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Global food security challenges and its drivers: conflicts and wars in Ukraine and other countries, slowdowns and downturns, and climate change

Executive summary

Building on the Council document CL 171/3, which provided an update on the global food security situation and FAO's response, the present document considers the challenges to global food security and its drivers and it also includes a specific section on the impacts of the war in Ukraine on global food security. It identifies current and longer-term threats to global food security, and describes actions needed to mitigate their impacts, particularly on the most vulnerable. The mounting trends of chronic hunger, acute food insecurity and malnutrition are a result of compounding effects of conflicts and wars, climate variability and weather extremes, economic slowdowns and downturns, increasing resource constraints and social and political instability. Underlying conditions, such as poverty and inequality, sometimes underpinned by unfavourable policies, hamper improvements in food security and nutritional outcomes. The last section of the document briefly describes the main actions that need to be taken to overcome the challenges.

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. In 2022, the world continued to cope with overlapping shocks and upsetting recovery from the COVID-19 pandemic. Building on the Council document CL 171/3, which provided an update on the global food security situation and associated risks, and presented an overview of FAO's work in response to the crisis, the present document considers global food security challenges and its drivers, including conflicts and wars in Ukraine and other countries, economic slowdowns and downturns, and climate change. It identifies current and longer-term threats to global food security and describes the actions needed to mitigate the impacts of the crisis, particularly on the most vulnerable.

II. Global food security situation

Chronic food insecurity

2. The latest edition of "The State of Food Security and Nutrition in the World (SOFI)" report, released in July 2022, estimated that the number of undernourished people in the world rose to as many as 828 million in 2021, up 150 million since the outbreak of the COVID-19 pandemic and 46 million more people than in 2020. After remaining relatively unchanged since 2015, the prevalence of undernourishment (PoU) in the world jumped from 8.0 percent in 2019 to 9.3 percent in 2020 and rose in 2021, though at a slower pace, to 9.8 percent.

3. Hunger continued to rise in most of Africa, Asia and Latin America and the Caribbean regions in 2021, but at a slower pace with respect to the previous year. Compared to 2019, the largest increase was observed in Africa, both in terms of percentage and number of undernourished people.

4. Projections suggest that nearly 670 million people would still be undernourished globally in 2030, 78 million more than in a scenario under which the pandemic had not occurred.

5. Estimates of the global prevalence of moderate or severe food insecurity, based on the analysis of data on people's reported experiences associated with limited access to food, collected using the Food Insecurity Experience Scale (FIES), show that, after increasing sharply in 2020 (350 million more compared to before the outbreak of the COVID-19 pandemic), figures remained mostly unchanged in 2021, at around 2.3 billion people, which is nearly 30 percent of the global population.

6. Of great concern is the increase in the prevalence of severe food insecurity from 9.3 percent in 2019 to 11.7 percent in 2021 – the equivalent of 207 million people in only two years, providing additional evidence of a deteriorating situation mainly for people already facing serious hardships.

7. Furthermore, it was estimated that nearly 3.1 billion people globally could not afford a healthy diet in 2020, an increase of 112 million compared to 2019, due to higher food prices.

8. Preparation of the 2023 edition of the SOFI report, which will examine the ways urbanization is reshaping food systems and impacting food security and nutrition, is underway.

Acute food insecurity

9. 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.

10. According to the September 2022 update of the Global Report on Food Crises (GRFC), up to 205 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 45 countries in 2022. If additional data from the latest available analysis of 2022 is included for eight countries and territories, this number is projected to reach up to 222 million people in 53 countries/territories covered by the GRFC 2022. The figure is higher than the one presented in the previous edition of the report, with 193 million people experiencing high levels of acute food insecurity in 53 countries (GRFC 2022). The latest situation

will be provided in the 2023 GRFC, which will be released in May. However, preliminary estimates suggest that the upward trend will continue.

