

# The impact of the Russian-Ukrainian war on Small Scale-Farmers in Egypt

## Poultry producers as an example



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شبكة شمال إفريقيا للسيادة الغذائية  
سيادة شعبية على الغذاء والأرض والثروات



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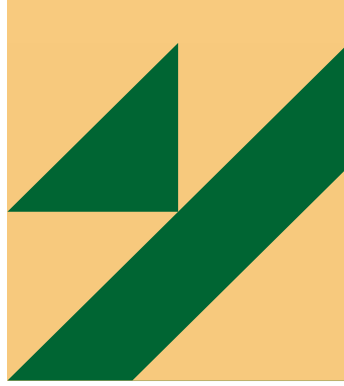
## Summary

Poultry farming in Egypt has embodied over the decades one of the most important aspects of food sovereignty for small scale farmers in the countryside. Given the nature of the poultry industry's establishment in the country, much of the sector has remained in the hands of small-scale producers, and has kept a farming character as poultry farms are tied to, attached to, or in the middle of agricultural land. As such, agricultural production, as well as poultry production, constitutes the basic income of millions of farmers in Egypt.

The raising of poultry and birds by women in the countryside, in what is known as "roof farming" or "home farming", in addition to women's work in the poultry trade, is of great social and economic importance to rural families, especially women and children, as women's work improves their status within the family, making them more independent and involved in decision-making and in planning for the family's future, as much as they contribute to household expenses.

Egypt's small-scale poultry producers have faced several crises, the most important of which was the bird flu crisis in 2006. However, the current crisis is more acute, as the effects of the Russian-Ukrainian war entails significant risks for the country's poultry industry, which invests about 100 billion pounds and employs more than 3 million workers. However, the Russian-Ukrainian war was only the trigger for a series of economic problems that have been building up for many years in Egypt.

The study discusses the emergence of the poultry industry in Egypt, the structure of the industry, its developments, its policies and the domination of the poultry industry by large capital, despite the fact that the majority of farms are still in the hands of small scale producers. It also attempts to track the preliminary outcomes of the Russian-Ukrainian war on small poultry producers. It also provides solutions to the crisis and discusses the importance for small poultry producers to form leagues and groups that would solve their problems and defend their interests.



## An introduction to the crisis

The world had not yet recovered from the repercussions of the “Covid-19” Corona pandemic over the two years of its existence, during which it ravaged the economies of many countries, threw millions of people below the poverty line, and millions more into a cycle of hunger,<sup>1</sup> until Russia’s war on Ukraine on February 24, 2022, triggered more severe economic crises, which seem to have not yet reached their limits, despite the fact that we are within two months of the first anniversary of the launch of this war by President Vladimir Putin.

From the first weeks of Russian bombing on Ukraine, food prices have tended to rise by up to 30%, especially the prices of grain, feed and vegetable oils, driven by uncertainty about future exports from both sides of the war, as Russia and Ukraine alone supply more than a third of the world’s grain exports, accounting for 19% of the world’s supply of barley, 14% of the world’s supply of wheat and 4% of the world’s supply of corn. The two countries also supply about 52% of the world’s needs in sunflower oil.<sup>2</sup>

The shortage of supply of agricultural fertilizers and the increase in their prices, due to the war, has brought to light the prospects of a worsening food crisis in the near future, as many countries in Asia, Europe and Latin America depend on Russia to meet 50% of their fertilizer needs, as Russia is the world’s largest supplier of nitrogen fertilizers, and the second largest supplier of potassium, and is the third largest supplier of phosphorus fertilizers, with a threat of losing 66 million tons of corn, rice and wheat

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1 The COVID-19 pandemic pushed 143-163 million people into poverty in 2021, and the fallout from the pandemic threatens to push over 70 million people into extreme poverty. Overall, the number of hungry people increased in 2021 to 828 million, an increase of nearly 46 million since 2020 - UN State of Food Security and Nutrition Report 2022.

2 Statement by the Director-General of the Food and Agriculture Organization of the United Nations -Qu Dongyu, entitled b: “Note on the impact of the war on food security in Ukraine” Released March 25, 2022.

crops from the 2023 productivity, if the supply of fertilizers continues to decrease, and thus increase its prices, which jumped by 250% from 2019 to May of 2022.<sup>3</sup>

The ability of the two countries to continue their food exports has been curtailed, with Ukrainian exports of cereals and oils halted by port closures, as well as Russia's voluntary restriction of its exports of grains, oils, fertilizers and energy, or by the sanctions imposed on it.

Not only has the crisis resulted in the disruption of exports from Russia and Ukraine - both parties to the conflict (ostensibly), despite what their exports represent as a significant figure in the global food equation, but the crisis is also embodied in the reduction of exports from other countries of relative importance to the world's food supply, on the grounds of meeting the needs of their populations and keeping national supply capacities within secure borders.

Many countries have taken measures that have further disrupted food supplies. China rejected EU calls to boost its grain reserves to fill the gap and stop the price spiral. India has banned wheat exports.

In May 2022, Indonesia halted palm oil exports, triggering a major crisis, as Indonesia provides nearly half of the world's palm oil supply. Argentina halted its soybean exports, Kazakhstan its wheat and wheat flour exports, Kosovo its wheat and corn flour exports, Turkey its edible oil, beef, lamb and goat meat exports, and Serbia its wheat, corn and cooking oil exports. These decisions have since relatively changed, but they have complicated and deepened the crisis.

At the same time, the war, with its geopolitical uncertainties, pushed oil and gas prices to their highest levels in 14 years, reaching about \$140 a barrel in March 2022, before prices fell slightly and rebounded.<sup>4</sup>

Thus, oil prices remained in constant turmoil, from rise to fall, influenced, at times, by promises by OPEC,<sup>5</sup> its members, or in coalition with OPEC-Plus to increase its production, at other times by decisions to reduce production or keep it within the usual levels, and, thirdly, by developments on the battlefield, and negotiations over war and closure conditions. But in any case, for the past 10 months, prices have remained well above the \$60 level - the average price per barrel in the five years before the war.

3 Statement by the Secretary-General of the United Nations, "Antonio Guterres" On November 29, 2022.

4 "Commodity Markets Outlook"- The World Bank- April 2022.

5 Organization of Petroleum Exporting Countries: OPEC

Russia's war in Ukraine has created a massive global inflationary wave in the food sector, especially grains and feed, and in the fertilizer sector, as well as in the energy sector - which has exacerbated supply chain disruptions and rising food costs. The inflationary wave has spread to all aspects of agricultural and industrial production, raising expectations of an economic downturn and slowing growth, especially in the Middle East and North Africa, whose countries depend on importing primary goods and suffer from major pressures on their domestic currencies for various reasons, with the exception of the Gulf Cooperation Council (GCC) countries which, on the contrary, have revived their economies as a result of high oil and gas prices. For the first time in years, talk of a large surplus in the general budget in many Gulf countries has become a reality.<sup>6</sup>

The current war in Ukraine is just one chapter in the crisis of the world order. It is an expression of Russia's overwhelming desire to regain its former status as an active partner in the arena of global economic, political and military domination, and of the United States of America - the real other party to this war - seeking to maintain its hegemony as the sole pole, since the end of the Cold War and the disintegration of the Soviet Union. At the time of making its decision, Russia felt that this situation had lost its objective conditions. Although Russia does not believe in the resurrection of a bipolar world, it does consider that now is the time for the birth of a multipolar world.

The first months of the war of February 24 provided only a prelude to a deepening and entangled crisis, casting a gloom over those who are languishing tens of thousands of kilometers away, enduring a living crisis that threatens millions of small farmers and producers in poor countries to lose their sovereignty over food.

## 1. Egypt and the impacts of the Russian war

In Egypt, the Russian war on Ukraine exacerbated the country's economic crisis, and yet it was only the trigger for a number of problems that have been building up for years, during which the borrowing policy has been the regime's only option for dealing with successive crises.

<sup>6</sup> The World Bank predicts that the Gulf States will continue to have a strong double balance in the general budget, in 2022 reaching 5.4% of GDP. It will continue in the medium term, driven by high oil and gas prices - World Bank report October 21, 2022



Since 2017, Egypt has experienced a significant jump in price inflation, reaching 30.7 percent between January and December 2017 compared to the corresponding period in 2016.<sup>7</sup>

This jump was driven by the consequences of the decision to “float the pound” on November 3, 2016, to lower its price to 17.30 against the U.S. dollar from 8.88 before the “float”, in addition to the government’s simultaneous decisions to increase fuel and electricity prices, in response to the International Monetary Fund’s conditions to liberalize the exchange rate and reduce the volume of public spending on subsidies items before agreeing to provide Egypt with a \$12 billion loan over three years.

