



MAS

**PALESTINE ECONOMIC POLICY
RESEARCH INSTITUTE (MAS)**

FOOD SECURITY BULLETIN

Issues 27 and 28 - Summer 2023





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Tel: +972 (2) 298 7053/4 | Fax: +972 (2) 298 7055
info@mas.ps | www.mas.ps

Research team:

Supervision : Raja Khalidi

Assistant Researchers:

Iman Saadeh
Anmar Rafeedie
Faris Awad

In Issues 27 and 28

Editorial	1
Highlights	2
Latest Updates on Food Security	3
The Global Food System is Broken (Jayati Ghosh)	4
Heat, War, and Trade Protections Rise Uncertainty for Food Prices Experts are Warning of A New Normal in which Food Supplies - and Prices –Could be Rocked more Regularly	5
Global Food Prices (June 2022 - June 2023)	8
Palestinian Food Prices (June 2022 - June 2023)	10
Literature Review	11
The State of World Food Security and Nutrition in the World 2023: Urbanization, Agrifood Systems Transformation, and Healthy Diets Across the Rural-Urban Continuum	11
Pathways to Food Insecurity in the Context of Conflict: The Case of the Occupied Palestinian Territories	13
Caught off Guard and Beaten: The Ukraine War and Food Security in the Middle East	16



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I Editorial

Food Insecurity in Palestine and Across the Globe Remains A Major Obstacle in Achieving Sustainable Development

Since 2009, the Palestine Economic Policy Research Institute (MAS) has periodically published the Food Security Bulletin as a voluntary contribution to the efforts of players in the food security sector in Palestine. The Bulletin aims to support decision-makers and institutions working in this sector, namely, improving the food security situation of Palestinians. The Bulletin constitutes a useful, periodic reference for reviewing developments in this sector. It is only one of MAS's research initiatives that has attracted much attention in recent years, evidenced by further research collaboration with partners, particularly the World Food Program (WFP) and the UN Agriculture and Food Organization (FAO).

This Bulletin covers the period from Summer 2022 to Summer 2023. New and crucial 'variables' have emerged with an impact on food security: the Russian-Ukrainian war; sudden and severe escalations in climatic changes; and new droughts. This disturbing scene is accompanied by increasingly protective trade policies, aiming to reduce the export of basic crops, in light of the decline in cultivation (production). It is expected that these disturbances in the global food system will have an impact on the way policy-makers conceive and manage policies for the production and distribution of food across the globe. From this standpoint, this Bulletin reviews the World Food Summit held in Italy last month, which called for transformation and change in current systems, in order to achieve higher levels of food security. Its proposals were discussed at a regional level. However, numerous social movements interested in "food sovereignty" voiced opposition to its proposed policies and outputs. These voices of opposition fear that chemical fertilizer companies and large agricultural corporations will continue to monopolize the markets for seeds and other agricultural inputs, as such, outputs will reflect the interests of these companies, at the expense of small-scale farmers. The Bulletin also outlines the latest developments and changes in food prices globally, and in the Palestinian market locally. These are reviewed periodically, using data sourced from the Palestinian Central Bureau of Statistics (PCBS) and the FAO.

The Bulletin includes literature reviews of reports issued by the FAO on urbanization and the transformation of agrifood systems - two key topics discussed at the World Food Summit. It also reviews two research papers: the first outlines common paths to food insecurity in the event of conflict, using the occupied Palestinian territories (oPt) as a case study. Its results show that political difficulties in the oPt are so dire "that they outweigh the impact on food insecurity, while also limiting the effectiveness of support programs designed to mitigate food insecurity". This is a shocking conclusion that deserves further study. The second paper discusses the consequences of the Russian-Ukrainian war on food security in the Middle East - a decisive factor in influencing food prices and the availability of basic commodities in this region. Most important is the wheat market (used to make bread), a staple food item across the Middle East.

While MAS continues to report on the overall food security situation in Palestine, it is also deepening and expanding its coverage of related issues, through both regular coverage of agriculture and related social development issues in the Quarterly Economic Monitor, as well as in-depth analytical policy studies on agriculture finance, food losses, the food system, and related SDGs. Through its comprehensive and interdisciplinary approach, the Institute offers an inclusive forum for research and dialogue on the complex and evolving issues affecting food security and nutrition. Visit our new and updated website to learn more



Highlights

- Although the global food price index decreased from 154.7 points in June 2022 to 140.6 points in June 2023, the food price index in Palestine increased during the same period from 108.57 to 111.16 points.
- The United Nations has warned that increasing fertilizer prices may turn the current food price crisis into a food availability crisis.
- During 2022, 700 million people faced hunger, and 2.4 billion people suffered from a lack of adequate and nutritious food throughout the year.
- Compared to early 2020, food prices rose by about 30% in Europe and 23% in the USA.



Latest Updates on Food Security

◆ Second World Food Systems Summit¹ - Achieving Food Security by Supporting both Large Corporations and Small Farmers

This year's Food Systems Summit was held in Italy, at the FAO's headquarters, from July 24-26. This summit came with a purpose: to provide an opportunity for countries to review their progress in implementing their food systems' transformations (changes), while also identifying obstacles and required support. That is in order to achieve an enhanced global understanding of the role of food systems in achieving SDGs, particularly in light of the current food supply crisis, coupled with the cost-of-living crisis. A commitment was announced to hold a global meeting every two years to outline progress made in implementing the results of this process and its contribution to achieving the 2030 Agenda. This is being undertaken with the cooperation and support of specialized regional agencies, and the UN, in addition to the participation of relevant partners.

