Technical Briefing to FAO Members on
The impact of COVID-19 and the War in Ukraine on
the Outlook for Food Security and Nutrition

Rome, Friday, 25 March 2022, 9:30 – 12:30
Overview

1. Introduction

2. Where we stand
   • Market structure and importance for world markets
   • Country dependencies
   • Prices
   • Trade

3. The risks we face
   • 10 major risk factors, global and local

4. What we can do
   • Action points
   • Policy recommendations
Uneven recovery from COVID-19

Real GDP for the world and regions
Annual % change

Note: Figures for 2021 are estimates, while figures for 2022 and 2023 refer to forecast
Extreme poverty rose for the first time in decades

Note: Extreme poverty is measured as the number of people living on less than $1.90 per day. 2017 is the last year with official global poverty estimates.
Global hunger shot up in 2020

2. Where we stand: 
Market structure and importance for world markets
How important are UKR and RUS for global food production?

Share in global production of selected crops
(2016/17-2020/21 Avg.)

- **Soybean**: Ukraine
- **Rapeseed**: Russia, Ukraine
- **Maize**, **Wheat**, **Barley**: Others
- **Sunflowerseed**: Russia, Ukraine, Others

![Bar chart showing the share in global production of selected crops](chart.png)
Ukraine and Russian Federation: important sources of global food supplies

<table>
<thead>
<tr>
<th>Top 10 exporters of Wheat</th>
<th>Top 10 exporters of Barley</th>
<th>Top 10 exporters of Maize</th>
<th>Top 10 exporters of rapeseed</th>
<th>Top 10 exporters of Sunflowerseed oil</th>
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<tr>
<td>Other</td>
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<td>Republic of Moldova</td>
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<td>United States of America</td>
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<td>EU27</td>
<td>Russia</td>
<td>United Arab Emirates</td>
<td>United Arab Emirates</td>
<td>Australia</td>
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<td>Russian Federation</td>
<td>Ukraine</td>
<td>Russia</td>
<td>Russia</td>
<td>Canada</td>
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</table>

% share in global exports in 2021
The Russian Federation: The most important source of global fertilizer supplies

Top 10 exporters of **N-Fertilizer**

- **Russia**: 30%
- United States of America: 7%
- China: 5%
- Other: 28%

Top 10 exporters of **P-Fertilizer**

- **Russia**: 10%
- China: 5%
- United States of America: 3%
- Other: 42%

Top 10 exporters of **K-Fertilizer**

- **Russia**: 35%
- United States of America: 12%
- China: 7%
- Other: 46%
Some countries are heavily reliant on wheat imports from Ukraine and the Russian Federation.
Some countries are heavily reliant on fertilizer imports from the Russian Federation
Recent trends in food prices:
The FAO FPI at a new all-time high in February

<table>
<thead>
<tr>
<th>FAO FOOD PRICE INDICES</th>
<th>PEAK VALUES</th>
<th>FEB-22</th>
<th>CHANGE</th>
<th>Feb-22 over peak values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>Points</td>
<td></td>
<td>m/m</td>
<td>y/y</td>
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<tr>
<td>FAO Food Price Index</td>
<td>Feb-11</td>
<td>137.6</td>
<td>140.7</td>
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<tr>
<td>Cereals</td>
<td>Mar-08</td>
<td>163.3</td>
<td>144.8</td>
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<tr>
<td>Vegetable Oils</td>
<td>Jun-08</td>
<td>178.2</td>
<td>201.7</td>
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<tr>
<td>Sugar</td>
<td>Jan-11</td>
<td>183.2</td>
<td>110.6</td>
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<tr>
<td>Meat</td>
<td>Aug-14</td>
<td>119.2</td>
<td>112.8</td>
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<tr>
<td>Dairy</td>
<td>Dec-13</td>
<td>156.5</td>
<td>141.1</td>
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</table>
Recent trends in fertilizer prices: Spot prices for N,P spiked prior to the conflict

Source: Index Mundi; https://www.dtnpf.com/agriculture/web/ag/crops/article/2022/01/19/fertilizer-prices-continue-mostly
Outstanding wheat exports and available export quantities

World wheat production, utilization and stocks

2021/22 Export forecasts of major exporters

Wheat stocks of major exporters

2021/22 Import forecasts of major importers
Outstanding maize available export quantities: no point to panic!

