Mainstreaming Climate Smart Agriculture: Financing transformation to support healthy people, a healthy planet and healthy economies

Martien van Nieuwkoop, Global Director, Agriculture and Food
Food insecurity has reached new highs in 2022, and projections indicate that it will continue worsening through 2023.

This figure draws on updated acute food insecurity figures available for 45 countries in the 2022 mid-year update of the Global Report on Food Crises. Prior year estimates have been included for 8 countries / territories for which updates were not available as of the publication of the mid-year report, namely: Bangladesh, Egypt, Lebanon, Liberia, Libya, Palestine, Rwanda, Syria.

1 Adapted from the Global Network Against Food Crises. [http://www.fightfoodcrises.net/](http://www.fightfoodcrises.net/).
There is not one but many drivers of the crisis which are currently worsening all aspects of food and nutrition security across the globe.

<table>
<thead>
<tr>
<th>Overview of Global Food and Nutrition Security Crisis Drivers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Food Access</strong></td>
</tr>
<tr>
<td>- High domestic food price inflation</td>
</tr>
<tr>
<td>- Elevated global commodity prices</td>
</tr>
<tr>
<td><strong>Food Availability</strong></td>
</tr>
<tr>
<td>- High energy and fertilizer prices</td>
</tr>
<tr>
<td>- Adverse trade policies</td>
</tr>
<tr>
<td>- Uncertainties of Black Sea Grain Initiative renewal</td>
</tr>
<tr>
<td><strong>Food Utilization</strong></td>
</tr>
<tr>
<td>- Households with reduced ability to eat healthy/nutritious food</td>
</tr>
<tr>
<td>- More children being wasted and stunted</td>
</tr>
<tr>
<td><strong>Food Stability</strong></td>
</tr>
<tr>
<td>- Uncertainties of the Russia-Ukraine war</td>
</tr>
<tr>
<td>- Tightening interest rates / global recession</td>
</tr>
<tr>
<td>- Currency depreciations</td>
</tr>
<tr>
<td>- Growing debt burdens</td>
</tr>
<tr>
<td>- Adverse impacts of climate change</td>
</tr>
</tbody>
</table>
Five key risks continue to impact food access, availability and stability:

- High food prices
- High fertilizer prices and supply constraints
- Tightening global stocks
- Decline in Ukraine’s agricultural production
- Climate change

La Niña temperature and precipitation may continue through the next several months, creating the sixth consecutive drought season in East Africa.

The war in Ukraine now threatens Ukraine’s 2023 grain supply. Thus, even if the Black Sea Grain initiative remains in effect, Ukraine will not be able to supply the same volumes of grain to the world as before.

Global fertilizer prices are declining but remain high by historical standards.

Fertilizer supply constraints remain.

Food prices are declining but remain high by historical standards.

Global food inventories and supply conditions have tightened.

La Niña temperature and precipitation may continue through the next several months, creating the sixth consecutive drought season in East Africa.
The WB is mobilizing up to $30 billion between April 2022 and June 2023 in existing and new projects in areas such as agriculture, nutrition, social protection, water and irrigation.
The Bigger Picture Is That The Global Food System Is Not Fit For Purpose

<table>
<thead>
<tr>
<th>A food system that helps deliver by 2030</th>
<th>Vision/interrelated targets</th>
<th>Currently off track</th>
</tr>
</thead>
</table>
| Healthy **economy** (inclusive incomes, jobs & livelihoods) | • Increase incomes of poor people that work in the food system  
• Support structural transformation | • 2030 end poverty target unlikely to be met, significant lag in fragile, conflict affected countries |
| Healthy **people** (secure and safe food and nutrition) | • End hunger and acute food insecurity  
• Improve health outcomes [lower micronutrient deficiency and obesity, improved food safety, less zoonotic disease, and reduced AMR] | • Increase in hunger since 2015  
• 220 million acutely food insecure  
• 2 billion people micro-nutrient deficient  
• 2 billion people overweight or obese  
• Increase in zoonotic diseases  
• Anti-microbial resistance |
| Healthy **planet** (environmentally sustainable practices) | • Operate within safe planetary boundaries for sustainable resource use; lower emissions; boost climate resilience | • Land degradation  
• Water scarcity  
• Pollution  
• 25% of global GHG emissions  
• Biodiversity loss  
• High loss and waste |
Social Costs Outweigh The Market Value of The Global Food System

Trillions USD, 2018 prices

Market Value of Global Food System: 10.0
Health: 2.7
Environment: 1.8
Economic: 2.1
Food System Value Net of Hidden Costs:
- Obesity: 1.5
- Undernutrition: 1.7
- Pollution, Pesticides & Anti-Microbial Resistance: 0.8
- Greenhouse Gas Emissions: 0.1
- Natural Capital Costs: 1.3
- Rural Welfare: 2.1
- Food Loss & Waste & Fertiliser Leakage: -1.9

Source: Food and Land Use Coalition (FOLU) Global Report 2019
Current And Emerging Challenges Are Massive

How do we feed 10 billion people... while improving climate resilience and without contributing to further water insecurity and lifting the poor who work in the food system out of poverty?

