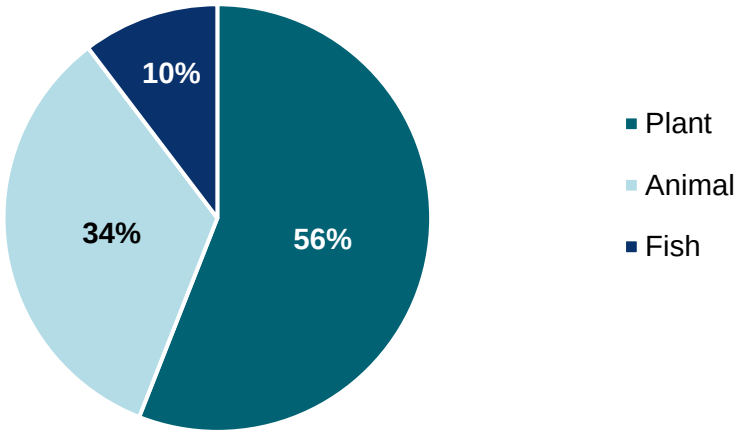
Source: Prepared by the researcher based on the UN Food and Agriculture Organization database, https://bit.ly/2VZdDUB

[3] For example, the net increase in the value of imports during the period 2000-2017 was twice the net increase in the value of exports over the same period.

The main components of the agricultural sector

The agricultural sector is divided into three main sections: Plants, animals, and fish with a total production value of about EGP 519 billion as per the most recent data shown in Figure 9. The value of plant production is EGP 290 billion, or 56 percent, followed by animal production with a value of 175 billion pounds, 34 percent, and fish production, at 54 billion pounds, at 10 percent.

Figure 9. Breakdown of the value of agricultural production in Egypt (2018)



Source: Prepared by the researcher based on data from the Central Agency for Public Mobilization and Statistics, production and foreign trade of agricultural commodities, 2018.

It should be noted that this report focuses on plant production only, as the analysis comprises two sections: One for the general characteristics of plant production as a whole, and a special section for the differences between agriculture in the valley and in the desert.

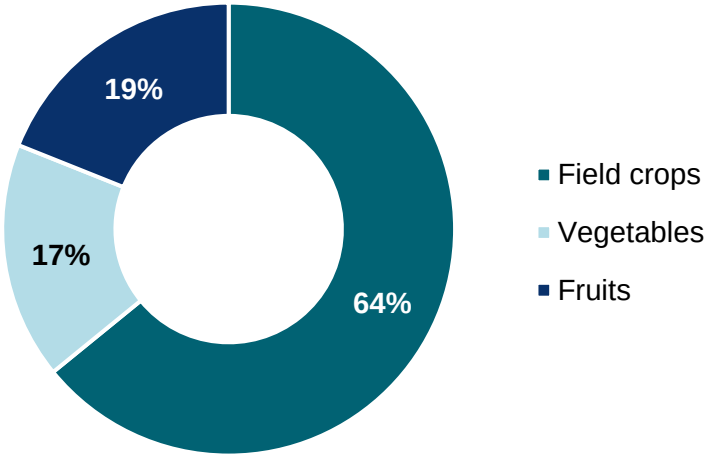
General characteristics

- **Decline in agricultural land per capita**
  - The crop area in Egypt reached 16.4 million feddans in 2017 compared to 10.4 million feddans in 1960, an increase of

almost 6 million feddans over 54 years.[4] Despite this increase, per capita crop area decreased from 9.4 qirat to 4.1 qirat in 2017.

- **Egypt's production of grains (especially rice) and vegetables decreased and its fruit production increased since 2014**
  - Plant production is divided into three main types: field crops, fruits and vegetables, at 65%, 18% and 16%, respectively, as shown in Figure 10.[5]
  - Egypt's fruit production increased significantly during the period 2014-2018. In contrast, cereal production, especially rice and vegetables, decreased, while there was a clear fluctuation in the production of sugar cane, starches, citrus fruits, onions and garlic, as shown in Figure 11.

Figure 10. Relative distribution of the volume of plant production in Egypt 2018

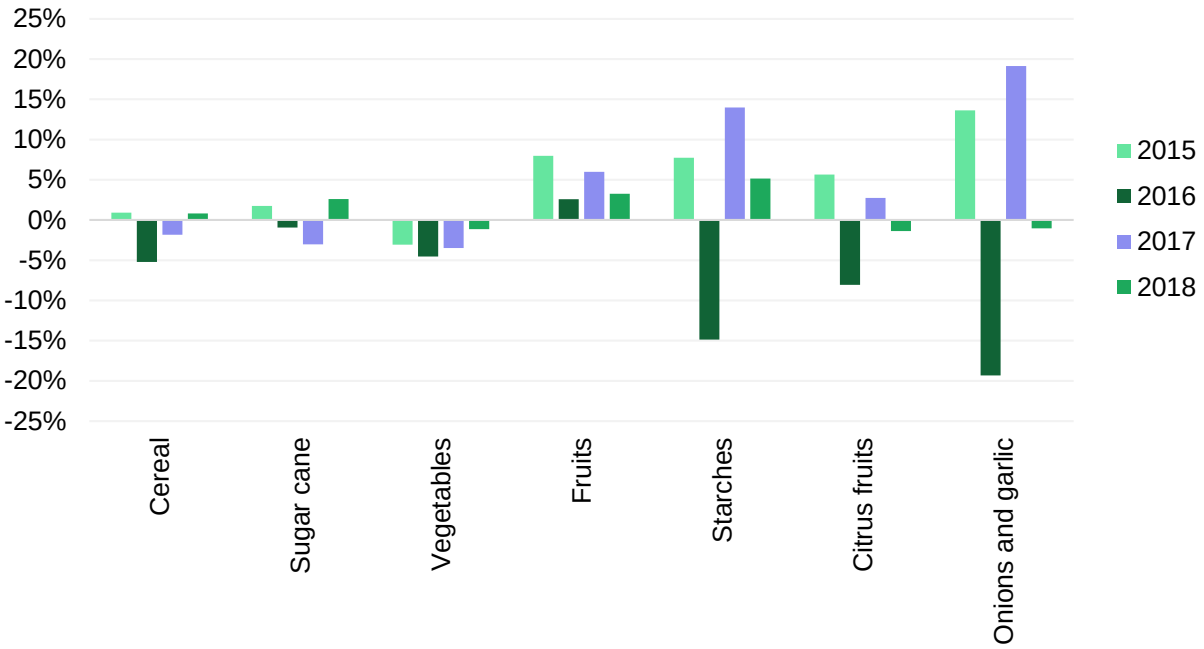


Source: Prepared by the researcher based on data from the Central Agency for Public Mobilization and Statistics, production and foreign trade of agricultural commodities, 2018.

[4] Taking into account the cultivation of the land three times throughout the year: winter, summer, and Nile crops (CAPMAS, annual bulletin of crop areas and plant production in 2016/2017).

[5] Field crops: Cereals, legumes, starches, onions and garlic.

Figure 11. Egypt's production growth rate from the main crop groups 2015-2018



Source: Prepared by the researcher based on data from the Central Agency for Public Mobilization and Statistics, production and foreign trade of agricultural commodities, 2018.

- **Decline in the self-sufficiency rate of strategic crops**
  - First, we would like to emphasize that self-sufficiency is not a goal in itself, but the goal is to achieve food security within the framework of achieving an appropriate mix among domestic needs on the one hand, the competitive advantage of Egyptian crops and their rate of water consumption on the other, maximizing the use of limited agricultural land.
  - This can be achieved through a minimum level of self-sufficiency in some strategic crops to insure against any external shocks, with a greater tendency to grow export crops with high economic value, in which Egypt enjoys a high comparative advantage such as vegetables and fruits. Thus, Egypt can achieve hard currency revenue that allows the import of Egypt's needs of goods in which Egypt does not enjoy a comparative advantage.

- The rate of self-sufficiency in strategic crops, such as wheat, rice and maize, significantly decreased during the period 2014-2018. However, Egypt achieved full self-sufficiency in both fresh fruits and vegetables, citrus and potatoes during the same period, as shown in Table 3.

Table 3. Self-sufficiency rate for the most important agricultural crops in Egypt

Item	2014	2015	2016	2017	2018
Citrus	125.6	138.8	149.9	156.5	171.7
Potatoes	112.6	110.2	105.4	116.3	111.4
Fresh vegetables	103.1	102.6	103.4	103	102.6
Fresh fruits	99.2	96.2	98.4	99.3	100.6
Rice	100	102.6	99.7	94.2	90.7
Maize	65.1	56.2	56.3	47	49.9
Wheat	52.1	49.1	47.7	34.5	34.7
Beans	33.8	31	20	30.7	12.4
Lentils	1.3	1.6	2.1	1.8	1.1

Source: Prepared by the researcher based on data from the Central Agency for Public Mobilization and Statistics, Statistical Yearbook 2019.