As part of the food systems' dialogue - and in preparation for the summit in the Arab region - 64 dialogue meetings were held covering a wide array of topics, the most important of which were: the right to food, food production, nutrition, climate change and food, small-scale traders, local food production, water, social protection, and food losses/waste in 2021. After these dialogues, the Arab countries formulated a set of primary issues to further work on²:

- Rehabilitation of food systems in the region must take into account the context of Arab countries, including solutions to reduce dependence on food imports while mitigating the impact of climate change on food systems.
- Monitoring progress toward food systems' transformation requires defining a shared vision for the region by all stakeholders, taking collective action, and working in tandem to achieve this vision.
- Focusing on countries' needs, challenges, and success stories is essential to setting accurate expectations for - and measures of - success at the national level.
- Optimizing the use of technology, innovation, partnerships, and collaboration, taking into account the context and priorities of each country in the region.
- Linking all pillars of food security to transforming food systems, while consolidating the concept of transforming food systems through laws.
- Effective and inclusive partnerships between governments, the private sector, parliamentarians, civil society, and the research team. These are the foundations for transforming food systems.
- An integrated approach to financial mechanisms and risk reduction for private sector investments in transforming agricultural and food systems. This is especially important in countries experiencing conflict and war.
- The upcoming World Climate Change Conference (COP28) is a further chance to examine linkages between climate change and food systems.

Despite the proposals emanating from the Summit's dialogue to confront the deteriorating reality of food security across MENA countries, this Summit faced severe criticism from social networks and movements.^{3 4} The Summit was held in light of global turmoil, characterized by a series of shocks that struck the global economy

1 www.unfoodsystemshub.org/fs-stocktaking-moment/en

2 www.unescwa.org/sites/default/files/event/materials/2.3/20Food/20System/20Summit/20-Maya/20Atie/20-7/20ESCWA.pdf

3 www.pcfs.global/unity-statement-peoples-struggles-and-solidarity-not-unfss-will-build-just-equitable-healthy-and-sustainable-food-systems/

4 www.siyada.org/siyada-board/



and affected food production chains: the COVID-19 pandemic, the Russian-Ukrainian war, and severe climatic changes. These voices against the hegemony of neoliberal policies were directed at the World Bank and the International Monetary Fund (IMF), which are responsible for managing the global food supply system. They argue that there is no problem with food shortages, the main problem, in fact, is the control exercised by large, transcontinental companies over food and its production. These voices believe that this system exploits global disasters to accelerate the accumulation of profits by major companies, which is the main cause of global price hikes. The war threatened food security across numerous countries that depend on imported grain from Russia and Ukraine. Capitalist trade systems and food production companies also contribute to a significant rise in the prices of such commodities, rendering it difficult for large segments of the Arab region and North Africa to obtain them. It also causes huge losses for small-scale farmers, threatening their source of income. This has affected the distribution of food, causing an increase in hunger.

I The Global Food System is Broken⁵ (Jayati Ghosh)

Ghosh⁶ attributes the disruption of global food systems primarily to the domination of the agricultural sector and food production by large, multinational corporations. This encourages unsustainable, health-damaging production and consumption patterns, generating massive waste across all stages of production. Ghosh highlights the discrepancy between the global food production system's justification for producing large amounts of greenhouse emissions; and this system's capabilities in terms of producing more food to feed a growing global population. The fact remains that the proportion of hungry people across the world is increasing (rather than decreasing).

However, addressing this imbalance in the global food system will be a huge and complex undertaking, as indicated by Ghosh. There is a possibility of resorting to huge trade-offs between temporary price hikes, rather than resorting to more sustainable, equitable, and long-term solutions.

In her article, Ghosh sheds light on the most important causes of the recent rise in global food prices. At the top of the list of causes is the global shortage of fertilizers. Fertilizer prices rose, driven by the rise in natural gas prices across the globe, combined with the imposition of economic sanctions on Russia in 2022 – Russia being a major global exporter of fertilizers.

However, while it has become apparent why fertilizer prices have risen across the world, it is undoubtedly the case that multinationals are exploiting these crises to raise prices by a greater margin than the increase in costs. Ghosh cites a combined study by GRAIN⁷ and the Institute of Agriculture and Trade Policy which emphasizes that the profits of the world's nine largest fertilizer companies increased from about \$14 billion in 2020 to about \$28 billion in 2021, and then to \$49 billion in 2022. The profit margin of fertilizer companies increased from 20% of sales in 2020 to 36% in 2022.

This year saw a slight drop in fertilizer prices, but they are still too expensive for most small-scale farmers across the globe. Ghosh argues that since small-scale farmers are drowning in debt, they have no choice but to reduce their use of fertilizers. This, in turn, affects the quantities produced and threatens local food security. Resultantly, the UN warned at the end of 2022 that the ever-increasing rise of fertilizer prices may turn food prices – and availability – into a crisis.

⁵ <https://www.ips-journal.eu/topics/economy-and-ecology/the-global-food-system-is-broken/6887->

⁶ Jayati Ghosh is Professor of Economics at the University of Massachusetts, Amherst, USA, and a member of the Independent Commission on International Corporate Tax Reform.