Inflation has continued to rise steadily over the last five years, as the state has pursued its policy of exchange and interest, which is subject to IMF conditions, which in turn has increased the suffering of low-income social segments, in light of the weak spending on the social protection and the state’s constant tendency to shrink it.

Meanwhile, the state has completely lifted its support for small farmers and producers, leaving them prey to successive waves of rising prices for necessities such as seeds, fertilizers, pesticides and fodder. This has put great pressure on Egypt’s small food producers and reduced their profit margins due to rising production costs.

The most recent data from the Central Bank of Egypt, released in November 2022, recorded a 19% rise in the annual rate of core inflation in October 2022, compared to 18% in September 2022. The rise was prompted by the Central Bank of Egypt’s decision on October 27th to liberalize the exchange rate of the Egyptian pound against foreign currencies through a flexible exchange rate. The U.S. dollar will rise to about 24.18 pounds in 72 hours, as the pound lost about 22 percent of its value prior to the Central Bank’s decision. The Egyptian pound is expected to (officially) decline against foreign currencies in the first quarter of 2023, lifting the dollar to over 30 pounds. Typically, black market prices in December 2022 ranged from 32 pounds to 37 pounds to the dollar.

Debt servicing (debt service and interest payments) was a major burden on the state’s general budget, amounting to more than one-third of the budget, and the quick solution adopted by the government whenever it felt the pressure of debt service was to “borrow again”. In a televised interview three years ago,

7 “Monthly Bulletin of Consumer Prices” - Central Agency for Public Mobilization and Statistics [government agency] - January 2018 issue.

Egyptian Minister of Finance Mohamed Moeit expressed the government's policy when the presenter asked him how to pay back the Egyptian debt service, which exceeded 800 billion Egyptian pounds in 2019. He responded with a very obvious and calm response, "I will borrow again."<sup>8</sup>

The volume of foreign debt increased from \$55 billion in 2016 to \$155.7 billion in the first quarter of 2022, according to the Central Bank of Egypt,<sup>9</sup> an increase of about 300% in 6 years.

This vicious circle of debt policy, whether through direct loans or investments in debt instruments (hot money) by putting on sale treasury bills, in addition to the Egyptian regime's channeling of the bulk of investments and dollar inflows - since President Abdel Fattah al-Sisi came to power in 2014 - to real estate investment and infrastructure sector, leaving out the productive sectors in agriculture and industry, has further exacerbated the precarious state of the Egyptian economy, making it more vulnerable to the fallout of the Russian war.

A study by the Egyptian Central Agency for Mobilization and Statistics (a government agency) indicates that the incomes of about 19.8% of Egyptian families decreased as a result of the Russian-Ukrainian crisis, and the consumption of about 74% of families in food commodities decreased. 90% of households reduced their consumption of proteins (meat, birds, and fish). While 36.9% of households whose income fell suffered from insufficient income, 95% of them borrowed to meet their needs.<sup>10</sup>

The Egyptian Government estimated the direct impact of the Russian-Ukrainian war on the State budget at 130 billion pounds per year, in addition to 335 billion pounds in indirect costs.<sup>11</sup>

The Russian war on Ukraine was compounded by a shortage of foreign reserves and the state's inability to provide the dollar liquidity needed for imports, especially after the rise in global commodity prices and the increased freight costs caused by the war, which threatened important production sectors to

8 Interview with the Egyptian Minister of Finance, Mohamed Moait, on the program "With paper and pen" on satellite "TeN" [https://www.youtube.com/watch?v=eMYnlBQLdA&ab\\_channel=TeNTV](https://www.youtube.com/watch?v=eMYnlBQLdA&ab_channel=TeNTV)

9 "Report on the external situation of the Egyptian economy" - The Central Bank of Egypt-2021/2022.

10 "The Impact of the Russian-Ukrainian War on Egyptian Families" - a report issued by the Central Agency for Public Mobilization and Statistics - based on a case study it conducted in October 2022.

11 Statements by Egyptian Prime Minister Mustafa Madbouli - Reuters - May 2022.

cease, given that the bulk of Egyptian imports are primary and intermediate goods indispensable to food such as wheat and oils, or supplies for agricultural and industrial production processes, as well as the burden of providing dollar liquidity to meet outstanding debt service payments.

## 2. Poultry industry is the first to be hit

Egypt's poultry industry has borne the first direct impact of the Russian war in Ukraine, following the dramatic rise in feed prices - the main backbone of the poultry industry - as more than 80% of the feed industry's inputs, from corn and soybeans to industrial concentrates, are imported products.

The crisis has doubled the price of feed in Egyptian markets by more than 160%, from about 8,000 pounds per ton in February 2022 to more than 21,000 pounds in December 2022.

Egypt's foreign currency crisis and banking disbursement complications have contributed to rising feed prices and shortages in the market, with shipments of feed production supplies held up at ports in October 2022 reaching 1.5 million tons of corn and 400,000 tons of soybeans. Feed requirements for the poultry industry have been estimated at 650,000 tons of corn and 250,000 tons of soybeans per month.<sup>12</sup>

The crisis of rising feed prices makes millions of small farmers, who account for 65% of the country's poultry industry, at risk of leaving the production process, thus losing their food sovereignty. More than 100 million Egyptians are also facing a lack of "self-sufficiency" in poultry meat, which has been a cheap source of animal protein for decades, compared to red meat and fish.

12 Data from the Regional Center for Food and Fodder of the Egyptian Ministry of Agriculture.



## The emergence of the poultry industry in Egypt

During the “Bread Intifada”<sup>13</sup> demonstrations on 18 and 19 January 1977, the slogans of the masses “O Sadat, why does a kilo of meat no longer cost 60 piastres” and “Oh Mr. Bey Mr. Bey, [chairman of the People’s Assembly and then Minister of Agriculture] a kilo of meat is worth one pound now” were still ringing in the ears of President Mohamed Anwar Sadat, when he railed against members of his government and those of his nascent party (the National Democratic Party) after the volume of imports of “frozen poultry” reached \$120 million per year (at the end of 1978), accusing “people’s development”<sup>14</sup> of negligence and calling for the import of poultry to be replaced by the expansion of poultry farms.

Since the mid-1970s, the gap between meat production capacity and consumption capacity widened, so that the percentage of self-sufficiency in meat decreased, and the share of its taxation decreased, while red meat prices accelerated, reaching one pound per kilo in early 1977, an increase of almost 100%, compared to prices in 1975 and 1976, which was reflected in the slogans of the “bread intifada”.

Sadat then fell into a huge dilemma: how to keep the huge increase in consumer price inflation under control to avoid a repeat of the uprising that almost toppled him, after he had started to take measures to raise prices, which he retracted to control the anger of the masses. At the same time, he

<sup>13</sup> The “Bread Intifada” are popular demonstrations that erupted on January 18 and 19, 1977 in several Egyptian cities, against the draft budget presented by the government on the seventeenth of the same month, which included major austerity measures, including raising the prices of basic materials and commodities, with the aim of reducing the budget deficit, within the framework of the agreement between the Egyptian government and the International Monetary Fund.

<sup>14</sup> President Anwar Sadat created a ministry called the Ministry of People’s Development, and a committee of the same name was formed within the ruling National Democratic Party, which Sadat headed.

continued his trend towards open market policies, which he adopted after the October 1973 war, and the subsequent austerity measures and devaluation of the local currency, which he failed to do anything about. In 1979, the Egyptian government devalued the pound by 50% to reach 60 piastres to the dollar, and imposed major austerity measures.<sup>15</sup>

President Sadat's initial solution to reduce the meat shortage problem was to import "frozen poultry" to meet domestic consumption as a cheap alternative to red meat. But, as we have mentioned, Sadat was greatly disturbed when he was surprised by the then high cost of imports, as well as the high prices, as the price of "a chick" reached 110 piasters in consumer associations, despite the allocation of a part of the budget to support the import of "frozen poultry."

Sadat decided to gradually replace the import of poultry with the expansion of the poultry industry in Egypt, so he opened in 1979 the "Tala Poultry Station" in Menoufia Governorate to produce broiler poultry and table eggs, a project that cost 1.5 million Egyptian pounds (about 3 million US dollars); the project was financed and implemented by the Association of Agricultural Reform Cooperatives.

Sadat also made a decision for the Bank for Development and Agricultural Credit to provide loans to farmers wishing to establish poultry farms on their land, worth EGP 22,000 at an interest rate not exceeding 3%, which helped pave the way for the growth of the poultry industry in Egypt, this modern industry that, although it began in the early sixties, through the "Poultry Enterprise", which later turned into the "General Poultry Company." In fact, the real beginning of this industry took place in the era of Sadat.

