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Global food security challenges and its drivers

Executive summary

Building on the Council document CL 172/5 (April 2023), the present document provides an update on the global food security situation. As the world was beginning to recover from the COVID-19 pandemic, the war in Ukraine rattled the already volatile food and energy markets, multiplying the impact of existing drivers and posing new challenges for global food security. Encouraging signs of economic recovery from the pandemic and projections of a decline in poverty and hunger were tempered by rising and more volatile food and energy prices. Drivers of hunger and food insecurity are presented, including conflicts, economic slowdowns and downturns, and climate variability, as well as the impact of urbanization. Current and longer-term threats to global food security are also identified. The last section of the document presents an update on the impacts of the war in Ukraine and the current conflict in Gaza and its food security implications.

Suggested action by the Council

The Council is invited to note the information in the document and provide guidance as deemed appropriate.

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I. Introduction

1. As the world was beginning to recover from the COVID-19 pandemic, the impacts of the war in Ukraine rattled already volatile food and energy markets – magnifying the effects of other factors and posing new challenges for global food security. Encouraging signs of economic recovery from the pandemic and projections of a decline in poverty and hunger were tempered by rising and more volatile food and energy prices. Building on the Council document CL 172/5, the present document provides an update on the global food security situation and considers the drivers of food insecurity, including conflicts, economic slowdowns and downturns, and climate variability, as well as the impact of urbanization. Current and longer-term threats to global food security are also identified. The last section of the document presents an update on the impacts of the war in Ukraine and the current conflict in Gaza and its food security implications.

II. Global food security situation

Chronic food insecurity

2. No progress has been made in combating global food insecurity, according to the most recent assessment presented in the 2023 edition of *The State of Food Security and Nutrition in the World* (SOFI). Hunger and food insecurity remain far above pre-COVID-19-pandemic levels and far off track to achieve Sustainable Development Goal (SDG) 2.

3. Global hunger, measured by the prevalence of undernourishment (SDG Indicator 2.1.1), remained relatively unchanged from 2021 to 2022, affecting around 9.2 percent of the world population in 2022, compared with 7.9 percent in 2019. It is estimated that between 691 and 783 million people in the world faced hunger in 2022. Considering the midrange (about 735 million), 122 million more people faced hunger in 2022 than in 2019, before the global pandemic.

4. The relative lack of change in hunger at the global level from 2021 to 2022 hides substantial differences at the regional level. Progress was made towards reducing hunger in most subregions in Asia and in Latin America, but hunger is still on the rise in Western Asia, the Caribbean and all subregions of Africa. The proportion of the population facing hunger is much larger in Africa compared with the other regions of the world – nearly 20 percent compared with 8.5 percent in Asia, 6.5 percent in Latin America and the Caribbean, and 7.0 percent in Oceania.

5. The prevalence of undernourishment (PoU) in Africa rose from 19.4 percent in 2021 to 19.7 percent in 2022, driven mostly by increases in Northern and Southern Africa. The number of people facing hunger in Africa has increased by 11 million people since 2021 and by more than 57 million people since the outbreak of the pandemic.

6. The PoU in Asia fell from 8.8 percent in 2021 to 8.5 percent in 2022 – a decrease of more than 12 million people, mostly in Southern Asia. However, this is still 58 million above pre-pandemic levels. There were improvements in every subregion except Western Asia, where the PoU increased from 10.2 percent in 2021 to 10.8 percent in 2022.

7. A turnaround also occurred in Latin America and the Caribbean, where the PoU fell from 7.0 percent in 2021 to 6.5 percent in 2022 – a decrease of 2.4 million in the number of people facing hunger, but still 7.2 million more than in 2019. The decrease was driven by South America and masks a notable increase in the Caribbean, from 14.7 percent in 2021 to 16.3 percent in 2022.

8. It is projected that almost 600 million people will be chronically undernourished in 2030. This is about 119 million more than in a scenario in which neither the pandemic nor the war in Ukraine had occurred, and around 23 million more than if the war in Ukraine had not happened. This points to the immense challenge of achieving the SDG target to eradicate hunger, particularly in Africa.

9. The prevalence of moderate or severe food insecurity at the global level (SDG Indicator 2.1.2) remained unchanged for the second year in a row after increasing sharply from 2019 to 2020. About 29.6 percent of the global population – 2.4 billion people – were moderately or severely food insecure in 2022, of which about 900 million (11.3 percent of people in the world) were severely food

insecure. The only region showing encouraging progress is Latin America and the Caribbean, where moderate or severe food insecurity decreased from 40.3 percent in 2021 to 37.5 percent in 2022, the equivalent of 16.5 million fewer people in one year, mainly in South America.

10. A comparison of food insecurity among rural, peri-urban and urban populations reveals that global food insecurity, at both levels of severity, is lower in urban areas. Moderate or severe food insecurity affected 33.3 percent of adults living in rural areas in 2022 compared with 28.8 percent in peri-urban areas and 26.0 percent in urban areas.

11. Food insecurity affects women more than men in every region of the world. However, the gender gap in food insecurity at the global level, which had widened in the wake of the COVID-19 pandemic, narrowed from 3.8 percentage points in 2021 to 2.4 percentage points in 2022, suggesting that the disproportionate impacts of the pandemic on women's food insecurity have eased globally and in some regions. The gender gap diminished notably in Asia and in Latin America and the Caribbean but widened in Africa, Northern America and Europe.

12. The cost of a healthy diet rose globally by 4.3 percent in comparison to 2020, and by 6.7 percent compared to the pre-COVID-19-pandemic levels, in 2019. This increase is due to the overall rise in food inflation in 2020 and 2021, driven in part by the persisting effects of the pandemic. More than 3.1 billion people in the world – or 42 percent – were unable to afford a healthy diet in 2021. While this represents an overall increase of 134 million people compared to 2019, before the pandemic, the number of people unable to afford a healthy diet actually fell by 52 million people from 2020 to 2021.

