OECD work on food systems

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The global food system is facing a daunting triple challenge

1. **Food security and nutrition**
   Feeding a world population that is expected to approach 10 billion by 2050 and providing adequate nutrition

2. **Livelihoods and rural development**
   Providing incomes to more than 500m farmers and others along the food chain, and supporting balanced development

3. **Resource use and sustainability**
   Doing so sustainably, i.e. using essentially the same amount of land and less water, while adapting to climate change and contributing to lower GHG emissions
Agriculture and food will increasingly be expected to contribute to lower global GHG emissions

Food and agriculture is 21-37% of total anthropogenic GHG emissions

Gigatonnes CO₂ equivalent per year, 2007-16

- Global crop production: +2.5% per year
- Global livestock production: +1.9% per year

Production growth will need to come from improved productivity

- Plant breeding and improved seed
- Better farm management practices
- Digital technologies

- Capital: machinery
- Variable inputs: fertiliser, pesticides
- Land use change
Imagine what would have happened to land use if productivity had not increased!

For the past 30 years, efficiency gains have accounted for the majority of output growth.

Sources of growth in global agricultural output, 1961-2015

- Expansion of agricultural land
- More inputs per acre
- Extension of irrigation to cropland
- Improvements in total factor productivity

Source: USDA Economic Research Service, International Agricultural Productivity estimates (October 2018 revision)
But support to agriculture is still provided in ways that are economically inefficient and environmentally harmful.

**Total Support to Agriculture:**
USD 705 bn - 29% of agricultural value-added

- 75% of all support to Agriculture goes to producers individually
- 69% of all transfers to/from producers in the form of most distorting measures: MPS - 60%
- Impl. Tax'ion
- USD 83 bn
- GSSE: 15%
- Cons: 10%
- Other most dist. 9%
- Other producer support
- Other support to agriculture

USD billion per year (2016-18)
The global food system has seen a drastic livelihoods transformation in just a few decades...

**Agriculture's share of total employment, 1961-2018**

Countries ranked by GDP per capita, current USD PPP, 2018
Open markets are increasingly important for food security…

The regions experiencing population and demand growth are not those where supply can be increased sustainably.

Trade acts as a buffer to domestic shocks and – on balance – reduces price volatility.
… but poor nutrition won’t be solved simply through increasing food availability

- Even when food prices were low, more than 800 million people were undernourished – food availability is not enough to end hunger
- A rising burden of overweight and obesity around the world – no country has succeeded in reversing the trend of rising obesity
- A triple burden of under-nourishment, over-nourishment and micronutrient deficiencies in many developing countries
- Poor nutritional outcomes are not just about food: other causes are inadequate sanitation, poor maternal and child care, disease (e.g. HIV)
- A clear need for a multi-pronged approach to nutrition:
  - Education and advice; soft and hard regulatory measures (e.g. on product composition); arguably fiscal measures [OECD, 2019]
What makes matters complicated are the synergies and trade-offs between these challenges:

- Lower livestock numbers versus protein availability
  Healthy diets and lower emissions
- Higher farm incomes versus lower consumer prices
  Income generation and food security
- Pricing natural resources versus farm incomes
  Paying for public goods
Work on food security and nutrition
Work on livelihoods

- Food security & nutrition
- Resource use & climate change
- Livelihoods and rural development
Work on resource use and climate change

- Food security & nutrition
- Resource use & climate change
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How should policymakers create coherent policies when faced with trade-offs and synergies?

Some priorities can be pursued independently via **targeted** policies.

A food systems approach becomes important when there are **major spill-overs** across policy areas.

**What does it involve?**

- **Calibration** of policies (e.g. “sustainable diets”)
- **Mediation** of policy-trade offs (e.g. livestock livelihoods vs emissions)
Substance
Policymakers need to understand the magnitude of synergies and trade-offs and the need for calibration of policies

Scenario analysis will inform this: e.g. how “sustainable” are “healthier” diets?

Process
Policies need to:
(i) redress gaps between beliefs and the evidence base;
(ii) provide coordination across different policy communities;
(iii) achieve social acceptance for the policies that prioritise one objective over another (mediation)

Three case studies will be used to examine how countries are addressing these issues: seeds (upstream), livestock, processed food (downstream)
Thank you!

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