## 1. The "white meat" and dietary changes

Egyptians have been consuming red meat (cows, buffaloes, sheep and goats) for centuries, as well as meat from farm animals (chickens, ducks, geese, pigeons, turkeys and rabbits). As for the broiler poultry known as "white chicks", it was not widely known in Egypt until the seventies, and its consumption started among urban citizens, under the pressure of high prices of red meat, while in the countryside they were rejected completely until the mid-1980s, on the grounds that they lacked nutritional values, where a skinny person would be made fun of for being "fed with white chicks".

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15 Book "Economy, politics and society in the era of openness" - Dr. Jalal Amin.

Gradually, meat eating culture changed, and Egyptians gradually turned to “white chickens” to a large extent in the following decades, due to their low price compared to red meat. Stores selling and slaughtering “white chickens” spread to villages and hamlets as well as to cities, even though free-range chickens, ducks, geese, and rabbits remained on the tables of farmers and wealthy city dwellers, thanks to domestic farming, which was the responsibility of women in rural Egypt.

## 2. Continuous growth: “Poultry” is an industry ahead of its age

The poultry industry developed dramatically during the 1980s and 1990s, and in a short time compared to its age, it has made a dramatic leap. In 1991, poultry production reached 291 thousand tons of meat, out of 459 thousand tons - the total volume available for consumption, with a self-sufficiency rate of 63.4%, and per capita consumption reached 8.83 kilograms per year (of total consumption). The poultry industry continued to develop during the 1990s, bringing the production of poultry meat to 402.4 thousand tons in 1995, from 578.6 thousand tons - the volume available for consumption, with a self-sufficiency rate of 69.55%, and the amount of poultry meat per capita reached 10.6 kilograms per year. By the end of the 1990s, poultry meat production had reached 593 thousand tons, out of a volume available for consumption of 644.1 thousand tons, with a self-sufficiency rate of 92.7%.<sup>16</sup>

Over the first five years of the third millennium, the country’s poultry meat production jumped dramatically, reaching a peak of 946,000 tons in 2003, with a self-sufficiency of 106.05%. The total available for consumption in that year did not exceed 898,000 tons, and the amount per capita reached 13.34 kilograms per year. In 2005, the level of self-sufficiency was not less than 102%.<sup>17</sup>

The large growth in the rate of poultry meat production was a reflection of the growth in the number of farms from the 1980s to 2005, which according to the Federation of Poultry Producers amounted to about 30,000 farms at the time, of which only about 25% were registered, while the majority of farms are subject to the informal economy.

In 2005, the number of domestic poultry reached more than 700 million birds, of which about 459 million were broilers (white chicks) and about 13.246 million

16 Economic Study of Production and Consumption of Poultry Meat in Egypt in the Period 1991-2005” - Agricultural Economics Research Institute - Agricultural Research Center, in co-operation with the Department of Agricultural Economics - Faculty of Agriculture - Mansoura University - Group of Researchers.

17 Ibid

were laying hens, with the remainder divided between free range chickens, ducks, geese, rabbits and turkeys. Broiler chickens provided 84% of the total poultry meat consumption in Egypt in 2005, i.e. 559,000 tons, out of a total of 664,000 tons, while other bird species provided 16%, i.e. 105,000 tons.<sup>18</sup>

Egypt was able to export “chickens” and “hatching eggs” worth 6.8 billion pounds annually, from surplus production, before exports were halted due to the bird flu crisis in 2006.

The production of “table eggs” also grew significantly in 2005 to reach 270,000 tons of eggs, with a self-sufficiency rate of 99.3%, and the per capita share reached 3.1 kilograms per year, at a rate of 8.5 grams per day (average egg weight 55.5 grams).<sup>19</sup>

### 3. Avian influenza: from relapse to regrowth

The Egyptian poultry industry has suffered a major setback since 2006 due to the spread of bird flu. The poultry industry, which was investing about 20 billion pounds at the time, suffered losses of 12 million pounds a day. The government said at the time that it had lost about 2 billion pounds in the first six months of the virus, while 350 human cases were reported and about 120 people died. About 40 million birds, mostly belonging to small-scale producers and domestic flocks, have been culled by Egyptian authorities across the country, while about one million people have lost their jobs because farms have stopped production.<sup>20</sup>

The spread of bird flu in Egypt led to a decline in poultry production in the years following 2006, as the virus continued to spread. In July 2010, government sources said the country had lost 25 percent of its rearing parent stock to the virus, and that overall daily production had dropped from 2 million birds to 1.5 million.

Small-scale poultry producers and industry workers across Egypt have paid the heaviest price due to the avian flu. According to the Food and Agriculture Organization of the United Nations (FAO), poultry production and sales are the main source of income for the vast majority of smallholder farmers in Egypt. The international organization estimates that poultry production and sales account for about 30 percent of the total income of farmers and agricultural workers in Egypt.<sup>21</sup>

18 “Annual Bulletin of Livestock Statistics”- Central Agency for Public Mobilization and Statistics - various issues.

19 Ibid

20 Eradicating bird flu in Egypt - a report by the Food, Agriculture and Animal Health Organization of the FAO.

21 Ibid

The bird flu virus has revealed a major crisis in the industry's backward structure, where the majority of farms operate in the traditional way, and are based on a system of land-based/open farms, operating by natural ventilation, and are prone to disease, more so than closed farms, whether ground or "brooders", which control temperatures, humidity, ventilation and lighting automatically. The virus also revealed the backwardness of veterinary mechanisms in Egypt and the total inability of the government to deal with the crisis.

The UN Food and Agriculture Organization (FAO) has played a major role in the fight against the avian influenza virus in Egypt, which has spread with great ferocity. In cooperation with the Egyptian government, it established the Emergency Unit for Cross-Border Biological Disease Operations (ECTAD), which from 2006 to 2017 contributed to the establishment of 230 epidemiological units and trained 15,000 veterinary workers in managing the outbreak. In addition to training 600 field veterinarians and 250 animal health providers, some 1,000 poultry and livestock producers have been trained.<sup>22</sup>

The Food and Agriculture Organization of the United Nations (FAO) considers that the virus is still endemic in the Arab Republic of Egypt, although no human cases of avian influenza have been reported in Egypt since 2017, and efforts to curb the emergence and spread of the virus in poultry populations and the capacity of the animal health sector in Egypt have been strengthened over the past decade.

The poultry industry has experienced further growth, reaching high production rates over the past three years. In 2022, Egypt produced 1.4 billion poultry per year, and more than one million tons of poultry meat, with a self-sufficiency rate of 95%. The country produced 13 billion eggs, exceeding self-sufficiency, and poultry and poultry meat amounted to 1.8 million tons (gross weight). Investment in the poultry sector - farms, feed mills, slaughterhouses and outlets for veterinary drugs and vaccines - is estimated at 100 billion pounds, and the commercial poultry sector employs 3 million workers.<sup>23</sup>

The Egyptian poultry industry is of great economic importance. Over the past three decades, poultry production has been a major pillar of animal production sources and agricultural production in general. The value of poultry production amounted to about 61 billion pounds, or 28.9% of the value of animal production, which amounted to 210.8 billion pounds in 2020/21, representing about 10.23% of the value of agricultural production of 595.8 billion pounds.<sup>24</sup>

<sup>22</sup> Ibid

<sup>23</sup> Data issued by the Audio and Visual Information Center at the Ministry of Agriculture and Land Reclamation

<sup>24</sup> Annual Bulletin of Income Estimates from Agricultural Production - Central Agency for Public Mobilization and Statistics - 2020/2021





## Self-sufficiency in poultry: An illusive reality

Since the mid-1990s, the productivity of poultry and table eggs has developed significantly, as the self-sufficiency rate for poultry was approximately 69.55% in 1995, 77.43% in 1996 and 80.86% in 1997. In the years 2000 and 2001, the productivity of poultry made the biggest jump, as the production in the first year (2000) increased by 8% compared to the previous year (1999), and the self-sufficiency rate reached 98.48%. In the second year (2001), production reached 816,000 tons, an increase of 27.3% over the previous year (2000). The volume of poultry meat production exceeded the volume of meat available for consumption, which in 2001 reached only 773.9 thousand tons, with a self-sufficiency rate of 105.44%.

Thus, during the first five years of the third millennium, the productivity of poultry remained high, with no reduction in self-sufficiency from 102% in 2005. While bird flu has set the poultry industry back for years, it has grown dramatically, as mentioned. Self-sufficiency in 2017 reached 91.5%, 94% in 2018, 94% in 2019, 2020, 2021, and 2022, 94-96% in 2022, and 1.8 million tons of poultry meat (gross weight) in 2022.