Acute food insecurity

13. Over the past seven years, the number of people facing acute food insecurity, both in terms of absolute numbers and the percentage of the analysed population in the three highest acute food insecurity phases, witnessed an upward trend. This reflects the deteriorating food security contexts in a number of countries but also an increased availability of data and broader geographical coverage of the analysis.

14. According to the September 2023 update of the Global Report on Food Crises (GRFC), up to 238 million people were projected to face acute food insecurity and to be in need of urgent assistance (IPC/CH Phase 3 or above or equivalent) in 48 countries/territories in 2023. When comparing data from the 48 countries included in both the GRFC 2023 and the GRFC 2023 Mid-Year Update, the number of people in IPC/CH Phase 3 or above or equivalent has increased by around 10 percent, from 216.25 million in 2022. This is due both to expanding analysis coverage among already vulnerable populations and persistent or intensifying drivers. Overall, in these 48 countries, the proportion of the analysed population facing high levels of acute food insecurity marginally declined from 22 percent in 2022 to 21 percent in 2023. An update will be provided in the 2024 GRFC.

15. By early August, 33.64 million people faced, or were projected to face, IPC/CH Phase 4 – an extremely severe situation where urgent action is needed to save lives and livelihoods and the final alert to avoid extreme outcomes – in 36 countries with IPC/CH data. When comparing the same countries with disaggregated data in 2022 and 2023, the prevalence had remained unchanged at 3.8 percent of the analysed population with notable differences by country. Catastrophe (IPC/CH Phase 5) is the most severe phase of acute food insecurity. As of early August 2023, about 128 600 were estimated or projected to be in IPC/CH Phase 5 during the peak analyses in four countries.

16. In addition, FAO and the World Food Programme (WFP) develop the hunger Hotspots report[1] where an assessment is done of the countries that are expected to face worsening of acute food insecurity in the coming months. The latest report of October 2023 identifies 18 hunger hotspots, comprising a total of 22 countries or territories. These are countries/situations that are expected to

[1] https://www.fao.org/3/cc8419en/cc8419en.pdf

face worsening acute food insecurity from November 2023 to June 2024 unless immediate assistance is provided.

17. Hunger hotspots are categorized in three different levels of concern: Highest concern, very high concern and other hunger hotspots.

18. The highest concern category are hotspots that have populations that either experience Famine or a Risk of Famine or are facing or projected to face starvation or are at risk of deterioration towards catastrophic conditions, given they have populations already facing critical food insecurity (Emergency, IPC/CH Phase 4) and are facing severe aggravating contextual drivers. The countries under this category are Burkina Faso, Mali, South Sudan and Sudan remain at the highest concern level, as in the May edition. Palestine was added to the list of hunger hotspots of highest concern due to the severe escalation of conflict in October 2023.

19. The very high concern category are hotspots that have a high number of people facing critical acute food insecurity (Emergency, IPC/CH Phase 4), coupled with worsening drivers that are expected to further intensify life-threatening conditions in the coming months. The countries under this category are: Afghanistan, Democratic Republic of the Congo, Ethiopia, Haiti, Pakistan, Somalia, the Syrian Arab Republic and Yemen.

20. Finally, the other hunger hotspots are countries or territories in which acute food insecurity is likely to deteriorate further during the outlook period, these involve the Dry Corridor of Central America (El Salvador, Guatemala, Honduras, and Nicaragua) and Malawi which remain hunger hotspot countries.

III. Drivers of food insecurity

21. Since 2017, *The State of Food Security and Nutrition in the World* (SOFI) report has identified and analyzed the major drivers behind the increasing trends of hunger, food insecurity and malnutrition in the world. Strong evidence has emerged pointing to conflict, climate variability and extremes and economic slowdowns and downturns as the three major drivers external to agrifood systems that are behind the food insecurity of millions of people. The adverse effect of these drivers is exacerbated by poverty and inequality, which are structural causes of food insecurity, and by the unaffordability of healthy diets, a driver internal to agrifood systems.[2]

22. These drivers are not only behind structural, long-term chronic food insecurity.[3] Conflict, economic shocks and weather extremes are also the main drivers of the current high levels of acute food insecurity situations that require urgent humanitarian response.[4] This can be expected as chronic and acute food insecurity are not unrelated phenomena; in fact, shocks and protracted crises that drive acute food insecurity can occur so often and repeatedly that they provoke deterioration in chronic, more long-term structural food insecurity.[5]

23. Both the COVID-19 pandemic and the ongoing war in Ukraine are manifestations of these major drivers on a global scale. The COVID-19 pandemic and efforts to contain it unleashed one of the worst global economic recessions in decades. The war in Ukraine has had significant economic repercussions in terms of global food, agricultural inputs, and energy prices.[6] The recent outbreak and escalation of the conflict in Israel and Palestine is yet another crisis with far reaching impacts on acute and chronic food insecurity.

[2] https://www.fao.org/3/cb4474en/cb4474en.pdf
[3] https://www.fao.org/3/cb4474en/cb4474en.pdf
[4] https://www.fsinplatform.org/global-report-food-crises-2023
[5] For instance, people facing acute food insecurity (IPC/CH Phase 3 or above) increased from 21.8 percent to 22.5 percent of the analysed population between 2021 and 2022. In the same period, PoU increased from 20.8 percent to 21.3 percent of the combined populations of those 48 countries. See https://www.fao.org/3/cc3017en/cc3017en.pdf
[6] https://www.fao.org/3/cc3017en/cc3017en.pdf

The major drivers of food insecurity are intensifying and occurring more frequently

24. Conflict negatively affects almost all the components of agrifood systems, creating significant impacts on hunger and food insecurity.[7] Conflict may lead to the destruction of agricultural and livelihood assets (such as land, livestock, crops, seed stocks or irrigation infrastructure), may force or corrupt seizure of natural resources, and cause displacement from land, livestock grazing areas and fishing grounds. Conflict disrupts the flow of food, labour, and other essential items through markets; creates shortages of foods and contributes to price hikes, thereby damaging market functionality.

