



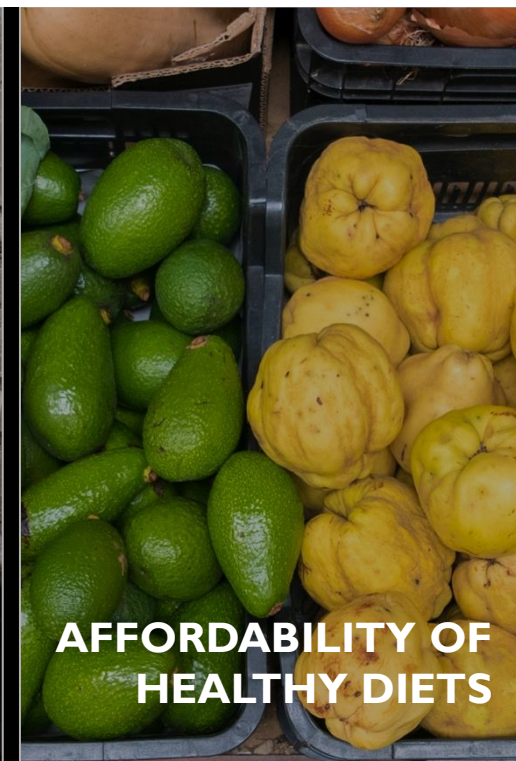
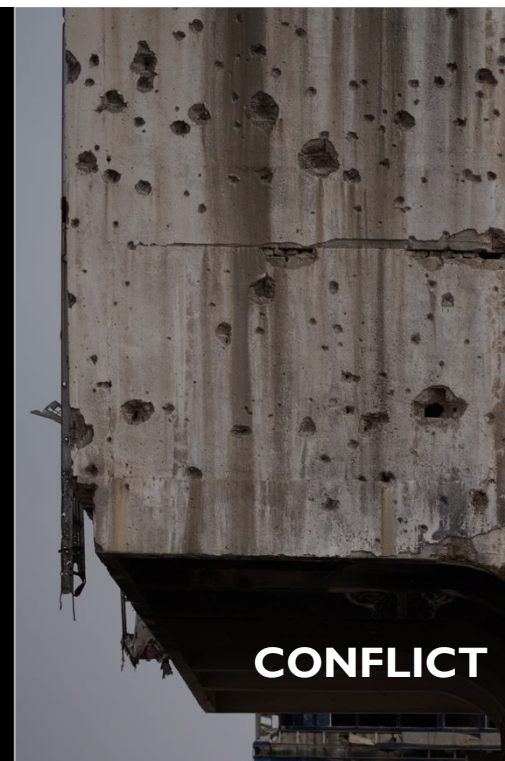
Food and Agriculture Organization
of the United Nations

G20 Meeting of Agricultural Chief Scientists (MACS)

Food Security Policy Post COVID-19 Science and Innovation for Sustainable Agrifood Systems

5–7 July 2022

**Ismahane Elouafi
Chief Scientist, FAO**



We are **not on track to ending hunger, food insecurity & malnutrition – major drivers & underlying factors are challenging us**