As for table egg productivity, from the mid-1990s to 2022, the level of self-sufficiency ranged from a low of 96% to a high of 100%. That is, for more than 25 years, Egypt has been either close or already self-sufficient in table eggs, which is one of the most important elements of animal protein and one of the most important components of food in general.

**So what makes these self-sufficiency figures such an incomplete reality?**

The crisis lies in the fact that the poultry industry depends mainly on feed, which accounts for about 70% of the production costs of poultry, and corn is the most important component of the feed because it is responsible for energy

concentrates, and accounts for 60% of the composition of the feed. But the area planted with corn in Egypt is too short to meet the needs, as it does not exceed 2.7 million acres per year in all varieties, of which 830,000 acres of yellow corn, producing about 2 million tons of both types (white and yellow) representing only about 16% of self-sufficiency, and the country imports the remaining 84% (10 million tons) from Argentina, Ukraine and Brazil, and at a rate lower than that of the United States at 2 billion dollars per year (pre-war prices).<sup>25</sup>

The price of corn in the markets at the beginning of December 2022 was between 12,000 and 14,500 pounds, a maximum increase of 159%, and a minimum of 115% over the prices at the beginning of February 2022. The price per ton in that period did not exceed 5,600 pounds.

Soybeans are the second most important component of animal feed and are responsible for the presence of protein in the feed composition, accounting for about 30% of its content. Egypt imports about 90% of its soybean needs, and Egyptian soybean imports reached 4.5 million tons in 2021, whereas in the first seven months of 2022 it imported soybeans worth \$1.8 billion.<sup>26</sup> Egypt relies on the United States of America for most of its soybean needs, followed by Argentina, Brazil, Ukraine, and Uruguay.

The price of soybeans in the Egyptian market reached 30,000 pounds at the beginning of December 2022, an increase of 172.7% over the prices at the beginning of February 2022, a time when the price per ton did not exceed 11,000 pounds.

The rest of the feed ingredients, from industrial concentrates, such as antioxidants, anti-cholesterol, yeast salts and other ingredients, are completely imported from abroad, as well as veterinary medicines and vaccines.

The sheer scale of import dependence on feed supplies from raw materials and industrial concentrations, medicines and veterinary vaccines, makes the self-sufficiency of poultry extremely vulnerable. This makes it clear that the threads of this important industry for the Egyptian food system are not in the hands of producers or the state, which makes it prone at any time to a rapid collapse, especially since 65% of the structure of poultry industry is linked to small producers who will not be able to withstand crises for long periods of time.

<sup>25</sup> Agricultural Statistics Bulletin - 2020/2021 - Economic Affairs Sector, Ministry of Agriculture and Land Reclamation.

<sup>26</sup> Data issued by the Central Administration for Agricultural Quarantine.

However, Egypt remains one of the lowest countries in the world in terms of poultry and table egg consumption relative to population and per capita consumption, with only 15.7 kilograms of poultry meat per year per capita and 130 eggs per year.

The significant increase in poultry meat consumption in recent years and the increase in per capita consumption from 11.6 kilograms per year in 2018 to 15.7 kilograms per year in 2021 made up for the decrease in per capita red meat consumption from the total available consumption. The total consumption of red meat decreased in 2021 to 7.3 kilograms per year, a decrease of more than 78% from 2018, when the per capita consumption was 13 kilograms of red meat. While the available volume of red meat for consumption decreased from 1.7 million tons in 2018 to 952,000 tons in 2021, a decrease of 78.5%.<sup>27</sup>

Another important point that makes self-sufficiency in poultry and table eggs an incomplete reality is the significant increase in their prices, which prevents a growth in consumption in proportion to the population, and prevents an increase in per capita consumption to allow for proper nutrition of families, especially children, given citizens' low income. Millions of Egyptian families have become unable to access the food for which we claim self-sufficiency, after the price of a kilo of broiler chickens (gross weight) by the end of December 2022 reached about 50 pounds and the price of an egg reached 3 pounds to consumers.

Egyptian households' access to food in general and animal protein sources in particular is shrinking day by day. This fact is supported by the reports of the Central Agency for Public Mobilization and Statistics (CAPMAS), the latest of which is the study "The Impact of the Russian-Ukrainian War on Egyptian Households" issued in October 2022, which states that 90% of Egyptian households have reduced their consumption of animal proteins (meat, birds and fish). Press websites are full of reports and investigations on the inability of Egyptian families to keep up with the rise in prices, especially for meat and poultry. They have turned to trading poultry meat by buying chicken skeletons (wings, legs and necks) from slaughterhouses.

Families' use of chicken skeletons as an alternative to poultry meat is nothing new. They are a basic meal for the poorest families in Egypt, but what is new is the expansion of the size of households that rely on them, to include segments that were considered middle-income workers and employees. This is also what many press investigations indicate.

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<sup>27</sup> The percentages were calculated by the researcher based on the data of the Central Agency for Public Mobilization and Statistics on the "Evolution of the Quantity of Local Production and Average Share of Red and White Meat" from 2016 to 2021.

What makes this misery worse is the publication of reports from government organizations advising citizens to eat poultry legs because of their high nutritional value, according to a report released in late December 2022 by the National Institute of Nutrition. In addition to the fact that there is nutritional value in poultry legs and skeletons, the timing of the report's release and the manner in which it is reported and praised by government-affiliated media suggest that the report serves the government's tendency to keep a low profile on high inflation and to convince citizens that it is natural and beneficial to change their eating patterns without complaining.



## The structure of the poultry industry in Egypt

The state's support of the poultry industry, by providing loans to farmers to build farms and by providing supplies for production at subsidized prices, in the first stage of taking over this important sector, as well as the nature of the industry and its origins, which initially went to the countryside, led to the concentration of the largest number of farms in the hands of small producers, who owned parcels of farmland ranging from one acre to ten acres.

This does not mean that Egyptian capitalism has not been part of the sector's investments since its inception. On the contrary, its people sought to take a large share from the beginning.

Among them was the man of "Openness" Tawfiq Abdel Hay,<sup>28</sup> a member of the NDP's Popular Development Committee, who accounted for the import of half of Egypt's frozen poultry imports until 1979. The man seized Sadat's desire to replace the poultry industry with imports, and as he was reaping gains from importing them, he wished not to lose those gains when heading to production. Within a short period of time, Abdelhay, Osman Ahmed Osman<sup>29</sup> and other businessmen owned hundreds of farms and slaughterhouses.

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28 Tawfiq Abdel Hay is an Egyptian businessman who was raised in the vanguard organization of the Socialist Union at the end of the reign of Jamel Abdel Nasser. He later turned on the policies of economic openness and ferociously defended them during the reign of President Sadat. He rose very quickly in the field of finance and business and created wealth and big investments, taking advantage of his position in the administration of the popular development magazine, which was issued by the Ministry of People's Development and the People's Development Committee of the National Party. He was nicknamed "The spoiled Boy of the People". He was accused in the case known in the media as "importing rotten poultry" and in 1982 he fled the country hours before being charged.

29 Osman Ahmed Osman, is an Egyptian engineer who started as a small contractor at the end of the forties, founded the Arab Contractors Company, and participated in the construction of the High Dam by many disagree, strongly supported the policy of the direction of the free market pursued by Sadat, and was associated with him in a kin relationship, his investments expanded to include many areas.

However, the majority of poultry production farms, especially “broiler chickens” farms, which represent 80% of the total production, remained in the hands of small producers as a result of the nature of the industry, the ease of establishing factories and their ownership of the land on which they will be built, and the ease of acquiring production necessities and supporting them by the state. In addition to the fast-flowing nature of industry, which does not require large agricultural areas, it was considered at its inception to be one of the few industries capable of converting low-value production resources to products of high economic and strategic value. This enabled producers to reap quick profits that made them willing to expand, and encouraged new producers to enter the sector, which explains the massive expansion of the sector since the 1980s.

The poultry sector in Egypt has undergone three stages since the late 1970s. The first stage lasted until 1987, during which the state provided the necessary inputs at subsidized prices, with the aim of developing this nascent industry. During the second phase, from 1987 to 1992, the state reduced its support for production supplies. Then comes the third stage, during which the state has completely removed subsidies and has almost completely disengaged from investing in the poultry industry.

This affected the ability of small producers to continue production, which was in the interest of large companies, but small producers remained the largest proportion in terms of the number of farms and the size of production, especially in terms of broiler chicken.