⁷ <https://grain.org/e/6988>



Ghosh outlines the policies of select countries to prevent further disruptions to food supply chains. For example, the governments of India, Kenya, and the Philippines have increased subsidies to farmers, while the European Union (EU) has adopted measures to encourage domestic fertilizer production. However, the use of chemical fertilizers is associated with major environmental problems, posing risks to sustainable agriculture and the globe. In addition, it is responsible for 2.4% of all greenhouse emissions. Chemical fertilizers are also responsible for soil degradation, ozone layer depletion, biodiversity losses, and air pollution.

Ghosh argues that governments should avoid quick responses that are likely to undermine long-term environmental sustainability, suggesting that policymakers should support alternative ecological farming techniques that contribute to finding natural alternatives to the use of chemical fertilizers - while maintaining a good yield. The use of agro-ecological techniques will have several benefits, from reducing costs to farmers to mitigating the environmental damage caused by nitrogen fertilizers. Although these technologies already exist and are somewhat used, public knowledge remains scant – disseminating this knowledge could unleash their enormous potential.

As for the gradual transition to replacing the use of chemical fertilizers with agro-ecological technologies, there is a growing body of evidence indicating that carefully thought-out agro-ecological methods can significantly enhance productivity and soil quality. However, large companies and multinationals are still insisting on increasing the use of chemical fertilizers, despite the fact that this intensive use of chemicals has made larger numbers of farmers in Africa more exposed to - and at risk of - losses and bankruptcy, given the high prices of chemical fertilizers and other essential inputs.

| Heat, War, and Trade Protections Rise Uncertainty for Food Prices Experts are Warning of A New Normal in which Food Supplies - and Prices - Could be Rocked more Regularly ⁸ By Eshe Nelson, Ana Swanson, and Jeanna Smialek

Experts have warned of a new situation that may become prevalent (and normal), in which prices rise and food supplies dwindle more regularly. This warning comes in light of a group of disasters that befell the world, including the extreme rise in heat and other climatic fluctuations such as floods and droughts, the Russian-Ukrainian war, and the targeting of grain supplies. Moreover, some countries chose to put trade protection ahead of food trade, in order to keep local prices from rising. This increased uncertainty concerning the availability of food supplies.

"Today, the new normal is more volatility and unpredictability, whether it's commodity prices or food prices," said Dennis Voznesenski, a commodities' analyst at Rabobank in Sydney, Australia. Even without major disruptions, food prices can be volatile, and many factors play a role in the price of a bushel of wheat or a loaf of bread.

Compared to early 2020, consumer food prices have increased by about 30% in Europe and 23% in the United States. The negative effects hit hardest on small-scale farmers, and those living in low-income countries. Last year, more than 700 million people faced hunger, and 2.4 billion people lacked adequate, nutritious food year-round, according to the UN.

⁸ <https://www.nytimes.com/2023/08/10/business/global-food-prices-volatility.html>



◆ Climate Change:

Hiral Patel, head of sustainable research at Barclays in London, indicated that extreme weather this year was the main factor in disruptions to food prices. Heatwaves broke records in China, while wildfires raged in southern Europe and northern Africa. July was the world's hottest month on record. In Pakistan, where catastrophic floods in 2022 washed away much of the country's crops, the annual rate of food inflation reached nearly 49% in May, according to the WFP.

In addition, the European Commission lowered expectations concerning the produced quantities of soft wheat and spring barley, due to dry conditions across large parts of the Continent. One of the fears posed by droughts is that they affect several regions for several years, leading to sustained crop disruptions. This could cause regional deficits, with poor countries unable to afford higher prices, which, in turn, hurts food security. That is, these countries will not be able to buy food for all their citizens, and neither will they be within reach of those from whom they need to purchase.

◆ The Russian-Ukrainian War:

The suspension of the Black Sea Grain Initiative, which allowed Ukrainian grain to be exported by sea, has led to a marked jump in the price of vegetable oil. This is driven, in part, by concerns surrounding the shortage of Ukrainian sunflower seeds. Resultantly, the UN's Food Price Index rose in July, after a downward trend lasting several months. Recently, the IMF estimated that the termination of this deal could lead to a 10%-15% hike in grain prices. IMF expert Voznesenski added that increased government intervention in the food supply chain "is going to create a lot more unpredictability".

◆ Protectionism:

Volatility in food prices has encouraged some governments to resort to trade restrictions, in order to keep food stocks in their countries (of origin). For example, droughts in India, Indonesia, and other Asian food exporters have reduced their yields. Faced with consumer anger over price hikes, governments have banned the export of basic foodstuffs, causing further unrest. Since late June, the price of rice has jumped by 25%.

India, the world's largest supplier of rice, issued a ban on the export of non-basmati white rice. The Indian government said that it levied a 20% duty on rice exports last year. However, exports continue to rise, given geopolitical issues and harsh weather conditions in other countries. India is not alone in taking such measures. Overall, the number of food export restrictions or tax increases has jumped 62% since last year, according to Global Trade Alert, a nonprofit organization based in Switzerland. Globally, there are 176 export restrictions in effect on foodstuffs, animal feeds, and fertilizers.