25. The number of countries affected by conflict has increased in the last 20 years: while in 2000 the total number of conflicts (including state-based violence, non-state violence and one-sided violence) tracked by the Uppsala Conflict Data Programme totaled 121, the latest data indicate 170 conflicts in 2021.[8]

26. Climate variability and extremes negatively affect agricultural productivity and increase the demand in food imports as countries try to compensate for domestic production losses. Climate extremes often lead to losses in agricultural income and cause food price spikes and volatility, reducing access to food and negatively affecting the quantity, quality and dietary diversity of food consumed. The quality and safety of food can be also compromised in case of crop contamination and outbreaks of pests and diseases.[9]

27. The frequency of disaster events has risen in the last decades, from 100 events per year in the 1970s to around 400 in the last two decades. Most of the rise can be attributed to the increased number of climate-related events such as floods, droughts, and extreme temperatures. Most of the more than 400 disaster events reported in 2022 were climate related.[10]

28. Economic slowdowns or downturns primarily impact agrifood systems through their negative effects on people's access to food, including the affordability of healthy diets, as they lead to rises in unemployment and declines in wages and incomes. This is the case irrespective of whether they are driven by market swings, trade wars, political unrest, or a global pandemic such as COVID-19. The poor who spend a large share of their income on food and depend on markets for a significant portion of their diets, are especially vulnerable to economic slowdowns and downturns.[11]

29. Even before the COVID-19 pandemic, economic slowdowns, stagnation and recessions were evident in several economies. For instance, the percentage of countries experiencing economic downturns in sub-Saharan Africa, Latin America and Western Asia increased from 25 percent in 2014 to 38 percent in 2019.[12] The expected economic recovery after COVID-19 was hampered by the war in Ukraine, which has shaken food and energy markets. Rising global food prices have been reflected in the last stagnating results in hunger reduction in 2022.[13]

30. In addition, poverty and inequality and sociocultural stratification, including gender and power dynamics are also important structural factors that magnify the negative effects of conflict, climate variability and extremes and economic slowdowns and downturns on food security. The evidence is particularly strong in demonstrating that income inequality amplifies the negative effect of economic slowdowns or downturns on people's food security.[14]

31. The 2021 edition of *The State of Food Security and Nutrition in the World (*SOFI) report showed that, during 2010-2018, increases in the PoU often occurred where conflict, climate variability and extremes, and economic slowdowns and downturns affected countries. The report showed that 55 percent of the low- and middle-income countries that experienced increases in hunger

[7] https://www.fao.org/3/i7695en/i7695en.pdf; https://www.fao.org/3/cb4474en/cb4474en.pdf.
[8] https://ucdp.uu.se.
[9] https://www.fao.org/3/cb4474en/cb4474en.pdf; https://www.fao.org/3/i9553en/i9553en.pdf.
[10] https://www.fao.org/3/cc7900en/cc7900en.pdf.
[11] https://www.fao.org/3/cb4474en/cb4474en.pdf; https://www.fao.org/3/ca5162en/ca5162en.pdf.
[12] https://www.fao.org/3/cb4474en/cb4474en.pdf;
[13] https://www.fao.org/3/cc3017en/cc3017en.pdf;
[14] https://www.fao.org/3/ca5162en/ca5162en.pdf.

also witnessed the occurrence of at least one of the drivers during 2010-2018. In 40 out of 60 countries, the increases in the PoU were seen in countries affected by a combination of drivers.[15]

Multiple drivers are affecting the countries most affected by hunger

32. In the last ten years, conflicts, climate extremes and economic shocks have been increasing in frequency and intensity and are more often occurring in combination in several countries. Most chronically undernourished people live in low- and middle-income countries affected by multiple drivers.

33. Countries affected by multiple drivers have shown increases in the PoU that are up to 12 times larger than the increase seen in countries affected by only a single driver. Low-income countries affected by conflict and climate extremes show the largest increase in the PoU, while for middle-income countries, the largest increase occurs during economic downturns. Africa is the only region with PoU increases associated with all three drivers.

34. The negative impact of these major drivers on food security are exacerbated by, and contributing to, worsening high and persistent levels of inequality. High levels of inequality magnify the vulnerability to, and thus the negative effect of, these major drivers, especially in middle-income countries.

35. The global economic recession following the COVID-19 pandemic containment measures resulted in significant increases in hunger in every region in the world in 2020, and though these increases slowed, hunger continued to increase in 2021. However, the highest increases in food insecurity during this time were seen where countries were not only struggling with the effects of the COVID-19 pandemic but also with those of the other major drivers of food security.[16]

Urbanization is a megatrend creating challenges and opportunities for food security

36. The major drivers of food insecurity will continue, requiring countries to take actions to build resilience against them. However, urbanization is a megatrend that must be factored into our efforts to end hunger, food insecurity and malnutrition in all its forms. By 2050, it is projected that almost seven in ten people will live in cities, but even today the proportion is about 56 percent. New global estimates show that while food insecurity is higher in rural areas (affecting 33 percent of adults), it is also very high in peri-urban areas (28 percent) and urban areas (26 percent).[17]

37. Urbanization is increasingly driving changes in agrifood systems across the rural-urban continuum, creating both challenges and opportunities for food security and access to affordable healthy diets. Urbanization is leading to rising and changing food demand and shifts in patterns of food supply – especially in sub-Saharan Africa and Southern Asia, the two regions exhibiting the highest urbanization rates.[18]

38. A critical challenge is that urbanization is resulting in a greater availability of cheaper, convenient, and fast foods. But these are often energy dense and high in fats, sugars and/or salt that can contribute to malnutrition. In nearly every region of the world, there is insufficient availability of vegetables and fruits to meet the daily requirements of healthy diets.[19] While more advanced in Asia, Latin America and the Caribbean, new analysis shows that highly processed foods have penetrated even in Africa's rural areas.