720-811
MILLION
PEOPLE
UNDERNOURISHED



CHILDREN

75 MILLION
STUNTING

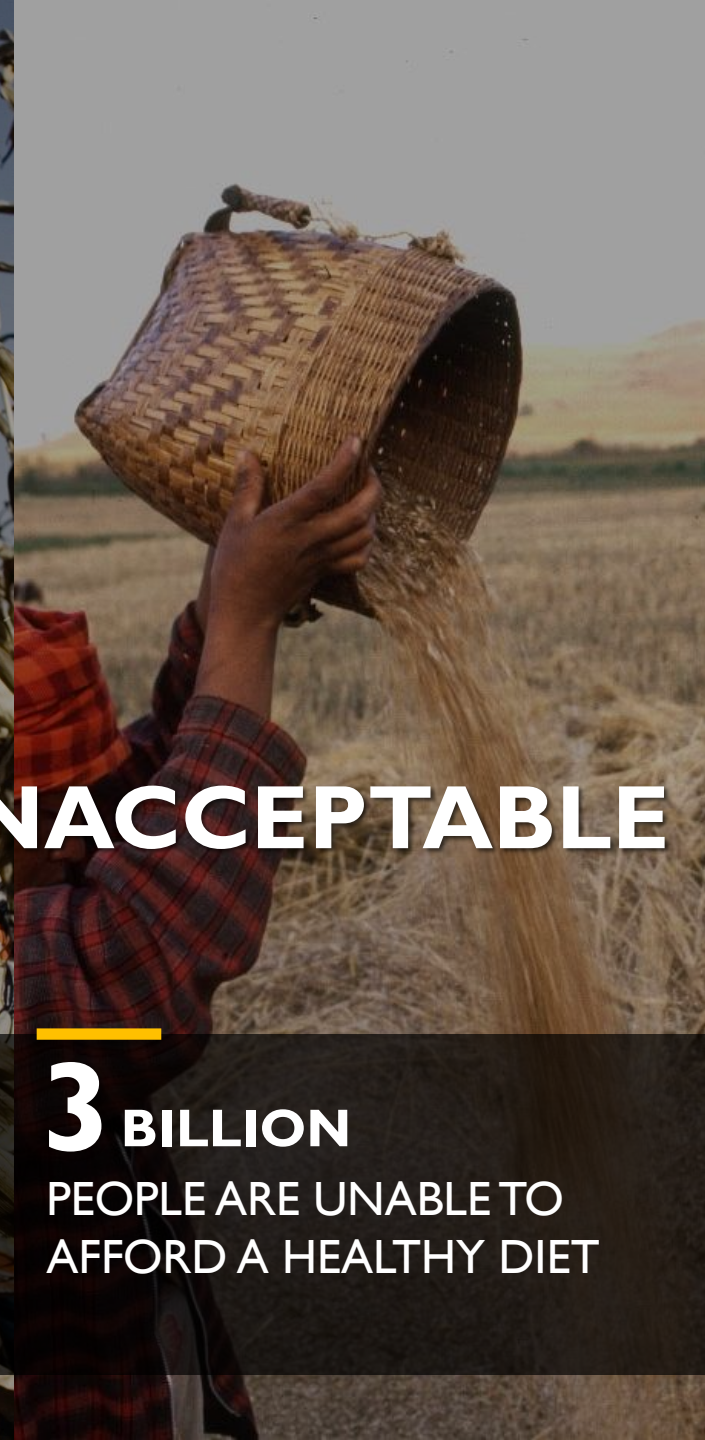
26 MILLION
WASTING

39 MILLION
OVERWEIGHT



THIS IS UNACCEPTABLE

193 MILLION
PEOPLE ARE AFFECTED BY
SEVERE FOOD
INSECURITY



3 BILLION
PEOPLE ARE UNABLE TO
AFFORD A HEALTHY DIET



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COVID 19 Impacts on Agriculture and Food security

A photograph of a farmer wearing a yellow shirt and a headscarf, working in a field with tall green grass. The farmer is holding a long-handled tool, possibly a hoe or a similar agricultural implement.

Shortages of
labour to produce
food

A close-up photograph of several ripe, red raspberries, showing their characteristic bumpy texture and vibrant color.

Decreased
supply of
perishable
commodities

A photograph of a meat market stall. A person in a white lab coat is visible behind the counter. The stall displays various cuts of meat, including what appears to be pork, in trays. Price tags are visible on the counter.

Increasing struggle
for farmers to
access markets

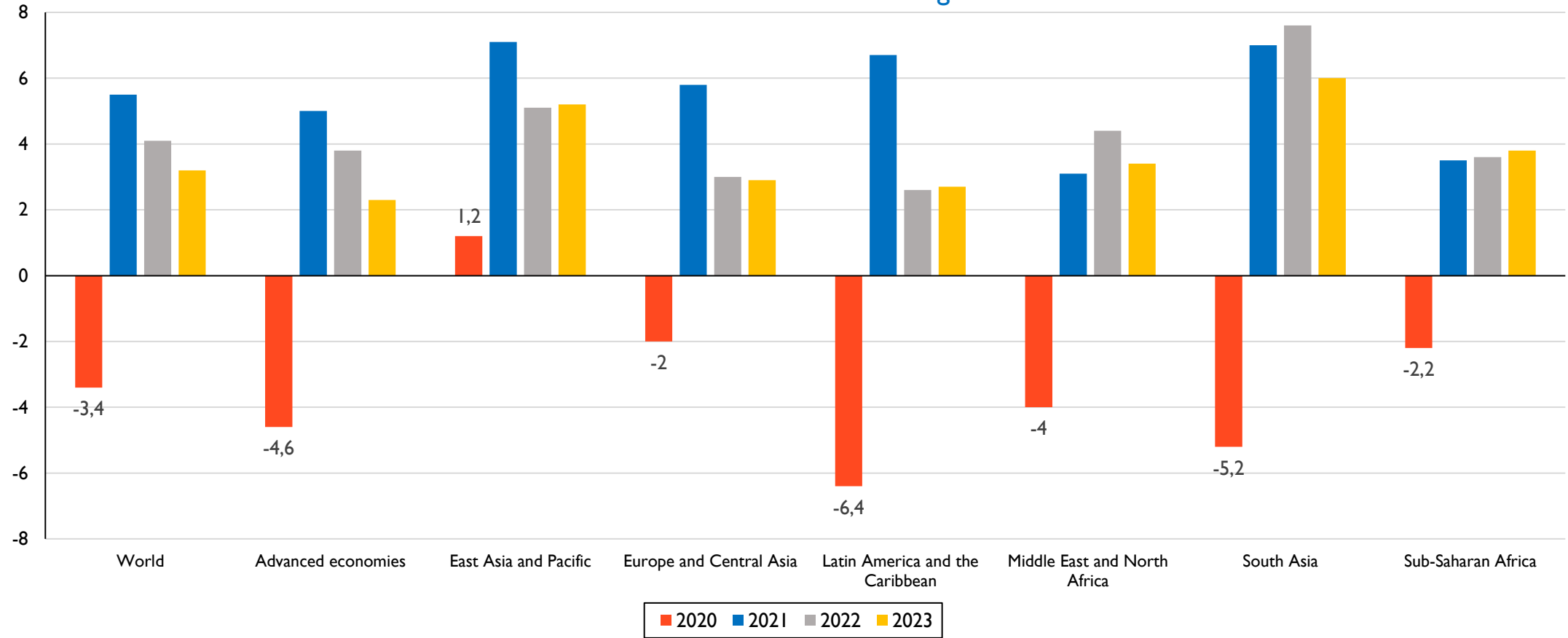
A photograph of a white truck with a blue shipping container on its back, parked in front of a building. The truck is facing left, and the container is stacked on top of it.