Economists and trade experts have warned against these kinds of policies. Although they may protect domestic consumers from food inflation in the short term, they ultimately exacerbate the global food shortage problem that governments are trying to mitigate.

◆ Hidden Costs:

An additional group of factors - related to the rise in food prices - focuses on various supply chains or the appreciation of the U.S. Dollar. In many countries, this problem is exacerbated by the weakening of their currencies relative to the U.S. dollar, rendering them unable to buy as many dollar-denominated goods as before.



Source: by Wirestock on Freepik



As food producers deal with more supply risks, related expenses are also rising. Companies are forced to fork out insurance policies for severe weather while investing in new supplier relations to make their businesses more resilient. Persistent droughts have lowered water levels across major shipping routes, including the Panama Canal and the Rhine River in Europe, requiring shippers to lighten their loads or find other routes. Moreover, there is the cost of national sustainability efforts, as countries pursue zero net emissions targets.

Global Food Prices (June 2022 - June 2023)

◆ Price trends 2020-2021

According to the FAO's Food Price Index, global food prices were relatively volatile from June 2022 to June 2023. Notable is the decline in the global Food Price Index, from 154.7 in July 2022, to 140.6 points. This was caused by falling international prices for all types of oils, with lower palm oil prices due to ample exports from Indonesia. The second half of the year saw a mix of minor decreases and increases in prices, indicative of a slightly more diversified trend when compared to the relatively, steady declines in the first half of the year. In general, the data indicates that the period from June 2022 to June 2023 witnessed average prices higher than the 2020 period, but lower than early 2022 (changes in food prices caused by the war in the Ukraine).

◆ Price Trends (2021-2023)

Figure 1 below shows trends in the FAO's Food Price Index over two years, as well as five indices for the basic food commodity groups of meat, dairy products, cereals, oils, and sugar. These make up the overall Food Price Index. As shown below, the prices of selected food commodities have fluctuated over the years. Indicators show that oils are the most volatile commodity group. These fluctuations are analyzed below for each of the five food commodity groups

Figure 1: FAO FPI and Five Basic Food Commodities Price Indices

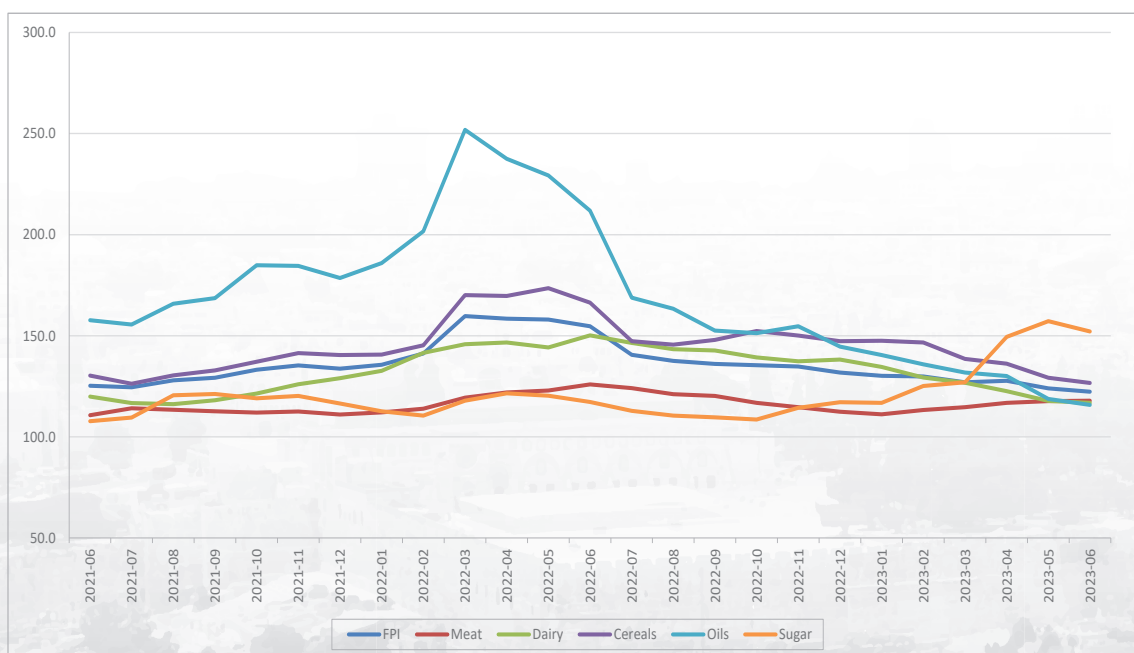


Figure 1, source: FAO (2023)



◆ Meat Prices

The June 2023 Index increased by 0.13% relative to May 2023 but decreased by 6.41% from the corresponding month of 2022. Global meat prices, after peaking in the first half of 2022, began to decline due to supply-demand dynamics, with lower demand for imports. However, the meat price index has rebounded since February 2023, with shortages across all types of meat supplies. Poultry meat production is expected to expand significantly due to high demand, given that it is more affordable than other meats. Imports have also expanded, and food services sales have continued to grow in China after the COVID-19 pandemic.

◆ Cereals Prices:

The June 2023 Index decreased by 2.06% relative to May 2023, down by 23.89% from June 2022 (averaging 166.3 points). Over the two years since June 2021, the grain price index has fallen by around 2.85%, indicating that prices are returning to pre-war levels. FAO raised its forecast for global cereal production for 2023 to an increase of 1.1% from the previous year, reflecting prospects for improving global wheat production in Canada, Kazakhstan, and Turkey.