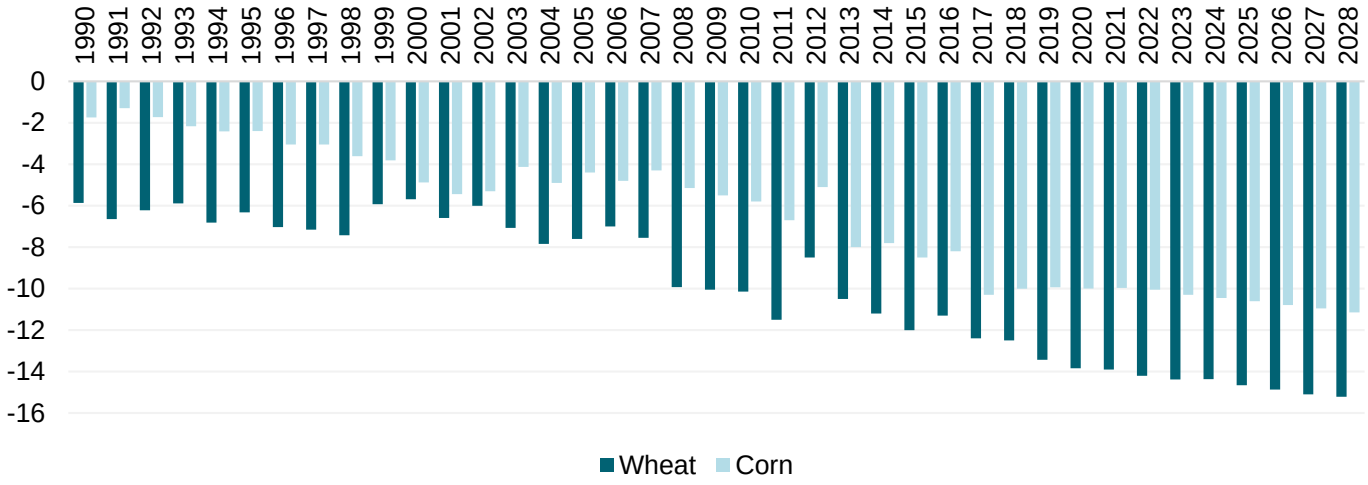
Self-sufficiency = Domestic production divided by domestic consumption.

Increase in the trade balance deficit of key strategic crops

- The decline in self-sufficiency rates is a major driver of the agricultural trade balance deficit in Egypt. This is mainly due to the decline in production for some crops, such as rice, for example, for which cultivated area was reduced due to its high water consumption, or the lack of increased productivity in other crops in a way that copes with increasing local consumption as a result of the population increase and growth of livestock, such as wheat and corn, for example.

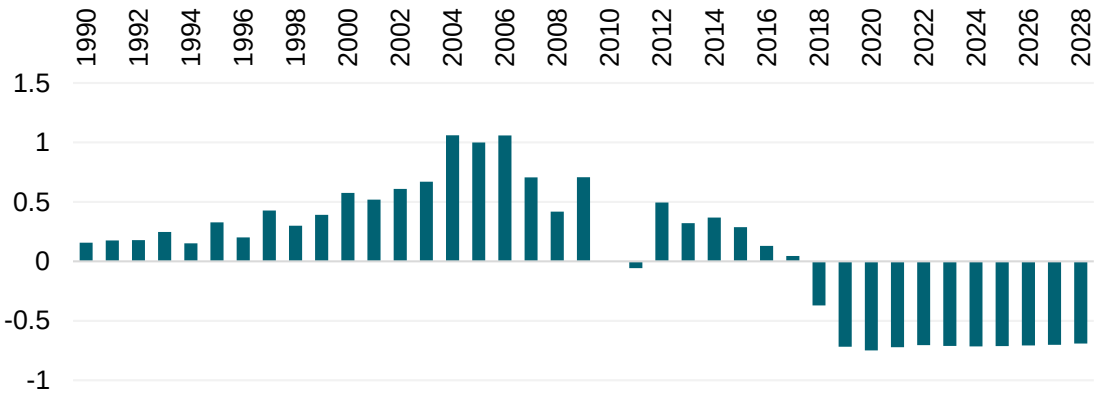
- Figures 12 and 13 illustrate the continuous rise in the trade balance deficit of wheat and corn since the 1990s to record 13.4 and 10 million tons, respectively in 2019. The deficit is expected to continue to rise to 15.2 and 11.1 million tons each, respectively in 2028. As for rice, it has moved from achieving a surplus of 368 thousand tons in 2014 to a deficit of 718 thousand tons in 2019, and is expected to increase to 691 thousand in 2028 as shown in the figure. Figure 14 shows the development of the trade deficit of cereal crops in Egypt in billion dollars.

Figure 12. Trade deficit of wheat and corn in million tons



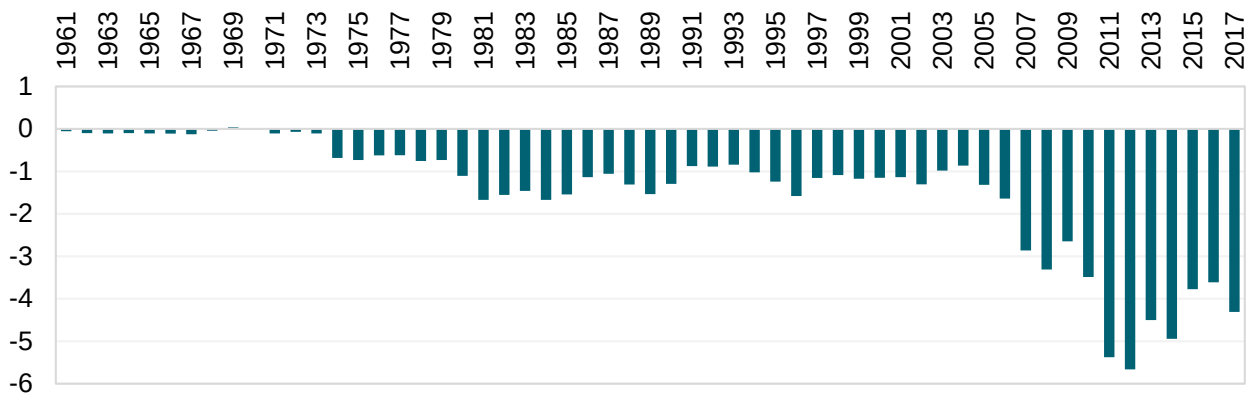
Source: Prepared by the researcher using the OECD - FAO Outlook database.

Figure 13. Trade deficit of rice in million tons



Source: prepared by the researcher using the OECD - FAO Outlook database.

Figure 14. Grain trade balance in billion dollars

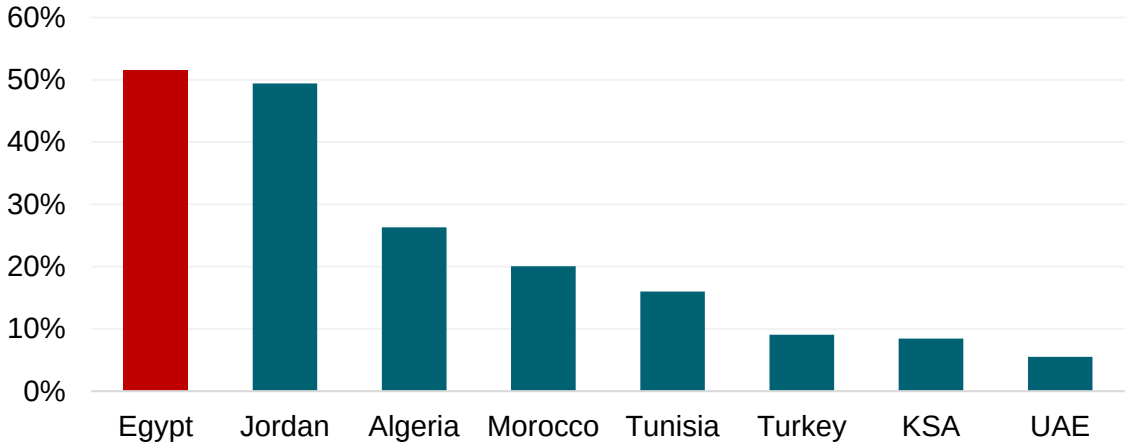


Source: Prepared by the researcher based on the UN Food and Agriculture Organization database, https://bit.ly/2VZdDUB

Egypt's increasing vulnerability to external shocks and adverse effect on the balance of payments

- Vulnerability is largely related to the import of strategic crops such as wheat and rice, which are commodities whose prices are determined globally without Egypt having any control in this respect. Consequently, the Egyptian import bill of these commodities moves up and down with changing global prices.
- Adding to this fragility, Egypt is not using its purchasing power as the largest importer of wheat in the world to obtain better prices. This is due to various reasons, most important of which is institutional weakness, absence of the necessary expertise to manage government tenders as efficiently as possible, and control of short-term vision.
- This negatively affects the balance of payments, and leads to Egypt losing a large portion of the hard currency needed to import food commodities. In this regard, United Nations data indicate that Egypt spends 52 percent of its total export earnings on importing agricultural products. This is a high percentage compared to neighboring and competing countries such as Tunisia (16%), Morocco (20%) and Turkey (9%) as shown in Figure 15.

Figure 15. Percentage of total export earnings spent on agricultural imports - 2017



Source: Prepared by the researcher based on the UN Food and Agriculture Organization database, https://bit.ly/2VZdDUB

High rates of strategic crop wastage

- Wastage in strategic crops in Egypt is higher than in most countries. The grain wastage rate increased from 18.2 percent of total domestic production in 2014 to 29.3 percent in 2018. This percentage rises to 57 percent in the case of wheat.[6] Legumes saw severe fluctuation in wastage as a percentage of total domestic production during the comparison period, while there was relative stability in vegetable wastage around 25 percent. In contrast, fruit and citrus wastage decreased slightly during the same period as shown in Figure 16. This is largely due to the fact that a large part of fruit production in Egypt is linked to the exporting private sector, which is able to adopt modern technology in harvesting, transport and storage.