World maize production, utilization and stocks

2021/22 Export forecasts of major exporters

Stocks held by the major maize exporters

2021/22 Import forecasts of major importers
Outstanding sunflower oil export quantities

FAO forecasts of sunflower oil exports for 2021/22

FAO forecasts of sunflower oil imports for 2021/22

International vegetable oil prices

Million tonnes

0 2 4 6 8

Million tonnes

0.0 0.5 1.0 1.5 2.0 2.5

USD/MT

0 400 800 1,200 1,600 2,000 2,400 2,800 3,200 3,400


Soybean oil (Dutch, f.o.b. ex-mill)

Palm oil (Crude, c.i.f. Northwest Europe)

Sunflower oil (EU, fob NW Eur. Port)

Rapeseed oil (Dutch, fob ex-mill)
3. Delineating the key risks: 10 major risk factors, global and local
### The basic risks for Ukraine and the global food economy

#### 1. Food and Agriculture
- **Input supplies** (seeds, feeds, pesticides, fertilizer)
- **Trade** exports
- **Logistics and infrastructure**, Ports, roads, storage
- **Production** Yield/area risk
- **Prices** Food inflation, WM prices
- **Disease proliferation (ASF)**

#### 2. Macro
- **Energy** Inputs and biofuels
- **Debt, growth and exchange rates**
- **Nuclear contamination**

#### 3. Humanitarian
- **Food**
- **Displacement and refugees**
HUMANITARIAN RISKS
Humanitarian risks

1. Up to 10 million IDPs and refugees expected, need to address humanitarian needs in Ukraine and host countries

2. Ukraine:
   - Elaborate social protection system in the Ukraine:
   - Unified Social Information System
   - Social protection covers 30 percent of the population and 77 percent of the poorest quintile.
   - Continue and increase cash payment and subsidies.
   - Continue and increase the monetary value of transfers provided through existing cash transfer programs.

3. Host countries:
   - Expand the reach of the national social protection system by registering additional population groups.
   - Ease access to social protection systems and jobs in new host countries
   - Enable host country social protection system to absorb spikes in refugee caseloads
Energy and fertilizer price risks
Energy and agriculture: the principal channels of transmission

Higher energy prices (oil, gas, electricity) → Higher fertilizer, diesel, power prices for production and electricity for processing → Higher costs to produce food, feed and fibre → Higher food prices

Threshold price Policy incentives → Higher competitiveness of feedstocks for biofuels

Higher feedstock use, lower food and fibre availability
High and volatile energy prices

Natural gas price vs crude oil price, 2014–16 = 100

- Crude oil, US, West Texas Intermediate (WTI)
- Natural Gas (Europe), average import border price and a spot price component

Source: Index Mundi
Prices for natural gas (EU) on the way to normalization?

Natural gas prices

Source: Investing.com
Urea futures (FOB middle east)

Urea prices

Urea Granular FOB Middle East Futures

Have we reached a top?

Source: Investing.com
Fertilizer affordability is precipitously falling

Source: FAO, TDM, author’s calculations
Urea affordability for various crops

**FFPI Wheat vs Urea prices, 2014-16 = 100**

**FFPI Rice vs Urea prices, 2014-16 = 100**

**FFPI Maize vs Urea prices, 2014-16 = 100**

**FFPI Sugar vs Urea prices, 2014-16 = 100**

**FFPI Soybean vs Urea prices, 2014-16 = 100**

**FFPI Palm vs Urea prices, 2014-16 = 100**

Source: FAO, TDM, author’s calculations
Seeds and pesticides
Inputs imported by the Russian Federation: Overview

Imports of agricultural inputs, Russian Federation, 2021, US$ millions

- **Pesticides, 872**
  - Fungicides (excl. Haz. pest.)
  - Herbicides (excl. Haz. pest.)
  - Insecticides (excl. Haz. pest.)
  - Disinfectants, etc. (excl. Haz. pest.)
  - Antimalarial insecticides

- **Seeds, 409**
  - Maize
  - Fruits and spores

- **Fertilizers, 203**
  - compound
  - Potatoes
  - Wheat
The Russian Federation is heavily dependent on pesticides imports and most of its imports come from the EU-27.
Food vs fuel risk
Food and fuel

Maize price vs crude oil price, 2014–16 = 100

- **US maize Futures**
- **Crude oil, US, West Texas Intermediate (WTI)**
Price risks
Gauging the possible effects of trade risks on world market prices

- Scenarios were simulated to account for a range of conceivable export developments:

<table>
<thead>
<tr>
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<th>Moderate shock</th>
<th>Severe shock</th>
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<tbody>
<tr>
<td>Wheat</td>
<td>-10 mmt</td>
<td>-25 mmt</td>
</tr>
<tr>
<td>Maize</td>
<td>-10 mmt</td>
<td>-25 mmt</td>
</tr>
<tr>
<td>Other coarse grains</td>
<td>-2.5 mmt</td>
<td>-5 mmt</td>
</tr>
<tr>
<td>Other oil seeds</td>
<td>-1.5 mmt</td>
<td>-3 mmt</td>
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- Both shocks were simulated to assess their impact for only the 2022/23 marketing year and alternatively for five successive seasons.
- Reference crude oil prices would reach USD 100 per barrel in 2022/23 up from an initial baseline value of USD 75 per barrel, and maintained in real terms for five seasons.