39. Urbanization and increasing connectivity across the rural-urban continuum are creating other challenges for food security, including the exclusion of small farmers from formal value chains as well as the loss of lands and natural capital due to urban expansion.

[15] https://www.fao.org/3/cb4474en/cb4474en.pdf.
[16] https://www.fao.org/3/cc3017en/cc3017en.pdf.
[17] https://www.fao.org/3/cc3017en/cc3017en.pdf.
[18] https://www.fao.org/3/cc3017en/cc3017en.pdf.
[19] https://www.fao.org/3/cc3017en/cc3017en.pdf.

40. On the other hand, urbanization presents opportunities as it results in longer, more formal and complex food value chains that expand income-generating activities, increases the variety of nutritious foods, and increases access to agricultural inputs and services as urban areas grow closer to rural areas.[20]

IV. Threats to world food security

41. Challenges described in the previous section require close monitoring and the creation of an adequate and sustained financial and political capacity to respond effectively. This section highlights the most pressing challenges in 2024.

Macroeconomic risks in 2024

42. In October 2023, the International Monetary Fund (IMF) issued its updated World Economic Outlook[21]. The report highlights that the global recovery from the COVID-19 pandemic and the war in Ukraine remains slow and uneven. In fact, economic recovery is below pre-pandemic levels, particularly in emerging economies and developing countries.

43. Global growth is projected to remain below its historical average over the last two decades and drop to 2.9 percent in 2024 from 3.5 percent in 2022 and 3.0 percent in 2023.

44. Economic growth in advanced economies is projected to slow from 2.6 percent in 2022 to 1.5 percent in 2023 and 1.4 percent in 2024, due to weaker than expected growth in the euro zone. Economic growth in emerging economies and developing countries is projected to decline slightly from 4.1 percent in 2022 to 4.0 percent in both 2023 and 2024.

45. At the same time, global inflation declined from 8.7 percent in 2022 to 6.9 percent in 2023 and is projected to drop further to 5.8 percent in 2024, due to tighter monetary policy aided by lower international commodity prices. Nevertheless, the report highlights that inflation remains high and is not expected to return to target until 2025 in most cases.

46. According to the latest update of the IMF's Global Debt Database, global debt continued to fluctuate in 2022, falling 10 percentage points of gross domestic product (GDP) for the second consecutive year to 238 percent of GDP, reversing about two-thirds of the 2020 surge in debt. According to the IMF, this reduction is explained by the rebound in economic activity, after a sharp contraction in the early stages of the COVID-19 pandemic.

47. It should be noted, however, that this decline is mostly driven by private debt, while the public debt remains high. As such, as of 31 August 2023, and based on the most recently published data, out of the 69 low-income countries eligible for the IMF's Poverty Reduction and Growth Trust (PRGT), 10 countries are in debt distress, 26 are at high risk, 26 are at moderate risk, and only seven countries are at low risk of debt distress.

48. This is also linked to the external account crisis and currency depreciation. Given the dominance of the United States (US) dollar in international transactions, including for food commodities, its appreciation can have significant implications for many countries, in particular net importers of food and/or agricultural inputs, and increase the financial burden and debt pressure especially on the heavily indebted poor countries.

International food prices and import costs

49. International food commodity prices started to increase in mid-2020 due to tight supplies across several critical staple food commodities, primarily attributed to COVID-19-related disruptions, and continued strong demand and peaked immediately after the outbreak of the war in Ukraine at the end of February 2022.

[20] https://www.fao.org/3/cc3017en/cc3017en.pdf.
[21] https://www.imf.org/en/Publications/WEO/Issues/2023/10/10/world-economic-outlook-october-2023

50. In March 2022, the FAO Food Price Index (FFPI) reached its peak of 159.7 points, up to 13.1 percent from the previous month and almost 34 percent higher than its already elevated value one year before.

51. Regarding specific commodities, in March 2022, world prices of vegetable oils and cereals rose month-on-month by as much as 24.8 and 17.1 percent, respectively, amidst concerns about availability of export supplies from both the Russian Federation and Ukraine.

52. The FFPI has declined since then, and in October 2023 it averaged 120.8 points, down 10.9 percent from its value a year ago and as much as 24.4 percent below its all-time high reached in March 2022; however, this decline masks significant different developments across commodities. For example, while international wheat prices were at their lowest levels in three years, those of sugar reached their highest level since November 2010. Similarly, world prices of rice, a staple for a large part of the global population, increased significantly in 2023, mostly on account of export bans imposed by major exporting countries and concerns about the impact of El Niño on production.

53. Lower world grain prices could provide some respite for food-importing, developing countries. However, increases in the prices of other essential commodities, the stronger US dollar and continuing balance of payments problems in many net food-importing developing countries are likely to offset the gains.

54. The overall increases in international food commodity prices have led to higher import costs. The global food import bill (FIB) is forecast to reach USD 2 trillion in 2023, representing a 1.8 percent or USD 35.3 billion increase over the record high registered in 2022.[22] While marking a new absolute high, the speed of increase of the global food import bill in 2023 is anticipated to slow down significantly relative to 2022 and 2021, when growth rates reached 11 and 18 percent, respectively. From a food group perspective, the divergent trends observed in 2022 will likely persist in 2023.

55. The decline of world food prices should not be interpreted as market stability. Global markets remain vulnerable to risks and uncertainties, including extreme weather events, increasing conflicts and geopolitical tensions, macroeconomic challenges, tightening financial conditions, mounting debt levels, sudden changes in trade policies, and developments in other related markets.

