Will global food and agricultural systems be able to feed humanity sustainably and satisfactorily in the future, while also accommodating additional non-food agricultural demand?
Challenges for food stability and availability

1. Sustainably improving agricultural productivity to meet increasing demand

2. Ensuring a sustainable natural resource base

3. Addressing climate change and intensification of natural hazards

4. Preventing transboundary and emerging agriculture and food system threats
Challenges for access and utilization

5. Eradicating extreme poverty and reducing inequality
6. Ending hunger and all forms of malnutrition
7. Improving income earning opportunities in rural areas and addressing the root causes of migration
8. Building resilience to protracted crises, disasters and conflicts

Systemic challenges

9. Making food systems more efficient, inclusive and resilient
10. Addressing the need for coherent and effective national and international governance
Trends: Population dynamics, global and by region

Source: FAO, 2017, based on UNPD
Trends: Per capita income (GDP)

Trends: Inequality and others

- Technical progress
- Climate change
- Resource degradation
- Shifts in consumer preferences
- Geo-political instability
- Conflicts
- ....

Challenges space for food security, nutrition and sustainable agriculture

- **TSS** Towards sustainability
- **BAU** Business as usual
- **SSS** Stratified societies

Challenges for food availability and stability

Income-food distribution, poverty, opportunities, ...

Climate change, technological progress, trade ...

... strategies and policies
## The three FOFA 2050 scenarios in a nutshell

<table>
<thead>
<tr>
<th>Category</th>
<th>Business as usual (BAU)</th>
<th>Towards Sustainab. (TSS)</th>
<th>Stratified societies (SSS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic growth (per capita)</td>
<td>Moderate (1.3% per year to 2050) but uneven.</td>
<td>As BAU globally, but favoring LMIC</td>
<td>Sustained but skewed against Sub-S. Africa</td>
</tr>
<tr>
<td>International governance/conflicts</td>
<td>Limited progress. Conflicts increase</td>
<td>Towards more just and peaceful societies</td>
<td>Inequality and resource grab boost conflicts</td>
</tr>
<tr>
<td>Human development</td>
<td>LIC progress is limited in basic services</td>
<td>Universal access to basic services almost ensured</td>
<td>Very skewed within and between countries</td>
</tr>
<tr>
<td>Energy, GHG emission</td>
<td>Fossil fuels prevail and GHG unabated at best</td>
<td>Circular economies, fossils fuels/GHG limited</td>
<td>Fossil fuel-based growth boosts GHG emissions</td>
</tr>
<tr>
<td>Land and water use</td>
<td>Arable land and land degradation expand</td>
<td>Limited expansion due to innovative technology</td>
<td>Strong increase, degrad. and deforestation</td>
</tr>
<tr>
<td>Agricultural innovation</td>
<td>Some innovation but not evenly distributed</td>
<td>Innovative technology due to investment in RD</td>
<td>Limited, labour saving but no resource-saving</td>
</tr>
<tr>
<td>Welfare and inequality</td>
<td>Persistent poverty and inequality, little FSN progress</td>
<td>Less poverty and inequality and more FSN</td>
<td>More poverty and inequality and less FSN</td>
</tr>
</tbody>
</table>

The foresight process in FOFA 2050 (simplified)

Narratives and assumptions
- Per capita income
- Technical progress
- Climate change
- Population
- Consumer preferences
- ...

Quantitative projections
- Per capita food consumption
- Total food uses
- Non-food uses
- Agricultural production
- Net trade
- Land use
- Food security and nutrition indicators
- Agricultural GHG emission
- ...

Analysis
- scenario comparisons
- Qualitative assessments
- Strategic options
Gross agricultural output

Global Agricultural Producer Price Index

Per capita dietary energy consumption (all food items)

Towards Sustainability 2050

Food per capita:
- - 3 % in HIC
- + 20 % SSA

Animal products per capita:
- - 12 % in HIC
- + 30 % in SSA

Prevalence of undernourishment (PoU)

Green House Gasses emissions

Land use scenarios to 2050

Where are we going? The NoU so far and projections to 2030

Take away messages

• Food and agricultural systems are affected by trends that could jeopardize their future. Changing course is critical – “business as usual” is no longer an option.

• A more sustainable future is attainable, but getting there is not a rosy walk: significant investments are needed.

• Raising consumer awareness will help contain the need to unnecessarily expand food production and reduce the multiple burdens of malnutrition...

• but producing more will be unavoidable, and the way forward is doing so with less.

• While moving towards sustainability, food prices might increase significantly... yet environmental sustainability and food security can yet go hand in hand.

• In this vein, a more equitable income distribution is a must... and requires strengthening access to assets for vulnerable groups.

• Food and agricultural sectors are key, but are no longer enough on their own to ensure equitable access to food.
Long-term foresight at FAO

FOFA 2050 material
www.fao.org/publications/fofa
- Full report FOFA 2050
- Summary report
- Flyer
- Global country-level database
- Supplementary material

FAO long-term foresight exercises
www.fao.org/global-perspectives-studies