Transport
restrictions blocking
food deliveries



Uneven recovery from COVID-19

Real GDP for the world and regions
Annual % change

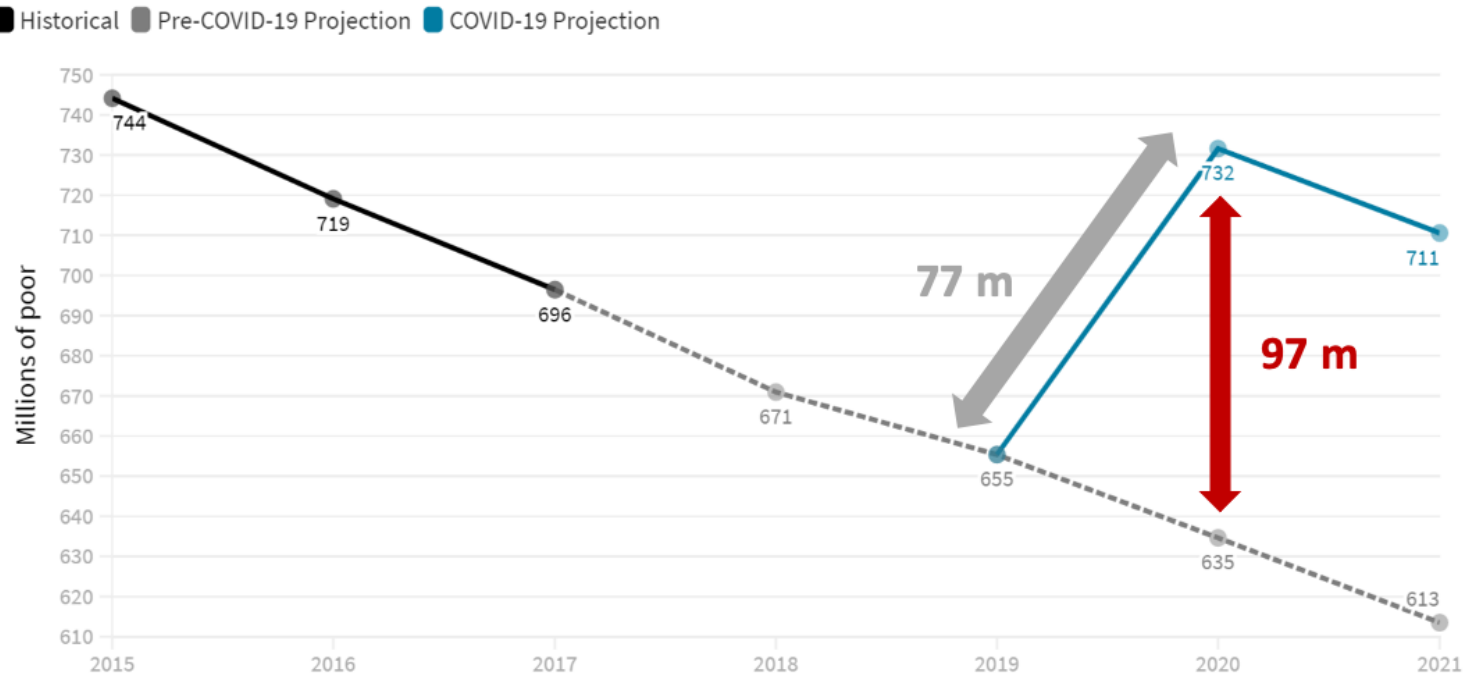


Note: Figures for 2021 are estimates, while figures for 2022 and 2023 refer to forecast
Source: World Bank. 2022. Global Economic Prospects, January 2022.