Agricultural input prices

56. World fertilizer prices have soared since late 2021, as a result of the rising energy and natural gas prices, the disruptions caused by the COVID-19 pandemic, and trade restrictive measures imposed by some major exporting countries. Owing in large measure to rising prices for natural gas, the main feedstock for the production of N-fertilizer, world prices of urea, a key N-fertilizer, reached USD 925 per metric tonne in April 2022, nearly four times their average level in 2020. Prices for urea have retreated significantly since then, down to USD 380 per metric tonne in September 2023; however, they remain almost 1.5 times higher than their levels three years ago.

57. The global agricultural input import bill[23] was estimated to increase by 48 percent in 2022, to reach USD 424 billion. Similar to the global food import bill, the sharp increase in the import bill for agricultural inputs is mostly driven by higher prices. Higher bills for imported inputs added to the rising food import bills and, together with currency depreciation against the US dollar in many countries, have further aggravated existing balance of payments problems for low-income countries.

58. While overall availability of fertilizers has improved globally, affordability and accessibility continue to be a major concern, especially in low-income countries. The situation could lead to less application of fertilizers, and thus lower yields and production.

[22] https://www.fao.org/3/cc8589en/cc8589en.pdf

[23] The agricultural input import bill includes seeds, fertilizers, pesticides and energy for agricultural use.

Structural and long-term challenges

59. Economic growth and population dynamics are driving the structural change of economies.[24] Population dynamics remain a key driver of changes in the demand for food. Among these dynamics, ageing and urbanization have important repercussions for agriculture and rural communities.

60. As a whole, the world population is growing older. Ageing is now also accelerating in low-income countries, where the process tends to start earlier and is becoming more pronounced in rural areas, leading to changes in the composition of the rural labour force, pressures on the health sector, and inter-generational income inequalities.

61. Urbanization, the focus of the 2023 SOFI report, alters food consumption patterns towards processed foods, animal-source foods, and fruits and vegetables. The shift in consumption patterns necessitates a shift in employment within the agrifood systems – away from production to services, including transport, wholesaling, retailing, food processing and vending. Changing the nutrient content of diets also has implications for healthcare costs.

62. Agricultural productivity has been lagging behind and investment in innovations, especially those benefitting the poorest farmers, has been insufficient. The last 10 years have been marked by a slower yield growth for most food crops and falling total factor productivity in agriculture. Without a strong boost in agricultural productivity growth in a sustainable manner, especially in low-income countries, international and domestic imbalances will continue to grow and pressure on natural resources (namely water and land) will increase, leading to vicious circles of poverty, food insecurity and malnutrition.

V. Impacts of the war in Ukraine

63. The outbreak of the war in Ukraine in late February 2022 and the disruptions that it immediately caused to world markets and trade, by impacting trade logistics and transport routes, stirred a number of scenarios regarding its potential global impacts given the importance of the Russian Federation and Ukraine in global agricultural markets.

64. While the worst-case scenarios envisaging a total halt of exports from both countries and/or a total collapse of the agricultural sector in one or both countries did not happen, the ripple effects of the war, coupled with other factors, have impacted production and trade, as well as food and input prices across the globe.

65. Both Ukraine and the Russian Federation are major producers of agricultural commodities in the world as well as net exporters of basic foods to many countries that are highly dependent on imported foodstuffs and fertilizers including many Least Developed Countries (LDCs) and Low-Income Food-Deficit Countries (LIFDCs).

Trade and market profiles of the Russian Federation and Ukraine

66. Trade and market profiles can change yearly, affected by production outcomes as well as policy-induced decisions in the major producing and exporting countries. In this context, the market and trade profiles of the Russian Federation and Ukraine have altered since the outbreak of the war, with implications for the rest of the world.

67. The share of wheat exports from the Russian Federation increased from 16.8 percent in 2021/22 marketing year (July/June) to 20 percent in 2022/23 and, considering the recurring bumper harvest in 2023, it is expected to grow further to 25 percent in 2023/24.

68. On the other hand, the share of Ukraine's wheat exports in global wheat exports decreased from 9.6 percent in 2021/22 (July/June), a year in which exports where already affected by the war induced marketing challenges, to 8.4 percent in 2022/23. A further contraction, to a mere 5 percent of

[24] A number of global and long-term trends influencing food security, poverty and the overall sustainability of food and agricultural systems are discussed in *The future of food and agriculture: Drivers and triggers for transformation*, released in late 2022. https://www.fao.org/3/cc0959en/cc0959en.pdf

the total global exports, is forecast for 2023/24. This decline is mainly driven by expected reductions in the production as a direct result of active hostilities and lack of profitable marketing channels in the absence of reliable maritime routes.

Facilitating exports from Ukraine

69. The implementation of the Black Sea Grain Initiative (BSGI), formally known as the Initiative on the Safe Transportation of Grain and Foodstuffs from Ukrainian Ports, was launched by the United Nations, Türkiye, the Russian Federation and Ukraine on 22 July 2022. In addition, a Memorandum of Understanding was signed between the Russian Federation and the Secretariat of the United Nations on promoting Russian food products and fertilizers to the world markets.

70. The BSGI was extended three times – by 120 days in November 2022, by 60 days in March 2023 and again in May 2023. The latest extension of the Initiative expired on 17 July 2023, and it was not renewed further.

71. The BSGI successfully enabled the resumption of exports of grains, other foodstuffs and fertilizers, including ammonia, through a safe maritime humanitarian corridor from three key Ukrainian ports. Despite the continuing war in Ukraine, the initiative contributed to improving global food availabilities and stabilizing world food markets.