11. The number of people facing Emergency (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 – significantly increased in the past seven years, from 14.5 million people in 14 countries in 2016 to 39 million across 34 countries in 2022.¹ The number of countries with populations facing Catastrophe (IPC/CH Phase 5) is similarly steadily increasing – from two countries in 2016 to three countries in 2020, four in 2021, and seven in 2022. As of January 2023, Catastrophe (IPC/CH Phase 5) is already projected for the populations of six countries.

III. Drivers of food insecurity

12. Mounting trends of chronic hunger, acute food insecurity and malnutrition are a result of compounding effects of conflicts, climate variability and weather extremes, increasing resource constraints, economic difficulties and social and political instability. Underlying conditions, such as poverty and inequality, sometimes underpinned by unfavourable policies, hamper efforts aimed at improving food security and nutritional outcomes.

13. The 2022 GRFC identified conflict and insecurity as the primary driver of acute food insecurity in 2021, affecting 139.1 million people in 24 countries/territories. Economic shocks and weather extremes were acknowledged as major drivers of acute food insecurity affecting, respectively, 30.2 million people in 21 countries and 23.5 million people in eight countries. The increasing impact of economic shocks on acute food insecurity follows a worrying trend as witnessed over the past years.

Conflict and insecurity

14. Conflicts and insecurity destroy livelihoods and displace populations, often for long periods with uncertain prospects of return and recovery. Conflict and hunger are mutually reinforcing and need to be tackled together. Without significant improvements in conflict resolution based on a strong and immediate political will, no substantial and lasting food security gains can be achieved and vice versa.

15. In 2000, the total number of conflicts (including state-based violence, non-state violence and one-sided violence) tracked by the Uppsala Conflict Data Program totalled 121, increasing to 175 in 2017. The latest data indicate 170 conflicts in 2021, while conflict and insecurity were a critical driver of acute food insecurity in all of the 10 largest food crises: Afghanistan, the Democratic Republic of the Congo, Ethiopia, Haiti, northern Nigeria, Pakistan, South Sudan, the Sudan, the Syrian Arab Republic and Yemen. In 2022, conflict and insecurity remained a driver of acute food insecurity in all these countries.

16. The war in Ukraine engaging two major agricultural countries, has aggravated the global food insecurity situation (see part IV of this document for details on the specific impacts of the war in Ukraine). The Russian Federation and Ukraine are major producers of food commodities in the world. Both countries are net exporters of agricultural products and play leading supply roles in global markets of foodstuffs, where exportable supplies are often highly concentrated. Furthermore, the Russian Federation is a top exporter of fertilizers and a key player in the global energy market. The war has posed a number of risks to food and agricultural markets and trade, including trade and logistics risks, price risks, production risks and energy risks. Many least developed countries (LDCs) and low-income food-deficit countries (LIFDCs) are highly dependent on the Russian Federation and Ukraine for their imports of foodstuffs and fertilizer.

¹ FSIN and Global Network Against Food Crises. 2022. GRFC 2022 Mid-Year Update. Rome.

Climate variability and weather extremes

17. Greater climate variability not only impacts the level of agricultural production, but it carries increased risks of extreme weather events, changing planting patterns, and pest and disease outbreaks. Over the longer term, changing weather patterns also contribute to greater pressure on limited natural resources, provoking local disputes that negatively impact food security and nutrition, and eventually drive migration when agriculture fails to provide adequate livelihood opportunities.

18. The number of weather-related disasters has risen. The World Bank indicated that between 1976 and 1990, small countries² were faced on average with seven climate disasters per year, while between 2006 and 2021 this figure increased to 13, with the largest increase related to drought events. The number of storms remained relatively stable, although with more damaging consequences.

19. In 2022, large parts of the northern hemisphere were exceptionally hot and dry, with many rivers at critically low levels, amplifying supply chain bottlenecks. For instance, in Pakistan, record breaking rain in July and August led to extensive flooding and approximately 1 700 deaths, with 7.9 million people displaced and 33 million affected.³ In East Africa, as of March 2023, rainfall has been below average for five consecutive seasons, the longest sequence in 40 years, with a real risk of a sixth one forthcoming (March to May 2023).