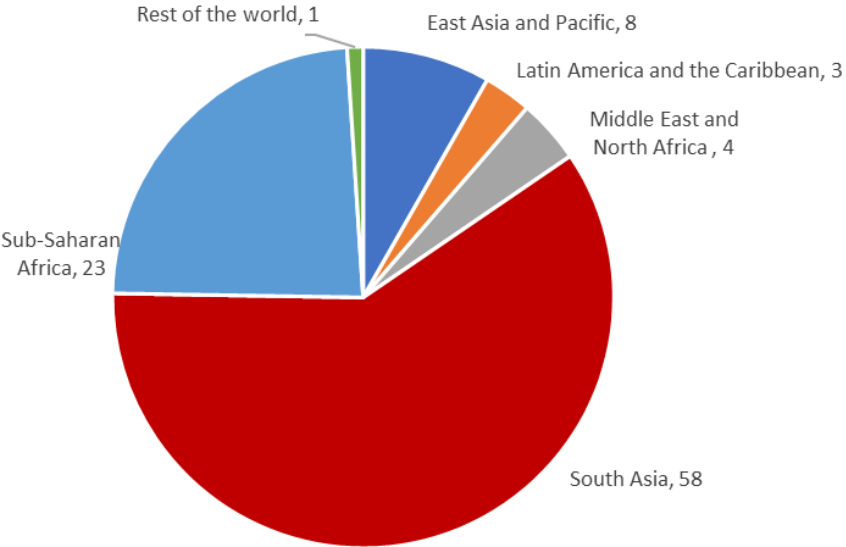


Extreme poverty rose for the first time in decades

Extreme poverty in the world, 2015-2021



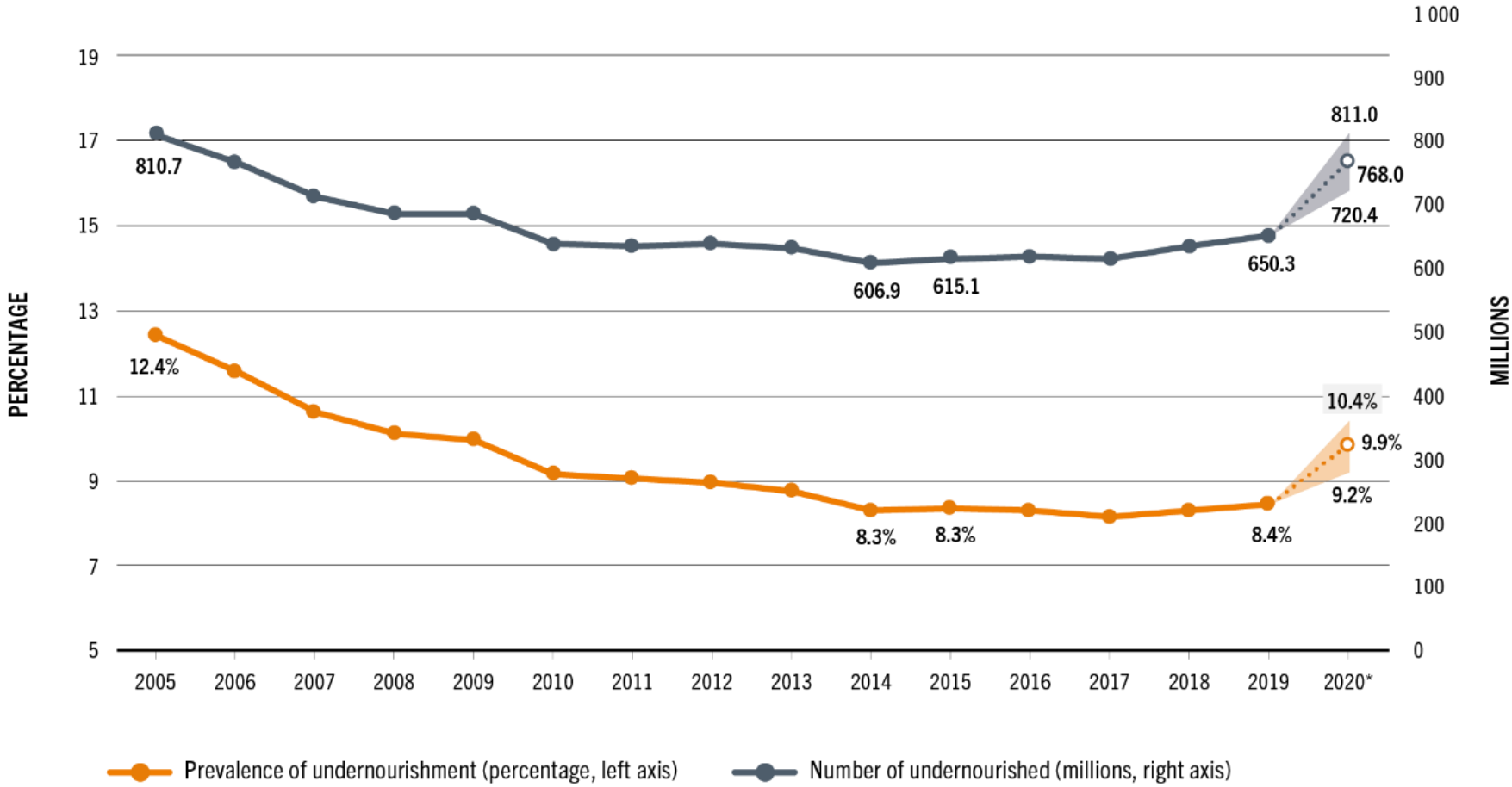
COVID-19-induced new poor by region, 2020



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.
Source: Gerszon, D. et al. June 2021.