- However, legumes in particular are a very special case, because Egypt is a net importer of the most important types, such as chickpeas, lentils, dry beans, and lupine. The percentage of wastage in these crops is several times their

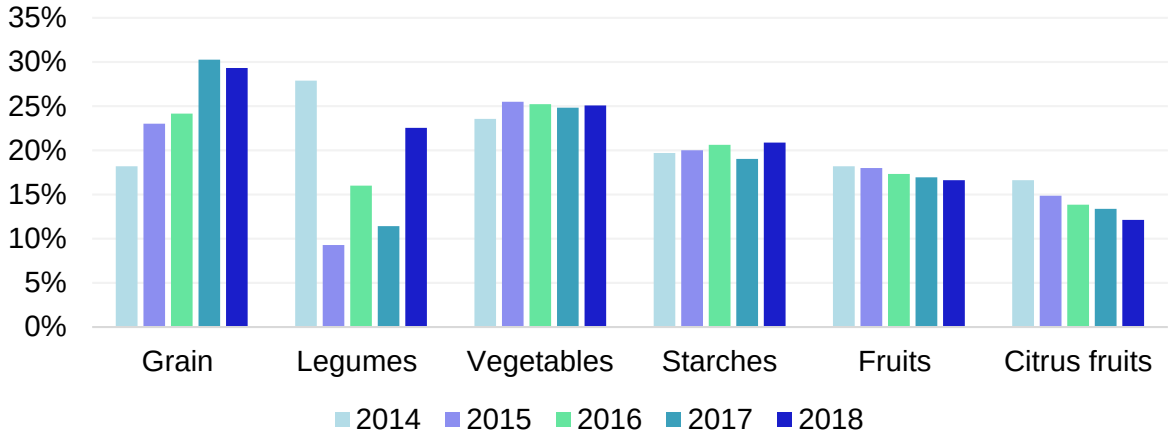
[6] Wastage occurs in both domestic and imported production, but wastage has been calculated here for domestic production only to reflect the seriousness of the problem.

local production, which means that we also lose a large part of what we import.

- The economic and social repercussions of the wastage are very serious in a country that depends heavily on food imports, and has limited prospects for increasing production in light of the weak ability to increase arable land and water scarcity.

- Wastage occurs in all stages of production and marketing of agricultural crops, but mostly occurs in the stages of transportation, distribution and marketing.[7] For example,[8] the FAO estimated the wastage of tomato crops in a sample agricultural land in Egypt at 48 percent in 2017—12 percent in the field and 36 percent in the wholesale and retail stages.

Figure 16. Wastage as a share of domestic production of major crops



Source: Prepared by the researcher based on data of the Central Agency for Public Mobilization and Statistics.

Differences between agriculture in the valley and delta compared to desert farming

Desert agriculture began in the 1970s, after agriculture was mainly concentrated in the valley and the delta. The following table shows

[7] FAO. 2019. "Food losses and waste reduction and value chain development in Egypt and Tunisia."
[8] FAO. 2019. "FOOD LOSS ANALYSIS - TOMATO VALUE CHAIN IN EGYPT.

the most important characteristics of each and changes therein in recent years.

Feature	Agriculture in the Delta (old lands)	Agriculture in the desert (new lands)
The cultivated area	▪ About 6 million feddans, 65.5% of the total cultivated area.	▪ About 3.1 million feddans, 34.5% of the total cultivated area.
Crop structure	▪ Dominated by the cultivation of field crops and vegetables	▪ Predominantly fruit cultivation
Export	▪ All production of field crops from grains and legumes is directed mainly to local consumption and is not exported. The gap is imported because of the low levels of self-sufficiency. ▪ Most vegetables are consumed almost entirely locally, except for potatoes, from which Egypt exported about 14% of total domestic production in 2017.[9]	▪ Fruit production covers the needs of local consumption, with a surplus left that allows for the export of a large proportion of most types. A large part of production is directed to export from the beginning. ▪ For example: Egypt exported about 24% of total orange production in 2017.[10]
Holding size	▪ Agricultural holdings in the old lands are very fragmented, as 95% of agricultural holding size in Egypt consists of five acres or less, as shown in Figure 17. ▪ However, holdings on the ground are often more fragmented due to inheritance from generation to generation without transferring or changing the original title deed. ▪ The fragmentation of land holdings adversely affects	▪ Most of these lands consist of relatively large farms compared to the old lands (more than five feddans), which is reflected in the small number of agricultural holdings as they represent less than 5% of the total number of holdings in Egypt. ▪ The cost of investing in desert lands is high,

[9] UNFAO database.
[10] Ibid,

	agricultural productivity, due to essential differences in the method of managing small lands compared to large holdings.	which necessitates reclaiming large areas to benefit from economies of scale.
Marketing position and market access	**Weak** ▪ Land fragmentation leads to limited production, thus weakening the bargaining power with the intermediary merchant, without whom the farmer cannot access the market. ▪ The intermediary trader takes 25-40 percent of the final sale price, which limits farmers' profits.	**Strong** ▪ The large production volume of these farms enables them to directly access the domestic and external market easily without the need for a long chain of commercial intermediaries. This gives them a strong negotiating position and greater ability to determine crop prices and production inputs, thereby maximizing profits.
Economies of scale	▪ Fragmentation of holdings leads to underutilization of economies of scale in employing agricultural and harvesting technology and not obtaining production inputs at lower prices. ▪ Also, small holdings mean high costs and low returns per unit of output.	▪ The large crop area of one holding enhances the ability of these farms to benefit from economies of scale. It enables them to employ modern technology in agriculture and harvesting and to obtain production requirements at better prices and higher quality.
Access to finance	**Weak** ▪ Total credit provided to the agriculture sector as a whole was 1.2% of total domestic and foreign credit in June	**Weak** ▪ For the same reason as well, however large-scale, high-yield farms are often more able

	2019 compared to 7.8% for trade, 9.1% for services, and 23.7% for manufacturing.[11] ▪ Delta farmers mainly depend on the Egyptian Agricultural Bank to obtain credit. Nevertheless, over the decades, the Bank has faced many challenges and problems that caused farmers to lose confidence in it, which severely limited its financing role.	than small farmers to obtain credit.
Profitability per feddan	▪ Profitability per feddan is lower in the valley and delta compared to desert lands. This is due to: ▪ The prices of cereal crops in these lands are linked to international prices, according to which the government is pricing the crop. ▪ Low net feddan yield for field crops compared to vegetables and fruits. For example, the net yield of wheat feddans was about EGP 4,000, compared to an average of EGP 18,000 for watermelon in 2016/2017, as shown in figures 18 and 19. ▪ The small size of the holding allows only one crop to be cultivated in most cases, which means a definite loss if the price of this crop falls in the market. ▪ Inability to take advantage of economies of scale to reduce production costs on the one	▪ Profitability per feddan is higher in desert lands compared to the valley and delta, due to: ▪ Prices of exported fruit crops are not linked to world prices, but are determined according to considerations of quality, time (logistics), and bargaining power. ▪ Clearly high net yield per feddan. ▪ The large size of agricultural holdings provides the advantage of dividing them into different types of crops, which reduces the possibility of loss. ▪ The ability to maximize benefit from economies of scale to obtain appropriate prices for both output and production inputs.

[11] Source: Central Bank of Egypt, monthly statistical bulletin, December 2019.

	hand and negotiate a higher selling price on the other.	
Stability of productivity	**Very fluctuating from season to season** ▪ This is mainly due to either unfavorable weather conditions, such as the Dragon Storm that Egypt witnessed in the past winter, which led to a decline in the productivity of most agricultural crops. ▪ Or there are fundamental differences in the quality of seeds and seeds imported from one year to another, which leads to either an unexpected and severe weakness in production as happened to tomatoes and potatoes in 2018, or, in contrast, a sharp increase in productivity. ▪ This causes price shocks that affect farms as well as the final consumer.	**Less volatile** ▪ Fruits are a permanent crop that settles in the ground for a long time, so their overall yield fluctuations are lower than other crops.
Access to water	▪ Flood irrigation is an Egyptian feature since the time of the Pharaohs and has not changed, especially with poor agricultural guidance in the Delta lands. ▪ The weak agricultural drainage system, and failure to develop it quickly enough, led to agricultural lands not recovering from the effects of the period before	▪ Modern technological methods are used for irrigation, specifically sprinkler and drip irrigation. ▪ Decreased level of groundwater in recent years, and the inability to implement new expansionary investments due to limited water.[12]

[12] Sultan, N. 2019. THE CONSISTENCY OF EXPORT AND AGRICULTURAL POLICIES IN EGYPT. The American University in Cairo, School of Global Affairs and Public Policy.

	implementation of the agricultural drainage project in the seventies. ▪ Extreme randomness in the distribution of agricultural crops, and the inability of the Ministry of Irrigation to determine the amount of water to be pumped into the main canals due to the different water needs of each crop. ▪ Water flow fluctuations in canals. Water is often insufficient or excessive. ▪ Lands' poor water access, especially lands located at the far end of the branch. This is because the branch canals are not cleaned and expanded regularly, as this is the responsibility of farmers, not the Ministry of Irrigation.	▪ Divide the water share among exporters equally without taking into account the water needs of each individual crop. ▪ The high energy costs of water drawing equipment. ▪ The high cost of drilling wells and installing water pumps, due to the severe bureaucracy and difficulty in obtaining necessary licenses.[13]
Management of the agricultural system and the role of cooperative activity	Despite economic reforms and the move towards a more market-oriented economy in the agricultural sector starting 1987, the State still controls the agricultural production system in the Delta, through cooperatives. Cooperatives are used as a tool for managing the agricultural system in Egypt. There are two types of agricultural cooperatives in old lands: ▪ Agricultural credit cooperative associations numbering 4,313, with approximately 4 million members.	▪ The number of cooperative societies for reclaimed lands is 626, with a total number of 296 thousand members. ▪ In general, the role of cooperatives in new lands is marginal and very limited, because they depend on individual ownership and are largely independent from the Egyptian government in making productive and export decisions.