20. Smallholders, whose resilience capacity is subject to multiple shocks, are particularly vulnerable. In Africa, 70 to 80 percent of smallholder farmers are dependent on agriculture and renewable natural resources for their incomes, employment, food, nutrition and overall wellbeing. Over the last 10 years, climate extremes affected an average of 16 million people in Africa and caused an estimated USD 0.67 billion in damage annually.⁴

21. The uncertainty of climate change and the complex feedback loops between climate and land present agriculture with amplified levels of risk that need to be managed. Assessments of the planet's natural resources highlight overuse, misuse, degradation, pollution and increasing scarcity.⁵ Human-induced degradation affects 35 percent (1 660 million ha) of agricultural land, with a fifth of human-induced degraded land located in sub-Saharan Africa.

22. Agriculture accounts for 72 percent of global freshwater withdrawals. The Sustainable Development Goal (SDG) indicator 6.4.2 on water stress, taken as an overall measure of physical water scarcity, averaged 18 percent (corresponding to no-stress) in 2018 at the global level, while it was above 100 percent (critical stress) in Northern Africa.⁶ Climate change can modify and increase future risk and vulnerability of crop production related to water supply and water availability. Moreover, the global water cycle will continue to intensify as global temperatures rise, with precipitation and surface water flows projected to become more variable over most land regions within seasons and from year to year. These will all have impacts on the agricultural sectors and related value chains, livelihoods and ecosystems.⁷

23. Climate change can also impact biodiversity and thus food security and nutrition. Biodiversity supplies ecosystem services, including creating and maintaining healthy soils, pollinating plants, controlling pests, providing habitat for wildlife, and containing species vital to agricultural production. Biodiversity, while vulnerable to climate change, makes production systems and livelihoods more resilient to shocks and stresses, including those caused by climate events.⁸

² Countries with a population of 1.5 million people or less

³ https://library.wmo.int/doc_num.php?explnum_id=11359

⁴ <https://www.fao.org/3/nc665en/nc665en.pdf>

⁵ The State of the World's Land and Water Resources for Food and Agriculture – Systems at breaking point: <https://www.fao.org/3/cb7654en/cb7654en.pdf>

⁶ <https://www.fao.org/3/cb1447en/cb1447en.pdf>

⁷ FAO Strategy on Climate Change 2022-31: <https://www.fao.org/3/cc2274en/cc2274en.pdf>

⁸ <https://www.fao.org/3/CA3129EN/CA3129EN.pdf>

Economic drivers

24. Economic shocks initiate economic slowdowns or downturns with broad food security impacts. At household level, they reduce livelihood opportunities and incomes, while at the national level, they constrain the capacity to maintain long-term investments (research and development, infrastructure, etc.) or even to pay for short-term needs (health, social safety nets, etc.). Recessions also spur loss of confidence in foreign investors and capital flight, leading to currency and debt crisis. Economic shocks prolong and worsen the severity of food crises, especially in countries experiencing acute food insecurity that requires urgent humanitarian assistance.

25. Conflict and economic slowdowns are mutually reinforcing. Not only is conflict the main driver behind food crises, but it also triggers economic slowdowns, downturns and deep economic recessions that compound the severity and duration of the food crisis.

26. Economic dependency on commodities worsens the capacity for coping with shocks. Changes in commodity prices affect the relative value of trade. For instance, 80 percent of the countries that experienced a rise in hunger during recent economic shocks were highly dependent on trade in primary commodities. Foreign exchange drains, depreciation and devaluation of currencies may pass through the economic system, resulting in rising domestic prices, unemployment and income losses.

27. The lack of economic stability widens inequalities and threatens poverty alleviation and food security, as proven during the COVID-19 pandemic. Economic instability forces poor households to employ negative coping strategies, bolstering structural food insecurity and uneven distributional impacts. Loss of real income leads to cuts in spending on basic services, such as education and health, and pushes households to reduce the quantity of consumed food and/or shift away from nutrient-rich towards more energy-dense foods, undermining the nutritional status of the population.