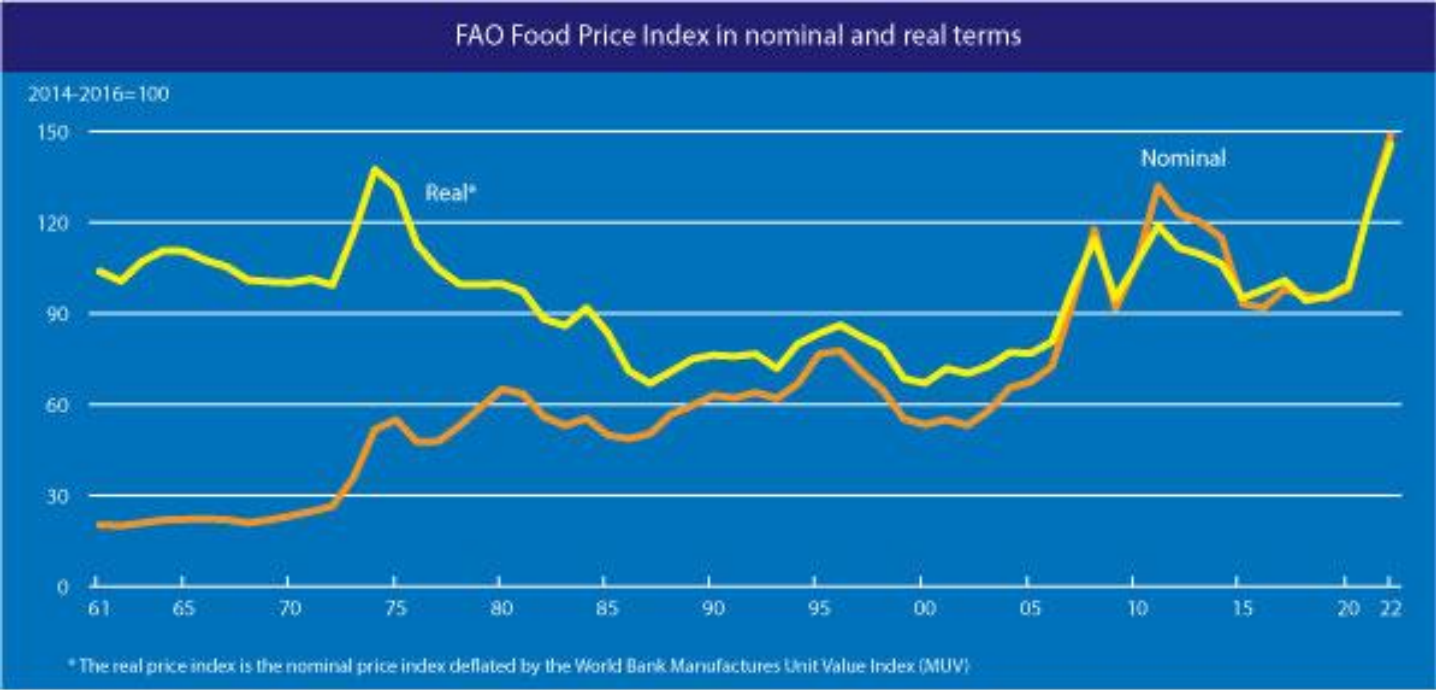
Global hunger shot up in 2020



Source: FAO, IFAD, UNICEF, WFP and WHO. 2021. *The State of Food Security and Nutrition in the World 2021*.



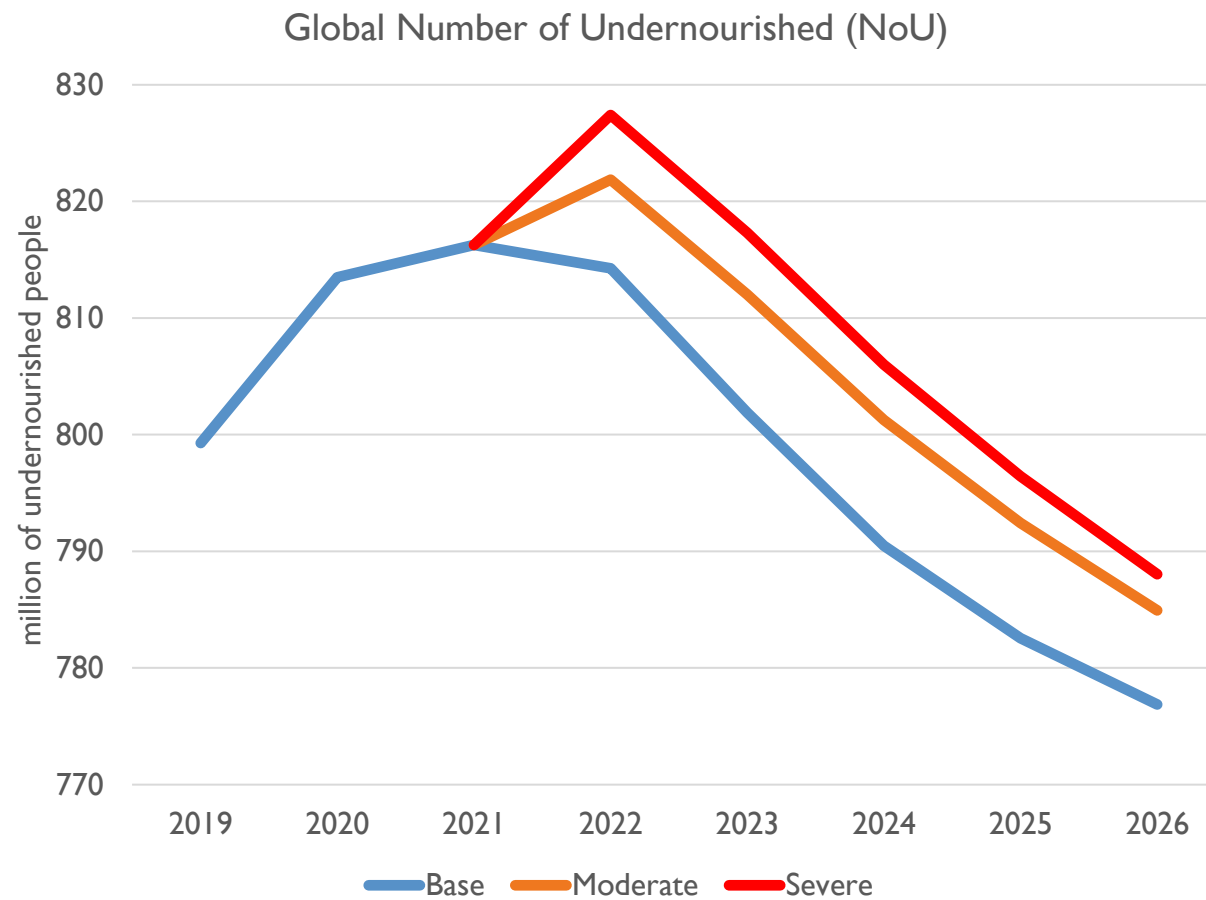
Recent trends in food prices: The FAO FPI up to May 2022