However, the real control of the poultry industry has been placed in the hands of large Egyptian and foreign companies and businessmen. The poultry industry is not only the last link in the production process, which is represented in broiler or layer farms, but it extends to primary production channels of great importance and impact on the poultry industry, such as broiler farms producing hatching eggs, “chick” production plants, ancestral poultry farms, poultry and fertilized egg processing facilities, in addition to feed and pharmaceutical companies. The large brokerage and intermediation companies, as a marketing link for poultry production, are also highly detrimental to small producers.

A number of large companies, owned by Egyptian and foreign businessmen, are dominating the various production, distribution and marketing cycles. They control everything related to industry and set all prices, starting with “chicks”, feed, medicines and serums, and ending with the prices of the final product of meat and table eggs.

Among these companies, Al Rayan Poultry in Damietta is one of the dominant companies in the production of “chicks” and raising grandparent poultry, within the Delta governorates.

The Dakahlia Company produces more than 12 million chicks annually, and is owned by businessman Mahmoud Al Anani, head of the General Union of Poultry Producers, and dominates a large proportion of the production of broodstock poultry producing hatching eggs.

Alwadi Company, which is owned by the Lebanese Tony Freiji family, is one of the largest poultry production and distribution companies in Egypt, and its production varies from “chicks”, meat chickens and poultry grandparents, to feed and production equipment, and its factories are spread in Alexandria, Sadat City and Giza. The company’s chains span a number of Arab countries, including Saudi Arabia, the UAE and Lebanon.

Al Watania Poultry Company is also among the companies with diversified poultry production, and one of the dominators of the poultry market in Egypt, owned by Saudi businessman Sheikh Sulaiman Al Rajhi. The Cairo Poultry Company, which is owned by Kuwaiti businessmen, accounts for a large share of the distribution rates to famous restaurant chains. In addition to the company “Koki”, which is owned by an Emirati businessman, and the Arabia Company, which was founded by Sheikh Saleh Kamel.

These companies, along with a number of commercial brokerage offices and parallel poultry exchanges run by these offices, including “Sakka,” “Nahla” and “Mahmoud El Saidi,” offices control the fate of the poultry industry in Egypt.

Academics and official institutions divide poultry production in Egypt into “commercial production” and “rural production”. Commercial production includes: large enterprises producing “grandparent flocks of meat chicks and laying hens” and large farms producing “meat chicks, table eggs and broilers”, as well as: medium and small farms producing “broilers” and some small hatcheries.

Rural production refers to domestic or “roof rearing” of ducks, geese, pigeons, turkeys, rabbits and free range chickens. According to the latest government data, rural production amounts to 320 million birds, which represents 15% of total bird production.<sup>30</sup>

30 Data issued by the Audio and Video Information Center of the Ministry of Agriculture and Land Reclamation.

This (commercial/rural) division makes it appear as if 85% of the volume of poultry industry production, is far from the farming cycle, which is entirely untrue. Government data indicate that more than 65% of production within the "poultry commercial sector" is based on small farms. These are spread throughout the countryside of Egypt, especially the governorates of Upper and Lower Egypt, which account for the largest percentage, both in terms of number of farms and production.

These farms cannot be separated from their owners - the small scale farmers - as they are part of their agricultural/class structure. They will lie in the middle of their land, where you will find a man working with his wife on their farm which can accommodate 5 or 10 thousand chickens, and maybe also one or two people (workers) who work with them, or their children (sons and daughters) who help them. This pattern has been observed in about 60% of the farms we visited in five governorates during the fieldwork for this study. In addition to the fact that rural production is based on a home/extended system, the researcher believes that its production is of great economic and social importance, more so than official figures suggest, and is a sector for which rural women have been fully responsible.





## Primary effects of the Russian war on small poultry producers: a field study

It is too early to come up with exact, or even rough, actual figures of the extent of harm done to small-scale poultry producers and workers in this sector across the board. Officially, neither the government nor its statistical institutions have provided anything but general figures on the impact of the war on the overall economy, which we mentioned at the outset of the study. Most notably, the Central Agency for Public Mobilization and Statistics (CAPMAS) which is a government agency, reported that nearly 20 per cent of Egyptian households had their incomes reduced due to the Russian-Ukrainian crisis. So far, the impact of the war on the poultry industry has not been officially explained, except in terms of the rise in the prices of production necessities and the consequent rise in the prices of poultry or table eggs.

As for the General Union of Poultry Producers, it came out with many statements, most notably what its president, Mahmoud Anani, said that 20,000 breeders are threatened with bankruptcy due to the crisis, stressing the closure of many farms as a result of the lack of feed.

Our quest to study the initial effects of the Russian-Ukrainian war on small poultry producers and roof-breeders (home farming) relied on a first sample that included 40 small producers - whose farms have a capacity of between 5 and 15 thousand chickens, and a second sample that included 25 women including poultry breeders and sellers, in 10 villages in five governorates: "Sharqiya, Fayoum, Beni Suef, Giza and Qalyubia".

The first sample of young producers was selected because they represent the largest segment of the country's poultry industry. They are also most vulnerable due to their small capital and the quality of their farms, in addition to important economic and social considerations related to the agricultural nature of small producers and the way their farms are managed by their families.

The second sample is selected because of the great economic and social importance of “rural poultry production” for farming families, especially women and children, as well as the historical and cultural importance of rural poultry farming, which is also what the study will focus on. With regard to the selection of sites where the study was conducted, we sought to include samples that comprise governorates that occupy prominent positions in production, such as “Sharqia”, and others of medium production, such as “Beni Suef”.

This study followed a flexible interviewing method, which was comprehensive in terms of subject matter, and was conducted either on an individual or group basis. The interview questions varied from prepared questions to questions prompted through the interview process; some prepared questions were standardized across all interviews; others varied from one interview to the next. The study used “inference statistics” to analyze the interview data.

### 1. A way of life and food sovereignty

We arrived in late October at Amm Mohamed’s farm on the outskirts of the village of Al-Mandara in the governorate of Fayoum, southwest of Cairo, and 90 kilometers from the capital. He was pleased to open his doors to us. The farm looked like two open plots, but they were empty of poultry, and there was nothing but chicken feed and waterers. We witnessed this scene on six of the 40 farms we visited.

Mohammed recounts what drove him to close: “I have grown 7000 Sasso chickens [improved farm chicken] in the last cycle, which corresponds to the capacity of my farm, distributed in two plots. I started housing the “chicks” on July 24, I bought feed at the beginning of the cycle at 10 thousand eight hundred pounds per ton, after 10 days I bought a ton at 11 thousand pounds, then after three weeks I bought a ton at the price of 12 thousand pounds, then at the end of the cycle on September 25 I bought a ton at 13 thousand two hundred pounds, that is to say that in 65 days I bought feed at four different prices.

At the end of the cycle, Mohamed’s calculations indicated a cost of about 329,000 pounds, including the price of the “chicks”, the cost of transporting them, the cost of feed, medication, lighting and water, while the total sale of the flock was only 250,000 pounds, a loss of 79,000 pounds.

What happened made Mohammed make the quick and categorical decision of closing down, although it was not an easy decision, because Mohammed’s

farm is in the middle of a small piece of land that he owns, and he cultivates it himself so that the proceeds along with the profits from the farm provide a source of income for his family of 4 children, besides him and his wife. His wife helps him with the farm work and his two older sons - studying at the university but not employed outside the family - take turns with them.

15% of the first study sample (owners of small farms) shared Mohamed's decision to quickly close their farms, one-third of them made the decision after achieving a loss in one breeding cycle, while the other two thirds made the decision after losing in two consecutive cycles. Only Mohamed was, raising the "sasso" chickens, while all of them raised "fattening chickens" (popularly known as white chicks, which produce 80% of the volume of chicken meat production in Egypt).

15% (six farms) of the first study sample composed of 40 farms have closed their farms, they are distributed in 3 governorates (Fayoum, Giza and Qalyubia) out of the 5 governorates of the study.

Despite this quick decision, 100% of those who made the decision to close their farms expressed their intention to return to their activities if feed prices fall, or poultry prices rise to a rate that would allow them to achieve a suitable profit margin to meet the needs of their families.

It is worth noting that the 15% of the first study sample who closed their farms did so between the end of September and the end of October (the sample interviews took place from October 20 to November 10), where the prices of feed at the end of October were about 17 thousand pounds, which suggests that the percentage may have increased if we conducted these interviews in the first ten days of December, where feed reached more than 21 thousand pounds per ton.

80% of those who are still continuing their productive activity in the sampled population believe that they will have to close if feed prices continue to rise.

70% of the sample in the first study confirm that the type of farms they use is an additional reason for increased losses, as they are free-range/ground-based, a method in which chickens are fed by putting feed in containers, which results in a lot of feed being wasted, which increases the cost, and the nature of the poultry barn results in the loss of a high percentage of birds, as they are infected with clostridiosis, a bacterium that infects birds through the mouth, by eating feed and water contaminated with "droppings" (bird waste), or by birds picking up "droppings" on the farm floor.