28. Food demand is less sensitive to short-term income variation, and agriculture is generally independent of the business cycle. Although their resilience acts as a stabilizer, rural economies – and smallholders in particular as net buyers of various goods – also suffer from high inflation. Decreases in remittances affect incomes, and a return to rural areas by those escaping urban unemployment reduces per capita income in agriculture, limiting opportunities to maintain investment levels.

29. Economic slowdowns, stagnation and outright recessions remain part of the global economic landscape. In the years preceding the COVID-19 pandemic, growth of real per capita gross domestic product (GDP) declined on average in seven sub-regions, five of which registered negative growth in different years (SOFI, 2019). These five sub-regions were home in 2018 to almost 263 million undernourished people and more than 56 million stunted children under the age of five.

30. At the global level, in 2022, the world GDP was 3.1 percent lower than its expected level without COVID-19, with slower growth in low and middle income countries. The pandemic has exacerbated inequalities within and across countries due to the unequal pattern of economic recovery among countries and unrecovered income losses among those most affected by COVID-19. This economic growth loss was estimated to have increased the number of chronically hungry people in 2021 by about 150 million since the outbreak of the pandemic (SOFI, 2022).

31. The war in Ukraine has resulted in increased uncertainty and aggravated the macroeconomic challenges the world is facing. It triggered ripple effects through multiple channels, including commodity and energy markets, trade, financial flows and the displacement of millions of people.

IV. The impact of the war in Ukraine on global food security

32. The war in Ukraine engaged two major producers of agricultural commodities in the world. Both Ukraine and the Russian Federation are net exporters of agricultural products and play leading supply roles in the world markets of food commodities, where exportable supplies are often highly concentrated. Furthermore, Russia is a top exporter of fertilizers.

33. Their critical role is all the more evident from a trade perspective. They are key 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).

34. Considering the leading role of both countries, it is clear that the war has resulted in a number of new risks to food and agricultural markets and trade.

35. As a result, the war in Ukraine continues to be a source of uncertainty for global agricultural markets. Reduced plantings in Ukraine mean that other countries will need to produce additional grains and oilseeds to help rebuild global stocks and moderate price levels.

Prospects for the Ukrainian Grains Sector

36. In Ukraine, severe financial constraints, infrastructure damage and obstructed access to fields in parts of the country have resulted in an estimated 40 percent year-on-year reduction in the 2023 winter wheat area, and a well below-average wheat output is anticipated in 2023.

37. The Ministry of Agrarian Policy and Food of Ukraine forecasts that in 2023 sown areas can reduce by at least 20 percent compared to 2021 due to temporary occupation and mine contamination. According to the State Emergency Service, up to 25,000 km² of agricultural land are estimated to be contaminated with explosives.

38. The war caused significant damage to the infrastructure and logistics capacities in Ukraine, including inland transportation networks, seaports, as well as storage and processing facilities. Currently, the total available storage capacity in Ukraine is 69-71 million tons. It's 15-17 million tones or 20 percent less compared to the pre-war capacity (86 million tons). The plastic storage sleeves, provided by the international donors, provided additional 7 million tons. The estimated repair and replacement cost for the storage facilities approach USD 1.1 billion.⁹

39. These damages significantly lowered Ukraine's exporting capacity and raised the cost of trading grain and production costs.¹⁰ While significant efforts have been made to compensate for some of these disruptions, solutions are frequently insufficient or only provide temporary relief. The distribution of sleeve bags, for example, increased the country's storage capacities as previously mentioned, but these remain inadequate. In addition to higher storage costs, sleeve bags might also lower the quality of the stored grain. Insufficient storage space also imposed economic pressures on farmers, which forced them to sell at a loss and might reduce future plantings.