◆ Dairy Prices

The cereal price index marked its highest annual average registered since 2012, rising 27.2% in 2021 compared to the previous year. This increase was mostly driven by the strong demand and tighter supplies from major wheat exporters, especially higher quality wheat.⁹ As shown in figure (1), over the past 2 years, the global prices of cereals fluctuated. While only fluctuating slightly from January to August 2020, prices increased by 7.8% between September and October of 2020. Global cereal prices continued to sharply rise into and throughout 2021, peaking at 141.4 in November and declining to 140.5 in December. From June 2021 to December 2021, cereal prices went up by 10.2%.

◆ Vegetable Oil Prices:

After a continuous decline for two years, the oil price index in June 2023 reached its lowest level at 129.8 points (since October 2020), down by 26.57% since June 2021. The decline in the prices of palm, sunflower, soybean, and rapeseed oils contributed to the decline in the oil price index. The decline in sunflower oil prices can be attributed to large inventories, a phenomenon also observed in the case of palm oil, which has seen a simultaneous rise in production across Southeast Asia. However, butter prices rose, as they witnessed a significant increase in demand.

◆ Sugar Prices

The FAO's sugar price index witnessed a significant increase during the two-year period, reaching 157.2 points in May 2023 – its highest level since October 2011. The index increased by 41.24% in June 2023 compared to the corresponding month in 2021. This increase is attributable to sugar prices. The cultivation of sugar has been slow at the start of the harvest season in Brazil, with heavy rains, as well as the appreciation of the Brazilian Real against the U.S. dollar since December 2022. This has greatly affected exports.

⁹ <https://www.aa.com.tr/en/world/world-food-prices-hit-10-year-high-in-2021-un-body/2467298>



I Palestinian Food Prices (June 2022 - June 2023)

The PCBS measures food prices using the Food Price Index (FPI), which is a component of the Consumer Price Index (CPI). The Palestinian FPI fluctuated during the past year, as shown in Figure 2. It shows clear fluctuations between high and low levels. In early 2023, there were significant increases, culminating in April at 114.4 points, followed by a decrease in mid-2023. Compared to the same month of the previous year, the PCBS's CPI increased by 2.39% in June 2022 relative to June 2021.

The CPI in Palestine increased by 3.11% in 2022. In June 2023, FPI fluctuations were more pronounced, when compared to the more stable CPI. The FPI increased from 108.57 points in June 2022 to 111.16 points in June 2023. The FPI itself is a weighted average of three geographically distinct indices: the West Bank (weighed at 0.59), the Gaza Strip (0.34), and East Jerusalem (0.07). This means that food price fluctuations in the West Bank have a greater impact on overall CPI

Figure (2): Palestine Food Price Index by Region, Consumer Price Index, and FAO FPI (Base Year 2018 = 100)

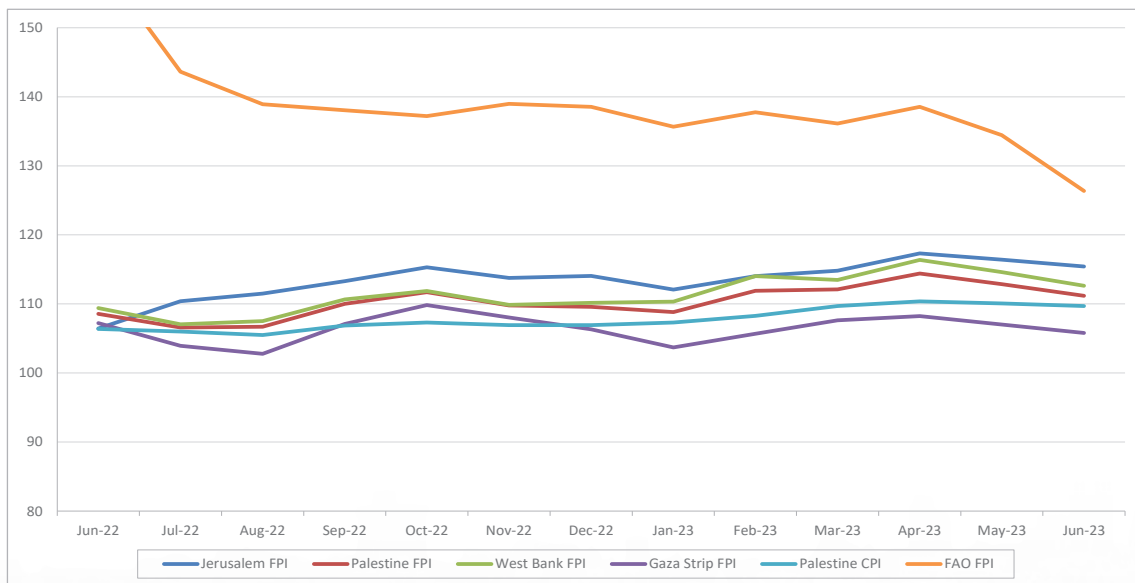


Figure (2), sources: PCBS (2021) FAO (2021)

◆ Palestine Food Price Index vs. FAO Food Price Index

Over one year between June 2022 and June 2023, food prices in East Jerusalem increased by 8%. In the Gaza Strip, the FPI decreased by 1%, while it increased by 3% in the West Bank. The West Bank's trend is similar to Palestine's gross FPI. However, the Jerusalem trend has reached higher levels, while in Gaza, it is significantly lower, and even declining year by year.