Other coarse grains are barley, rye, oats, sorghum, and millet. Other oilseeds encompass rapeseed, sunflower and groundnut.
WM price risks: short and medium term, moderate and severe supply disruptions

Source: FAO, Cosimo
Global food security risks
Gauging the possible effects on international food security

- Globally, under the moderate shock scenario, the number of undernourished people would increase by 7.6 million people, while this level would rise to 13.1 million people under the more severe shock setting in 2022/23.
- A prolonged high energy cost and export shortfall scenario, would keep the number of undernourished by 8.1 million people above baseline levels in a moderate shock and by 11.2 million in a severe scenario.
- Additional upward pressure on international food commodity prices impacts in particular low-income food-deficit countries (LIFDCs).
Macro risks
Macro-economic risks (OECD impact assessment)

1. New negative supply shock on the world economy.

2. Importance of Ukraine and the Russian Federation for world economy:
   • 2 percent of both global GDP and world trade
   • But major suppliers of energy (the Russian Federation) and agricultural products (Ukraine and the Russian Federation).

3. Global impacts:
   • Global growth to fall by over 1 percentage point
   • Global inflation to rise by 2.5 percentage points in the first year
   • European economies will be the hardest hit
   • The impact on the rest of the world mostly stem from increased commodity prices and inflation.
   • Food and energy import bills already at record levels, to rise further.

4. Russian Federation:
   • Deep recession in the Russian Federation, with output declining by over 10 percent and inflation rising by close to 15 percentage points.
High food/energy prices are regressive on poor countries/households
DISEASE PROFILIFERATION
### Impact of the UKR war on livestock value chains

<table>
<thead>
<tr>
<th>Animal Health</th>
<th>![Image of animal health]</th>
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<tr>
<td>• Reduced surveillance, diagnostics</td>
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<tr>
<td>• Delays in outbreak control and reporting</td>
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<tr>
<td>• Reduced access to veterinary services</td>
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<table>
<thead>
<tr>
<th>Animal Production</th>
<th>![Image of animal production]</th>
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<tbody>
<tr>
<td>• Reduced access to markets</td>
<td></td>
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<tr>
<td>• Reduced access to inputs and services</td>
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<table>
<thead>
<tr>
<th>Processing</th>
<th>![Image of processing]</th>
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<tr>
<td>• Reduced processing capacity</td>
<td></td>
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<tr>
<td>• Compromised storage and conservation</td>
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<tr>
<td>• Constrained informal businesses</td>
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<thead>
<tr>
<th>Transport</th>
<th>![Image of transport]</th>
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<tr>
<td>• Constrained national and international transport</td>
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<tr>
<td>• Business continuity</td>
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<thead>
<tr>
<th>Sales and consumption</th>
<th>![Image of sales and consumption]</th>
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<tr>
<td>• Modified retailing and product demand</td>
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<tr>
<td>• Reduced consumer demand and purchasing power</td>
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**Disrupted value chains**

Could lead to alternative chains, practices and behaviors that exaggerate animal disease spread
Risk of disease spread is high due to:

- reduced surveillance, diagnostics, vaccination, outbreak control measures, inspections

- large numbers of internally displaced people and refugees;

- large number of abandoned pet animals and livestock might contribute to transmission

- Presence of large number of Russian military forces - risk of introduction and spread of exotic transboundary animal diseases to Ukraine and Europe - foot and mouth disease (FMD), lumpy skin disease (LSD) and other TADs.
Increased Risk of Zoonoses (Avian Influenza, rabies)

- Uncontrolled animal movement
  - **Internal**: Backyard and commercially farmed poultry left after displacement or death of their owners or lack of water/feed supply could lead to moving those animals to the wild.
  - **Cross border**: pet birds accompanying the refugees in the concentrated refugees' camps.
- Lack of access to medicines, vaccines, clean water, sanitation and drainage within Ukraine or at the refugees' camps will create opportunities for environmental contamination.
- Human encroachment and destruction of wildlife habitat due to the military operations.
- Migratory routes of migratory birds
- Partial destruction of animal and human health laboratories or lack of access control at the labs may allow contact of stray or wild animals and humans with several pathogens.