40. The war has also impacted maritime trade logistics, disrupting the operations of key seaports in the global grain trade. To mitigate these challenges, the Black Sea Grain Initiative and other international programmes have been instrumental, including the promotion of alternative transportation methods, such as train and river freight through the so-called Solidarity Lanes.

41. Although increased supply levels and the easing of trade disruptions for Ukraine (since August, thanks to the Black Sea Grain Initiative, which by 12 March has shipped 24 million metric tons equivalent to USD 9.4 billion) have helped bring global wheat prices and other coarse grains down from the high levels reached in 2022, global wheat prices remain elevated. In February 2023,

⁹ KSE, November 2022 - https://kse.ua/wp-content/uploads/2022/11/Damages_report_issue2-1.pdf / Based on the rapid damage assessment methodology compliant with the ones of the World Bank and FAO.

¹⁰ Based on the FAO Ukraine, assessment on the impact of the war on agricultural enterprises with land up to 200 ha, nation-wide survey, forthcoming (April 2023) the following problems had been identified: (a) over 90 percent of the agricultural enterprises involved in crops production reported an increase in the production cost, with over two thirds of them (81 percent) recording significant/dramatic increase, meaning over 25 percent of increased production costs since the start of the war; (b) almost 90 percent of the agricultural enterprises involved in crops production reported a decrease in sale revenues, with over 70 percent of them recording a significant/dramatic decrease; and (c) approximately 11 percent of the agricultural enterprises reported to have part of their land potentially contaminated by unexploded ordinances. Oblasts along the front-line appeared to be the most affected, with over one every four (26 percent) respondents reporting so.

global wheat prices were down 5 percent from their February 2022 level, but still 29 percent above their 5-year-average-February level.¹¹

42. However, these efforts have yet to restore the pre-war export pace and continue to be costly. In the case of the Black Sea Grain Initiative, the reduced scope in terms of port and route coverage remain limiting factors.

43. Shipping from Ukraine is also impacted by high insurance costs as some reinsurers have excluded the Black Sea from coverage and banks are hesitant in financing deals from the Black Sea due to the high risks involved and fear of potential sanctions. In the absence of an end to the conflict, significant uncertainty continues to surround Ukraine's ability to farm, harvest and trade in upcoming growing seasons.

Export restrictions as a result of the War in Ukraine

44. Export restrictions have impacted both the food, feed and fertilizer markets. In this section the focus is on what has been triggered and is more indirectly linked to the war in Ukraine.

45. 2022 started with restrictions on vegetable oil and oilseeds, especially driven by some shortages associated with bad harvest in 2021. The war in Ukraine created an additional shock through the sunflower oil markets and the disruption of the supply coming from Ukraine and the Russian Federation (the two countries represent three quarters of the world market of sunflower oil). Starting in June and July, restrictions on these products were phased out in most places.

46. At the time of the beginning of the war in Ukraine, and as a response to it, restrictions on maize and wheat (two core exports of Ukraine) jumped. Restrictions on maize started to be phased out in May-June 2022, and only export taxes on Russian Federation wheat remain an important restriction as well as the export controls put in place by India on its own wheat exports.

47. Starting in September 2022, we have seen new restrictions in the export of rice (from India), raising some threats for this narrow market. These policies were driven by a series of local shocks on supply (heatwave in India, then flood in Pakistan), but also as a response to the demand shock coming from the war in Ukraine: with very high prices of feed based on maize and wheat, the demand shifted to broken rice in the following months, putting upwards price pressure on this commodity.

48. Finally, we should emphasize the fact that different export restrictions have different levels of stringencies, and while some have blocked nearly all exports (e.g. Indonesia, palm oil, in May 2022), some have created additional burden but exports could still occur, (e.g. India, wheat), but often through Government to Government deals, making it difficult for some countries to have the political leverage to get access to the products they need, and exclude also from the discussions many private actors.

Prospects of food security within Ukraine¹²

49. More than half of the rural households reported to have spent over 50 percent of their total expenditure on food between June and September 2022. In the front-line oblasts, almost one in five (18 percent) respondents declared to have spent over 75 percent of their total household expenditure on food. Across the country as a whole, this figure was around 14 percent.