... without using more land... while improving nutrition and building human capital...

... while lowering emissions

Improved rice cultivation and livestock systems, reduced food loss and waste, agroforestry, landscape management and restoration...and lifting the poor who work in the food system out of poverty?

Source: WRI (2019) Creating a Sustainable Food Future
The Vision: A Global Food System in Support of Healthy People, Planet, Economy

Volatile, unsustainable and inequitable growth

Green, resilient and inclusive development

Food system transformation

- Pandemic preparedness
- Inclusive value chains, jobs and income
- Resilient, sustainable production and ecosystem services
- Tons/ha
- Calorie-sufficient
- Nutrient-sufficient and healthy diets
- Building human capital
- Treating malnutrition/obesity
- Cause of conflict
- Pandemic response

Solution for peace

Causes of conflict
Farmers need to be resilient and climate smart through 3 revenue streams:

1. **FIRST REVENUE STREAM**
   - More healthy Food from More Productivity
     - Climate smart agriculture
     - Diet oriented production – vegetables and proteins versus carbos and fats
     - Less food loss and waste
     - Better market access from remote areas
     - Buffering global supply disruptions

2. **SECOND REVENUE STREAM**
   - Payment for Environmental Services
     - Carbon sinks – forests, soils
     - Biodiversity set-asides
     - Pollutant recycling
     - Biosecurity

3. **THIRD REVENUE STREAM**
   - Renewables and sustainability
     - Renewable energy for own use and grid – solar, wind, micro-hydro
     - Nutrient recycling – composting, organic matter recovery, efficient chemicals
     - Irrigation – water productivity, lower withdrawals
The additional annual investment requirements associated with the ten critical transitions are between $300 and $350 billion (2018 – 2030).

This is less than 0.5% of GDP, a return ration of more than 15:1 based on the economic prize.
• $568 billion per year supports agricultural producers in 79 countries
• 65% of support distorts producer incentives (market price support, input and output subsidies)
• Large protection by high-income countries, continued net taxation by low-income countries
• Agriculture and food sector is lagging adoption of ESG standards

There Is A Major Opportunity to Realign INCENTIVES

Agricultural Producer Support as Share of Gross Farm Receipts (Percent, 2016-18)

HIC = High income countries, MIC = Middle income countries, LIC = Low-income countries
It Is Important To Accelerate Agricultural INNOVATION:
Urgent Need To Address The Innovation Paradox: Research Investment Gap

Ag. growth is increasingly productivity-dependent

Output growth rate (%/year)

World

Source of growth:
- Total factor productivity
- Input intensification
- Extend irrigation
- Ag land expansion

Trends in Public R&D Funding
(54 countries)

High rates of return to investments in R&D
Yet, R&D/GDP low and falling in Africa and SE Asia
There Is An Urgent Need to Scale Needed INVESTMENTS

~$300-350bn
more per year to 2030 in public and private financing needed for transformation of food and land use systems for healthier people, planet and economy.

Source: Food and Land Use Coalition (FOLU) Global Report 2019

5.8 bn WB ag.

~$70 bn in public support to ag. producers

Trillions in private investment

Increasingly use support to:
- Repurpose policies and public support
- Crowd-in private investment
- Leverage the technology ecosystem
- Leverage external partners
- Apply an integrated ONEWBG approach: working hand in hand with all Internal partners: SD, EFI, HD, INF, IFC, MIGA, and DEC, TRE.
It Is Critical To Strengthen INSTITUTIONS

• Allow For Systematic Food Systems Focus
• Ensure Effective Inter-Ministerial Coordination
• Apply a Food Systems Lens on the Public Budget
• Integrate Farmers’ Voice
FOOD SYSTEMS 2030 MDTF SEEKS TO CATALYZE NEEDED CHANGES

Food Systems 2030 Theory of Change

2030 Sustainable Development Goals

- **Healthy People**
  - Increased consumption of safe and nutritious food

- **Healthy Planet**
  - Reduced greenhouse gas emissions from agriculture

- **Healthy Economy**
  - Increased targeted investments in sustainable food systems

Helping countries to build sustainable food systems

- Strengthened engagement with development partners for global action
- Increased use of data, technologies and (digital) tools to inform and support policy reform
- Strengthened capacity of countries to facilitate sustainable food systems transformation
- Enhanced integration of up-to-date knowledge and data in food systems strategies and programs

Strategic Themes

- Food & Nutrition Security
- Healthy & Sustainable Diets
- Public Policy & Expenditures
- Digital Agriculture, Data and Innovations
- Agribusiness
- Climate-Smart Agriculture

Hidden costs

- **Unhealthy People**
  - Food insecurity and nutrient deficiency
  - Overweight and obesity
  - Zoonoses and antimicrobial resistance

- **Depleted Planet**
  - Natural capital loss
  - Pollution and GHG emissions from agriculture
  - Food loss and waste

- **Distorted Economy**
  - Unequal and non-inclusive value chains
  - Misaligned agricultural policies
  - Distortive financing in food systems

Synergies across themes through information, innovations, incentives, institutions, and investments
Thank You!