[13] ICTSD and FAO. 2017. "Agricultural Policies, Trade and Sustainable Development in Egypt"

	▪ Cooperative associations for agrarian reform, numbering 761 associations, with a total number of 417 thousand members. ▪ The services of the agrarian reform associations are relatively better than the other two types, due to the high capital, which amounts to EGP 150 thousand on average per society, compared to EGP 37 thousand and EGP 22 thousand for each of the agricultural credit and reclaimed lands societies respectively, as shown in Figure 20.	▪ Nevertheless, the role of the "Haya" association has emerged specifically in supporting the "horticulture" industry in Egypt. It is an association established in 1996 that provides many export and agricultural services to its members by relying on annual membership fees as well as companies along with civil society, international donors and the government.
Agricultural wastage	▪ Very high and growing due to aging harvesting methods, the lack of good logistical services, especially with regard to transportation, in addition to the weak storage infrastructure for grain crops in Egypt. ▪ The domination of a complex informal network over distribution, marketing and sale of vegetable crops in Egypt.	▪ High but less than its counterpart in the valley and delta due to the more aware management and the ability of owners of large farms to make the necessary investments in harvesting technology, transportation and storage to meet the requirements for export abroad. However, the part of the crop directed to the local market is often subject to the same type of problems that face crops grown on old lands, especially in relation to post-harvest services.

Figure 17. Size of agricultural holdings in Egypt*

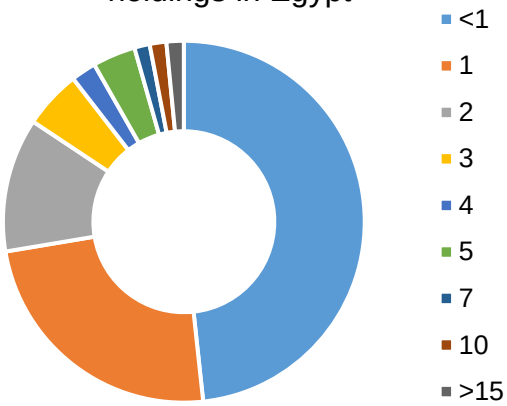


Figure 18. Net yield of the most important summer field crops per feddan, in thousand EGP, 2016/2017 **

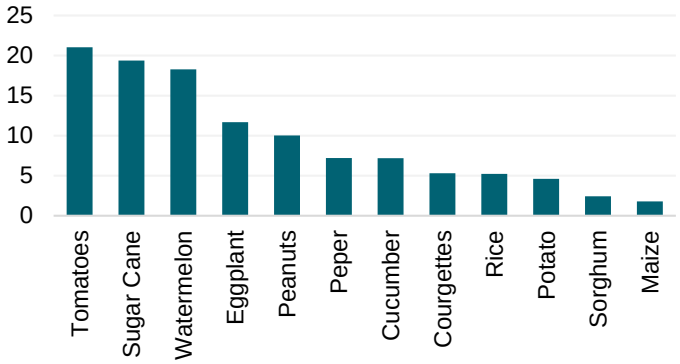


Figure 19. Net yield of the most important winter field crops per feddan in thousand EGP, 2016/2017**

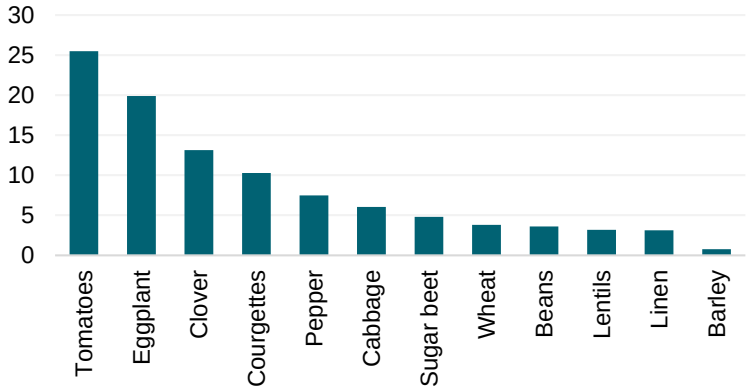
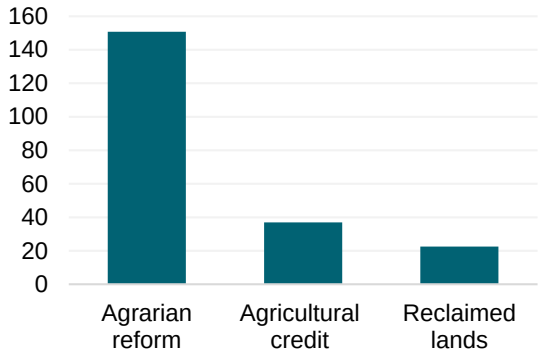


Figure 20. Average capital of a single society according to type, 2017-2018, in thousands of EGP***



** Source:* Prepared by the researcher based on data of the Central Agency for Public Mobilization and Statistics, Statistical Yearbook, 2019.

***Source:* Prepared by the researcher based on data of the Central Agency for Public Mobilization and Statistics, Annual Bulletin of Agricultural Income, 2016/2017.

**** Source:* Prepared by the researcher based on data of the Central Agency for Public Mobilization and Statistics, cooperative activity in the agricultural sector, 2017/2018.

2. The impact of previous crises on the agricultural sector in Egypt

- The world witnessed an acute food crisis in 2007, followed by a similar wave in 2010. The crisis was mainly associated with the exacerbation and ebbing of the global financial crisis. The following is the general context of the crisis and its most important determinants and repercussions on Egypt.

- The global food crisis in 2007 led to a rise in the prices of foodstuffs, especially strategic crops such as grains, the most important of which are wheat and maize, whose prices more than doubled between 2007 and 2008, as shown in Figure 21.

- The crisis was fuelled by a combination of supply and demand factors, in a manner that drives prices higher.[14]

    - In terms of supply, drought hit major food crop producers such as Australia, East Asian countries and Russia, which drove these countries to place maximum limits on their exports.

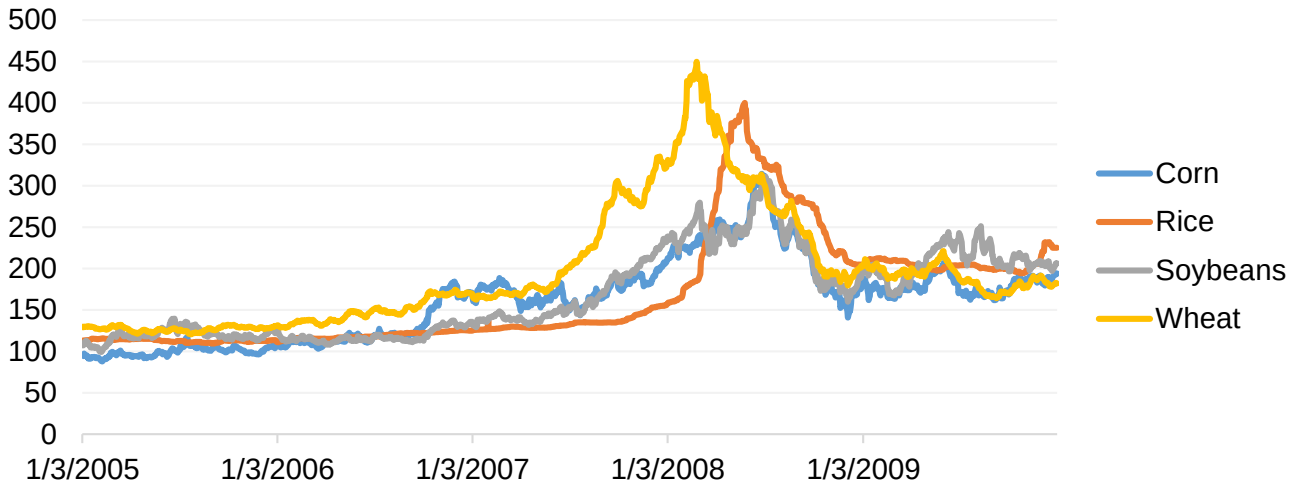
    - As for demand, it rose sharply on food crops for use in biofuel production as an alternative to petroleum, whose prices have increased substantially at that time.

- However, food and petroleum prices quickly declined in late 2008 due to the global economic slowdown. But once economic recovery began gradually, the world witnessed a new wave of high food prices that started in June 2010, as shown in Figure 21 and continued for a longer period of time. The reason is that all the structural imbalances underlying the 2007 crisis were still present.[15]

- Due to heavy dependence on imports to secure about 10 million tons of wheat and about 5.2 million tons of corn in 2008, the crisis has led to many negative economic, social and political repercussions, as shown in Table 4.