FAO FOOD PRICE INDICES	PEAK VALUES		May-22	CHANGE		
				m/m	y/y	May-22 over peak values
	Date	Points	Percent			
FAO Food Price Index	Feb-11	137.6	157.4	-0.6	22.8	14.4
Cereals	Mar-08	163.3	173.4	2.2	29.7	6.2
Vegetable Oils	Jun-08	178.2	229.3	-3.5	31.1	28.7
Sugar	Jan-11	183.2	120.3	-1.1	12.6	-34.3
Meat	Aug-14	119.2	122	0.5	13.6	2.3
Dairy	Dec-13	156.5	141.6	-3.5	16.9	-9.5

Gauging the possible effects on international food security

- 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).





The basic risks for 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

Migration and
refugees



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MAJOR DRIVERS OF RECENT FOOD SECURITY AND NUTRITION TRENDS

*A food systems lens is critical to address the drivers
of recent food security and nutrition trends*



climate variability and extremes



COVID 19 Pandemic



Conflict



WHAT NEEDS TO BE DONE TO TRANSFORM FOOD SYSTEMS FOR FOOD SECURITY, IMPROVED NUTRITION AND AFFORDABLE HEALTHY DIETS?

Six pathways to address major drivers
behind recent food security and nutrition
trends



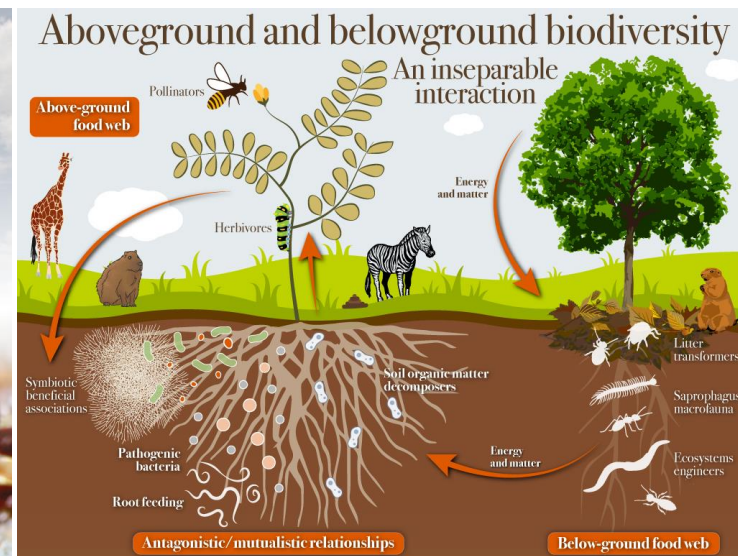
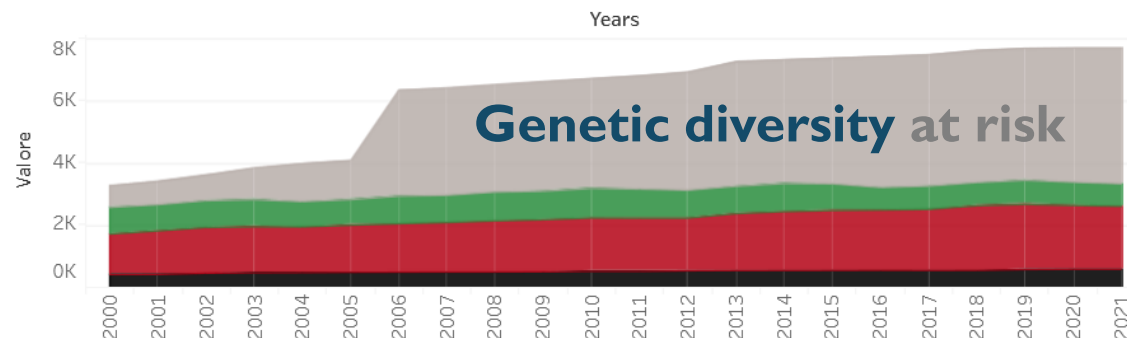
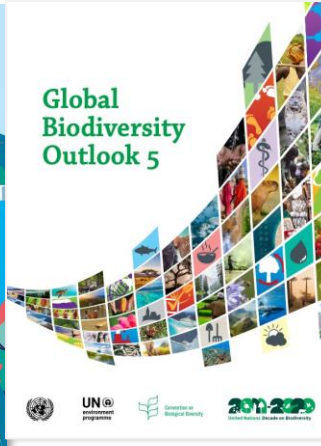
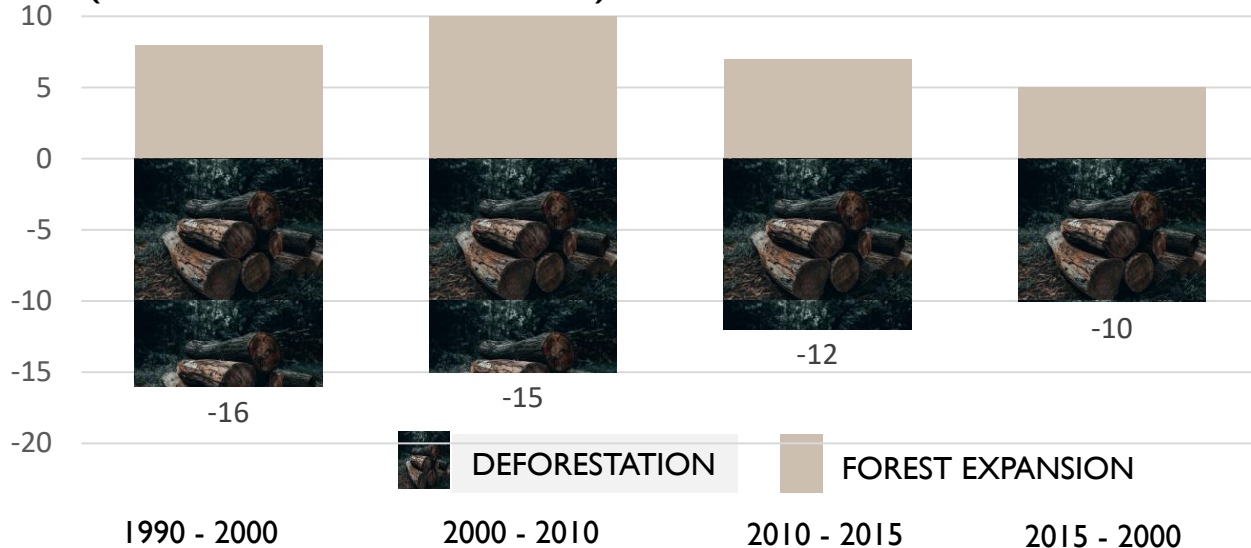


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There are number of other
factors contribute to the food
security and nutrition trends

*A integrated systems approach is
important to tackle the issues
comprehensively*

**GLOBAL FOREST EXPANSION & DEFORESTATION 1990 – 2020
(MILLION HECTARES PER YEAR)**





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**Different regions will
need to address