I Literature Review

This section reviews the latest and most important research in the fields of food security and nutrition, in order to ensure that interested parties have access to a summary of the results of recent studies that are of global importance to food security policy-makers and other regional and national stakeholders.

In brief, these papers focus on the current state of food security and nutrition in the world in 2023, as well as urbanization and its transformation of agricultural and food systems (and healthy diets) across the rural-urban continuum.

The State of World Food Security and Nutrition in the World 2023: Urbanization, Agrifood Systems Transformation, and Healthy Diets Across the Rural-Urban Continuum

The FAO, the International Fund for Agricultural Development (IFAD), the United Nations Children's Fund (UNICEF), the WFP and WHO ¹⁰

This report presents an analysis of food security and its indicators from a new, analytical perspective, namely urbanization. The report attempts to place indicators and issues of food security and nutrition within the analytical framework referred to as the rural-urban continuum. This concept refers to the state of fusion between urban and rural spaces, emphasizing the infiltration of 'urbanism' into the countryside.

This process of urban expansion renders obsolete the differences between the geographical connotations of urban and rural. The divide becomes invisible, or according to this analytical framework, somehow "connected" between urban and rural. The change in demographic patterns - and the shrinking of spatial distinctions between urban and rural - affects the workings of food and agricultural systems. It creates new challenges - and opportunities - in terms of ensuring the availability of - and accessibility to - healthy diets for all. It provides an analysis of malnutrition, the affordability and availability of a healthy diet, and food insecurity at the level of select countries. As a result of this analysis, the report presents a set of policies to address the challenges - and exploit opportunities - presented by urbanization, in terms of affording food security and healthy diets (at affordable prices) to both rural and urban populations.

This report presents updates on three central issues: global hunger, the cost and affordability of a healthy diet, and the state of nutrition. The latest data shows that there is a decline in attempts to eradicate hunger across the world, as the global number of individuals suffering from malnutrition increased from 7.2% of the global population in 2019 to 9.2% in 2022. This amounts to an increase from 691 million to 783 million in 2022, all of whom suffer from hunger. These indicators provide a wholly negative picture of global hunger. This percentage has been relatively stable since 2021, when the malnutrition rate registered 9.3%, indicating a halt in the growth of hunger, at least at the global level. However, ratios at the regional level show a different picture. These ratios are still on the rise in Western Asia, the Caribbean islands, and Africa, in contrast to most regions of Asia and Latin America, which are making progress in reducing their hunger rates.

In general, by analyzing and comparing food insecurity between rural, peri-urban, and urban locations across various areas of the globe, results show that food security at the national level improves with increases in the urbanization process, according to the modern global classification for measuring degrees of urbanization

¹⁰ <https://www.fao.org/3/cc3017en/cc3017en.pdf>



(DEGURBA). For example, globally, 33% of adults living in rural areas are moderately or severely food insecure, compared to 28.8% in peri-urban areas and 26% in urban areas. In Africa, the prevalence of moderate or severe food insecurity registers at 54.2% in urban areas, 60.3% in peri-urban areas, and 64.4% in rural areas. This is the result of greater availability of food therein, and the higher purchasing power of the population. Moreover, the population in urban areas enjoys better access to healthcare, education, and other important (health and nutrition) services, relative to rural areas.

As for the cost of a healthy diet – and people’s ability to afford it – data shows that the cost of a healthy diet increased by 6.7% globally between 2019 and 2021. It increased by a further 4.3% in 2021 solely. At the level of continents, it increased in the same year by more than 5% in Africa, Latin America, the Caribbean, and Oceania, compared to a slight increase in North America and Europe. However, there is a noticeable, small improvement in the number of individuals who cannot afford a healthy diet. This registered at 3.1 billion people (42%) in 2021, down by about 52 million from 2020 levels. This evidences the impact of the increase in guarantees for healthy food. At the country (national) level, low-income and lower/middle-income countries are affected more than high-income countries. 86% of those cannot afford a healthy diet, compared to only 1.3% of the population in high-income countries.

As for nutritional status, the most positive indicators show a decrease in stunting and deformity amongst children, with rates reaching 22.3% and 6.8% respectively. The same applies to low birth weight: 14.7% of newborns were under the ‘normal’ weight in 2021 (compared to 16.6% in 2020). Most of these cases are concentrated in low- and middle-income countries. At the level of the population overall, such cases are more prevalent in rural areas. Moreover, the results show an increase in the rates of (exclusive) breastfeeding by about 10% in the nine years between 2012 and 2021. The largest percentage of children who are (exclusively) breastfed is concentrated in the aforementioned group of countries. As for negative indicators, these are evidenced by the childhood obesity index. At the global level, this rose to reach 5.6% in 2022, or in other words, about 37 million children. Their concentration is primarily in urban areas when compared to other regions, given the consumption patterns of urban communities, characterized by the consumption of high proportions of ultra-processed foods, with high energy density in exchange for low nutritional value.