[14] Jane Harrigan, the political economy of Arab food sovereignty. Knowledge World, Issue 465, October 2018.
[15] Ibid.

Figure 21. Strategic cereal prices, 2000-2020



Source: Prepared by the researcher based on the International Grains Council database.

Table 4. Implications of the global food crisis for Egypt

Economic implications	**Trade deficit** ▪ Egypt could not distance itself from the increase in world prices. The value of Egyptian agricultural imports, as well as the agricultural trade deficit, began to move up and down along the same pattern of change in world prices, as shown in Figures 22-26.
	Negative impact on public finances ▪ The state included millions of citizens in the ration card system as a mitigation measure for the increase in prices. It doubled spending on ration support, increasing from EGP 9.4 billion in 2006/07 to EGP 21.1 billion in 2008/2009.[16] ▪ Although a step in the right direction to reduce the burden on the most vulnerable groups, implementation has been carried out in a manner that does not meet all the required institutional standards. This created many problems that began to emerge in subsequent years.

[16] Ministry of Finance, monthly financial report, various issues.

	High agricultural costs ▪ Inflation rate in producer prices in the agricultural sector increased from 16.5% in September 2007 to 25.5% in June 2008. The high prices of agricultural inputs, especially grains, pesticides, agricultural equipment and tools due to being imported from abroad, were directly passed on to farmers in light of the limited agricultural support provided by the government.
Social repercussions	**Adverse effect on food security** ▪ Inflation in food and beverage prices increased sharply, from 8.5% in November 2007 to 30.9% in August 2008, which negatively affected the poorest groups and led to fundamental changes in their food habits. High-nutrition foods were replaced by other types with low nutritional value but high in calories. ▪ The crisis also caused a state of social unrest as a result of the lack of food, especially bread that millions of Egyptian families were unable to obtain. That led to crowds in front of bakeries in a manner that led to many deaths.[17]
Political repercussions	▪ Several analyses stated that the global food crisis and its economic and social repercussions were one of the main drivers of the January revolution in Egypt.[18]

[17] The international press has documented the death of many citizens from heart attacks due to the long wait in high temperatures. It also documented that one of them killed another with an automatic weapon after an argument in front of a bakery. https://www.theguardian.com/environment/2008/may/27/food.egypt

[18] Jane Harrigan, the political economy of Arab food sovereignty. Knowledge World, Issue 465, October 2018.

Figure 22. Total value of agricultural imports in billion dollars, 2000-2017

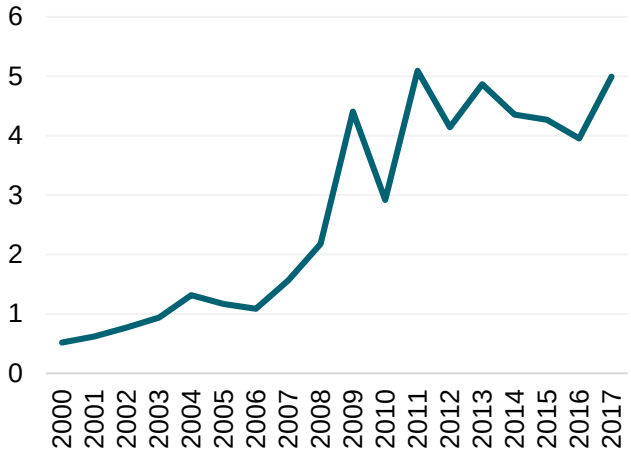


Figure 23. The value of cereal and wheat imports in billion dollars, 2000-2017

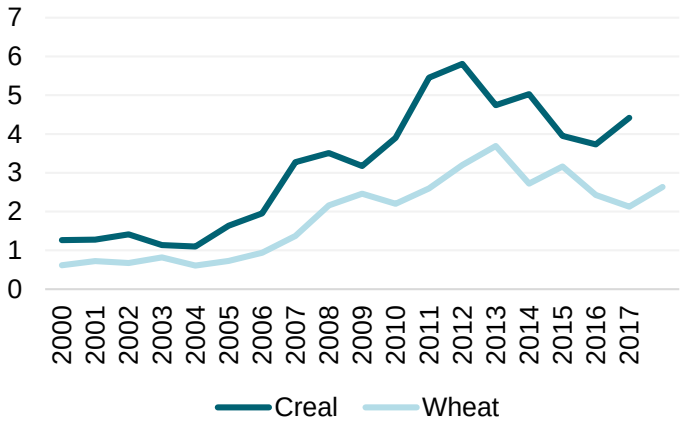


Figure 21. Strategic cereal prices, 2000-2020

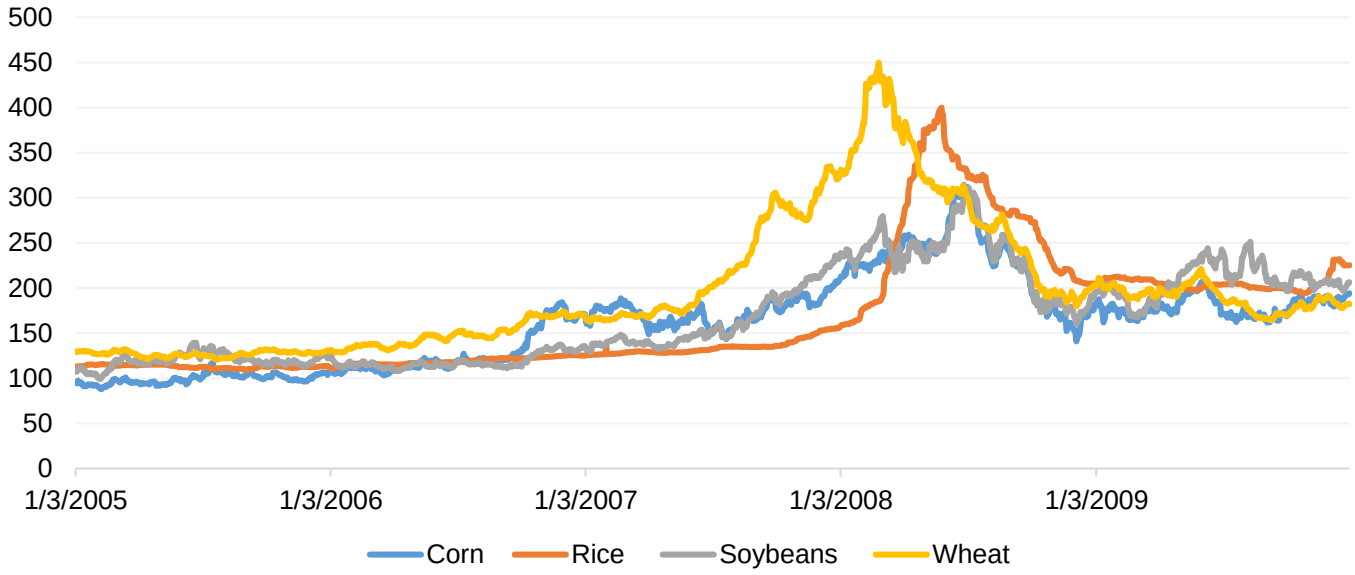


Figure 25. Wheat trade deficit in billion dollars

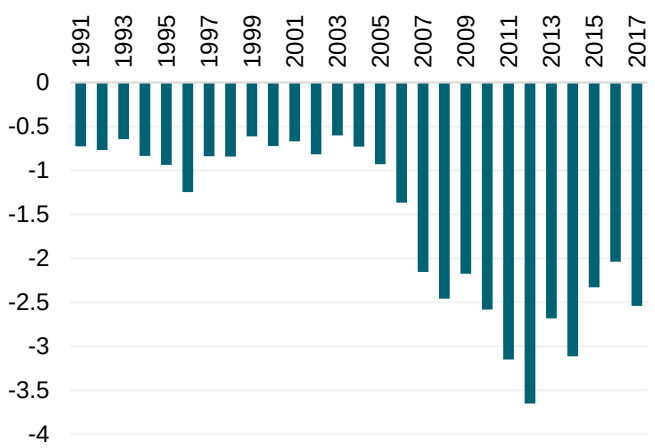
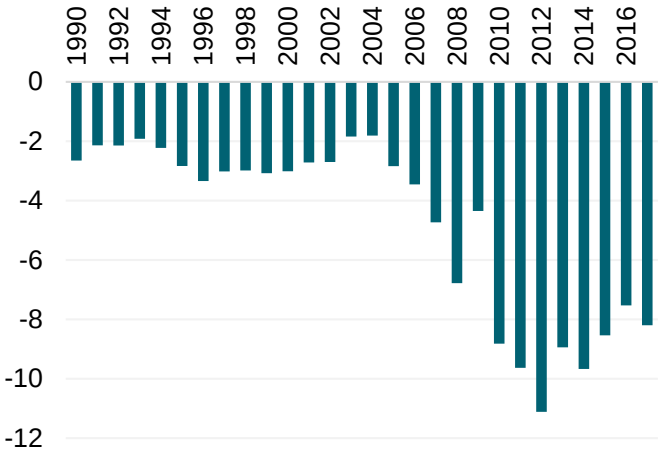