However, they cannot change their farms to a “battery” farm system (galvanized wire cages) even though there is no waste of feed, and poultry infection rates are low, as battery farms are expensive and require significant capital.

100% of the first sample of the study agree that the marketing system is a major reason for their low profit margin, and may come in the second order after the rise in feed prices, because it relies on brokers who act as intermediaries between farmers and wholesalers, they control the setting of prices, sometimes stabilizing the price with the traders, and increasing the percentage of their brokeragein return, at the expense of producers.

There are lawsuits filed by the Egyptian Competition Authority (ECA) against brokers fined by the court for agreeing to price fixing with traders in advance.

The study reveals that 35% of the first sample work on their farms with the help of their wives and children, without using workers from outside the family. 25% of the study sample work on their farms with the help of their wives and children, with the help of workers from outside the family. 40% of the first study sample employ workers to carry out tasks on their farms, and neither they nor their children do any work on the farms, while 25% of the 40% who employ workers are the only ones who insure their workers.

Of the first study sample, 60% experienced losses ranging from 30,000 to 80,000 pounds per breeding cycle, and 30% were just able to recover production costs, while 10% made a small profit margin.

## 2. Existent awareness with the absence of coalitions

40% of the first sample of the study (small farm owners) think that the decrease in production and the withdrawal of small producers from the industry will lead the country to import frozen poultry, which will be the share of “barons”, as Hajj Hamada” - the owner of a poultry farm in the center of Nasser in Beni Suef governorate - describes them during our interview. “Many importers are eyeing the poultry market in Egypt and have been trying for many years to get a share of it since the bird flu crisis in 2006,” he said. “It is in their interest to see the poultry industry waver.”

60% of the study’s sample believe that self-sufficiency of poultry would continue, even if half of the small producers were kicked out of the market, because their share of investment would go to the big farm owners and the poultry companies, who would now be compensating for their losses - if they

had already lost at all - in the future, after the small farm owners have been kicked out as they would have controlled the prices.

It was noted that the majority of those interviewed from the first sample of the study, i.e. owners of small farms, have a great awareness of the poultry industry and the history of its inception in Egypt, and the problems that the industry suffers from, perhaps because 40% of them inherited the industry from their fathers who established their farms in the early 1980s, when President Sadat opened the door for small farmers to establish farms and granted them loans and subsidized production supplies.

Although the sample includes 5 governorates, 100% of the producers we met do not have any affiliation with any coalitions of farm owners and poultry producers, they only hear about the General Union of Poultry Producers, which claims to defend their interests, without really doing so, according to their perception.

The reason for this perception is their knowledge of the nature of the leaders of the General Union of Poultry Producers, who are owners of large farms and poultry businesses, this is the same reason why most of them do not believe in the role of the collectives or coalitions, because they think that the strongest and with the most possessions will control it and use it to serve their interests.

Of the 40 producers in the first sample, only 10 expressed a willingness to join a collective to advocate for their interests, although these 10 producers put forward seemingly interesting ideas for the work of the league or the coalition in general.

The absence of collectives and lack of confidence among poultry producers about their feasibility, or their ability to improve their production conditions and their interests, is fueled by the lack of longstanding and inherited regulatory expertise among farmers in Egypt, which is the social group to which the majority of small poultry producers belong.

The farmers' struggles in the last decades were limited to agrarian reform protests and their mobilization to defend the land against the heirs of the feudal lords, some of whom obtained court decisions to expropriate the farmers from their lands, In "Youssef Al Siddiq" center in Fayoum and in "Sarandwa" village in Beheira governorate, as well as other areas that witnessed such battles, but it was a temporary struggle which was so sparse that it did not lead to the development of coalitions and agricultural leagues characterized by sustainability. The farmers' unions are bureaucratic formations charged with collecting fees on official farmer's royalties, while applauding and defending every decision taken by the government, even if it goes against the interests of those it claims to be representing.

This is how small poultry producers are not united in the face of this crisis to face the danger of closure and to search for individual solutions that cannot save them, as was the case during the years of the spread of bird flu. But what happens when a chicken farm goes out of business isn't just a disruption of activity for producers of a commodity or food. The poultry industry represents an economic and social pattern for millions of farmers in Egypt. It is also one of the most important manifestations of the sovereignty of small farmers over food. The loss of that sovereignty deprives them of their means of subsistence and deprives their community of access to food.

### 3. Home-based chicken farming: Shield for women and children in the countryside

For centuries, poultry and bird farming in rural Egypt has been a key pillar of the family economy. In villages, farms, hamlets, and in urban working-class neighborhoods, chicken nests were spread on rooftops, and the backs of houses and their spacious courtyards were filled with different types of chickens, ducks, geese, rabbits, pigeons and turkey. Women in rural Egypt have raised poultry for hundreds of years, providing their families with meat and eggs, and selling surplus families' needs on the market. These prices have helped meet many aspects of the family's needs.

"Home breeding" contributed a large share of the country's self-sufficiency of poultry and table eggs before the commercial sector expanded its poultry industry.

The domestic breeding of poultry in the Egyptian countryside has preserved authentic local breeds of poultry and birds, such as "Fayoumi, Dandrawi, Sinawi and Baladi" and other breeds that date back centuries and form part of the culture of the rural population.

This role is not merely a memory as it is still a feature of life in rural Egypt, despite the fact that the architectural style of houses in the countryside has changed in terms of shape, construction methods and building materials. Perhaps only the proportion of poultry and rural livestock keepers among women has decreased, but millions continue to keep poultry. Household livestock continues to contribute 320 million birds to domestic poultry and bird production, or 15% of total production.

The activity of women in rural poultry production is divided into two parts: the first relates to direct breeding of birds. The second relates to rural women working in the poultry and poultry trade. They buy poultry from farmers and sell them on the market, whether in their villages and neighbouring villages, or in the cities.

The second study sample included 25 women from 10 villages in five governorates, namely Al-Sharqiya, Fayoum, Beni Suef, Giza, and Qalyubia. Of the 25 women sampled in the second study, 15 were domestic poultry and poultry breeders, all married and with male and female children, 10 were poultry sellers, 4 helped their husbands to support the family, and 6 were single parents, all of whom had male and female children.

The number of poultry and birds raised by the 15 women in the second sample ranged from 30 to 350 birds, ranging from free-range chicken, improved free-range chicken, duck, turkey, and geese-at a low rate. About 40% of the farmers raise for the purpose of feeding the family from poultry meat and eggs as their primary objective and then sell the surplus as a secondary objective, and they are part of the segment that raises small numbers (30 to 50 birds). About 60% of the study sample breed for a stable financial return, in addition to feeding their families from poultry meat.

The yield of breeders who breed for financial return is between 1500 and 6 thousand pounds, in one breeding cycle, after calculating the costs, depending on the number and types of poultry and birds in the cycle (the length of the cycle is 50 to 70 days depending on the type of birds, the type of feed and the processing units.<sup>31</sup>

40% of the female farmers - from the second sample of the study - who raise birds to feed their families use 60% feed to nourish their poultry and birds, and 40% other types of food such as surplus bread, vegetable scraps, and crushed corn. The remaining 60% of female farmers who raise poultry and birds for financial return, use 90% feed, and 10% other items.

The high price of feed caused a major shake-up in the activity of the female breeders included in the second study, as 50% of the breeders - those who raise to feed their families - stopped raising chicken. 30% of the female breeders who breed for financial return stopped raising chicken after suffering significant losses in their last breeding cycle (mid-November).

31 "The conversion coefficient is the relationship between the amount of feed that the bird eats and the amount of meat that results from eating it.÷The weight of the bird."

As for the female sellers in the second study sample, their sales were affected by the crisis by as much as half according to the numbers they mentioned about their sales before and after the crisis, because of their failure to provide the different types of birds, after the production of many breeders they were buying from stopped, or because the number of those wanting to buy free range chickens and birds from ducks and geese dropped because of rising prices. The drop in sales reduced their earnings from sales by 50%, according to their daily earnings figures, but despite the crisis, they did not stop doing business.

#### 4. The relationship between rural poultry farming and the status of women within the family

In rural Egypt, women have always been involved in the family economy, helping their families grow crops and raise livestock. They have taken sole responsibility for the manufacture of dairy products, from milking cows, buffaloes and goats, to making cheese and butter, to selling them in markets. All of these activities were classified as unpaid work for women.

Of all this production activity, poultry farming is a special one for rural women. It is not an activity in which women participate with men such as growing crops, or an activity that complements men's activity such as their work in manufacturing dairy products. Men raise and feed livestock, women milk them, and make butter and cheese and sell them.