50. The distressed situation of the rural population is even more evident when the adoption of negative coping strategies to ensure access to essential needs (i.e. to buy food, cover health expenses and access essential housing services) is taken into consideration.

51. Whilst there remains a significant portion (39 percent) of the rural population that has not adopted negative coping strategies, on average at national level around 57 percent of the households interviewed have adopted Stress and Crisis coping mechanisms to cover essential needs.

¹¹ Further details on the Black Sea Grain Initiative can be seen at: <https://www.fao.org/3/cc4806en/cc4806en.pdf>

¹² FAO Ukraine, assessment on the impact of the war on agricultural livelihoods of the rural population, nationwide survey, December 2022.

Prospects of the fertilizer sector

52. As a consequence of the war in Ukraine, the situation of the agricultural input and energy markets was exacerbated.
53. Much of 2022 was characterized by high and volatile prices for fertilizers and other agricultural inputs (diesel fuel, electricity, etc.).
54. Owing in large measure to rising prices for energy/natural gas, the main feedstock for the production of N-fertilizer, prices for urea, ammonium nitrates and other nitrogenous fertilizers reached levels that were 4 times higher than their respective, multi-year averages.
55. Urea prices, a key N-fertilizer, almost reached USD 1100/ton in April 2022, nearly four times the average registered in 2020. Prices for urea have retreated significantly since then, down to USD 400/ton in February 2023.
56. Even more impressive is the decline in prices for European gas. Title Transfer Facility (TTF) prices declined from more than 320 euros/MWh in August 2022 to less than 50 Euros/MWh in February 2023.
57. Fertilizer prices declined by more than 40 percent from the record highs reached last spring. However, prices have remained almost twice their levels of two years ago and affordability continues to be a concern, especially in lower-income countries.

V. Threats to world food security

58. 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 2023.

Macroeconomic risks in 2023

59. The hopes for a steady economic recovery in 2022 were hampered by a tide of disruptions linked to the war in Ukraine, tightening of monetary policy to fight surging inflation and a deterioration of financial and currency markets. Global growth has fallen from 5.9 percent in 2021, to 2.9 in 2022 and is expected to stagnate at 1.7 percent in 2023, down from a previous estimate of 4 percent (World Bank, 2022). High levels of uncertainty continue to increase the risk on the global economy in the coming months. In its January 2023 World Economic Outlook, the International Monetary Fund (IMF) indicated that the war in Ukraine continues to weigh on economic activity.
60. In addition to the global economic slowdown, indications hint at an elevated risk of debt crisis in 2023. Global debt has reached new highs. Overall borrowing jumped in 2020 in response to the pandemic. The war in Ukraine has added to the strain on public finances and exerted additional fiscal pressure on national budgets. According to the IMF, public debt now represents nearly 40 percent of the global total debt, which is the highest in almost six decades. Furthermore, at the end of 2022, nearly 60 percent of the low-income countries were in debt distress or at high risk of debt distress, double the 2015 figure. This is linked to the external account crisis and currency depreciation. Prices of most commodities globally are denominated in United States dollars (USD), which means a stronger USD translates into higher import costs for importing countries.

International food prices

61. Since May 2020, the world prices of most food commodities experienced a steady rise. The FAO Food Price Index (FFPI) reached an all-time high in March 2022, up 34 percent from its level a year before. The index has steadily declined since then and, in February 2023, it registered its eleventh consecutive monthly drop, down 18.7 percent from its March 2022 peak.
62. Driving changes in food commodity prices are own market fundamentals influencing supply and demand, but also factors external to agricultural markets, such as developments in the energy market and increasing transportation costs amidst supply chain disruptions. Sudden changes in trade

policy, such as export restrictions, also introduce uncertainty and increase both the level and volatility of prices.