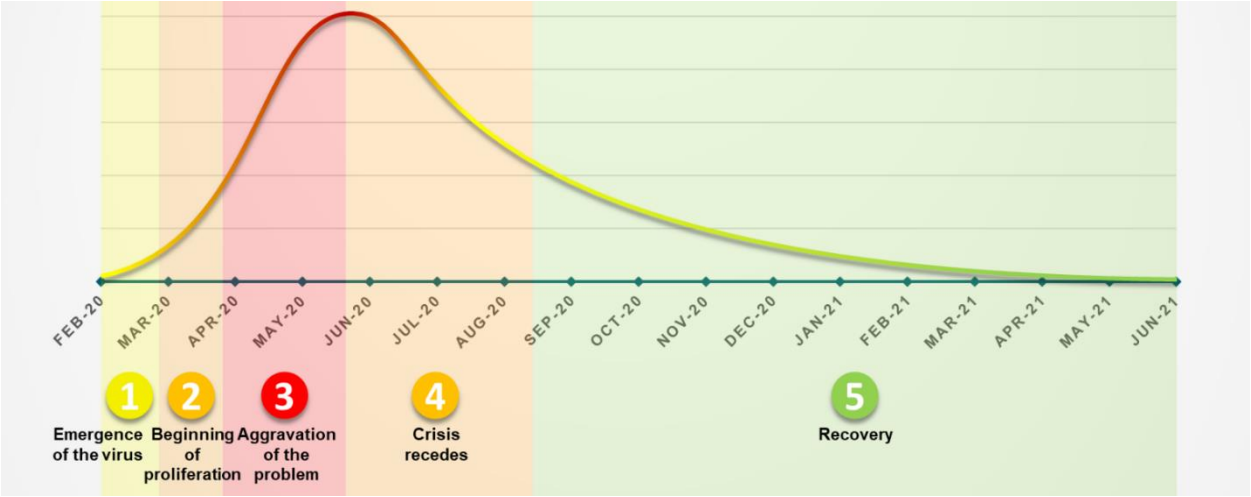
Figure 26. Total agricultural trade deficit in billion dollars



Source: Prepared by the researcher based on the databases of the UN Food and Agriculture Organization and the International Grains Council.

3. Demand and supply shocks in the framework of the Corona crisis cycle

- First of all, we would like to emphasize that the general governing context of the current crisis is fundamentally different from the global food crisis. The global food crisis resulted from severe shocks to productivity on the one hand and high demand for agricultural crops for use in the production of biofuels as an alternative to petroleum. As for the current crisis, there are no shocks to global productivity and there is a decrease in demand for agricultural commodities for the purpose of biofuel production due to the sharp decline in oil prices.
- However, despite the absence of causes of the global food crisis, the current crisis is expected to have a similar negative impact on the agricultural sector worldwide, including Egypt. This is due to logistical problems created by the crisis that led to paralysis in global trade. In addition, the main strategic goods producers, such as Russia and East Asian countries, have imposed a ban on their exports in anticipation of possible shocks.
- In general, the expected impact of the current Corona crisis on the demand and supply sides is related to the stage of the crisis cycle. Accordingly, we can track five stages in the crisis cycle, as follows:



Source: ECES.

Below is a brief description of each stage:

The first stage: emergence of the virus

This stage marked the beginning of the crisis. The virus was unknown and only appeared in China. Arab countries, North America and European countries were not yet affected. Only China had taken precautionary measures against the virus at this stage.

The second stage: Beginning of proliferation

The virus started spreading to parts of Europe, Asia and the Middle East. These countries took minimal precautionary measures to prevent the spread of the virus, while China took significant measures such as closing production facilities.

The third stage: Exacerbation of the problem

The situation has worsened in Europe and the Middle East, and the virus has spread in Italy and Iran, and began to spread in the USA and Canada. At this point, strong precautionary measures were taken affecting the economy, such as banning nearly all international flights and canceling

major events. This stage also witnessed the beginning of the virus receding in China and South Korea due to the preventive measures adopted by the government.

Fourth stage: Crisis recedes

The beginning of the virus receding in Europe and coming under control in both Italy and Iran; resumption of trade between China, Europe and the Middle East. The United States continue to suffer in facing the virus and controlling it.

Fifth stage: Recovery

Full recovery in Europe and the United States, but there are still less important economies in the Middle East without recovery, but the impact on the agricultural sector in Egypt is still strong because of the strength of the intra-regional trade between these countries and Egypt with regard to agricultural crops.

The following table reviews possible scenarios of the impact of the crisis on the agricultural sector at every stage of the crisis cycle in the context of the various assumptions of the supply and demand shocks.

Supply and demand shocks are defined as follows:

Supply shock: Imbalance in the ability of the agricultural sector to provide crops in the internal and external markets.

Demand shock: Rise or fall in demand for specific agricultural crops internally and externally due to the crisis.

As for the assumptions of the analysis, they are as follows:

1. Internal and external precautionary measures affect the agricultural sector through affecting logistics related to obtaining production inputs and marketing the product.
2. The presence of forward linkages between the agricultural sector and all other economic sectors, including tourism, which means that any imbalance in any of these sectors will have immediate consequences for the agricultural sector itself, as well as for the farmer community.
3. Industry-related crops are greatly affected by any weakness in the performance of the manufacturing industries in particular.
4. The impact of the crisis is mainly related to its synchronous occurrence with the harvest season and the new agricultural cycle.
5. Egyptian agriculture in the field of vegetables and fruits depends on importing seeds.
6. The impact of the crisis coinciding with Ramadan on the agricultural sector.
7. The transport of agricultural goods has been negatively affected by the slowdown in world trade, even if not related to agricultural commodities.
8. Egypt's agricultural trade was affected by availability of information on precautionary measures in different countries.
9. Precautionary measures affected the movement of labour in a way that had negative repercussions on the agricultural sector.
10. In times of crisis, the agricultural sector needs government support, as do the manufacturing and construction sectors.

Stage	Supply and/or demand shock	Analysis	Impact
1- Emergence of the virus (December 2019 to January 2020)	There are no supply or demand shocks	▪ Beginning of the traditional agricultural cycle. ▪ There is no shock in the supply of the main agricultural crops, as they have already been harvested and marketed and a new agricultural cycle has begun. ▪ There is no shock to the demand of consumers or the restaurant and hotel sector for agricultural crops at this stage, as no precautionary measures have been taken in Egypt yet.	None
2-The beginning of proliferation (February through mid-March 2020)	There are no supply or demand shocks	▪ Middle of the traditional agricultural cycle ▪ There are no shocks at the level of crops or agricultural employment yet, despite increase in citizens' demand during this period for food products for the purpose of hoarding. However,	▪ Limited impact on pesticides and agricultural machinery spare parts due to already sufficient local stock.

		food processing companies were able to respond to this demand through accumulated inventory from the previous agricultural cycle.	
3- Aggravation of the problem (From mid-March to May 2020)	A strong shock to both supply and demand.	▪ The virus began to spread in Europe on a large scale, and to a lesser extent in the Arab countries. ▪ At the local level: This period witnessed many precautionary measures, such as a curfew, and a complete ban on some activities, such as cafes and weekly popular markets in all governorates of Egypt, as well as a complete halt of tourism, and restaurant services almost completely. ▪ All of this led to violent shocks in both supply and demand, as follows: ▪ **Demand shock** **1. Agriculture in the valley and the delta**	The analysis is divided into two parts, the first part deals with the impact on agricultural crops, while the second part deals with the impact on agricultural employment. **1. The impact on agricultural crops** In general, crops whose harvest coincided with the crisis were severely affected. For strategic crops, the decline in oil prices has reduced the demand for agricultural crops for biofuel production, which led to a decrease in global prices of strategic agricultural crops such as wheat and corn during the period January - March 2020. However, the prices of all agricultural crops are expected to rise in the medium and long runs, if major producers were to impose a ban on agricultural exports in a

		• The demand shock is mainly due to declining demand from restaurants, hotels and ready-to-eat food companies for major agricultural crops. • For example: Many potato manufacturers have breached their contracts with farmers, receiving only 30% of the quantity agreed, and at a price much lower than the contract price. ▪ **Second: Agriculture in the desert** • Domestic demand for vegetables and fruits decreased significantly, due to its high-income elasticity, which makes it a non-essential commodity in times of crisis when the income of citizens	way that affects global supply.[19] It is a move already announced by more than one country such as East Asian countries for rice and Russia for wheat. Hence global rice and wheat prices actually increased in April 2020 to $582.25 and $323 dollars per ton, an increase of 14.3% and 2.2%, respectively, compared to March 2020. However, domestic effects differ from one crop to another according to the nature of the logistical problems created by the crisis on the one hand, and the economics of the same crop on the other, which differ from one crop to another. Below is a detailed analysis of the impact of the crisis on basic crops in the current agricultural cycle in the valley, delta and desert. **Agriculture in the valley and the delta** ▪ **Wheat:** Wheat prices were not affected locally, because the government had already set supply

[19] Source: Dr. Saad Nassar, Professor of Agricultural Economics at Cairo University and former Fayoum Governor.