Increase the risk of disease incursion specially when border inspection is weakened.

Can lead to creating new interfaces facilitating spillover of known or unknown pathogens from animals to humans

Ecosystem degradation

Risk of Spillover from wildlife to livestock
4. What we can do: Actions points
FAO Humanitarian response in Ukraine

$50 million needed (March-May)  To assist 240 000 people

Focusing on the most vulnerable rural men and women (over 100 000 households), including IDPs, affected by the crisis

• Cash, agricultural inputs or cash+ agricultural inputs will be provided
• Immediate focus on spring vegetable planting
• Enough resources to-date to reach 10% of target

Four-pillars of FAO’s response and recovery strategy in Ukraine

• Emergency support to smallholder farmers (Flash Appeal)
• Strengthened coordination
• Broader support to smallholders (livestock, recovery, etc.)
• Regular information flow on food security impacts in Ukraine

A nation-wide masterplan for the agricultural rehabilitation of Ukraine’s agriculture will be also needed in the medium- to long-term.
Ukraine agriculture sector:

- Large farms and agro-holdings dominate (however, significant smallholder farming sector with almost a million rural households)
- Capital intensive (fertilizer, pesticides, machinery)
- Need to be maintained and supplied with fuel and inputs to ensure productivity

Timeline of Ukraine response against crop calendar

2022

- **24 FEBRUARY**
  - Russia launches military offensive in Ukraine
- **1 MARCH**
  - OCHA issues Ukraine Flash Appeal
- **7 MARCH**
  - FAO issues Ukraine Rapid Response Plan
- **8 MARCH**
  - FAO activates Corporate Scale-up
- **9 MARCH**
  - FAO prepares to conduct rapid needs assessment
- **20 MARCH**
  - First assessment results available
- **23 MARCH**
  - Over 3.6 million people have fled Ukraine, and 6.48 million have been forcibly displaced within the country

Legend:
- **Green** Planting and growing
- **Orange** Harvest
- **Yellow** Land preparation

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<tr>
<th>JAN</th>
<th>FEB</th>
<th>MAR</th>
<th>APR</th>
<th>MAY</th>
<th>JUN</th>
<th>JUL</th>
<th>AUG</th>
<th>SEP</th>
<th>OCT</th>
<th>NOV</th>
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Risks beyond Ukraine

YEMEN Acute food insecurity (2020)

Current acute food insecurity (January-May 2022)

17.4 million people
In Crisis or worse (IPC 3 and above)
Including 5.6 million in Emergency (IPC Phase 4)
And 31,000 in Catastrophe (IPC Phase 5)

Drivers
- Conflict
- Economic shocks
- Reduced funding for HA
- Reduced access to basic services
- Natural hazards

Projected Acute Food Insecurity (June-December 2022)

19 million people
In Crisis or worse (IPC 3 and above)
Including 7.1 million in Emergency (IPC Phase 4)
And 161,000 in Catastrophe (IPC Phase 5)

Source: IPC, 2022

Major concerns
- Latest IPC analysis shows a significant deterioration in acute food insecurity compared to 2021
- The Risk of Famine (RoF) is forecasted under the worst-case scenario in four districts of Hajjah

EAST AFRICA Acute food insecurity (2020)

32.9 million people
In 8 countries were in Crisis or worse (IPC 3 and above)
Including 6.8 million in Emergency (IPC Phase 4)
Around 105,000 people
In South Sudan were in Catastrophe (IPC Phase 5)

2021 preliminary numbers

Significant increase expected
(forthcoming GRFC 2022)

Major concerns
- Impending drought in 2021-2022
- Widespread conflict and instability
- Significant levels of acute food insecurity in 2020, further increase expected in 2021
- High dependency on imports of wheat to meet food consumption needs
- Additional economic challenges in already fragile contexts
5. Policy recommendations
Policy recommendations

1. Keep trade open for food, fuel, and fertilizer
2. Review sanctions, pros and cons, costs and benefits
3. Avoid ad hoc policy reactions, export restrictions
4. Diversify food supplies, import sources
5. Prepare for disease outbreaks (ASF)
6. Prepare for nuclear risks
7. Prepare a food/fuel/fertilizer import facility for the poorest and most affected countries
8. Support vulnerable groups, provide humanitarian assistance
9. Strengthen market transparency and dialogue, provide timely information
10. Create a masterplan for food and agricultural rehabilitation in Ukraine
Thank you!