72. The BSGI facilitated the export of 32.9 million tonnes of agricultural commodities from Ukraine. About half of the shipped volume was maize, while wheat accounted for slightly over a quarter. The total amount also included over 725 000 tonnes of grain shipped on vessels chartered by WFP in support of its humanitarian operations elsewhere.

73. The European Union's "Solidarity Lanes" were introduced in May 2022 to ensure Ukraine can export grains, but also import the goods it needs, from humanitarian aid to animal feed and fertilizers. Between March 2022 and September 2023, over **51.5 million tonnes** of grain, oilseeds and related products left Ukraine through the Solidarity Lanes. However, non-marine shipping channels (rail, road, river) are costlier than maritime shipping, in practice eroding farm gate prices that Ukrainian farmers receive. Continuing attacks on infrastructure are further increasing logistical and marketing costs.

Prospects of the Ukrainian grains sector

74. While, as of early October 2023, global markets for the main food commodities exported by Ukraine were well supplied, the absence of reliable marine shipping routes could impact availability in global food markets in case of unforeseen shocks.

75. In the same context, any disturbance to the Black Sea shipping routes in general, including attacks on infrastructure or vessels, would result in an increase in insurance premiums, make the routes commercially unviable, and put an upward pressure on both the level and volatility of food prices.

76. In the longer term, farmers in Ukraine will respond to lack of economically profitable marketing channels. Low profitability of farming, because of both high input costs and depressed farm gate prices, will alter future land allocation to different crops and consequently production. If marketing of cereals remains a challenge due to insufficient and/or economically unappealing marketing opportunities, farmers will likely allocate area to more profitable crops, such as oilseeds.

77. Furthermore, the destruction of the Kakhovka Dam in June 2023, although with relatively contained short-term damages, can have long-term environmental and economic impacts. Contamination may affect soil fertility, availability of drinking water for people and livestock, biodiversity and overall ecosystem in the lower part of the Dnipro River. In the long term, the use of irrigation systems, unless the water in the reservoir increases to the levels that make pumping feasible, will remain constrained. The disruption in irrigation on both sides of the Dnipro River will have a significant impact on the production of nutritious high value foods, such as fruits and vegetables, sold mostly on the domestic markets.

78. FAO has carried out a series of complementary assessments and sectoral analyses to better understand the impact of the war on Ukraine's agricultural sector. According to the main findings, the war has had a significant impact on agricultural enterprises in the country, resulting in a decline in agricultural production due to increased production costs, reduced sales revenues, and reduced availability of inputs.

79. In the agrifood value chains, a cessation of operations or failure to deliver by input suppliers occurred, coupled with a collapse in the supply of crop inputs and disruptions in output markets, which is also leading to business diversification among enterprises. Lack of access to credit further hinders production. While the impact of the war on agricultural enterprises has been widespread throughout the country, it has been more pronounced among enterprises operating in areas along the frontline oblasts.

80. FAO provides ongoing operational, programmatic, and technical support to Ukraine. A notable example of such support is the facilitation of a voucher system, which is becoming increasingly essential for delivering emergency assistance to rural farming households in conflict-affected areas of the country.

81. This approach not only provides flexibility and dignity to households but also empowers them to make decisions that best meet their needs. Furthermore, FAO is actively involved in tailoring cash assistance packages to suit the Ukrainian context, particularly in frontline areas. This involves the piloting of targeted sectoral cash strategies, which have proven highly effective in addressing complex logistical challenges while delivering critical support to protect the agricultural livelihoods of households heavily impacted by the war.

VI. Food Security Situation in Gaza

Situation overview

82. Since the start of the conflict between Israel and the Occupied Palestinian Territory (OPT), on 7 October 2023, the situation particularly in Gaza, has led to a humanitarian and food security crisis. Over half of Gaza's population of 2.1 million people has been internally displaced, and the majority urgently requires food assistance. Even before the current crisis, over 1.8 million Palestinians needed food security and livelihood assistance, covering 53 percent of the population in Gaza and 11 percent in the West Bank.[25]

83. The primary cause of food insecurity before 7 October was the lack of economic access to food due to high levels of poverty driven by unemployment. Significant transaction costs resulting from limitations under the occupation on movement, access, and trade pose immediate impediments to Palestinian economic growth, followed by energy and water insecurity. [26] Prolonged restrictions on access to sea, land, and markets for inputs and trade have adversely affected agricultural activities, deepening the vulnerability of agricultural livelihoods. In the West Bank, agriculture-dependent communities, particularly Bedouins and herders in Area C,[27] have faced challenges accessing water, grazing land, and animal health services.[28] In the Gaza Strip, up to 35 percent of agricultural land was inaccessible due to Israeli military restrictions,[29] and access restrictions to fishing areas have undermined the fisheries sector. [30]

84. While the OPT heavily depends on imports to meet domestic demand for agricultural products, particularly cereals and animal feed, it is largely self-sufficient in vegetables, grapes, figs, olive oil, meat, eggs, and honey[31] — fundamental elements of a healthy and diverse diet. Fishery production is also vital in Gaza and serves as a major source of nutritional diversity.[32] Livestock accounts for 45 percent of total agricultural value, with small-scale farmers, herders, and fisherfolk being the primary agricultural producers.[33]

85. Beyond the immediate impact on lives, displacement, production, and the availability of food and fuel, the conflict will have long-lasting implications for food security, nutrition, and agriculture.

86. The long-term implications of the current conflict on agriculture, agricultural-based livelihoods, and access to healthy diets will be far greater than in previous conflicts. While the extent of the damage is still unknown, in Gaza, it is likely that most of the agricultural infrastructure, soil, and land will be negatively affected, and the current stock of livestock will be decimated due to the inability to feed and water animals as well as emergency consumption. Reconstruction of the agricultural sector will require significant resources, and FAO stands ready to contribute with its technical expertise.