63. Elevated international food prices are a major driver of the rise in import costs. For instance, the world food import bill was estimated to reach a new all-time high in 2022 of nearly USD 2 trillion, an increase of 10 percent, or nearly USD 181 billion, from the 2021 level. The predicted rise in the 2022 global food import bill is mostly due to cost effects, with USD 157 billion due to higher world prices. As a result, lower-income countries have become increasingly responsive to higher prices, which could have serious implications for food security and nutrition especially for the vulnerable segments of the population.

64. While world food prices have declined in recent months, this should not be interpreted as market stability. Global markets remain subject to a number of risks and uncertainties, including extreme weather events, conflicts and geopolitical tensions, macroeconomic challenges, tightening financial conditions and sudden changes in trade policies.

Agricultural input prices

65. 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 almost USD 1 100/tonne in April 2022, nearly four times their average level in 2020. Prices for urea have retreated significantly since then, down to USD 400/tonne in February 2023¹³; however, they remain at almost twice their levels of two years ago.

66. The global agricultural input import bill¹⁴ 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.

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

Structural and long-term challenges

68. Economic growth and population dynamics are driving the structural change of economies.¹⁵ 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.

69. 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.

70. 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 system – 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.

¹³ FOB prices at key export locations

¹⁴ The agricultural input import bill includes seeds, fertilizers, pesticides and energy for agricultural use.

¹⁵ 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.

71. 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.

VI. Actions needed

72. In the short term, countries in crises need to be supported with urgent humanitarian assistance and be able to provide effective social protection measures to improve food security and nutrition for their populations and protect livelihoods. In 2022, FAO assisted over 35 million people through emergency and resilience programming. However, agricultural livelihoods remain severely underfunded in crisis contexts, with just 4 percent of humanitarian food security funds allocated to time-sensitive emergency agricultural interventions that are essential for survival. FAO's largest ongoing humanitarian and resilience programmes are in Afghanistan, the Democratic Republic of the Congo, Somalia, South Sudan, Sudan, Syrian Arab Republic and Yemen. In 2023, FAO is scaling up its efforts to reduce humanitarian needs and break the cycle of recurring famine risks – through a strong focus on risk reduction, anticipatory action, and an impactful and cost-effective humanitarian response linked to resilience building programmes and fully informed by assessments and evidence of greatest needs and greatest impacts.

73. Over the longer term, investments in agriculture, rural development, trade systems, information and communication technologies, health and education in order to reduce vulnerabilities and build households' resilience to withstand shocks are critically needed. There is an urgent call for a radical transformation of agrifood systems to be more efficient, inclusive, resilient and sustainable. Farmers and their organizations, women and youth, need to play a central role as agents of change on the ground. Without adequate structural changes addressing cross-sectoral vulnerabilities and macroeconomic conditions, the transformation of agrifood systems alone would not be sufficient to improve food security and nutrition outcomes.

74. Uncertainty, associated with increased climate variability, calls for the adoption of sustainable agricultural practices and other innovative approaches, including climate-smart and conservation agriculture, and strategies and investment plans to boost their adoption by farmers and enhance the productivity, income and resilience of smallholder farmers in a sustainable way. Although there is no "one size fits all" solution, a range of workable options exists. However, any transformation will only succeed if accompanied by a conducive enabling environment, sound policies and inclusive governance.

75. With the increasing risks and uncertainties, it is essential to strengthen market transparency and promote policy dialogue. Global market transparency plays a key role in informing policy decisions, especially in times of increased market uncertainty. Initiatives like the G20 Agricultural Market Information System (AMIS), with its inter-agency secretariat housed in FAO, strive to increase market transparency through the provision of objective, timely and up-to-date market assessments and outlooks. Through its Rapid Response Forum, AMIS also offers a unique platform for policy dialogue and coordination among members, which are necessary to minimize disruptions and ensure that international markets continue to function properly and trade to flow efficiently to meet global demand and safeguard world food security. It is critical to provide sustained support for AMIS to play its role and also be able to respond to the new challenges.