different problems
but all will require the
best of science!**



A close-up, artistic photograph of a person's face, heavily covered in vibrant, multi-colored paint splatters and glitter. The colors include bright red, orange, yellow, green, and blue, creating a dynamic and textured appearance. The person's eyes are closed, and their mouth is slightly open, adding to the expressive nature of the image. The background is dark, making the glowing paint stand out.

**Science, technology
and innovation
are impacting
EVERYTHING**



Science, technology and Innovation should be at the center to better inform the policies and strategies

- Effective and inclusive governance mechanisms and institutions
- access to technology, data and innovation, should serve as important accelerators in the comprehensive portfolios of policies, investments and legislation
- Systems approaches are needed to build coherent portfolios of policies, investments and legislation and enable win-win solutions



UNITED NATIONS
FOOD SYSTEMS
SUMMIT 2021

UN FOOD SYSTEMS SUMMIT
SCIENCE DAYS



Building coherent portfolios of policies and investments





Enabling Food Systems Transformation



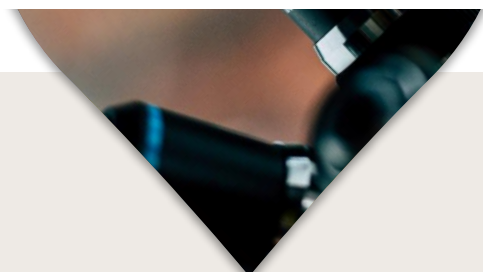
FINANCE



allocate **at least 1%** of their food systems-related GDP to food systems STI



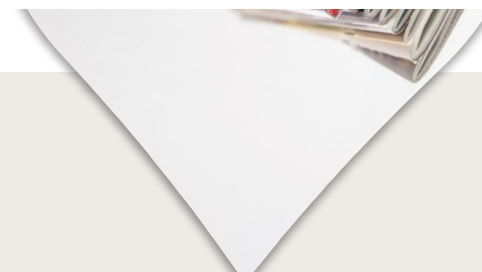
CAPACITY



science aligning with **national and local agendas** for implementation actions



GOVERNANCE



explore options for an **inclusive, global science-policy interface**

Harnessing STI is key for the transformation to more **efficient, inclusive, resilient & sustainable** agri-food systems