		decreases significantly. • External demand for crops of vegetables and fruits is still relatively stronger than its domestic counterpart, given the high levels of income in these countries on the one hand, and their awareness of the importance of these commodities to strengthening the immune system against the virus on the other hand. However, this demand faces many logistical problems, which we will address in detail in the next section on supply shocks. ▪ **Supply shock**: In general, there is a noticeable decline in the productivity of most crops, whether planted in the valley	prices per Ardeb. However, the net yield per feddan will decline due to the apparent decline in productivity this year, affected by the intensity of the rains that Egypt witnessed during the Dragon Storm. Also, the administrative prices set by the government, though EGP 15 pounds higher per ardeb than last year, the opportunity cost of wheat is still high. ▪ **Potatoes:** **First, for the local market**: the decline in demand led to a decrease in the price of a ton to EGP 1,200, while its cost reaches EGP 4,000 on average. This caused huge losses to farmers, especially in light of weak productivity per feddan this year, reaching about 8 tons on average (in some years it reached 20 tons) due to poor weather conditions and poor seed quality. Also, food processing companies obtained only 30 percent of the contracted quantity, at the market price (EGP

		and the Delta, or the desert due to the Dragon Storm that struck Egypt in mid-March. In addition, the ability to access markets locally and globally due to logistical problems resulting from the crisis has decreased, as follows: **1. Agriculture in the valley and the delta** • The weekly market ban has made it impossible for small farmers to directly market their surplus crops. • Although agricultural transport is excluded from the curfew, there are many problems that have arisen in actual implementation. Most importantly, failure to clearly identify the crops to which the exception applies, which makes it subject to the discretion of the	1200) instead of the original contract price (EGP 4000), which aggravated the losses for farmers. To reduce losses, large numbers of farmers tended to freeze their total potato production to use part of it and sell the other part as seeds for the next agricultural cycle, hoping an increase in price when the next planting season comes. But there is a high possibility that the price of seeds will decrease in the next planting season due to the increase in supply, which will exacerbate losses for farmers because of incurring the cost of freezing as an additional loss above their current loss. **Secondly, regarding external market**: Many exporters reported that the price of a ton of exported potatoes decreased from $120 upon contracting to less than $10 currently, due to the presence of a surplus in the world supply of potatoes to the point that led many countries to either dispose of thousands of

		traffic police officer. ECES has identified many cases in which the owners of transport vehicles complained of being arrested on the road, arguing that legumes and medicinal and aromatic plants they carry are not perishable and therefore are not exempt from the curfew. This resulted in fines and delaying access to markets. • The slowdown in road traffic also created a state of fear among drivers about night traffic on the roads in general, for fear of being robbed. Therefore, farmers found it difficult to transport their agricultural crops to markets.	tons or use it as livestock feed.[20] ▪ **Bean:** Most of the domestic production of beans is destined for export to Arab countries as a major commodity there, and with the onset of the crisis, citizens in these countries tended to store large quantities of them. This led to a large increase in demand for beans, so the price doubled to about 24 pounds per kilo. However, the only beneficiary of this price increase is the intermediary and exporter, because they have large quantities stored from last year, and the harvest of the current year has not come out to markets yet. This high price is expected to persist until late May, then decline thereafter as the currently cultivated crop goes out to the markets and the global supply of beans increases. This is at a

[20] For example, France disposed of 700,000 tons of potatoes this year, and Australia directed 750,000 tons for use as livestock feed.

		2. Agriculture in the desert • Fruit crops experienced the same local logistical problems, as well as many additional export-related problems. • Suspending flights affected perishable fruit crops, most important of which are peaches and strawberries. • High shipping costs due to the control of a group of monopolistic companies that exploited the crisis to raise prices. • Weak ship traffic in ports and the disruption of many shipments of vegetables and fruits. Many exporters have reported that what used to arrive in 5 days	time consumer demand is expected to decrease because they have built sufficient stock. **Agriculture in the desert** ▪ **Fruit crops (strawberry, peach, and citrus):** ▪ **Strawberry and peach**: Many exporters report that they were able to export only 50% of their usual export volume each year due to logistical problems locally and globally. ▪ Lack of access to foreign markets in light of the surplus of these crops will lead to a significant increase in the rates of their wastage. In this regard, many exporters have already reported the disposal of thousands of tons of strawberries and peaches. ▪ **Summer oranges**: The crisis has positively affected the orange crop, unlike all other crops, because Spain, Egypt's main competitor, has not exported large quantities this year. With increased

		now takes 15-20 days. • High costs of storage at customs. • The presence of many consignments of fruits seized on the Chinese and European coasts unable to enter. • Lack of containers: At that time of the year, containers used to come from the Arab countries loaded with Ramadan goods and returned packed with vegetables and fruits. With the halt of movement between Arab countries, there was a severe shortage of containers. • Preventing the entry of Egyptian drivers to Arab countries. One	demand by European consumers on oranges as a fruit that enhances immunity against viruses, the demand for Egyptian oranges has increased, and its prices doubled. **2. Impact on agricultural employment** The crisis has led to a decline in agricultural employment income due to: ▪ Demand for agricultural labor decreased. At the same time, supply increased after migrant workers returned from urban to rural areas seeking agricultural work as a last resort. ▪ Many fruit farms laid off workers involved in processing fruit, most importantly strawberries in the current season due to weak export activity. ▪ Large farms are unable to pay workers due to withdrawal and deposit restrictions at that time.[21]

[21] This decision was reversed, but caused an unnecessary turmoil at the time.

		exporter stated that Jordan had stopped 100 refrigerators traveling through its territory to Iraq. These forced drivers to enter Iraq through the port of Marcel Turkey, incurring higher costs and losses. **In addition, exporters encountered problems preparing the crop for export, as local governments prevented gatherings of workers in warehouses.**	▪ The strength of social solidarity among rural people in addition to the nature of agricultural work in the harvest season, being similar to piecework and thus can be divided. For example, the total fee for harvesting and packing a feddan of potatoes is around EGP 1000, and takes about 10 workers (EGP 100 per day each). So, the foreman helps his unemployed relatives and friends by harvesting the crop using 15 or perhaps 20 workers, splitting the thousand pounds among them instead of splitting it among 10. ▪ This is available only in agriculture in old lands, but in new lands where desert farms are large, every worker is required to give a specific productivity daily.

4. The crisis recedes (Mid-May-August 2020)	The nature of the demand and supply shock during this period depends on the extent of the crisis ebbing and the end of the precautionary measures already taken.	▪ This stage coincides with the beginning of the new agricultural cycle for some crops such as maize, rice, tomatoes, cucumbers and peppers. ▪ Crops like grapes, pomegranates, dates, guava and mangoes go out to the market. We expect one of the following scenarios: ▪ **The optimistic scenario**: the crisis recedes and precautionary measures end. According to this scenario, we expect a gradual improvement in domestic supply and demand, though demand for vegetables and fruits will remain weak. We also expect a gradual improvement in external demand, but it will be slow, especially for fruits, because it is considered a non-essential good in times of crisis, as	The effect at this stage depends on the expected scenario. **According to the optimistic scenario**, we expect the problems facing agriculture in the Delta to decrease, especially for field crops. However, this cannot be confirmed with respect to desert agriculture, as most of its production inputs are imported. For example, Egypt imports 98% of the vegetable seeds from abroad. Accordingly, the recovery of desert agriculture will be greatly affected by the stability and recovery of the global economy and return of global trade to normality. As for strategic crops that Egypt heavily imports like wheat, their prices are expected to rise externally, and the local impact on production and prices remains unclear, and will largely depend on the government's policies in this regard. This means that Egypt needs to revisit its internal and external trade policies

		we have already noted. ▪ The **pessimistic scenario**: the crisis does not subside and precautionary measures continue. The supply and demand shock continue to be similar to the previous stage, but to a lesser degree, with farmers adapting to the crisis. However, the sector is expected to witness a severe supply shock in the strategic crops due to the tendency of major producing countries to put a cap on their exports of such commodities.	with respect to these crops. **According to the pessimistic scenario**, the crops under cultivation at this stage will have problems obtaining all production inputs, especially seeds and pesticides. Crops whose harvesting coincided with this period will also suffer from the same problems experienced by crops already harvested in the previous stage.
5. Recovery (as of September 2020)	The nature of the demand and supply shock during this period depends on the extent of the crisis ebbing and the end of the precautionary measures	▪ This stage coincides with the beginning of the agricultural cycle for crops such as potatoes, beans, peas, wheat, beans, etc. ▪ It also coincides with the harvest season of crops grown in the previous stage,	The effect depends on the scenario actually occurring and whether it is optimistic or pessimistic, as in the previous stage. We hereby present only a mini scenario of the potato crop, with the possibility of extending it to all other crops: **Optimistic scenario**: markets are supposed to recover internally and

	already taken.	such as rice and maize. ▪ The nature of the demand and supply shock in this period depends on the extent of the crisis ebbing and the end of precautionary measures already taken, similar to the previous stage.	externally in a way that helps farmers sell at a good price and make up for their losses in previous seasons. **Pessimistic scenario**: the problem persists, with the possibility of exacerbation if large-scale refrigeration attempts do not improve prices because the shock still persists.

From the above analysis it is clear that:

- The crops most negatively affected by the crisis are those whose harvest time coincided with the exacerbation of the crisis internally and externally. This was evident in the case of potatoes whose local price has decreased to EGP 1200 per ton, while the cost reaches EGP 4000 per ton. Export prices abroad have also decreased from 120 Dollars to less than $10 a ton.
- Fruit was also one of the hardest-hit crops, as it is considered a non-essential commodity in times of crisis, with the exception of oranges due to high external demand being an immunity-enhancing fruit.
- As for wheat, it has witnessed two opposite effects since the outbreak of the crisis, Its prices declined clearly during the first quarter of 2020 (February - March) in conjunction with the decline in the prices of corn, sugar cane and other strategic crops due to low demand for biofuel production. However, wheat prices started increasing again as of April due to the tendency of many producing countries to impose a ban on their wheat

exports.[22] This calls for a review of agricultural policy and crop composition in Egypt, as will be explained in the next part of the report.