Current Situation

87. In the Gaza conflict, the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) reports up to the 33rd day of conflict devastating human tolls with 10 569 Palestinians killed,

[25] GRFC (2023)
[26] USAID, 2023. https://www.state.gov/reports/2023-investment-climate-statements/west-bank-and-gaza/
[27] Established under the Oslo Accords, Area C- is an administrative zone controlled by Israeli Occupation, rich in natural and agricultural resources, and constitutes about 60 percent of the West Bank and contains the Israeli settlements in the territory. Use of resources in Area C is heavily restricted for Palestinians. Niksic, et al, 2014. Area C and the Future of the Palestinian Economy. The World Bank
[28] FAO, 2020. Palestine Humanitarian Response Plan 2020. https://www.fao.org/3/ca7807en/CA7807EN.pdf
[29] WFP, 2023. Evaluation of State of Palestine WFP Country Strategic Plan 2018-2022.
[30] OCHA, 2019. https://www.ochaopt.org/content/gaza-s-fisheries-record-expansion-fishing-limit-and-relative-increase-fish-catch-shooting
[31] WFP, 2023. Evaluation of State of Palestine WFP Country Strategic Plan 2018-2022.
[32] OCHA, 2019. https://www.ochaopt.org/content/gaza-s-fisheries-record-expansion-fishing-limit-and-relative-increase-fish-catch-shooting
[33] FAO, EU and CIRAD, 2023

including 4 324 children and 2 823 women, and 26 475 injured. Over 2 450 people are missing, prompting mass graves due to the lack of space[34].

88. In Israel, 1 400 Israelis and foreign nationals were killed, with 5 400 injured.

89. Crossings with Egypt and Israel remain constrained, sea access is prohibited, and fishing halted. Despite 106 trucks of humanitarian supplies entering Gaza, bringing the total number of trucks that entered to at least 756, fuel crucial for life-saving equipment is banned by Israeli authorities.

90. Fuel shortages affect hospitals, leading to closures. OCHA reports attacks on hospitals and calls for evacuations, exacerbating the health crisis. Electricity and water supply issues persist, with Gaza's water wells shutting down, affecting non-drinking water sources. Despite some operational desalination plants, challenges in water distribution among internally displaced persons (IDPs) persist, intensifying the humanitarian crisis.

91. According to OCHA, about half of the 120 municipal water wells across the Gaza Strip, which resumed operations on 6 November after receiving fuel from the United Nations Relief and Works Agency (UNRWA) and the United Nations Children's Fund (UNICEF), shut down on 8 November, and the rest are expected to do so on 9 November as fuel is exhausted. The water extracted from these wells is brackish and meant only for non-drinking domestic uses. OCHA added that in northern Gaza, neither the water desalination plant nor the Israeli pipeline is operational. Municipal staff are struggling to access some of the water wells producing brackish water. For the past week, partners specializing in water, sanitation, and hygiene (WASH) have been unable to distribute bottled water among IDPs accommodated in shelters in the north. As for the south, the two desalination plants are currently operational, alongside two pipelines from Israel connected to the Deir al Balah and Khan Younis, which are providing households connected to the network with drinking water for a few hours per day.

92. Mass displacement across the Gaza Strip has continued since Israel's evacuation order on 12 October. According to OCHA, the number of IDPs since the start of hostilities is estimated at nearly 1.5 million, including over 725 000 IDPs staying in 149 UNRWA-designated emergency shelters (DES). An estimated 160 000 of these IDPs are housed in 57 UNRWA facilities in the north and in Gaza city, whom UNRWA is no longer able to provide services to. In addition, about 131 134 IDPs are staying in 94 non-UNRWA shelters, 122 000 took shelter in hospitals, churches, and other public buildings, and the remainder with host families. In addition, vehicles of those evacuating the north were hit, killing and injuring many. These incidents prompted many people to abandon their evacuation efforts and return home.

Impact on agriculture, livelihoods, and food security

93. Protracted conflict and the current escalation in Gaza are expected to further erode the economic viability and long-term sustainability of various sectors, including agriculture, and exacerbate the already critical food insecurity levels. The limited availability of, and constrained access to, natural resources hamper domestic food production, leading to increased dependency on food imports, which are currently constrained. Meanwhile, in the West Bank, persistent violence, land loss, property destruction, and restricted access to territory, natural resources, markets, and essential services continue to undermine livelihoods.

94. Before the current crises, nearly 1.8 million people, one-third of the Palestinian population, are estimated to be food insecure in 2023. Of which, 1.1 million are severely food insecure; most of them (90 percent) live in the Gaza Strip. Food insecurity is driven by high rates of poverty resulting from unemployment, which is in part due to Israeli access and movement restrictions that are expected to further heighten, as well as high prices for food and economic shocks.

95. Agriculture plays a significant role in the Palestinian economy, contributing significantly to income, food security, and job opportunities. Agricultural land in Gaza is concentrated in the eastern

[34] The OCHA Flash Update 7 November 2023

and southern peri-urban areas bordering Israel. In case of a land attack, crops are expected to be destroyed.

96. While agricultural land in Gaza is limited, and up to only 10 percent of the population relies on agriculture as a main source of income, agriculture remains an important part of the Gaza economy and constitutes the only significant source of export revenues.

97. As a result of this conflict, the lack of electricity has had a detrimental effect on food security. It disrupted refrigeration, irrigation, and incubation devices, severely impacting agricultural livelihoods (poultry, cattle, fish, and other products). Poultry farms have also been devastated due to restricted access to fodder.

98. According to OCHA, as of 8 November, no bakeries were active in the north, due to the lack of fuel, water, and wheat flour, as well as the damage sustained by many. Currently, wheat flour is reportedly no longer available in the market throughout the north. Food security partners have been unable to deliver assistance in the north for the past eight days (as of 8 November). OCHA added that no food is provided in the shelters, and people are merely surviving with limited assistance by local NGOs and community-based organizations, which resulted in negative coping mechanisms due to food scarcity, including skipping or reducing meals and using unsafe and unhealthy methods for making fire. People are reportedly resorting to unconventional eating, such as combinations of raw onion and uncooked eggplant.