BETTER PRODUCTION

Ensure sustainable consumption and production patterns, through efficient and inclusive food and agriculture supply chains at local, regional and global level, ensuring resilient and sustainable agri-food systems in a changing climate



BETTER NUTRITION

End hunger, achieve food security and improved nutrition in all its forms, including promoting nutritious food and increasing access to healthy diets



BETTER ENVIRONMENT

Protect, restore and promote sustainable use of terrestrial and marine ecosystems and combat climate change (reduce, reuse, recycle, residual management) through MORE efficient, inclusive, resilient and sustainable agri-food systems



BETTER LIFE

Promote inclusive economic growth by reducing inequalities (urban/rural areas, rich/poor countries, men/women)



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FAO Science & Innovation Strategy

- strengthens the use of science and innovation in FAO's technical interventions and normative guidance
- serves as a key tool for the implementation of the Strategic Framework 2022-31





Goal



GOAL

Members harness **science and innovation** to realize context-specific and systemic solutions for MORE efficient, inclusive, resilient and sustainable agrifood systems for *better production, better nutrition, a better environment and a better life*, leaving no one behind.





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FAO SCIENCE AND INNOVATION

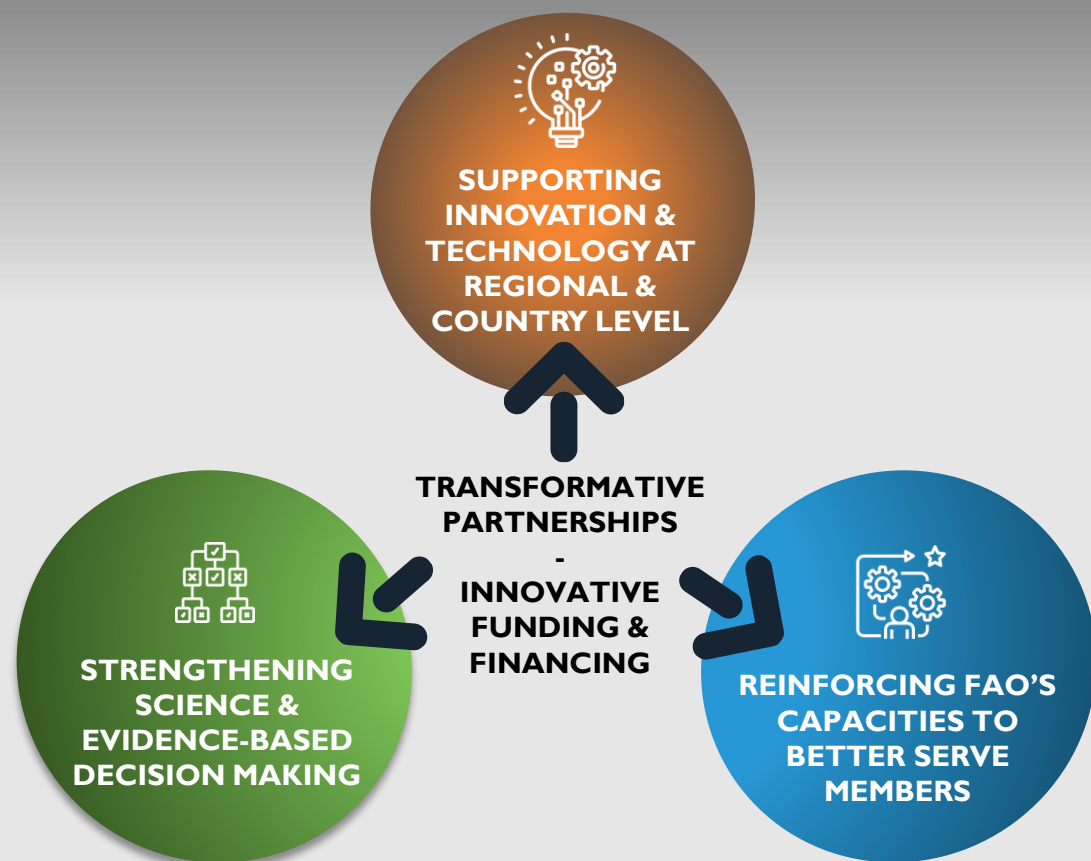
Harnessing science, technology
and innovation for transforming
our agrifood systems

FORUM

17-21 October 2022
FAO HQ Rome (Hybrid event)

- **Explore scientific and technological advances .**
- **Analyze options for strengthening science and evidence-based decision-making.**
- **Share robust science and evidence-based options.**
- **Support countries in making informed decisions.**
- **Promote effective science communication**

Transformative Partnerships with Research Institutions and Private Sector





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Thank you !

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