Poultry and poultry farming are entirely female activities, not only because they practice them alone, without the participation of men, but also because they control production and its proceeds. At any time, they can freely use it to feed and support their families, sell it and use the proceeds for their needs, their children's needs for clothing, toys, school expenses, educational materials and "tutoring" fees.

More so than that, women have used poultry proceeds to get their daughters' trousseau for marriage and, finally, to help their husbands get the money they need, which is also the case for female poultry and bird traders.

The stories of the women interviewed - whether they are poultry farmers for financial returns or poultry and bird traders - tell us a lot about their status within the family and community, and how their poultry business can improve it.



### Here are a few of these accounts:

Madiha, 45, who lives in the village of "Sindanhour" in "Banha" district in Qalyubia governorate, started raising free range chickens and ducks when she got married 20 years ago, with the goal of supplying her family with poultry meat and eggs. She inherited this from her mother. Seven years ago, she started a project to raise free range chickens and ducks to help with household expenses and meet the needs of her four children, especially since her husband owns only 12 kirats.

Madiha, who sold a golden earring and three rings she owned to create a large hangar over an entire room top of her husband's house with 200 chickens, she says she started making profits of around 4,000 per cycle (every two months or every two and a half months).

Madiha was able to convince her husband to enroll their son in high school, after the husband was determined to enroll him in the middle school of commerce. She paid for private tutoring, which the husband was afraid he would not be able to afford. "He is now in law school," she says with great pride.

Manal was also able to set up a small project for raising poultry and birds in a back room of her husband's house in the village of "Al Qatawiya" in the center of "Abu Hammad" in the governorate of "Al Sharqiya." Manal's project started with 75 free range ducks five years ago, which reached 250 per cycle. The project now generates more than 5,000 pounds per cycle. Their income helps her to pay for the education of her three children, who are in the primary and secondary stages, in addition to providing for their different needs. It also helped finance the trousseau of her eldest daughter, who got married two years ago.

Manal's husband involves her in many family affairs and takes her opinion on everything, so that she had a decisive opinion in agreeing to choose her son-in-law and consummate the marriage. Manal says this wasn't happening three years ago, when she started the project.

Manal's husband involved her in many family affairs and takes her opinion on everything. She even had a decisive opinion on the choice of her daughter's husband and completing the marriage. Manal says this wasn't happening three years ago, when she started the project.

Asmaa got rid of what she describes as the “control” of her husband’s father which started after her husband passed away seven years ago. This was after she decided to trade poultry in the markets of her village and neighboring villages. She bought a small piece of land next to her brother’s house in the village of “Al-Hamidiya,” in the governorate of “Al-Fayoum,” with the proceeds from her poultry business. She was able to build a house where she lives with her four children (in different stages of education). She left the house of her father-in-law, who was controlling all of their affairs since the death of his son, in exchange for spending money on the children, before taking over her life five years ago, when she came to the poultry business.

The work of many rural women in raising and selling poultry for the purpose of achieving a sustainable financial return has created a new situation for them within the family, they have acquired many rights and become active members of the family, with the right to participate in decision-making and plan for the future of the family, even to a degree. This may become threatened if they lose their small businesses, and the whole family, especially children, will be affected by the loss of much of what mothers used to save from the return of their projects. Even families whose women raised their poultry for self-sufficiency in meat would be deprived of this food and children would be severely affected.

However, the collapse of all or part of rural poultry and poultry product production will jeopardize farmers’ sovereignty over their food and deprive millions of people inside and outside the countryside of the availability of this important food.



## Solutions and proposals

The solutions proposed to the feed crisis, by the leadership of the Poultry Producers Federation, as the sole representative on behalf of producers, or by poultry business owners, are limited to the provision of foreign exchange by the state, and the continuation of tariff releases. With each shipment released, voices are raised that the crisis is on its way out, while feed prices continue to rise, ranging from 19,000 to 21,000 pounds per ton in the first ten days of December 2022.

In this section, we try to put forward proposals for solutions to the crisis, in the short, medium and long term, through the proposals of producers, researchers and workers in the agricultural sector. We will also review the partial solutions that have been applied at narrow scales.

### 1. Substitutes for feed composition

The idea of replacing expensive, high-priced, corn- and soybean-feed components with cheaper ingredients to lower the cost of production has long been argued in research on the nutrition of livestock, poultry and fish, ideas that came back strongly after the recent crisis.

Abdel-Aal enumerates the alternatives of yellow corn in poultry feed, which can be used as a source of energy and carbohydrates, found in corn, the first of which is barley containing 75% of the energy present in the maize, and must be treated with enzymes or soaked in water, to reduce the damage of the fiber and improve its qualities, and then thoroughly dried and ground, which is much cheaper than maize.

Although barley can be a good substitute for corn in the composition of the feed, the problem with Egypt's barley production is that it is considered to be too low. The cultivated areas in Egypt do not exceed 250,000 acres, of which 100,000 acres are irrigated by groundwater in the governorates of Wadi Al-Jadid, Ismailia, Fayoum, and Port Said, in addition to the region of Sharq Al-Awinat, and 150,000 acres are cultivated on rainwater in Sinai and the northeastern coast.

Thus, the replacement of corn with barley in the feed formula will also depend on imports, but the decrease in barley prices worldwide will make resorting to barley a solution to reducing the price of feed by a considerable percentage.

There are also some cheap corn varieties, proposed by animal nutrition researchers as an alternative to yellow corn in the composition of fodder, such as "sorghum" which contains up to 60% of the energy in yellow corn. Sorghum varieties are found in many governorates and are much cheaper than yellow corn. The ton of sorghum recorded around 9,600 pounds at the beginning of December, while the price of yellow corn was 14,500 pounds per ton.

Researchers are also proposing several alternatives to soybeans responsible for protein in the composition of poultry feed, including safflower grain, cluster bean grain, which is grown in the governorates of Upper Egypt, and sunflower seed grain, which is available in Egypt, and its prices do not exceed a third of the price of soybeans.

As for the rapeseed grain, it is an ideal alternative to soybeans, as it contains 45% protein, and its production is large and can be loaded on other crops, (planting it among other crops so that it does not occupy large areas of land), in addition to the fact that its cultivation period is short, and its prices do not represent 20% of the price of soybeans.

## 2. Practical applications

The search for solutions to the crisis of high feed prices was not limited to just offering alternatives to yellow corn and soybeans in the feed formula, but practical applications have already been made by owners of small farms, under the guidance of agricultural engineers and veterinarians, some of whom told us that they manufactured quantities of feed up to a few tons, with components of 25% of yellow corn and 25% of barley with a total of 50% of the feed composition, 20% of wheat "groats" of the total feed

composition, and 10% of soybeans, in addition to salt, concentrates and biomers, whose proportions were determined by consulted veterinarians. According to them, this formula has saved about 30% of the price of animal feed according to market prices. Although they recognize that their experiment needs time to prove its quality, and that it is difficult to do it in large quantities, they consider it a solution, even if temporary.

They also consider the crucial point to be that this formula proves effective in the "conversion factor" of broiler poultry. The conversion factor is the relationship between the amount of fodder eaten by the bird and the amount of meat produced, which can be shortened to "the quantity of fodder eaten by the bird in kilograms divided by the weight of the bird. "The conversion factor varies depending on the type of bird and is faster in the "broiler poultry" (white chicken).

However, moving toward making fodder with cheaper alternatives to corn and soybeans in the composition of feed requires more than rudimentary and individual attempts by small farm and barn owners. It requires a research effort on the part of agricultural research centers, animal research centers, the veterinary medical authority and the Ministry of Agriculture. First of all, there is a need for a conglomerate of small producers grouped into coalitions that can be an effective number in the poultry industry in Egypt and help to collectively provide cheap feed in large quantities, experiment with different combinations and market their production collectively.

### **3. Contract farming: a sustainable solution to the crisis**

Russia's war in Ukraine was a blow to countries that were supposed to be free of the need to produce food, as long as they could get it from abroad, and instead turn to more profitable activities and investments.

In Egypt, this naive commercial approach was the product of the adoption of the concept of "food security" as an alternative to the concept of "self-sufficiency" in the agricultural and food policies of the Egyptian regime over the last four decades. Wheat, maize, and other important strategic and food cultivation have been neglected, in exchange for growing crops for export, which are not relevant to the Egyptian food system.

Today, as economic and agricultural policies in Egypt have proven disastrous, the time has come to apply the “contract farming”<sup>32</sup> policy to many agricultural crops, including maize and soybeans, which will encourage farmers to expand their agriculture, in different “cycles” to reduce dependence on imports. This has become an urgent requirement to resolve the crisis of feed shortages in the medium, long term and in a sustainable manner.