99. OCHA stated that access to bread in the south is also challenging. The only operative mill in Gaza remains unable to grind wheat due to a lack of electricity and fuel. OCHA added that 11 bakeries have been hit and destroyed since 7 October. Only one of the bakeries contracted by WFP, along with eight other bakeries in the south, intermittently provide bread to shelters, depending on the availability of flour and fuel. People queue for long hours in bakeries, where they are exposed to airstrikes.

100. OCHA has also stated that food supplies entering from Egypt are primarily distributed to IDPs and host families in the southern part of the Gaza Strip, with only flour being provided to bakeries.

101. Moreover, the lack of access to fodder and the impact of airstrikes have taken a toll, with many breeders, primarily small-scale ones, reporting substantial livestock losses, particularly in the poultry sector. According to OCHA, in various locations, particularly in the East of Khan Yunis, farmers are losing their crops.

102. In the West Bank, rising tensions and the increase in settler violence are inhibiting the agricultural sector, particularly during the olive harvest, the most important crop.[35] Concentrated primarily in the West Bank, olive trees cover more than 50 percent of total cropland in the OPT. Olive production supports the livelihoods of over 75 000 farmers and 100 000 seasonal jobs, contributing to 15 percent of agricultural GDP in 2020.[36] More broadly, severe restrictions on movement and fear of settler attacks have slowed commercial activities in the West Bank. [37]

103. With the expected escalation of hostilities and lack of availability and access to animal feed and fodder, vulnerable herders risk losing their main asset and only source of nutrition and income with a high cost to replace in the future. The blockade of crossings and the ongoing attack on Gaza will have a major impact on the economy, affecting the time-critical availability and cost of agriculture inputs. It is projected that the lack of animal fodder in Gaza and an increase in the import cost (when allowed) will greatly burden farmers. Consequently, there is an urgent need to provide fodder and other essential inputs, such as veterinary medicine, to ensure herders do not suffer from major livestock losses. This is critical given that the high population density coupled with the

[35] https://www.aljazeera.com/features/2023/10/30/bilal-went-out-to-harvest-his-olives-an-israeli-settler-shot-him#:~:text=Palestinian%20Bilal%20Saleh%20was%20shot,%2DSawiya%2C%20occupied%20West%20Bank
[36] FAO, 2023. https://www.fao.org/support-to-investment/news/detail/en/c/1507314/
[37] https://www.aljazeera.com/features/2023/10/28/palestinians-in-occupied-west-bank-face-closures-harassment-and-attacks

proximity of humans and animals can easily transform animal deaths and illnesses into a health emergency for the entire population.

Impact on agriculture, livelihoods, and food security in the world

104. A sustained spike in oil prices would elevate food prices in the world by escalating production and transportation costs for both food and fertilizers, mirroring occurrences during prior oil price spikes. Fertilizer prices may also experience an increase if the prices of natural gas and coal were to markedly rise or if the conflict were to extend, impacting the world's largest exporters of nitrogen-based fertilizers in the region. In this regard, the World Bank has estimated that crude oil prices could surge to more than USD 150 per barrel if the conflict escalates[38].

105. Developments in gas prices pose a more pressing challenge for Europe, as the increase in natural gas prices is propelled by a reduction in global liquefied natural gas (LNG) exports from Israeli gas fields, and the current gas market is less equipped to respond to adverse supply shocks.

106. Lastly, Israel alone contributes to approximately 6 percent of all global potash production. The country stands as the fourth-largest muriate of potash (MOP) exporter globally, following Canada, the Russian Federation, and Belarus, supplying around 8 percent of all global exports in 2022. Although, at this point the MOP market has remained stable.

FAO Response

107. The import of agriculture inputs, tools, and animal fodder from Israel is no longer feasible due to the current supply blockades. FAO interventions may rely on procurement and shipment from Egypt once the Rafah crossing to Egypt opens.

108. Some of the current projects and interventions may need to be redesigned in consultation with the respective resource partners to adapt to the changing priority needs and the volatile operational environment.

109. Two operational scenarios need to be considered; the first involves assessing the support that can be obtained from Egypt in terms of logistics and procuring agriculture inputs. The second scenario pertains to logistics and fodder procurement through Israel when the borders are reopened.

110. Under the updated Humanitarian Flash Appeal[39], FAO requires USD 20 million to provide emergency assistance to 13 100 farmers and herders (70 660 people). FAO’s priority interventions for Gaza include USD 4.7 million for the provision of animal fodder, water tanks, and veterinary kits; USD 5.3 million for livestock restocking; and USD 5 million for the provision of time-critical agricultural inputs. Moreover, FAO’s appeal includes USD 5 million to meet the immediate needs of the most vulnerable farmers in the West Bank, affected by increasing hostilities and movement restrictions.

111. FAO Palestine will participate through the Food Security Cluster and in coordination with the entire Humanitarian System, implementing various assessments, including a Rapid Damage Assessment.

112. FAO Palestine is gearing to conduct a rapid assessment using geographic information system spatial data with the support of HQ, once a ceasefire is announced. The team is preparing an assessment via satellite imagery.

[38] https://www.worldbank.org/en/news/press-release/2023/10/26/commodity-markets-outlook-october-2023-press-release

[39] https://www.ochaopt.org/content/flash-appeal-occupied-palestinian-territory-2023?_gl=1*1g6kv5w*_ga*MTQ0ODI3MzcwNS4xNjQwNzM1OTg2*_ga_E60ZNX2F68*MTY5OTM0MjgwNy4xNzIuMC4xNjk5MzQyODA3LjYwLjAuMA