The report proposes three main strategies for exploiting the transformation of agrifood systems to provide healthy diets across the rural-urban continuum

- First, the report highlights that technology plays a central role in improving food security, given its flexibility in remedying varied problems in food and agriculture, based on different contexts. In the context of urban space, it can be observed that there is a large rate of consumption of ultra-processed foods. Therefore, technology and innovation can be deployed as environmental solutions to reduce the consumption of such harmful foodstuffs. Moreover, technology can help raise the consumption levels of healthy foods, by classifying healthy foods (and labeling them) using appropriate packaging and labels. Technology can also be utilized to improve agriculture, particularly in rural and semi-urban areas, and reduce the production gap in middle-income countries, particularly in light of climate crises and dwindling natural resources.
- Second, there is a need to develop multi-structured governance mechanisms, through the development of local governance by way of agreements between different administrative regions, networks, and platforms, covering all concerned citizens in such countries. The importance of this stems from the fact that local governance systems in such countries play a fundamental role in formulating and implementing policies for each region, separately. These policies include the establishment of food policy councils to act as advisory bodies to local authorities, guiding them in developing policies, implementing them, as well as monitoring and evaluating their progress.



- Third, there is a need to develop policies and investments that support healthy food systems, by encouraging the purchase and sale of fresh, minimally processed foods, as well as improving their storage. Policies to promote this include the regulation and marketing of food and beverages while providing adequate information on ingredients. This has to be driven by quality as the fundamental driver - to promote healthy purchasing and consumption decisions; the planning and space regulation of land usage; tax exemptions and national agreements.

Pathways to Food Insecurity in the Context of Conflict: The Case of the Occupied Palestinian Territories

Tracy Kuo Lin, Rawan Kafri, Weaam Hammoudeh, Suzan Mitwalli,
Zeina Jamaluddine, Hala Ghattas, Rita Giacaman, and Tiziana Leone¹¹

Several studies have examined the impact of conflict on food security and formulated different measurement scales. This includes the Household Food Insecurity Access Scale (HFIAS), the Food Insecurity Experience Scale (FIES), and the Food Consumption Score (FCS). However, they did not examine the relationship between these measures, and political, economic, and agricultural hardships.

To bridge this gap, this research paper mainly examines the association between political, economic, and agricultural factors, examining experiences with food insecurity and dietary diversity in the context of conflict, specifically in the oPt. The complex nature of military occupation allows for the exploration of different factors, inputs, and influences, across different levels of deprivation and conflict analysis.

According to this paper, conflict does not only directly affect food security, through the confiscation of agricultural lands and the destruction of animal and plant assets. Moreover, the occupation also has an indirect impact on the investment decisions of farmers, impeding the agricultural production process.

In order to place food insecurity into an appropriate framework, this paper used the FAO's definition of food insecurity, based on four, fundamental parameters: food availability, food accessibility, food consumption, and the combined stability of these three dimensions over time. The theoretical framework for food insecurity in cases of conflict was formulated by focusing on the two dimensions of food availability and accessibility, as these relate to the interaction (and impact) of economic-political factors with the physical presence of food. The paper also uses a diverse group of theoretical frameworks for analysis, in an attempt to overcome difficulties with framing the political, economic, and agricultural contexts of conflict, analyzing each of them in relation to food insecurity, and then examining the relationship between food insecurity and diversity (in the context of conflict).

The results indicate that living conditions under military occupation and conflict are closely intertwined with conditions of food insecurity and dietary non-diversity. The paper also examines the relationship between food insecurity and dietary diversity. In the West Bank (as in the Gaza Strip), those who suffer from food security are more likely to have limited diversity in their diets. This may indicate that food insecurity causes individuals to reduce their dietary diversity, in return for increasing the number of calories to compensate for this deprivation, highlighting a basic coping mechanism with food insecurity. Limited food diversity is associated with high levels of economic and agricultural hardship, particularly in households headed by women and those living in refugee camps. Area C in the West Bank suffers from a higher percentage of agricultural hardship yet greater food diversity, while proximity to seam zones in the Gaza Strip and associated political hardship reduces food diversity and increases food insecurity.

¹¹ <https://doi.org/10.1186/s13031-022-00470-0>



From a wider perspective, the results show that political hardships in the oPt are so dire that they outweigh the impact on food insecurity, while also limiting the effectiveness of support programs designed to mitigate food insecurity. This paper indicates that external support from the international community has a limited impact on reducing food insecurity and alleviating various, societal hardships. Therefore, effort must be placed on support programs that provide additional support: agricultural financing, support for farmers, and infrastructure development. The effectiveness of the support provided to food-insecurity alleviation programs - and the negative impact of political difficulties on food insecurity - ought to be reviewed.

The paper made several contributions, the most important of which is showing the direct impact of conflict (and its political, economic, and agricultural impacts) on food security in Palestine while evaluating the role played by these factors on worsening rates of food insecurity. Moreover, beyond the Palestinian context, this paper attempts to bridge gaps in previous literature that ignored the relationship between the different dimensions and measures of food security and conflict, by addressing - and further researching - this relationship in the Palestinian context.