- The crisis negatively affected the income of labor in the agricultural sector, though it did not affect their employment rates due to high demand for agricultural labor during the harvest season.

- The importance of the role that productiion sectors, especially the agricultural sector, play in the economy in times of crisis. Though severely affected, they have not completely stopped along the lines of the rentier sectors, such as tourism.

- The close link between agriculture and all other economic sectors. This was evident in the agricultural sector being affected by monetary and sectoral decisions that were not directed at it in the first place. For example, setting a maximum limit on withdrawals and deposits and the halt on tourism activities and restaurants, which led to a decrease in the demand for vegetables and fruits by more than 20 percent.

- The extreme fragility of any production changes in other countries, such as Russia, East Asian countries and other major producers of strategic crops such as wheat, rice, corn and oil crops.

- The absence of sufficient information about the differences in precautionary measures between Arab countries, which surprises Egyptian exporters with these measures after already covering long distances with the crop. This compels them to take farther routes, and incur additional costs and high losses.

- The crisis has prompted many farmers to take exceptional measures, such as storing part of the potato crop and selling

[22] http://www.fao.org/giews/food-prices/international-prices/ar/

part as seeds in the coming season. Given these individual measures and limited information on the size of what is already stored at the national level, this will likely backfire.

- The presence of strong social solidarity in the countryside in times of crisis, which helps farmers adapt to crises. This does not mean that they are not affected negatively, but it means the ability to coexist with negative repercussions.
- The farmer makes his productive and marketing decisions based on a cost-benefit analysis. Therefore, the economic incentives for farmers must be an integral component of the agricultural policies adopted by the Egyptian government, whether short or long-term.

4. Specific measures to alleviate the crisis

- The crisis demonstrated the need to take a set of rapid measures aimed at alleviating the impact of the crisis on the agricultural sector, with the importance of distinguishing between large farms on the one hand and small farmers on the other. The latter being affected more than others in light of the weak support provided by the State and lack of contractual farming and agricultural insurance. Accordingly, it is important to consider the following:
- Revisiting the crop composition of the next agricultural cycle, so that Egypt’s strategic crop needs could be secured mostly locally in anticipation of any future price increases or any export restrictions imposed by producers of strategic crops, such as wheat. In order to achieve this with the utmost economic efficiency, it is proposed to apply the previously studied wheat cultivation in coastal areas so that the agricultural area of wheat can be expanded without being at the expense of other crops where Egypt enjoys a high comparative advantage.

- Expired permits for agricultural projects should continue to be effective until the crisis ends.[23]
- Consider replacing rice with potatoes on the ration cards for only two months to limit the import of rice, and take advantage of the abundance of domestic production of potatoes this year.[24]
- Debt forgiveness for all defaulters in the agricultural sector, especially small farmers, and enabling workers in the sector to benefit from the central bank's initiatives in this regard.
- The need for logistical coordination between the private sector and all concerned authorities in the government, so that the trucks do not return from the ports empty, but rather loaded with goods of another importer.
- Existence of uniform and clear rules regarding the exclusion of all agricultural crops from the curfew, without leaving the matter to the discretion of traffic officers, while strictly punishing any violations in this regard.
- Speeding customs clearance of all agricultural crops, especially the perishable ones such as vegetables and fruits, and exempting importers and exporters from paying any storage fees as long as the delay is beyond their control.
- Building a detailed database on the precautionary measures that have a direct impact on Egyptian exporters in general and agricultural ones in particular, and constantly updating it, provided that it is publicly available online.
- Stricter control over illegal trade practices that can raise food prices, especially excessive hoarding, monopoly, price hikes, and increased penalties for violators.

[23] Source: Dr. Saad Nassar, Professor of Agricultural Economics at Cairo University and former Fayoum Governor.
[24] Source: Dr. Saad Nassar, Professor of Agricultural Economics at Cairo University and former Fayoum Governor.

- Monitor cooling capacity throughout the country and prepare for storing perishable crops to reduce waste.
- Conduct a rapid survey of food stocks at the national and local levels, to identify gaps and transport commodities from surplus to deficit areas when necessary.
- Including agricultural labour in the initiative of the Ministry of Manpower giving out EGP 500 for a period of three months to irregular employment.
- Temporarily subsidize agricultural production inputs, and compensate those severely affected by low prices.
- Reducing energy prices for agricultural producers, especially desert farms, in light of the low global energy prices.

5. Institutional weaknesses revealed by the crisis

- The agricultural sector still suffers from many structural imbalances and institutional problems that have not been addressed despite the sector's experiencing previous crises that called for reform. Examples include the global food crisis to which response was limited to a set of measures to deal with the temporary repercussions of the crisis without reforming the agricultural sector in a real and sustainable manner like most of the world during the two years following the crisis.[25] Among the most important and most urgent of these reforms in Egypt is the necessity of restructuring the Ministry of Agriculture because its current administrative form cannot enable managing the agricultural sector properly.
- Difficulty accessing financing due to the commercial banks' reluctance to lend to agricultural activities as they are highly risky activities. In addition to the weak financing role of the

[25] FAO. 2011. "Food and agricultural policy trends after the 2008 food security crisis: Renewed attention to agricultural development".

Egyptian Agricultural Bank (formerly the Agricultural Development and Credit Bank) despite its restructuring in 2016. This is due to a gap of mistrust between farmers and the Bank as a result of the many structural imbalances that persisted for decades before the reform process.[26] Therefore, the Government should devise new financing tools to encourage agricultural investment, such as issuing agricultural bonds, because the agricultural sector will not develop without good financing tools that address high risks.

- Non-implementation of agricultural laws that complement the reform of the financing system. Most importantly, the Contractual Farming and Agricultural Insurance Law due to the lack of issuance of the executive regulations. This makes the farmer extremely vulnerable to any unexpected shocks, in addition to being the weakest link in any bilateral contract, as proven in the potato crisis this year.[27]
- The absence of a clear vision of the agricultural sector in Egypt and the lack of commitment to implementing the agricultural strategies that the state put forth since the 1990s. This was reflected in the failure of these strategies to become operational plans with detailed performance indicators, relying instead on administrative decisions that change fundamentally from one minister to another, and often do not take into account the actual needs of farmers.
- Weak coordination between all those concerned with agricultural policies, which often results in a conflict between agricultural policies on the one hand, and manufacturing, export and trade on the other.

[26] Most importantly, the implementation of the policy of recycling agricultural loans and marginal interest that resulted in the default of many borrowers and the loss of their lands, which prompted many farmers to avoid as much as possible dealing with the Bank to avoid ending up with the same fate.

[27] Source: Dr. Saad Nassar, Professor of Agricultural Economics at Cairo University and former Fayoum Governor.

- Weak research and development, due to the limiting government bureaucracy as well as weak funding, most of which is spent on wages and salaries without sufficient budget for investment in research.
- Poor agricultural extension, with the failure of agricultural guides to undertake their role due to being near the retirement age. No agricultural guides have been appointed since 1982, in addition to the lack of confidence of farmers in agricultural guides in many cases, because many of them are also mandated by the Ministry to report on building violations.[28]
- The most important manifestations of poor agricultural extension are the lower productivity of agricultural crops in the fields compared to that on research farms. For example, average productivity per feddan in Egypt is 18 ardebs, while it reaches 24 ardebs on research farms, mainly due to the absence of the role of the agricultural guide.[29]
- Weak agricultural cooperatives rendering them unable to serve their members, because they lost their two most important roles: providing credit and marketing the crop since the 1970s, in addition to the complexity of the administrative structure of cooperatives in a way that limits efficiency and transparency. There are three vertical types of cooperatives and four unjustified horizontal levels of administration for each type. All these types and levels have the same powers and roles and belong to the same authority, and the laws of their establishment were consolidated in one law.[30] Moreover, cooperatives suffer from severe interference of the Ministry of Agriculture in their work, which made their members lose the

[28] Source: Dr. Saad Nassar, Professor of Agricultural Economics at Cairo University and former Fayoum Governor.
[28] ICTSD and FAO. 2017. "Agricultural Policies, Trade and Sustainable Development in Egypt."
[29] Source: Dr. Saad Nassar, Professor of Agricultural Economics at Cairo University and former Fayoum Governor.
[30] It is assumed that the function of the agrarian reform societies and land reclamation societies ends once the value of the land or the principal of the loan has been paid, with farmers turning thereafter to the agricultural credit societies. This, however, has never happened, due to the unwillingness of that branch of cooperatives to lose the contributions of its members, and the members are resisting the transition because credit cooperatives do not offer better services.

sense of ownership and discouraged them from developing performance due to the inability of their boards to take any decision without the approval of government representatives.

- Weak market signals and failure to reach farmers correctly, which limits their ability to make sound production decisions, due to the decline in the role of cooperatives and the control of a wide network of commercial intermediaries over the supply of production requirements and marketing of the crop. This means lack of sufficient and clear information on which the farmer builds his productivity decisions.