It is strange that the government is now saying that the policy of contract farming should be applied to the corn crop, and sees it, as we do, as a solution to the crisis, even though it is the one that has stalled the activation of the contract farming law.

Seven years after the law was enacted, only sugarcane and beet crops had been activated to meet the needs of the sugar factories. Contract farming policies proved to be very effective in this case, allowing the cultivation of the quantities needed by the country’s sugar industry.

The activation of the Contract Agriculture Law - “Law No. 14 of 2015 on the Establishment of the Center for Contract Agriculture” - would replace the “agricultural cycle”<sup>33</sup> policy, which has been suspended since the early eighties. It left Egypt without clear agricultural policies, except having agricultural investors - with the support of the state – pursuing export requirements and growing crops that are not in line with local food needs.

The activation of the contractual agricultural policy will improve the productivity of the contracted crops through monitoring and documentation of the Center

32 “Contract farming” is an agricultural production based on a pre-farm contract between farmers and buyers, whether the buyers are persons, companies or government institutions. The contract stipulates that farmers shall supply specific crop varieties of specific quality and in approximate quantities in accordance with the assumed productivity of the area agreed upon for cultivation. The buyer is obliged to pay the agreed-upon prices by the agreed-upon dates. Some contracts may include the buyer providing extension services to farmers, advanced types of seeds, or providing financing services. According to Egypt’s Contractual Agriculture Law - “Law No. 14 of 2015” - the contract is supervised by the Center for Registration and Arbitration of Agricultural Contracts, established by law.

The contract farming policy ensures that required crops, both for food and production, are harvested and incorporated into the production system. It also guarantees fair prices for farmers, boosts their productivity, and keeps traders and brokers from looting their produce, increasing their margin of profits

33 “Agrarian cycle” is a compulsory agricultural policy adopted by the regime of President Gamal Abdel Nasser following the Army movement in July 1952, with the aim of taking advantage of the combined production advantages and economies of scale. This is in addition to meeting food needs through the unification of crops and planting and harvesting times through agricultural associations in Egyptian villages and farms, which have achieved self-sufficiency in many food crops for many years.

for Contractual Agriculture. It will free farmers from the grip of traders and middlemen, enable them to better market their produce, and will eliminate uncertainty among farmers about the size of their returns to agriculture, as the price is determined in advance in contracts.

In addition, the implementation of the contract farming law, on the other hand, will succeed in bringing together small scale farmers, allowing the state and contractors to achieve harvest quantities that could not have been achieved in any way before.

Pushing now for contract farming on maize and soybeans is the only way to solve the problem of rising feed inputs. This pressure requires action by Egypt's poultry industry, stakeholders, and legislative and parliamentary institutions.

Although this approach presents great difficulties in view of the political climate of the country, the regulatory situation of poultry producers, in addition to the deterioration of the parliamentary situation, after the claws of the House of Representatives and the Senate were extracted and emptied of opposition elements and true representatives of farmers, small producers and workers, such pressure is still possible and equally effective.

We can demonstrate this by the protest movement of some "chick" hatchery plants, slaughtering large numbers of "chicks" in front of cameras and posting videos on social media, in mid-October 2022, as an expression of what the shortage crisis and high feed prices can wreak on the poultry industry.

Although these scenes were not met with public sympathy, due to their extreme cruelty, they forced the government to release large quantities of corn and soybeans from ports, and several members of parliament in both chambers - the House of Representatives and the Senate – reacted by questioning and requesting briefing from government officials about the crisis.

The introduction of contract farming as a solution to the feed crisis was not ruled out by the small-scale poultry producers we interviewed, as more than 80% of those surveyed believe that expanding the cultivation of corn and soybeans is the ultimate solution to this crisis, not speeding up and easing tariffs, and providing the inputs through imports, as the leaders of the General Union of Poultry Producers always suggest. Most of our interviewees understand that the expansion of corn and soybeans can be achieved only with policies that do justice to farmers, giving them the best possibility to market their produce at fair prices, which they believe contract farming will ensure.

#### 4. Communication technology, attempts to get organized and transfer of expertise

Social media sites have played a role in the response to this crisis, but it is probably too early to determine its precise scope and impact.

Dozens of pages and “groups” on social networking sites went viral, especially Facebook, with names related to the poultry industry, fodder and grains. The pages and “groups” included hundreds of thousands of poultry producers, including small-scale farm owners and women in domestic breeding, grain merchants, small fodder factories, kitchens hatcheries, agricultural engineers, researchers, and veterinarians.

These social media groups have played multiple roles, providing daily data on the prices of feed, cereals, chicks, and poultry meat, clarifying the reality of those prices and monitoring their variations. They also played a role in connecting poultry farmers with grain merchants and farmers to buy corn, barley and soybeans. Various types of feed are offered at these groups and their prices are much lower than those of major factories. Poultry breeders shared their experiences of their use in feeding their herds, and the quality and conversion factors with poultry and birds in such use.

Through agricultural engineers, researchers, and veterinarians, these groups shared recipes for primitive poultry feed processing operations, replacing expensive components like yellow corn with low-cost varieties like barley and wheat groats, and uploaded videos on Facebook and YouTube explaining practical preparation methods.

They also warned against attempts by brokerage firms to manipulate small producers by setting the price of poultry at a far lower price than the sale price to consumers, which increases wholesalers’ shares at the expense of producers’ margins. They have defamed those practices and exposed some agreements between traders and brokers aiming at snatching the production at low prices.

In their initial results - together with the provision of information and guidance services and the transfer of expertise - these groups have created a link between small poultry producers, but this link cannot replace producers’ leagues and coalitions on the ground.





## Conclusion

The magnitude of the poultry industry crisis in Egypt due to high feed prices is not denied by government institutions, nor by the General Union of Poultry Producers, as the only regulatory entity that speaks for this large industry, although small producers consider it to be an expression only of the interests of its leaders, those who own the largest poultry production companies in the country.

But government officials and the leadership of the General Union of Poultry Producers believe that the crisis is imported, brought about by Russia's war in Ukraine, which ignited prices, while summarizing the crisis locally in customs and banking complexities, and the stalling of unloading corn and soybean shipments due to lack of dollars.

As we reported, this was only a symptom of the underlying disease of weak agricultural production, the shift of agricultural policies away from local food needs, and the fragility of the Egyptian economy in general.

We have tried to offer solutions from the experience of small producers, those who bear the brunt of the crisis, because their production projects are too weak to withstand a long crisis. Analysis of the interviews data tells us that 15% of the sample was not able to stand the loss for more than one or two breeding cycles, which made them decide to close down their farms.

But these solutions, whether stemming from small producers or researchers, or even from the application of contractual farming policies to crops used in the forage industry, require the effective social leverage of small producers - the real stakeholders - to push for their implementation.

The regulatory map for poultry farmers in Egypt leaves only the General Federation of Poultry Producers, led by a number of owners of major poultry production companies, which include poultry, fodder, pharmaceuticals and farm equipment companies. Foremost among them is Mahmoud al-Anani, the head of the Dakahlia Poultry Company, and Anwar El-Abd, a member of the Executive Office of the Union and chairman of the Al-Ahram Poultry Company. As a result, all too often, if not always, the Union policy is at odds with the interests of small producers, and expresses only the interests of these

companies. For this, it is necessary to create real leagues or coalitions that reflect the interests of small poultry producers, as the most important and effective solution for protecting their interests and avoiding losing sovereignty over food.

There are barriers that prevent the formation of these leagues or coalitions, the most important of which - if we refer to the results of the analysis of the study sample data - is that 75% of small producers do not believe in the usefulness of these leagues, for several reasons mentioned above. But this belief will change if producers who are willing to form leagues start working on the ground, then they will realize the importance of their linkages to protect their interests, expand their operations, leapfrog in productivity, and confront the ongoing attempts of those with capital to expand their influence in this important sector to diminish the space of small producers. In addition, these leagues or coalitions can achieve quick results in the face of supply shortages and marketing operations away from brokers and intermediary companies.

The real problem is who can push this broad sector, and other sectors of rural production, in this direction and how! In light of the general smothering climate and predicament of political forces, civil society organizations, and agricultural institutions, bringing this sector forward requires militant action by these institutions to provide the guidance, legal support, and advocacy necessary to build these links.

The responsibility of supporting female poultry farmers in rural areas to face the crisis and the continuity of their production remains a very important issue to secure its protection. This production plays multiple roles, from feeding the family and satisfying the needs of children, to income from sales, to obtaining degrees of independence and improving their position within the family, and finally to their contribution to the poultry production process and food sovereignty at the general level.