The study identifies a number of hurdles to adopting digital technology in agriculture in the MENA region. High purchase, operation, and maintenance costs can impede the adoption of digital technology for small farmers who likely lack financial resources and access to credit. Moreover, the lack of knowledge and expertise is likely to deter small farmers from adopting advanced technologies. Most importantly, however, the study highlights that most agricultural technologies are developed for countries outside of the MENA region. Hence, it is likely that they need to be adapted for the specific needs of the farmers in each region and each country's language. E-extensions, for example, must provide timely, localized, and customized information addressing specific farming concerns in a comprehensible format.

Where there is a lack of appropriate policy support, there is a likely risk that digitalization may disrupt the sector in adverse ways such as reducing employment for labor (labor displacement), widening gaps between big and small farmers, and further exploiting already scarce resources (i.e. increased greenhouse gas emissions related to energy-intensive data storage or the waste of electronic materials). Therefore, public policies must entail comprehensive and thoughtful action, to ensure that the adoption of digital technology strengthens economic growth, social inclusion, and environmental sustainability.



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Caught off Guard and Beaten: The Ukraine War and Food Security in the Middle East

Mohammad Al Saidi¹²

This paper presents a detailed analysis of the impact of the Russian-Ukrainian war on the vulnerability of the Middle East region to food insecurity, particularly in light of repeated shocks as a result of the COVID-19 pandemic and the economic and political crises in the region. This created a pre-existing state of weakness for countries in the Middle East. The paper focuses (in detail) on food crises at the country level, recent economic and political shocks, and food-related vulnerabilities for each country. It focuses on aspects of access to food, especially staple crops at the country level, in addition to the impact of war on food security. The paper examines the vulnerability of different countries, local coping mechanisms, and regional cooperation.

The paper estimates the levels of supply risks associated with the crisis caused by the Russian-Ukrainian war, using data sourced from the UN Comtrade Database, in order to identify the Middle Eastern countries that import the most from these two countries. This helps to determine the levels of dependence of Middle Eastern countries on such imports. Countries in the study sample were distributed into groups based on their relative vulnerability to food insecurity resulting from the war.

This is performed by merging UN data with data sourced from the Global Food Security Index (GFSI). Country grouping was categorized as follows: low-vulnerability countries (Iran, Oman, Morocco, Qatar, Saudi Arabia, UAE, and Israel); moderate-vulnerability countries (Tunisia, Algeria, Turkey, Egypt, and Jordan); and high-vulnerability countries (Yemen, Sudan, Lebanon, and Libya). Finally, there are exceptional cases – oPt and Mauritania. Subsequently, the analysis is applied at the level of 'groups of countries', and their context is analyzed using the latest literature, media reports, and declarations of international organizations, in order to examine the mechanisms of adaptation for each of the countries under examination. The paper identifies six differential variables covering the extent of exposure to the crisis, and pressures resulting from it. These are - the existence of food support programs or health insurance systems; the presence of facilities with large storage capacity and grain reserves; relative political and economic stability; weakness to the pandemic; additional revenues that provide liquidity; and the presence of influential climatic factors.

The paper concludes that the exacerbation of the current food crisis in some countries is the result of political and economic instability, limited local agriculture, and the lack of guaranteed grain reserves. The results show that some vulnerable countries suffer from political fragility, such as Lebanon, Yemen, and Sudan in particular, all of which suffer from an alarming food crisis. On the contrary, the findings show that short-term domestic solutions-associated with increased regional cooperation and support - have higher returns as a result of higher energy prices, particularly in the Gulf states.

At the level of group analysis, countries that are at moderate risk, such as Algeria, Jordan, and Turkey, have not suffered from the dangers - or pressures - of an imminent food crisis, given their limited external dependencies and the presence of alternative local production mechanisms, or well-functioning food sectors. They also maintain diplomatic relations that further their food interests, enabling them to maintain their inflow of essential grains. The remaining moderate-risk countries have higher rates of dependency: such as Egypt and Tunisia, that suffer from high vulnerability to food crises. These countries rely on securing external financial sources to

¹² <https://www.frontiersin.org/articles/10.3389/fnut.2023.983346/full>



cope with the rise in food prices. Furthermore, the analysis shows worrying results regarding groups of highly vulnerable countries such as Libya, Lebanon, Sudan, and Yemen. Political and economic instability exacerbates the food crisis resulting from the war in Ukraine.

The study sheds light on some 'positive' aspects of the war in Ukraine. Despite the negative effects of this war on food security, it highlighted the importance of adaptation and resilience mechanisms (and policies) at the local, regional, and international levels. Coping mechanisms are classified into four groups:

- Monitoring trade and diversification: by banning the import of grains, certifying new suppliers, brokering deals for new imports, and purchasing supplies from foreign stocks (applied by Algeria, Egypt, Libya, Jordan, Tunisia, and Turkey).
- Supporting local markets: stabilizing fertilizer prices, creating incentives for local farmers, and increasing anti-profit surveillance and control (Egypt, Tunisia, Turkey, and Lebanon).
- International cooperation and aid programs: emergency food aid (through the WFP), refinancing mechanisms through the IMF, direct aid to organizations working in the field of food (aid) delivery, intensifying social programs (Egypt, Lebanon, Sudan, and Yemen).
- Regional cooperation mechanisms (through the Gulf Cooperation Council): investment in state corporations, deposits in central banks, and direct food aid (Egypt, Yemen, and Lebanon).



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Tel: +972 (2) 298 7053/4 | Fax: +972 (2) 298 7055
info@mas.ps | www.mas.ps

